



1.5% for Green Energy Technology in Public Buildings

Projects Reported Calendar Year 2023

Submitted to the

OREGON LEGISLATURE

by the

OREGON

DEPARTMENT OF

ENERGY



OREGON
DEPARTMENT OF
ENERGY

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1.5% FOR GET IN PUBLIC BUILDINGS – 2024 REPORT (FOR CALENDAR YEAR 2023)

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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 that summarizes the compliance of contracting agencies required to incorporate green energy technology (GET) or eligible alternative energy technology in public improvement projects.

HISTORY OF THE STATUTE

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

- 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.
- Senate Bill 1533 (2012) - amended ORS 279C.527-528 to 1.5 percent for green energy technology, allowing geothermal technology to also meet the requirement.
- 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.
- 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.
- Senate Bill 3329 (2015) - lowered the minimum water source temperature from 140°F to 128°F for geothermal technologies in K-12 school projects.
- Senate Bill 634 (2017) - added woody biomass energy technology as an alternative for meeting the GET requirement.
- 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 buildings subject to the requirement 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 percent to 10 percent.

GREEN ENERGY TECHNOLOGY REQUIREMENTS

Beginning with public building procurements solicited or advertised in calendar year 2020, the GET requirement applies to any new public building with a total contract price exceeding \$5 million. It also applies to buildings being renovated when the total contract price exceeds \$5

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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.

Public bodies include state agencies, cities, counties, local service districts, special government bodies, school districts, education service districts, community college districts, and public corporations created by state statute, among others. Oregon's seven public universities, as listed in ORS 352.002, 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 PV, PASSIVE SOLAR, OR GEOTHERMAL TECHNOLOGIES

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 higher 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 energy technology 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's Total Solar Resource Fraction (the fraction of usable solar energy that the panels should collect, based on shading and the tilt and orientation of the panels) 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 woody biomass energy technology.

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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 representative of a public body, a representative of a green energy technology industry, and a representative of the woody biomass technology industry. The technical review panel is chaired by ODOE staff. In 2022, new members for the review panel were introduced to the program and their role in technical review. When submitting for review, 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. A summary of both the public body's decision and the review panel's recommendation must be reported to ODOE's GET database.

If the public body determines GET or an alternative is inappropriate for the project, and any amount of 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 any 1.5 percent of the future project cost that might be required for GET or an alternative. However, if no state funds are used (either directly or indirectly) for the construction/renovation of the public building, there is no requirement to defer funds for a future project.

Reasons submitted for determining GET as inappropriate for a site include insufficient infrastructure, prohibitively costly upgrades for existing buildings, and poor solar access compared to other public agency upcoming projects. Net metering thresholds (25 kW in consumer-owned utility territories) that limit the capacity of solar PV that can be installed and interconnected to a utility grid can also be a barrier and can reduce the utility cost offsets from onsite solar.

The law requires that all public bodies with a building project subject to the GET requirement 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 — when all the project information is known and generally before construction of the system begins — it is required to report the project electronically using a 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.

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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

ODOE CONTINUES TO INCREASE AWARENESS AND TRACK PROJECTS THAT MAY BE SUBJECT TO 1.5% GET REQUIREMENTS THROUGH PUBLIC BODY OUTREACH EFFORTS AND COORDINATION WITH OTHER STATE AGENCIES.

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 most recently distributed in January 2024. ODOE has also developed an informational [brochure](#) for online posting and distribution at public body conferences and gatherings.

Beginning with the 2019 Oregon energy code (known as the *2019 Oregon Zero Energy Ready Commercial Code*), ODOE has worked with the Building Codes Division to include a reference to 1.5% GET requirements directly in the code document. 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 early in public project design. This 1.5% GET reference continues in the adopted *2021 Oregon Energy Efficiency Specialty Code*. ODOE appreciates the collaboration and efforts of the Building Codes Division to include this reference in the energy code, as it has been beneficial in supporting awareness of and compliance with the requirements. An excerpt from the current 2021 Oregon commercial energy code is included below. As of the drafting of this GET report, the proposed next version of the Oregon energy code (the *2024 Oregon Energy Efficiency Specialty Code*) that will become effective in 2024 includes a similar reference.

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/bcd/codes-stand/Documents/2021oeesc.pdf>

ODOE collaborates with the Oregon Bureau of Labor and Industries to leverage BOLI’s data collection and reporting 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

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projects than do the 1.5% GET requirements, but in general encompass all or most of the projects that would also be subject to GET. Since 2019, BOLI has annually provided a compilation of construction projects by public agencies and works with ODOE to filter the dataset and identify projects for which the 1.5% GET requirements could potentially be applicable. ODOE then conducts targeted outreach to these public agencies regarding 1.5% GET applicability. Public projects that are subject to the requirements can occur across a wide array of public agencies (counties, cities, school districts, etc.), and ODOE is otherwise only 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. ODOE continues to collaborate with BOLI to increase public agency awareness and improve agency outreach efforts.

