

Oregon Department of **ENERGY**

**1.5 Percent for Green
Energy Technology in
Public Buildings**
Projects Reported
Calendar Year 2017

January 2018



Oregon Youth Authority New Bridge High School



OREGON
DEPARTMENT OF
ENERGY

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

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Solar array atop New Bridge High School

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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

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 GET, allowing geothermal technology to also meet the

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

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 the next appropriate building project. House 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 (WBET) as an alternative for meeting the GET requirement.

GET REQUIREMENTS

The GET requirement applies to any new public building with construction costs exceeding \$1,000,000. It also applies to buildings being renovated when construction costs exceed \$1,000,000 and 50 percent of the insured value of the building. 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, 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.

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GET is defined as energy systems that employ:

- Solar technologies, which include photovoltaic, solar hot water, passive solar, and day lighting.
- 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.

WBET 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.

To accommodate geothermal technologies, SB 1533 allows 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.

If the public body plans to install GET or WBET 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/WBET system at each location.

If the public body considers GET or WBET 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 WBET is appropriate for the project. Both the public body's decision and the review panel's recommendation must be reported to the ODOE database.

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If the public body determines GET or WBET 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 the next project that it builds. This amount is in addition to the 1.5 percent of the future project cost used for GET or WBET.

The law requires all public bodies with a building project subject to the GET/WBET requirement to report the project information to the Oregon Department of Energy. After a public body makes a final determination whether GET or WBET is appropriate and 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.

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 began outreach efforts to public bodies by providing information about the requirements stipulated in ORS 279C.527 through ORS 279C.528. ODOE now 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, Special Districts Association of Oregon, community colleges, state agencies, counties,

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

cities, and K-12 school districts, among others. ODOE also maintains a frequently asked [Questions and Answers document](#) and has developed an informational brochure for distribution at public body conferences and gatherings.

Eighty one projects have been reported since the requirement came into effect, and of those, 19 projects were reported for calendar year 2017. The number of projects reported each year has increased over the past few years, indicating that ODOE's effort to increase awareness of the 1.5 percent GET requirement is working.

PASSIVE SOLAR AND DAYLIGHTING TECHNOLOGY PILOT PROJECTS

Passive solar in combination with daylighting are combined technologies that meet the 1.5 percent GET requirement, provided that the passive components reduce whole building energy use by 20 percent compared to a code-level building. During the first eight years after the GET

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requirement began, no projects used the passive route to meet the requirement since the 20 percent whole building energy reduction is difficult to achieve. Designing passive components into a building requires a high level of analysis and substantial design time to determine if the 20 percent energy reduction goal will be met. Public bodies have been reluctant to invest the time and effort knowing the possible outcome might be that the 20 percent threshold will not be met and they then must return to the drawing board. Several public bodies had expressed interest in the passive technology path, but had been unwilling to take the chance. In 2015, Chemeketa Community College contacted ODOE with a request.

Chemeketa Community College was planning to construct the Applied Technology Building and planned to use passive technologies and systems in the design. Their analysis showed that by incorporating the allowable passive technologies in the project, they could cool their building utilizing passive cooling strategies. They requested that the use of passive cooling strategies via natural ventilation in be allowed to count toward the 20 percent savings requirement. ODOE agreed to consider it as a pilot project in order to determine what level of savings is achievable through passive strategies. Allowing the project as a pilot project reassured the college that they would comply with the 1.5% GET requirement. The final analysis showed a total energy savings of 28 percent, counting the savings contribution from the passive cooling strategy, and 24 percent whole building energy use reduction from the passive elements alone.

In 2016, Multnomah County also wanted to pursue the passive solar route in the new nine story Multnomah County Health Department building in downtown Portland. Due to project site and surrounding constraints, the building was not a good candidate for photovoltaics. The design team contacted ODOE and presented a passive design, which would allow the installation of a more energy efficient HVAC system. The county requested permission to count the contributions from the efficient HVAC systems toward the 20 percent savings requirement. ODOE agreed to allow this as a pilot project, provided that the savings from the passive systems and the efficient HVAC systems be analyzed separately so the contributions of each would be known. The resulting analysis showed a 12.6 percent whole building savings from the passive elements and 18.4 percent savings from the efficiency measures for a total 31 percent better-than-code result.

The third passive pilot project was the design for four elementary schools in the Reynolds School District. The plan was to construct a zero net energy-ready elementary school and the school district requested that their project be allowed as a passive pilot project. The concept of the zero net energy-ready building is that energy use loads are designed to be low enough that with the addition of renewable (PV) technologies, annual energy use is offset by annual on-site energy production. Preliminary analysis showed that the school will use 32 percent less energy than a code elementary school, including the energy credit for the efficient lighting and HVAC systems. The energy savings due to the passive elements alone, however, are 10.5 percent of total building energy use.

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The results from the three pilot projects have shown that for most projects, it is difficult to achieve the 20 percent whole building energy reduction with passive components alone.

PROJECTS REPORTED TO ODOE

Fourteen projects for which GET was deemed appropriate were reported in 2017. Five projects for which GET was determined to be inappropriate were reported during the year.

Reported Projects 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 17-01	
Project Owner, Project Name and Location	COCC New Construction Consolidation Project Central Oregon Community College 2600 NW College Way Bend, 97702
Project Start Date	8/01/2016
Occupancy Date	10/20/2016
Total Contract Price	\$53,924,000
Minimum GET Budget	\$808,860
GET Description	In March 2012, Central Oregon Community College (COCC) requested a review from the 1.5% for Solar Technical Review Panel to invest the COCC 1.5% for Solar obligation monies for five new construction projects into a single solar facility. The TRP reviewed the request and recommended the consolidation of funds for the one project. In November 2013, the 1.5% for Technical Review Panel approved an additional request from COCC to include 1.5% for Green Energy Technology obligation funds for one additional new construction project into the previously approved solar facility. The consolidated solar project consists of a 504 kilowatt, ground mounted, grid-connected solar photovoltaic electric energy generating system located on the Central Oregon Community College on the Redmond, Oregon campus. The project is financed, designed, constructed, operated, and maintained via a Power Purchase Agreement (PPA) with Sunlight Solar Energy (SSE) of Bend, Oregon. SSE was selected as the PPA partner through a Request for Proposal Procurement process.
Est. Annual Production	883,000 kWh
Est. Annual Value	\$61,690
Total GET Expenditures	\$1,186,308

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Project 17-02	
Project Owner, Project Name and Location	Oregon Department of Transportation Lawnfield Crew/Storage Building 9200 SE Lawnfield Dr. Clackamas 97015
Project Start Date	1/12/2016
Occupancy Date	10/6/2016
Total Contract Price	\$1,868,245
Minimum GET Budget	\$28,024
GET Description	6.4 kW solar photovoltaic array.
Est. Annual Production	6,390 kWh
Est. Annual Value	\$511
Total GET Expenditures	\$28,160

Project 17-03	
Project Owner, Project Name and Location	Bethel School District Bethel School District 2012 Bond 1801 Echo Hollow Road Eugene 97402
Project Start Date	6/01/2014
Occupancy Date	8/01/2015
Total Contract Price	\$30,051,569
Minimum GET Budget	\$450,774
GET Description	<u>Rooftop array at Science Building:</u> Activated October 1, 2015 Total System Capacity: 22.8 kW DC rating Production over the past 12 month period: 35,636 kwh, <u>Pole mounted PV array in parking lot:</u> Activated April 27, 2016 Total System Capacity: 15.7 kW DC rating Production over the past 12 month period: Has not been monitored for a full year, but looking at month to month tracking it appears that the

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	<p>parking lot system is generating roughly half of the energy as the rooftop system. Lower production / installed kW is attributed to greater shading impact on the pole mounted system and additional line losses due to circuit lengths. Anticipated 12 month production is 17,818 kWh.</p> <p><u>Roof mounted PV array at Kalapuya High School:</u> Activated: December, 2016 Total System Capacity: 9.9 kW DC rating Production over the past 12 month period: Has not been monitored for a full year. It is anticipated that production per KW will be about 10% lower than the Science Building rooftop array: Anticipated annual production is 13,926 kWh.</p>
Est. Annual Production	67,380 kWh
Est. Annual Value	\$4,532
Total GET Expenditures	\$453,163

Project 17-04	
Project Owner, Project Name and Location	Beaverton School District Timberland Middle School 650 NW 118th Avenue Portland, 97229
Project Start Date	6/01/2015
Occupancy Date	9/05/2016
Total Contract Price	\$60,181,000
Minimum GET Budget	\$902,715
GET Description	The solar photovoltaic (PV) system will be a new installation and our 4th system in the District. This will be our first District-owned system and largest at 128.3 kW. It will be part of BSD's first new Middle School in 17 years – one that is designed to be a Category 4 Emergency Shelter with a solar PV system designed provide electricity during a power outage.
Est. Annual Production	130,000 kWh
Est. Annual Value	\$10,500
Total GET Expenditures	\$860,000

