



Oregon

Kate Brown, Governor



OREGON
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

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To: House Committee on Energy and Environment

From: Andy Ginsburg, Assistant Director

Subject: House Bill 2449 – Tax Credit Committee Tax Questions

Thank you for the opportunity to provide information about the Oregon Department of Energy's (ODOE) Biomass Producer or Collector Tax Credit Program. 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?

The Biomass Producer or Collector Tax Credit was originally adopted as part of a broad biofuels package intended to reduce Oregon's dependence on foreign oil, stimulate markets and reduce greenhouse gas emissions. Its effect has been to divert biomass from the waste stream, using it instead to produce renewable energy. The public purpose of the Bioenergy Production Pilot proposed in HB 2449 is to incent new or expanded in-state bioenergy production facilities. Both programs also provide various non-energy benefits, such as supporting forest health treatments, nutrient management on dairy farms, and providing alternatives to non-value added disposal techniques.

By offering an incentive for the use of biomass to create renewable electricity, transportation fuels and thermal energy, the existing program encourages value-added utilization of material that would otherwise be disposed of through burning, landfilling, flushing down the drain, or other traditional management techniques. This feedstock-based incentive makes it financially feasible to produce, collect, process, and transport biomass to energy production facilities from its origin in Oregon's forests, agricultural fields, and urban areas. The proposed pilot would make it financially feasible to build new energy facilities and reopen idled facilities. In exchange, the state benefits from the production of renewable energy, support for a skilled workforce, lowered greenhouse gas emissions, and markets for material generated from forest health treatments, agricultural operations and various waste streams.

As shown in Attachment 1, the existing bioenergy incentive programs support a range of different biomass feedstocks, technologies and types of energy production. Each of these feedstocks, technologies and production types has different markets and costs structures that affect what level of incentive is needed and how long the incentive will be needed to achieve the goals. For some feedstocks, such as woody biomass, incentives may be needed long-term to achieve forest health and air quality benefits due to the high collection costs compared to energy values. In other cases, incentives may only be needed through an initial payback period. For example, the market for used cooking oil has matured since the inception of the existing biomass tax credit program, reducing the need for incentives on a continual basis for this particular feedstock.

Under the proposed pilot program, the exact conditions and term of the incentive would be established in a site-specific performance agreement. These agreements will not extend beyond the six-year duration of the pilot program. This limitation will enable the state to determine the effectiveness of a production-based incentive.

House Bill 2449 responds to the recommendation in Oregon's Ten-Year Energy Action Plan to refocus existing bioenergy incentives to support capital investment. The plan proposes to shift incentives from collection and production of fuel to investments in facilities such as institutional boilers, cogeneration facilities and biofuel production. House Bill 2449 is consistent with these recommendations and the *Critical Path for Bioenergy Development* in Oregon's Ten-Year Energy Action Plan.

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?

Oregon businesses that produce or collect biomass for energy production directly benefit from using the current tax credit. Bioenergy facilities benefit from reduced biomass feedstock costs. The current tax credit is targeted to agricultural producers and biomass collectors. These groups include dairy farmers, forest treatment and logging contractors, transportation companies, anaerobic digester operators, food producers and processors, and municipal wastewater treatment plant operators. Attachment 2 provides a program summary indicating the amount of tax credit issued for each feedstock sector from 2010 to 2013. This attachment illustrates the benefits received by each industry sector that participates in the current tax credit program.

The pilot program would be a targeted incentive directed to bioenergy producers. The incentive would be focused and awarded on actual energy production rather than the amount of feedstock used. The suppliers of biomass feedstock are expected to benefit from increased prices for the biomass they supply to participating facilities. The pilot program would support:

- Energy production or co-generation facilities that produce electrical energy from woody biomass derived from forest health treatment projects (up to 15 average MW)
- Schools, institutions or other facilities that use thermal energy production for space heating from woody biomass (up to 100,000 therms)
- Biodiesel refineries or ethanol production facilities that produce transportation fuels, or anaerobic digestion facilities that produce energy from animal manure, fats, oils or grease, food processing residues, or food wastes from residential, commercial or institutional sources. (up to 650 million cubic feet of biogas)

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 program sunsets, the amount of biomass that is used for energy production in Oregon would decline. For instance, woody biomass material could be open-burned and other types of materials could be sent to a landfill, thus not utilizing their energy potential and contributing to non-desirable outcomes such as increased greenhouse gas emissions.

