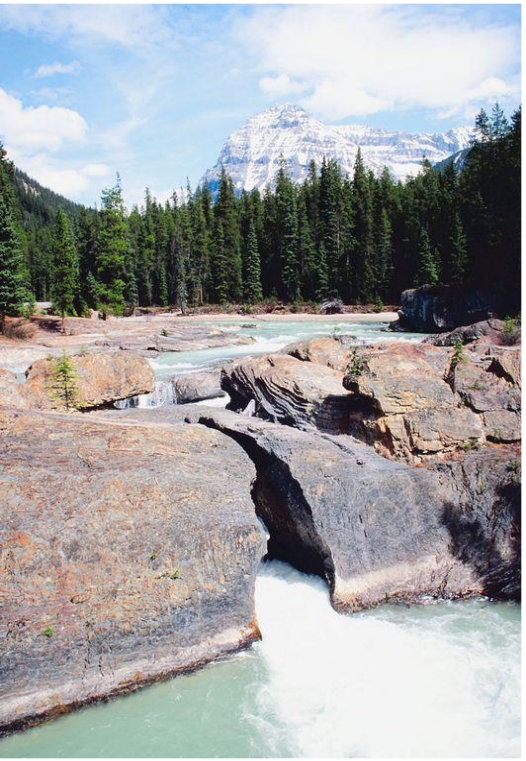


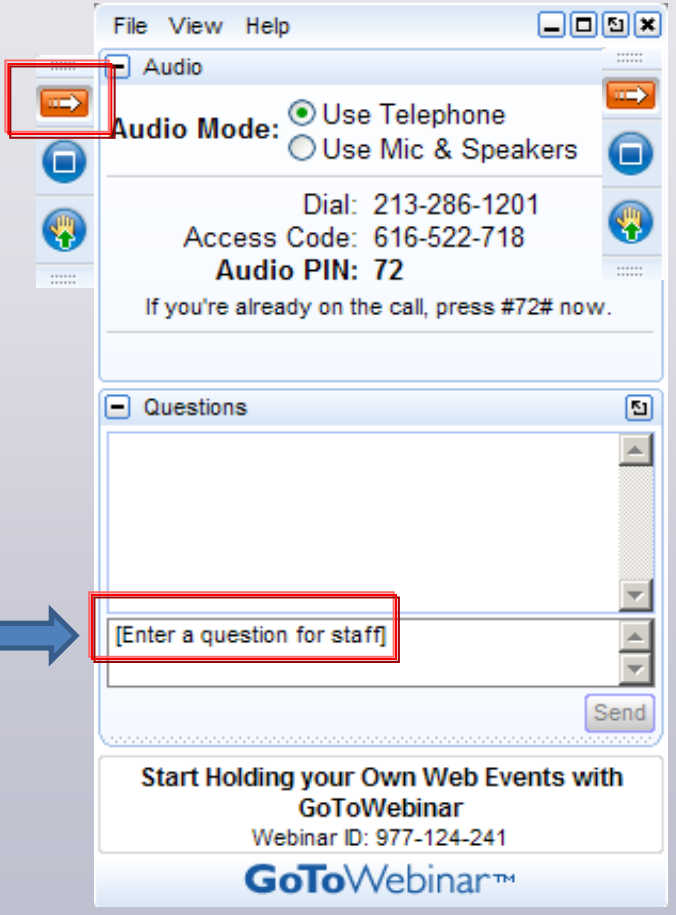
OVERVIEW OF PLANNING FOR SUSTAINABILITY FOR WATER AND WASTEWATER UTILITIES

US EPA WEBCAST SERIES FOR WATER AND WASTEWATER UTILITIES

June 12, 2012

How to Participate Today

Open and close your control panel



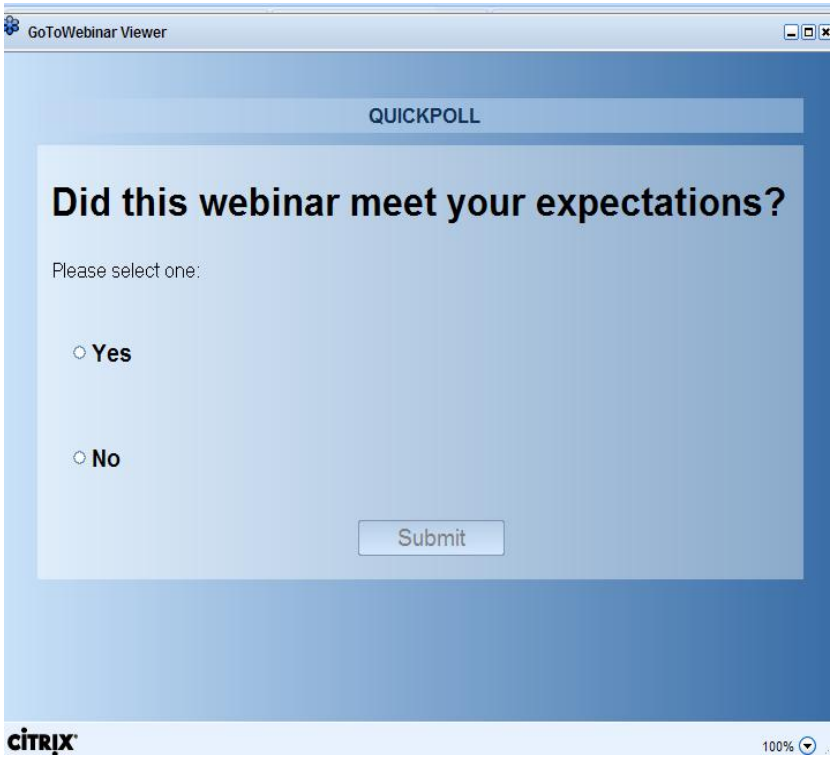
Please submit written questions using the questions box

