Smart Management for Small Water Systems

WEBINAR: Preparing Winning Financing Applications for Water Infrastructure Projects

Thursday, March 9 2017
2:00 – 3:00 PM EST

EFCN environmental finance center network

American Water Works Association

This program is made possible under a cooperative agreement with EPA.

Logistics

At the top right corner of your screen:

Show your control panel to submit questions and see answers

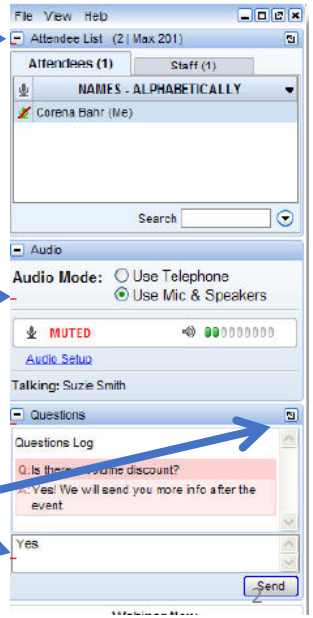
Toggle between full screen/window screen view

Control Panel:

Attendee List

Audio: please choose between speakers and telephone. If you do not hear audio right now, please check your speaker volume or enter #[audio pin]# if using phone.

Submit questions in the Questions box at any time, and press [Send]. To undock and increase the size of the box, click on top right corner icon.



About the Environmental Finance Center Network (EFCN)

The Environmental Finance Center Network (EFCN) is a university-based organization creating innovative solutions to the difficult how-to-pay issues of environmental protection and improvement. The EFCN works with the public and private sectors to promote sustainable environmental solutions while bolstering efforts to manage costs.

The Smart Management for Small Water Systems Program

This program is offered free of charge to all who are interested. The Program Team will conduct activities in every state, territory, and the Navajo Nation. All small drinking water systems are eligible to receive free training and technical assistance.

What We Offer

Individualized technical assistance, workshops, small group support, webinars, eLearning, online tools & resources, blogs

CEU Certificates

If you need a CEU certificate, you will need to confirm the following on the roster today before you leave:

- Is your name spelled correctly?
- Did you provide an email address UNIQUE TO YOU? A unique email address is required to access your certificate on the AWWA website.
- Did you mark the checkbox that you need a certificate?

Within 30 days of the training, you will receive an email with instructions to print your certificate. Emails from AWWA may be blocked or go to your Junk mail. To avoid this issue, add *educationservices@awwa.org* to your email Contacts or check your Junk mail frequently.

AWWA will apply to the water operator state licensing agency for CEU preapproval when applicable. You may be awarded CEUs by your agency. It is your responsibility to confirm with the agency that training meets relevancy criteria established for your license type as some agencies may not apply CEUs to your license if the training topic is not relevant to your position.

AWWA follows the IACET Standard of CEU calculation.
0.1 CEU = 1 Contact Hour or 1 Professional Development Hour

Questions? Please contact *educationservices@awwa.org*

The Small Systems Program Team

- Environmental Finance Center at The University of North Carolina at Chapel Hill
- Environmental Finance Center at Wichita State University
- EFC West
- New England Environmental Finance Center at the University of Southern Maine
- Southwest Environmental Finance Center at the University of New Mexico
- Syracuse University Environmental Finance Center
- Environmental Finance Center at the University of Maryland
- American Water Works Association (AWWA)

UNC Environmental Finance Center

Wichita State University Hugo Wall School of Public Affairs Environmental Finance Center

