

### Lystek offers fertilizer option for wastewater plants

Lystek International Inc., an organic materials recovery firm, recently presented the city of Southgate, Ont., with a \$20,000 revenue-share check based on 2014 market sales of the biosolids-based LysteGro fertilizer product. Founded in 2000 at the University of Waterloo, Lystek helps municipalities and other generators reduce waste, costs, odors, and greenhouse gas emissions through its approach to biosolids and organics management.

The largest single operating cost for most wastewater treatment plants is related to biosolids and organics management. Lystek's system transforms non-hazardous organic materials into nutrient rich, federally registered fertilizer products. Their system can also be used at wastewater treatment plants to optimize the performance of digesters and BNR systems while reducing overall volumes and increasing biogas production for green energy.

Lystek's proprietary process combines heat, alkali, and high-shear mixing to break down the biological material in the biosolids. The resulting liquefied material, LysteGro, can be used in agriculture, sod farming, and horticulture. The recycling of Lystek-processed biosolids to anaerobic digesters enhances biogas/methane production by 25 percent or more and reduces biosolids generation requiring offsite disposal by 30 percent or more. In addition, Lystek's process results in a pathogen free, federally registered Canadian Food Inspection Agency (CFIA) and recognized Class A EQ (U.S.) biofertilizer product.

LysteGro contains high concentrations of N-P-K (4.5-7-2.5), as well as a variety of micronutrients such as sulfur, calcium, iron, and magnesium. Like manure, LysteGro is high in organic matter and nutrients that are released slowly over time, which also helps improve water retention, soil tilth, and pore space. Lystek fertilizer production depends on the size of the wastewater facility, with the smallest annual fertilizer capacity to date at 3,500 mt/y.

So far over 94,000 cubic meters of LysteGro have been sold and applied to approximately 8,000 acres of farmland. Lystek provides a turn-key solution, with all fertilizer sales & marketing included for the first five years. The company estimated that it has produced 25 million U.S. gallons of fertilizer to date, and will have produced 35 million gallons by the end of 2015.

Lystek's own Organic Materials Recovery Centre (OMRC) serves a number of municipalities and is capable of diverting up to 150,000 mt/y from landfill for conversion. Full-scale Lystek systems can be found in a number of locations, including the regional Southgate OMRC, Third High Farms Ltd., the cities of Guelph and North Battlefield, the Town of St. Mary's, and the Township of Centre-Wellington. The company is also expanding into the food waste sector.

Lystek's first U.S. facility is also currently under development in California. Kevin Litwiller, director of business development for Lystek, told *Green Markets* that "An agreement ... is under final legal review by all parties and is expected to be announced during the third or last week of May."

Lystek provides design, build, and transfer, as well as design, build, own, and operate solutions. Revenue is primarily generated from sales of the technology, tipping fees, and fertilizer product sales. Lystek will also explore engagements that involve avoided cost modelling, conversion and sale of biogas into green energy, and revenue-sharing models based on product sales.

In the city of Guelph, Ontario, Lystek's system has been contributing to landfill diversion since 2006. "The addition of the state-of-the-art, Lystek solution to our Wastewater Treatment Plant operations is playing a vital role in contributing to our goal of being a progressive, industry leader in biosolids management," said Janet Laird, former executive director, Planning, Building, Engineering & Environment, for the city.

Achieving 100 percent biosolid diversion is a significant target. When Toronto achieved this major milestone in 2014, the Lystek team was able to celebrate the integral role it played in being part of this achievement. Biosolids diversion and conversion for Toronto's biosolids is partially undertaken at two regional Lystek-enabled facilities. Additional diversion services are also provided to such municipalities as the Regions of Halton and Waterloo, the cities of Ottawa and Peterborough, and Orangeville, Owen Sound, Tay Township, and Walkerton, among others.

"We are proud to play such a positive role in successful waste diversion. Municipalities need to harness the economic value of these materials as a resource and we are excited to be able to provide proven solutions for this," said Litwiller. "... we recognize and applaud the critical role our customers play in diverting these valuable organic materials from landfills so they can be safely converted into the nutrient rich, LysteGro biofertilizer product that growers love, appreciate, and are willing to invest in."



Tel: 226-444-0186  
Email: [info@lystek.com](mailto:info@lystek.com)  
[www.lystek.com](http://www.lystek.com)