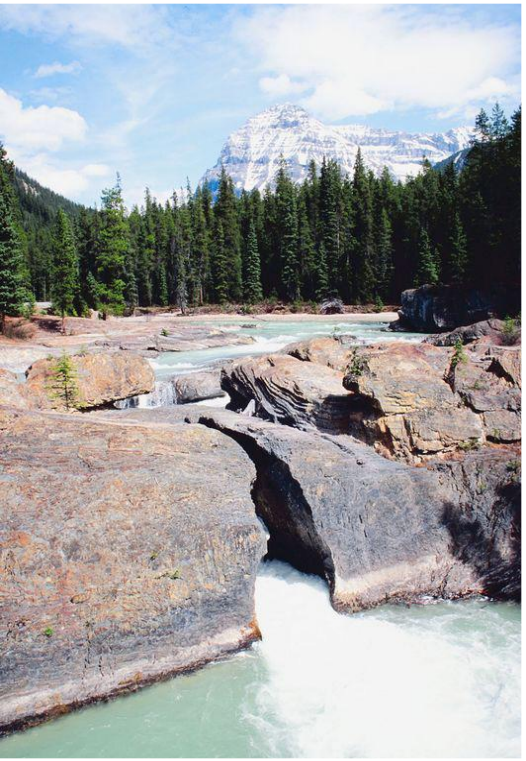
You will be automatically muted for the webinar

EPA

Polls

- Polls will be launched during the presentation
- Please be sure to respond to the polls
- You will not be able to view the presenter's screen until the poll is closed by a webinar organizer