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Project 17-05	
Project Owner, Project Name and Location	Jefferson County Jefferson County Courthouse 129 SW E Street Madras, 97741
Project Start Date	1/12/2015
Occupancy Date	6/13/2016
Total Contract Price	\$11,492,665
Minimum GET Budget	\$172,390
GET Description	The proposed 35.56 kW array will utilize three 12 kW inverters, one per rooftop. The inverter basis of design will be the Advanced Energy AE-3TL-12. These inverters will each have an output of 14.5A at 480V/3ph. The cumulative output current time 1.25% will be 54.375A. The 12kW inverters will allow for roughly 14 kW of installed PV per inverter, so if the design goes towards zero tilt, or the PV contractor determines they can provide more panels based on the 1.5% budget, they can be accommodated without additional inverters. A 100A, 3 phase, 4 wire AC combiner panelboard will be provided to combine the three inverters into a single output. This output will be routed through a disconnect and production meter, and will land on the main switchboard via load side tap at the opposite end of the bus bar from the main breaker. This electrical setup will allow for roughly an additional 30kVa of PV to be located either on the small portion of west roof or elsewhere on the site via covered parking, ground mount, etc. without adding additional electrical equipment. We added underground conduits for future expansion (potentially an additional courthouse), and we will parallel conduit for PV with these conduits for either PV on the future roof or PV in the south parking lot.
Est. Annual Production	46,976 kWh
Est. Annual Value	\$5,637
Total GET Expenditures	\$178,696

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Project 17-06	
Project Owner, Project Name and Location	North Clackamas School District #12 North Clackamas Schools Bond 2016 12400 SE Freeman Way Milwaukie 97222
Project Start Date	3/01/2019
Occupancy Date	3/01/2021
Total Contract Price	\$146,942,651
Minimum GET Budget	\$2,204,140
GET Description	See detailed project recommendation. Project rooftop solar PV output estimated at approximately 1140 kW.
Est. Annual Production	1,150,000
Est. Annual Value	\$96,000
Total GET Expenditures	\$2,250,000

Project 17-07	
Project Owner, Project Name and Location	Multnomah County Multnomah County Central Courthouse 1200 SW 1st Ave Portland 97204
Project Start Date	5/04/2017
Occupancy Date	5/04/2020
Total Contract Price	\$246,447,786
Minimum GET Budget	\$3,696,717
GET Description	The Multnomah County Central Courthouse (MCCCH) is a 17 Story, 460,000 SF building in downtown Portland. It is designed to be a 100 year structure providing public spaces for Court Services and Community Justice on behalf of the State of Oregon, Multnomah County, and the City of Portland. Sustainability and energy efficiency have been a primary focus for the project throughout the design process, and meeting the goals have required innovative solutions to unique circumstances. Perhaps one of the best stories about the design of this building is the application of Oregon's 1.5 Percent for Green Energy Technology policy.

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	<p>The MCCCH structure will utilize all of the available city lot, and the \$1.5M system will utilize all of the available rooftop area with solar panels. The photovoltaic array will have an output capacity of 152.96 kW including 478 PV modules equipped with micro-inverters. Remaining Green Energy Technology funds have been allocated to passive solar strategies that increase window height above 7 feet and utilize the site’s southeastern solar exposure for heating and daylighting at a cost in excess of \$5M. This project is designed to meet LEED Gold standards, Architecture 2030 goals, and the Energy Trust of Oregon’s Path to Net Zero track. More importantly, the structure is designed to enhance the user experience with exposure to Portland’s beautiful geography and natural outdoor elements in what can often be considered a stressful indoor community function.</p> <p>MCCCH site is located on the Downtown PGE Power Grid, which is unique because it does not allow for net metering (or placing solar energy on the communities’ electrical grid). Furthermore, the solar array will generate more energy than can be used on weekends and holidays in such an energy efficient structure. In order to overcome these challenges the design team came up with an innovative solution to route the energy off of the building and onto the adjacent Hawthorne Bridge because it has a more constant electrical load requirement. The Hawthorne Bridge can net meter, and should become the first net zero bridge in the United States. Ultimately, this solution made the determination for 1.5% GET feasible, and has become a success story that we feel sets an example for both public and private projects.</p>
Est. Annual Production	158,842 kWh
Est. Annual Value	\$13,424
Total GET Expenditures	\$6,605,000

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Project 17-08	
Project Owner, Project Name and Location	Klamath Community College Klamath Community College Phase 2 expansion 7390 S 6th St Klamath Falls, 97601
Project Start Date	10/10/2016
Occupancy Date	4/02/2018
Total Contract Price	\$15,700,000
Minimum GET Budget	\$235,500
GET Description	Not entered into database
Est. Annual Production	Not entered into database
Est. Annual Value	Not entered into database
Total GET Expenditures	\$242,930

Project 17-09	
Project Owner, Project Name and Location	West Linn - Wilsonville School District Meridian Creek Middle School 6300 SW Hazel St Wilsonville, 97070
Project Start Date	6/20/2016
Occupancy Date	8/21/2017
Total Contract Price	\$22,946,000
Minimum GET Budget	\$344,190
GET Description	72.42 kW rooftop mounted photovoltaic array
Est. Annual Production	72,971 kWh
Est. Annual Value	\$6,166
Total GET Expenditures	\$351,000

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Project 17-10	
Project Owner, Project Name and Location	West Linn - Wilsonville School District Sunset Primary School 2351 Oxford St West Linn, 97068
Project Start Date	6/27/2016
Occupancy Date	8/29/2017
Total Contract Price	\$17,500,000
Minimum GET Budget	\$262,500
GET Description	Solar photovoltaic system installed on roof with an output capacity of 91.08 kW
Est. Annual Production	97,440 kWh
Est. Annual Value	\$6,821
Total GET Expenditures	\$276,500

Project 17-11	
Project Owner, Project Name and Location	Pendleton School District 16R Pendleton Early Learning Center 455 SW 13th St Pendleton, 97801
Project Start Date	6/16/2014
Occupancy Date	8/17/2015
Total Contract Price	\$13,924,256
Minimum GET Budget	\$208,864
GET Description	PV Systems with output capacity of 63kW.
Est. Annual Production	78,031 kWh
Est. Annual Value	\$5,000
Total GET Expenditures	\$222,994

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Project 17-12	
Project Owner, Project Name and Location	Pendleton School District 16R Sherwood Elementary 3235 SW Nye Ave Pendleton, 97801
Project Start Date	6/01/2015
Occupancy Date	8/01/2016
Total Contract Price	\$14,692,704
Minimum GET Budget	\$220,391
GET Description	PV System with output capacity 58.050kW
Est. Annual Production	75,454 kWh
Est. Annual Value	\$5,000
Total GET Expenditures	\$203,018.5

Project 17-13	
Project Owner, Project Name and Location	Pendleton School District 16R Washington Elementary 1205 SE Byers Ave Pendleton, 97801
Project Start Date	6/01/2015
Occupancy Date	8/01/2016
Total Contract Price	\$14,611,934
Minimum GET Budget	\$219,179
GET Description	PV system with output capacity of 58.050kW.
Est. Annual Production	75,454
Est. Annual Value	\$5,000
Total GET Expenditures	\$203,018.5

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Project 17-14	
Project Owner, Project Name and Location	<p>Woodburn School District No 103 Success Alternative School 1316 Meridian Drive Woodburn, 97071</p> <p>Funding from the following bond projects were consolidated and applied to a solar array installation at the above address:</p> <p>Washington Elementary School 777 E Lincoln St</p> <p>Woodburn High School Sprinkler Project 1785 N Front St</p> <p>French Prairie Middle School 1025 N Boones Ferry Rd</p> <p>Heritage Elementary 440 Parr Rd</p> <p>Lincoln Elementary 1041 N Boones Ferry Rd</p> <p>Nelly Muir Elementary 1800 W Hayes St</p> <p>Valor Middle School 450 Parr Rd</p> <p>District Office/Welcome Center 1390 Meridian Dr</p>
Project Start Date	7/01/2017
Occupancy Date	9/01/2018
Total Contract Price	\$12,422,921
Minimum GET Budget	\$186,344

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GET Description	Install a 305.3kW solar PV system. Ground mount system including 860 panels at an 11-degree tilt. A review by the technical review panel was requested. The technical review panel believe consolidation of the funds as described is appropriate (See correspondence in Appendix A). The Success Alternative School is new construction whereas all the other projects are renovation/addition projects.
Est. Annual Production	369,413 kWh
Est. Annual Value	\$25,859
Total GET Expenditures	\$650,000

Reported Projects for Which GET Was Determined to be Inappropriate

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

Project 17-15	
Project Owner, Project Name and Location	Tillamook Bay Community College Partners for Rural Innovation Center 4506 3rd Street Tillamook, 97141
Total Contract Price	\$3,516,388
Minimum GET Budget	\$52,746
Public Body explanation as to why GET was determined to be inappropriate for the project	Correspondence is listed by project number in Appendix A.
Technical Review Panel Findings	The letter submitted described a referral based solely on economic drivers and not technical limitations, therefore ODOE did not present the letter to the Technical Review Committee. Normally that committee is reserved for determining the appropriateness of deferrals based on technical reasons such as lack of onsite solar or geothermal energy resources. Correspondence is listed by project number in Appendix A.

