

Oregon Department of **ENERGY**

**1.5 Percent for Green
Energy Technology in
Public Buildings**
Projects Reported
Calendar Year 2020

January 2021



*Jackson County Fire District 3
Scenic Fire Station*



**OREGON
DEPARTMENT OF
ENERGY**

1.5% FOR GET IN PUBLIC BUILDINGS – 2021 REPORT

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INTRODUCTION

Pursuant to ORS 279C.527 and 279C.528, the Oregon Department of Energy must deliver an annual report to the Legislative Assembly on or before the first date of the session summarizing the compliance of contracting agencies required to incorporate green energy technology (GET) in public improvement projects.

HISTORY OF THE STATUTE

The history of the 1.5% Green Energy Technology program began with legislation in 2007, which provided new solar requirements in ORS 279C.527 – ORS 279C.528. Including initial adoption, the legislature has amended this statute several times, including:

- 2007 HB 2620 - House Bill 2620 (2007) established the requirement for a public body to spend 1.5 percent of the total contract price of a building on solar technology.
- 2012 SB 1533 - Senate Bill 1533 (2012) amended ORS 279C.527-528 to 1.5 percent for GET, allowing geothermal technology to also meet the requirement.
- 2013 HB 3169 - House Bill 3169 (2013) further amended the law and updated the reporting requirements by the department to the legislature, making the reports due annually before the start of the session.
- 2015 HB 2987 - House Bill 2987 (2015) removed the requirement that public bodies identify an account where deferred funds were to be held, but maintained the requirement to spend the equivalent funds on a future appropriate building project.
- 2015 SB 3329 - Senate Bill 3329 (2015) lowered the minimum water source temperature from 140°F to 128°F for geothermal technologies in K-12 school projects.
- 2017 SB 634 - Senate Bill 634 (2017) added woody biomass energy technology as an alternative for meeting the GET requirement.
- 2019 HB 2496 - House Bill 2496 (2019) made a number of updates to the program, including the following: added battery storage as an eligible green energy technology, made certain energy use efficiency improvements eligible alternatives to GET, increased minimum total contract price threshold for subject buildings to \$5 million, clarified the “total contract price” definition, excluded seismic costs from total contract price, and lowered passive solar and daylight systems energy use reduction from 20% to 10%.

GREEN ENERGY TECHNOLOGY REQUIREMENTS

Beginning in calendar year 2020, the GET requirement applies to any new public building with construction costs exceeding \$5 million. It also applies to buildings being renovated when construction costs exceed \$5 million and 50 percent of the insured value of the building. Prior to January 1, 2020, this threshold was \$1 million. To be subject to the requirements, a public body must own or control the building and use it for conducting public business or as space for its employees.

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Public bodies include state agencies, cities, counties, local service districts, and special government bodies including school districts, education service districts, community college districts, and public corporations created by state statute. Members of the Oregon University System are exempt from the requirement. Also, after January 1, 2020, airports are also exempt from the requirement as a result of House Bill 2496 (2019).

PUBLIC BODIES MUST SPEND 1.5 PERCENT OF A BUILDING'S CONTRACT PRICE ON GREEN ENERGY TECHNOLOGY, INCLUDING SOLAR, GEOTHERMAL, AND WOODY BIOMASS.

GET is defined as energy systems that employ:

- Solar technologies, which include photovoltaic, solar hot water, passive solar, and day lighting (and, after January 1, 2020, battery storage technology that is paired with solar or geothermal systems that generate electricity).
- Geothermal systems that use geothermal source temperatures of 140° F or more to provide heating or make electricity, with an exception for K-12 school projects, which are allowed to use minimum geothermal source temperatures of 128°F. Ground source heat pumps do not comply with the definition.

Woody biomass is an allowable alternative to GET and is defined as a system that for space or water heating, or as a combined heat and power system:

- Uses a boiler with a lower heating value combustion efficiency of at least 80 percent.
- Uses, as fuel, material from trees and woody plants that is a by-product of forest management, agriculture, ecosystem restoration, or fire prevention or related activities.

Woody biomass does not include wood pieces that have been treated with specified chemicals, municipal solid waste, construction and demolition waste, or other industrial wood waste.

After passage of House Bill 2496 (2019) and subsequent agency administrative rulemaking, energy use efficiency is also an allowable alternative to GET if the site Total Solar Resource Fraction (TSRF) is 75 percent or less, effective January 1, 2020. To be eligible, energy use efficiency requires measures that reduce energy consumption by 20 percent or greater when compared to an energy code baseline.

