Oregon
Kate Brown, Governor

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To: Chair Jessica Vega Pederson
Vice Chair Mark Johnson
Vice Chair Jeff Reardon
House Committee on Energy and Environment

From: Michael Kaplan, Director

Subject: Tax Credit Committee Policy Questions

Dear Representative Vega Pederson:

Thank you for the opportunity to provide information about the Oregon Department of Energy's (ODOE) Residential Energy Tax Credit (RETC) and Energy Incentives Program (EIP). Below are responses to the Tax Credit Committee Policy Questions.

1. What is the public policy purpose of this credit? Is there an expected timeline for achieving this goal?

Public Policy Purpose

The purpose of the **Residential Energy Tax Credit (RETC)** is to promote energy savings or energy displacement and market transformation by providing incentives that encourage the purchase of energy efficient and renewable energy devices for homes in Oregon.

The purpose of the **Energy Incentives Program: Energy Conservation Tax Credit** is to promote energy savings and market transformation by providing incentives for businesses, organizations, public bodies, nonprofits and tribes that influence a capital investment in energy efficient devices, measures or upgrades that yield a simple payback period[1] greater than three years.

The purpose of the **Energy Incentives Program: Renewable Energy Development (RED) Grant** is to promote investment in renewable energy development by providing incentives for businesses, organizations, public bodies, nonprofits and tribes that install and operate a renewable energy production system that produces electricity.

The purpose of the **Energy Incentives Program Transportation Tax Credit** is to promote cleaner transportation fuels and diversify the fuel market by providing incentives to businesses, organizations, public bodies, nonprofits and tribes for the purchase of alternative fuel vehicle

[1] Simple payback period is calculated by dividing the actual project costs by the annual value of energy savings. The simple payback period is the time it takes for the project to pay for itself in energy savings.

infrastructure and the purchase or conversion of alternative fuel vehicles as part of an Oregon fleet.

Timelines for Achieving Goal

For conservation incentives, the Northwest Power and Conservation Council[2] has found that "improved efficiency of electricity use is by far the lowest-cost and lowest-risk resource available to the region. Cost-effective efficiency should be developed aggressively and on a consistent basis for the foreseeable future. The Council's plan demonstrates that cost-effective efficiency improvements could on average meet 85 percent of the region's growth in energy needs over the next 20 years."[3] One of the goals of the 10-Year Energy Action Plan is to meet 100 percent of load growth from energy conservation. Last year Oregon met this goal, but may not be able to attribute it directly to conservation. However, incentives are a part of meeting increasing demand. The RETC and EIP programs' timeline for conservation projects will track the power plan, as long as energy conservation is the least cost resource.

For transportation incentives, goal three of the 10-Year Energy Action Plan is to convert 20 percent of large fleets to alternative fuels. The EIP Transportation Tax Credit through alternative fuel fleet and infrastructure projects will support this goal.

For renewable energy incentives, the state has a Renewable Portfolio Standard which requires the state's largest utilities to supply 25 percent of their electricity from eligible resources by 2025. Small utilities have requirements of 10 and five percent. The EIP Renewable Energy Development Grant program supports this goal.

2. Who (groups of individuals, types of organizations or businesses) directly benefits from this credit? Does this credit target a specific group? If so, is it effectively reaching this group?

The **Residential Energy Tax Credit (RETC)** program benefits homeowners, renters and landlords statewide who modify or purchase energy efficient equipment and renewable energy systems with personal income tax credits and energy savings or displacement. Retailers and the construction industry benefit from the added business due to eligible purchases and installations. Since 1978, the program has saved or displaced enough energy in Oregon to power about 400,000 households for one year as the result of issuing over 570,000 tax credits totaling approximately $172 million. More information about the number of applications is provided in Chart 1.

The **Energy Incentives Program** benefits businesses, organizations, nonprofits, tribes, schools and public bodies that invest in energy conservation, renewable energy resources and cleaner transportation fuels and vehicles. The program is utilized by many sectors including commercial, agricultural, industrial and renewable energy. Retailers and the construction industry benefit from the added business due to eligible purchases and installations. The

[2] The Northwest Power and Conservation Council's mission is to ensure, with public participation, an affordable and reliable energy system while enhancing fish and wildlife in the Columbia River Basin.
[3] Sixth Northwest Conservation and Electric Power Plan Sixth Power Plan, http://www.nwcouncil.org/media/6383/SixthPowerPlan_Overview.pdf

program includes grants for renewable energy development projects and tax credits for energy conservation and transportation projects. The programs began accepting applications in 2012 with over 1,000 applications received through 2014. More information above the number of applications by type of project is provided in Chart 1.

