Oregon
John A. Kitzhaber, MD, Governor

MEASURE: HB 2522 A
EXHIBIT: N
Joint Committee on Tax Credits 76th Session
DATE: 05.05.2011 PAGES: 10
SUBMITTED BY: Bob Repine

Department of Energy
625 Marion St NE
Salem, OR 97301-3737
Phone: 503-378-4040
Toll Free: 1-800-221-8035
FAX: 503-373-7806
www.oregon.gov/energy

Date: May 5, 2011

To: Sen. Ginny Burdick, Co-Chair

Rep. Jules Bailey, Co-Chair

Rep. Vicki Berger, Co-Chair

Joint Committee on Tax Credits

From: Bob Repine, Acting Director

RE: HB 2522 A: Amending the Residential Energy Tax Credit (RETC) Program

Thank you for the opportunity to provide your committee with information regarding HB 2522A. The Oregon Department of Energy (Department) is responsible for the administration of this tax credit program commonly referred to as the Residential Energy Tax Credit (RETC) Program and the biofuel program. This memo also provides information relating to the questions that the Joint Committee on Tax Credits has posed. We will forward information relating to the biofuel program under separate cover.

The Residential Energy Tax Credit program is a valuable incentive for many homeowners and encourages and promotes energy efficiency and the use of renewable energy. It encourages above-code consumer investments in energy-efficient products such as clothes washers, dishwashers, refrigerators, furnaces, wood stoves, heat pumps, geothermal heating systems, and devices that generate renewable energy.

HB 2522A proposes to extend the residential tax credit program for highly energy efficient appliances and renewable energy devices. The bill also provides a statement of intent to guide program implementation, and clarify that both energy impact and environmental, economic and job benefits are intended outcomes. HB 2522A proposes to cut costs by capping the program, authorizes the department to reduce credit amounts to administer the cap and implements annual reporting to the legislature. The bill allows the Department to consider market conditions when determining performance standards and credit amounts. Under the A-engrossed bill, eligible devices must exceed mandated standards, within specified limits. The bill excludes air conditioners, boilers, and furnaces that are rated at less than 94% efficient.

Based on programmatic experience, the Department offers the following observations for your consideration relating to the policy questions posed by the Committee.

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

The RETC program was designed to meet a significant portion of Oregon's incremental energy needs with conservation and renewable resources. It also reduces carbon dioxide emissions from burning fossil fuels by encouraging the use of energy efficient products and renewable resources. By offering a tax credit on new energy efficient products, the RETC program assists with transforming the market to more energy efficient products. The program assists with the state's climate change policy of reducing greenhouse gas emissions by 75 percent from 1990 levels by 2050.

There is no one answer to the question related to expected timelines for achieving the goals of this program. The answer varies depending on the technology and system type. For example, by examining the trends in the appliance industry, it appears that market transformation towards energy efficient appliances may have already occurred in some markets while in others, it is still a new or emerging technology. The types of participating appliances are spelled out in statute. Other systems, such as renewable generation related to residential structures, is either just emerging or in the process of market transformation with system costs reflecting that change. For example, in 2007, there were 231 solar systems issued tax credits in this program at an average cost of $8.80 a watt. In 2011, there have already been 260 solar systems issued tax credits at an average cost of $6.50 a watt. This clearly shows that the demand has increased while the costs are going down and that market transformation is occurring, creating resilient and cost-effective solar technology options.

2. **Is economic development and job creation a primary goal of this credit?**
Economic development is not a primary goal of this credit, and the department does not collect employment data related to the incentives provided. Provision of the credit does generate economic activity, a portion of which inherently requires local employment. Examples of local work, that cannot be outsourced, associated with the credit are the installation of furnaces or renewable energy devices and the sealing of ductwork in Oregon homes.

