

SMALL OFFICE INCENTIVE WORKBOOK

ENERGY-SAVING SOLUTIONS FOR THE WORKPLACE

Put efficiency to work

Saving energy is key to a fully functional and optimized workplace. Energy Trust of Oregon can help you capture the benefits of office efficiency and earn cash incentives for energy-saving equipment and building practices through our Market Solutions package for office buildings less than 70,000 square feet.

Reducing building energy use has been shown to increase net operating income and asset value. Energy-efficient solutions may also contribute to enhanced tenant comfort, higher occupancy rates and lower operation and maintenance costs.

Whether you're planning to build a new office or kick off a major renovation, Energy Trust's Market Solutions package provides a simple way to identify the best energy solutions for your space.

Energy Trust outreach managers can offer input and feedback as you make energy-related decisions and assist you in completing this workbook. If you have questions or need help getting started, contact the outreach manager listed here.

Name

Email

Phone Number

HOW TO USE THIS WORKBOOK

What is the small office package?

This package offers an all-in-one step-by-step process for designing and selecting energy-efficient equipment and systems that qualify for cash incentives. To help you save as much energy as possible and maximize your incentive benefit, we have grouped the equipment and practices to align with three efficiency tiers. To participate, you must satisfy the base requirements for the Good tier (refer to the table below for further detail). You may then select additional elective equipment and systems to qualify for the increased incentives available in the Better and Best tiers.

The tables below present the base incentive amount for each tier, as well as optional elective measures and their additional incentives if installed. Incentives are calculated based on a per-square-foot basis, the amount of energy saved, or a bonus percentage, and will depend on the equipment selected and the number of elective options you install.

	REQUIREMENT	INCENTIVE
GOOD	<ul style="list-style-type: none"> 15% lighting power density (LPD) reduction Code-required automatic lighting controls Advanced power strips at all workstations 	\$0.20/sq. ft.
BETTER	<ul style="list-style-type: none"> 25% LPD reduction Automatic lighting controls in all spaces Advanced power strips at all workstations 	\$0.30/sq. ft.
BEST	<ul style="list-style-type: none"> 45% LPD reduction Automatic lighting controls in all spaces Advanced power strips at all workstations 	\$0.40/sq. ft.

	ELECTIVES	INCENTIVE
PRESCRIPTIVE ELECTIVES	<ul style="list-style-type: none"> Power management software on desktops Server closet mini-split A/C Economizer on 3-, 3.5-, or 4-ton A/C or heat pump unit Condensing boiler Additional standard measures (form 520S) 	Standard incentive + 15% bonus
CALCULATED ELECTIVES	<ul style="list-style-type: none"> 50% LPD reduction 60% LPD reduction VFD on supply fan (units < 110,000 Btu/h) Uninterruptible power supplies (UPS) Special measures 	\$0.03/sq. ft. \$0.07/sq. ft. \$100/ton \$0.25/kWh or \$1.00/therm \$0.25/kWh or \$1.00/therm

- STEP 1** Complete **Interior Lighting** and provide necessary supporting documentation. *(Required)*
- STEP 2** Complete **Advanced Power Strips** and provide necessary supporting documentation. *(Required)*
- STEP 3** Complete **Automatic Lighting Controls** and provide necessary supporting documentation. *(Required)*
- STEP 4** Review **Electives**, choose all that apply, complete necessary information and provide supporting documentation.

Project Name

Square Footage

STEP 1: INTERIOR LIGHTING

Efficiency requirements

All projects must achieve a minimum lighting power density, or LPD, of 0.77 watts per square foot. This represents a 15 percent reduction in LPD beyond what is required in the whole-building lighting power allowance for office spaces in the 2014 Oregon Energy Efficiency Special Code (see [Table 505.5.2\(a\) of the 2014 OEESC](#) for further detail). If you use space-by-space lighting power allowances, then you must demonstrate an overall LPD reduction of 15 percent (see [Table 505.5.2\(b\) of the 2014 OEESC](#) for further detail).