Since the GET requirement came into effect, a total of 207 projects have been reported — including 37 projects for calendar year 2023.¹

¹ Historic project counts may differ from previous program reports due to data review, organization, and clean up.

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PROJECTS REPORTED TO ODOE

Thirty-seven GET projects were reported to ODOE in 2023. Of those, 34 were for projects deemed appropriate by the public agency for GET (or an eligible alternative), and three were deemed inappropriate and deferred to a future project.

An interactive map of reported projects is available on the Oregon Department of Energy website at the following link:

[GET Maps 2023](#)

This online summary includes projects as reported by public bodies. Key fields from the information that public bodies are required to report include:

| | |
|-------------------------------|--|
| GET Category | The category of Green Energy Technology (GET) installed for a particular project. The options include active solar (photovoltaics), passive solar, solar thermal (water heating), geothermal, and battery storage. |
| GET Description | A brief description of the GET system as entered by the contracting agency. |
| Total Contract Price | This term has the definition given in Oregon Revised Statute 279C.527. Total Contract Price generally means all of the costs a contracting agency anticipates incurring in all contracts and subcontracts involved in constructing, reconstructing or performing a major renovation of a public building, with certain exemptions as detailed in the statutory definition. |
| Minimum GET Budget | This is the minimum spending obligation that the contracting agency must dedicate towards Green Energy Technology. This is a simple calculation of the Total Contract Price multiplied by 1.5 percent. |
| Total GET Expenditures | This value represents the total amount actually spent on Green Energy Technology, as reported by the contracting agency. |
| Est. Annual Production | Estimated annual energy production (or savings) of a Green Energy Technology system. This is reported in units of kilowatt-hours for electricity production or savings, and in units of Million Btu for thermal production or savings. For all projects reported in 2022 calendar year, the units are kilowatt-hours. |
| Est. Annual Value | This is the estimated monetary value of the energy produced or saved from the Green Energy Technology. |
| Solar Array Capacity | This is the size, in kW, of the installed solar array (if applicable) |

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Reported Projects in 2023 For Which GET (or an Eligible Alternative) Was Determined Appropriate

34 projects for which GET (or an eligible alternative) was deemed by the public body to be appropriate were reported to ODOE in 2023.

| Public Body or Contracting Agency | Project Name | City | Estimated Annual Energy Generation (kWh electric) | GET Type | Array Size (kW) |
|-----------------------------------|--|-------------|---|------------------------------|-----------------|
| Blue Mountain Community College | Farm II | Pendleton | Public body determined GET to be inappropriate | | |
| City of Beaverton | Beaverton Year Round Shelter | Beaverton | 22,340 | Active Solar (photovoltaics) | 20 |
| Clackamas Community College | DeJardin Science Addition | Oregon City | Public body consolidated GET requirements into another site | | |
| Clackamas Community College | Harmony West | Milwaukie | 54,662 | Active Solar (photovoltaics) | 50 |
| Clackamas Community College | Holden Industrial Technology Center | Oregon City | 235,986 | Active Solar (photovoltaics) | 208 |
| Clackamas Community College | Wacheno Welcome Center | Oregon City | Public body consolidated GET requirements into another site | | |
| Corvallis School District 509J | Corvallis High School | Corvallis | 196,500 | Active Solar (photovoltaics) | 150 |
| Corvallis School District 509J | Cheldelin Middle School | Corvallis | 22,270 | Active Solar (photovoltaics) | 17 |
| Corvallis School District 509J | Linus Pauling Middle School | Corvallis | 111,874 | Active Solar (photovoltaics) | 85 |
| Corvallis School District 509J | College Hill High School | Corvallis | 11,790 | Active Solar (photovoltaics) | 9 |
| Corvallis School District 509J | Letitia Carson Elementary School | Corvallis | 17,292 | Active Solar (photovoltaics) | 13 |
| Corvallis School District 509J | Mountain View Elementary School | Corvallis | -- | Active Solar (photovoltaics) | 2 |
| Corvallis School District 509J | Lincoln Elementary School | Corvallis | 214,840 | Active Solar (photovoltaics) | 164 |
| Corvallis School District 509J | Kathryn Jones Harrison Elementary School | Corvallis | 17,292 | Active Solar (photovoltaics) | 13 |
| Corvallis School District 509J | Bessie Coleman Elementary School | Corvallis | 31,440 | Active Solar (photovoltaics) | 24 |
| Corvallis School District 509J | Garfield Elementary School | Corvallis | 7,860 | Active Solar (photovoltaics) | 6 |
| Corvallis School District 509J | Franklin K-8 | Corvallis | 29,645 | Active Solar (photovoltaics) | 23 |
| Corvallis School District 509J | Adams Elementary School | Corvallis | 180,000 | Active Solar (photovoltaics) | 150 |
| Crook County | Crook County Justice Center | Prineville | Public body determined GET to be inappropriate | | |

