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American Biogas Council Announces Shortlist for 2016 Biogas Industry Awards

Winners announced October 18 at ABC Annual Conference

WASHINGTON, DC – Today, in preparation for its fourth annual conference, the American Biogas Council (ABC) released the shortlist of nominees from which the winners of the Biogas Industry Awards will be announced at a special dinner on October 18. The nominees represent biogas projects and technology innovations that are both exceptional individually and also examples for replication in future biogas projects. The awards dinner will be held in conjunction with ABC's annual conference at BioCycle REFOR16, October 17-20 in Orlando, Florida.

"The competition just to get onto the shortlist in a few categories was fierce," explained Patrick Serfass, ABC Executive Director. "We're extremely excited to surprise the winners later this month, but all of these projects deserve recognition. We hope they will serve as models for future biogas project development."

At the Biogas Industry Awards and Dinner on October 18, the ABC will award one Innovation of the Year, one Biogas Visionary, one Friend of the ABC, and four Projects of the Year, one in each of the following categories: agricultural, municipal, institutional and merchant. New this year, the ABC will also recognize biogas systems that have been continuously operational for more than 5 years—seven have been operational for more than 10—with its new Longevity Award.

Biogas systems turn organic material into soil amendments and renewable natural gas by using anaerobic digestion, a natural, biological process in a sealed tank. There are more than 2,100 operational biogas systems in the U.S. today with the potential for over 11,000 new systems to be built.

SHORTLIST

1. Agricultural Project of the Year

Fair Oaks Dairy

Fair Oaks, IN

Fair Oaks Dairy's goals were to reduce the farm's odor, improve its nutrient management practices, and generate renewable electricity/power from manure. The entire facility runs on cow and pig manure. Anaerobic digesters turn the manure into biogas and nutrient rich digestate. The biogas is used partially during the milk and manufacturing process for energy, heat and electricity; the remainder is processed into renewable natural gas (RNG) to fuel the trucks that deliver the milk daily. In 2013, Fair Oaks reduced the amount of diesel used by its milk tanker/trailers by 2 million gallons. Fair Oaks now fuels 42 tractor-trailers that make daily runs to raw milk processing plants in Indiana, Kentucky and Tennessee. Officials from the federal Department of Energy called the endeavor a "pacesetter" for the dairy

industry, and said it was the largest natural gas fleet using agricultural waste to drive this nation's roads. ABC Members: DVO, Inc., AMP Americas More>>

Real Farm Power

Hadley, MA

Real Farm Power is a strategic partnership that has scaled digester technology to smaller dairy farms, creating heat, valuable soil amendments, and farm-generated electricity and providing infrastructure to recycle local food waste from Whole Foods supermarkets and Agri-Mark's West Springfield facility. The project provides enough energy to power Cabot's butter production and offsets the emissions from 3,970 cars on the road. Real Farm Power shows that digesters and nutrient management solutions can be scaled down to a 250 head dairy farm in a way that is replicable to other small dairies, but does not need to be an exact imitation. This project took an effective nutrient management approach that previously was only available for large scale, 750-1,000 head farms and made it work on the Barstow's 250 head dairy farm. ABC Members: Vanguard Renewables, Casella Organics, Dairy Cooperative, Grind2Energy More>>

Synergy Biogas

Covington, NY

CH4 Biogas formed Synergy Biogas and builds, owns and operates the biogas facility at Synergy Dairy that produces renewable energy from manure and substrate. The facility digests manure from ~2,000 milking cows at the dairy and food grade organic waste transported to the site. Biogas from the digester fuels genset with capacity to generate up to 1.4 MW of electricity. The facility reduces greenhouse gas emissions by the equivalent of 10,000 tons of CO_2 each year, produces 16,000 yd³ of bedding, and reduces manure odors. In addition, this project has been the site to launch a microalgae project to reduce an environmental concern, solve a disposal problem and lead to an alternative feedstock for fuel for vehicles. ABC Members: CH4 Biogas More>>