EFCWest Environmental Finance Center West

New England Environmental Finance Center

Southwest Environmental Finance Center

Environmental Finance Center Syracuse University

University of Maryland Environmental Finance Center

American Water Works Association

Areas of Expertise

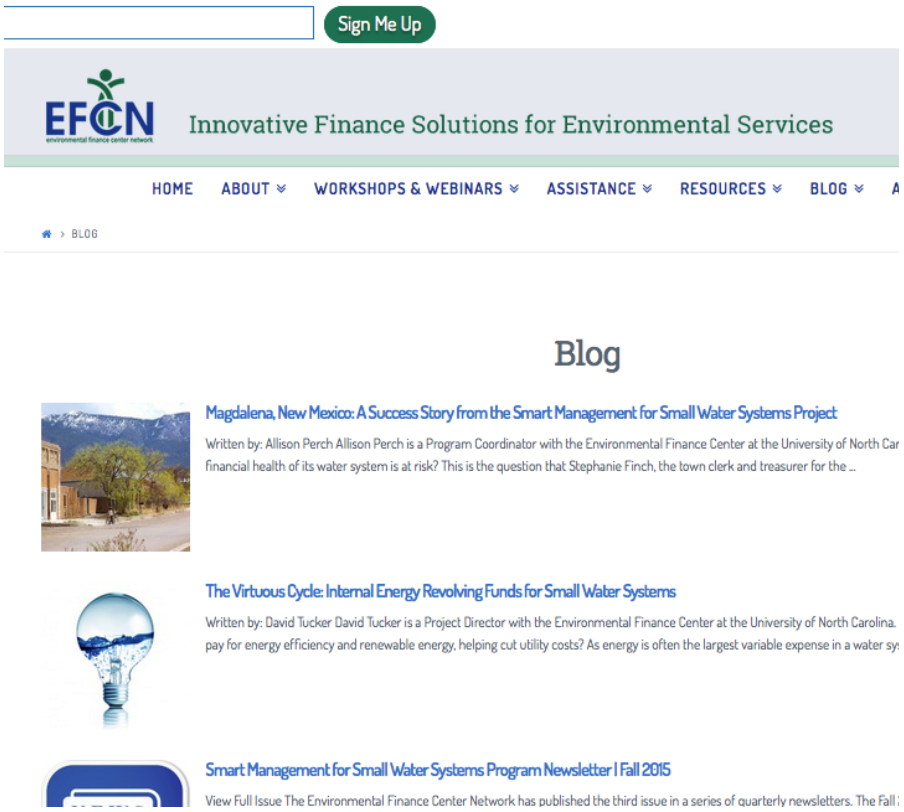
- Asset Management
- Energy Management Planning
- Rates and Finance
- Leadership Through Decision-making and Communication
- Managing Drought
- Water Loss Reduction
- Collaborating with Neighboring Communities
- Multi-funding
- Water Conservation
- Management and Finance Tools and Techniques
- Climate Change Resiliency
- Workforce Development

