

# ORANGE WATER AND SEWER AUTHORITY

## ENERGY MANAGEMENT

June 2018

**PURPOSE:** To provide information about OWASA's Energy Management program and plan.

**BACKGROUND:** In 2014, the OWASA Board of Directors identified the "Implementation of an Energy Management Program" to be a top strategic priority for the organization. Since that time, with the assistance of OWASA staff, the OWASA Board of Directors has reviewed an assessment of OWASA's energy use, established Calendar Year (CY) 2010 as the baseline year, identified concrete goals and objectives against that baseline, and worked with staff to define a program that achieves those goals and objectives.

To reduce costs and the environmental impacts of our operations, we have launched an organizational-wide Energy Management Program to meet the energy goals and objectives set by the OWASA Board of Directors:

- Reduce use of purchased electricity by 35% by the end of Calendar Year 2020 compared to the Calendar Year 2010 baseline
- Reduce use of purchased natural gas by 5% by the end of Calendar Year 2020 compared to the Calendar Year 2010 baseline
- Beneficially use all Mason Farm Wastewater Treatment Plant (WWTP) biogas by 2022, provided the preferred strategy is projected to have a positive payback within the expected useful life of the required equipment
- Formally engage local governments and partners in discussion about potential development of biogas-to-energy projects at the Mason Farm WWTP
- Seek proposals for third-party development of renewable energy projects on OWASA property

Energy strategies and projects are designed to pay for themselves through annual cost savings over the life of a given project. In evaluating energy projects, the OWASA Board of Directors requested that staff consider the federally-defined social cost of carbon as a factor at its September 8, 2016 Work Session.

### WORK ACCOMPLISHED:

- Since 2010, we have reduced our annual use of purchased electricity by 27%
  - The most significant reduction in electrical energy use over the past seven years has been in wastewater treatment and disposal, primarily due to a \$8.4 million investment in energy efficient blowers, mixers, and fine bubble diffused aeration system (funded with a 20-year, 0% interest loan from the NC State Revolving Fund). This capital project has resulted in a reduction of about 3.1 million kWh/year and represents about a 14% reduction against our 2010 baseline.
- Formed an Energy Management Team of individuals across the organization to develop, review, prioritize, and champion energy management activities for the organization
- Developed a road map to guide OWASA's investment and strategic pursuit of clean energy initiatives and the energy goals and objectives set by the Board (2017 Energy Management Plan; 2018 Energy Management Plan Update)

**CURRENT STATUS:** On March 8, 2018, the OWASA Board of Directors approved an [update to the Energy Management Plan](#) that included strategies to reduce OWASA's use of electricity and natural gas, including further exploration into a ground-mount solar photovoltaic system. The Board receives an update on the rolling annual energy use on the monthly Key Performance Indicator Report and is currently scheduled to receive and discuss an Energy Management Plan Update at the March 28, 2019 Board meeting.

### FOR MORE INFORMATION:

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