Combined Heat & Power

CE3 Webinar Series

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Genesis of Ohio’s effort

• September 2011: Ohio Gov. John Kasich hosts energy summit and expresses interest in promoting CHP for its economic and environmental benefits.

• Winter 2011: U.S. DOE, through the Midwest Clean Energy Application Center, offers to pilot technical assistance to boiler operators in Ohio.

• February 2012: PU CO adopts resolution in support of the DOE pilot and becomes the first state to participate.

• Summer 2012: Senate Bill 315

• August 2012: Presidential Executive Order promoted accelerated investment in industrial energy efficiency, including CHP
How can CHP help Ohio?

• Energy assurance and reliability

• Addressing market deficiencies

• Assisting industry in developing emission compliance strategies

• Encouraging diversity of electricity supply

• Ensuring emergency preparedness
CHP as defined in Ohio

Combined Heat and Power
The coproduction of electricity and useful thermal energy from the same fuel source designed to achieve thermal-efficiency levels of at least sixty per cent, with at least twenty per cent of the system's total useful energy in the form of thermal energy.

Waste Energy Recovery
A facility that generates electricity through the conversion of energy from either
• Exhaust heat from engines or manufacturing, industrial, commercial, or institutional sites, except for exhaust heat from a facility whose primary purpose is the generation of electricity; or
• The reduction of pressure in gas pipelines before gas is distributed through the pipeline, provided that the conversion of energy to electricity is achieved without using additional fossil fuels.

All facilities must be placed into service or retrofitted on or after September 10, 2012.
What have we done to help move CHP forward?

• **PUCO role**: Identified key areas of information needs and held workshops

• **U.S. DOE / Midwest CHP TAP role**: Provide site-specific technical and cost information to facilities that are burning coal or oil in their boilers and are affected by EPA Boiler MACT Rules.
What have we learned?

- Successful CHP applications operate in Ohio

Kent State University

Timken
Lessons learned

• Currently, Ohio electricity prices are tough to beat. Pay-back horizons are best suited to institutional or governmental boiler operators. Joint ventures work for private industry.

Ashtabula, Ohio joint venture: Millenium Inorganic Chemicals and Duke Energy Generation Services
Lessons learned

• Financing is project specific and owners often use consultants to pursue best options

• Standby tariffs should reflect current conditions
SB 315: Incentives for CHP/WER

Energy Efficiency
• Ohio EE Requirement: 22% by 2025
• New and Retrofit CHP and WER (since 9/10/12)
• File an application to commit the customer’s CHP/WER system for integration with the electric utility’s energy efficiency programs.

Renewable Resource
• Ohio AEPS: 25% by 2025
• WER only
• 1 MWh = 1 Renewable Energy Credit (REC)
• Register with PJM GATS or M-RETS to create and track RECs
State Financing Options

Ohio Energy Loan Fund
• Low-cost loans that support energy efficiency and renewable energy improvements.
• Provides financing for projects that reduce energy usage and associated costs, lower fossil fuel emissions, and/or create or retain jobs.
• Available for small businesses, manufacturers, and public entities.
• Eligible activities include energy efficiency retrofits, distributed generation, including combined heat and power systems.

Ohio Air Quality Development Authority
• Financing through conduit bonds for a broad range of projects.
• Exempt or non-exempt from federal income tax
• 100 percent exemption for the term of the financing from state income tax, real property, sales and use taxes
• Are based on a credit analysis of the benefiting party
• Must identify the revenue sources that cover principal and interest payments
Ohio Net Metering Policy

• Customers who generate power on site from renewable sources (includes microturbine) may offset what they purchase from the utility
• Hospital net metering policy allows any generation source and level, and credits are based on market value of electricity at time of generation
• Receive a monetary credit on their bill for electricity that flows back into utility system (for generation only, not full retail rate or kWh credit)
• No overall or system capacity limit
• System must be sized to customer requirements
• Must first sign an agreement with the utility for interconnection service
What’s Ahead?

• Continued discussions with developers and utilities
  – Referrals to Midwest CHP TAP

• Possible expansion of PUCO efforts
  – Funding from USDOE?
  – Targeted market sectors

• More clarity from PUCO rulemakings
  – Proceeding despite Senate Bill 58
PUCO Rulemakings

12-2050-EL-ORD
*Chapter 4901:1-10, Ohio Administrative Code*
Includes rules concerning Net Metering and PURPA

12-2051-EL-ORD
*Chapter 4901:1-22*
Interconnection Services

13-651-EL-ORD
*Chapter 4901:1-39*
Energy Efficiency Programs

13-652-EL-ORD
*Chapter 4901:1-40*
Alternative Energy Portfolio Standard
For more information

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