Small Systems Blog

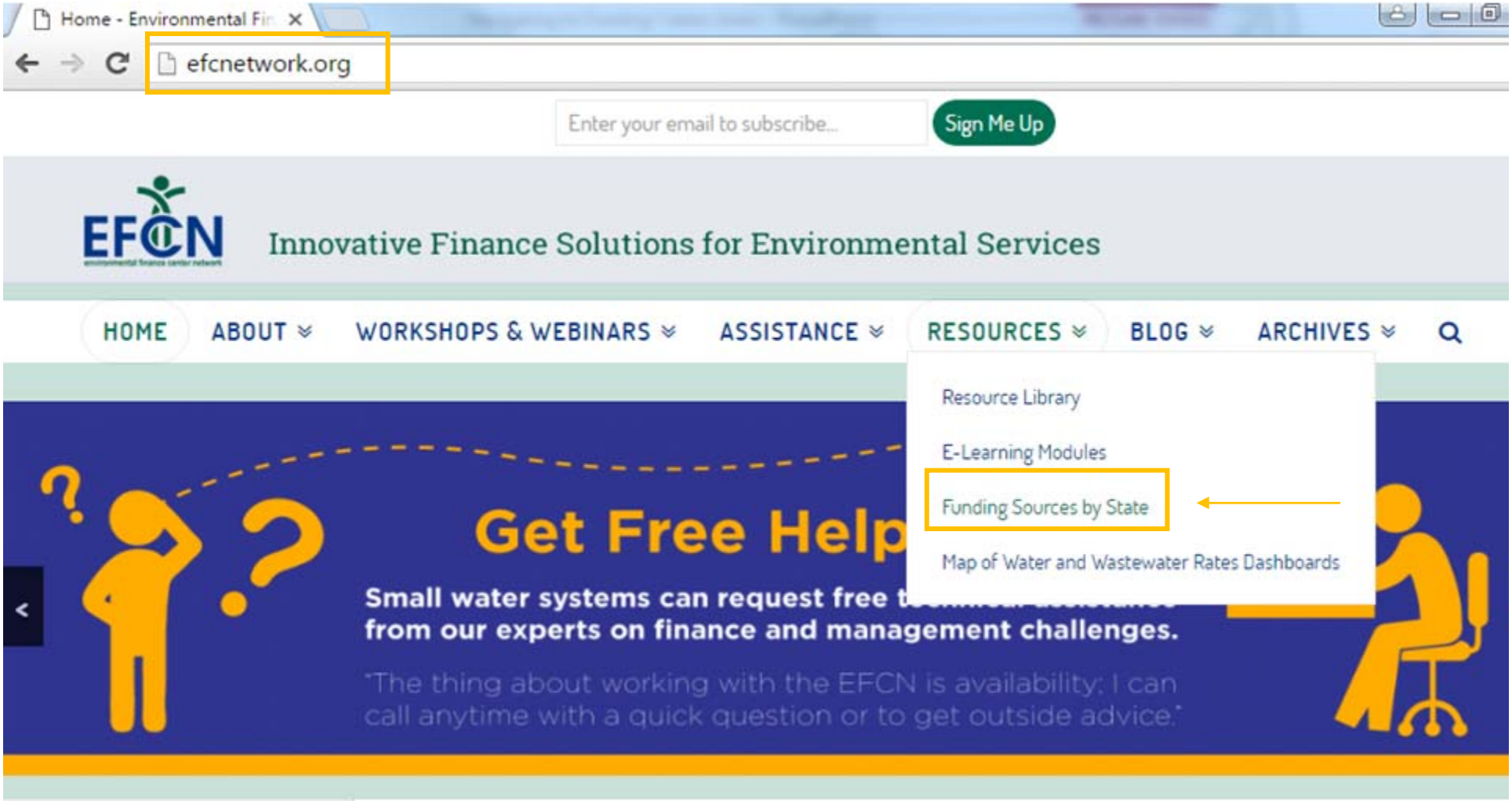
Learn more about water finance and management through our Small Systems Blog! Blog posts feature lessons learned from our training and technical assistance, descriptions of available tools, and small systems “success stories.”

Common Blog Topic Areas

- Asset Management
- Energy Management
- Enhancing Regulatory Compliance
- Fiscal Planning & Rate Setting
- Funding Coordination
- Managerial & Financial Leadership
- Water Loss Reduction
- Water System Collaboration



efcnetwork.org/small_systems_blog/



Navigating to Funding Tables

Step 1: efcnetwork.org
Step 2: Select “Funding Sources by State” under the Resources Tab