3. What is expected to happen if this credit fully sunsets? Could adequate results be achieved with a scaled down version of the credit? What would be the effect of reducing the credit by 50%?

If the **Residential Energy Tax Credit (RETC)** ended, Oregon homeowners would no longer receive a tax credit to encourage the purchase of energy efficient equipment and renewable energy systems, such as efficient heat pumps, gas furnaces and water heaters, and solar thermal and photovoltaic systems. The program was limited during the 2011 legislative session by removing dishwashers, washing machines, refrigerators and alternative fuel vehicles. HB 2447 would also limit the program further by adding a 50 percent cost cap on all devices and the ability to adjust the tax credit rate by device based on market conditions through rulemaking.

If the **Energy Incentives Program (EIP)** ended, Oregon businesses, nonprofits, public bodies and tribes would no longer receive tax credits for capital investments in energy efficiency, tax credits for investments in cleaner transportation fuels or grants for building and operating renewable energy production systems. The programs started accepting applications in 2012 and were scaled back compared to the Business Energy Tax Credit. The Conservation program is capped at $28 million a biennium, Transportation program at $20 million a biennium and Renewable Energy Development Grants at $3 million at biennium. Today these programs provide incentives for projects that include commercial buildings; renewable thermal; commercial, agricultural and industrial processes; co-generation facilities; solar photovoltaic systems; biomass facilities; and alternative fuel infrastructure and fleet vehicles.

4. What background information on the effectiveness of this type of credit is available from other states?

The American Council for an Energy-Efficient Economy (ACEEE) has found that "financial incentives are an important instrument to spur the adoption of technologies and practices in homes and businesses."[4] The ACEEE scorecard provides that "financial incentives can lower the up-front cost and shorten the payback period of energy efficiency upgrades, two critical barriers to consumers and businesses making cost-effective efficiency investments."[5] The scorecard also attributes financial incentives to raising consumer awareness, encouraging more active marketing of these products and encouraging manufactures to innovate.

In the 2014 State Energy Efficiency Scorecard, Oregon was ranked #3, up from #4 in 2013. The presence or absence of tax credits alone does not create a tipping point for the overall health of

[4] American Council for an Energy-Efficient Economy, The 2014 State Energy Efficiency Scorecard, October 2014, page 73.
[5] American Council for an Energy-Efficient Economy, The 2014 State Energy Efficiency Scorecard, October 2014, page 73.

a state's energy efficiency rank. Tax credits are part of an overall portfolio of market interventions to achieve energy efficiency targets. In 2014, the following states offered tax credits or exemptions:

State	2014 Scorecard Rank
California	2
Oregon	3
Connecticut	6
New York	7
Michigan	12
Utah	23
Kentucky	33
Tennessee	38
South Carolina	42

5. Is use of a tax credit an effective and efficient way to achieve this policy goal? What are the administrative and compliance costs associated with this credit? Would a direct appropriation achieve the goal of this credit more efficiently?

The **Residential Energy Tax Credit (RETC)** has been an effective and efficient way to achieve the policy goals. The administrative and compliance costs of the program are funded through a combination of Federal Funds from a U.S. Department of Energy grant and funds from the Energy Supplier Assessment. ODOE is also utilizing a federal grant to convert the application process for solar photovoltaic systems from a paper process to an online platform reducing the administrative costs for contractors, homeowners and ODOE staff.

The **Energy Incentives Program (EIP)** has been an effective and efficient way to achieve the policy goals. The administrative and compliance costs program are funded through fees for initial applications, technical reviews and final reviews. Most EIP projects submit a $500 application fee and a percentage of the project costs as a technical and final review fee. There are additional fees for amendments and pass-through or transfer processes. Small Premium Projects (SPP) for Conservation (projects under $20,000 in eligible costs) pay a $100 application fee and final review fee.

6. What other incentives (including state or local subsides, federal tax expenditures or subsidies) are available that attempt to achieve a similar policy goal?