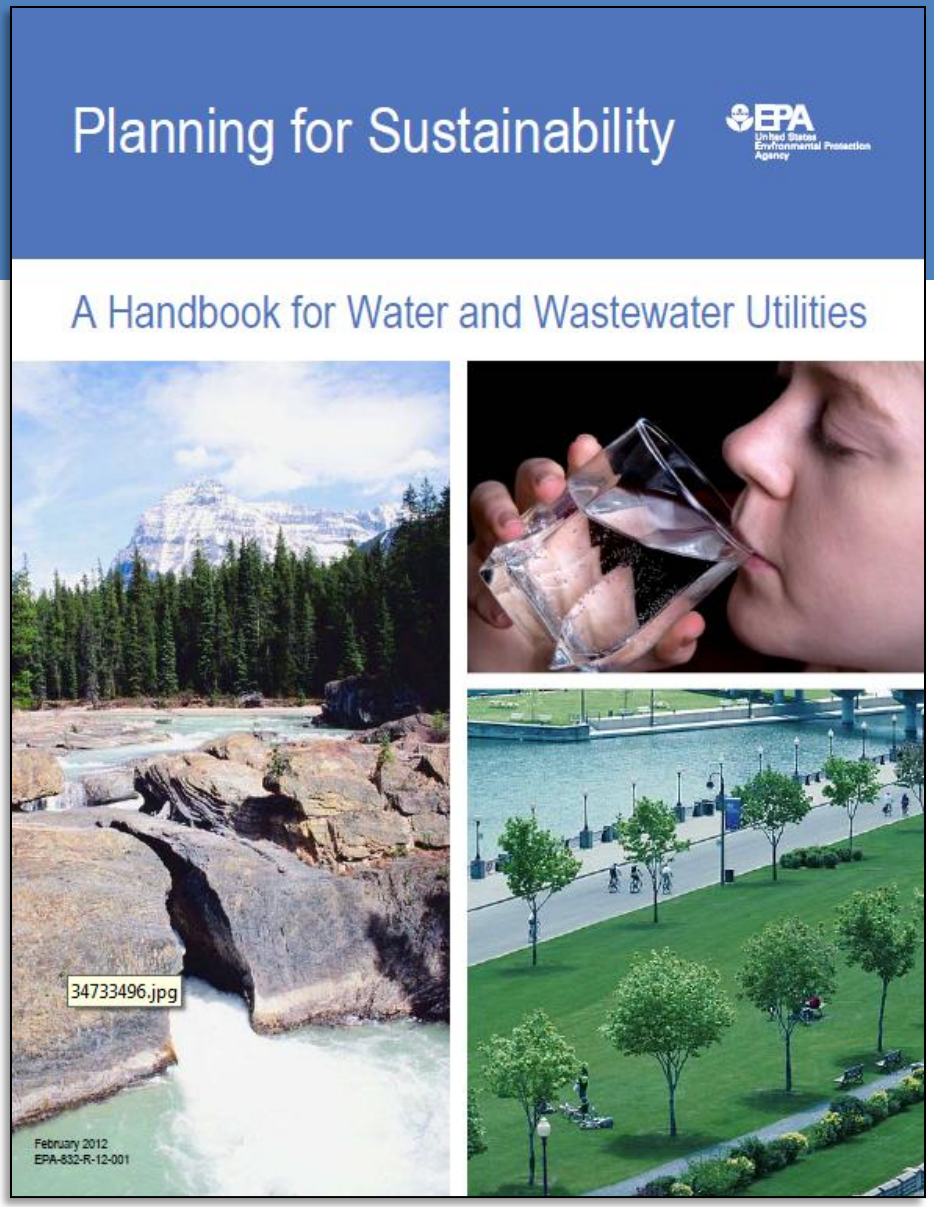




Quick Poll

Webcast Agenda

- *Overview of Planning for Sustainability for Water and Wastewater Utilities*, Jim Horne, EPA Office of Water
- Utility Perspective: *Planning for Optimal Utility Performance in a Sustainable, Cost Effective, Manner*, Andy Kricun, Executive Director, Camden County Municipal Utility Authority
- Utility Perspective: *Integrating Sustainability Principles into Solids Management Planning*, Tom Sigmund, Executive Director, Green Bay Metropolitan Sewerage District
- Questions and Answers



http://water.epa.gov/infrastructure/sustain/upload/EPA-s-Planning-for-Sustainability-Handbook.pdf

Handbook Overview

- Background and Purpose
- Handbook Development Process
- Approach and Scope
- Benefits of Planning for Sustainability
- Core Elements and Planning Steps

Background

- For the past several years EPA has undertaken a number of efforts to promote the sustainability of water infrastructure, utility operations, and communities
- These efforts are embodied in our *Clean Water and Safe Drinking Water Infrastructure Sustainability Policy,* issued in October, 2010
- In discussions as the Policy was developed, stakeholders repeatedly emphasized the importance of up-front planning to guide effective infrastructure decisions, before the infrastructure solution is decided
- Effective planning is also closely tied to our 2007 partnership with leading associations to promote effective utility management based on the *Attributes of Effectively Managed Utilities and Keys to Management Success*
- Finally , the Handbook can also help utilities focusing heavily on climate change through EPA's Climate Ready Water Utilities Initiative– more information is at *\http://water.epa.gov/infrastructure/watersecurity/climate/upload/crwu_brochure_v15_lowres_1.pdf*

Purpose

- The Handbook is organized around a series of Core Elements to help utilities consider several aspects of sustainability in their planning, including:
  - Setting utility sustainability goals and objectives that also support relevant community goals;
  - Analyzing a range of alternatives, including green infrastructure and other innovative approaches, based on full life-cycle costs; and
  - Implementing a financial strategy, including adequate rate structures, to ensure the alternatives selected are sufficiently funded, operated, maintained, and replaced over time.

Handbook Development Process

- Initiated in March 2010
- Developed with input from utility and other stakeholders—from initial concept to final review
  - Water and wastewater utility representatives, including large and small systems
  - Water, wastewater, and public works associations (WEF, AWWA, AMWA, NACWA, APWA, ASDWA, APA, NRWA)
  - State SRF officials
- Handbook published in February 2012

Approach and Scope

- Helps utilities enhance their existing planning through core elements and steps—not a new planning guidance
- Describes a process to build sustainability into utility infrastructure planning and investments – does not dictate what those specific investment decisions should be
- Is relevant for:
  - Water, wastewater, and stormwater utilities
  - A range of planning efforts and timeframes
  - Utilities facing multiple compliance challenges
  - New and replacement infrastructure decisions and operational changes
  - Small, medium, and large utilities in rural and urban areas

Benefits of Planning for Sustainability

- **Minimize costs** by optimizing investment choices, operating water and wastewater systems more efficiently, and pursuing cost-effective investment and management strategies.
- **Maximize results** of investments to ensure a continuing source of water, treatment, and discharge capacity, as well as financing capability.
- **Improve the ability to analyze a range of alternatives**, including both traditional and non-traditional infrastructure alternatives.
- **Engender greater support** for the utility by recognizing community values and sustainability priorities.
- **Ensure that financial and revenue strategies are adequate** to finance, operate, maintain, and replace essential infrastructure throughout its operational life, while appropriately considering the needs of disadvantaged households.

Core Planning Elements

1. Goal-Setting

Consider goals that reflect utility and community sustainability priorities

2. Objectives and Strategies

Establish objectives and strategies for each sustainability goal

3. Alternatives Analysis

Based on sustainability objectives, set explicit and consistent evaluation criteria to analyze a range of alternatives.

