

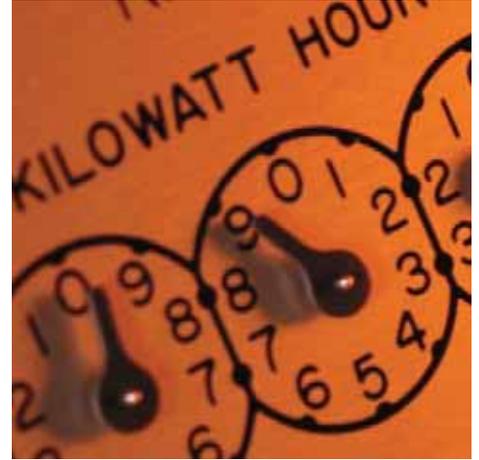


# Energy Specialty Conference

November 15

Hotel Albany, Albany, NY

2012



**Water Environment  
Federation®**  
*Preserving & Enhancing  
the Global Water Environment*  
MEMBER ASSOCIATION

## 2012 Energy Specialty Conference

November 15, 2012, Albany, NY



Richard J. Lyons

### Welcome!

I would like to welcome you to the NYWEA Energy Specialty Conference, and I am very pleased to present this diverse and unique program during my term as President. I would like to thank our Planning Committee members: Sandra Allen and Kathy Macri from NYSEFC, Kathleen O'Connor from NYSERDA, and our Executive Director Patricia Cerro-Reehil for their great work in developing this event.

I believe reducing energy consumption at our publically-owned treatment works is in the best interest of our environment and the rate payers. Capital improvements that focus on energy efficiency not only result in “avoided energy costs” but reduce green house gas production. These energy

saving projects can free up monies that can allow further investment in other needed capital investments to insure SPDES permit compliance, and the protection of public health, while minimizing the impacts to the rate payers.

Innovative projects such as many of those featured in this program do create challenges. However, with successful implementation of energy efficient programs, it will help in branding our Wastewater Facilities as *Water Resource Recovery Centers* – as I do believe there is no “waste” in water.

Thank you for joining us in Albany for this conference, I’m sure it will be a memorable and rewarding experience that will add value to your membership.

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**Cover Images:** *Energy-related images including NYCDEP’s Newtown Creek Digester Eggs*

### Many Thanks to the Conference Organizers and Sponsors



**The New York Water Environment Association, Inc. (NYWEA)** – Founded in 1929, by professionals in the field of water quality as a non-profit, educational organization. Association members helped lead the way toward existing state and national clean water programs. Today the Association has over 2,500 members representing diverse backgrounds and specialties, but all are concerned and involved with protecting and enhancing our precious water resources.

[www.nywea.org](http://www.nywea.org)



**NYSERDA** strives to facilitate change through the widespread development and use of innovative technologies to improve the State’s energy, economic, and environmental wellbeing. NYSERDA’s workforce reflects its public service orientation, placing a premium on objective analysis and collaboration, as well as reaching out to solicit multiple perspectives and share information. Programs and services provide a vehicle for the State to work collaboratively with businesses, academia, industry, the federal government, environmental community, public interest groups, and energy market participants. Through collaborations, NYSERDA seeks to develop a diversified energy supply portfolio, improve market mechanisms, and facilitate the introduction and adoption of advanced technologies that will help New Yorkers plan for and respond to uncertainties in the energy markets.

[www.nyserdan.ny.gov](http://www.nyserdan.ny.gov)



**The New York State Department of Environmental Conservation** – Exists to conserve, improve, and protect New York State’s natural resources and environment, and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well being.

[www.dec.state.ny.us](http://www.dec.state.ny.us)



**New York State Environmental Facilities Corporation** – Our mission is to provide low-cost capital and expert technical assistance for environmental projects in New York State. Our purpose is to help public and private entities comply with federal and State environmental protection and quality requirements in a cost effective manner that advances sustainable growth. We promote innovative environmental technologies and practices in all of our programs.