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Project 17-16	
Project Owner, Project Name and Location	Fern Ridge School District Elmira Elementary School 88960 Territorial Road Elmira 97437
Total Contract Price	\$10,500,000
Minimum GET Budget	\$157,500
Public Body explanation as to why GET was determined to be inappropriate for the project	The explanation was not entered into database, but was provided via email to ODOE. Correspondence is included in Appendix A
Technical Review Panel Findings	A technical panel review was requested by school district. Correspondence is listed by project number in Appendix A.

Project 17-17	
Project Owner, Project Name and Location	Lane County School District Harrison Elementary School 1000 SW Taylor Street Cottage Grove, 97424
Total Contract Price	\$22,860,497
Minimum GET Budget	\$342,907
Public Body explanation as to why GET was determined to be inappropriate for the project	The District has determined that a photovoltaic system is inappropriate and has submitted their reason for this determination to the Department of Energy. The District's design engineers have reviewed the project and have calculated that a simple payback would be over 20 years. With this information, the District has decided that an expenditure for this system would not be a prudent use of taxpayer's money. Correspondence is listed by project number in Appendix A.
Technical Review Panel Findings	No technical panel review was requested by school district.

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Project 17-18	
Project Owner, Project Name and Location	McMinnville School District McMinnville High School Addition & Renovation 615 15th Street McMinnville, 97128
Total Contract Price	\$43,000,000
Minimum GET Budget	\$645,000
Public Body explanation as to why GET was determined to be inappropriate for the project	Correspondence is listed by project number in Appendix A.
Technical Review Panel Findings	No technical panel review was requested by school district.

Project #17-19	
Project Owner, Project Name and Location	Crook County Crook County New Jail Project Dunham Street (between 1st and 2nd) Prineville, 97754
Total Contract Price	\$13,500,000
Minimum GET Budget	\$202,500
Public Body explanation as to why GET was determined to be inappropriate for the project	Due to mandatory building requirements for a jail, natural lighting must be provided through use of roof mounted skylights. Also, due to a restricted building site, all HVAC equipment and connections must be located on the roof, leaving no additional room for solar panels.
Technical Review Panel Findings	Correspondence is listed by project number in Appendix A.

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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 decision to determine whether GET is appropriate or inappropriate remains with the public body. Public bodies that determine GET or WBET 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 the GET is inappropriate and that regardless of which determination they make, all projects must be reported to the 1.5 percent GET/WBET [reporting form](#).

TECHNICAL REVIEW PANEL DETERMINATIONS

Eight projects were sent to the technical review panel (TRP) for a recommendation. The correspondence and determinations are included in Appendix A. Reference project numbers for reported projects are listed. Two projects that were submitted to the TRP have not yet been reported to the database.

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APPENDIX A: TECHNICAL REVIEW PANEL DOCUMENTATION

PROJECT #17-14 WOODBURN SCHOOL DISTRICT BOND PROJECTS

Public body submittal:

John O Henri
2015 Capital Improvement Bond Manager
JJHenri Co., Inc.
1390 Meridian Drive
Woodburn, Oregon 97071
541-982-3399
johno@jjhenri.com
June 20, 2017

Mr. Robert DelMar
Chair of Technical Review Committee
Oregon Department of Energy
550 Capitol St. NE, 1st Floor
Salem, OR 97301

Dear Mr. Robert DelMar:

As the Woodburn School District's Bond Project Manager, I am writing this letter to notify you that the District, as a Public Contracting Agency, is developing multiple Public Improvement Projects subject to HB 2620 and HB 3169, and to discuss the District's proposed GET project. Additionally, the District's proposal will need a formal review by the "Technical Review Panel" as their proposal seeks to utilize an "Alternative Site Location". It is my intent to provide you with enough information to review this matter and I hope the following paragraphs provide you with enough detail to make your determination.

BOND BACKGROUND

In 2015, Woodburn voters passed a \$65 million Capital Improvement Bond (Measure #24-381) for general improvements to 8 of the District's schools and their administrative offices. Nellie Muir ES, Heritage ES, Washington ES, Lincoln ES, French Prairie MS, Valor MS, Woodburn HS, and the District Offices are renovation projects. Success AHS will be new construction. Renovations are being designed according to the individual needs of each school. However, most renovations will include: equipment maintenance and repair, safety and security, additional classrooms, and improved ADA accessibility.

BOND BUDGETING

Table 1 (below) shows the projected costs for each of the Bond Projects. Column 1 is for each project's name. Column 2 is the total budget for each project. Column 3 shows the expected soft costs for each project calculated at 30% of the total budget for each project and are exempt from the GET requirements -these are design and permitting fees. Column 4 shows the construction budget for each project and is calculated at 70% of the total budget. These values are subject to the 1.5% GET requirements which are show in Column 5. The grand total the District has dedicated to a GET project (per HB 2620B) is \$668,129.00.

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Mr. Robert DelMar
 June 20, 2017
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Table 1: Woodburn School District Bond Project Allocation Budget

Project	Total Budget	Soft Costs	Construction Budget	GET Requirements
WCDO	\$3,614,527	\$1,084,358	\$2,530,169	\$37,953
Success	\$6,103,024	\$1,830,907	\$4,272,117	\$64,082
Washington	\$11,360,252	\$3,408,076	\$7,952,176	\$119,283
Nellie Muir	\$7,529,428	\$2,258,828	\$5,270,600	\$79,059
Lincoln	\$5,935,920	\$1,780,776	\$4,155,144	\$62,327
French Prairie	\$6,025,326	\$1,807,598	\$4,217,728	\$63,266
Heritage	\$9,163,787	\$2,749,136	\$6,414,651	\$96,220
Valor	\$10,093,369	\$3,028,011	\$7,065,358	\$105,980
Woodburn HS	\$3,805,653	\$1,141,696	\$2,663,957	\$39,959
TOTALS	\$63,631,286	\$19,089,386	\$44,541,900	\$668,129

Three general assumptions were used to develop of Table 1. The first, interest from un-spent Bond funds was not accounted for. Second, soft costs and construction costs were based upon industry standards percentages and will likely fluctuate. Third, all projects will meet the conditions of 279C.527(1); specifically, all construction costs will be greater than 50% of the insured value of the buildings. To resolve these assumptions, the projects will be re-evaluated after construction to determine the actual dollars spent and the GET project will be expanded as necessary.

GET EVALUATION

Table 2 (below) was developed to evaluate the GET options for each project. That table compares the approved ODOE GET types for each project. As you can see, geo-thermal was determined to be universally unsuitable (no geo-thermal resources exist on District property) and received the lowest score on the matrix. Passive Solar/Daylighting fared slightly better; however, the projects are for renovations only with minor additions and their scope is not large enough to meet the required 20% improvement on energy costs. Rooftop PV arrays were marginal as most of the schools' existing roofs cannot handle additional loading without substantial and costly upgrades. Ground mounted PV arrays located at each school fared better, but carving out suitable areas from each school work be difficult. The last, and most favorable alternative, was for a single, large, ground mounted PV array constructed on Woodburn High School property.

Table 2: GET Determination Matrix (1-5, 1=Unsuitable, 5=Very Suitable)

Project	Geo Thermal	Passive Solar/Daylight	Solar PV-RTU	Solar PV Ground Mount	Solar PV Ground Mount Alternative Site Location
WCDO	1	2	1	1	5
Success	1	3	3	3	4
Washington	1	2	1	3	5
Nellie Muir	1	2	1	3	5
Lincoln	1	2	1	2	5
French Prairie	1	2	1	2	5
Heritage	1	3	3	3	5
Valor	1	3	3	3	5
Woodburn HS	1	3	3	2	5
TOTALS	9	22	17	22	44

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GET PROPOSAL

The District retained the professional services of Renewable Energy Associates (REA) to conduct a Solar Feasibility Study (Exhibit A). That study concluded that the proposed site was suitable for an array of up to 440-KW; and, although the current budget will only allow for an approximately 250-KW array, the additional potential of the site may be used at the end of bond if the District needs to add more to their GET program.