4. Financial Strategy

Develop a financial strategy reflecting full lifecycle costs and adequate revenues to ensure the system is sufficiently funded, maintained, and replaced over time.

Example: Energy Efficiency

1. Goal-Setting

Utility seeks to reduce its energy use consistent with the community's energy efficiency program

2. Objectives and Strategies

Utility sets objective of reducing energy use by 25% in 5 years; it conducts an energy audit to determine its baseline energy use and identifies potential projects to meet its objective

3. Alternatives Analysis

Utility evaluates all projects, in part, on their lifecycle energy costs (e.g., installation of high efficiency heat pumps) and their relative ability to meet the 25% energy use reduction objective

4. Financial Strategy

Utility revenue and borrowing strategy ensures sustainable financing of new projects, taking advantage of lower energy costs

Core Planning Elements

- For each element, the Handbook describes:
  - The element and how it enhances existing planning approaches
  - Key steps to implement the element
  - Approaches to implement the element on a smaller scale
  - Diagnostic questions for gauging how thoroughly an element has been addressed
  - One or more illustrative examples

Planning Element 1: Goal Setting—*Establish Sustainability Goals that Reflect Utility and Community Priorities*

Step 1. Identify sustainability priorities and potential opportunities for the utility

Step 2. Identify community sustainability priorities

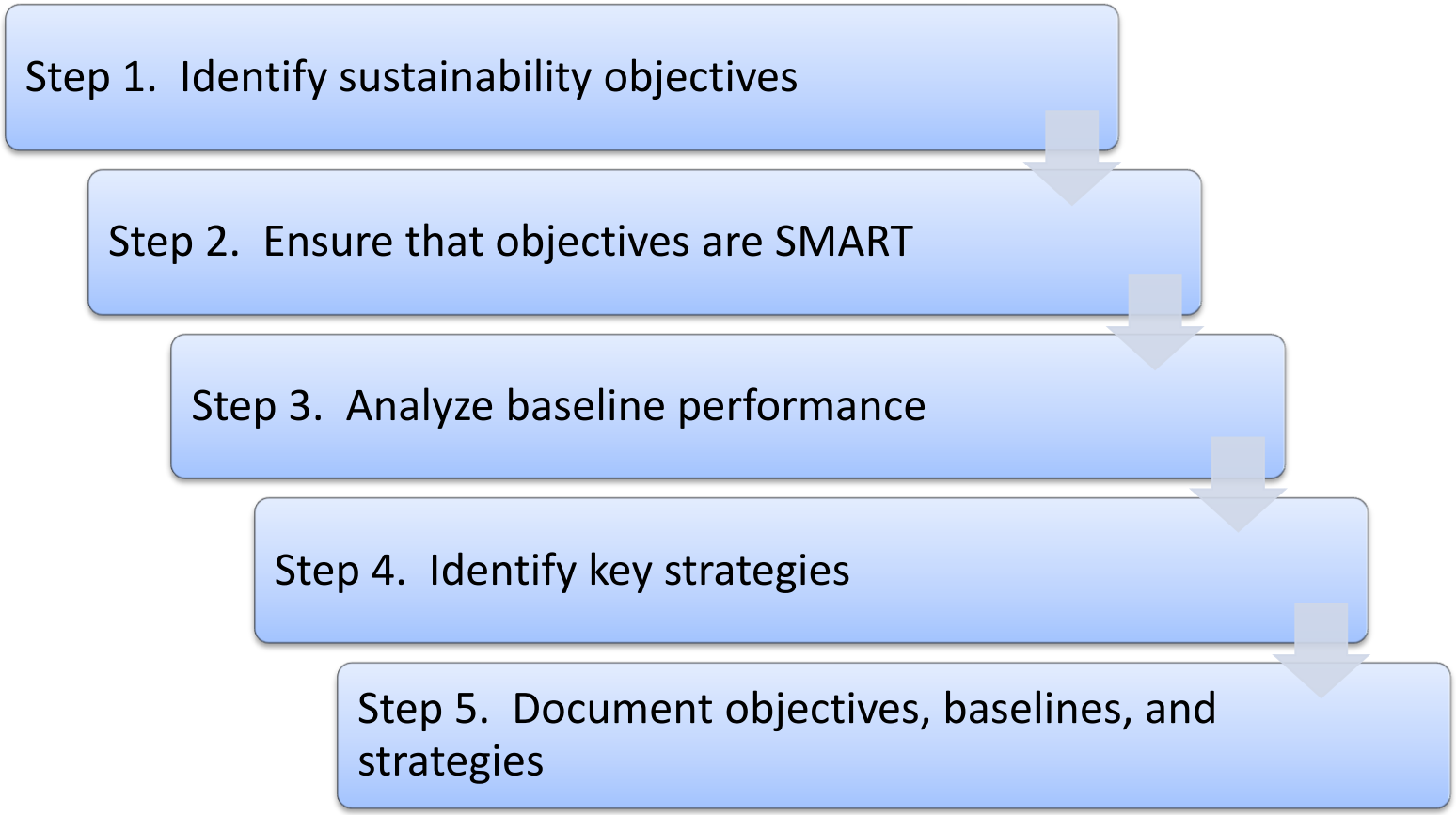
Step 3. Engage the community about its sustainability priorities

