H2Opportunities

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Technology Provider:

EMEFCY – Bio Energy Systems

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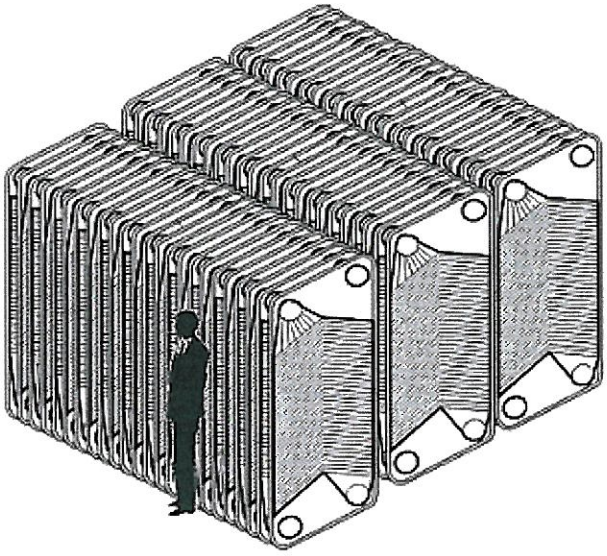

Innovation: The Emefcy technology is an Israeli technology that relies on natural biological processes and nanotechnology membranes to directly generate electricity from wastewater. Furthermore, it eliminates the airborne carbon discharges and therefore would be an ideal candidate for carbon capture and trading. It works in municipal waste, agricultural waste, and food processing waste, all of which are current challenges to the state of Michigan. One kilogram of biochemical oxygen demand generates 1 kilowatt of energy.

Demonstration: Emefcy has agreed to work with H_2Opps to test the process within an existing wastewater treatment process, preferably with a very high concentrated waste stream. Current potential sites include a municipal wastewater treatment plant, a major agricultural facility and an existing digester operation at a food processor. The project will require constructing a full-scale system adjacent to the existing wastewater treatment process. To limit the initial environmental challenges, all water passing through the Emefcy system will be returned to the existing treatment process. The demonstration will document the effluent characteristics, the energy generation, the operating/maintenance costs, and reliability.

Source of Funding to Date: Michigan Economic Development Corporation (MEDC) has committed $200,000. Additional funding is being sought.

Consistent with H_2Opps Business Model: H_2Opps expects to utilize the existing business model and continues to negotiate the financial arrangement with Emefcy.

Jobs Creation Potential: The project presents a tremendous economic growth opportunity due to the technology's ability to turn waste into an energy source and should completely change the economics of wastewater treatment. This technology is applicable to a very large number of municipalities and industries across Michigan and the country. Emefcy would begin with four full-time, Michigan-based employees and plans to grow to forty when manufacturing begins.