2. Institutional Project of the Year

UW-Oshkosh Urban Dry Digester Oshkosh, WI

This project started 6 years ago with initial goals to help the UW campus meet sustainability initiatives and bring specific digester technology new to North America to the university's students and faculty. It serves as an example that community based food and yard waste digesters can exist and flourish. This project also has spurred creation of a Biogas Program at the UW campus which now encompasses 3 anaerobic digesters and a composting operation for faculty and student research. UW-Oshkosh ensures students are part of every step of the process, giving them firsthand experience to go out and contribute to the future success of the biogas industry. ABC Members: University of Wisconsin Oshkosh, BIOFerm Energy Systems, 2G Energy More>>

3. Merchant Project of the Year

Central Ohio BioEnergy (COBE) Columbus, OH

The Central Ohio BioEnergy (COBE) project embodies the "merchant" model for anaerobic digesters. Located in urban Columbus, Ohio, the project accepts a base-load of biosolids from the City while working with regional processors to also accept commercial and industrial food waste. Performing consistently since completed in 2010, the COBE plant has a uniquely flexible energy production model. It has both a public renewable CNG fueling station and on-site electricity generation so the COBE plant has the ability to produce electricity and/or CNG based on demand and the market value of the energy and related attributes (RINs and RECs). When the plant has reached its CNG storage capacity, biogas can be used to produce electricity. This model uniquely maximizes the plant's energy revenue potential. ABC Members: quasar energy group <u>More>></u>

4. Municipal Project of the Year

Waste Management-LA County Sanitation District's Food Scrap-Wastewater Biogas System Orange, CA

This operating public-private partnership successfully demonstrates the full-scale co-digestion of urban residential and commercial source separated organics (SSO) at an existing municipal wastewater digester in a way that can be replicated at other water utilities. Food waste is processed at the Waste Management facility in Orange, CA and then the slurry is delivered to the 300 million gallon per day Joint Water Pollution Control Plant (JWPCP) located in Carson, CA. This project represents one of the largest co-digestion projects of its kind in the US, processing approximately 65-85 tons per day of urban residential and commercial SSO and co-digesting the resultant food slurry (EBS[™]) product with sludge at an existing municipal digester. ABC Members: Waste Management <u>More>></u>

Bailey Bioenergy Facility, Washington, DC Washington, DC

DC Water's project brought the CAMBI[®] thermal hydrolysis process to the North American continent; in addition to being the first in North America, Blue Plains is now the largest thermal hydrolysis installation in the world. Thermal hydrolysis uses high heat and pressure to "pressure cook" the solids left over at the end of the wastewater treatment process, facilitating anaerobic digestion which creates methane that is captured and fed to turbines to produce electricity. Steam is also captured and directed back into the process. The project can produce net 10 MW of electricity, providing clean, renewable energy to power about one-third of the plant's immense energy needs. The solids produced are a cleaner Class A than the previous Class B and, when composted, are currently being used in urban gardens and green infrastructure projects. DC Water is also engaged in a pilot program to develop soil amendment products to bring to market branded as "Bloom." ABC Members: DC Water, Cambi, CDM Smith More>>

5. Friend of the ABC

Ruckman Farm Albany, MO

This project is the first of a 9-part project that will upgrade Smithfield Hog Production's manure lagoons into systems that both capture the gas and upgrade it into pipeline quality renewable natural gas (RNG). Once captured, cleaned and compressed, the RNG is injected into the pipeline where it's sold to local customers and Duke Energy. What makes this project special is the scale and the marriage of a lagoon-style digester with pipeline quality renewable natural gas. At 115,000 tons per year of swine manure turning into almost 2 million DGEs (diesel-gallon equivalents), this is only the first ninth of the total planned size of this project. If this project can be successfully replicated, it will open up the possibility that many of the country's uncovered lagoons will begin capturing their methane and using it beneficially, replacing fossil natural gas. More>>