Step 4. Identify and document sustainability goals

Potential Sustainability Goals

- Improve compliance
  - *For example, establish collaborative partnerships with neighboring utilities to increase or maintain capacity or to share information and expertise.*
- Reduce energy cost
  - *For example, invest in more energy efficient equipment or explore operational changes that can enhance energy optimization.*
- Reduce overall infrastructure costs to communities
  - *For example, partner with other community agencies to coordinate infrastructure projects such as road repairs with service line replacement rain gardens.*
- Extend the projected adequacy of current water supplies
  - *For example, implement consumer water conservation programs, implement water metering, fix distribution system leaks, or make use of reclaimed water.*
- Address wet weather impacts
  - *For example, implement non-traditional infrastructure alternatives such as green infrastructure with integrated stormwater and combined sewer overflow control.*

Planning Element 2: Objectives and Strategies—*Establish Objectives and Strategies for Each Sustainability Goal*



Objectives, Baselines, and Strategies

Example

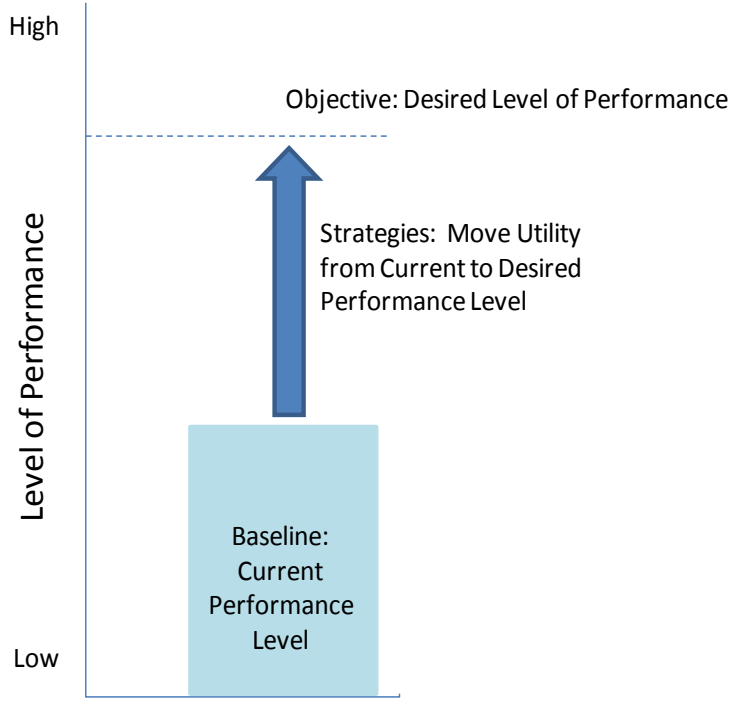
Sustainability goal: manage runoff effectively in wet weather events using green infrastructure

Objective: Reduce projected wet weather combined sewer collection system capacity needs by 10 percent through green infrastructure.

