



Advancing *Biosolids*
Environmental Management
Systems in Local **Communities**



www.biosolids.org

Week of October 19, 2009 - No. 644



To: NBP Web Site Registrants and Visitors

From: Sam Hadeed, NBP Office: 703-684-2418 or shadeed@wef.org

Subject: Weekly Biosolids Update from NBP

Central Davis, UT Sewer District and Louisville and Jefferson County, KY MSD Achieve NBP EMS Platinum Level Certification; Canadian Startup Puts SHOC Spin on Waste-to-Biofuel Process; New Technology Turns Sewage into Energy in Israel; Sewage Sludge Holds up Roads in Australia; Boulder, CO Staff Take Ownership of Major Biosolids Process Expansion; New Rules Announced for Biosolids in Nova Scotia; Forsite Might Redevelop Site of Clariant, NC Plant on Green Energy; This Week in Washington from WEF.



From **Sam Hadeed**, shadeed@wef.org. **Central Davis, UT Sewer District and Louisville and Jefferson County, KY MSD Achieve NBP EMS Platinum Level Certification.** The National Biosolids Partnership (NBP) is pleased to announce that two new wastewater agencies have achieved the Platinum Level certification distinction for their biosolids environmental management system (EMS) - **Central Davis Sewer District in Kaysville, UT and Louisville & Jefferson County Metropolitan Sewer**

District in Louisville, KY. The **Platinum Level** designation represents the highest achievement of biosolids management and environmental stewardship. To achieve this designation, certified agencies must undergo periodic interim audits to maintain their certification in the NBP EMS program. The NBP EMS program supports excellence in biosolids management practices, augments regulatory compliance obligations, environmental performance and provides meaningful opportunities for public participation. [Central Davis Audit Report](#) [Louisville Audit Report](#) [Complete list of NBP Platinum Level certified agencies.](#)

From **Cleantech Group - San Jose, CA, 10-14-09.** **Canadian Startup Puts SHOC Spin on Waste-to-Biofuel Process.** Canada's Innoventé says it has a way to take pig manure and municipal sewage and efficiently turn it into a bio-energy product that could change

where the Saint-Patrice-de-Beaurivage region of Quebec gets some of its electricity. Innoventé CEO Richard Painchaud told the Cleantech Group today his company is putting a new twist on a defunct company, aided by a recent infusion of funding from the government-backed Sustainable Development Technology Canada [1] (SDTC). The microbiologist and major shareholder in Innoventé launched the company in 2005 and has exclusively licensed technology from the bankrupt Envirogain.

Envirogain had been involved in a joint venture with the nonprofit Research and Development Institute for the Agri-Environment to develop wastewater treatment technologies for the agricultural, agro-industrial, industrial or municipal sectors. Under the joint venture, the two were able to biodry pig manure to produce fertilizer on a pilot and industrial scale, demonstrating the technology, Painchaud said. When the company went bankrupt, Innoventé decided to apply the technology to produce biofuel.

Envirogain had already received \$5 million from SDTC, which finances and supports developing clean technologies that offer economic, environmental and health benefits to Canadians (see SDTC backs 18 Canadian cleantech startups [2] and SDTC calls for applications to \$500M biofuel fund [3]). SDTC, which operates two funds, said last week it's providing \$2.7 million to Innoventé to pick up where Envirogain left off. "We want to finish the project with Envirogain," Painchaud said. "But we want to add another phase, which would be a bigger phase."

Innoventé is working to treat biosolids from wastewater treatment and industrial plants to produce a pellet-like bioproduct it says is high in energy content and can be used as a substitute for fossil fuels in industrial processes and power production, including at pulp and paper mills and slaughterhouses, or be used as a soil nutrient. Innoventé and its partners plan to further develop and demonstrate what it calls SHOC (drying and sanitization by controlled oxidation) technology—a drying process used to transform organic residues such as manures, municipal sewage, food processing wastes and pulp and paper mill sludges into the pellets it calls BioEnergy From Organic Residues (BEFOR).

BEFOR is a dry, odorless product with a high calorific value, which is considered to be ideal as a renewable energy source in places such as cogeneration plants, according to Innoventé. Most organic residues have to be dried to have value for energy applications. The bioproduct has a value of about \$100 per ton, Painchaud said. The two-step process includes putting the biosolids into biodryers, which evaporate the water, bringing it to about 50 percent dry matter, followed by another dryer that brings it to 70 percent dry matter, Painchaud said. The second step uses heat recovered from the biodryer and energy generated by a solar wall to finish drying the granular biomass and to produce the bio-energy material, making it a more energy efficient process, Painchaud said.

SHOC technology uses up to six times less energy than conventional drying methods, according to Innoventé. Painchaud added the company has also estimated using one ton of the pellets helps to save about one ton of greenhouse gases. Other companies such as Israeli commodities recycler Applied CleanTech [4] (ACT) developed technology to recycle liquid municipal waste. And with a new partnership with Amherst, Mass.-based startup Qteros, the two are now looking to making ethanol from liquid municipal waste.