If the tax credit for some of the eligible types of biomass were reduced, there would be a decline in the utilization of these feedstocks, while the utilization of other feedstocks would likely be unchanged. Here are two examples:

- In 2012, the credit rate for woody biomass was reduced in value by approximately 50 percent. This reduction in the incentive level, along with other market factors, contributed to a reduction of biomass utilization from an average of 253,754 dry tons in 2010 and 2011 to 125,060 dry tons in 2012, 2013 and 2014.
- House Bill 2449 proposes a reduction in the tax credit rate for used oil by 50 percent. This reduction is not expected to result in a decline of used oil for biofuel production. This is because the market for that type of biomass is maturing as evidenced by increasing geographic reach of Oregon-based biofuel manufacturers and the establishment of long-term purchase contracts. Sequential-Pacific Biofuels in Oregon, for instance, has entered into agreements with used oil providers in Seattle.

The effect of scaling down the tax credit would be specific to each type of feedstock; therefore HB 2449 proposes to make targeted credit rate reductions in statute and provide limited authority for the department to make future adjustments to the credit rates by rule to ensure alignment with market conditions.

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

Oregon is the only state that provides a comprehensive tax credit for biomass production or collection. Since programs in other states are not structured the same as Oregon’s program, a direct comparison is not available. Examples from others states include:

- Washington offers a reduced Business and Occupation tax rate for manufactured woody biomass fuel,
- Wisconsin offers a tax credit for the purchase of equipment used to harvest woody biomass, and
- New Mexico offers a tax credit for agricultural biomass from a dairy or feedlot that is used to produce bioenergy.

The department has evaluated the impact of the tax credit on Oregon’s wood fuels market and economy. The results of this study found that the tax credit supported between 30 and 70 jobs, between \$1.4 and \$3.29 million in wages and benefits, and between \$5 and \$11.8 million in economic activity. These benefits accrued from a net tax expenditure between \$3.27 and \$3.59 million.¹

¹ White E., N.-P. M. (2013). *Impacts of the Biomass Producer or Collector Tax Credit on Oregon's Wood Fuels Market and Economy*. Eugene, OR: Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon.

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 Biomass Producer or Collector tax credit has proven to be effective at encouraging additional biomass production and collection. Stakeholders indicate that the effectiveness of the program could be enhanced by providing certainty. House Bill 2449 provides the certainty needed to plan business expansions through the proposed pilot program and by extending the current program to coincide with the duration of the pilot.

The proposed pilot program would be targeted to encourage expanded bioenergy production. The pilot would be structured to address the short run differential between the cost to produce energy, including biomass fuel production and collection costs, and the value of the energy produced. The incentive would be designed to overcome the difference between the cost to produce and the value of the energy for a set period of time until costs for production decline or market prices for energy rise.

The administrative and compliance costs associated with this credit result from certifying the tax credits. The department's approximate costs for administering the BPC tax credit program in 2014 were \$167,070. This program is funded through application fees. The current fee for each application is \$100 plus 2.5% of the requested tax credit amount.

Compared to a direct appropriation, the current tax credit program is less efficient due to the need for many participants to monetize the credit by transferring it to an entity with a tax liability. The history of the program indicates that the majority of the certified tax credits are transferred. Reasons for this include the fact that some small businesses that earn the credit choose to enhance their cash flow, or tax credit recipients may not have the tax liability necessary to fully benefit from the credit themselves. The existing transfer provision addresses these scenarios. However, the transfer costs may be up to 10 percent of the face value of the credit.

In addition to the discounted value if there is a transfer, there are application fees for certifying the credit and transaction costs to arrange for a transfer. There is also a delay between the times the expense associated with the eligible activity is incurred and when the tax credit can be received and monetized. The pilot program contains a similar transfer provision, but the target facilities would likely benefit more directly from the tax credit than current participants. In either case, a direct appropriation would provide more immediate benefit to the participants.