For eligible devices under the **Residential Energy Tax Credit (RETC)** program there are federal incentives for some devices, along with the Energy Trust of Oregon and Bonneville Power Administration providing incentives as shown on attached Chart 2. The federal tax credit for solar water heating, solar photovoltaics, wind, fuel cells and geothermal heat pumps is scheduled to expire on Dec. 31, 2016.

For eligible projects in the **Energy Incentives Program (EIP)** there are a variety of incentives available depending on the project type and site location. As an example, a **Renewable Energy Development (RED) Grant** bioenergy project may also qualify for the following incentives:

State Incentives

- An Energy Trust of Oregon incentive may be customized for each project and is based on the market costs of producing energy by the facility, if the project is located in certain areas of the state.
- Exemption from ad valorem property taxation under ORS 307.175 may be available for certain bioenergy projects. This provision does not apply to very many facilities as the system must be net metered or designed to offset onsite electricity use.
- Commercial renewable energy projects that are located in a designated Rural Renewable Energy Development Zone may be eligible for a 3 to 5 year local property tax exemption.
- A facility that uses biomass as a fuel could receive a benefit directly or to their fuel supplier under the Biomass Producer or Collector tax credit program. This program does not have a project or program related cap and provides a per unit incentive based on the amount of material that is delivered to the facility.

Federal Incentives

- Rural Energy For America Program
    - Grant funding may be available to agricultural producers or rural small businesses to install renewable energy systems. Grants are up to 25 percent of the total eligible project costs with a $500,000 maximum.
    - Loan guarantees may be available on loans up to 75 percent of the total eligible project costs with a maximum of $25 million.
- Biomass Crop Assistance Program provides three types of assistance:
    - Establishment payments for 50 percent of the cost of establishing a new, perennial energy crop.
    - Annual payments for the crop as it matures, up to 5 or 15 years depending on the species.
    - Matching payments for mitigating the cost of harvesting and transportation agricultural or forest residues to an end use facility. These matching payments provide up to $20 per dry ton for agricultural or crop residues or woody forest residues removed directly from public forest land.

7. Could this credit be modified to make it more effective and/or efficient? If so, how?

The Oregon Department of Energy proposes HB 2447 to make the **Residential Energy Tax Credit (RETC)** program more effective and efficient. HB 2447 amends the program to place a 50 percent cost cap on all category one devices and expands ODOE's rulemaking authority to adjust incentive amounts based on market conditions. HB 2447 would also extend the RETC program's sunset to provide stability and continuity in the marketplace for homeowners, contractors, other programs and ODOE staff.

The Oregon Department of Energy proposes HB 2448 to make the **Energy Incentives Program** more effective and efficient. HB 2448 amends the EIP Energy Conservation program to tie the use of conservation tax credits to a performance agreement and create a process for annually recertifying tax credits with eligible project costs of at least $1 million to ensure greater tax credit accountability. HB 2448 would also extend the EIP program's sunset to provide stability and continuity in the marketplace for applicants, contractors and ODOE staff.

Chart 1: Oregon Department of Energy Incentives Program Data

Residential Energy Tax Credit

Calendar Year	# Applications Received	Amount of Tax Credits Issued	First Year Energy Savings or Generation *					Total First Year Energy Savings or Generation*
			kWh Savings	Therm Savings	Oil Gallons	Gas Gallons Saved	Gas Gallons Displaced	in MMBtus
2010	76,917	$20,174,255	27,557,750	981,533	6,832	233,022	1,637	222,489
2011	55,225	$16,192,306	22,970,179	757,439	5,078	37,073	2,182	159,753
2012	21,927	$13,862,679	13,384,617	363,967	2,542	72,099	27,821	94,922
2013	11,208	$10,375,498	12,688,810	234,186	909	894	32,185	70,987
2014	15,436	$18,320,937	22,712,544	255,321	1,786	551	76,916	112,981

*Energy savings estimated for first year, devices have a life span of 10-20 years.
Data from RETC All Annual Master 2013 Final, August 21, 2014 and Draft 2014 All Annual Master 2014, February 12, 2015.