Innoventé purchased a plant, built in 2000, in Saint-Patrice-de-Beaurivage, Quebec, capable of generating the pellets at commercial scale. The site already has a dryer

because it was previously used to dry manure. Quebec-based pulp and paper mill company Kruger, which also develops wind farms, has indicated it plans to purchase as much of the bio-product that Innoventé can produce for its 25 megawatt cogeneration plant. Innoventé has raised more than \$8.3 million to date to continue to establish the technology and build out the Saint-Patrice-de-Beaurivage plant. The funding has come from SDTC, private partners, and \$3 million from the government of Quebec's Agence de l'efficacité énergétique through its Technoclimat program.

Painchaud expects the plant to be operating by next fall, and in full operation come 2011. It is expected to process 50,000 tons a year of biosolids from wastewater treatment and industrial plants, producing 25,000 tons of pellets. He said the market exists for more than 100 similar plants to be built in Quebec alone. Innoventé is looking to go public in the next six months on the Toronto Stock Exchange (TSX) or the TSX Exchange Venture Exchange, where Painchaud said it could raise about \$25 million. "We want to use some of the money so we can add a second phase, building a cogeneration plant," Painchaud said. The company is looking to use about \$15 million from its IPO to build a cogeneration plant at the Saint-Patrice-de-Beaurivage site. Instead of selling its pellets to a partner like Kruger, Painchaud said the cogeneration plant would produce about 5 MW of electricity that would be sold to the surrounding area, which has a population of about 10,000.

[#Top of the Document](#)

From **Arutz Sheva, Israel National News, 10-7-09. *New Technology Turns Sewage into Energy in Israel.*** Israel-based Applied CleanTech and Massachusetts-based Qteros announced Wednesday that they had jointly developed a method that combines sewage treatment technology and a microbial process for converting biomass into ethanol. The method turns municipal solid waste into a fuel while reducing the amount of sludge processed by traditional treatment facilities. Applied CleanTech's technology, already used in treatment plants, extracts biosolids from raw sewage and reduces the overall amount of wastewater that needs to be treated. Working with Qteros, the biosolids are used as a feedstock to produce ethanol using a naturally occurring microorganism to digest the biomass and turns it into ethanol.

[#Top of the Document](#)



From **Australia and New Zealand Science Alert, 10-14-09. *Sewage Sludge Holds up Roads in Australia.*** Melbourne's growing stockpile of biosolids could be significantly reduced, thanks to new research from Swinburne University of Technology. As part of a study into sustainable infrastructure, researchers determined that biosolids byproducts of the sewage treatment process are suitable for use as fill material in road

in road embankments. According to lead researcher, Dr Arul Arulrajah, the findings could go a long way to reducing the 67 000 tonnes of biosolids that Melbourne produces each year. "We conducted tests on the shear strengths and compressibility of untreated biosolids, as well as biosolids stabilised with additives such as cement, crushed brick and lime," he said. "We found that biosolids, stabilised with additives, are suitable for carrying the embankment and traffic load, and can be used as fill material for road embankments."

As Melbourne's population increases, finding innovative uses for biosolids is a key challenge facing the water industry. The Swinburne researchers' solution – to combine biosolids with a crushed brick additive – has numerous environmental benefits. Not only are the biosolids being recycled, but crushed brick that would otherwise go into landfill is also being used. According to Arulrajah, the research has shown that biosolids can provide a sustainable resource for road embankment construction in new roads, or in the repair or expansion of existing roads. The research was supported by the Smart Water Fund, an initiative of Melbourne's water businesses in partnership with the Victorian Government.

[#Top of the Document](#)



From ***The Treatment Plant Operator Magazine, November 2009. Boulder, CO Staff Take Ownership of Major Biosolids Process Expansion.***

At the 75th Street Wastewater Treatment Plant in Boulder, Colo., five resource recovery specialists (RRS) manage biosolids. Their collective experience runs into decades. That experience came into play during a three-year plant expansion that included major upgrades to the biosolids process. The team

used its experience to work with consultants and contractors on project components ranging from equipment selection to building layout. The new process includes a more efficient dewatering system using centrifuges and an automated loading system for the trucks hauling cake to land application sites.

Paul Heppler, operations supervisor, acknowledges that working on the new design, in addition to routine responsibilities, challenged the team. But he believed the plant staff understood the importance of their participation. Today, five RRS team members work in four 10-hour shifts, each with a different day off, meaning four of them are on site on any given day. Don Colgate, chief operator, has 11 years under his belt, and Tyeson Miracle and Greg Reichrath, both operators, have between six and seven years each. The RRS industrial mechanic, Tim Renkin, was hired last year. Their dedication and expertise lend themselves not just to smooth operations, but also to awards and recognition. Heppler, the fifth team member, has been in the field for more than 25 years and has no plans to leave. "I enjoy what I'm doing," he says. "It's an exciting field to be in and I don't intend to retire."