Joseph Farms Covered Lagoon Digester Atwater, CA

In 2004, Joseph Farms completed a large-scale manure digestion and power generation system for its 5,000-cow Cottonwood Dairy and adjacent cheese plant. At the heart of the system is a 45-million gallon covered lagoon digester. When 1-1.5 million gallons of flushed manure and cheese plant wastewater is pumped to this lagoon daily, up to 500,000 cubic feet of biogas is produced which fuels 3 engine-generators producing a total of 1.2 to 1.5 MW of continuous electricity. The electricity provides up to 75% of the annual energy requirements of the cheese plant. The heat from the generator engines and exhaust system is captured and used to produce steam for the cheese plant, thus saving propane.

Giacomini Dairy Digester Point Reyes, CA

The Bob Giacomini Dairy installed a manure digestion and power generation system in June 2009. The 2.5 million gallon covered lagoon digester is loaded daily with flushed manure from the 400-cow dairy along with cheese whey by-product from the adjacent cheese plant resulting in a 43-day hydraulic retention time. The digester produces ~30,000 cubic feet of biogas daily which fuels an 80-kW cogeneration system located adjacent to the dairy parlor and cheese plant. The project replaces over 50% of the overall farm's utility bill and also consists of the Point Reyes Farmstead Cheese Facility, which has many visitors and dining and social events, so that the renewable energy project receives much public exposure.

6. Innovation of the Year

Synergy Biogas

CH4 Biogas formed Synergy Biogas and builds, owns and operates the biogas facility at Synergy Dairy that produces renewable energy from manure and substrate. The facility digests manure from ~2,000 milking cows at the dairy and food grade organic waste transported to the site. Biogas from the digester fuels genset with capacity to generate up to 1.4 MW of electricity. The facility reduces greenhouse gas emissions by the equivalent of 10,000 tons of CO_2 each year, produces 16,000 yd³ of bedding, and reduces manure odors. In addition, this project has been the site to launch a microalgae project to reduce an environmental concern, solve a disposal problem and lead to an alternative feedstock for fuel for vehicles. ABC Members: CH4 Biogas More>>

Sunnyside Farms

Sunnyside Farm's goals were to reduce the farm's odor, produce its own high-quality cow bedding, improve its nutrient management practices, and generate renewable electricity from manure. The farm has 3,300 total milking age cows and 1,400 800 to 1,200 lbs heifers and raises forage crops on 5,000 acres of land. What makes this project special is the role it has played in conducting innovative research. For example, in 2013, Cornell graduate students Kristy Perano and Joe Usack conducted research on both utilizing waste heat from the biogas system to cool water and also the impact that cooled mats would have on the cows' ability to produce milk during the dog days of summer when typically milk production and reproductive activity goes down often along with revenue for farmers. ABC Members: DVO, Inc. More>>

HORSE AD25 by Impact Bioenergy

Impact Bioenergy scaled-down AD technology to modular, "hyperlocal" systems (25-175 TPY) that minimize transportation, capital and labor costs. This creates an opportunity for onsite/community-scale diversion/recycling that takes the truck out of the organics management equation. The HORSE microdigester (High-solids Organic-waste Recycling System with Electrical Output) is a containerized system that can be delivered to a brewery, restaurant or other facility, can process a wide range of organic materials and often uses all of the products on site, except when the liquid digestate "Brew Dew" is sold off site in growlers. ABC Members: Impact Bioenergy More>>

<u>Click here</u> to find this press release online and <u>click here</u> to view all of the ABC's Project Profiles.

About the American Biogas Council

The American Biogas Council is the only national trade association representing the biogas industry in the U.S. The ABC represents over 200 companies covering the entire biogas supply chain who are dedicated to maximizing the production and use of biogas from organic waste. Find us online at www.AmericanBiogasCouncil.org, Twitter @ambiogascouncil, LinkedIn in the American Biogas Council group and on YouTube www.youtube.com/GoBiogas