Along with the Solar Feasibility Study, REA prepared a draft Net-metering Agreement with PGE. When executed, this agreement will allow the District to offset any excess energy produced by the PV Array against the electrical utility costs of the high school. Initial estimates suggest this could provide an additional value to the GET of \$24,000 per year.

The following images show the proposed GET project location (picture 1), and PV array architectural rendering (picture 2), on the southern portion of the Woodburn High School parcel, 1785 N Front St, Woodburn, OR 97071.



Picture 1 – PV Array Woodburn High School

REQUEST FOR PROPOSALS

In April of this year a Request for Proposals (RFP) was issued for the design and construction of the PV array. The language of the RFP was carefully crafted to ensure that the successful proposer would maximize the KW potential and long term operational capacity of the project site at a fixed price of \$668,129.00. Additionally, the District approached the RFP from the point of view of educators and included a provision that the project was to include an informational kiosk that provides the District with a resource to incorporate into their educational programs. At this time, proposals have been received and the District is prepared to award the project pending approval from the ODOE.

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Mr. Robert DelMar
June 20, 2017
Page 4



Picture 2 – Solar Rendering

CLOSING

The District is intent on complying with the GET requirements of Oregon State Law in a manner that fulfills the law, provides a learning environment for their students, and adds value to the District and local community at large. They welcome any input you may have and thank you in advance for reviewing this matter. If you should need any clarification regarding the District Bond projects, or the proposed GET project, please feel free to contact me at your convenience.

Sincerely,

Handwritten signature of John O. Henri.

John O. Henri

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August 16, 2017

John O Henri
2015 Capitol Improvement Bond Manager
JJHenri Co. Inc
1390 Meridian Drive

Technical review panel recommendation:

RE: Request for technical review of 1.5% Green Energy Technology requirements for the Woodburn School District

Dear Mr. O Henri

This letter is in response to a request for a technical panel review of the 1.5% Green Energy Technology requirement for the Woodburn School District that you submitted to ODOE on June 20, 2017. In that email you propose to consolidate the 1.5% funds from 9 school district bond projects into a single installation at Woodburn High School. The technical review panel believes consolidation of the funds as described is appropriate. We would also like to commend the organized report provided in the letter which clearly demonstrates a thoughtful approach towards compliance with the 1.5% Green Energy Technology requirements.

The program rules provide for a recommendation from the technical review panel but that the final determination regarding use of 1.5% funds is to be made by the contracting agency. In the letter you describe a preliminary 30% exemption of funds associated with soft costs for the project. Please note that the program rules do not provide this direction on the treatment of soft costs. The rules also require that the projects be submitted into the green energy technology database. The program rules and database reporting form can be found on the Oregon department of Energy Web page at <http://www.oregon.gov/ENERGY/CONS/pages/publicsolar.aspx>.

Feel free to contact me if you have any questions.

Sincerely,



Robert Del Mar
Chair of Technical Review Committee
503-302-7027

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PROJECT #17-15 - TILLAMOOK BAY CC PARTNERS FOR RURAL INNOVATION CENTER

Public body submittal:



April 8, 2016

Rob Del Mar
Oregon Department of Energy
1011 SW Emkay Drive, Suite 108
Bend, OR 97702

Re: Tillamook Bay Community College deferral of Green Technology investment

Tillamook Bay Community College is constructing a new building, the Partners for Rural Innovation Center, consisting of 11,192 square feet with a total contract price, as defined in 330-135-0010 of \$3,088,988. The college's obligation under this same OAR to invest in green technology is \$46,334. Due to significant financial constraints and a belief that combining this budget figure with the figure that will result from the next, much larger construction project, will result in a more cost-effective solar project, the college has elected to defer the current obligation as provided in 330-135-0050 (3). The college is providing project information, as well as further detail about the factors affecting the decision to defer that has been reached by the college as is required by the OAR.

The college was awarded \$2,000,000 towards construction of a new building by the State of Oregon. The \$2,000,000 requires a 100% match by the college. The college had \$1,000,000 available from a prior bond. The money from the state is available on a "use it or lose it" basis.

Through the design process, in the current climate of escalating construction costs, and a determination that this project was too modest to occupy a large remaining portion of the existing campus, requiring expenditures of over \$639,000 for a new smaller parcel close to the existing campus, it became apparent that a minimum required budget of \$4,000,000 would not be adequate to provide a facility to meet programmatic needs. Further strain was introduced into the project budget by significant off-site improvements to provide water and a storm water system to the site, and to make improvements on Third Street. The current project budget is now over \$5,000,000.

The college has the money to cash flow the project, but this will require complete depletion of capital maintenance reserves. The college has been aggressively pursuing every grant and donation possibility that the college can identify. At the time of project approval by the Board in February of 2016, there was a \$1,000,000 gap between available funds, without tapping the reserves, and budget. Even with aggressive pursuit of grants and donations, and firming up of possible grants and donations that were not firm at the time of the Board meeting, the college is still needing \$500,000 to fund the project without impacting the capital maintenance reserves. With this knowledge, the Board approved a budget that included deferral of the 1.5% Green Technology investment.

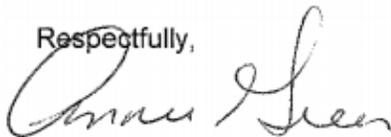
1.5% FOR GET IN PUBLIC BUILDINGS – 2018

While solar will not be incorporated into the project at this time, with exception of a solar powered pedestrian crossing signal, the college wants very much for the Committee to know that the broader concern of energy consumption and sustainability has been addressed in the building design. Floor slab insulation exceeds code and permits a smaller HVAC system, and that system is a Variable Flow Refrigerant system, which was selected to reduce energy consumption. Energy consumption was considered in other building systems, details and product selection. In addition, the new solar powered pedestrian crossing signal that will be installed on Third St. is at a cost of \$24,000.

This project has been acknowledged as very important to the economic viability of the area by the significant amount of donations that have been secured in this relatively small community. The facility will house the OSU Extension Services, Economic Development, and Tourism, as well as community college classes. The industries these entities and the college serve are absolutely vital to the Tillamook area, and the college has had to make many difficult decisions, including the decision to defer the Green Technology investment triggered by this project, in order to make sure this project comes to reality and the opportunity to leverage the \$2,000,000 in state money is not lost. With the completion of this project, it is realistic to expect that for the first time, area residents will be able to obtain four year degrees, starting with the Natural Resources program offered through Oregon State University.

Floor plans and a front elevation rendering have been included as part of this review request, but as has been hopefully adequately described, the heart of the deferral decision lies in the strong desire to provide important programs to the community while struggling with a budget that requires tapping into capital maintenance reserves, and also believing that a more cost effective solar installation can be obtained if these funds are combined with the requirement that will be generated by the next, larger building. I hope we have provided adequate information, and would certainly provide any additional information the committee determines is necessary.

Respectfully,



Connie Green
President
Tillamook Bay Community College

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

Technical review panel response:

Dear President Green,

Thank you for the letter dated April 8, 2016 regarding your plans to defer the 1.5% green energy technology funds from the Partners for Rural Innovation Center to a future project. As indicated in the letter the final determination to defer funds rests with the contracting agency of the project as provided in OAR 330-135-50. Because your letter described a referral based solely on economic drivers and not technical limitations we did not present the letter to the Technical Review Committee. Normally that committee is reserved for determining the appropriateness of deferrals based on technical reasons such as lack of onsite solar or geothermal energy resources. Please note that the project must still be entered into the project reporting database including your decision to defer funds to a future project. The database is used to compile an annual report for the legislature and can be accessed on the Oregon Department of Energy Website at <http://greenenergytechnology.odoe.state.or.us/> .

In the letter you mention that the college has elected to defer the funds to a future “much larger construction project”. Can you provide an estimated schedule and description of the future project?

Thanks for keeping us up to date and I apologize for the slow response to your letter.

Regards,

Rob Del Mar
Central Oregon Field Energy Analyst
Oregon Department of Energy

Public body response:

Hi Rob,

Our new building is substantially complete, as is my presidency, I am retiring on May 1 and I am focused on work that remains for me to get done as a result of both! One of the items on my list is responding to the request in the e-mail we received from you on 06/15/16. You asked about the time line, description, and size for the next project.

