



Clean Water Services turns liquid sewage into fertilizer -- and an energy tax credit

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By

Oregon Energy Department officials have fielded thousands of calls over the years from schools, businesses, government agencies and others wanting to know if they could get energy tax credits for their latest project.

But until **Clean Water Services'** Bruce Cordon phoned last year, they'd never been asked whether reclaiming materials from liquid sewage at a wastewater treatment plant could be considered a recycling project.

After considerable research and consultation, state **Business Energy Tax Credit** staff said the proposal did qualify. As a result, Clean Water Service's ratepayers are benefiting to the tune of a tax credit worth more than \$1 million.

"It's clear that what they normally have in mind for these types of credits are recycling programs involving plastics and metals," said Cordon, the sewerage agency's energy analyst. "What we were talking about was phosphorous and nitrogen coming out of a liquid waste stream. They may not originally have had that in mind, but it's definitely a recycling exercise."

The credit is worth more than one-quarter of the \$4.475 million the agency is spending to install proprietary equipment at its **Rock Creek Advanced Wastewater Treatment Facility** in Hillsboro. The equipment, provided on a contract basis with **Ostara**, a Canadian company, recycles phosphorous and nitrogen from the waste stream to produce a high-end fertilizer trademarked as **Crystal Green**.

Those two chemicals, while great for growing healthy tomatoes, can produce stream-choking amounts of algae when dumped into rivers.

Ostara pays Clean Water Services for the fertilizer, which will be produced in two large steel "harvesters" being installed at the site.

The value of the \$1.15 million tax credit exceeds by more than five times the approximately \$200,000 tax credit the agency received for installing a pump station at its **Durham wastewater treatment plant**, where Ostara has been producing fertilizer for the past two years.

Without the tax credit, the agency projected it would take seven years of fertilizer sales to pay off the total investment. The tax credit will reduce that to five years. Although monthly bills from Clean Water Services won't necessarily be reduced, the savings will free up money for other projects and programs.

Cliff Voliva, a state Energy Department spokesman, said the application broke new ground in terms of which projects can be classified as recycling efforts.

Recent legislative changes, brought about in part by investigations linking skyrocketing program costs to companies taking advantage of loose regulations, ended certain parts of the program. The part of the program through which Clean Water Services received its tax credit was not affected by those changes.

Since energy costs represent a significant portion of any treatment plant's budget, Cordon said he is always on the lookout for outside finance opportunities. Those include finding a private-sector partner and securing energy tax credits.

But in reviewing the administrative rules for the state's Business Energy Tax Credit program, he didn't immediately spot anything that addressed whether liquids could fall into the same category as items reclaimed from solid waste streams.

State officials provided some direction of their own, asking Cordon to discuss whether Ostara's fertilizer-production plant uses less energy than traditional production methods.

Indeed it does, he found. **Phosphorous** is a mineral that normally is mined in places such as Idaho or Florida. It must then be trucked to fertilizer-production facilities elsewhere.

The far higher energy input associated with off-the-shelf fertilizers, compared with the ease and low cost of recovering it from sewage in Hillsboro, provided state officials with all the reason they needed to grant preliminary approval for a tax break in the "recycling market development" category.

Looking ahead, Clean Water Services still must complete installation of the equipment and provide the state with detailed records proving that the projected cost savings have, in fact, been realized.

Once that happens, the state will grant final approval of the tax credit.

Because Clean Water Services is a special service district that does not pay taxes, it is able to pass through its credit to a third party. Buyers of such credits can then apply the credit to money they owe in state taxes.

"We think part of the real story here is the innovative technology being generated in Oregon these days," said Mark Jockers, an agency spokesman. "Recognizing there's a resource that can be drawn from a wastewater stream is a real breakthrough."

-- **Dana Tims**