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| | | | | | |
|--|---|--------------|---|------------------------------|--------------|
| Hillsboro School District 1J | Tamarack Elementary School | Hillsboro | 127,606 | Active Solar (photovoltaics) | 106 |
| Hillsboro School District 1J | Liberty High School | Hillsboro | 76,592 | Active Solar (photovoltaics) | 64 |
| Hillsboro School District 1J | Mooberry Elementary School Gymnasium | Hillsboro | Public body consolidated GET requirements into another site | | |
| Hillsboro School District 1J | Eastwood Elementary School Gymnasium | Hillsboro | Public body consolidated GET requirements into another site | | |
| Hillsboro School District 1J | Transportation and Support Services Facility | Hillsboro | Public body consolidated GET requirements into another site | | |
| Hillsboro School District 1J | Atfalati Ridge Elementary School | North Plains | Public body consolidated GET requirements into another site | | |
| Hillsboro School District 1J | Brookwood Elementary School | Hillsboro | Public body consolidated GET requirements into another site | | |
| Oregon Department of Transportation | Meacham Maintenance Station | Meacham | Public body determined GET to be inappropriate | | |
| Portland Metro | Blue Lake Operations & Maintenance Facility | Portland | 33,420 | Active Solar (photovoltaics) | 31 |
| Portland Public Schools | Lincoln High School Replacement | Portland | 339,571 | Active Solar (photovoltaics) | 300 |
| Salem Keizer School District | Kennedy Elementary School | Keizer | 21,011 | Active Solar (photovoltaics) | 24 |
| Salem Keizer School District | Scott Elementary School | Salem | 66,673 | Active Solar (photovoltaics) | 56 |
| Salem Keizer School District | Hayesville Elementary School | Salem | 45,000 | Active Solar (photovoltaics) | 38 |
| Salem Keizer School District | Swegle Elementary School | Salem | 109,828 | Active Solar (photovoltaics) | 92.25 |
| Salem Keizer School District | Pringle Elementary School | Salem | 105,700 | Active Solar (photovoltaics) | 93 |
| Salem Keizer School District | Mary Eyre Elementary School | Salem | 50,930 | Active Solar (photovoltaics) | 45 |
| Salem Keizer School District | McKay High School | Salem | 258,100 | Active Solar (photovoltaics) | 205 |
| Salem Keizer School District | Schirle Elementary School | Salem | 68,325 | Active Solar (photovoltaics) | 62 |
| Totals | | | 2,456,547 | | 2,050 |

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Reported Projects for Which GET Was Determined to be Inappropriate

Three projects for which GET was determined to be inappropriate by the contracting agency were reported into the 1.5% GET database in 2023. Refer to Appendix A for additional information and Technical Review Panel communications.

| Public Body or Contracting Agency | Project Name: | City | GET Type |
|-------------------------------------|-----------------------------|------------|---|
| Oregon Department of Transportation | Meacham Maintenance Station | Meacham | GET determined by public agency to be inappropriate |
| Blue Mountain Community College | FARM II | Pendleton | GET determined by public agency to be inappropriate |
| Crook County | Crook County Justice Center | Prineville | GET determined by public agency to be inappropriate |

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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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APPENDIX A: TECHNICAL REVIEW PANEL DOCUMENTATION

Three projects that were reported to ODOE in 2023 were submitted for technical review for a recommendation.

Summaries of review panel correspondence and determinations are included in this appendix.

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CROOK COUNTY JUSTICE CENTER TECHNICAL REVIEW PANEL COMMUNICATIONS

Crook County

Crook County Justice Center

Public Body Submittal:



Crook County

Mailing: 300 NE 3rd Street • Prineville, Oregon 97754
Physical: 203 NE Court Street • Prineville, Oregon 97754
Phone (541) 416-6555

December 29, 2022

Oregon Department of Energy
Technical Review Committee
Attn: Robert Delmar
550 Capitol St. NE
Salem, OR 97301

Oregon Department of Energy
Energy Planning and Innovation
Attn: Blake Shelide, PE
550 Capitol St. NE
Salem, OR 97301

Re: Request for Technical Review of Proposal for Off-Site/Deferred GET
Our File No.: Ct. Contracts 281(G)

Dear Technical Review Committee:

Crook County has endeavored to construct a new Justice Center to replace its historic courthouse. Construction is underway, on schedule, and on budget. The County is eager to provide its public with a safe, modern, and comfortable venue for such important services. The County is also pleased to share its plans to comply with the 1.5% Green Energy Technology requirement with your Technical Review Committee. Accordingly, Crook County hereby respectfully requests your approval of a deferral or off-site project, pursuant to ORS 279C.527(6)/OAR 330-135-0018(2)&(3).