3. **Who (groups of individuals, types of organizations for businesses) directly benefits from this credit? Does this credit target a specific group? If so, is it effectively reaching this group?**
Oregon residents who purchase eligible equipment and systems directly benefit from using the tax credit in reduced energy costs and increased home values. Retailers and the construction industry benefit from the added business due to eligible purchases and installations associated with this tax credit. Utilities benefit from a reduction in the rate of energy demand growth. For example, the NW Power Plan found enough conservation to be available and cost-effective to meet 85 percent of the region's load growth for the next 20 years. The credit has been successful in reaching Oregon residents, although opportunities still exist to increase energy efficiency and promote renewable energy use in Oregon homes.

4. **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 percent?**
   The department does not have sufficient data to accurately determine what may happen if the program is scaled down, reduced by 50 percent, or fully sunsets. If the tax credit is reduced or sunsets, there would be a smaller, or one less, incentive available to encourage homeowners to purchase more energy efficient appliances and renewable energy resources. It is likely that based on the current demand for the program, there would continue to be demand for a credit within a capped program or for a reduced amount. Currently, the American Council for an Energy-Efficient Economy (ACEEE) rated Oregon as #3 in its ranking of all 50 states for overall energy efficiency policy. It is likely that this tax credit program, along with other state policies, is partially a driver behind this rating. In addition, the appliance industry, retailers and the construction industry may see a slowdown in demand for these types of appliances and installations.

5. **What background information on the effectiveness of this type of credit is available from other states?**
   Oregon is considered a leader in conservation efforts and other states have modeled their programs after Oregon's. The majority of other state incentive programs are funded by American Recovery and Reinvestment Act (ARRA) money and a fixed amount of state funds. The incentives are mostly in the form of rebates and have a limited life span but cover many of the same items as Oregon's RETC program. Alternative fuel vehicles are often treated or called out separately by other states. Currently, the department is aware of 28 states that have incentives for alternative fuel vehicles ranging from reduced license fees, car pool lane permits, sales tax exemptions, parking incentives, tax credits, fueling device credits and reduced registration fees.

6. **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 use of this tax credit has shown to be an effective and efficient way to achieve market transformation, energy savings and reduce carbon dioxide emissions. A demonstrated success in this program is the number of energy efficient clothes washers on the market today or the number of homeowners seeking renewable energy resource options.

   The administrative and compliance costs associated with the credit derive from the processing of applications for tax credits. The department's staffing costs for the processing of RETC applications are approximately $500,000 per biennium. Management oversight, database management, rulemaking and technical support from other department resources costs an additional $100,000 to $200,000 per biennium. The amount of applications received has been increasing each year, during the 2009-11 biennium ODOE anticipates processing 130,000 applications resulting in $34,000,000 in tax credit certificates. Program administration has been funded by a mix of Federal and other funds. The Federal funds are being limited under current budget negotiations, and

the department is considering options to reduce the administrative cost of the program through online applications or other efficiencies

A direct appropriation would enable the department to simplify the administration of the credit, partly from removing the pass-through option. The provision of a cash incentive reduces the delay between the transaction and the receipt of the credit, which can increase the value of the incentive without increasing the cost.

7. **What other incentives (including state or local subsidies, federal tax expenditures or subsidies) are available that attempt to achieve a similar policy goal?**
There are several other complimentary programs that cover all or portions of the equipment that the RETC covers. For example, the one most commonly referred to is the Energy Trust of Oregon (ETO) Incentive. This program covers only a portion of the state and is only for certain types of appliances and renewable resources. Based on feedback received by ETO during their third quarter of 2010, their consumers indicated that between 80 and 91 percent of those purchasing appliances or heat pumps intended to use both credits, while 100 percent of the consumers intended to use both incentive programs with solar installations. Those consumers who are not in ETO territory often receive incentive payments from their gas and electric utilities for designated devices in addition to the RETC.

Currently, there are some federal tax credit programs available for conservation and renewable generation investments. Historically, these credits have varied from year to year due to federal funding streams.

The federally managed Energy Star brand compliments the RETC program by providing consumer education and promotes the benefits of energy efficient and renewable technology. It provides a way for consumers to differentiate between the different models prior to making an investment decision. This information removes some of the uncertainty consumers may have in making purchasing decisions and increases awareness of product benefits.