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 Federal Biomass Crop Assistance Program (BCAP) is the only program that targets the same outcomes. However, BCAP is limited in the types of biomass that it can support. For example, current federal rules indicate a BCAP matching payment can only be made for woody biomass that results from certain type of forest treatments. The program matches the payments made by the purchasing facility at a rate of \$1 per ton up to \$20 per dry ton. For example, if the purchasing facility pays \$22 per dry ton, the matching payment would be \$20. Matching payments made to eligible material owners are also limited to a maximum of two years. This federal matching payment

is in addition to the biomass tax credit. Information on the Biomass Crop Assistance Program is available at: <https://www.fsa.usda.gov/FSA/webapp?area=home&subject=ener&topic=bcap>.

Incentives such as the Oregon Department of Energy's Renewable Energy Development (RED) Grant or a combined heat and power project under the Energy Conservation Tax Credit could be made to a facility that receives material eligible for a tax credit under the biomass incentive program. This is not duplicative as the incentives address different aspects of project operations. The RED grant or conservation tax credit provides for the capital costs associated with developing a project while the biomass incentives address the ongoing fuel and operational costs. A project may also be eligible for incentives from the Energy Trust of Oregon depending on its location and the end user of any electricity it would generate.

These state and federal incentives would also not be duplicative under the proposed pilot program. Projects participating in the pilot program would be evaluated with any state or federal incentives that would be available. The result would be to reduce the incentive provided under the pilot by an equivalent amount.

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

A number of items would improve the effectiveness of the current biomass tax credit. House Bill 2449 proposes to make these improvements while piloting a production-based incentive. The improvements to the current program include:

- Aligning the definition of eligible biomass with the types of biomass authorized for a tax credit;
- Expanding eligibility to food processing residues and post-consumer food waste;
- Reducing the credit rates for animal manure and used oil;
- Providing the department with limited rulemaking authority to decrease or increase incentive levels to match market conditions beginning in 2017. To meet stakeholders' needs for stability and predictability, changes to credit rates could not exceed 25% in any year, could only occur once per year effective the following tax year, and would be required to reflect changes in market conditions and biomass production or collection cost structures; and
- Allowing non-taxpayers such as special districts, non-profits and municipalities to earn the credit directly.

The proposed pilot program would provide a production-based incentive for bioenergy facilities. The department expects that this will more effectively encourage new and expanded development of bioenergy facilities. This is because the incentive under the pilot will be targeted to production facilities and customized to each participating facility. The incentive level would be set to encourage the development of new or expanded production by matching the incentive level to the gap between the short-run cost of energy production and the market value of that energy. HB 2449 would require the department to report each biennium on the effectiveness of the pilot compared to the existing program so that the Legislature can evaluate future changes to these incentives.