People are often surprised to learn of Crook County's innovation and leadership in sustainable technology. The County is home to an award-winning Crooked River Wetlands, an Aquifer Storage and Recovery Project, and the State's largest operating solar facilities (Gala, Millican, and Prineville solar facilities). The County also expended considerable resources last year to defend the legislature's vision to streamline the siting process for mid-sized solar facilities in the case *Or. Dep't of Fish & Wildlife v. Crook Cty.*, 315 Or. App. 625 (2021). While Crook County holds tight its traditional values, it also embraces technology and strives for sustainability.

However, regarding the Justice Center project and on-site renewables, the County has determined that green energy technology is not appropriate at the project site. The primary reason a new Justice Center is needed is to ensure the safety of our judges and the public as they interact with persons-in-custody,¹ so the overarching goal of this project has been to design/construct a building that meets the safety standards at the lowest cost to our taxpayers. This is the largest project the County has taken on in some time, and to ensure its success, every design choice has been to enhance our community's access to justice. We are also part of the fastest growing region in the State, and the project is being built with future vertical expansions in mind. Thus, for this project, it does not make sense to alter our vision to accommodate renewable technology on the building's roof-top.

¹ These pressing security concerns regarding our current courthouse were the basis for the Oregon Judicial Department committing over \$16MM towards our new Justice Center.

Seth Crawford, Judge • Jerry Brummer, Commissioner • Brian Barney, Commissioner

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The County is grateful for the GET requirement, though, in that it provides a great opportunity to make strides in other areas of the County. There are multiple projects on the horizon, some more fleshed-out than others, that we would like to bring to your attention. Most notable is the Prineville Renewable Energy Project (PREP)—an intergovernmental plan to construct and operate a 24.9-megawatt woody biomass power plant facility. Our brochure is attached. Together with the City of Prineville, we are working to utilize this sustainable and stable fuel supply that will also provide massive health and environmental benefits through forest thinning and fuel reduction. Our region will receive the power, and in exchange, the amount and severity of wildfires will be reduced, as will damage to property, the environment, air pollution, and the cost of fire suppression itself. This is the type of common-sense innovation the County is striving for.

Yet the County still has other plans beyond that. The County owns the land that comprises our regional airport. We are currently undergoing environmental testing, with the goal of constructing multiple new airplane hangars. The simple, steel-frame buildings are a perfect candidate for roof-top solar. Ground-mounted solar also makes sense on the County-owned bare land around the airport, which is located along a high-voltage transmission line that the major solar facilities are tying in to. The County does not lack for options.

Still, the County employed a consultant to gauge the Justice Center's projected total solar resource fraction (TSRF), also attached. We were pleasantly surprised that the average TSRF was so high, at 87.6%. Years from now, once we feel more certain about the need to expand the building, rooftop solar may make sense. But for now, it is in the County's best interest to focus on getting our new Justice Center constructed as soon as possible, with the least risk, for our citizens.

Thus, Crook County is formally requesting a technical review so that we can proceed with off-site renewables or defer the expenditure to a date in the future. We are unsure to what level an alternative project must be shovel-ready to qualify for the off-site standards of OAR 330-135-050, but we are confident that both our PREP project and rooftop solar on our airplane hangars would exceed the GET performance requirements. If these future projects more appropriately classify as deferrals, the County would be glad to report our progress to you as it comes.

Thank you for your consideration. Crook County strongly supports the ideals behind ORS 297C.527. While safety and other concerns limit the viability of solar technology at our new Justice Center, as we hope you'll see, the County has multiple other promising options to further propel us down the path of sustainable innovation. If you have any questions or concerns, please do not hesitate to reach out.

Sincerely,



Commissioner Brian Barney

Enclosures

Cc: County Counsel
All via email with enclosure

Seth Crawford, Judge • Jerry Brummer, Commissioner • Brian Barney, Commissioner

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Technical Review Response:



Oregon

Tina Kotek, Governor



550 Capitol St. NE
Salem, OR 97301
Phone: 503-378-4040
Toll Free: 1-800-221-8035
FAX: 503-373-7806
www.oregon.gov/energy

April 17, 2023

John Eisler
Assistant Counsel
Crook County Legal Counsel's Office
300 NE 3rd St.
Prineville, OR 97754

Re: 1.5% for Green Energy Technology funds at the Crook County Justice Center

Dear Mr. Eisler,

This letter is in response to your request for a technical review of the 1.5% Green Energy Technology (GET) requirements associated with the new Crook County Justice Center in Prineville, Oregon. The Technical Review Committee agrees that it is appropriate to defer the 1.5% GET funds due to the potential future vertical expansion of the facility. In the letter you detailed the potential for new hanger facilities at the regional airport, as well as an excellent solar resource on the Justice Center roof once vertical expansion is complete. Either of these proposed projects would serve as appropriate locations to defer 1.5% GET investments.