To accommodate geothermal technologies, SB 1533 (2012) allowed for off-site installation of green energy technologies if certain requirements are met. These include cost-effectiveness, proximity of location, and the provision of new generating capacity. As a result, the public body has the option to place a technology off-site if it considers the technology inappropriate at the building site. The energy produced at either location must be used at the building site. The same off-site allowances and requirements apply to WBET.

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If the public body plans to install GET, Woody Biomass, or Energy Use Efficiency at an alternate site, it must have its plan reviewed by a technical review panel. The technical review panel includes a professional engineer or architect, a member of a public body, an industry technical expert, and is chaired by ODOE staff. The public body must provide information to the panel about the site and the cost of the GET/Woody Biomass/Energy Use Efficiency system at each location.

If the public body considers GET or an alternative inappropriate both on-and off-site, the public body must also submit its reasoning to the technical review panel. The panel reviews the analysis and provides its written recommendation to the public body. The public body makes a final determination whether the GET or an alternative is appropriate for the project. Both the public body's decision and the review panel's recommendation must be reported to the ODOE database.

If the public body determines GET or an alternative is inappropriate for the project, and no state funds are used for the construction/renovation of the public building, there is no requirement to defer funds for a future project. However, if state funds are included in the construction/renovation funding, the public body must spend an equivalent amount in a future project that it builds. This amount is in addition to the 1.5 percent of the future project cost used for GET or an alternative.

The law requires all public bodies with a building project subject to the GET requirement to report the project information to the Oregon Department of Energy. After a public body makes a final determination whether GET or an alternative is appropriate and before construction of the system begins, it is required to report the project electronically, using an electronic form located on the ODOE website. ODOE summarizes all reported projects and provides this report to the legislative assembly prior to the start of the session.

OUTREACH EFFORTS BY ODOE TO PUBLIC BODIES

To increase familiarity with the GET requirement, including the requirement to report GET projects to ODOE, the Oregon Department of Energy conducts outreach efforts to public bodies by providing information about the requirements stipulated in ORS 279C.527 through ORS 279C.528. ODOE conducts annual outreach via email to remind public bodies of the requirements. This outreach email is sent to the Association of Counties, League of Oregon Cities, community colleges, state agencies, counties, cities, and K-12 school districts, among others, and was recently distributed in December 2020. ODOE has also developed an informational brochure for online posting and distribution at public body conferences and gatherings.

THE NUMBER OF GET PROJECTS REPORTED AS INSTALLING GET HAS GENERALLY INCREASED OVER THE PAST FEW YEARS, INDICATING THAT ODOE'S EFFORT TO INCREASE AWARENESS OF THE 1.5% GET REQUIREMENT IS WORKING.

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Also, ODOE worked with the Building Codes Division in 2019 to include a reference to 1.5% GET requirements in the 2019 Oregon energy code (2019 Oregon Zero Energy Ready Commercial Code). The purpose of this is to help make architects, engineers, and others in the design community more aware of GET requirements, so that GET can be incorporated into early project design. This reference is in the current energy code and is planned to remain in future energy codes as well. ODOE appreciates the collaboration and efforts of Building Codes Division to include this reference in the energy code, as it has been beneficial in supporting awareness and compliance of the 1.5% GET requirement. An excerpt from the 2019 Oregon commercial energy code is included below.

Note: For reference only. Not adopted by the State of Oregon, Building Codes Division, as part of the *state building code*.

The Oregon Department of Energy administers the 1.5% for Green Energy Technology program for public buildings. New construction and major renovation projects for public buildings are required to evaluate and install Green Energy Technology and report to the Oregon Department of Energy in accordance with Oregon Revised Statute (ORS) Chapter 279C, Section 279C.527-528 and Oregon Administrative Rule (OAR) Chapter 330, Division 135. See [Oregon.gov/energy](https://www.oregon.gov/energy)