All projects must also include the installation of automatic lighting controls in all code-required spaces (all spaces for Better and Best tiers) and advanced power strips at all workstations. To achieve the Better or Best tier using the interior lighting power method, an LPD reduction of 25 percent (0.68 watts per square foot) or 45 percent (0.50 watts per square foot) must be achieved. For the space-by-space method, an LPD reduction of 25 percent or 45 percent beyond code is required.

Project information

Please fill in the table below to indicate the LPD target you have selected. A 15 percent LPD reduction is required to be eligible for this incentive package. Projects can earn additional incentives by pursuing higher efficiency targets, achieving up to a 60 percent LPD reduction of 0.36 watts per square foot using the interior lighting power method, or up to 60 percent beyond code using the space-by-space allowances. Please see **Electives** on Page 6 for further information..

Square Footage	Total Allowed Watts	Total Proposed Watts	% Better Than Code	Documentation
				<ul style="list-style-type: none">Lighting layouts and schedulesComCheck documentationInvoice(s)*

*If invoices are not available, program can conduct a site visit as equipment verification.

STEP 2: ADVANCED POWER STRIPS

Reducing your office plug load

Computers, monitors and printers are the big energy users throughout most offices. Workstations that plug into your electricity supply contribute to a significant portion of your office plug load. They also represent one of your best energy-saving opportunities. Installing advanced power strips (APS) in office buildings can result in significant plug load energy savings.

All Good, Better and Best categories require installation of at least one advanced power strip per workstation.

ADVANCED POWER STRIPS				
Total Number of Workstations	Total Number of Advanced Power Strips to Be Installed	Requirements	Make and Model to Be Installed	Documentation
		<ul style="list-style-type: none"> Power strips must have 4 or more controlled outlets Power strips must be load sensing (shut off devices when the load on a master/control outlet drops), or occupancy sensing IF purchased in bulk Power strips that use only infrared sensing do not qualify Projects must demonstrate proper installation of power strips 		<ul style="list-style-type: none"> Advanced power strip product data sheet Equipment inventory showing advanced power strips and controlled equipment Invoice(s)*

STEP 3: AUTOMATIC LIGHTING CONTROLS

Light your space for less

Even the most efficient lamps and fixtures waste energy and money if they are left on when not needed. Installing automatic lighting controls is an easy way to minimize energy waste and maximize savings. Automatic lighting controls can switch or dim lighting based on time, occupancy, vacancy, light levels and daylight availability.

AUTOMATIC LIGHTING CONTROLS						
Total Number of Spaces	Total Number of Automatic Lighting Controls to Be Installed	Controls Installed in All Code-Required Spaces?*	Controls Installed in All Non-Code-Required Spaces?*	Make and model to be installed	Control Type	Documentation
						<ul style="list-style-type: none"> Lighting plan showing locations of sensors Sensor cut sheets Invoice(s)*

*If invoices are not available, program can conduct a site visit as equipment verification.

**Code-required spaces include private offices, conference rooms, active storage areas, restrooms, lounges and electrical areas. All other spaces are non-code-required spaces.

STEP 4: ELECTIVES

The following tables present elective options you may select to achieve additional incentives. You must satisfy the base requirements for the Good tier in order to be eligible for electives. Please indicate the electives you plan to install in the tables below and provide the corresponding installation details.

LIGHTING						
Check to Select	Elective	Fixture Certifications	Method	Whole-Building LPD	Installed Fixture Types	Required Documentation
<input type="checkbox"/>	LPD 50% better than code	For information on fixture certification options, please view the links below. <ul style="list-style-type: none"> • ENERGY STAR • DesignLights Consortium™ 	<input type="checkbox"/> Interior Lighting Power <input type="checkbox"/> Space-by-Space	Baseline:	<input type="radio"/> CFL <input type="radio"/> LED <input type="radio"/> Both	<ul style="list-style-type: none"> • Lighting plans and lighting schedule • ComCheck documentation • Invoice(s)*
				Proposed:		
<input type="checkbox"/>	LPD 60% better than code	For information on fixture certification options, please view the links below. <ul style="list-style-type: none"> • ENERGY STAR • DesignLights Consortium 	<input type="checkbox"/> Interior Lighting Power <input type="checkbox"/> Space-by-Space	Baseline:	<input type="radio"/> CFL <input type="radio"/> LED <input type="radio"/> Both	<ul style="list-style-type: none"> • Lighting plans and lighting schedule • ComCheck documentation • Invoice(s)*
				Proposed:		