The review committee also recommends that participants in the 1.5% GET program consider alternate compliance paths such as passive solar design, daylighting, energy storage systems and biomass space and water heating systems.

Please note that the final determination regarding use of 1.5% funds is to be made by the contracting agency and reported in the green energy technology database. When reporting the project in the database please document the reason for not spending the GET funds on the subject project. The program rules and database reporting form can be found on the Oregon Department of Energy Web page at <https://www.oregon.gov/energy/energy-oregon/pages/get.aspx>.

Feel free to contact me if you have any questions.

Sincerely,

Rob Del Mar
Chair of 1.5% GET Technical Review Committee
Oregon Department of Energy

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BLUE MOUNTAIN COMMUNITY COLLEGE FARM II PROJECT TECHNICAL REVIEW PANEL COMMUNICATIONS

Blue Mountain Community College Farm II Project

Public Body Submittal:

Dear Mr. Shelide,

Blue Mountain Community College, Pendleton Round-up, and the City of Pendleton are currently working on finalizing the design for their Farm II project. This project consists of a 45,000 SF pre-engineered metal building, which, when completed, will be a new indoor rodeo arena and event center located in Pendleton, OR. This project meets the Green Energy Technology (GET) requirements with 1.5 percent of the project costs equaling \$189,000. While we understand the importance of renewable energy and its potential benefits, we strongly believe that applying this program to our new building is not beneficial.

First, this building will only be used for limited monthly events, which will have a limited energy draw. The impact of implementing the green energy technology program on this project would provide a minimal benefit at most. The kWh gained by solar would be returned to the power company with no return on investment if a solar panel system was installed.

Second, implementing the GET program on this project would require our team to remove several important amenities from the project scope that market studies have shown to be viable for the success of creating revenue for our facility. The marketing report we received indicated the removal of the items below would have a negative impact on the popularity of the future events scheduled and could decrease revenue significantly.

- Bleachers for spectators
- Concession equipment
- HVAC for heating and/or cooling
- Insulation
- Owner Furnished Livestock Equipment

Finally, taking into consideration the above reasons, we respectfully request that you exclude this project from the OR GET program. If this project is not able to be excluded from this program, we request to defer the 1.5% funds from the Farm II project to a future project with the college that would be more in line with green energy technology. We appreciate your understanding and consideration of this matter.

Sincerely,

Pat Sisneros

Summary of Staff Response:

Staff requested additional information to support the technical review and the decision to defer the 1.5 percent GET requirement. This included a request for more detail on annual energy use and potential onsite solar generation and a recommendation for the team to explore the opportunity to make this a “net zero energy” facility. ODOE staff also provided clarification that ODOE does not have ability to grant exclusions from the GET program.

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ODOT MEACHAM MAINTENANCE STATION TECHNICAL REVIEW PANEL COMMUNICATIONS

Oregon Department of Transportation Meacham Maintenance Station

Note: This project was submitted for technical review in 2022 but was reported to ODOE in the 1.5% Green Energy Technology database in 2023.

Public Body Submittal:

ODOT is requesting a deferral of the green energy technology requirement for the new Meacham Maintenance Station construction project as construction nears completion. In 2016, construction began of the new Meacham Maintenance Facility for ODOT, located about ½ hour SE of Pendleton, OR, and serves one of the steepest and coldest hills along I-84. It consists of a 27,000 SF maintenance and dispatch facility for snow plows and support vehicles with space for crews and training, a 7,500 SF storage facility, a fuel island, and a salt/gravel shed. The facility incorporates heated slabs both inside the maintenance facility and full exterior perimeter apron to aid. The facility includes a 12,000 square foot membrane-covered storage bunker for ODOT's road sand and salt products as well as; fuel, deicer, and other material storage. In addition, a new radio tower at the highest elevation on the property to improve radio signal over the Blue Mountains for ODOT and other response crews.

ODOT's Meacham Maintenance Station facility is the Agency's home base for highway maintenance on Interstate 84 through the Blue Mountains between La Grande and Pendleton. Facility functions include maintenance vehicle dispatch, equipment servicing, minor repairs, material and tool storage, fueling, de-icing, stockpiling of road sand and salt, and crew areas. ODOT has been planning for decades to invest in a replacement of the Meacham Maintenance Station. This investment will coincide with snow zone safety improvements on I-84, and will improve highway maintenance response times on I-84 and crew efficiency, as well as reduce wear and tear on agency equipment, and save on energy costs.

