

## Managing Energy Costs for Small Wastewater Systems – Key Resources

### Step 1: Self-Assessment of your Utility's Energy Use

- **EPA's Energy Use Assessment Tool:** A [user guide](#) and [download link](#) can be found on the EPA's website. A free, downloadable, excel-based tool for small and medium wastewater systems that analyzes a facilities utility bills and provides a baseline for energy use and costs. Additionally, this tool allows a facility to plot their energy use over time for up to five years and highlights potential for energy efficiency improvements. User inputted information includes all plant utility bills, process information (treatment/discharge volume, pump and motor name plate data, etc.), as well as building information (HVAC, lighting fixtures, etc.).
- **Energy Star Portfolio Manager:** A free, online [tool](#) also provided by the EPA. While it is not specifically designed for wastewater facilities, it calculates an energy use intensity score and allows for benchmarking against other wastewater facilities. It tracks changes in energy use and cost over time.
- **NYSERDA Wastewater Checklist:** Designed specifically for small wastewater facilities, this [checklist](#) provides a series of yes or no questions for each that helps identify potential areas for energy reduction. It's more high-level than the EPA's tool and can be done quickly so it serves as a great jumping off point.

### Step 2: Energy Audits

#### *Funding and Assistance with an Energy Audit*

- **Technical Assistance through the EFCN:** Wastewater systems that treat one million gallons per day or less can receive assistance in assessing options to lower energy use. A form to a request assistance can be found on the EFCN [website](#).
- **US DOE Industrial Assessment Centers:** If a utility is within 150 miles of a participating university and meets the other eligibility requirements posted on the IACs [website](#) they may apply to receive a free energy assessment to identify opportunities to improve productivity, reduce waste, and save energy.
- **Rural Energy for America Program Energy Audit & Renewable Energy Development Assistance Grants:** Check the [website](#) to determine utilities eligibility. The utility must be located in a designated rural area and operated by a state, local government, or tribe. Funds may be used for energy audits, renewable energy technical assistance, renewable energy site assessments.

### Step 3: Developing an Energy Management Plan

- **NYSERDA Water and Wastewater Energy Management Best Practices (2019):** This [guide](#) walks through developing an Energy Management Plan step by step. It also

provides detailed best energy management practices from the organizational level to specific treatment processes and equipment.

- **AWWA's Self-Assessment of Wastewater Treatment Plant Optimization (2017)**: This [document](#) provides guidance on optimizing all parts of the wastewater treatment process including assessing energy use. Checklists are provided so utilities can assess the efficiency of specific process and equipment.
- **CEE's Energy Efficiency RFP Guidance for Water & Wastewater Facilities**: This [document](#) discusses key components of an energy efficiency request for questions or request for proposals and provides recommendations equipment or processes that are particularly energy intensive. Sample language is included.

#### ***Equipment specific resources***

- **DOE's Pumping System Assessment Tool (PSAT)**: This [tool](#) is a free, downloadable software that helps utilities assess the efficiency of pumping system operations using pump performance data from Hydraulic Institute standards and motor performance data from the MotorMaster+ database to calculate potential energy and associated cost savings. Analyses can be downloaded, saved, and shared.
- **DOE's MotorMaster+ Motor Selection Management Tool**: A free downloadable motor selection and management [tool](#) that allows facilities manage their motor inventory and maintenance logs in order to evaluate their energy efficiency and identify opportunities to reduce energy use.

## Step 4: Implementing Energy Efficiency Measures

#### ***Potential Funding Sources and Financing Guidance***

- **Clean Water State Revolving Funds (CWSRF)**: Clean water state revolving funds can finance energy efficiency and conservation projects that reduce thermoelectric energy usage at publicly owned treatment works (POTW). Check the CWSRF [website](#) for a eligible project types, information about system eligibility, and case studies.
- **US Bureau of Reclamation WaterSMART Program Water and Energy Efficiency Grants**: Check the [website](#) to determine utility's eligibility. Renewable energy projects and high-efficiency indoor appliances and fixtures are included in eligible projects. A recently published [webinar](#) goes over the funding application process for the next fiscal year.
- **Database of State Incentives for Renewables and Efficiency**: This [website](#) provides a comprehensive source of information on incentives and policies supporting renewables and energy efficiency.
- **US DOE Fact Sheet on Financing Energy Performance Contracting**: A one-page [summary](#) on key steps involved in financing an energy savings performance contracting project.

#### ***Staff Training and Development***

- **NYSERDA Basic Operator Training:** This [slide deck](#) is an overview of the basic calculations and concepts of energy use and efficiency for wastewater treatment operators.
- **Better Plants Virtual In-Plant Training (2022):** In April and May of 2022, a series of online trainings focusing on helping wastewater treatment plants improve their energy efficiency was given by Better Plants, an initiative by the US DOE. The eight-recorded sessions as well as other resources and tools can be found [here](#).