

Chairman's Message

ASME MER Division

September 2019

Congressional Briefing on The Benefits of Waste-to-Energy

The MER Division, together with ASME's Washington Office on Government Affairs, will hold an hour and one-half briefing for congressional staffers in late November 2019. The exact date has not been established at this time. The object of the briefing will be to demonstrate to the staffers the benefits that Waste-to-Energy projects bring to the overall waste management strategy.

Currently there are at least two bills in Congress that will extend clean energy credits to waste-to-energy projects. Reps. Elise Stefanik, R-N.Y. and Scott Peters, D-Calif. have introduced the Renewable Electricity Tax Credit Equalization Act (H.R. 4186), which would extend and modify tax credits for qualifying renewable energy technologies — including biomass, WTE, hydropower, marine energy and biogas. Many WTE projects have been impacted by the declining price of electric power that they sell to utilities. These tax credits would help to stabilize the revenue from the electric power provided to the power system.

If you are interested in participating or attending this briefing, please reach out to Tony Licata at tonylicataleec@aol.com.

Waste-to-Energy (WTE) Is A Renewable Energy

The United States Environmental Protection Agency (USEPA) defines renewable energy as an energy production system that uses fuel that can be naturally replenished at the scale it is used and does not diminish. In America, approximately 262 million tons of Municipal Solid Waste (MSW) is generated every year and this number continues to increase. Using materials that have historically been abandoned and are foreseen to be continuously available as fuel clearly classifies WTE being a renewable energy. It has been proven through scientific carbon-14 methods (ASTM D6866 protocol) that typical WTE stack emissions, that routinely meet the Maximum Achievable Control Technology (MACT) standards, contains up to 65% biogenic CO₂, i.e. renewable bio-carbon. Overall, including the materials that are recovered through WTE, every ton of MSW converted to energy is equal to one ton of CO₂ avoided.

Every ton of MSW that is combusted in a WTE facility generates about 600 kWh of electricity that offsets other fuels. The net impact of WTE generation of CO₂ is equivalent to or better

than the combustion of natural gas. MSW that is not combusted or recycled goes to a landfill, where methane gas is generated which is 23 times more a potent greenhouse gas than that of CO₂.

WTE facilities also recover metals that are recycled. WTE plants recover nearly 700,000 tons of ferrous metal for recycling. Ferrous recovery avoids CO₂ emissions and saves energy compared to the mining of virgin materials for manufacturing new metals. The residual ash produced by WTE contains a large amount of other metals that can be recovered and put back into the material cycle. For example, in one MSW combustion facility approximately 6300 tons of aluminum, 3400 tons of iron and 440 tons of copper are recovered each year. Multiply this by the 76 plants currently operating in the US and it is obvious that there is a significant driver to incorporate this into the recycling industry.

50th Anniversary of ASME's Material & Energy Recovery Division.

You may not be familiar with the history and activities of the MER Division. Our participation in ASME started in 1963 when a group of mechanical engineers in ASME form a committee to help improve the design, operations and air emissions from municipal incinerators. In the early 60's almost every city in the greater New York City area had at least one large municipal incinerator to dispose of municipal solid waste. At that time many of these incinerators were poorly designed and operated and were sources of air pollution. However, at the same time in Japan and Europe better designs were evolving and were generating power from MSW.

The mechanical engineers under the guidance of ASME form a committee called the Incinerator Committee of ASME Process Industry Division. There was so much interest in solving our waste management problems the Committee after being established only one year was able to have a four-day conference in May 1964 to explore the use of combustion for waste management. The Incinerator Committee continued with bi-annual conferences through 1968.

The work of the Incinerator Committee was recognized by ASME and the Committee was promoted to full Division status in 1969, which makes 2019 the 50th anniversary as a division. The division continued with their biannual conferences and due to the changing technology and advances in other areas of solid waste management the division name was changed to Solid Waste Processing Division (SWPD) in 1975. In the mid 70's activities grew so fast that the division had subcommittees in New York, the Midwest, and California. The division also had subcommittees that were involved in sewage sludge and hazardous waste combustion.

In 1980 the SWPD Co-sponsored and funded an ASME Research Project "Study on the State of the Art of Dioxins from Combustion Sources". This report was used as a base for USEPA to develop dioxin emission standards for WTE plants.

Biannual conferences continued and an international element was added to the conferences.

In 1993, the 1st Annual North American Waste-to-Energy Conference, NAWTEC was held joining American Society of Mechanical Engineers (ASME), Integrated Waste Services Association (IWSA), and Solid Waste Association of North America (SWANA.) as co-sponsors.

In 2001 SWPD Co-sponsored and funded the ASME research project "Reference Method Accuracy and Precision" (ReMAP) for stack test methods used in testing WTE plants.

In 2010, in recognition to the growing recycling aspect the name of SWPD was changed to Material & Energy Recovery Division. There are many other activities, publications, and research that the division participated in which we will present in our next newsletter.

2019-2020 Floyd Hasselriis Support

In an effort to stimulate the interest of students in solid waste management and related fields, and to support colleges and universities that offer curriculum or courses in solid waste management and related fields, the ASME Materials & Energy Recovery Division (MER Division) offers the Floyd Hasselriis educational support program with awards totaling \$18,000. The educational support award amounts will be divided and shared between the winning student and his or her school. The application submission deadline has been extended to October 15, 2019 and the application can be found on the ASME website:

https://community.asme.org/materials_energy_recovery_division/w/wiki/3621.educational-support.aspx

For more information or to participate more actively in the MER Division, contact Len Grillo.

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