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Meacham is one of the coldest places in the continental United States. The biggest barrier to incorporating green energy technology into the new Meacham Maintenance Station is installing systems that are resilient to the harsh weather conditions. In Meacham, Oregon, winter consists of large amounts of snowfall. The large accumulations of snow take until July to melt. Meacham holds the national record of snowfall in a 24 hour stretch and can see four to six feet of snow in a 24 hour period. Statically, snowstorms have the highest effect on electricity production of solar photovoltaics due to blockage and more wear-and-tear from the elements. Severe weather poses a threat to all power system infrastructure; however, there are advantages to using solar PV as a resilient power source, such as its distributed nature and no need for fuel. To fully benefit from these advantages, it is vital that solar arrays are designed and installed in a manner that gives them the greatest likelihood of surviving severe weather events and thus being able to produce power afterwards.

The main takeaway from discussions with site designers, installers, and operators was the importance of designing for resilience and designing and building a system correctly from system inception (rather than retrofitting it after install). Ensuring a high standard of maintenance is also crucial. To be effective as a resilient power solution, though, the system needs to survive the weather event. To survive, it must be designed, installed, and maintained to a higher standard. While doing so will come with a significant increase in cost. As a result, the Facilities branch made the decision to install solar arrays in two sites better suited for solar electricity generation, Pendleton and Hermiston. Both are near the site of Meacham's construction, but have lower snow loads and more days of sunshine. Meacham Oregon has an annual snow fall of 99lbs per square foot which is significantly more than at Hermiston (13lb per square foot) or Pendleton (21lbs per square foot). This is an overall advantage to the local ODOT crews, local utilities, and Oregon as a whole because the installed arrays are ultimately more efficient. Furthermore, while installing a storm hardened PV system will likely come with a cost premium over a baseline system, costs of system components have increased recently.

Meacham, Oregon is relatively isolated, the closest town of any size to pull a labor force is 50 miles away. Finding a qualified labor force in the current environment is extremely challenging, costly, and prohibitive. The one-two punch is causing more than a 20% increase in prices. ODOT has determined based on current available resources that it was not appropriate to install green energy technology at the Meacham Maintenance Station site and that those resources would be better utilized elsewhere. ODOT prefers to defer the expenditure of the total contract price to locations where green energy technology was more suitable. The scope of the project(s) included the installation of a grid-tied Solar Photovoltaic System at the Hermiston Maintenance Station and Pendleton Maintenance Station.

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The Hermiston Solar system was a flush roof mounted array consisting of 54 micro-inverters to yield a total capacity of 25.92 kW DC. The total project cost was \$115,530. The Hermiston Maintenance Station solar project completed installation in July of 2022. Anticipated savings of approximately \$6,809 in electric bills (61%) at current utility rates in the first year. Savings will grow as electric utility rates are expected to rise 5.00% a year. The purchase of electric energy (kWh) from our utility is expected to be reduced by 71%. The payback on the projected is estimated at 9 years and the cash gained over the life of the project is estimated at \$256,765. CO² emissions saved over the life of the system are estimated at 1,424 tons. The Pendleton Maintenance Station Solar Project scope included the installation of a 47.5kW grid-tied solar system, utilizing 132 panels and 3 inverters. The project completed installation in June of 2019. The total project cost was \$97,558. Since installation, the Pendleton Maintenance Station has had a 20% reduction in source EUI, 21% annual energy cost savings, and a 14% reduction of GHG emission intensity.

Installation of owned-renewable electricity generation requires an appropriate area – either roof space or open land area – and the economics favor installing as large a system as possible. On-site solar installments can carry large upfront costs and require additional maintenance costs, which can be a barrier for many. ODOT has made investing in green energy technology and reducing carbon emissions a priority. ODOT led the nation in innovative on-site renewable generation through Oregon’s Solar Highway Program, which utilizes highway right-of-way space for installation of solar PV arrays. Rooftop and additional right-of-way solar installations also offer future opportunities for ODOT. While these installations generate GHG-free electricity for ODOT, significant developments would be needed to match ODOT's electricity consumption. ODOT will need to prioritize future project locations where resources are best utilized. Investor-owned utilities continue to offer incentives and net metering agreements that are limited in consumer-owned utility districts. ODOT will work with Portland General Electric (PGE) and Pacific Power utilities to prioritize projects in those territories.