Finally, as it relates to solar installations, the investor owned utilities are administering a pilot volumetric incentive rate (VIR) program (feed-in tariff) for photovoltaic (PV) installations. This pilot was established in part to draw comparisons between the tax credits and a performance based incentive. Participants in the pilot program cannot utilize the state's tax credit programs. The Public Utility Commission has drafted a report to the legislature on the effectiveness of the VIR program. They have reported that it is too early in the program for conclusions to be drawn in comparison to the state tax credit program.

8. **Could this credit be modified to make it more effective and/or efficient? If so, how?**
The program currently has a lot of details and requirements in statute. For example, many of the incentive rates are specific in statute and cannot be reduced by the agency as the industry matures and costs go down. Furthermore, certain classes of appliances are specified in statute and therefore, the department has to continue offering the tax credit for these types of appliances and does not have the flexibility to exit a fully mature market. If the goal of the RETC program is to provide an incentive for emerging and

new technologies that promote energy efficiency and renewable energy resources, flexibility in determining what should be incentivized and by how much will allow this program to target specific industries or goals.

The program could be enhanced by increasing accountability. This could be accomplished by turning a portion of the credit program to be performance based incentives (i.e., renewable), or by creating the ability to revoke or reduce the tax credit if certain conditions are not met or the installation is dismantled or removed from the state.

The program currently requires a tax credit certified technician for some installations. Based on the increasing awareness of industry on renewable requirements, the education and the knowledge behind this certification could be streamlined into, or in conjunction with, current personal and business licenses and registrations.

The administration of this program could be streamlined. Currently, there is no funding stream for this program. The department uses Energy Supplier Assessment funds or federal State Energy Program grant money to pay for its staffing. Some additional staff work would be reduced by the elimination of the pass through option for at least the smaller tax credits, or by making it a "refundable credit" for low income taxpayers.

9. **How would the return on the state's investment best be measured for this credit?**
The current measure of this credits outcome is the energy impact resulting from the tax credit investment, as is currently collected by the department. Measuring the energy saved or produced from incented activities can provide a clear relationship between the allocation of funds to an incentive and the resulting impact on the energy marketplace.
Which of the following can be quantified as a "return" or "benefit" resulting from the use of this credit:
    - **Jobs & overall economic activity**
    The credit supports jobs and enhances economic activity as a by-product of the investments in energy products and services. This activity is supplemented by the extra funds available to program participants as they benefit from lowered energy bills.
    - **Environmental goals such as energy conservation, air/water quality**
    The RETC program was designed to meet a significant portion of Oregon's incremental energy needs with conservation and renewable resources. It also reduces carbon dioxide emissions from burning fossil fuels by encouraging the use of energy efficient products and renewable resources.
    - **Social goals**
    This credit does provide returns towards social goals.

10. **Using the three broad categories above, how do these credits rank in terms of their expected return on investment?**
The department anticipates that this question will be answered by the committee in its comparison of multiple credits.

Oregon
John A. Kitzhaber, MD, Governor

Department of Energy
625 Marion St NE
Salem, OR 97301-3737
Phone: 503-378-4040
Toll Free: 1-800-221-8035
FAX: 503-373-7806
www.oregon.gov/energy

Date: May 5, 2011

To: Sen. Ginny Burdick, Co-Chair

Rep. Jules Bailey, Co-Chair

Rep. Vicki Berger, Co-Chair

Joint Committee on Tax Credits

From: Bob Repine, Acting Director

RE: HB 2522 A: Extending the Biofuels and fuel blends and Biodiesel used in home heating programs

Thank you for the opportunity to provide your committee with information regarding HB 2522A. The Oregon Department of Energy (Department) is responsible for these tax credit programs; the Biofuels and fuel blends credit, the Biodiesel used in home heating credit, and the Residential Energy Tax Credit (RETC) program. This memo provides information relating to the questions that the Joint Committee on Tax Credits has posed. We will forward information relating to the Residential Energy Tax Credit program under separate cover.

HB 2522A proposes to extend the biofuels and fuel blends and the biodiesel used in home heating tax credit programs. These credits are not administered by the Department of Energy. Unlike other tax credit programs where the department reviews an application, in these cases a tax payer who determines that they are eligible for this credit provides the information on their tax return. Therefore, while the type and amount of information the department has on this program is limited, we offer the following information to consider.