I can't give a definitive answer on when the next building will be constructed, as decisions on when to build will lie with future presidents and Boards, who will be looking at what funds are available, as well as enrollment projections, facility utilization, and partnering opportunities. We are still short resources by \$150,000 to pay for the current building and are having to tap long term maintenance funds for that project, which is a concern I, as well as our Board, share. Funding is a large concern. We do not have an

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application in for funding a future project during the current legislative session to the state for partial funding, and the partial funding the state provides seems essential for any future project.

What I can be a more confident about is the size of a future project, as we elected not to build on a site we had in our possession when we constructed the current project, as the site of what will now be our future building would support a larger project, probably in the neighborhood of 20 to 25,000 square feet. The programs to be housed will depend on needs at the time, and potential partners, since partnering is almost essential in a rural and small community to raise the match to the state funds to construct projects in our county.

In terms of description, the new facility will almost assuredly be of two story construction, likely constructed of tilt-up concrete and wood framing to match our other two facilities and meet budget restrictions. Due to the shape of the parcel, it will probably align east-west, which will also facilitate a large solar array.

I hope this addresses your questions.

Connie Green
President
Tillamook Bay Community College

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PROJECT #17-16 – FERN RIDGE SCHOOL DISTRICT ELEMIRA ELEMENTARY SCHOOL

Public body submittal:



Fern Ridge School District 28J

Gary E. Carpenter, Jr.
Superintendent

88834 Territorial Road, Elmira, OR 97437
Phone: (541) 935-2253
Fax: (541) 935-8222

Oregon Department of Energy
Technical Review Committee
% Rob Delmar
cc: Ann Hushagen

The Fern Ridge School District Has determined that including alternate energy into the construction of our new Elmira Elementary School is not appropriate. Details of that decision are included in this letter as attachments.

We request that correspondence from the Department of Energy relative to this decision be sent to Jerry Milstead with a copy to Emil Hameed.

Mr. Milstead's email address is Jerry@cbbmail.com and Mr. Hameed's email address is emilh@cornerstonemai.com.

A handwritten signature in black ink, appearing to read 'Gary Carpenter', is written over a large, bold, black '4r' stamp.

Gary Carpenter
Superintendent, Fern Ridge School District

Attachs (3)

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

Submitted by Jerry Milstead on behalf of Fern Ridge SD:

Fern Ridge School District Alternate Energy Determination

Last year during the planning of the construction of the Fern Ridge District's new Elmira Elementary, it was determined that wind and geothermal were not available and photovoltaic was not appropriate to be included in the project.

In studies where it was assumed that installed solar panels will produce 6 to 7 watts per square foot in full sun, the average payback using current cost of wattage from a local utility was 24 to 25 years. Included with this determination is a Powers Point file of a study from the Bend – LA

Pine School District of actual installations for two of their schools. The actual payback for these two installations is way beyond the calculated payback. Full sun days in the Bend, Oregon area are more than any area in Western Oregon; therefore, it is reasonable to assume that actual production of panels in the Fern Ridge area would be much lower than the Bend area.

The voters of the Fern Ridge School District have entrusted the District with monies to be spent in the most judicious way in order to provide the best education possible to their children.

With the facts outlined above, it is the District's opinion that the inclusion of a photovoltaic system in the Elmira Elementary School project would not be an appropriate use of tax payer monies.

This action is within the requirements of ORS 279C.527 and HB 2987.

The school building is 48,190 square feet at a cost of \$10,294,453

ODOE Response:

To: Jerry Milstead

Cc: Emil Hameed, Cornerstone MGI
Gary Carpenter, Superintendent FRSD 28J

Date: March 15, 2017

Thank you for the letter and documents sent by email on March 10, 2017 regarding the 1.5% green energy technology (GET) requirement, ORS 279C.527-528, for the new Elmira Elementary School. This letter is provided to clarify some misunderstandings that are apparent from the documentation provided and to assist with any future projects that are subject to the 1.5% GET requirement.

It is stated in the letter that wind and geothermal are not available at the site. Please note for future reference that wind is not an allowed GET.

Also included was a document labeled Solar Study for Barnes Butte School. The Barnes Butte School is located in Prineville. The assumptions from the Prineville School are not transferrable

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to the Elmira school. A solar assessment should have been conducted at the site of the Elmira school. If it was found that solar access did not meet the requirements of OAR 330-135-0030(1), the contracting agency has the option of locating the GET offsite. If GET is determined to be inappropriate onsite or offsite, the contracting agency must provide calculations that document that green energy technology is inappropriate and request a review of their determination from the technical review panel. As submitted, there are no technical documents related to the Elmira school to be reviewed by the technical review panel.

Your letter further states that the school district's action is within the requirements of ORS 279C.527 and HB 2987. This determination does not meet the requirements of ORS 279C.527 as energy efficiency does not meet the definition of GET (ORS 279C.527(1)(a)).

At this time, since Elmira Elementary School construction has completed, the project, as built and including the explanation you provided, must be reported to the GET database. The link to the reporting form is <http://greenenergytechnology.odoe.state.or.us/>

Thank you for your email explaining the school district decision. We understand that the school district strives to be good stewards of the public monies entrusted to them. ODOE's responsibility is to inform contracting agencies of the requirements of the 1.5% for GET statute.

Sincerely,

Ann Hushagen, ODOE Energy Analyst

Rob DelMar, ODOE Bend Field Energy Analyst

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PROJECT #17-17 SOUTH LANE SD HARRISON ELEMENTARY SCHOOL

Public body submittal:

South Lane School District 45J3

455 Adams
PO Box 218 , OR 97424
Cottage Grove

Phone 541-942-3381
Fax 541-942-8098
www.slane.k12.or.us

Superintendent
Krista D. Parent

Assistant
Superintendent
Kyle Tucker

Directors
Chad Hamilton
Brian ~~McCaslin~~

Communications
Garrett ~~Bridgers~~

Student Services
Mike ~~Loggan~~



April 13, 2017

Oregon Department of Energy

% Ann Hushagen
Robert Delmar

The South Lane School District has determined that the use of photovoltaic electric production for the new Harrison Elementary School is not appropriate. This is due in great part to an evaluation by our design engineers that the installation would result in a 24 to 32-year payback of the installation cost. A copy of that evaluation is available if you so request.

Any questions or comments concerning our decision should be addressed to Mike Gorman of BLRB Architects or Jerry Milstead.

Mr. Gorman's email address is mgorman@blrb.com and Mr. Milstead's email address is Jerrv@cbbmail.com.

Sincerely,

Dr. Krista Parent
Superintendent of Schools

Landis Consulting
ENGINEERING SERVICES

May 4, 2017

Mike Gorman, AIA
BLRB Architects
404 SW Columbia, Ste. 120
Bend, Oregon 97702

Subject: SLSD Harrison Elementary Photovoltaic ROM Estimate

Mr. Gorman -

Landis Consulting and MFIA were asked to develop a rough order-of-magnitude estimate of a solar array size and payback period. Landis Consulting estimated the array size to be between 75 kw and 100 kw, with a cost of \$188k and \$235k, respectively.

MFIA estimated that an 87.5 kw array would save 103,273 kilowatt-hours per year (\$8,727 per year) with a payback of 32 years. The assumed installation cost is \$282k, including structural costs.

We emphasize that these numbers are only a rough order of magnitude, and were not derived from a formal solar feasibility study. A formal solar feasibility would be required to determine a more accurate array size, cost estimate, and payback analysis.

Thank you,



Ben Perry, PE
Senior Project Manager
Landis Consulting

CC: Scott Miller, PE MFIA

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Technical review panel response:

Hi Jerry,

The letter that Landis Consulting provided to Mike Gorman, BLRB Architects on May 4th does not contain a technical analysis of the feasibility of green energy technology (GET) at the new Harrison Elementary school site. The letter only contains an estimate of the cost-effectiveness of a general solar installation. For the school district to receive a review from the technical review panel, they will need to submit a technical analysis of the solar potential at the site of construction. Upon receipt of a site specific technical analysis and the request for review, I will convene the technical review panel to review the documents. The panel will then issue a recommendation of the appropriateness or inappropriateness of solar technology at Harrison Elementary School within 60 days of receiving the request. Also please note that the technical review panel only considers cost-effectiveness when the contracting agency wants to install GET off-site and provides documentation showing that the off-site location of GET is more cost-effective than on-site locations.

A contracting agency in Oregon is required to determine whether spending 1.5% of the total contract cost on green energy technology (GET) is appropriate for a public improvement project. OAR 330-135-0045 addresses the process of making that determination. OAR 330-135-0030 describes a performance threshold for solar technologies as being locations with a total solar resource fraction of 75 percent or greater. The school district must report their determination of appropriateness after receiving the technical panel review. Here is a link to that form for future reference: <http://greenenergytechnology.odoe.state.or.us/>

Thanks,
Rob Del Mar
Central Oregon Field Energy Analyst
Oregon Department of Energy

Email from Jerry Milstead:

What do you consider a "Technical" analysis?

