

***Recommendations for Implementing  
the Waste Energy Recovery Provisions  
in Ohio Revised Code Sections 4928.64 and 4928.66***  
Prepared by The Heat is Power Association<sup>1</sup>

## **Background**

Waste heat to power (WHP) installations capture the heat generated as a by-product from industrial processes and convert that heat into electricity through a process that does not involve burning any additional fuels or emitting any additional pollution or greenhouse gases. Waste heat to power encompasses a suite of technologies and applications that can improve industrial energy efficiency and reduce emissions anywhere heat is vented or wasted. Cement, paper, steel and oil and gas are good examples of energy intensive industries where waste heat to power applications have been successful.

We were very pleased last year when Ohio SB 315 identified Waste Energy Recovery (WER), another term for waste heat to power<sup>2</sup>, projects as either renewable energy generation under Ohio's Renewable Portfolio Standard (RPS) or energy efficiency projects under Ohio's Energy Efficiency Resource Standard (EERS). These provisions recognize that waste heat to power produces electricity with the environmental attributes equivalent to renewable resources which can also allow facilities that produce industrial waste heat to improve their overall energy efficiency. In adopting this approach, Ohio has established itself as a leader in industrial efficiency policy and a leading state for investment by our industry.

## **Basics of Waste Energy Recovery (WER)**

A WER system consists of a heat recovery system that captures the exhaust or wasted heat from an industrial process (such as steel production, refining, glass productions, etc) and uses it to generate electricity. WER system performance depends on:

- Facility selection (i.e., the amount and consistency of waste heat produced, the electrical needs of the site, and the opportunity to sell excess electricity to another party)
- WER system design
- The operational characteristics of the waste heat producers
- The composition, temperature and pressure of the waste heat

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<sup>1</sup> The Heat is Power Association is the trade association for the Waste Heat to Power industry. Our members range in size from large manufacturers to smaller technology developers and manufacturers, project developers, component suppliers, and industrial end users throughout the United States.

<sup>2</sup> Waste Energy Recovery (WER) and Waste Heat to Power (WHP) are two different terms that have the same meaning. WER is the term used in Ohio legislation while WHP is the term most commonly used in industry.

- System maintenance and outages

Revised Code Section 4928.01 defines waste energy recovery systems as follows:

(38) "Waste energy recovery system" means either of the following:

(a) A facility that generates electricity through the conversion of energy from either of the following:

(i) 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;

(ii) 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.

(b) A facility at a state institution of higher education as defined in section 3345.011 of the Revised Code that recovers waste heat from electricity-producing engines or combustion turbines and that simultaneously uses the recovered heat to produce steam, provided that the facility was placed into service between January 1, 2002, and December 31, 2004.

### **Recommendations**

The Ohio RPS and EERS as written position Ohio to attract capital for WER project investment. These types of projects and the associated revenues they generate should provide incentive for the most energy intensive industries to look at innovative strategies to reduce their energy use, improve their competitive position and create jobs in Ohio. We propose the Public Utilities Commission of Ohio (PUCO) issue the following rules to implement the sections of Senate Bill 315 pertaining to waste energy recovery.

#### **Developing WER Projects under the RPS & EERS**

A WER project can be considered a renewable energy resource under the state RPS or an energy efficiency resource under the state EERS. The same project, however, cannot receive credit under both the RPS and the EERS (per Revised Code Section 4928.01).

Developing WER projects as renewable energy projects under the state RPS (Revised Code Section 4928.64) should essentially mirror the same process as other qualified renewable resources. As such, the amount of Renewable Energy Credits (RECs) certified for a WER system should be equal to the portion of its electricity production that comes from waste energy or waste fuel. The energy produced by supplemental fuel should not be considered "renewable" and therefore not factored into the megawatt hours that are certified as RECs.

Savings from a WER system used to comply with the EERS (Revised Code Section 4928.66), rather than the RPS, should be measured using the same methodology we recommend be used to determine the number of RECs that would have been generated by the system had it been used to comply with the RPS (total system output minus system output from non-waste fuel).

WER project developers should be paid according to the actual performance (i.e., output) of each system. The utility should pay the project developer a portion of the incentive upon system commissioning, based on nameplate capacity for the first year of operation. The balance of the incentive would be awarded one year after commissioning based on actual output true-up so that the total incentive reflects one year of actual operation.

Electric utilities should receive credit toward their energy efficiency obligations based on the same

schedule they pay out incentives.

**Summary**

In summary, the state of Ohio has tremendous opportunities to develop this readily available, base load, distributed energy resource that requires no additional combustion to produce emission-free electricity. The recommendations detailed above will help Ohio develop emission-free power generated from readily available on-site resources, promote innovation and market access for cost-effective emission-free generating technologies including WER, promote saving energy, and reduce greenhouse gas emissions.

We urge the Commission to adopt a uniform approach to the calculation of savings from WER systems, the application of savings to a utility's energy efficiency benchmarks, and the payment of utility incentives for WER projects. A uniform approach will provide market certainty to WER project developers and host sites. We also respectfully ask the Commission to prioritize the issuing of rules to implement the WER provisions of Senate Bill 315. Without a regulatory and incentive structure, project development cannot proceed.