<https://www.oregon.gov/bcd/codes-stand/Documents/19ozercc.pdf>

In 2019 and 2020, ODOE also identified a potential synergy with another state agency's data collection and reporting requirements and engaged with the Oregon Bureau of Labor and Industries (BOLI), and BOLI provided a compilation of construction projects by public agencies that may meet the criteria and be subject to the 1.5% GET requirements. Separate from any 1.5% GET requirements, there are other prevailing wage requirements for public agencies and public works projects that are required to be reported to BOLI. These requirements apply to a much broader list of public projects than do the 1.5% GET requirements, but in general encompass all or most of the projects that would also be subject to the 1.5% GET requirements. ODOE worked with BOLI to filter the dataset to identify projects for which the 1.5% GET requirements could potentially be applicable. ODOE then conducted targeted outreach to these public agencies regarding 1.5% GET applicability. Since public projects that are subject to 1.5% GET requirements can occur across a wide array of public agencies (counties, cities, school districts, etc.), ODOE has traditionally only been aware of projects that report to the agency or contact the agency with questions. By working with BOLI and utilizing its database to identify other 1.5% GET subject projects, ODOE has made progress toward proactively identifying and communicating with more of the 1.5% GET subject projects and public agencies.

One hundred thirty-one projects have been reported since the requirement came into effect, and of those, 13 projects were reported for calendar year 2020.

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PROJECTS REPORTED TO ODOE

Thirteen projects for which GET was deemed appropriate were reported in 2020.

Reported Projects in 2020 for Which GET Was Determined Appropriate

Projects are listed below in the order in which they were entered into the 1.5% GET database.

Project 20-01	
Project Owner, Project Name and Location	City of Hillsboro Hillsboro Community Center 5100 NE Hidden Creek Dr Hillsboro, OR 97124
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$27,269,700
Minimum GET Budget	\$409,046
GET Description	Photo-voltaic panels mounted on the roof, and decorative bifacial panels as eaves, at the rear deck. Total 99.915kW
Est. Annual Production	119,301 kWh
Est. Annual Value	\$7558
Total GET Expenditures	\$435,000
Date Project Submitted	1/3/2020

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Project 20-02	
Project Owner, Project Name and Location	Coos Bay School District Eastside School 260 2nd Ave Coos Bay, OR 97420
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$20,146,552
Minimum GET Budget	\$302,198
GET Description	<p>"The new Eastside School Elementary will include a 54.5 kW photovoltaic canopy for net metering and site load consumption. The system includes additional conduit and utility room space for future accommodation of energy storage to compliment the PV production during utility outages.</p> <p>Components: 138 photovoltaic modules rated at 395 W and 69 power optimizers rated at 860 W will be racked on a canopy mounting structure designed and fabricated by RBI Solar. DC power from the canopy will be delivered to the utility room for inversion by a 66.6 kW PV inverter through one of two conduits. Should the district add energy storage to the system, the second conduit will remain available to deliver secured electricity to the adjacent play area that will be used as a public gathering space during catastrophe response. The system includes all electrical and safety components required by electrical, structural and governing public safety rules.</p> <p>Performance: The system is modeled to deliver an average of 74.57 MWh of photovoltaic electricity each year at a performance ratio of 87.7%. Monthly production will range from a low of just under 2.5 MWh in December to a high to just over 10 MWh in July. "</p>
Est. Annual Production	74,570 kWh
Est. Annual Value	\$5,164
Total GET Expenditures	\$320,000
Date Project Submitted	6/22/2020

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Project 20-03	
Project Owner, Project Name and Location	Oregon City School District Gardiner Middle School 180 Ethel St Oregon City, OR 97045
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$78,844,812
Minimum GET Budget	\$1,186,590
GET Description	PV power system, solar modules, roof-mounted ballasted racking system (10 degree tilt), and all other related hardware and electrical equipment.
Est. Annual Production	236,000 kWh
Est. Annual Value	\$20,060
Total GET Expenditures	\$1,204,082
Date Project Submitted	9/15/2020

Project 20-04	
Project Owner, Project Name and Location	Jackson County Fire District 3 Scenic Fire Station 1909 Scenic Ave Central Point, OR 97502
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$4,514,294
Minimum GET Budget	\$67,714
GET Description	Roof mounted photovoltaic array interconnected with smart meter from Pacific Power. System sized designed at 27.84kWDC. During the day the solar panels convert sunlight to electricity. Solar power output is used to run ac loads onsite and "sells" excess electricity to the Pacific Power grid. Electrical loads during the day will be powered directly by the solar PV system. Electricity needs that exceed the PV system production will be supplied by the Pacific Power grid.
Est. Annual Production	38,095 kWh
Est. Annual Value	\$2,476
Total GET Expenditures	\$74,500
Date Project Submitted	12/14/2020