Since 1990, the Environmental Facilities Corporation has provided over \$15 billion in low-cost financing and grants for over 2,000 water and sewer infrastructure projects spanning New York State. As a public benefit corporation, EFC’s environmental initiatives extend financial and technical assistance to municipalities, non-profits and small businesses, ensuring they meet water and air quality regulations. The Corporation’s programs also serve to build lasting relationships with communities, promote innovative infrastructure solutions and allow staff to pinpoint the State’s future water infrastructure needs.

[www.nysefc.org](http://www.nysefc.org)

# Energy Specialty Conference

Thursday, November 15, 2012 – Program and Schedule

## MORNING

### OPENING SESSION *Location: Ballroom A*

Contact Hours: 1 Wastewater 0.5 Water\*

- 8:00 am Welcome Address, NYWEA President Richard J. Lyons
- 8:15 am Daniel P. McCoy, Albany County Executive
- 8:30 am NYSDEC Address, James Tierney, Assistant Commissioner
- 8:45 am NYSEFC Update, Timothy Burns, Director of Engineering and Program Management

#### 9:00 am **Wastewater Treatment Plants as “Energy Factories”**

Jason Turgeon, US EPA Region 1

A new paradigm in cradle-to-cradle thinking is emerging for the wastewater industry. Facilities that once spent 30% of their operating budgets on energy are now producing energy for themselves and their neighbors from “waste” products. Find out how other facilities in New York, the United States and around the world are changing from energy consumers to energy factories.

#### 9:30 am **From Performance Measurement to Performance Improvement\***

Tim Maniccia, PI, Inc.

You have established the performance measures, so you know how you are doing. You collected and analyzed the data – maybe you are even using the data to inform decision-making. You have designed ways to improve your operations, and you launched the initiative. Yet three months later, nothing has changed. If this sounds familiar, get ready to learn about a discipline and tools that can help your changes stick!

10:00 am–10:30am

#### **Networking Break with Exhibitors**

### SESSION I: INNOVATIVE TECHNOLOGIES AND PROCESS OPTIMIZATION

*Location: Capital Room (Lobby Level)*

Contact Hours: 1.5 Engineer 1.5 Wastewater 0.5 Water\*

## Moderators

Silvia Marpicati, Malcolm Pirnie, the Water Division of ARCADIS;  
Brad Allen Defrees, Environmental Finance Center

#### 10:30 am **Demand Management Strategies Resulting in “Zero and Low Cost” Energy Saving Opportunities\***

John Lewyta, Bryan Lisk, Ely Greenberg, Hazen and Sawyer, PC

Water and wastewater facilities can realize “zero or low cost” energy saving opportunities by managing their energy demand in coordination with the energy billing rates. This presentation will show multiple “process focused” demand management strategies that were identified from a variety of energy management audits performed for a number of wastewater treatment facilities. The results of these demand management case studies will be presented with an emphasis on demand management strategies that provided a payback period of one year or less.

#### 11:00 am **Energy Reduction and Nitrogen Removal at Two Suffolk County, NY**

##### **Wastewater Treatment Plants Employing Bioaugmentation**

Rich Schici, In-PipeTechnology Company, Inc.

The effectiveness of In-Pipe Technology (IPT) for improving wastewater influent characteristics, wastewater effluent quality and reducing treatment plant costs was demonstrated at two small sewer districts: one domestic (SD#20 – Leisure Village) and one industrial (SD#18 – ITT) in Suffolk County, Long Island, New York. IPT improved the raw wastewater characteristics, reduced influent loads to the treatment plant, improved effluent quality, reduced electrical energy usage, and reduced sludge production without additional energy input and capital expansion.