VARIABLE FREQUENCY DRIVE ON SUPPLY FAN (UNITS < 110,000 Btu/h)					
Check to Select	Requirements	Quantity	Cooling Capacity (tons)	Installed VFD	Required Documentation
<input type="checkbox"/>	<ul style="list-style-type: none"> • Must be installed on a unit less than 110,000 Btu/h • Must be installed on a PSZ or split-system unit 				<ul style="list-style-type: none"> • Equipment cut sheets and invoices that include the VFD installed on supply fan motors* • Narrative describing how fan speed will be controlled (e.g., static pressure and temperature)

*If invoices are not available, program can conduct a site visit as equipment verification.

POWER MANAGEMENT SOFTWARE

PCs and monitors continue to draw energy even when they're not in active use, including weekends, holidays, workday breaks and at night. Computer power management software saves energy in PCs and attached monitors by enabling lower power states during periods of inactivity. Computer power management software is implemented within a network from a central location, allowing administrators to control the power settings and energy consumption of individual computers.

Check to Select	Requirements	Total Number of Desktops with Power Management Software to Be Installed	Incentive (Standard Incentive Amount +15% Bonus)	Required Documentation
<input type="checkbox"/>	<ul style="list-style-type: none"> Use of power management software on all desktop computers <ul style="list-style-type: none"> Non-desktop computers (e.g., servers, thin clients, laptops, tablets) are excluded Qualified PC power management platforms shall include all of the following: <ul style="list-style-type: none"> Centralized control Ability to validate number of PCs being controlled Ability to monitor and report actual energy savings 		<ul style="list-style-type: none"> \$12 per computer 	<ul style="list-style-type: none"> Software selection (go to energytrust.org/commercial/incentives/equipment-upgrades-remodels/computer-equipment/it-power for a list of approved products) Computer inventory report that shows: <ul style="list-style-type: none"> Which end points will be controlled by the software What the power settings will be Where the computers are physically located Number of computers known to be labeled ENERGY STAR Invoice(s)*

SERVER CLOSET MINI-SPLIT A/C

High-efficiency mini-split air conditioners provide cooling to server closets located within commercial or industrial buildings.

Check to Select	Requirements	Total Tons of Cooling Capacity for Installed Mini-Split A/C Units	Incentive (Standard Incentive Amount +15% Bonus)	Make and Model to Be Installed	Required Documentation
<input type="checkbox"/>	<ul style="list-style-type: none"> Cooling efficiency of SEER 18 or greater Cooling capacity no greater than 4 tons per unit Only mini-split air conditioners are eligible for this elective; other data room cooling systems (such as CRAC units) do not qualify Unit(s) must serve a space exclusively used for servers, data equipment or telecom Maximum of 2 units per space 		<ul style="list-style-type: none"> \$230/ton of cooling capacity 		<ul style="list-style-type: none"> Mechanical schedule Equipment cut sheets Invoice(s)*

*If invoices are not available, program can conduct a site visit as equipment verification.

