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# ROBERT BROOKS

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STATE REPRESENTATIVE • 60<sup>TH</sup> ASSEMBLY DISTRICT

**Assembly Committee on Energy and Utilities  
Public Hearing, May 16, 2017**

Representative Kuglitsch and members of Energy and Utilities Committee, thank you for affording me with the opportunity to testify on behalf of Assembly Bill 204, relating to resources eligible for renewable resource credits.

In foundries, mills, and factories across Wisconsin, heat is created as a byproduct from all industrial processes that involve combining raw materials into a useable product. Too often, heat energy is inadvertently vented through smokestacks and wasted. Assembly Bill 204 would designate heat energy recovery as a renewable resource as defined under Wisconsin's Renewable Portfolio Standards (RPS). Including this new collection technology under RPS will encourage more industries and manufacturers to promote waste heat collection procedures to lessen utility expenses and potentially use the recovered heat for future energy generation. Current law allows for non-electricity producing sources to be afforded RPS status if the method effectively displaces energy. Although waste heat collection has the capability to produce electricity, a main function will be to displace energy use and will lessen the amount of fossil fuels that are consumed.

Moreover, a number of our Midwestern neighbors (Minnesota, Iowa, Indiana, and Michigan) and fifteen additional states, have adopted language to define waste heat as a renewable resource or energy efficiency.

Investments in heat recovery equipment will provide both economic and environmental benefits.

I encourage your support of Assembly Bill 204, at this time, I would be happy to answer any questions from committee members. Thank you for your time and consideration.



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# ROGER ROTH

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PRESIDENT

WISCONSIN STATE SENATE

May 16, 2017

Assembly Committee on Energy and Utilities

**2017 AB 204 & SB 144**

*Relating to: resources eligible for renewable resource credits*

Currently the renewable portfolio standard (RPS) requires all Wisconsin electric providers to provide their retail electricity customers with a percentage of electricity from renewable resources, which includes solar, wind power, geothermal technology, biomass, hydroelectric power, tidal or wave action, certain fuel cells and fuel pellets, and other specified resources.

An electric provider, customer, or member of an electric provider in Wisconsin may create a renewable resource credit (RRC) for use of eligible renewable resources that displaces their use of electricity derived from conventional resources.

AB 204/SB 144 allows heat that is a byproduct of a manufacturing process to be considered a renewable resource under the RPS law.

*How does it work?* Foundries, paper mills, and other manufacturing industries produce waste heat as a byproduct whenever their operations are running, which is often around the clock every day. Rather than releasing the heat, it can be used to produce power for another manufacturing purpose, using no additional fuel and creating no additional emissions. Some of the uses include steam generation or heating water in the manufacturing process, space heating to dry manufactured products, and heating or cooling the facility.

Under this legislation, either a utility or a manufacturing company are incentivized to develop waste heat recovery. A utility could use a waste heat project as both a regulatory compliance tool and a long-term investment. A manufacturer investing in heat recovery equipment could reduce the payback period with revenue created by RRCs.

*Why is this important?* Manufacturing drives Wisconsin's economy. All around the state, our industries often outperform the nation. In particular, my area in the Fox Valley and throughout Northeast Wisconsin has relied on paper industries and foundries to become one of the top manufacturing centers in the country. AB 204/SB 144 can help our manufacturing base stay competitive.

It is my hope that AB 204/SB 144 will further encourage manufacturers to turn their waste heat into a useful byproduct. By doing so we can save on energy costs, create new manufacturing jobs, strengthen the state's economic competitiveness, and help protect the environment through this common-sense measure.

