



Great Lakes Protection Fund

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Funded Project

Harnessing Automated Demand Response to Reduce Great Lakes Mercury Emissions

Project No.	1193
Timeline	2018 – Active
Award Amount	\$1,006,000
Team Leader	WattTime



This project is a first-of-its-kind effort to reduce mercury emissions from coal-powered plants by combining two unrelated programs; electric utility Demand Response and Automated Emissions Response.

Consumer demand for more choice around energy production, and specifically demand for choosing clean energy, sits at the heart of this work. Demand response programs provide financial incentives from the utility to the users to conserve energy during high demand times (e.g., a hot summer day) to reduce the strain on the electric grid. They try to reconcile too much demand with not

enough supply. These programs have the infrastructure in place to connect with many electricity customers, but interest and participation are low.

Alternatively, Automated Emissions Response (AER) is an innovative technology that determines when the electric grid is supplied by cleaner sources of energy and allows customers the ability to choose clean energy for their electricity needs. For the first time, consumers can now have control over their emissions reductions with this popular program (see [prior Fund-supported work](#)) without compromise to cost, comfort or functionality.

The AER software will be an add-on feature of familiar demand response programs (which cut consumption during a handful of peak energy demand events) and will optimize your emissions reductions the rest of the year. The impacts from this project are optimistic based on research showing a 3x increase in participants when AER is offered as part of a demand response program. More program participants and increased demand for mercury emissions reductions will incentivize mercury-emitting power plants to run or install mercury emissions reduction technology which cuts emissions by at least 90%.

The team will work closely with electric utilities and demand response recruiters to demonstrate that more customers will be drawn to demand response programs with the addition of AER. The project will run two distinct pilots: one for residential electricity customers, the other for commercial electricity customers. Both pilots will involve software engineering; pilot implementation; and scaling efforts. Four utilities in the region; ComEd, Xcel Energy, DTE Energy, and Consumers Energy, have all agreed to participate in the project.