CONDENSING BOILERS

Check to Select	Requirements	Number of Units	kBtu/h	Incentive (Standard Incentive Amount +15% Bonus)	Model Numbers	Required Documentation
<input type="checkbox"/>	<ul style="list-style-type: none"> 94% AFUE Boiler system must have design return temperature appropriate to condensing functionality Applicable for space conditioning only, not for processes 			<ul style="list-style-type: none"> \$4.60/kBtu/h 		<ul style="list-style-type: none"> Invoice(s)*

ROOFTOP UNIT CONTROLS (RTU)

Check to Select	Equipment Type	Requirements	Cooling Capacity (tons)	Incentive (Standard Incentive Amount +15% Bonus)	Required Documentation
<input type="checkbox"/>	Economizer*	Manufacturer installed economizer on new packaged rooftop unit RTU cooling capacity <54,000 Btu/h		\$34.50/ton of cooling capacity	<ul style="list-style-type: none"> Invoice(s) Cutsheets Mechanical schedule and mechanical plans
<input type="checkbox"/>	Demand Controlled Ventilation (DCV)**	Manufacturer-installed DCV on new packaged RTU with economizer		\$33.35/ton of cooling capacity	
<input type="checkbox"/>	Supply Fan Variable Frequency Drive (VFD)*	Manufacturer-installed supply fan VFD on new packaged RTU with economizer and DCV RTU cooling capacity <110,000 Btu/h Supply fan power <10 hp		\$115/ton of cooling capacity	

Heat type (check one):

Electric heat pump Gas

*RTU must include either gas furnace or heat pump heating. Economizer and VFD incentives only available to sites receiving electricity from Portland General Electric or Pacific Power

**RTU must include either gas furnace or heat pump heating. RTU must not serve a space required by code to have DCV. Contact program for eligible space types. DCV incentives for heat pump heat only available at sites receiving electricity from Portland General Electric or Pacific Power. DCV incentives for gas heat only available at sites receiving gas from NW Natural, Cascade Natural Gas or Avista

UNINTERRUPTIBLE POWER SUPPLIES (UPS)

Number of UPS	Requirements	Make and Model to Be Installed	Total Estimated Incentive***	Documentation
	<ul style="list-style-type: none"> A minimum power factor of 0.90 must be met Redundant units that do not see any load under normal operating scenarios shall not be included in the analysis Only units that will be installed and operational within the first year of the data center startup should be included in the analysis For UPS units that have an "eco-mode," the project specifications will require that the unit operates in this mode 			<ul style="list-style-type: none"> Equipment cut sheets Data must be provided on the proposed UPS efficiency at four different loadings (25%, 50%, 75% and 100%) Invoice(s)* Incremental costs Documentation on proposed loading (time spent at each of the four loading levels) if the default is not used

***Contact program for estimated UPS incentive.

ADDITIONAL SPECIAL MEASURES (FORM 520SM)

Special measures refer to design features that are not defined in this workbook, but may qualify for incentives. Energy Trust will assess these on a case-by-case basis.

Check to Select	Measure Description	Annual Energy Savings	Supporting Documentation
<input type="checkbox"/>		kWh _____ therms _____	<ul style="list-style-type: none"> Pertinent schedules/contract drawings Completed form 520SM Calculation Incremental cost Invoice(s)*
<input type="checkbox"/>		kWh _____ therms _____	
<input type="checkbox"/>		kWh _____ therms _____	

*If invoices are not available, program can conduct a site visit as equipment verification.

ADDITIONAL STANDARD EQUIPMENT (FORM 520S)

Check to Select	Measure Description (from 520S)	Requirements	Quantity	Standard Incentive (from 520S)	Estimated Incentive (Standard Incentive Amount +15% Bonus)	Required Documentation
<input type="checkbox"/>		See Form 520S for individual measure requirements				<ul style="list-style-type: none"> Invoice(s) Cutsheets
<input type="checkbox"/>						
<input type="checkbox"/>						

Please note: Some standard equipment may not be eligible for bonus incentive.

Energy Trust of Oregon

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Energy Trust of Oregon is an independent nonprofit organization dedicated to helping utility customers benefit from saving energy and generating renewable power. Our services, cash incentives and energy solutions have helped participating customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista save on energy costs. Our work helps keep energy costs as low as possible, creates jobs and builds a sustainable energy future. **Printed on recycled paper that contains post-consumer waste. 1/19**