1. **What is the public policy purpose of this credit? Is there an expected timeline for achieving this goal?**
   The public policy purpose of this tax credit is not explicitly stated in statute. Based on legislative history it appears that these tax credits were probably created to stimulate demand for biofuel to be used in alternative fuel vehicles and as an alternative source of heat in consumer's homes. When this bill was originally passed in 2007, it was scheduled to sunset for tax years beginning on or after January 1, 2013. This bill would extend it to 2018.

   The tax credit program may also have an indirect impact on Oregon's Low Carbon Fuel Standard. The Low Carbon Fuel Standards program, authorized by the Oregon Legislature in 2009 as part of House Bill 2186, is a strategy targeted at introducing cleaner alternative fuels. This tax credit provides a small incentive to the consumer of fuel that furthers this strategy .

2. **Who (groups of individuals, types of organizations for businesses) directly benefits from this credit? Does this credit target a specific group? If so, is it effectively reaching this group?**
   Consumers of biofuels directly benefit from this tax credit. For tax year 2008, approximately 4800 personal income taxpayers saved an average of about $150 in Oregon tax using these credits. The department is unable to determine if this credit is effectively influencing the use of these fuels.

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%?**
   The Department of Energy does not have adequate information to determine what would happen if this tax credit was reduced or sunsets. While the tax credit may be a portion of the consumption decision by the 4,800 households mentioned above, the department does not know how many consumers who are currently using biofuels for alternative vehicles or for heating their homes would stop based on this credit being reduced or eliminated.

4. **What background information on the effectiveness of this type of credit is available from other states?**
   The Department is not aware of any other state that offers incentives for the direct purchase of biofuels. Most states offer an incentive, similar to Oregon's, for the purchase of vehicles or equipment that utilizes biofuels for transportation and heating. Many of the states that provide an incentive for alternative heating purchases fund them through American Recovery and Reinvestment Act dollars.

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 Department does not have sufficient data to determine which tax credit recipients would have used biofuels with or without the credit. Many states, including Oregon, incentivize the original purchase of the furnace, wood pellet stove or alternative fuel vehicle that uses the biofuel. However, other states do not incentivize the purchase of the fuel.

   The administrative costs associated with this credit are minimal, there are no compliance activities performed by the Department. A direct appropriation is likely to require increased administration costs.

6. **What other incentives (including state or local subsidies, federal tax expenditures or subsidies) are available that attempt to achieve a similar policy goal?**
   The State has authorized residential energy tax credits (RETC) for the purchase of energy efficient furnaces, wood pellet stoves used for heating and some types of alternative fuel vehicles which in turn may use the biofuels eligible for this tax credit.

7. **Could this credit be modified to make it more effective and/or efficient? If so, how?**
   The Department does not have sufficient information to answer this question.

8. **How would the return on the state's investment best be measured for this credit?**
   The department has not yet completed an analysis of the credits claimed through the department of Revenue, and does not have a standard measure of the return on investment for this credit.
   Which of the following can be quantified as a "return" or "benefit" resulting from the use of this credit:
   - **Jobs & overall economic activity**
     By providing increased demand for biofuels the credit supports the biofuel supply chain and associated employment. As the incented fuels replace traditional fuels this benefit is tempered by a reduction in demand for the original product.
   - **Environmental goals such as energy conservation, air/water quality**
     The use of biofuels often offsets the use of fossil fuels, thereby saving non-renewable resources and reducing environmental impact.
   - **Social goals**
     This credit does provide returns towards social goals.

9. **Using the three broad categories above, how do these credits rank in terms of their expected return on investment?**
   The department anticipates that this question will be answered by the committee in its comparison of multiple credits.

