



MassDEP NEWS

Massachusetts Department of Environmental Protection

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Earth Day 2016 - Lasting Environmental Partnerships

As we mark Earth Day on April 22, 2016, it is a good time to reaffirm the idea that partnerships and working together are powerful tools for environmental protection. The Baker-Polito Administration values collaboration, and to reach our environmental protection goals, everyone must play a roll.

This year, the Massachusetts Department of Environmental Protection (MassDEP) marks Earth Day by focusing on innovative projects and creative approaches to environmental protection and I'm pleased to highlight one of those collaborative efforts.

A perfect example of innovation and partnership can be seen in the Massachusetts Clean Energy Partnership for Drinking Water and Wastewater Treatment Facilities, and specifically, at the Greater Lawrence Sanitary District (GLSD).

The Clean Energy Partnership involves GLSD and another 120 municipal drinking water and wastewater treatment operations across the state, as well as state and federal agencies, universities, public utilities, and clean energy and energy efficiency service providers.

In the course of treating and distributing 662 billion gallons of drinking water and wastewater every year, treatment plants in Massachusetts spend approximately \$100 million on energy costs. The associated annual greenhouse gas (GHG) emissions produced by this electrical usage is approximately 210,000 tons of GHGs a year.

As part of the Clean Energy Partnership, these facilities worked with our government agencies and the utility industry to perform a comprehensive audit of their operations and then implement energy and cost-savings improvements to their treatment operations and electrical systems. Since 2010, the Clean Energy Partnership has resulted in more than \$35 million of cumulative cost savings for the participating communities and the removal of more than 100,000 tons of harmful carbon dioxide emissions from the atmosphere – all done voluntarily and without regulation. These statewide efforts have meant a great deal to local operators such as the Greater Lawrence Sanitary District.

On an average day, the GLSD facility treats more than 33 million gallons of municipal and industrial wastewater from Andover, North Andover, Lawrence, Methuen and Salem, N.H. Since 2006, when GLSD began the successful implementation of its energy efficiency measures, the



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effort has produced annual energy costs savings of more than \$1 million, reduced its electricity demand by more than 5.7 million kilowatt hours – a 30 percent reduction – and cut the plant’s carbon footprint by more than 3,000 tons.

But GLSD is taking its “green” efforts a step further.

GLSD is the Commonwealth’s third largest regional wastewater district, and it is now implementing an “Organics-to-Energy” program where it will combine source-separated organics with its sewer sludge in the plant’s anaerobic digesters to produce heat and electricity to help power its operations.

This program is also being accomplished in a partnership. GLSD is eligible for nearly \$25 million in low-interest loans from the state’s Clean Water Trust to improve and expand the anaerobic digesters, and nearly \$6 million in grants from MassDEP, the Department of Energy Resources and the Massachusetts Clean Energy Center will result in additional upgrades to the plant’s operations.

Once this project is completed, GLSD will process approximately 92,000 gallons per day of organics, and that effort could meet up to 40 percent of the Commonwealth’s statewide organics diversion goal.

And better still, with these efforts, the GLSD operation is on track to become a “zero-net energy” facility by 2018, where it will produce enough energy on-site to meet its own power needs – producing more than 27 million megawatt hours of electricity every year by harvesting biogas from the breakdown of organics and sludge. And this will also allow GLSD to be “energy-resilient” and continue to operate off-the-grid as an island in the event of an emergency such as a major storm event.

Now that’s a record of accomplishment that all treatment plants across the Commonwealth and around the nation should strive for – achieved through the powerful combination of innovation and partnership – in the spirit of Earth Day.

Martin Suuberg is the Commissioner of the Massachusetts Department of Environmental Protection

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MassDEP Celebrates Four Decades of Environmental Progress