[Read full story](#)

[#Top of the Document](#)

From ***Nova Scotia, Canada Chronicle-Herald, 10-14-09. New Rules Announced for Biosolids in Nova Scotia.*** The Nova Scotia government has introduced stricter guidelines for the land application and storage of municipal biosolids. Municipal treatment facilities that make biosolids must follow the guidelines and have approval from the Environment Department to produce biosolids. The new guidelines only allow for the highest quality of biosolids to be used on agricultural lands.

The biosolids recycling process is an environmentally acceptable way to manage sewage sludge that is generated by municipal treatment facilities. Halifax Regional Municipality

sends its waste to the enviro-depot in the Aerotech Park and will not be affected by the revisions, said HRM's compliance officer. "The main change is that the province used to have three categories of biosolids . . . they now only have two categories," Tony Blouin, of Halifax Water, said Friday.

The revisions will also require treatment plants to do more intensive analysis and testing for contaminants such as dioxins, furans and fire retardants. The extra requirements are in response to requests from concerned Nova Scotians, the government said in a news release. Biosolids come from a treatment process that transforms sewage sludge into low-pathogen, organic material for plants and trees. The use of biosolids on land is common throughout Canada and the United States.

[#Top of the Document](#)

From ***Charlotte Observer, N.C. 10-16-09. Forsite Might Redevelop Site of Clariant, NC Plant on Green Energy.*** A Charlotte, NC company wants to redevelop a Superfund hazardous-waste site bordering the Catawba River into a sprawling green-energy industrial park that it says could create 1,000 new jobs. Tom McKittrick of Forsite Development, which buys and remarkets corporate industrial buildings, sketched plans for the 667-acre site Thursday at the annual Green Conference of the Charlotte Chamber's NorthWest Chapter. ReVenture Park, as it will be called, could support biomass-fueled and solar power plants, biodiesel production, a high-tech sewage treatment plant, technical research facilities and space for energy-focused nonprofit groups, McKittrick said.

The concept is predicated on growing demand for renewable energy, the availability of federal stimulus grants and green-energy tax credits, and expected federal limits on greenhouse gas emissions. "Timing is absolutely critical for this project," McKittrick said. To be eligible for stimulus dollars, for example, projects need to be "shovel-ready" in 2010. Winning approval by then for a waste-to-energy plant that burns wood scraps, garbage or sewage sludge would be challenging, he acknowledged. The concept feeds into Charlotte's hope of becoming an energy hub, but McKittrick said Forsite doesn't plan to ask for local-government money. Financing would come from private equity firms, he said.

Clariant Corp. now owns the site, fronting 1.5 miles of the Catawba, where groundwater is contaminated by dye-making chemicals dating to the 1930s. The property has been on the federal Superfund list -- the nation's worst hazardous-waste sites -- since 1982, and Clariant has spent millions of dollars cleaning the tainted water. Forsite recently signed an option to buy the property from Clariant. It would continue, and accelerate, the cleanup.

The Environmental Protection Agency is considering taking the site off the Superfund list, but hasn't fully agreed, said Laura Niles, a spokeswoman in Atlanta. EPA would want the ongoing groundwater cleanup to continue to fall under federal hazardous-waste law, she said. North Carolina seems willing to include the site in the state brownfields program, which supports redevelopment of contaminated industrial sites by limiting the liability of new owners, said Chris Barnard, Clariant's general counsel in Charlotte.

The site has been largely dormant since Clariant moved production elsewhere several years ago, Barnard said. But one energy company is already a tenant -- CoaLogix, which manages pollution-control devices for coal- and gas-fired power plants. "Clariant is not interested just in unloading the site, but in creating jobs," Barnard said. McKittrick said

Forsite has had preliminary talks with several potential partners, including Duke Energy, which is under a state mandate to produce renewable energy, and Charlotte-Mecklenburg Utilities. The utility wants to build a new treatment plant along Long Creek, which flows through the site. "Depending on what (Forsite's) project entails, there COULD be joint opportunities for water reuse, biosolids or power generation," CMU spokesman Vic Simpson said by e-mail. "But our conversations are very preliminary." Charlotte's Calor Energy Consulting and the engineering firm Withers & Ravenel are working with Forsite on ReVenture Park.

[#Top of the Document](#)

From **Sam Hadeed**, shadeed@wef.org. ***This Week in Washington from WEF. This Week in Washington (TWIW)*** is a free weekly e-newsletter of the Water Environment Federation's Government Affairs Department that is published on Fridays. It provides updates on the latest legislative and regulatory developments affecting the water and wastewater communities. View the [on-line edition](#). You can also bookmark this link for future reference. To receive via email, send your request to the **Editor – Sam Hadeed** at shadeed@wef.org.

[#Top of the Document](#)