State Home Oil Weatherization Cash Rebate Program

Calendar Year	# Applications Received	Amount of Cash Rebates Issued	First Year Energy Savings*	First Year Energy Savings*
			in gallons of oil	in MMBtus
2010	574	$226,118	8,145	1,131
2011	556	$311,132	8,513	1,182
2012	360	$177,500	4,643	644
2013**	344	$420,974	11,013	1,529
2014	268	$130,513	3,414	474

*Energy savings estimated for first year, devices have a life span of 10-20 years.
**Data includes SHOW Pilot Project that partnered with agencies in Lakeview and Klamath Falls to provide weatherization as part of an education, outreach, weatherization and woodstove program.
Data as of December 31, 2014

Energy Conservation Tax Credit: Competitive Projects

Calendar Year	# Applications Received*	Preliminary Tax Credits**	First Year kWh Savings	First Year Therm Savings	First Year Propane Gallon Savings	First Year Diesel Gallons Displaced	First Year Energy Savings in MMBtus***	Final Certificates Issued	Final Tax Credits Issued
2012	43	$4,312,424	16,919,803	397,702		31,843	101,937	19	$2,003,668
2013	46	$12,895,823	58,593,459	613,861		153,813	282,715	9	$345,149
2014	25	$6,617,375	8,552,254	56,821	280,672	6,477	61,536	0	$0
Total	**114**	**$23,825,622**	**84,065,516**	**1,068,384**	**280,672**	**192,133**	**446,188**	**28**	**$2,348,817**

*Number of applications received is the total number of applications, not all applications are offered an incentive due to competitive process. For 2014, some applications are still in review.
**Amount of tax credits offered refers to the preliminary certificates issued by ODOE.
***Energy savings estimated for first year, devices have a life span of 10-20 years.
Data as of December 31, 2014

Energy Conservation Tax Credit: Small Premium Projects, eligible costs under $20,000, prescriptive tax credit

Calendar Year	# Applications Received*	Preliminary Tax Credits**	First Year kWh Savings	First Year Therm Savings	First Year Propane Gallon Savings	First Year Diesel Gallons Displaced	First Year Energy Savings in MMBtus***	Final Certificates Issued	Final Tax Credits Issued
2012	258	$479,493	Not available ****					181	$262,285
2013	246	$407,490						185	$309,180
2014	299	$808,988						71	$157,590
Total	**803**	**$1,695,971**						**437**	**$729,055**

*Number of applications received is the total number of applications, not all applications are offered an incentive due to informational filings expiring.
**Amount of tax credits offered refers to the preliminary certificates issued by ODOE.
***Energy savings estimated for first year, devices have a life span of 10-20 years.
****Estimated energy savings under analysis for these devices.
Data as of December 31, 2014

Transportation Tax Credit: Transit Services

Calendar Year	# Applications Received*	Preliminary Tax Credits**	First Year Savings in Gasoline Gallons Displaced	First Year Savings in Diesel Gallons Displaced	First Year Energy Savings in MMBtus	Final Certificates Issued	Final Tax Credits Issued
2012	18	$8,615,890	8,768,719	0	1,096,090	5	$2,659,495
2013	6	$4,437,484	5,233,987	0	654,248	2	$1,797,290
2014	6	$3,949,945	2,118,169	0	264,771	0	$0
Total	**30**	**$17,003,319**	**16,120,875**	**0**	**2,015,109**	**7**	**$4,456,785**

*Number of applications received is the total number of applications, not all applications are offered an incentive.
**Amount of tax credits offered refers to the preliminary certificates issued by ODOE.
Data as of December 31, 2014

Transportation Tax Credit: Alternative Fuel Vehicle Infrastructure

Calendar Year	# Applications Received*	Preliminary Tax Credits**	First Year Savings in Gasoline Gallons Displaced***	First Year Savings in Diesel Gallons Displaced***	First Year Energy Savings in MMBtus***	Final Certificates Issued	Final Tax Credits Issued
2012	14	$1,566,155	303,007	2,352,041	364,339	7	$927,729
2013	15	$3,481,444	542,880	2,231,100	377,537	4	$784,038
2014	11	$1,084,059	11,820	216,300	31,500	0	$0
Total	**40**	**$6,131,658**	**857,707**	**4,799,441**	**773,376**	**11**	**$1,711,767**

*Number of applications received is the total number of applications, not all applications are offered an incentive. For 2014, some applications are still in review.
**Amount of tax credits offered refers to the preliminary certificates issued by ODOE.
***Energy savings estimated for first year, devices have a life span of 10-20 years.
Data as of December 31, 2014

