



AEP Ohio Combined Heat and Power and Waste Energy Recovery Program

Program Description

In March 2014, AEP Ohio issued its Energy Efficiency/Peak Demand Reduction (EE/PDR) Plan for 2015–2019, which proposed a combined heat and power (CHP) and waste energy recovery (WER) program for large, high-efficiency projects. The program was made eligible by Ohio’s energy reforms passed in 2012 (SB 315) and was renewed in the company’s 2017–2020 EE/PDR Plan,¹ with eight projects identified for implementation between 2015 and 2020. Incentive rates are \$0.035 per kWh for systems over 1000 kW and \$0.05 per kWh for systems smaller than or equal to 1000 kW. From 2017 through 2020, an estimated 106,000 MWh generated by CHP per year will count toward AEP Ohio’s energy efficiency goals.

Program Development



The Solvay Specialty Polymers facility in Marietta, Ohio, has two specialty polymer units important for manufacturing parts for industries ranging from medical to aerospace to mobile electronics.

The facility’s CHP system was an early participant in the AEP Ohio CHP/WER program and includes a natural gas-fired turbine generator, a heat recovery steam generator, two gas-fired boilers, and a black-start (recovery) generator. The CHP system provides 100% of Solvay’s steam needs and 97% of its electrical requirements.

- **Total project cost – \$34,000,000**
- **Incentives paid – \$1,445,125**
- **Annual kilowatt-hours generated – 57,805,000**

PHOTO CREDIT: AEP OHIO

REASON FOR PROGRAM: Energy efficiency requirements passed into law in 2008 (SB 221); CHP/WER added as eligible efficiency measures in 2012 (SB 315); in 2021, the energy efficiency mandate for Ohio utilities jumps to 2% savings (SB 310)

CURRENT PROGRAM CYCLE: January 1, 2017 through December 31, 2020

SOURCE OF FUNDING: Cost Recovery Rider (Rider EE/PDR)

HIGHLIGHTS: 8 CHP/WER projects identified for implementation between 2015 and 2020; estimated cumulative total of 424,000 MWh savings through 2020

Stakeholders/Partners

Partnerships with decision makers from AEP Ohio, the Ohio Environmental Council (OEC), the Ohio Manufacturers’ Association (OMA), and Go Sustainable Energy were critical in the creation of the AEP Ohio CHP/WER program:

- OEC is a prominent statewide environmental advocacy organization.
- The OMA is an association with the goal of ensuring manufacturing competitiveness in Ohio.
- Go Sustainable Energy is a consultancy providing technical support to OMA.

¹ AEP Ohio’s 2017–2019 EE/PDR Action Plan was extended through December 31, 2020, by stipulation; see Case No. 16-0574-EL-POR, Order dated January 18, 2017; see also Case No. 16-0574-EL-POR, Direct Testimony of Jon F. Williams on behalf of Ohio Power Company, dated June 15, 2016, Exhibit JFW-1: “Volume 1: 2017 to 2019 Energy Efficiency/ Peak Demand Reduction (EE/PDR) Action Plan,” pp. 31–210.

Summary of Policy Results and Outcomes

Through its successful CHP/WER program, AEP Ohio is actively looking to CHP to help to achieve these goals. Program highlights to date include the following:

- Eight projects have been identified for implementation from 2015–2020.
- Estimated annual savings from CHP generation in 2017, 2018, 2019 and 2020 are 106,000 MWh, with a cumulative total of 424,000 MWh savings through 2020.²
- Commercial and industrial energy efficiency savings comprise a large percentage of overall savings.
- In partnership with the Ohio Center for Industrial Energy Efficiency (OCIEE), Columbia Gas, and Dominion Energy, AEP Ohio presented on its CHP/WER program at three CHP workshops from May 2017 through April 2018.

Lessons to Share

The program objective is to support projects installing high-efficiency, sustainable, and cost-effective CHP/WER in AEP Ohio's service territory, as allowed by SB 315 and supported by the Public Utilities Commission of Ohio (PUCO) and the State of Ohio. Based on early lessons learned from working with program participants, such as Solvay Specialty Polymers and Kraton Polymers, AEP Ohio made several improvements to the program design:

- Conducting better outreach, including customer education seminars, energy efficiency opportunity assessments, and assignment of AEP Ohio energy advisors³
- Filing with the PUCO as a program with a 12-month implementation, instead of filing a case in the docket for each new project
- Targeting projects with a reasonable expectation of longevity (15–20 years) to maximize cost-effectiveness⁴
- Requiring minimum total system efficiency of 60% with a minimum 20% useful thermal energy, which reduces financial risk for all customers and provides certainty in kilowatt-hours generated and total system efficiency obtained

CHP has proven reductions in operating costs for facilities by increasing their energy productivity.

– Michelle Cross, AEP Ohio

For More Information

U.S. DOE MIDWEST CHP TECHNICAL ASSISTANCE PARTNERSHIP (CHP TAP)

Clifford P. Haefke, Director
312-355-3476
chaefke1@uic.edu

More CHP Program Profiles: <http://www.mwchptap.org/>

Date produced: 2019

AEP OHIO

Michelle Cross, Principal Engineer
330-438-7028
mcross@aep.com

² AEP Ohio's 2017–2020 EE/PDR Action Plan, p. 136.

³ See AEP Ohio 2017 Energy Efficiency Programs, Customer Education Seminars, available at

<https://www.aepohio.com/global/utilities/lib/docs/save/business/programs/aepohio/aprilcustomerseminarEE4-24.pdf>

⁴ AEP Ohio's 2015–2017 EE/PDR Action Plan, p. 115, available at <https://aceee.org/files/pdf/aep-ohio-2015-2017-ee-pdr-plan.pdf>