

Biomass Production or Collection

ORS 315.141	Year Enacted:	2007	Transferable:	Yes
	Length:	1-year	Means Tested:	No
	Refundable:	No	Carryforward:	4-years
	Kind of cap:	None	Inflation Adjusted:	No
TER 1.443				

Policy Purpose

2007 implementing legislation (HB 2110) indicates this tax credit is part of a policy “...to encourage greater development, distribution and use of agricultural and forest material for biofuels, for electricity and for other forms of biomass energy use.” It also indicates that the policy is intended to improve Oregon’s rural economy, lead to cleaner air, and reduce Oregon’s reliance on oil. Legislative documentation includes the following metrics to be used in the subsequent evaluation of the tax credit:

- Amount of biofuel raw material collected or produced as a result of this tax credit
- Amount of liquid fuel or electricity produced from the material collected or produced
- Amount of energy produced (in million BTUs)
- Annual dollar value of the energy produced
- Tons of CO2 emissions avoided
- Amount of fossil fuel displaced
- Total Average Payback Period / Return on Investment

Testimony for proposed legislation in 2011 proposed that the tax credit would also create living wage jobs, diversify local economies, improve forest health, and enhance water resources. 2015 testimony by the ODOE to the House Committee on Revenue states, in part, that the purpose of the tax credit is “...to reduce Oregon’s dependence on foreign oil, stimulate markets and reduce greenhouse gas emissions.” Their testimony goes on to say that it “... encourages value-added utilization of material that would otherwise be disposed of through burning, landfilling, flushing down the drain, or other traditional management techniques.” Their testimony at that time also included potential improvements in the tax credit. These policy changes are included in the Policy Analysis section.

Description and Revenue Impact

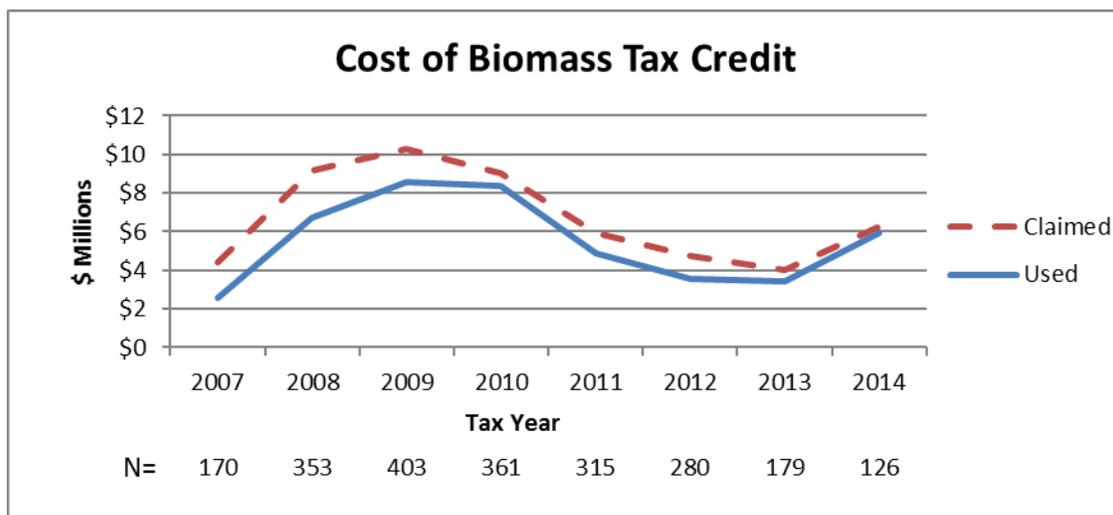
Taxpayers are allowed a tax credit for the production or collection of biomass. The material must be sourced within Oregon and used as a biofuel or used to produce biofuels in Oregon.

Taxpayers must be certified by ODOE. The credit is nonrefundable but may be carried forward four years. The credit is transferable and may be claimed only once for each unit of biomass. The tax credit rate depends on the source material. The table below contains the tax credit rates and certified amounts for 2015. Also included in the table is the volume of qualifying material.

Material	Tax Credit Rate	2015 Volume	2015 Credit (\$M)
Oil seed	\$0.05 per pound	0	\$0
Grain crops	\$0.90 per bushel	0	\$0
Virgin oil	\$0.10 per gallon	0	\$0
Biosolids	\$10.00 per wet ton	0	\$0
Vegetative	\$10.00 per bond dry ton	3,053	\$0.03
Manure*	\$5.00 per wet ton	828,604	\$4.14
Used oil	\$0.10 per gallon	3,825,253	\$0.38
Wood	\$10.00 bone dry ton	55,714	\$0.57

* The tax credit rate is reduced to \$3.50 in 2016

The graph below shows the amount of tax credits claimed and used as reported on individual and corporation tax returns from 2007 through 2014. DOR had administrative authority from inception through 2009. In 2010, administration was moved to ODOE where a certification system was established. Between 2007 and 2009, use of the credit grew from about \$2 million to \$8 million. Tax credit use declined from 2010 through 2013, and then increased in 2014. Usage rates have generally increased over time, reaching 94 percent in 2014.



