

ME₂C: Best Available Control Technology

SSEB Annual Meeting | September 16, 2018 | Richard MacPherson



Company Overview

- Midwest Energy Emissions Corp. (ME₂C®) delivers patented, cost-effective, proprietary solutions to the global coal-power industry to remove mercury from power plant emissions
- Sorbent Enhancement Additive (SEA®) Technology enables plants to achieve & maintain compliance with mercury emission regulations (effectively and at a low cost)
- Strong patent portfolio covering North America, Europe and Asia
- Large, multi-billion dollar global market Established in April 2015 in the U.S. with the Mercury and Air Toxics Standards (MATS)
- 20+ years and \$65 million invested in our SEA approach adopted by 70% of the U.S. coal fleet and currently the leading option for Europe (2018)
- Four locations across the U.S. (Two manufacturing facilities, an R&D facility and a Corporate HQ)

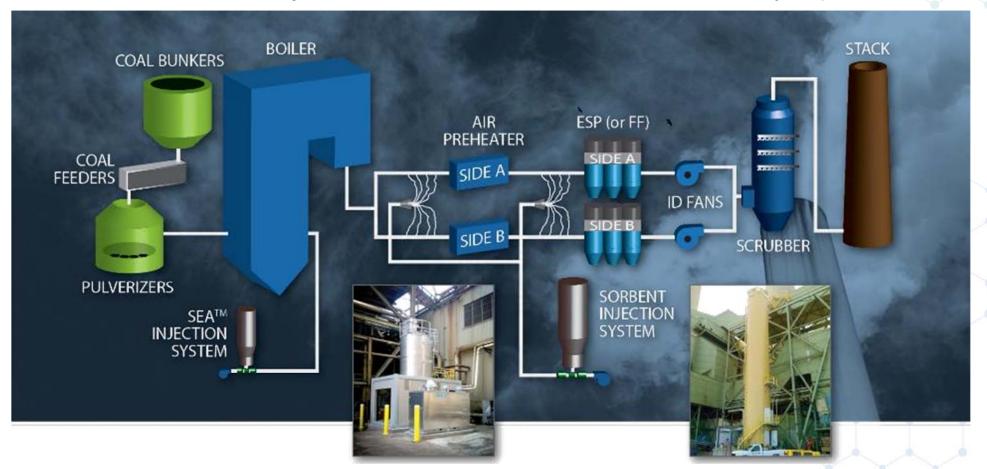


Best Available Control Technology (BACT)

Fully Deployed and Adopted by a Majority of the Utility Industry

The ME₂C® patented 2-part process involves both front end and back end systems:

- 1. Sorbent Enhancement Additive (SEA®)
- 2. A back end sorbent injection solution to ensure maximum mercury capture





Memberships & Awards













Jim Burke, Vistra COO (far left), pictured with ME₂C Operations Staff and Award Recipient, Rick MacPherson, ME₂C President & CEO



Our History – The Past, Present, & Future

- The Center for Air Toxic Metals® (CATM®) at the University of North Dakota Energy & Environmental Research Center (EERC) was established in 1992 by the U.S. EPA to focus national research efforts on trace element emissions
- In 2008, ME₂C[®] and the EERC agreed on a broad patent portfolio license to fully commercialize this impressive mercury control technology suite of processes
- In 2017, ME₂C completed its acquisition of the full patent portfolio from the EERC for \$2.5 million in cash and 925,000 shares of common stock, culminating in over \$7M spent by ME₂C in the patent suite todate
- In 2018, signed agreement with Cabot Corp licensing ME₂C's patented technologies to Cabot for Europe in a revenue share scenario
- During 2018, ME₂C to transition and change name to "Midwest Energy Technologies Corp", or such other name, as shall be finalized in the coming months to better reflect the nature of its business as it begins its efforts to monetize its IP rights to over 70% of the utility industry.







Robust Global Patent Portfolio

PATENTS BY COUNTRY	ACTIVE PATENTS	*PENDING PATENTS	TOTAL PATENTS / APPS
United States	18	14	32
Canada	3	2	5
Europe	16	3	19
China	6	1	7
*Pending as of Q3 2018	43	20	63

- EERC Patents were developed in conjunction with the EPA and the DOE starting in February 2002
- ME₂C[®] acquired the full EERC patent portfolio in 2017
- Patent protection runs through 2025+



Why 70% of Utilities Use The ME₂C[®] Approach

MATS Compliant

Guaranteed and proven to remove >90% of mercury emissions

Dynamic,
Turnkey Mercury
Control

The SEA® System offers customization with minimal to no downtime during conversion from a back end only solution

Most Cost-Effective Solution

Low upfront capital equipment costs with meaningful future operating cost savings of 30-50% over competing "backend only" solutions

Maximizes Plant
Output

Boilers can operate at full generating capacity without derate due to MATS or other compliance challenges as experienced with back end-only approaches

Maximizes Efficiency

The ME₂C process minimizes sorbent material use (up to 50% less than competitors) with maximum results enabling boilers to avoid ESP overloading, backend corrosion, and the degradation of fly-ash



Production Capacity

Manufacturing & Distribution Centers in Corsicana, TX, and Texarkana, AR

- Improvements completed in Texarkana during 2017
- Increased Bulk Storage & Blending Capabilities









FLY-ASH INCOME STREAM ADVANTAGE

- Fly-ash is one of the coal combustion byproducts and is composed of the fine particles that are driven out of the boiler with the flue gases
- Fly-ash is sold to cement manufacturers all over the world for use as an additive to make cement stronger and more durable
- The sale of fly-ash is a multi-hundred million dollar per year industry, which utilities view as an important source of revenue
- ME₂C[®] patented SEA[®] Technology assures the continuation of these revenue streams
 - Most competing carbon-based sorbents often render fly-ash <u>unusable</u> at volumes needed for MATS compliance
 - ME₂C's technology <u>preserves</u> fly-ash integrity



ME₂C's patented SEA Technology assures the continuation of these revenue streams through intentionally preserving the integrity of the fly ash.



Thank you!

Midwest Energy Technologies Corp

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