

Long-Term Water Efficiency Plan Guidance

Background

In August 2002, Gov. Mike Easley issued Executive Order #26, which banned non-essential water use by state agencies. In October 2002, the N.C. General Assembly passed House Bill 1215, mandating that state agencies reduce water consumption by 10 percent. In addition, a goal of the [Utility Savings Initiative](#), led by the State Energy Office, is to ensure that state agencies and universities implement conservation measures.

To help state agencies and universities meet these requirements a number of tools and resources have been developed. This document is a guidance tool, created to provide a step-by-step process for developing a long-term water efficiency plan. A [template](#) and a [sample plan](#) have also been created to assist you. [References enclosed in brackets throughout this document identify guidance instructions that correspond with sections of the template and sample plan.] Additional tools and resources are available at <http://p2pays.org/water/>.

Following this guidance and using the other tools will help agencies reduce both essential and non-essential water consumption. (**Note: Agencies cannot resume non-essential water consumption until they have developed and begun implementing a long-term water efficiency plan.**)

Establish commitment

Two of the most critical elements of a successful water efficiency program are managerial commitment and employee involvement. Your agency's management should communicate commitment to water efficiency to employees, and ensure that all employees understand the importance of water efficiency. (For example, the agency head or division director could develop a policy or memo reflecting the commitment of top management to water efficiency. E-mail could efficiently convey the message to all staff.)

Further, management should ensure the success of the program by allocating adequate human and financial resources.

[Once determined, state your reasons for developing a plan and your agency's commitment to water conservation in **Section A** of the [template](#). See **Section A** of the [sample plan](#).]

Develop a plan

1. Assemble a team and develop resources.

- ❑ Appoint a water efficiency coordinator from within your agency and assemble a water conservation team (or teams—depending on the scope) to oversee and implement all aspects of your water efficiency program.
- ❑ Give this team the responsibility and authority to research, design and implement your water efficiency program.

2. Define scope.

- ❑ Define the scope of your water efficiency plan.
(How will you divide the agency? By geographic or site-specific characteristics? Is this plan agency-wide, for just your division, or for a particular facility or building complex?)

- [Define your scope in **Section B** of the [template](#). See **Section B** in the [sample plan](#).]
- ❑ List the contact information for the water efficiency coordinator for your agency. (Or the person responsible for developing and assembling your water efficiency plan.) Include name, e-mail address, and phone number. Be sure the agency is identified on the plan heading. [Include this contact information in **Section B** of the [template](#). See **Section B** of the [sample plan](#).]

3. Determine a general baseline for your water usage.

If you purchase your water:

- ❑ Establish a relationship with your local utility: know whom to call within your utility to determine information about your water usage, rates and bills.
- ❑ From your local utility, find out:
 - Current water billing rates;
 - If your utility provider has a plan for droughts and emergencies;
 - Measures you are expected to take in drought or emergency situations.
- ❑ Determine the amount of water you are currently using. Use water meter readings, utility bills, or estimate consumption based on operations at your facility. (You can also use the water usage data in your State Energy Plan as a reference.) Use FY 2002-2003 as your baseline year if possible. See the [Baseline Worksheet](#) for assistance.

If you have your own well:

- ❑ Determine the amount of water you are currently using. Consider using pump capacity to determine volume or install a water meter if you do not have one already. (You can also use the water usage data in your State Energy Plan as a reference.)
- ❑ If such a figure is unavailable or too vague, estimate consumption based on operations at your facility. Use FY 2002-2003 as your baseline year if possible. See the [Baseline Worksheet](#) for assistance.

[Include the calculated baseline water consumption in gallons per day, in **Section C** of the [template](#). See **Section C** of the [sample plan](#).]

4. Conduct a ‘Water Audit’: Examine water uses in daily operations.

- ❑ Identify all points of water usage within the scope of your plan. Estimate the amounts of water used at each point, and identify each as essential or non-essential.

Primary sources to consider are: personal water consumption, laboratory consumption, cafeteria use, mechanical consumption, HVAC water use, cleaning use, janitorial use, landscaping consumption, maintenance, contractor use. **The “[Water Audit Guide](#)” is designed to help you with this process.**

Note: Your completed water audit does **not** need to be submitted as a part of your plan. However, it will be an important resource for your agency; be sure to keep a copy for future reference.