11:30 am

**Upgrade of the Par-Troy WPCP: Equivalent of Trading in a 1975 Buick for a 2012 Prius**

Paul Vavonese, Al Saikkonen, Nancy Vigneault, CDM Smith

The Par-Troy WPCP is a 1970s vintage BNR plant based on a three sludge-activated sludge process for CBOD, ammonia and nitrate removal. This means three sets of biological treatment tanks, three sets of clarifiers and all the related mechanical and electrical systems. It's an energy intensive process configuration that is the antithesis of today's movement to energy efficiency and sustainability. Upgrades to the WPCP have been constructed and the energy costs have been reduced by about 70 percent.

12:00 pm–1:00 pm



**Lunch** 1 Engineer 1 Wastewater *Location: Ballroom A*

**Ecological Wastewater Treatment: An Artificial Ecosystem**

**Speaker:** Craig Westcott, Director of the Samson Environmental Center

Darrow School, an independent co-educational boarding school in the Mount Lebanon Shaker Village in New Lebanon, NY, has been treating its wastewater with a Living Machine® since 1998. Using a series of anaerobic, aerobic, and mechanical filtration steps, the 8,500-gallon-per-day rated facility treats influent from all of the campus sanitation lines and creates “fishable/swimmable” effluent that is discharged sub-surface in a leach mound system. The major energy inputs in the system are sunlight to grow the biomass that hosts nitrogen-fixing bacteria, electricity to run aeration pumps, actuators, and cycle timers, and propane to heat the greenhouse. The facility is maintained and monitored by faculty and students and is a cornerstone of Darrow School’s mission to provide an ecologically-conscious college preparatory education.

**SESSION II: RENEWABLE ENERGY RESOURCES**

*Location: Van Rensselaer Room (Event Level)*

Contact Hours: 1.5 Engineer 1.5 Wastewater

**Moderators**

Megan Messmann, CDM Smith; Will Stradling, Siewert Equipment Company

10:30 am

**Albany County Sewer District Waste Heat to Energy Project**

Richard J. Lyons, Albany County Sewer District; Matthew T. Goss, CDM Smith

This presentation focuses on the Albany County Sewer District’s current incineration waste heat recovery project from initial feasibility study to present construction. The presentation will examine the heat recovery and electrical power generation processes in addition to the various technical decisions, challenges and obstacles that presented themselves. Additionally, the presentation will provide an overall understanding of this unique technology application.

11:00 am

**Proper Evaluation of Blower Technologies**

Thomas McCurdy, Aerzen USA

The energy required to supply low-pressure air continues to be one of the highest operating cost centers in a wastewater treatment plant. The introduction of single-stage turbo blowers into the wastewater treatment market has raised this awareness, based on their past claims of 30 percent power savings. Engineers now conduct more realistic power evaluations, assigning weight to appropriate operating points in addition to the design point.

11:30 am

**CHP and Green Energy Savings Using Microturbines: 10 Years and Counting**

Lauren Ray, GEM/BPH Energy

Producing electricity from anaerobic digester gas is an attractive option for wastewater treatment plants when performed with a generator that is reliable, “green” accepted by funding agencies, and low maintenance. The use of microturbine power generation and waste heat recovery since 2002 at the Lima, OH, Wastewater Treatment Plant is discussed. The case study focuses on operation and maintenance of the digester gas conditioning and microturbine CHP system and lessons learned as accounted by the Assistant Plant Superintendent. Performance and energy savings data of the Lima CHP system are presented. A comparison of microturbine emissions to other generators and New York microturbine installations is discussed.

**AFTERNOON****SESSION III: INNOVATIVE TECHNOLOGIES AND PROCESS OPTIMIZATION***Location: Capital Room (Lobby Level)*

Contact Hours: 1.5 Engineer 1.5 Wastewater 1 Water\*

**Moderators**

Betty Green, Greeley and Hansen; Tim Murphy, Albany County Sewer District

1:00 pm

**Energy Optimization Case Study: Ogdensburg WWTP\***

Mark Koester, Koester Associates, Inc.

