

The City of Ann Arbor Water Treatment Plant participated in the Water Utility Energy Challenge (WUEC) sponsored by the American Water Works Association with financial support from the Great Lakes Protection Fund. Five utilities in Michigan, Illinois, New York and Michigan were selected to participate based on their willingness and ability to modify their processes to reduce their carbon footprint and their emission of harmful pollutants, specifically mercury, that are emitted by fossil fuel electricity generation plants in the Great Lakes Basin. This challenge began in April 2017 and ended in April 2018. The goal was to modify operational processes at each utility to reduce CO<sub>2</sub>, mercury, NO<sub>x</sub>, SO<sub>x</sub>, and lead emissions over baseline levels. Ann Arbor was awarded \$20,000 as the Water Utility Energy Competition Champion as the utility that provided the largest impact on emissions.

The five utilities that competed include:

- Ann Arbor, Michigan
- Bayfield, Wisconsin
- Great Lakes Water Authority, Michigan
- Highland Park, Illinois
- Onandaga County Water Authority, New York

The City of Ann Arbor used the Locational Emissions Estimation Methodology (LEEM), which is one of the two tools made available as a part of this competition, as the means for reducing emissions. Each day before midnight the City Water Treatment Plant received a 24-hour forecast from LEEM that provides projected hourly emissions data for each of the identified pollutants. Emissions can vary each day based on the portfolio of power plants that are on-line. City staff used this information to schedule high electrical demand activities for the next day during low emission hours without impacting the level of service provided to our customers.

To quantify the impact, in March 2018 the Water Treatment Plant reduced its CO<sub>2</sub> emissions by 18% over its emissions levels the year before associated with its filter washing process, reduced its Mercury emissions by 23%, reduced its NO<sub>x</sub> emissions by 19%, reduced its SO<sub>x</sub> emissions by 24% and reduced its lead emissions by 24%.

The City's Water Treatment Plant embraces opportunities like this program to find ways to operate more efficiently and sustainably.