OREGON DEPARTMENT OF ENERGY

Residential Energy Tax Credit Program
(Preliminary Annual Non-Cumulative Data)

Program	2009										
SYSTEM TYPES	SYSTEMS CERTIFIED (Count)	SYSTEM COSTS (Dollars)	TAX CREDITS (Dollars)	Tax Credit $ % of Project %	CO2 REDUCED (Tons)	Ton CO2 Reduction Cost (1st year energy) $	ENERGY SAVED EQUIVALENT TO NUMBER OF HOMES (Homes)	ENERGY SAVED (Million Btu)	Tax Credit Cost per Million Btu (1st year energy) $	Tax Credit Cost per Million Btu (Life energy) $
Renewables	797	$14,068,729	$2,701,700	19.20%	1,251	$2,159	126	9,035	$299	$10
Appliances	37,711	$35,822,445	$5,108,428	14.26%	7,990	$639	1,072	76,986	$66	$7
Ducts	1,050	$1,292,898	$245,505	18.99%	669	$367	80	5,728	$43	$3
Alt Fuel/Hybrid Vehicles	2,023	$56,451,676	$3,016,866	5.34%	3,490	$864	633	45,440	$66	$7
Furnaces/Boilers	5,109	$16,316,934	$1,775,083	10.88%	2,220	$799	405	29,079	$61	$5
Wood & Pellet Stoves	1,662	$3,639,246	$494,987	13.60%	457	$1,084	59	4,238	$117	$8
Heat Pumps/ Air Conditioners	1,941	$7,455,746	$543,011	7.28%	708	$767	65	4,633	$117	$10
Heat/Energy Recovery	35	$87,077	$7,660	8.80%	16	$480	2	169	$45	$3
TOTALS	**50,328**	**$135,134,751**	**$13,893,240**		**16,801**		**2,442**	**175,308**		

Program	2010										
	SYSTEMS CERTIFIED	SYSTEM COSTS	TAX CREDITS	Tax Credit $ % of Project	CO2 REDUCED	Ton CO2 Reduction Cost (1st year energy)	ENERGY SAVED EQUIVALENT TO NUMBER OF HOMES	ENERGY SAVED	Tax Credit Cost per Million Btu (1st year energy)	Tax Credit Cost per Million Btu (Life energy)	% Change- Equivalent homeowners
SYSTEM TYPES	(Count)	(Dollars)	(Dollars)	%	(Tons)	$	(Homes)	(Million Btu)	$	$	
Renewables	1,291	$25,433,591	$5,918,736	23%	2,043	$ 2,897	195	14,036	$ 422	$14	
Appliances	57,536	$53,823,558	$7,006,741	13%	11,159	$ 628	1,484	106,577	$ 66	$7	
Ducts	1,764	$2,063,891	$400,768	19%	1,122	$ 357	135	9,674	$ 41	$3	
Alt Fuel/Hybrid Vehicles	1,315	$36,665,521	$1,938,798	5%	2,257	$ 859	409	29,393	$ 66	$7	
Furnaces/Boilers	7,664	$24,252,232	$2,664,821	11%	3,336	$ 799	608	43,649	$ 61	$5	
Wood & Pellet Stoves	3,770	$8,878,143	$1,120,403	13%	1,036	$ 1,081	134	9,612	$ 117	$8	
Heat Pumps/ Air Conditioners	3,568	$14,803,657	$1,114,475	8%	1,453	$ 767	132	9,509	$ 117	$10	
Heat/Energy Recovery	35	$79,634	$8,128	10%	18	$ 463	3	184	$ 44	$3	
TOTALS	**76,943**	**$166,000,227**	**$20,172,870**		**22,424**		**3,100**	**222,635**			**27.00**

Notes:
"Tons" of CO2 are short tons.
"Energy Saved" includes energy saved, energy generated, and energy displaced.
MM BTU's used in the average home per year (USDOE) ***71.8***
Source Files: "!RETCAll\AnnualMaster.xlsm" dated 3/2/2011; F:\Reports\WorkLog\Simmons,Andrea\RETC_CO2SavingsBySystemType.xls

Life of project assumptions

Renewable	Furnaces Boilers
Applicances	Wood & Pellet Stoves
Ducts	HP / Air Conditioners
Alt fuel Vehicles	Heat/Energy Recovery