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Project 20-05	
Project Owner, Project Name and Location	City of Salem Salem Police Station 333 Division St NE Salem, OR 97301
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$59,295,740
Minimum GET Budget	\$889,437
GET Description	103kW System - 264 each Sunpower SPR-P19-390-COM PV Panels and Inverters and Canopy Structures and Racking spread over upper parking deck covering 5,960 SF.
Est. Annual Production	154,500 kWh
Est. Annual Value	\$6,798
Total GET Expenditures	\$1,011,446
Date Project Submitted	12/15/2020

Project 20-06	
Project Owner, Project Name and Location	Winston-Dillard School District Douglas High School New Classroom Building and Gym 1381 NW Douglas Blvd Winston, OR 97496
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$19,200,000
Minimum GET Budget	\$288,000
GET Description	160 kW roof-mounted PV system
Est. Annual Production	205,000 kWh
Est. Annual Value	\$17,600
Total GET Expenditures	\$296,447
Date Project Submitted	12/16/2020

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Project 20-07	
Project Owner, Project Name and Location	City of Salem Salem Public Library Improvements Project 585 Liberty St SE Salem, OR 97301
Project Type	Renovation
GET Category	Active Solar
Total Contract Price	\$16,084,548
Minimum GET Budget	\$241,268
GET Description	The Solar PV array is comprised of (100) REC 445AA Solar modules for a total DC size of 44,500WDC. They are installed on the rooftop with a racking system tilted at 15 degrees at true south. The Solar panel output feeds an SMA 50KTL Inverter that converts the DC power to 3 Phase, 480/277VAC. This AC power feeds into the Libraries electrical service and is utilized internally by the library electrical loads. The annual production of the Solar PV array is approximately 58,700kWh annually. This is equivalent to the usage of four average sized homes.
Est. Annual Production	58,700 kWh
Est. Annual Value	\$5,300
Total GET Expenditures	\$252,227
Date Project Submitted	12/18/2020

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Project 20-08	
Project Owner, Project Name and Location	Greater Albany Public School District Oak Grove Elementary School 1500 NW Oak Grove Dr Albany, OR 97321
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$27,500,000
Minimum GET Budget	\$412,500
GET Description	Installing 39kw solar panel system.
Est. Annual Production	48,940 kWh
Est. Annual Value	\$4,894
Total GET Expenditures	\$132,000
GET Consolidation Details	<p>Greater Albany School District is consolidating the GET requirements of three projects, as allowed under ORS 279C.527(7). The three projects are:</p> <ul style="list-style-type: none"> - Oak Grove Elementary School (OGES) - Meadow Ridge Elementary School (MRES) - South Albany High School (SAHS) <p>Each project has been reported individually. Consolidation details are listed below.</p> <p>OGES spent \$27.5M for project costs and is allocating \$412,500 to GET. GAPS is partially consolidating this total by using \$129,600 at OGES, and \$275,636 at MRES.</p> <p>SAHS spent \$11.9M for project costs and is allocating \$178,718 to GET. GAPS is fully consolidating this total to MRES.</p> <p>MRES spent \$40.0M for project costs and is allocating \$600,750 to GET. GAPS is partially consolidating other schools by bringing in an additional \$275,636 from OGES and \$178,718 from SAHS for a total of \$1,055,104.</p>
Date Project Submitted	12/18/2020

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Project 20-09	
Project Owner, Project Name and Location	Greater Albany Public School District Meadow Ridge Elementary 385 Timber Ridge St NE Albany, OR 97322
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$40,050,000
Minimum GET Budget	\$600,750
GET Description	Installing 358kw solar panel system
Est. Annual Production	429,100 kWh
Est. Annual Value	\$42,910
Total GET Expenditures	\$1,055,104
GET Consolidation Details	<p>Greater Albany School District is consolidating the GET requirements of three projects, as allowed under ORS 279C.527(7). The three projects are:</p> <ul style="list-style-type: none"> - Oak Grove Elementary School (OGES) - Meadow Ridge Elementary School (MRES) - South Albany High School (SAHS) <p>Each project has been reported individually. Consolidation details are listed below.</p> <p>OGES spent \$27.5M for project costs and is allocating \$412,500 to GET. GAPS is partially consolidating this total by using \$129,600 at OGES, and \$275,636 at MRES.</p> <p>SAHS spent \$11.9M for project costs and is allocating \$178,718 to GET. GAPS is fully consolidating this total to MRES.</p> <p>MRES spent \$40.0M for project costs and is allocating \$600,750 to GET. GAPS is partially consolidating other schools by bringing in an additional \$275,636 from OGES and \$178,718 from SAHS for a total of \$1,055,104.</p>
Date Project Submitted	12/18/2020