Funding Sources by State

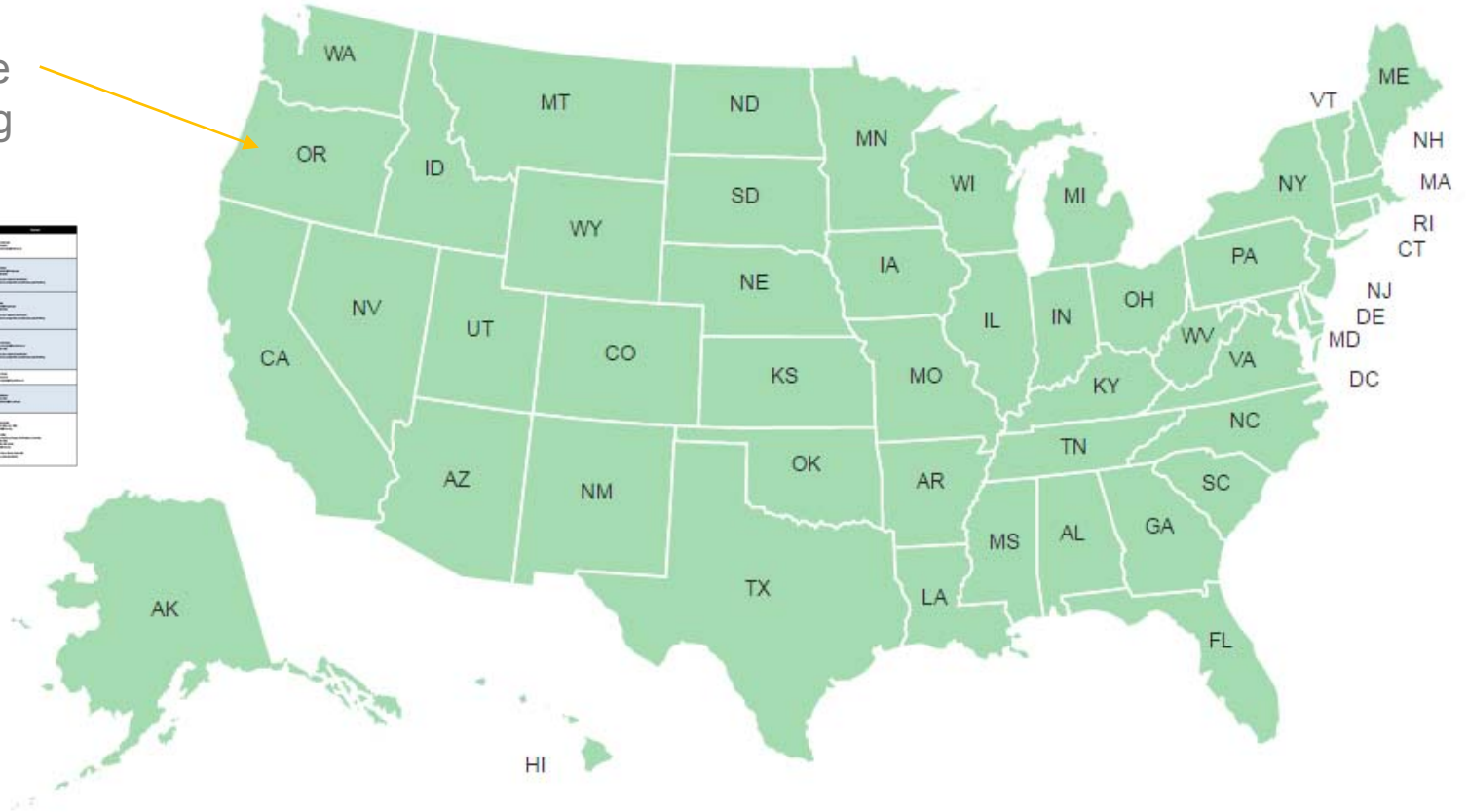
efcnetwork.org/funding-sources-by-state/

Funding Sources by State

Note: Some states may have additional resources listed below the map.

Click on the map below to view funding sources for each state:

Click on an individual state to view funding table.



Presenter

Stacey Isaac Berahzer

Senior Project Director
Environmental Finance Center
at the University of North
Carolina on Chapel Hill

UNC ENVIRONMENTAL FINANCE CENTER

UNC SCHOOL *of* GOVERNMENT

Dedicated to enhancing the ability of governments and other organizations to provide environmental programs and services in fair, effective, and financially sustainable ways through:

- Applied Research
- Teaching and Outreach
- Program Design and Evaluation

How you pay for it matters

Objectives

- Learn about the different financing programs available to drinking water systems
- Understand some of the requirements related to federal funding programs
- Learn tips on how to score higher on your application for financing

INTRODUCTION

Polling Question 3

From which of the following does your water system currently have the most financing?

