



THE BASIC STEPS INVOLVED IN BUILDING AN ENERGY PROGRAM

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Producing long term savings for your water or wastewater system through energy management practices can have a large impact on your system's treatment costs. Decreasing your system's electric consumption and returning those costs back to your operating budget doesn't have to be a difficult process, but you may be asking yourself where to start? The following 7 steps should help you answer that question.

- 1 Establish Organizational Commitment via Strategic Energy Management:** The first step is to decide to form a plan. Here you will form a team and set a goal. Each system will be trying to obtain something different, but a simple plan could look like realizing a 15% reduction in utility costs while a more involved plan could aim to achieve net zero treatment.
- 2 Develop Baseline Energy Use:** This step will involve gathering basic information about your system's energy usage. You will evaluate 1 to 3 years of utility bills and compare each month's bill with how much water your system has treated. Looking at a study period of 1 to 3 years will allow you identify seasonal patterns and find an average electric cost for treatment by volume.
- 3 Evaluate the System and Collect Data:** Step three involves more data collection, but this time you will be looking at each energy using component of your system. Simple excel models, or NYRWA, will help you analyze motor and runtime data to understand where each kilowatt hour of electricity is going in your system
- 4 Identify Energy Efficiency Opportunities:** In this step you will identify any and all energy and cost saving ideas. You will then be able to use the data and analysis from steps 2 and 3 to predict the cost and savings of each opportunity you have identified. This will help you prioritize initiatives that will help you reach your savings goal.
- 5 Implement No- and Low-Cost Opportunities:** Often there are no to low-cost changes that can be made that will lead to cost savings. These changes could include: adjusting variable frequency drives, changing pumping schedules, renegotiating electric supply rates, and cleaning blower air filters. The savings your system can achieve in this step can then be used for projects in the next step.

6 Prioritize Remaining Opportunities for Implementation: Some savings opportunities will be harder to implement and can be focused on in this step if your goals have not yet been met. Capital programs and equipment replacement will not only cost more than the projects of step 5, but will also take longer.

7 Track and Report Success: With your energy optimization opportunities implemented, it is time to reap the benefits. Tracking and measuring the effect of each implemented project will allow you to quantify your success for the public and provide you with data to support adjustments to your treatment process. This step is just as much about setting the table for future projects as much as it is for celebrating and communicating your current accomplishments.

If your system is interested in forming an Energy Management Plan and would like help, please feel free to reach out to me at gardner@nyruralwater.org or 518-828-3155 ext. 120. New York Rural Water Association's free and confidential energy assessments can assist you with each of the steps above, help you reach your energy goals, and assist in getting utility costs back into your system's budget. 💧💧