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Project 20-10	
Project Owner, Project Name and Location	Greater Albany Public School District South Albany High School 3705 Columbus St SE Albany, OR 97322
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$11,914,549
Minimum GET Budget	\$178,718
GET Description	Installing solar panel system as part of Meadow Ridge Elementary School final system.
Est. Annual Production	0 kWh (GET requirement installed at MRES)
Est. Annual Value	\$0
Total GET Expenditures	\$0
GET Consolidation Details	<p>Greater Albany School District is consolidating the GET requirements of three projects, as allowed under ORS 279C.527(7). The three projects are:</p> <ul style="list-style-type: none"> - Oak Grove Elementary School (OGES) - Meadow Ridge Elementary School (MRES) - South Albany High School (SAHS) <p>Each project has been reported individually. Consolidation details are listed below.</p> <p>OGES spent \$27.5M for project costs and is allocating \$412,500 to GET. GAPS is partially consolidating this total by using \$129,600 at OGES, and \$275,636 at MRES.</p> <p>SAHS spent \$11.9M for project costs and is allocating \$178,718 to GET. GAPS is fully consolidating this total to MRES.</p> <p>MRES spent \$40.0M for project costs and is allocating \$600,750 to GET. GAPS is partially consolidating other schools by bringing in an additional \$275,636 from OGES and \$178,718 from SAHS for a total of \$1,055,104.</p>
Date Project Submitted	12/18/2020

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Project 20-11	
Project Owner, Project Name and Location	Greater Albany Public School District West Albany High School 1130 Queen Ave SW Albany, OR 97321
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$49,030,000
Minimum GET Budget	\$735,450
GET Description	Installing 249 kw solar system
Est. Annual Production	320,800 kWh
Est. Annual Value	\$32,080
Total GET Expenditures	\$735,450
Date Project Submitted	12/18/2020

Project 20-12	
Project Owner, Project Name and Location	Oregon Military Department Oregon Youth Challenge 23861 Dodds Rd Bend, OR 97701
Project Type	Renovation
GET Category	Active Solar
Total Contract Price	\$10,277,000
Minimum GET Budget	\$154,155
GET Description	25 KW solar PV
Est. Annual Production	36,490 kWh
Est. Annual Value	\$2,762
Total GET Expenditures	\$163,780
Date Project Submitted	12/22/2020

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Project 20-13	
Project Owner, Project Name and Location	City of Hermiston Hermiston City Hall 180 NE 2 nd Street Hermiston, OR 97838
Project Type	New Construction
GET Category	Active Solar
Total Contract Price	\$8,400,000
Minimum GET Budget	\$126,000
GET Description	30KW photovoltaic system designed to be located on the roof of the City Hall. Power produced by the system will be directly tied to the utility grid through the building main switch gear. System utilizes 81 PV modules rated at 380 watts each. DC power output is converted to AC utilizing 208V, 3-phase microconverters. Each microconverter is connected to 3 PV panels. The panels shall be mounted to a racking system with 0 degree tilt to allow for enough physical mounting space on the roof, while limiting shading. The racking system will support the panels 6" above the roof deck.
Est. Annual Production	35,392 kWh
Est. Annual Value	\$2,248
Total GET Expenditures	\$130,000
Date Project Submitted	12/30/2020

Reported Projects for Which GET Was Determined to be Inappropriate

No projects were reported into the 1.5% GET database in 2020 that were determined to be inappropriate by the contracting agency.

COMPLIANCE WITH THE STATUTE

The Oregon Department of Energy’s role includes writing program rules, conducting outreach to public bodies, and summarizing the public bodies’ reporting efforts in the annual report to the legislature. The determination as to whether GET is appropriate or inappropriate remains with the public body. Public bodies that determine GET or an alternative to be inappropriate are directed to submit their reasoning for a Technical Panel Review. ODOE continues to inform public bodies that they must request a review when making a determination that GET is inappropriate and that regardless of which determination they make, all subject projects must be reported to the 1.5 percent GET/alternative [reporting form](#).

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FOR MORE INFORMATION

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