Ogdensburg, NY, received a grant allowing them to update existing 50-hp centrifugal blowers with high speed turbo blowers. This, combined with replacing their medium efficient coarse bubble aeration system to a new high efficiency fine bubble aeration, will provide them with 50 percent power savings with the aeration process. In addition, they are installing a digester gas conditioning system to fully utilize their membrane gas holder for storage and optimization of the digester gas for fueling their boiler.

1:30 pm

**The Role of Energy Use in Stakeholder Reporting**

Angela Hintz, Malcolm Pirnie, the Water Division of ARCADIS

Regard for “triple bottom line” measures of utility activities, whether operating protocols or capital project investments, is increasingly being embraced as a more appropriate decision-making framework. This presentation will introduce a basic outline of a new manual under development by WEF entitled “Sustainability Reporting Statement for Wastewater Systems” and will discuss how energy use and/or generation at wastewater treatment plants impacts the reporting criteria within the TBL framework.

2:00 pm

**Improving Performance and Lowering Chemical/Energy Consumption in Upflow Deep Bed Nutrient Removal Filters\***

Marianna Novellino, Parkson

We will present a simple method to increase continuous backwash upflow filter performance and efficiency by converting an existing denitrification filter installation of this type to an automated intermittent backwash mode of operation.

2:30 pm–3:00 pm

**Afternoon Networking Break with Exhibitors****SESSION IV: RENEWABLE ENERGY RESOURCES***Location: Van Rensselaer Room (Event Level)*

Contact Hours: 1.5 Engineer 1.5 Wastewater 0.5 Water\*

**Moderators**

Michael Guethle, Barton &amp; Loguidice; Sarah Browne, Malcolm Pirnie, the Water Division of ARCADIS

1:00 pm

**Beneficial Use of Anaerobic Digester Gas**

Anthony Fiore, NYCDEP

Considering the new landscape under which wastewater treatment plants must operate, there is a critical need to evaluate energy efficiency and production opportunities. In conducting this assessment, the DEP is considering traditional and new uses of Anaerobic Digester Gas (ADG). This presentation will describe DEP’s undertakings to beneficially use ADG, including a contemporary case study of beneficial use that transcends the plant boundaries.

1:30 pm **Implementing Renewable Energy at Water Utilities\***  
Ely Greenberg, Hazen and Sawyer, P.C.  
Renewable energy reduces environmental impacts, provides a hedge against electricity and fuel costs, demonstrates leadership, and generates positive publicity. However, installing renewable energy at a water or wastewater utility can also pose several challenges including project contracting and financing, coordination with electric utilities, purchase power agreements and load control agreements. Through this presentation water and wastewater utilities will learn how to avoid common pitfalls when implementing a renewable energy project and how to execute a successful renewable energy project.

2:00 pm **Waste to Energy: The Options and the Problems**  
C. Douglas Werme, CDM Smith  
This presentation is a discussion of the technologies used to convert waste products present in most wastewater treatment plants to electrical energy. The discussion will evaluate converting grease, sludge and digester gas to usable power and the benefits and difficulties of each technology. The discussion will include fuel cells, engine generators, steam turbines and Organic Rankine Cycle turbine generators. Feasible capacity thresholds, gas contaminant limits, and cubic foot to kWh efficiency for each technology will also be discussed.

2:30 pm–3:00 pm **Afternoon Networking Break with Exhibitors**

## **AFTERNOON** **SESSION V: INNOVATIVE TECHNOLOGIES AND PROCESS OPTIMIZATION**

*Location: Capital Room (Lobby Level)*

Contact Hours: 1.5 Engineer 1.5 Wastewater

**Moderators** Wendi Richards, Siewert Equipment Company; Vince Cordi, Albany County Sewer District

3:00 pm **Energy Efficient, Sustainable Improvements and Technologies Implemented for WWTPs**  
Brian Sibiga, Wendel  
Wastewater treatment plants in New York State continue to experience challenges related to balancing ever increasing energy costs while meeting stricter discharge limits. A goal to reduce energy costs and improve existing treatment processes resulted in the need for energy efficiency improvements at nine New York State wastewater treatment plants. The projects described in this case study allowed these plants to undertake necessary capital improvements while improving energy efficiency and taking advantage of available incentives.

