

2011 Drinking Water Infrastructure Needs Survey and Assessment

Climate Readiness and Green Projects

Background

There is increasing effort in the drinking water industry dedicated to anticipating and proactively addressing the potential effects of climate change at the water utility level. In addition, incorporating ‘green’ components into appropriate capital projects to reduce greenhouse gas emissions and reduce energy consumption is also increasing. For the 2011 Drinking Water Infrastructure Needs Survey and Assessment (DWINSA), EPA is capturing general information on whether projects that are included in the survey are related to adaption to climate change – referred to as climate readiness. EPA is also capturing information on whether projects included in the 2011 DWINSA contain components that are considered green. This information will be used to estimate, in very general terms and without generating a total national need for such projects, the extent to which climate readiness planning and green items are included in the 2011 DWINSA findings. Identifying a project as related to climate readiness or as including a green component does not affect project allowability for the DWINSA.

Climate Readiness Projects

To capture data for projects that are related to climate readiness, EPA has provided code 2G “Climate Readiness” in List 3 of the *Lists of Codes*. If a system codes a project as related to climate readiness, EPA is requesting the system answer two questions on page 7 of the survey form. These questions capture additional information on the nature of the climate change consequence of concern and the type of data that identified the concern.

What is Climate Readiness?

Climate readiness is defined as adapting to and addressing climate change impacts on infrastructure and a system’s ability to provide a safe and reliable supply of drinking water.

The purpose of capturing data on DWINSA projects that are related to climate readiness is to indicate the general extent to which water systems have currently incorporated climate change mitigation and adaption strategies into their capital infrastructure projects. Whether a project is identified as being related to climate readiness is based on the water system’s or states’ professional judgment. For the DWINSA, EPA has not defined what constitutes a climate readiness project or what is appropriate rationale or data to support the consideration of climate readiness during the planning of a project.

The climate readiness data captured through this effort will be included in the Report to Congress that conveys the findings of the 2011 DWINSA. Capturing data on climate readiness projects is not in support of any policy development; EPA’s intent is to report the findings to the industry and others to help facilitate communications on this emerging issue.

Green Projects

To capture data for projects that include one or more components that are considered green, EPA has provided codes 2C through 2F in List 3 of the *Lists of Codes*. Note that EPA is *not* asking for documentation to indicate that a project component is considered green.

The green project categories and their respective codes from List 3 are:

- 2C Green - Green infrastructure
- 2D Green - Water efficiency
- 2E Green - Energy efficiency
- 2F Green - Environmentally innovative

What is Green Infrastructure?

Products, technologies, and practices that use natural systems – or engineered systems that mimic natural processes – to enhance overall environmental quality and provide utility services. Categories include green infrastructure, water efficiency, energy efficiency, and environmentally innovative.

A list of possible projects for each green category is provided in the table below.

Project Components that are Considered “Green” and May be Included in the DWINSA^{1,2}

- Green Infrastructure
 - Pervious or porous pavement, bioretention, green roofs, rainwater harvesting/cisterns, and xeriscape that are included as part of a larger capital infrastructure project
- Water Efficiency
 - Installing any type of water meter in previously unmetered areas
 - Replacing existing broken/malfunctioning water meters or upgrading existing meters with:
 - Automatic meter reading systems (AMR) such as:
 - Advanced metering infrastructure (AMI)
 - Smart meters
 - Meters with built-in leak detection
 - Pressure reducing valves (PRVs)
 - Internal plant water reuse (such as backwash water recycling)
- Energy Efficiency
 - Renewable energy generation which is part of a larger capital infrastructure project
 - Energy efficient retrofits and upgrades to pumping systems and treatment processes
 - Pump refurbishment to optimize pump efficiency
 - Projects that result from an energy efficiency related assessment (such as an energy audit, energy assessment study, etc)
 - Installation of variable frequency drives (VFDs)
 - Automated and remote control systems (such as SCADA) that achieve substantial energy efficiency improvements
 - Upgrade of lighting to energy efficient sources for security or as part of a larger project
- Environmentally Innovative Activities
 - US Building Council LEED certified water system facilities that are part of an eligible DWSRF project.

¹Other types of green projects or components exist, but they are not included in the DWINSA.

²Infrastructure vulnerability projects such as higher sea walls to protect infrastructure from sea level rise should be identified as climate readiness projects and not green projects for the 2011 DWINSA.

The green data captured during the 2011 DWINSA will be included in the Report to Congress as an estimate of the number of projects at the national level that may contain a green component and the type of green category that applies. The green infrastructure contribution to the national need will not be determined.