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

ODOE response:

Hi Jerry,

Attached is a feasibility assessment and supporting document submitted to the technical review panel in 2016. We have seen a wide variety of technical documentation submitted to the panel depending on the nature of the specific review. These reports are only meant to serve as an example of the kind of documentation previously reviewed by the panel. There are also many examples of technical panel reviews in the 2016 1.5% GET annual report to the Legislature on the ODOE 1.5% GET Web site. Please let me know if you need additional info.

Thanks,
Rob Del Mar
Central Oregon Field Energy Analyst
Oregon Department of Energy

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PROJECT #17-18 MCMINNVILLE HIGH SCHOOL ADDITION AND RENOVATION

Public body submittal:



McMinnville School District No. 40

800 NE Lafayette Ave. McMinnville, Oregon 97128 Phone: 503.565.4000 Fax: 503.565.4030

May 25, 2017

Oregon Department of Energy
Ann Hushagen
550 Capitol St. NE, 1st Floor
Salem, OR 97301

Dear Ms. Hushagen:

During the election of May 2016, the voters of the McMinnville School District approved a \$89.4 million general obligation bond. Of those funds \$47 million have been allocated to the construction of an addition and internal remodel of the existing McMinnville High School. The District is currently carrying insurance of \$72 million on the facility.

The District has determined that it is not appropriate to include a photovoltaic system within this project. Our design engineers have determined that the simple payback for an installation would be 29 years.

We respectfully request that the 1.5% green energy requirement be waived for this project. Any questions or comments concerning your decision should be addressed to the District's Finance Director, Susan Escure (sescure@msd.k12.or.us) and Jerry Milstead (jerry@cbbmail.com).

Sincerely;


Maryalice Russell
Superintendent

CC: Rob Delmar

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

ODOE Response:

Susan,

Statute does not allow exemption from compliance with the 1.5% for GET requirement based on cost-effectiveness. The only time cost-effectiveness is considered is when onsite GET and offsite GET are being compared to see if it is more cost-effective to install a PV array (or geothermal) offsite.

While the public body ultimately determines if GET is appropriate at the site, there are steps each contracting agency must go through before that determination is made. Assuming that PV is the GET that is thought to be inappropriate, first the CA must conduct a site assessment to see if the solar fraction at the site is more than 75%. This study can be conducted by a solar installer or an engineer. If the solar fraction is equal to or exceeds 75%, the site is considered suitable for a solar installation. If after the solar assessment is completed and found suitable for PV and the CA still considers installation inappropriate, the CA must submit the study along with their explanation for the inappropriate determination to the technical review panel (TRP). The TRP includes an ODOE staff chairman, a member from a public body, and experts from the GET community. The TRP reviews the CA explanation and makes a recommendation of whether GET is appropriate or inappropriate at the site. If the CA still determines GET inappropriate after receiving the TRP's recommendation, that decision is theirs to make. However the project and this decision must be reported to ODOE and this information is then included in our annual GET report to the legislature. Also, if any state funds are included in the contract cost, the 1.5% money not spent on the current project must be added to the next project that the CA undertakes.

The ODOE webpage for 1.5% for GET is: <http://www.oregon.gov/energy/energy-oregon/Pages/GET.aspx>. This page contains information about the requirement and the link <http://greenenergytechnology.odoe.state.or.us/> to where ALL projects must be reported.

I hope this explanation helps. Please contact me if you have questions.

Ann Hushagen
Energy Analyst
Energy Planning and Innovation
Oregon Department of Energy

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

Public body response:

From: Jerry Milstead [<mailto:jerry@cbbmail.com>]

Sent: Friday, May 26, 2017 5:06 PM

To: HUSHAGEN Ann * ODOE <Ann.Hushagen@oregon.gov>; 'Susan Escure' <sescure@msd.k12.or.us>;
DELMAR Robert * ODOE <Robert.DelMar@oregon.gov>

Cc: 'Maryalice Russell' <mrussell@msd.k12.or.us>

Subject: RE: McMinnville School District Bond Project

Ann: I am surprised at your response to Susan's letter to you from the McMinnville School Superintendent. We have had this discussion several times and the last one this week.

ORS 279C. 527 (4) & (5) cover the issue and if no State funds are used in the project, the issue is closed if District simply declares the use of photovoltaic inappropriate.

As far as the Statute allowing exemption based on return-on-investment, the Statute is mute. However, OAR 330-135-0045 (1) lists four items that are reasons for determining the appropriate use of alternate energy and states that it is "not limited" to that list. What better reason for not spending taxpayer's money than one that gives a return longer than the item purchased lasts?

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

PROJECT #17-19 CROOK COUNTY NEW JAIL PROJECT

Public body submittal:



Crook County

300 NE 3rd Street • Prineville, Oregon 97754
Phone (541) 416-6555 • FAX (541) 416-3891

RECEIVED

AUG 11 2017

DEPARTMENT OF ENERGY

August 8, 2017

Oregon Dept. of Energy
Attn: Ann Hushagen and Robert Delmar
550 Capitol St. NE, 1st Floor
Salem, OR 97301

Re: *1.5 Percent for Green Energy Technology in Public Buildings*
Our File No.: Sheriff 182

Dear Ms. Hushagen and Mr. Delmar:

Crook County, Oregon is in the final stages of planning the construction of a County jail facility on property owned by Crook County. The approximate construction cost is \$13.5 million. Due to the nature of the facility, there are mandatory building requirements that require levels of natural lighting in the housing unit that would otherwise exceed similar requirements for a general use building. Natural lighting will be achieved through the use of roof-mounted "skylights." Other limiting factors include a restricted building site (footprint) due to existing buildings in the downtown corridor, and the fact that heating/cooling units must also be installed on the roof.

For the above reasons, there is inadequate space to locate photovoltaic units on the roof, and there is no other real property available for off-site construction. Therefore, the County has determined that the use of green energy technology at the site of the proposed jail is inappropriate.

This letter shall serve as Crook County's request from the Department for a technical review of its determination in accordance with OAR 330-135-0052. Further, pursuant to OAR 330-135-0050(4), no state funds have been appropriated for the construction of this project. Therefore, Crook County seeks waiver rather than deferral of the required expenditure.

Any questions or comments concerning this letter or the County's decision may be addressed to Crook County Commissioner Brian Barney. Commissioner Barney's contact information is brian.barney@co.crook.or.us; phone: 541-447-6555.

Sincerely,



Seth Crawford
Crook County Judge

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

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

Technical review panel recommendation:

October 13, 2017

Brian Barney
Crook County Commissioner
300 NE 3rd Street
Prineville, OR 97754

RE: Request for technical review of 1.5% Green Energy Technology requirements for the Crook County Jail

Dear Commissioner Barney

This letter is in response to a request for a technical panel review of the 1.5% Green Energy Technology requirement for the Crook County Jail that was submitted to ODOE on August 11, 2017. In that letter you propose that utilizing 1.5% of the project funds for green energy technology is not appropriate given architectural and site limitations. The technical review panel believes your justification meets the requirements of OAR 330-135 however additional information would be necessary for a definitive determination. Specifically a roof and site plan would be needed to demonstrate the green energy technology limitations referenced in the letter. If you would like additional comments from the technical review panel you may submit additional documentation however the program rules allow for the final determination regarding use of 1.5% funds to be made by the contracting agency. No additional documentation is required if you consider your determination to be final.

The program rules require that you submit your project and determination regarding the use of Green Energy Technology into a database administered by the Oregon Department of Energy. The program rules and database reporting form can be found on our Web page at <http://www.oregon.gov/ENERGY/CONS/pages/publicsolar.aspx>.

Feel free to contact me if you have any questions.

Sincerely,

Robert Del Mar
Chair of Technical Review Committee
503-302-7027

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

Public body submittal:

TIGARD-TUALATIN SCHOOL DISTRICT BOND PROJECTS

Memo

1.5% for Solar Fund Consolidation

Projected Funds Allocated for TTSD Projects

In November 2016, Tigard-Tualatin School District passed a \$291 M capital bond to make renovations and improvements to schools across the District. The portfolio of projects includes small infrastructure projects and modest remodels, as well as more substantial renovations / additions to some of the oldest buildings.