3:30 pm **Improving the Efficacy of Anaerobic Digestion Using Electrokinetic Disintegration of Biosolids**  
Huijie Lu, Columbia University  
Insufficient payback is the common reason for not pursuing digester gas to electricity projects. A novel electrokinetic disintegration (EKD) technology has been proven effective in improving solids destruction and biogas production during anaerobic digestion (by as much as 20% to 30%). The goal of this project is to demonstrate EKD technology at the Onondaga County WWTP. Mesophilic anaerobic digester performance, including gas yield, solids destruction and dewaterability, will be evaluated using EKD treated and untreated waste sludge.

4:00 pm **Energy Reduction through Innovative Process Control of Secondary Treatment**  
Tilo Stahl, BioChem Technology Inc.  
The real-time optimization of operating set-points of a WWTP – specifically dissolved oxygen (DO) set-points and nitrate recycle rate set-point – can significantly reduce energy consumption and improve nitrogen removal without compromising effluent quality. DO control based on real-time Oxygen Uptake Rate calculations offers additional energy reductions and process improvements. This presentation discusses the monitoring technology, optimization and control techniques and shows energy savings results from process control projects in Enfield, CT, in Denver, CO, and in Kissimmee, FL.

**SESSION VI: RENEWABLE ENERGY RESOURCES**

*Location: Van Rensselaer Room (Event Level)*

Contact Hours: 1.5 Engineer 1.5 Wastewater

**Moderators**

Kathleen O'Connor, NYSERDA; Kathy Macri, NYSEFC

3:00 pm

**Difficulties Getting to Net Zero**

George Bevington, Gerhardt LLC

This presentation focuses on anaerobic digestion and methods to maximize beneficial use of the biogas generated from the process. It will also discuss barriers preventing maximum use of biogas.

3:30 pm

**Co-thickening and Co-generation in the Electric City**

Vincent Apa, CDM Smith

The presentation focuses on sludge thickening and digester upgrades and a new reciprocating engine installed at the City of Schenectady Water Pollution Control Plant (WPCP). New gravity belt thickeners were installed to co-thicken primary and waste-activated sludge. This has increased the digester feed solids from 3% to over 6% total solids. Improved sludge thickening has doubled anaerobic digester gas flows for producing electricity and waste heat. Electrical usage has decreased by 30+% (kWh) and the City is saving over \$30,000 per month in electricity. Sludge heating needs have been met with the waste heat alone and no supplemental fuel. Waste heat is also used to send hot water to hydronic unit heaters in two buildings. In addition, power is being saved by more energy-efficient gravity belt thickeners than the existing dissolved air flotation systems. Through improved digestion, the volume of sludge to be processed has been reduced by about 25%. Instead of running four days per week, the plant runs three days per week. This has resulted in less amendment (wood-chips and sawdust) for the compost process and reduced the demand for a precious natural resource (trees). However, with all sludge now being digested and not bypassed around digestion, the cake solids has dropped from 25% to 23.1%, and requires more amendment.

4:00 pm

**Investing in Energy Recovery and Biosolids Reduction in Maine**

Elizabeth Watson, CDM Smith

The Lewiston-Auburn Water Pollution Control Authority (LAWPCA) is currently in the construction phase of a new anaerobic digestion and co-generation system. The new system is comprised of two digester tanks and two 230 kW co-generation engines. The biogas produced during digestion will be used to generate electricity and the energy produced will be used to power the new digestion equipment and reduce the amount of electricity purchased from the Utility by 50 percent.