[End Narrative]

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Technical Review Response:



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November 30, 2022

Egan Bull
Energy Analyst | Facilities Services
Oregon Department of Transportation
885 Airport Rd SE, Building X
Salem, OR 97301

Re: 1.5% for Green Energy Technology funds at Meacham Maintenance Station

Hi Egan,

This letter is in response to your request for a technical review of the 1.5% Green Energy Technology (GET) requirements associated with the new maintenance station in Meacham, Oregon. Thank you for the additional clarification provided via email on 9/12/22. In the request you describe ODOT's decision to defer 1.5% GET funds based on the difference in snow loads between sites. The Technical Review Committee agrees that extreme snow load, for sites such as Meacham, is an important and appropriate factor to consider for deferment of funds. The review committee also generally recommends a more comprehensive assessment beyond solar access and snow loads for the eligible technologies, when solar photovoltaics are not feasible at a site. In future requests, the committee would like additional information describing the difference in solar resource between alternate sites. Committee members pointed out that site conditions such as roof slope, orientation, and shading also affect solar performance. Additionally, a more comprehensive site assessment would consider other eligible technologies and alternatives when solar is not seen as feasible.

There are also a couple of additional programmatic items related to the 1.5% GET requirements at the Meacham maintenance facility. The first concerns the timing of the deferment projects and the second concerns the budget. Project deferral requests are intended to be proactive, based on assessments during project planning and early design. Deferral requests should look ahead intentionally to specific future projects, if known, for which GET can be deferred. The letter provided on 9/12/22 details a deferral to solar projects at Hermiston and Pendleton stations that have already been completed and it is not clear to ODOE if this was planned as an intentional deferral of Meacham 1.5% GET Requirement or if these were separate projects to which the Meacham requirement is being retroactively applied. Additionally, per the statute ORS 279C.527(6)(b), deferrals are to be part of a future public building project. It is also not clear if the sites selected for deferral and associated PV installations were associated with separate building projects at these sites. However, ODOE does recognize and appreciate ODOT's voluntary installation of valuable solar projects at these sites, and understands that the Meacham Maintenance Station has experienced budget challenges that have significantly affected the overall construction timeline. For future requests for deferral, please align the timing with early project design and a forward-looking approach to future public building projects for 1.5% GET application.

Also, regarding the project budget, ODOE understands through previous communications that the original total contract price for the project in 2016 was approximately \$16.4 million, but that cost increases since then have resulted in a current total contract price of more than \$26 million. Program rules, OAR 330-135-0025, specify that for 1.5% GET purposes the total contract price can be fixed at a certain point in time and should be based on the "anticipated, budgeted costs for all required elements of the total contract price as best known to the contracting agency during project planning and schematic design phases", in order to provide more certainty to project teams regarding the 1.5% GET budget amount. As

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previously noted, ODOE understands the budget challenges associated with this project, and that for many projects the actual costs can exceed original budgets. The timeline for this project is somewhat different than other projects, however, given that there were multiple years between original budgeting and actual construction along with a resulting price increase of more than 50 percent. The deferral request has also come at a point in time where the actual price is known. The information presented is not clear about whether the GET budget should have been based on the revised project cost, given the multiple years and associated revised planning and design in the interim. Also, at the lower original costs of \$16.4 million, the GET spending requirement would have been approximately \$246,000. Based on the information presented in the 9/12/22 email, a total of \$213,088 (\$115,530 in Hermiston and \$97,558 in Pendleton) was spent as deferred funding to meet the Meacham obligation. This would result in a remaining 1.5% GET requirement of approximately \$33,000, which per previous conversations ODOE understands may be installed in an expanded array at the Pendleton Maintenance Station. The program deferral pathway is not intended to be distributed piecemeal across installations, and although ODOT's approach on this particular project is understood, future deferral requests should be directed toward single future public building projects.

Please note that the final determination regarding use of 1.5% funds is to be made by the contracting agency and reported in the green energy technology database. When reporting the project in the database please document the reason for not spending the GET funds on the subject project. The program rules and database reporting form can be found on the Oregon Department of Energy Web page at <https://www.oregon.gov/energy/energy-oregon/pages/get.aspx>.

Feel free to contact me if you have any questions.