STATE CAPITOL: P.O. BOX 7882 • MADISON, WI 53707-7882

(608) 266-0718 • (800) 579-8717 • SEN.ROTH@LEGIS.WI.GOV

DISTRICT OFFICE: 1033 W. COLLEGE AVENUE, SUITE 19 • APPLETON, WI 54914



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Assembly Committee on Energy and Utilities - May 16, 2017

**Panel of Industrial Waste Heat Recovery Experts**

- Todd Stuart, Executive Director, Wisconsin Industrial Energy Group
- Bryant Esch, Chief Sustainability Officer, Waupaca Foundry
- Rick Bushey, President, Mechanical Technologies, Inc.
- David Kasun, Director of Foundry Technology, Kuttner North America

**Testimony in Support of Assembly Bill 204/Senate Bill 144**

Good afternoon, Mr. Chairman, and members. Thank you for the opportunity to speak to you in support of Assembly Bill 204/Senate Bill 144 and answer any questions you may have.

We have a panel of experts here today that have worked on one of the largest and most successful waste heat recovery projects in Wisconsin. These experts also have a regional and national perspective on energy cost reduction projects. We are here to explain why we believe AB 204 is intended to spur capital investment, save on energy costs, and create or retain jobs for Wisconsin's manufacturing base.

As you may know, Wisconsin currently has among the highest electricity rates in the Midwest. Our industries support thousands of good paying jobs, compete locally, regionally and globally. Wisconsin's manufacturers are energy-intensive and, as a result, must balance energy costs in order to remain competitive. Energy costs are one of the primary factors considered for retention, relocation or expansion for manufacturers throughout our great state.

Wisconsin has one of the most manufacturing-dependent economies in the country. We are the number one state for paper and near the top for foundry production. Anywhere there is an industrial process that involves taking raw materials and making them into a useful product, heat is created as a byproduct.

Wisconsin's manufacturers are working hard to mitigate energy costs. Of the original 32 companies across the country that originally signed on to the U.S. Department of Energy's Better Buildings, Better Plants program, nine of them were from Wisconsin. These companies are voluntarily cutting their energy use by 25 percent over ten years. Around 30 large state companies participate in the Strategic Energy Management (SEM) Leader program.

Under AB 204, either a utility and/or manufacturing company could invest in waste heat recovery and have it recognized in state law as a renewable resource.

Waste heat recovery or “recycled energy” is the process of using recovered waste heat to generate electricity. Heat that is no longer needed in an industrial process is often vented through stacks into the outside air. Waste heat can be captured around the clock with no combustion and no air emissions. If waste heat can be used to generate power and/or reduce the need to consume electricity, then it should be recognized as a clean, renewable and efficient technology.

This should be a bi-partisan issue as it really is a win-win situation. Many surrounding Midwest states, and at least 19 states in total, have some form of waste heat language included in their renewable resource and/or energy efficiency definitions. The federal government has taken steps to recognize waste heat recovery as well. President Obama encouraged the technology in memorandum related to renewable energy for federal agencies. Similar language to AB 204 has also been proposed in Congress in amendments to the federal tax code and renewable energy law updates. It is possible that it is taken up as part of the federal tax law changes later this year or next year.

This change in law would create an additional renewable attribute that would allow companies an additional revenue stream, as they currently trade these credits often in other markets and in other areas of the country. It may help large waste heat recovery projects that are currently under consideration “get over the hump” and therefore provide economic and environmental benefits.

Here’s one example of the type of project that we’re hoping to promote: historically, foundries gave off waste heat into the atmosphere to lower melt system temperatures prior to air pollution control equipment. Waupaca Foundry installed a closed-loop heat recovery system at Plant 1 in Waupaca. Today, Plant 1 uses the waste heat to increase the temperature of a water/glycol system that pre-heats air for the plant. It provides nearly all the building heat for winter months, as well as year-round hot water. It has also resulted in an annual reduction of 4,600 metric tons of carbon dioxide. Waupaca Foundry earned the 2009 Governor’s Award for Excellence in Environmental Performance for this project. Waupaca Foundry just became the first foundry in the country to achieve ISO 50001 certification, the “gold standard” in energy management, in part due to their waste heat recovery projects.

Our experts here today worked on Waupaca Foundry’s award-winning waste heat recovery programs. They have also worked on projects for other manufacturers across Wisconsin and across the country. Companies such as MTI and Kuttner North America can testify to the economics of these projects and how this bill may encourage greater adoption of the technology. These experts support AB 204 as a way to help reduce rising energy costs and create an additional revenue stream for manufacturers.