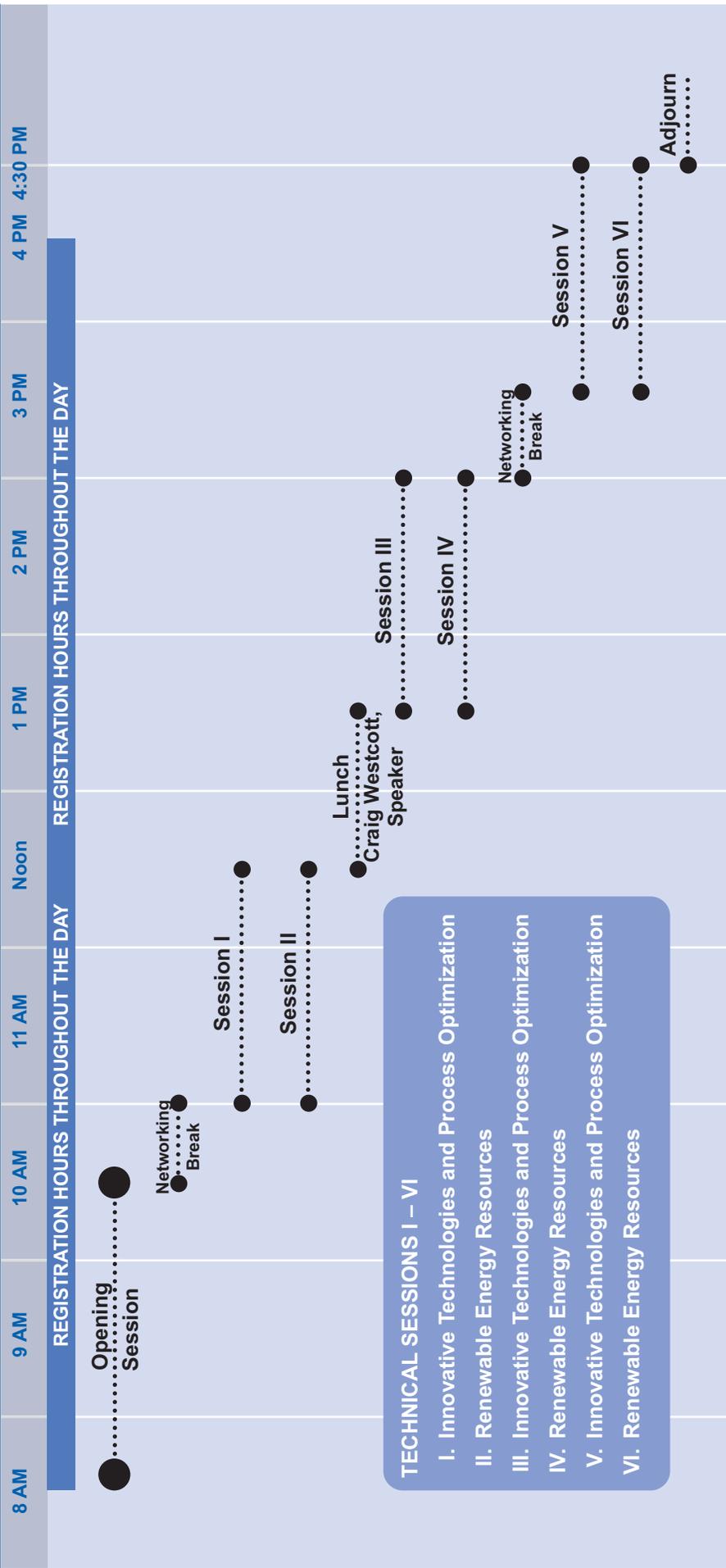


# Thursday at a Glance

## Energy Specialty Conference

Wednesday, November 14, 2012 at 4 PM: Tour of North America's Largest Co-Generation Project at Albany County Sewer District

### Thursday, November 15, 2012



## Meeting Exhibitors



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**Environmental Facilities Corporation (EFC)** promotes water efficiency to our client communities to help reduce the costs of water and wastewater infrastructure and is a partner with US EPA's WaterSense Program. 625 Broadway, Albany, NY 12207. (518) 402-6957. [paolucci@nysefc.org](mailto:paolucci@nysefc.org); [www.nysefc.org](http://www.nysefc.org)