Renewable Energy Development Grant

Calendar Year	# Applications Received*	Grants Offered**	First Year Energy kWh Production***	First Year Energy Production in MMBtus***	Grants Awarded	Grant Award Amounts
2012	6	$109,096	95,300	325	3	$109,096
2013	44	$1,198,231	42,616,565	145,450	2	$33,257
2014	19	$334,883	6,974,193	23,803	0	$0
Total	**69**	**$1,642,210**	**49,686,058**	**169,579**	**5**	**$142,353**

*Number of applications received is the total number of applications, not all applications are offered an incentive due to competitive process. For 2014, some applications are still in review.
**Amount of grants offered refers to performance agreements issued by ODOE.
***Energy savings estimated for first year, devices have a life span of 10-20 years.
Data as of December 31, 2014

Biomass Producer or Collector Tax Credit

Tax Year*	Number of Applications Received**	Amount of Tax Credits Offered	Total Energy Value*** in MMBtus
2010	93	$5,770,671	5,247,152
2011	132	$5,541,231	4,934,302
2012	94	$2,944,266	3,842,939
2013	88	$4,792,083	2,746,864

*Data based on Tax Year, 2013 is the last year the ODOE has complete data due to the nature of tax credits and when applicants apply.
**Number of applications received is the total number of applications, not all applications are offered an incentive.
***The total energy value varies year to year depending on the mix of feedstock receiving the tax credit.
Data as of December 31, 2014

Chart 2: Residential Energy Tax Credits and Other Available Incentives

The Residential Energy Tax Credit (RETC) offers Oregon homeowners a tax credit for energy conservation and renewable energy resource development projects. Most of these projects are also eligible for incentives from the Bonneville Power Administration or Energy Trust of Oregon. The chart below shows the average or typical incentives available and the percentage of the conservation device or renewable project costs paid for by incentives.

	Average cost in 2013 per RETC application	Estimated Average 2015 tax credit	**Average RETC as % of device or renewable project cost**	BPA 2014 average or typical incentive	**% of cost covered if BPA+RETC**	Energy Trust of Oregon 2014 average or typical incentive	**% of cost covered if ETO+RETC**
Electric heat pump water heater	$ 1,094	$ 624	57%	$ 300	84%	$ 383	92%
Tankless gas water heater	$ 2,269	$ 241	11%	N/A		N/A	
Storage gas water heater*	$ 699	$ 175	25%	N/A		$ 125	43%
Direct vent gas fireplace*	$ 2,500	$ 350	14%	N/A		$ 550	36%
Gas furnace	$ 3,385	$ 401	12%	N/A		$ 492	26%
Air-source ducted heat pump	$ 6,130	$ 512	8%	$ 1,000	25%	$ 775	21%
Ductless heat pump (mini-split)	$ 3,487	$ 933	27%	$ 1,000	55%	$ 1,000	55%
Duct Sealing (in unconditioned spaces)**	$ 1,050	$ 250	24%	$ 250	48%	N/A	
Whole house ventilation (HRV/ERV)	$ 3,424	$ 375	11%	N/A		N/A	
Geothermal heat pump	$ 17,473	$ 706	4%	$ 3,000	21%	N/A	
Wood and pellet stove	$ 2,504	$ 302	12%	N/A		N/A	
Solar Space Heating	$ 10,875	$ 1,439	13%	N/A		N/A	
Solar Water Heating	$ 10,465	$1,388	13%	N/A		N/A	
Alternative fuel charging station	$ 1,288	$ 303	24%	N/A		N/A	
Solar pool/spa heating	$ 4,996	$ 1,339	27%	N/A		N/A	
Solar electric (photovoltaic)	$ 23,447	$ 5,888	25%	N/A		$ 8,250	60%
Wind system	none	$ 6,000	n/a	N/A		N/A	
Fuel cell	none	$ 6,000	n/a	N/A		N/A	

* New measure 2015, cost estimated

** The duct sealing incentive was reduced from $460 to $250 starting Jan. 1, 2015, based on updated energy savings. In 2013, the tax credit equaled about 43% of the duct sealing costs. With the reduced tax credit for 2015, the duct sealing tax credit will equal about 24% of the duct sealing costs.

Updated Dec. 5, 2014