Thank you for the opportunity to provide a brief overview of AB 204. We look forward to working with you and answering any questions you may have.

# Warm Reception For Heat Recovery Project

Every year the Waupaca Foundry plants across the U.S. melt more than 2.2 million tons of scrap metal. As you can imagine, this intensive energy process gives off an abundance of heat. Thanks to a heat recovery loop added to the cupola melting system at Plant 1, heat doesn't go to waste.

Since December 2008, Plant 1 located in Waupaca, Wisconsin, has used the heat from its cupola iron-melting process to provide approximately 70 percent of the plant's space heating requirements for a typical winter, as well as heat for 100 percent of the plant's hot water needs.

Historically, foundries dispelled "waste heat" into the atmosphere to lower melt system temperatures prior to air pollution control equipment. Today, Plant 1 uses its waste heat to increase the temperature of a water/glycol solution flowing through an installed network of coils within the facility air makeup units.

The project benefits are economical and environmental, offering annual heating savings and an annual reduction of 4,600 metric tons of carbon dioxide. After two years, the project has paid for itself and earned Waupaca Foundry the 2009 Wisconsin Governor's Award for Excellence in Environmental Performance.

In December of 2008, Waupaca Foundry Plant 1 added a closed-loop heat-recovery system that, within two years, has already paid for itself in energy savings.

- Provides nearly all the building heat for winter months and year-round hot water.
- Helps to offset annual heating costs.
- Annual reduction of 4,600 metric tons of carbon dioxide.
- Received the 2009 Wisconsin Governor's Award for Excellence in Environmental Performance.



Waupaca Foundry is leading the industry in environmental innovations and sustainable practices.

Connect with our team at [green@waupacafoundry.com](mailto:green@waupacafoundry.com)

**A list of manufacturers installed Energy projects by MTI**

<b>Alliance Laundry</b>	<b>Ripon</b>
<b>Amron</b>	<b>Antigo</b>
<b>American Plastics</b>	<b>Rhineland</b>
<b>Carver Boat</b>	<b>Pulaski</b>
<b>Eggers</b>	<b>Two Rivers</b>
<b>Krueger International</b>	<b>Green Bay</b>
<b>Gardner Manufacturing</b>	<b>Horicon</b>
<b>Jarp Industries</b>	<b>Schofield</b>
<b>Hoffmaster</b>	<b>Oshkosh</b>
<b>Hi Tech</b>	<b>Kaukauna</b>
<b>Leer</b>	<b>New Lisbon</b>
<b>Land O Lakes</b>	<b>Kiel</b>
<b>Fietesa</b>	<b>Green Bay</b>
<b>Marine Travel</b>	<b>Sturgeon Bay</b>
<b>Miller Implement</b>	<b>St Nazianz</b>
<b>Harley Davidson</b>	<b>Tomahawk</b>
<b>GreenHeck</b>	<b>Scofield</b>
<b>Spancrete</b>	<b>Valders</b>
<b>Schmidt Engineering</b>	<b>Milwaukee</b>
<b>Meriter Hospital</b>	<b>Madison</b>
<b>Pierce Manufacturing</b>	<b>Appleton</b>
<b>Presto</b>	<b>EauClaire</b>
<b>Oshkosh Truck</b>	<b>Oshkosh</b>
<b>Green Bay Packaging</b>	<b>Green Bay</b>
<b>Green Bay Packaging</b>	<b>Depere</b>
<b>Green Bay Packaging</b>	<b>Depere Coated</b>
<b>Green Bay Packaging</b>	<b>Wausau</b>
<b>TNT</b>	<b>Green Bay</b>
<b>Waupaca Foundry</b>	<b>Waupaca</b>
<b>Wisconsin Aluminum</b>	<b>Manitowoc</b>
<b>Worthington Industries</b>	<b>Chilton</b>