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**Koester Associates, Inc.**

**Koester Associates** is a manufacturer's representative firm supplying water and wastewater treatment and pumping equipment to municipalities throughout New York state with a strong emphasis on field service and customer support. 3101 Seneca Turnpike, Canastota, NY 13032. (315) 697-3800. [peter@koesterassociates.com](mailto:peter@koesterassociates.com); [www.koesterassociates.com](http://www.koesterassociates.com)



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**WeCare Organics, LLC** specializes in the beneficial use of biosolids, project development, processing operations and product marketing of biosolids-based products. Services also include mobile dewatering/dredging and digester/lagoon cleaning. 9289 Bonita Bridge Road, Jordan, NY 13080. (315) 689-1937. [jason.fleury@wecarecompanies.com](mailto:jason.fleury@wecarecompanies.com); [www.wecareorganics.com](http://www.wecareorganics.com)

## **Opening Session** – (Ballroom A)

- 8:00 am Welcome Address  
NYWEA President, Richard J. Lyons
- 8:15 am Daniel P. McCoy, Albany County Executive
- 8:30 am James Tierney, NYSDEC Assistant Commissioner
- 8:45 am Timothy Burns, NYSEFC Director of Engineering and Program Management,
- 9:00 am **Wastewater Treatment Plants as “Energy Factories”**  
Jason Turgeon, US EPA Region 1
- 9:30 am **From Performance Measurement to Performance Improvement**  
Tim Maniccia, PI, Inc.
- 10:00 am–10:30 am **Networking Break with Exhibitors**

## **Session I** – (Capital Room, Lobby Level)

### **Innovative Technologies and Process Optimization**

- 10:30 am **Demand Management Strategies Resulting In “Zero and Low Cost” Energy Saving Opportunities**  
John Lewyta, Bryan Lisk, Ely Greenberg, Hazen and Sawyer P.C.
- 11:00 am **Energy Reduction and Nitrogen Removal at Two Suffolk County WWTPs Employing Bioaugmentation**  
Rich Schici, In-PipeTechnology Company, Inc.
- 11:30 am **Upgrade of the Par-Troy WPCP – Equivalent of Trading in a 1975 Buick for a 2012 Prius**  
Paul Vavonese, Al Saikkonen, Nancy Vigneault, CDM Smith
- 12:00 pm–1:00 pm **Lunch** (Ballroom A)  
**Ecological Wastewater Treatment: An Artificial Ecosystem**  
Craig Westcott, Director of the Samson Environmental Center

## **Session II** – (Van Rensselaer Room, Event Level)

### **Renewable Energy Resources**

- 10:30 am **Albany County Sewer District Waste Heat to Energy Project**  
Richard J. Lyons, Albany County Sewer District; Matthew T. Goss, CDM Smith
- 11:00 am **Proper Evaluation of Blower Technologies**  
Thomas McCurdy, Aerzen USA
- 11:30 am **CHP and Green Energy Savings Using Microturbines: 10 years and Counting**  
Lauren Ray, GEM/BPH Energy
- 12:00 pm–1:00 pm **Lunch** (See Session I for description.)

## **Session III** – (Capital Room, Lobby Level)

### **Innovative Technologies and Process Optimization**

- 1:00 pm **Energy Optimization Case Study: Ogdensburg WWTP**  
Mark Koester, Koester Associates, Inc.
- 1:30 pm **The Role of Energy Use in Stakeholder Reporting**  
Angela Hintz, Malcolm Pirnie, the Water Division of ARCADIS
- 2:00 pm **Improving Performance and Lowering Chemical/Energy Consumption in Upflow Deep Bed Nutrient Removal Filters**  
Marianna Novellino, Parkson
- 2:30 pm–3:00 pm **Afternoon Networking Break with Exhibitors**

