

LEGISLATIVE CONCEPT

Title: Oregon Climate and Economic Protection Act

Concept subject: Reduce carbon emissions by increasing BETC to 50% to promote industrial energy efficiency and the re-use of embedded-energy industrial materials that would otherwise be discarded, as was done for renewable energy resources during the 2007 Legislative Session.

Brief Description of proposal:

- Reduce carbon emissions by increasing the Business Energy Tax Credit (BETC) from 35% to 50% for industrial energy efficiency measures.
- Clarify that projects that re-use embedded-energy industrial materials that would otherwise be discarded qualify for BETC at the 50% level. Examples of possible re-use of embedded-energy industrial materials that would otherwise be discarded:
 1. Process water re-use: Collection of used process water and treatment to be able to re-use in the process.
 2. Process slurry re-use: Collection of several types of used process slurries, separating the components and upgrading them to original condition for re-use in the process.
 3. Process acid re-use: Collection of used acid solutions, and separating and refining them for re-use in the process.
 4. Process hydrogen and other gases: Collection of used gas mixtures, separating them and upgrading them for re-use in the process.Each of these examples may require extensive new dedicated systems to recover the embedded energy that would otherwise be discarded. These systems would typically consist of collection drains and tanks, treatment systems, pumps, motors, valves, controls and delivery systems.
- Give authority to ODOE to determine which projects qualify for these incentives.

What problem does this concept address?

Carbon Reductions through Energy Efficiency:

- Industrial energy efficiency projects are a secondary priority for limited industrial funds in comparison to projects that improve product quality or increase volume. As a result, energy savings and carbon reductions from many viable projects go unrealized. Increasing the BETC will make these projects more attractive to industrial customers and leverage these limited funds.
- By leveraging business capital, increasing industrial energy efficiency will:
 - **Significantly reduce state carbon emissions (on the order of 5%)**
 - Reduce other air pollutants such as sulfur oxides and nitrous oxides
 - Improve cost structure for Oregon's large employers
- Energy efficiency has a demonstrated capability to do the job: Since 1980, half of PNW load growth, or nearly 3,300 aMW, has been met with energy efficiency resources (Presentation by Tom Eckman, Northwest Power and Conservation Council, 4/25/08). These energy efficiency resources were acquired at rates competitive with wholesale electricity market prices and can continue to be for the near-term. The NWPCC future plan through 2024 expects more than half the load growth to be met with conservation, including 700 aMW through 2009.
- Industry accounts for 25% of the carbon emissions in the state (Governor's CCIG Final Report).
- A 2006 ETO study concluded that 21% of the electrical energy consumed by industry could be conserved.
- This energy represents 41% of the available conservation potential in the state (ETO Study).

- A 2007 ODOE study concluded that the BETC Program contributed the following **net** benefits to Oregon in 2006:

▪ Economic output	\$72,505,000
▪ Wages	\$1,397,000
▪ Jobs	670
▪ Business income	\$7,478,000
▪ Taxes	\$4,373,000
- It is important to note that there is **not a tax revenue loss** associated with this program (ODOE Study). Instead, there is a net increase in tax revenues due to the increased economic activity generated by the program.
- Another important note is that these are the **net benefits in just one year**. In subsequent years there are very significant cumulative carbon reductions, and cumulative economic and job creation benefits due to energy cost savings that can be re-invested in Oregon's economy

Carbon Reductions through Materials Re-use:

- Material consumption accounts for at least 11% of the state's carbon emissions (Governor's CCIG Final report). Industrial materials consumption represents significant carbon emissions because of the energy that is required to manufacture and distribute these materials, and because of their resulting end-of-life emissions.
- Therefore, the Governor's Global Warming Advisory Group concluded that "To reduce greenhouse gas emissions, Oregonians can increase recycling and composting of certain materials."
- Disposal of these materials also contributes to the emission of methane, 21 times more potent than carbon dioxide as a greenhouse gas, from landfills and wastewater treatment plants. Recycling, including re-use, of these materials serves to reduce the greenhouse gases associated with the use and disposal of virgin materials.
- Other process inputs such as water also represent significant energy inputs.
- However, current state BETC regulations restrict the types of recycling projects that qualify for the tax credit to those that do not return the materials to the original process. This restriction adversely limits the reclamation of process materials and process waste water.
- In addition, frequently these types of re-use projects are very capital intensive.
- For many industrial processes this limitation presents a lost opportunity since the feed-stocks are highly energy-intensive, and therefore, greenhouse gas-intensive to manufacture.
- By specifying that projects which re-use industrial materials with embedded energy that would otherwise be discarded would qualify, more process materials and process water could be recycled, thereby, reducing carbon emissions.

Summary:

- Therefore, industrial energy efficiency and embedded-energy material re-use should be promoted by increasing the Business Energy Tax Credit (BETC) from 35% to 50% as was done to promote renewables last session.

What elements of the current policy context are necessary to understand the concept?

If the tax credit is increased to 50%, many entities may apply for the higher tax credit regardless of the merits of the project. The issue is how to keep the door from being kicked wide open. Because of the wide range of industrial processes and techniques, we believe this would be hard to specify prescriptively in statute. We think the bill should say applications to improve the energy efficiency of industrial manufacturing or processes should be eligible for a 50% credit, and leave it to the Department of Energy to specify details through administrative rule making.

The proposal would give authority to the Oregon Department of Energy to define which projects qualify. The Department believes it should be limited to projects which improve the energy efficiency of industrial manufacturing or assembly processes. It should not include improvements to facilities such as lighting or HVAC except to the extent that such systems are necessary for the manufacturing process.

Projects would be funded if they met a certain cost-effectiveness standard (i.e., projects with a 1 to 10 year pay back) and would probably have a project cap (renewable is \$20M...most energy efficiency and materials re-use projects are less.)

What happens if this concept isn't implemented?

No change from today. Lost opportunity to achieve significant industrial energy savings and carbon reductions, as well as, the economic and job creation benefits cited above.

Would you characterize energy and GHG benefits of this proposal as a major, medium, or minor?

What data are needed to quantify these benefits?

Medium. It will increase the number of industrial projects undertaken. ETO study concludes there is about 200MWa industrial conservation potential.

Who is affected by this proposal? Who will support it? Who's likely to oppose it?

Industry supports the proposal. Other commercial customers may try to broaden the scope of the 50% BETC to include additional projects. There may be some groups that oppose the increase to BETC as a giveaway of state funds.

Will there be a fiscal impact? Order of magnitude estimates?

The 2007 ODOE study found that the 2006 net tax revenues increased by \$4,373,000 due to the economic activity generated by the BETC program.

What are the likely training and infrastructure needs?

None.