Policy Analysis

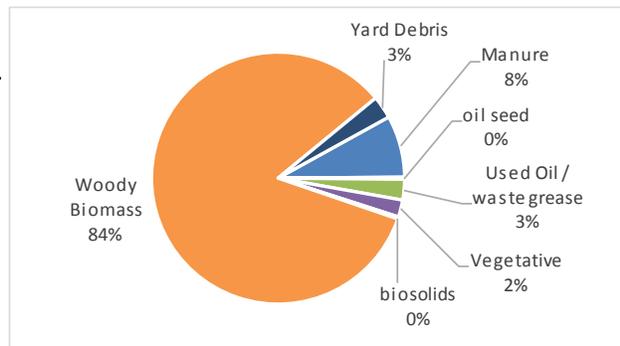
One of the challenges of evaluating this tax credit is the fact that various biomass materials that are eligible for the subsidy may or may not have market overlap. According to one source, vegetative and wood biomass is an input for the wood fuels market; manure is an input for anaerobic digesters for energy on farms as well as liquid fertilizer; and used oil may be used to produce biofuel as well as animal feed supplements. A full understanding of the impact the credit has on each of the markets may require separate and distinct studies.

One such study was conducted in 2011. The Ecosystem Workforce Program, which is part of the University of Oregon, released a report on the impact of this tax credit based on 2010 data. Nielsen-Pincus, et. al. (2011) studied the wood biomass portion tax credit to better understand its effects on Oregon’s wood fuel market and, more broadly, on Oregon’s economy. Their research suggests that the tax credit had a positive impact on market volume and fuel market prices. They also found that this portion of the tax credit had a positive impact on the broader economy and that results hold even if as little as 20 percent of the wood biomass volume that received the credit was directly attributable to the credit.

The next few tables and charts summarize data from ODOE and DOR. The first combination table/chart shows the biomass credit as it was used in 2010. A total of 96 tax credits were awarded to 49 businesses. The total amount awarded was \$5.8 million dollars for an average credit of just over \$60,000. As the pie chart indicates, woody biomass was, by far, the largest component of the tax credit, accounting for 84 percent of the dollar impact. Manure was second, with eight percent. The average credit was roughly \$76,000 for both woody and manure biomass.

2010 Tax Credits Certified

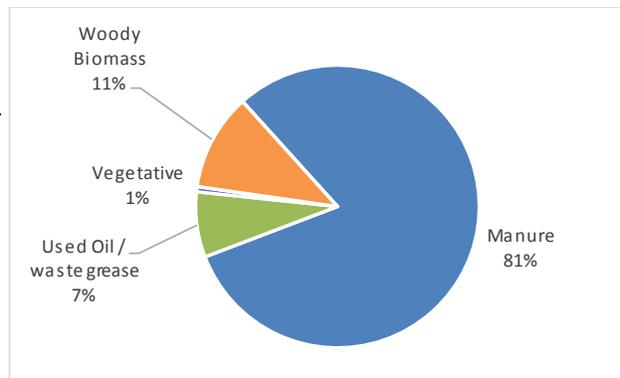
Material	Credits	Amount	Average
Manure	6	\$457,843	\$76,307
oil seed	5	\$15,713	\$3,143
Used Oil / waste grease	4	\$152,676	\$38,169
Vegetative	3	\$126,057	\$42,019
biosolids	2	\$15,897	\$7,948
Woody Biomass	63	\$4,834,190	\$76,733
Yard Debris	13	\$168,296	\$12,946
Total	96	\$5,770,671	\$60,111