An analysis of the projects was performed by the Bond Program Managers from DAY CPM to determine the required allocation of funds to satisfy the Oregon Department of Energy's 1.5% for Solar requirement. The following table summarizes projects that will trigger the requirement:

Project	Scope	Approx. Const Cost	1.5% for Green Energy
Templeton ES	Substantial Rebuild	\$ 22,150,000	\$ 332,250
Twality MS	Substantial Rebuild	\$ 39,300,000	\$ 589,500
Rutkin ES	New School	\$ 22,750,000	\$ 341,250
Tigard HS	Renovation & Addition	\$ 45,792,757	\$ 686,891
Durham Center	Addition	\$ 6,482,742	\$ 97,241
Tualatin HS (<i>Insured at \$53M</i>)	Renovation & Addition	\$12,803,95	\$ 0
\$ 136,475,499	\$ 2,047,132		

Solar Feasibility Studies

To review the feasibility and efficiency of potential solar arrays at the proposed impacted sites during their Schematic Design phase once enough information was available on the intended design. For the following projects, the design will be constrained to existing buildings, orientation and site conditions. Solar feasibility studies are linked here:

[Tigard HS](#)

[Templeton ES](#)

[Twality MS](#)

[Durham Education Center](#)

It is important to note that Templeton ES and Twality MS, while separate buildings, are co-located ([Google Map](#)) on a shared piece of District property.

Rutkin ES was not studied at this time as it is a greenfield development that can presumably be optimized for solar orientation and will not kick-off design until 2018.

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Proposed Course of Action

It is the District's desire to comply with the intent of the 1.5% for Solar Requirement on its upcoming Bond Projects and invest the full sum of the \$2,047,132 within the schedule / scope of this Bond. It is also the District's goal to:

- Maximize effectiveness of dollars spent
- Ease necessity for future array maintenance at multiple sites, due to limited Operations staffing
- Ensure optimal solar output and offset of building energy use
- Achieve high quality solar installations that can be used as curriculum / teaching tools

To ensure ODOE and the District's mutual interests are met, our Team would like to propose some consolidation and redistribution of funds between the project sites above to achieve better outcomes at a reduced number of sites. This includes:

- Durham Education Center - Currently pursuing a Net Zero 15,000 SF addition and will require a solar array valued at **\$500K** to achieve. Site is located walking distance from Tigard HS.
- Rutkin ES - Greenfield development that will allow for optimal sustainable / solar outcomes due to

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flexibility of site with south-facing exposure. Opportunities to significant offset building energy use.

Solar Value TBD

● Twality MS - Located adjacent to Templeton ES, this project will not begin construction until 2018 giving additional time to incorporate the balance of required solar funds once anticipated costs for Rutkin ES are confirmed. **Solar Value TBD**

Provided the District's commitment to providing documentation that the full sum as has been spent on qualifying solar projects, our request for the technical panel is to allow:

1. Full consolidation of required funds for Templeton ES into other solar projects
2. Full consolidation of required funds for Tigard HS into other solar projects (site is under 75% TSRF)
3. Potentially partial shifting of funds for Twality MS into Durham Center and Rutkin ES as necessary to achieve desired solar outcomes.

We hope the Panel will find these requests logical and reasonable. Should the Panel have any questions on these projects, they can be directed to:

Sarah Oaks

Assistant Program Manager for TTSD Bond | DAY CPM

sarah@daycpm.com

503.915.4634

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Technical review panel recommendation:

November 17, 2017

Sarah Oaks

Assistant Program Manager for TTSD Bond

DAY CPM

12745 SW Beaverdam Rd., Ste. 120

Beaverton, OR 97005

RE: Request for technical review of 1.5% Green Energy Technology requirements for the Tigard Tualatin School District

Dear Ms. Oaks

This letter is in response to a request for a technical panel review of the 1.5% Green Energy Technology requirement for the Tigard Tualatin School District that you submitted to ODOE on October 12, 2017 with an additional submission on October 31, 2017 to correct an email address. In that request you propose to consolidate the 1.5% funds from 6 school district bond projects into three installations at the Durham Education Center, Rutkin Elementary School and Twality Middle School. The technical review panel believes consolidation of the funds as described is appropriate. We would also like to commend the organized report provided which clearly demonstrates a thoughtful approach towards compliance with the 1.5% Green Energy Technology requirements.

The program rules provide for a recommendation from the technical review panel but that the final determination regarding use of 1.5% funds is to be made by the contracting agency. The rules also require that the projects be submitted into the green energy technology database. The program rules

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and database reporting form can be found on the Oregon department of Energy Web page at <http://www.oregon.gov/ENERGY/CONS/pages/publicsolar.aspx>.

Feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Russ DeLuca". The signature is written in a cursive, slightly slanted style.

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TUALATIN VALLEY FIRE AND RESCUE PROJECTS

Public body submittal:



www.tvfr.com

July 17, 2017

Oregon Department of Energy Technical Review Panel
550 Capitol St. NE, 1st Floor
Salem, OR 97301

Re: Technical Panel Review of Fire Station 55

Mr. Robert Delmar,

I am writing this letter on behalf of Tualatin Valley Fire and Rescue as we are seeking a partial waiver of the 1.5% green energy requirement for Fire Station 55. This building is new construction located in West Linn, OR, with a construction contract value of \$6,140,178.

TVF&R understands that state law requires public entities spend 1.5% of public building construction costs on green energy technology. On learning of this requirement, I contacted the Oregon Department of Energy and spoke with the technical office. At that time, I explained where it meets the operational and functional requirements of fire stations, which are operational on a 24/7 basis, the District strives to include green technology.

Through the course of design development, the District reached the conclusion that the only technologies appropriate for this project are the solar water-heating system, which costs \$20,280, and infrastructure to support a possible future photovoltaic addition (a breaker in the main electrical distribution panel). No other green technology systems were viable options for this building.

It should also be noted that no state funds are being used for construction on this project, and it is the District's understanding that there is no further requirement.

For this particular project, the District respectfully requests that the Technical Review Panel find that Tualatin Valley Fire and Rescue is not required to allocate 1.5% of the construction cost to the next project.

Sincerely,

Siobhan Kirk
Construction Projects Manager

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JUL 21 2017

DEPARTMENT OF ENERGY



www.tvfr.com

July 17, 2017

Oregon Department of Energy Technical Review Panel
550 Capitol St. NE, 1st Floor
Salem, OR 97301

Re: Technical Panel Review of Fire Station 64

Mr. Robert Delmar,

I am writing this letter on behalf of Tualatin Valley Fire and Rescue as we are seeking a waiver of the 1.5% green energy requirement for Fire Station 64. This is a remodel project, with a construction contract value of \$3,638,657.

Station 64, 3355 NW 185th Ave., Portland, OR, is a CMU block/wood-frame building built in 1970 that had operational and safety deficiencies. The scope of the project includes seismic upgrades and a building addition, interior remodel with provisions for female firefighters, and installation of an interior sprinkler system.

TVF&R understands that state law requires public entities spend 1.5% of public building construction costs on green energy technology. On learning of this requirement, I contacted the Oregon Department of Energy and spoke with the technical office. At that time, I explained when the District applied for reimbursement funding through the Seismic Rehabilitation Grant Program (SRGP), we were not aware of the ODOE requirements for green technology. The SRGP reimbursement funding enabled the District to move forward with this critical seismic upgrade to the existing station to ensure firefighters can respond following a natural disaster. However, it was not applicable for this project to include the ODOE green technology. Had the District understood the ODOE green technology requirements at the time of SRGP application, then the District might have elected not to apply for the SGRP funds.

In future, the District understands that all projects with state funding source must spend 1.5% on green technology or spend the funds on the next project. For this particular project, the District respectfully requests that the Technical Review Panel find that Tualatin Valley Fire and Rescue is not required to allocate 1.5% of the construction cost to the next project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Siobhan Kirk', is written over a horizontal line.

Siobhan Kirk
Construction Projects Manager

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July 17, 2017

Oregon Department of Energy Technical Review Panel
550 Capitol St. NE, 1st Floor
Salem, OR 97301

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DEPARTMENT OF ENERGY

Re: Technical Panel Review of Fire Station 69

Mr. Robert Delmar,

I am writing this letter on behalf of Tualatin Valley Fire and Rescue as we are seeking a waiver of the 1.5% green energy requirement for Fire Station 69. This is a remodel project, with a construction contract value of \$3,905,739.

Station 69, 9940 SW 175th Ave., Aloha, OR, is a wood-framed building built in 1981 that had operational and safety deficiencies. The scope of the project includes seismic upgrades and a building addition, interior remodel with provisions for female firefighters, and installation of an interior sprinkler system.

TVF&R understands that state law requires public entities spend 1.5% of public building construction costs on green energy technology. On learning of this requirement, I contacted the Oregon Department of Energy and spoke with the technical office. At that time, I explained when the District applied for reimbursement funding through the Seismic Rehabilitation Grant Program (SRGP), we were not aware of the ODOE requirements for green technology. The SRGP reimbursement funding enabled the District to move forward with this critical seismic upgrade to the existing station to ensure firefighters are able to respond following a natural disaster. However, it was not applicable for this project to include the ODOE green technology. Had the District understood the ODOE green technology requirements at the time of SRGP application, then the District might have elected not to apply for the SGRP funds.