Sincerely,

Blake Shelide
Facilities Engineer, Oregon Department of Energy

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**APPENDIX B: 1.5% GREEN ENERGY TECHNOLOGY PROGRAM PATH
FLOWCHART**

<https://www.oregon.gov/energy/energy-oregon/Documents/GET-Flowchart-2020.pdf>

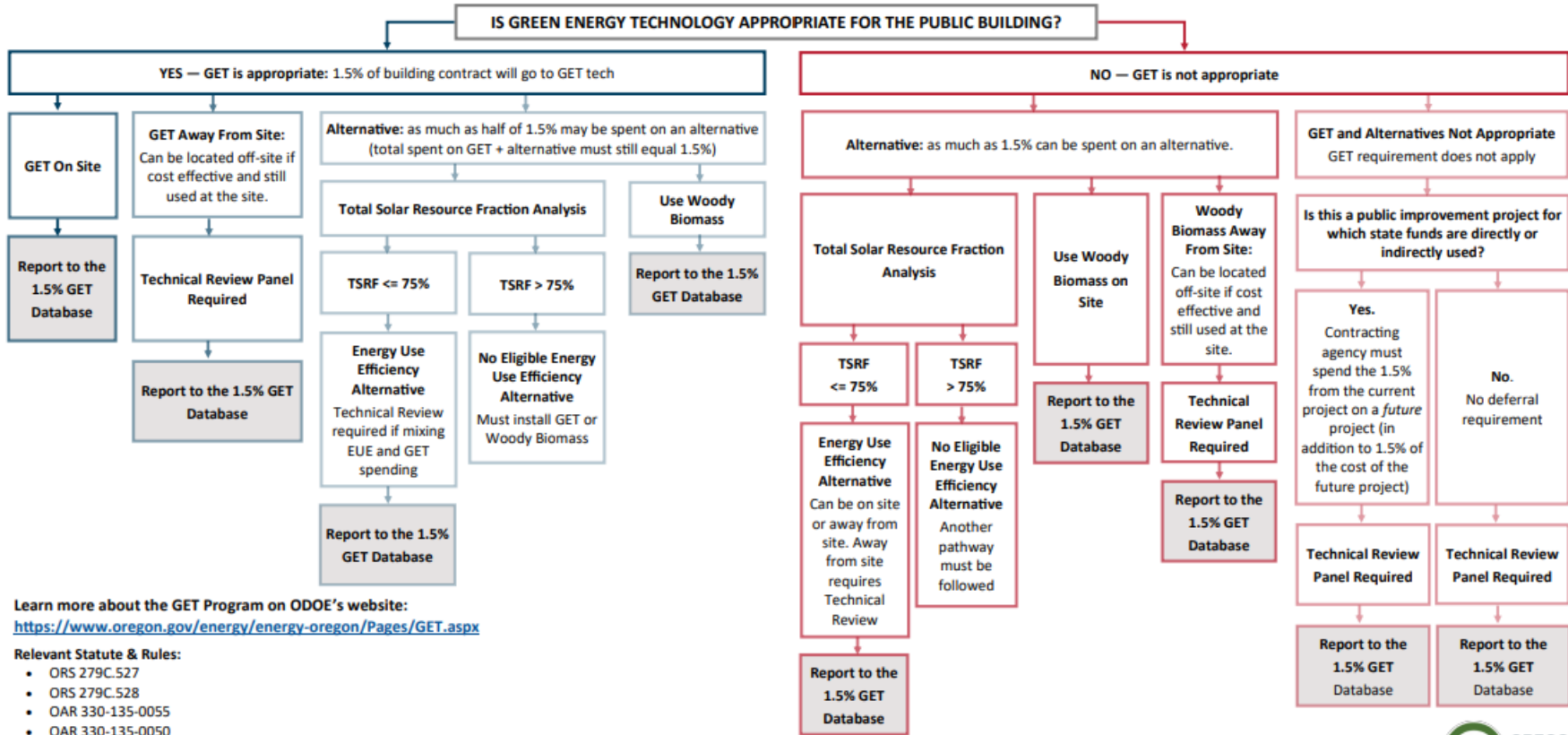
(see below)

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Green Energy Technology Program Flowchart (post HB 2496)

- Public Buildings Subject to 1.5% GET Requirements:**
- New construction with "total contract price" of \$5 million or more
 - Major renovation with "total contract price" of \$5 million or more and greater than half the insured value of the building
 - Public building means a building is owned or controlled by a public body, and is used or occupied by public employees or used for conducting public business
 - GET spending can now be consolidated from multiple buildings into one building or off-site location

- What qualifies as GET?**
- Solar or geothermal installations
 - Passive solar that reduces energy use from other sources by at least 10% from code
 - Battery storage, if it is part of a system that generates electricity from solar or geothermal on site
 - Alternatives include woody biomass or energy use efficiency
- Note: Total Solar Resource Fraction (TSRF) analysis is required for projects that will incorporate solar energy or energy use efficiency.*



Learn more about the GET Program on ODOE's website:
<https://www.oregon.gov/energy/energy-oregon/Pages/GET.aspx>

- Relevant Statute & Rules:**
- ORS 279C.527
 - ORS 279C.528
 - OAR 330-135-0055
 - OAR 330-135-0050

1/15/2020



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FOR MORE INFORMATION

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