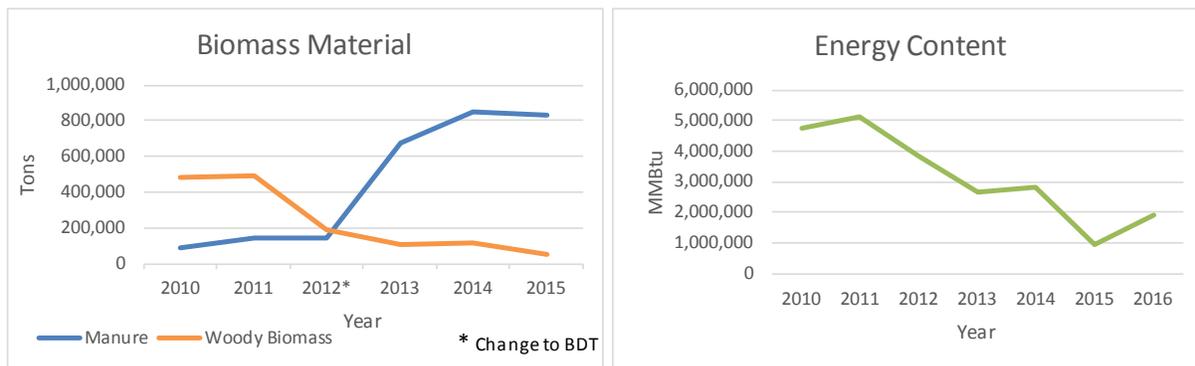
By 2015, the composition of material had changed significantly. These changes could be market driven, but a contributing factor may be that the incentive for woody biomass was reduced from \$10 per green ton to \$10 per bone dry ton in 2012. The total number of tax credits awarded had increased to 106, but the number of businesses receiving those credits had fallen to 33. While use in 2010 included seven different materials, in 2015 that number had fallen to four and that includes a singular claimant for vegetative biomass. The largest component was manure; it accounted for 56 percent of the tax credits and 81 percent of the total amount awarded.

2015 Tax Credits Certified

Material	Credits	Amount	Average
Manure	59	\$4,143,022	\$70,221
oil seed	0	\$0	
Used Oil / waste grease	20	\$382,525	\$19,126
Vegetative	1	\$30,530	\$30,530
biosolids	0	\$0	
Woody Biomass	26	\$567,139	\$21,813
Yard Debris	0	\$0	
Total	106	\$5,123,216	\$48,332



The following two charts provide time series data and are examples of the type of metrics included in the Policy Purpose section. Two of these metrics are the amount of material collected or produced and the total amount of energy produced. The Biomass Material chart shows the change in relative quantities over time for the two dominant biomass materials. (The manure credit was reduced beginning in 2016, so stakeholders will be interested in the impact that may have.) The Energy Content chart shows data for the total amount of energy for all biomass material each year. These charts provide examples of the additional information that could be helpful in ongoing policy evaluations, depending, in part, on the desired policy outcomes.



The potential for a policy to evolve over time is exemplified by the 2015 legislative discussion over HB 2449. This was a bill proposed by ODOE to significantly modify the incentives related to biomass. The long-term goal was to craft a policy that directly incentivized the production and use of bio-energy in Oregon. At the time, the existing biomass tax credit was scheduled to sunset on January 1, 2018. To acknowledge the concerns of the stakeholders for the existing program, that sunset date was proposed to be extended four years. This would provide sufficient lead time for markets to adjust to the policy change. During that time, a pilot project would be administered by ODOE to encourage bio-energy production. It would have been a capped program that included a competitive selection process with a focus on creating new capacity. During the implementation of the pilot program, both energy and non-energy benefits could be evaluated. Potential non-energy benefits included forest health, nutrient management, an alternative to non-value added disposal of biomass, and increased labor demand. In short, it may be a better approach to achieve many of the goals for the existing tax credit, as described in the Policy Purpose section above.

Other Issues

Administrative costs are mostly born by ODOE. As with most tax credits, DOR may incur some incremental expense from ensuring tax compliance with the tax credit. According to 2015 testimony by the ODOE, no other states offer a similar tax credit, one that is directly tied to the production or collection of biomass material. Several states do offer tax incentives for the

production of biofuels. Some of the credits are investment credits that are a fixed percentage of the cost of equipment. Others are a rate incentive per unit of biofuel.

In Summary:

Advantages	<ul style="list-style-type: none"> • Direct function of material
Disadvantages	<ul style="list-style-type: none"> • To extent transportation costs are a market barrier, it is an indirect subsidy
Potential Modifications	<ul style="list-style-type: none"> • Separate credits according to purpose or function • Convert to a production based incentive • Include a data collection process

Other Recommendations:

JCDEO*	<ul style="list-style-type: none"> • Allow to sunset, except for manure credit • Move the manure credit to the Department of Agriculture and establish a program cap
Governor	<ul style="list-style-type: none"> • Allow to sunset

*Joint Committee on the Department of Energy Oversight

Appendix C: Policy Questions

When reviewing the tax credit sunset extension bills and proposed new credits, the Joint Committee on Tax Credits intends to address the follow questions:

- What is the public policy purpose of this credit? Is there an expected timeline for achieving this goal?
- 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?
- 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%?
- What background information on the effectiveness of this type of credit is available from other states?
- 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?
- What other incentives (including state or local subsidies, federal tax expenditures or subsidies) are available that attempt to achieve a similar policy goal?
- Could this credit be modified to make it more effective and/or efficient? If so, how?