[Any previous water conservation measures you discover in your facility during your water audit should be listed in the template document under **Section D** of the [template](#). See **Section D** of the [sample plan](#).]

5. Identify conservation opportunities and prioritize.

- ❑ Review water use from information collected to determine where opportunities exist for water conservation. Your completed [Water Audit Guide](#) is an excellent source of information.
- ❑ Establish criteria for prioritizing water-saving opportunities.
Consider what is most important to your team. For example: volume of water consumed, potential reduction, cost of wasted water, affordability of improvement, ease of implementing improvement, potential payback period, essential and non-essential water consumption, and water quality necessary for each use. [Include the criteria selected in **Section E** of the [template](#). See **Section E** of the [sample plan](#).]
- ❑ Prioritize areas for water use reduction based on the criteria selected by your team. Use the table provided in the template or create your own and have the water conservation team rank each use as high, medium or low priority. [Include your priorities table in **Section E** of the [template](#). See Section E of the [sample plan](#).]
- ❑ Once the highest priority areas are identified, set a reduction goal and target date for meeting the goal. **Remember that all state agencies must reduce water consumption by at least 10 percent.**
[State your reduction goal and target date in **Section F** of the [template](#). See Section F of the [sample plan](#).]

6. Select specific actions.

- ❑ Identify what actions will be taken to reach each goal. (Consider the [Water Use Reduction Guide](#) to help with this task.) [Insert this information in the table in **Section G** of the [template](#). See Section G of the [sample plan](#).]
- ❑ Establish a timeline for implementing each specific activity. [Insert in a table in **Section G** of the [template](#). See Section G of the [sample plan](#).]
- ❑ Identify the employee/ position responsible for implementing each activity, and establish a process to monitor and track results. Consider including these responsibilities in employees' work plans or performance reviews. [Insert in the table in **Section G** of the [template](#). See Section G of the [sample plan](#).]
- ❑ Identify funding sources for specific activities that will require capital expenditure and periodic maintenance. Consider loans and rebates that may be available from energy and water utilities.

7. Establish an employee education program.

- ❑ Create an employee education and awareness program to promote involvement in water efficiency efforts among employees. Employee participation and understanding are key to a successful water efficiency program. See the [Education and Awareness Guide](#) for suggestions on creating and implementing your program.
- ❑ Ensure that all facility staff are aware of your water efficiency efforts.
[Describe the elements you will include in your employee education and awareness program in **Section H** of the [template](#). See Section H of the [sample plan](#).]

8. Create or review your facility maintenance program.

- ❑ Review existing policies and procedures for reporting leaks and equipment malfunctions.
- ❑ Create or revise policies and procedures to establish a 'rapid response' repair system.
- ❑ Create or revise policies and procedures for preventative maintenance and regular inspection to detect and prevent leaks.
- ❑ Ensure that all maintenance staff is aware of your water efficiency efforts.
[Describe the elements you will include in your maintenance program in **Section I** of the [template](#). See Section I of the [sample plan](#).]

9. List important contacts.

List contact information for individuals or companies you consulted in completion of the water audit and compilation of the plan (for example, your utility, management company, maintenance contractor, custodial contractor, etc.).

[Include this information in **Section J** of the [template](#). See **Section J** of the [sample plan](#).]

10. List essential water uses.

Using your completed water audit as a guide, list the essential water uses for your facility (as identified during the water audit.) This list will be an important reference in the event of a drought or water use restriction.

[Include this information in **Section K** of the [template](#). See **Section K** of the [sample plan](#).]

Implement & Maintain

11. Maintain a continuous improvement system for water efficiency.

- ❑ Set a periodic review time for your water efficiency program. In initial stages, review times should be shorter. After substantial water efficiency measures are achieved, review should occur every six months or every year, to evaluate new ideas, procedures and technologies.
- ❑ If significant changes occur in the operations of your facility (production, the number of employees or inhabitants, etc.), or if you change locations, update your water efficiency plan accordingly.

[Describe your plan for continuous improvement in **Section L** of the [template](#). See **Section L** of the [sample plan](#).]

12. Measure and track results.

- ❑ Track and measure reductions in water use. Consider visible means of sharing success with employees such as charts and diagrams, broadcast e-mails and newsletter articles, etc.
- ❑ Identify who is responsible for tracking water usage, and how it will be tracked.

[Include information on how you will measure and track your results in **Section L** of the [template](#). See **Section L** of the [sample plan](#).]