In future, the District understands that all projects with a state funding source must spend 1.5% on green technology or spend the funds on the next project. For this particular project, the District respectfully requests that the Technical Review Panel find that Tualatin Valley Fire and Rescue is not required to allocate 1.5% of the construction cost to the next project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Siobhan Kirk', is written over a horizontal line.

Siobhan Kirk
Construction Projects Manager

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JUL 21 2017

DEPARTMENT OF ENERGY

July 17, 2017

Oregon Department of Energy Technical Review Panel
550 Capitol St. NE, 1st Floor
Salem, OR 97301

Re: Technical Panel Review of Fire Station 72

Mr. Robert Delmar,

I am writing this letter on behalf of Tualatin Valley Fire and Rescue as we are seeking a waiver of the 1.5% green energy requirement for Fire Station 72. This is a remodel project, with a construction contract value of \$1,257,226.

Station 72, 11646 NW Skyline Boulevard, Portland, OR, is a 2,800-square-foot standard, two-story wood-framed residential structure, which provides living and office space for the volunteers who respond from this station. The station serves an active volunteer company. The scope of the project includes seismic hardening, interior remodel and installation of a fire-suppression system.

TVF&R understands that state law requires public entities spend 1.5% of public building construction costs on green energy technology. On learning of this requirement, I contacted the Oregon Department of Energy and spoke with the technical office. At that time, I explained where it meets the operational and functional requirements of fire stations, which are operational on a 24/7 basis, the District strives to include green technology. However, it was not appropriate for this project to include the ODOE green technology.

It should also be noted that no state funds were used for construction on this project, and it is the District's understanding that there is no further requirement.

For this particular project, the District respectfully requests that the Technical Review Panel find that Tualatin Valley Fire and Rescue is not required to allocate 1.5% of the construction cost to the next project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Siobhan Kirk', is written over a horizontal line.

Siobhan Kirk
Construction Projects Manager

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ODOE Response:

September 28, 2017

Tualatin Valley Fire and Rescue
11945 SW 70th Avenue
Tigard, Oregon

Ms. Siobhan Kirk,

In response to your letters dated July 17, 2017 to the 1.5% green energy technology technical review panel, please see the department's responses below.

Tualatin Fire Station 64 – 3355 NW 185th Ave, Portland, OR

The letter describes the Tualatin Fire Station 64 as a remodel project with a contract cost of \$3,638,657. Tualatin Valley Fire and Rescue (TVFR) requested a waiver to the 1.5% GET requirement. The letter states that they were not aware of 1.5% green energy technology (GET) requirements at the time they applied for a state seismic grant and that had they understood the 1.5% GET requirements, they may not have applied for the state seismic grant. The letter further states that green technology was not applicable for the project. TVFR asked ODOE for permission not to defer funds to their next project.

ODOE Response:

- The 1.5% GET (formerly 1.5% for Solar) requirements have been in place since January 1, 2008.
- For remodel projects, the requirement kicks in when the contract cost exceeds \$1,000,000 and also is more than 50 percent of the replacement/insured value of the building. If this threshold is not met, there is no requirement.
- No documentation was sent detailing why GET is not applicable for the project. The contracting agency must provide studies, calculations, etc. to show why the site cannot incorporate solar or geothermal technology. This documentation is then sent to the technical review panel (TRP) for their review and recommendation. Without this documentation, the technical review panel cannot provide a review. Future requests to the TRP must provide this documentation.
- ORS 279C.527-528 requires public improvement projects that have state funding as part of the total contract cost to defer unspent 1.5% GET funds to a future project, if GET was determined to be inappropriate at the building site. This program was established by the state legislature and ODOE has no authority regarding permission to not defer funds.
- All projects, whether GET is incorporated or not, must be reported into the 1.5% GET database. Link to database provided here <http://greenenergytechnology.odoe.state.or.us/>
- ORS 279C.527-528 does not give ODOE authority to provide waivers to the 1.5% GET requirement.

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Tualatin Fire Station 69 - 9940 SW 175th Ave, Aloha, OR

The letter from Tualatin Valley Fire and Rescue (TVFR) describes the Tualatin Fire Station 69 project as a remodel project with a contract cost of \$3,905,739. The letter states that they were not aware of the 1.5% green energy technology (GET) requirements at the time they applied for a state seismic grant and that had they known of the 1.5% GET requirements, they may not have applied for the state grant. The letter further states that green technology was not applicable for the project. The reasoning for GET not being applicable was not documented. TVFR asked ODOE for permission not to defer funds to their next project.

ODOE Response:

- The 1.5% GET (formerly 1.5% for Solar) requirement has been in place since January 1, 2008.
- For remodel projects, the requirement kicks in when the contract cost exceeds \$1,000,000 and also is more than 50 percent of the replacement/insured value of the building. If this threshold is not met, there is no requirement.
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- All projects, whether GET is incorporated or not, must be reported into the 1.5% GET database. Link to database provided here <http://greenenergytechnology.odoe.state.or.us/>
- ORS 279C.527-528 does not give ODOE authority to provide waivers to the 1.5% GET requirement.

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Tualatin Fire Station 72 – 11646 NW Skyline Boulevard, Portland, OR

The letter from Tualatin Valley Fire and Rescue (TVFR) describes this project is a remodel with a contract cost of \$1,257,226. The letter states that that green technology was not appropriate for the project. The reasoning for GET not being appropriate was not documented. No state funds were part of the contract cost. TVFR requests that they are not required to allocate 1.5% of the construction cost to the next project.

ODOE response:

- The 1.5% GET (formerly 1.5% for Solar) requirement has been in place since January 1, 2008.
- For remodel projects, the requirement kicks in when the contract cost exceeds \$1,000,000 and also is more than 50 percent of the replacement/insured value of the building. If this threshold is not met, there is no requirement.
- No documentation was sent detailing why GET is not applicable for the project. The contracting agency must provide studies, calculations, etc. to show why the site cannot incorporate solar or geothermal technology. This documentation is then sent to the technical review panel for their review and recommendation. Without this documentation, the technical review panel cannot provide a review. Future requests to the TRP must provide this documentation.
- ORS 279C.527-528 requires public improvement projects that have state funding as part of the total contract cost to defer unspent 1.5% GET funds to a future project. If no state funds are included in the total contract cost, funds are not required to be deferred to a future project.
- All projects, whether GET is incorporated or not, must be reported into the 1.5% GET database. Link to database provided here <http://greenenergytechnology.odoe.state.or.us/>
- ORS 279C.527-528 does not give ODOE authority to provide waivers to the 1.5% GET requirement.

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Tualatin Fire Station 55 – 20790 Hidden Springs Road, West Linn, OR

This project is new construction with a contract cost of \$6,140,178. The letter states that the only green energy technology determined to be appropriate was solar water heater costing \$20,280 and a breaker on the main electrical distribution panel to accommodate future PV. No state funds were part of the contract cost. TVFR requests that the TRP finds that they are not required to allocate 1.5% of the construction cost to the next project.

- The 1.5% GET (formerly 1.5% for Solar) requirement has been in place since January 1, 2008.
- No documentation was sent detailing why only the solar water heating system was applicable and that other GET is not applicable for the project. The contracting agency must provide studies, calculations, etc. to show why the site cannot spend the full 1.5 percent of the total contract cost on solar or geothermal technology. This documentation is then sent to the technical review panel for their review and recommendation. Without this documentation, the technical review panel cannot provide a review.

The TRP only provides recommendations as to the technical feasibility of GET for the project site and does not determine if funds should be deferred or not deferred to future projects.

- ORS 279C.527-528 requires public improvement projects that have state funding as part of the total contract cost to defer unspent 1.5% GET funds to a future project. If no state funds are included in the total contract cost, funds are not required to be deferred to a future project.
- All projects must be reported into the 1.5% GET database. Link to database provided here <http://greenenergytechnology.odoe.state.or.us/>
- ORS 279C.527-528 does not give ODOE authority to provide partial waivers to the 1.5% GET requirement.

Thank you for providing the information for your projects. Please contact me if you have any questions.

Sincerely,

Ann Hushagen
Energy Analyst
Oregon Department of Energy

1.5% FOR GET IN PUBLIC BUILDINGS – 2018

FOR MORE INFORMATION

Ann Hushagen
The Oregon Department of Energy
550 NE Capitol Street NE
Salem, OR 97301
503-378-4040 | 800-221-8035
askenergy@oregon.gov
www.oregon.gov/energy