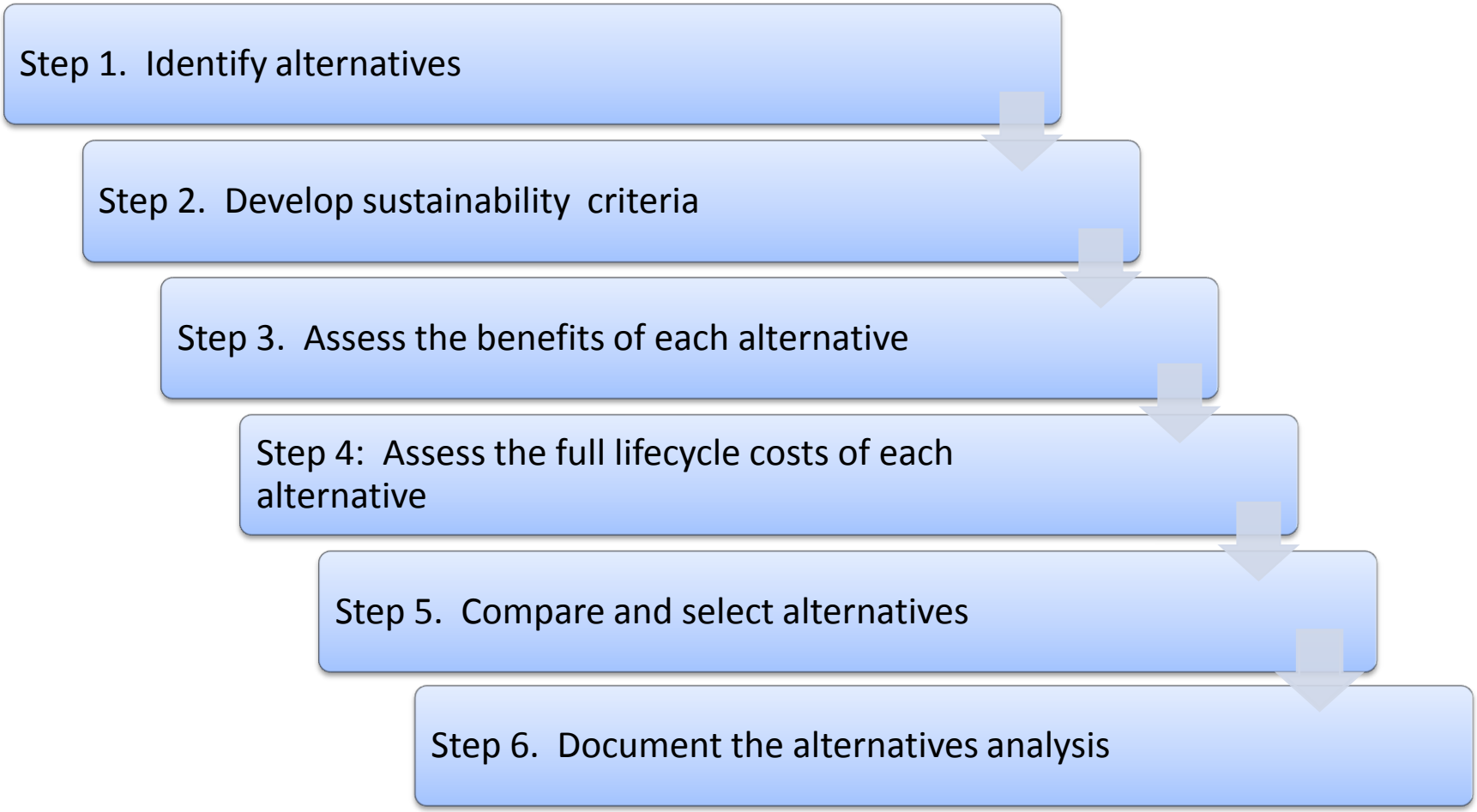
Baseline: Current CSO capacity needs given historical and anticipated precipitation event flows.

Potential Strategies: Green infrastructure alternatives and deployment options that will meet the 10 percent objective.

Illustration of Objective, Baseline, and Strategies



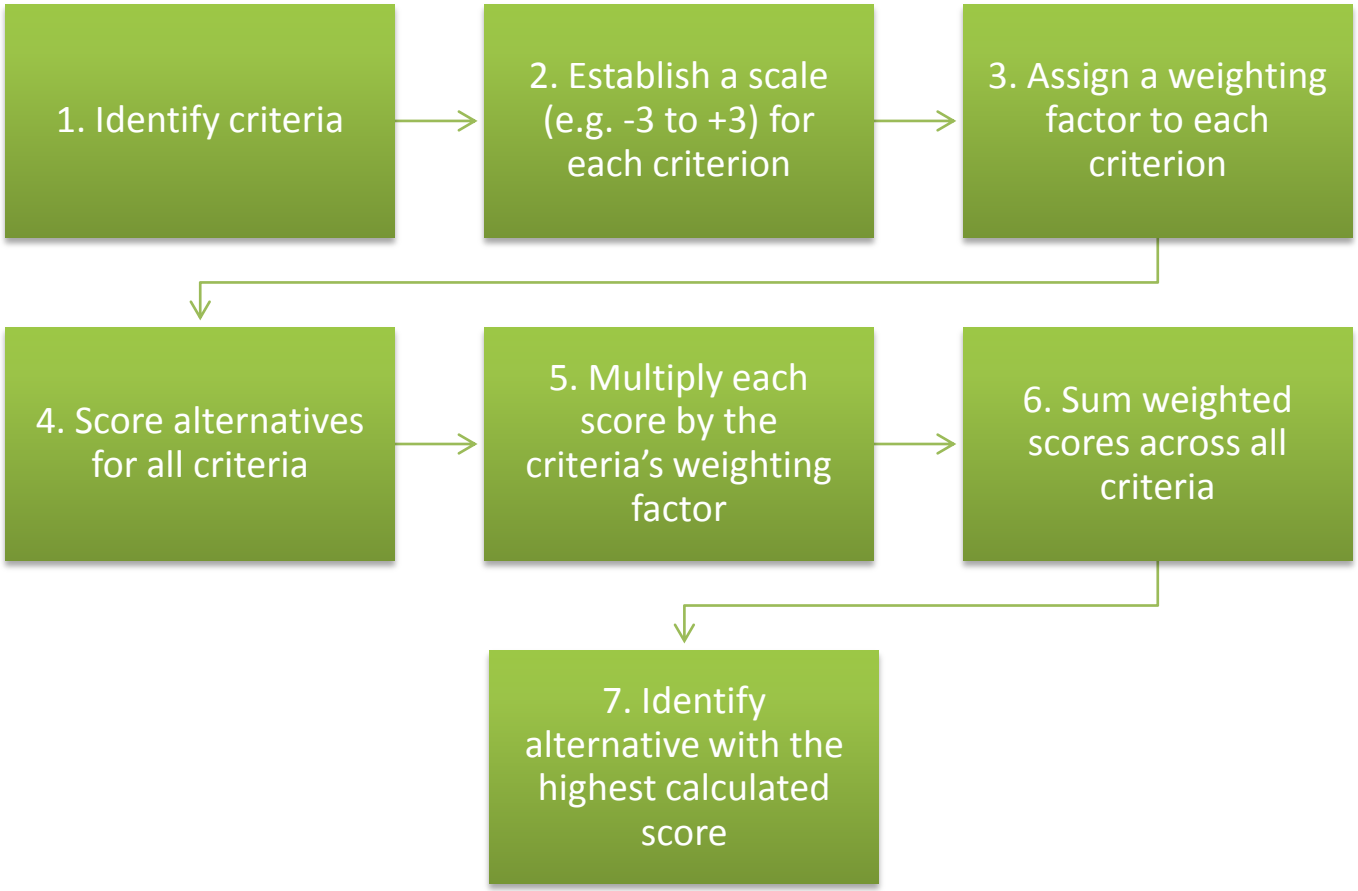
Planning Element 3: Alternatives Analysis—*Analyze a Range of Alternatives Based on Consistent Criteria*



