

[ecotrope.opb.org](http://ecotrope.opb.org)

# New Hillsboro Plant Sells Nutrients From Sewage

A sewage treatment facility in Hillsboro will soon be making money off of nutrients people flush down the toilet.

The wastewater utility Clean Water Services teamed up with Ostara Nutrient Recovery Technologies, Inc. of Vancouver, B.C., to build the world's largest nutrient recovery operation at Hillsboro's **Rock Creek Advanced Wastewater Treatment Facility**.

Ostara has created technology that can extract 90 percent of the phosphorous and 20 percent of the nitrogen from municipal wastewater and turn it into slow-release fertilizer pellets the company calls Crystal Green.

The system reclaims nutrients that Clean Water Services would have to remove from wastewater anyway to protect water quality in the Tualatin River. And it uses them to make fertilizer with a fraction of the energy inputs normally required.

The energy savings in fertilizer production are so substantial – roughly 85 percent – that Clean Water Services got a Business Energy Tax Credit of \$1.12 million from the Oregon Department of Energy to help build the \$4.5 million facility.

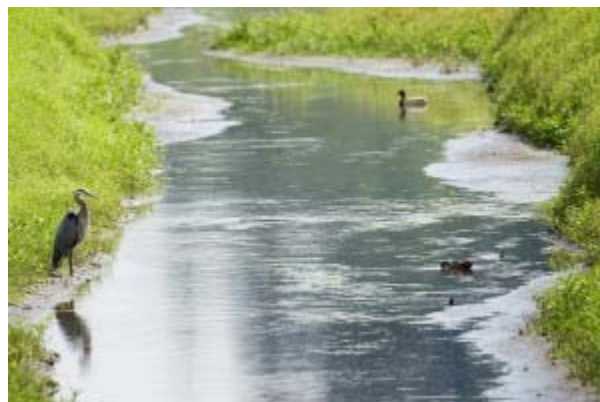
“A lot of the carbon footprint savings comes from the fact that you don't have to go out and mine this resource. You can conveniently recover it from our waste stream,” said Ostara President and CEO Phillip Abrary. “This method is between seven and 10 times less energy intensive – it's a tremendously smaller carbon footprint. So you can recover phosphorus in Oregon now and you're producing it locally and consuming it locally.”

Phosphorous and nitrogen can pollute rivers and form harmful mineral deposits on wastewater treatment machinery. But they're valuable as a soil amendment, Abrary said. The income from selling the fertilizer pellets combined with wastewater treatment cost savings are projected to pay for the facility in six years.

“Wastewater is a valuable resource that we can no longer afford to simply throw away,” says Bill Gaffi, General Manager of Clean Water Services. “The cleaned water we produce at this facility is enhanced by the Ostara system and eliminates pollutants, providing life-giving flow to the Tualatin River. In addition, the Ostara system saves our ratepayers money by reducing our electrical and chemical



*Standing in front of a 1-ton bag of Crystal Green fertilizer pellets made from sewage are, left to right, Clean Water Services Operator Brett Laney, Oregon Treasurer Ted Wheeler, Robert F. Kennedy Jr., and Ostara Nutrient Recovery Technologies CEO Phillip Abrary.*



StuSeeger

*Clean Water Services has to remove nitrogen and phosphorous from wastewater to protect water quality on the Tualatin River. New technology takes the nutrients out of wastewater and turns them into slow-release fertilizer pellets.*

usage, and through the shared revenue stream from the sale of Crystal Green.”

The end product – a small, white, slow-release fertilizer pellet – will be mixed with other fertilizing minerals and sold to nurseries, landscapers and turf managers in Oregon and beyond. The business model offers enough revenue to benefit Clean Water Services, which operates the facility, while also generating profits for Ostara, which sells the pellets.

Abrary said instead of mining phosphorus or making nitrogen fertilizer with natural gas, Ostara’s process takes the nutrients “from you and me.”

*“Wastewater is a valuable resource that we can no longer afford to simply throw away.”*

*– Bill Gaffi, Clean Water Services*

“Humans are 1 percent phosphorus by weight,” he said. “We’re constantly consuming phosphorus to fuel and move our bodies. In the waste we generate every day, we leave some phosphorous behind. That waste goes to wastewater treatment plants. They do a great job of removing it from raw sewage. But what they don’t have a great solution for is what to do with it after that. It becomes another waste material as opposed to something of value.”

Environmental lawyer Robert F. Kennedy, Jr., who headlined an anti-coal rally in Portland on Monday, is

also Ostara board member. He gave the keynote at a grand opening event in Hillsboro today and noted that the slow-release fertilizer pellets also reduce run-off from fertilizer applications.

“The amazing thing is that by helping wastewater treatment plants deal more efficiently with their nutrient overload problems, Ostara is also helping to address one of the earth’s most significant environmental challenges – water pollution from the leaching and runoff of nutrients, such as phosphorus, which causes excessive algae growth and depletes waters of the oxygen necessary to support aquatic life,” he said.

Clean Water Services has another Ostara nutrient recovery system at its Durham Advanced Wastewater Treatment Facility in Tigard that was installed in 2009. That facility produces 500 tons of fertilizer pellets a year while the new plant has an annual capacity of 1,200 tons.

#### MORE POSTS ABOUT

#### Sustainability

Water

#### Shrinking The Carbon Footprint Of Facebook



Remember the Greenpeace “unfriend coal” campaign against Facebook using coal-fired power at its Prineville Data Center? The company gets its electricity from PacifiCorp, which means its energy mix is about 60 percent coal-fired power. So, the data center is using ... [Read More](#)

- [In Chicago: Urban Farm Taps Brewery To Fuel Aquaponics](#)
- [What Your Garbage Is Worth – Outside The Landfill](#)

**[view all Sustainability posts](#)**