Attachment 1: Biomass Definitions and list of Biomass eligible for a tax credit

ORS 315.141(1)(d) -- Biomass Definition	Material	ORS 469B.403 -- Tax Credit Rates	HB 2449 Proposed Changes
(A) Forest or rangeland woody debris from harvesting or thinning conducted to improve forest or rangeland ecological health and reduce uncharacteristic stand replacing wildfire risk;	Woody debris	(6) For woody biomass collected from nursery, orchard, agricultural, forest or rangeland property in Oregon, including but not limited to pruning, thinning, plantation rotations, log landing or slash resulting from harvest or forest health stewardship, \$10.00 per bone dry ton.	Use definition that is in forestry statutes (ORS 526).
(B) Wood material from hardwood timber described in ORS 321.267 (3);	Wood material		
(C) Agricultural residues;	Agricultural residues	(2) For grain crops, including but not limited to wheat, barley and triticale, \$0.90 per bushel.	Include both primary residues like straw and food processing residues as distinct types of biomass.
		(7) For grass, wheat, straw or other vegetative biomass from agricultural crops, \$10.00 per bone dry ton.	Provide food processing residues a credit rate of \$5 per wet ton
		(8) For animal manure ..., \$5.00 per wet ton.	Adjust manure credit rate from wet ton to tons of dry solids
(D) Offal and tallow from animal rendering;	Offal from animal rendering	(8) For ... rendering offal, \$5.00 per wet ton.	Add tallow and list separate from animal manure.
	Tallow from animal rendering	No Tax Credit Rate in Statute	
(E) Food wastes collected as provided under ORS chapter 459 or 459A;	Food wastes	(4) For used cooking oil or waste grease, \$0.10 per gallon.	<p>Include used cooking oil or waste grease in the definition of biomass. List used oil and waste grease separately. Provide a distinct category for food waste.</p> <p>Adjust credit rate for used oil to \$0.05 per gallon, provide credit rate for waste grease of \$0.10 per gallon.</p> <p>Provide a tax credit for food waste from residential, commercial or institutional sources of \$5 per wet ton.</p>
(F) Wood debris collected as provided under ORS chapter 459 or 459A	Wood debris	(6) For woody biomass collected from nursery, orchard, agricultural, forest or rangeland property in Oregon, including but not limited to pruning, thinning, plantation rotations, log landing or slash resulting from harvest or forest health stewardship, \$10.00 per bone dry ton.	
(G) Wastewater solids; or	Wastewater solids	(5) For wastewater biosolids, \$10.00 per wet ton.	
(H) Crops grown solely to be used for energy.	Crops for energy	(1) For oilseed crops, \$0.05 per pound.	
		(3) For virgin oil or alcohol delivered for production in Oregon from Oregon-based feedstock, \$0.10 per gallon.	

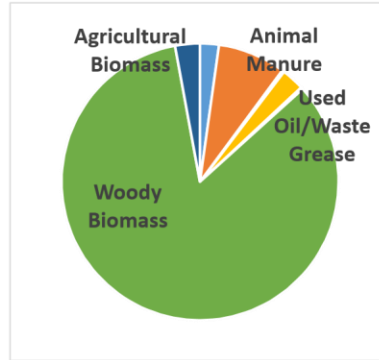
Attachment 2: Biomass Producer or Collector Tax Credit

data as of 1/13/2015

Program Summary

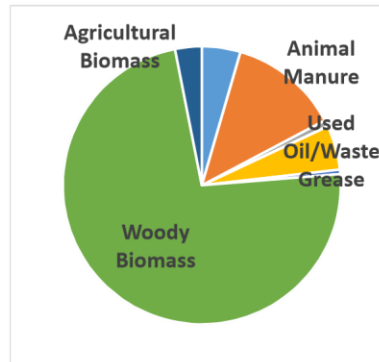
2010

Agricultural Biomass	\$126,057
Animal Manure	\$457,843
Oil Seed Crops	\$15,713
Used Oil/Waste Grease	\$152,676
Wastewater Biosolids	\$15,897
Woody Biomass	\$4,834,190
Yard Debris	\$168,296
	\$5,770,672



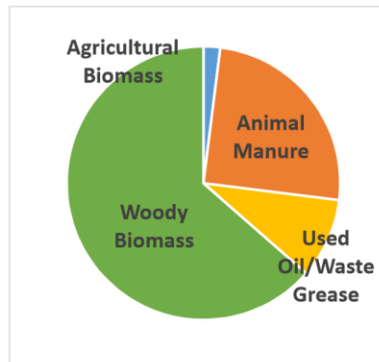
2011

Agricultural Biomass	\$248,869
Animal Manure	\$708,357
Oil Seed Crops	\$41,458
Used Oil/Waste Grease	\$285,697
Wastewater Biosolids	\$28,388
Woody Biomass	\$4,056,098
Yard Debris	\$172,363
	\$5,541,230



2012

Agricultural Biomass	\$58,702
Animal Manure	\$735,947
Oil Seed Crops	
Used Oil/Waste Grease	\$278,854
Wastewater Biosolids	
Woody Biomass	\$1,870,763
Yard Debris	
	\$2,944,266



2013

Agricultural Biomass	\$63,327
Animal Manure	\$3,339,665
Oil Seed Crops	
Used Oil/Waste Grease	\$341,086
Wastewater Biosolids	
Woody Biomass	\$1,033,005
Yard Debris	
	\$4,777,083