Examples of Sustainability Criteria

- Ecological and economic impacts (e.g., the extent to which projects create habitat, green space, or recreation opportunities)
- Cost-effectiveness based on an assessment of full lifecycle costs.
- Ability to improve system reliability
- Ability to meet regulatory requirements
- Preference for treatment or operational functions that rely on natural systems for lower lifecycle operating costs through reduced energy and chemical inputs
- Reduced reliance on the energy grid through greater energy efficiency or self-generation of energy.
- The extent to which projects focus on sustainability of infrastructure in a utility's existing service area.

Process for Using a "Scorecard" Approach to Assess Alternatives



Planning Element 4: Financial Strategy—*Ensure that Investments are Sufficiently Funded, Operated, Maintained, and Replaced over Time*

Step 1: Account fully for all project capital costs

Step 2: Account fully for operations and maintenance costs

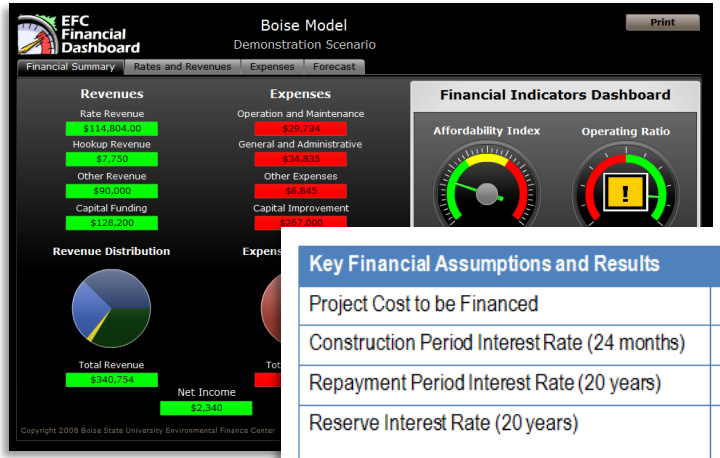
Step 3: Account for the impacts new projects may have on overall utility system costs and revenues