## **Session IV** – (Van Rensselaer Room, Event Level)

### **Renewable Energy Resources**

- 1:00 pm **Beneficial Use of Anaerobic Digester Gas**  
Anthony Fiore, NYCDEP
- 1:30 pm **Implementing Renewable Energy at Water Utilities**  
Ely Greenberg, Hazen and Sawyer, P.C.
- 2:00 pm **Waste to Energy: The Options and the Problems**  
C. Douglas Werme, CDM Smith
- 2:30 pm–3:00 pm **Afternoon Networking Break with Exhibitors**

## **Session V** – (Capital Room, Lobby Level)

### **Innovative Technologies and Process Optimization**

- 3:00 pm **Energy Efficient, Sustainable Improvements and Technologies for WWTPs**  
Brian Sibiga, Wendel
- 3:30 pm **Improving the Efficacy of Anaerobic Digestion Using Electrokinetic Disintegration of Biosolids**  
Huijie Lu, Columbia University
- 4:00 pm **Energy Reduction through Innovative Process Control of Secondary Treatment**  
Tilo Stahl, BioChem Technology Inc.

## **Session VI** – (Van Rensselaer Room, Event Level)

### **Renewable Energy Resources**

- 3:00 pm **Difficulties Getting to Net Zero**  
George Bevington, Gerhardt LLC
- 3:30 pm **Co-thickening and Co-generation in the Electric City**  
Vincent Apa, CDM Smith
- 4:00 pm **Investing in Energy Recovery and Biosolids Reduction in Maine**  
Elizabeth Watson, CDM Smith
- 4:30 pm **Adjourn**





**New York Water  
Environment  
Association, Inc.**  
525 Plum Street  
Suite 102  
Syracuse, NY 13204



# Mark Your Calendars

# 2012–13

# Upcoming

# Meetings

## Upcoming Meetings

### **Pump Hydraulics, Selection, Sizing and Controls**

November 28, 2012  
New York City

### **Sustainability**

November 29, 2012,  
Williamsville, NY

### **Fundamentals of Wastewater**

**Asset Management**  
December 5, 2012,  
New York City, NY

### **Sustainability**

December 12, 2012  
New York City

### **85th Annual Meeting**

February 3–6, 2013  
New York City Marriott Marquis

### **2013 Spring Technical Conference & Exhibition**

June 3–5, 2013  
Sheraton, Syracuse

*For a more detailed listing  
of all Chapter events,  
visit [www.nywea.org](http://www.nywea.org).*

# 2012 Energy Specialty Conference Site Registration Form

Register online at <http://tinyurl.com/NYWEA-Energy12> or go to [www.nywea.org](http://www.nywea.org).

November 15, 2012 • Albany, NY

## Instructions

Complete all portions of this form. Print or type information.

Name \_\_\_\_\_

Title \_\_\_\_\_

Employer \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

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## Payment

Cash  Check  Voucher Received by \_\_\_\_\_

Credit Card:  VISA  MC  AMEX

Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_ V-code \_\_\_\_\_

Signature \_\_\_\_\_

*Make all checks payable to NYWEA*

525 Plum Street, Suite 102, Syracuse, NY 13204

Please complete all vouchers before submitting for payment.

Registration form can also be faxed to: 315-422-3851.

Energy Specialty Conference	Registration Costs			Enter Fees
	Student	Member <sup>(1)</sup>	Non-Member <sup>(2)</sup>	
Thursday, November 15, 2012	\$30.00	\$110.00	\$190.00	
			Total Registration	\$

One Day (Thursday) } Includes: Continental Breakfast, Lunch and Breaks

(1) Member rates apply to Members and Conference Sponsors.

(2) Non-member registration includes a one-year Affiliate Membership.

Registrations received after October 26, 2012 will be charged the site-registration fee.

Cancellations must be submitted in writing by October 26, 2012. A 20% service fee will apply to all cancellations received before October 26, 2012; no refunds will be made on registration fees or special events after October 26, 2012.

Speakers are required to register and can register at the Member Rate of \$75.00.