Step 4: Develop a capital financing strategy

Step 5: Determine current revenue adequacy and develop future revenue strategy

Financial Tools and Resources

Boise State Financial Dashboard

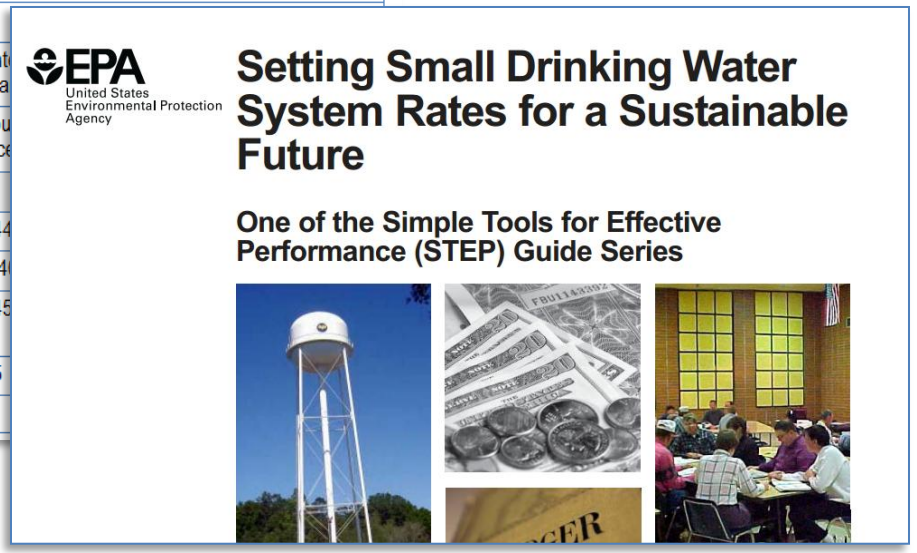


EPA FACT Tool

Key Financial Assumptions and Results	SRF Loan	Revenue Bond
Project Cost to be Financed	615,000	615,000
Construction Period Interest Rate (24 months)	2%	5.5%
Repayment Period Interest Rate (20 years)	2%	5.5%
Reserve Interest Rate (20 years)	(no reserve)	5.5% (int of the loa
Other selected costs specific to financing method	Reporting	Bond cou insurance
Results		
Total Financed	$616,230	$699,744
Total Costs	$800,260	$1,114,4
Net Present Value (NPV) of Total Costs (5.5% discount rate)	$428,810[19]	$617,945
Average cost per year	$36,375	$50,655

Source: EPA, FACT Overview presentation (on file)

EPA STEP Guides



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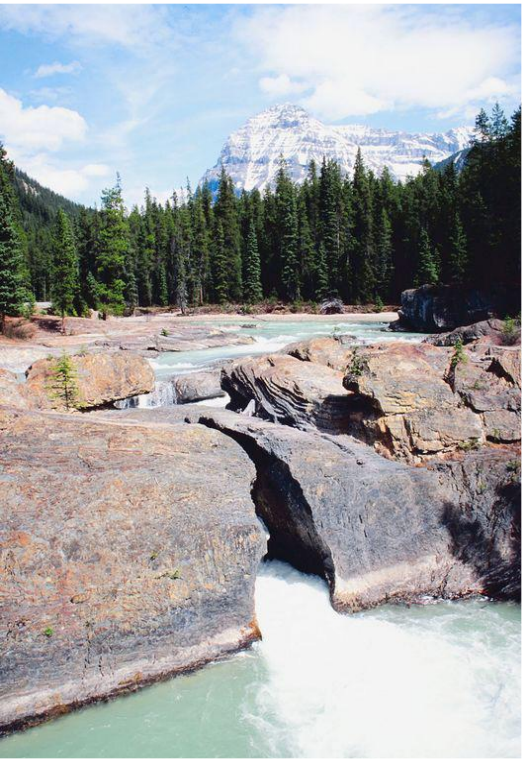

Questions and Answers

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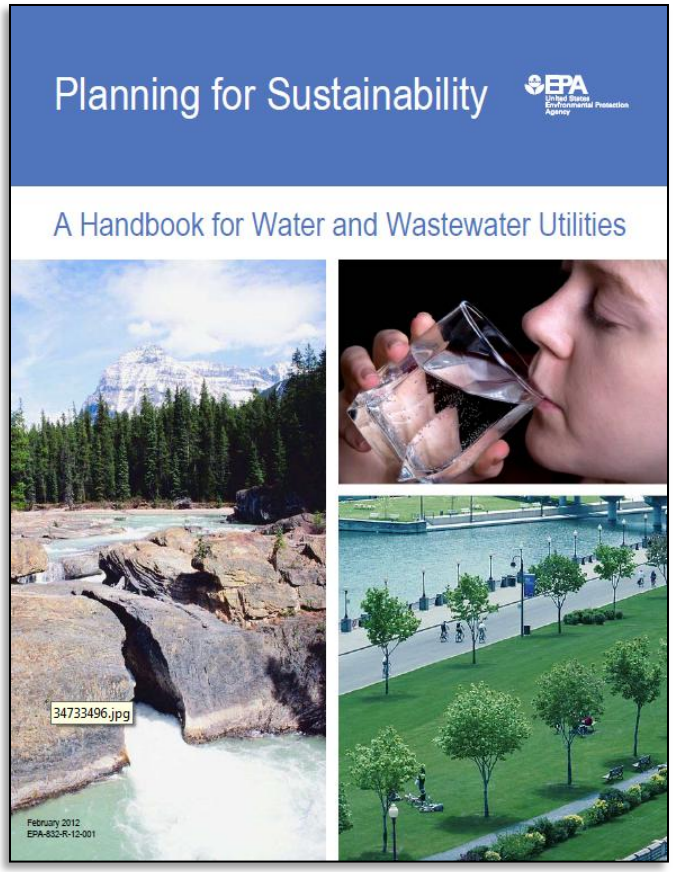
Future Webcasts on Planning for Sustainability

- Community Consultation for Sustainability Planning (September 2012)
- Incorporating Sustainability Considerations into Alternatives Analysis (December 2012)
- Ensuring Financial Sustainability (February 2013)

Thank you for participating



Please take a moment to provide feedback through the poll you receive when you exit the webinar

http://water.epa.gov/infrastructure/sustain/upload/EPA-s-Planning-for-Sustainability-Handbook.pdf