(choose one)

- State Revolving Fund (SRF) loan
- USDA loan/grant
- Community Development Block Grant
- Bank
- Bonds
- NA

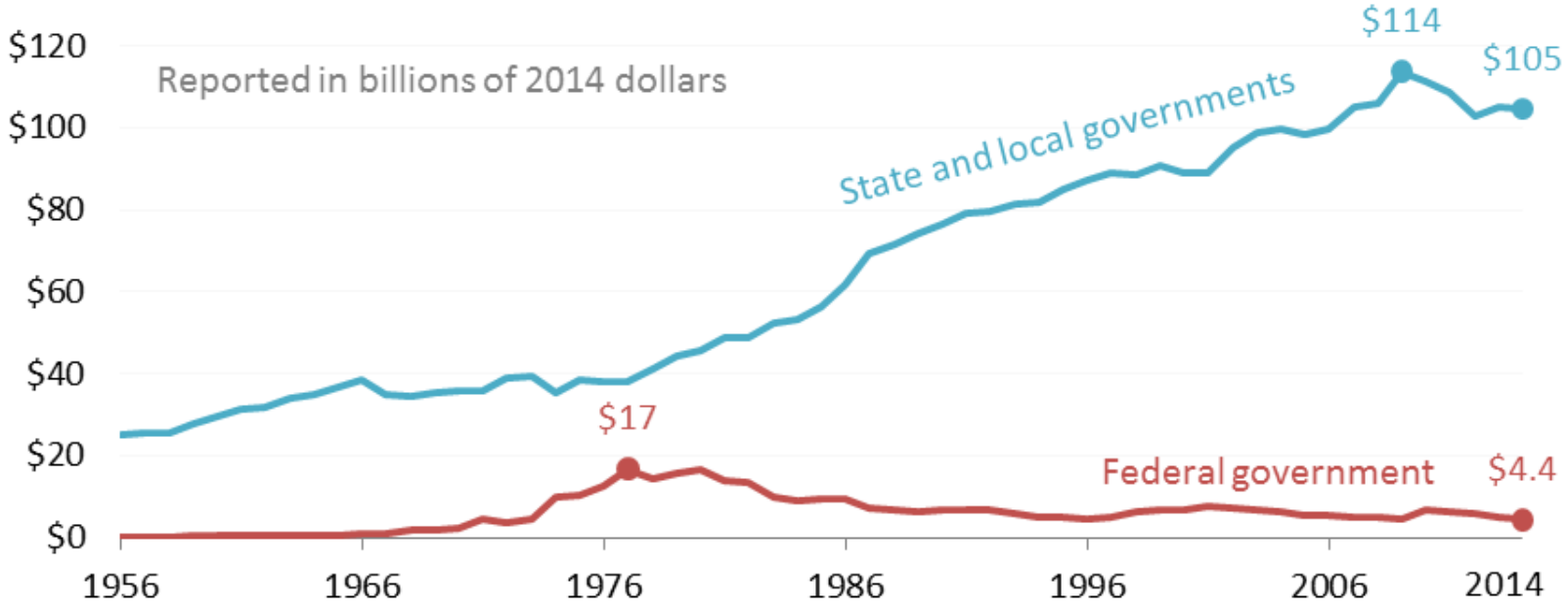
The Debt Market

- Why Borrow?

Grant money is not likely coming from the federal government

State and local government spending on water and wastewater utilities continued to grow while federal spending declined since the 1980s

State and local governments spent 24 times as much as the federal government in 2014



Graphed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Source: Congressional Budget Office supplemental data for the *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* report (March 2015). Displays public spending on supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants. Real spending is shown after adjusting nominal spending to their 2014 dollar equivalent using infrastructure-specific price indexes.

The Debt Market

- Why Borrow?
- Water infrastructure has a long useful life
- Amortizing the loan over the life of the equipment allows your customers to benefit from system improvements now and pay for them over time

When You Need Cash Now: The Debt Market

- Lenders consider the following when determining whether to loan money and at what interest rate:
  - your creditworthiness,
  - your ability to repay the debt

The Debt Market

- Two types—Loans and Bonds
  - Loans, can be more universally available, depending on the state
  - Bonds

Loans

- Typically from a bank
- Can be from a government-sponsored program

SRF Program

SRF - What is the State Revolving Fund (SRF) Program?

- There are 2 programs:
  - Drinking Water State Revolving Fund (DWSRF) – for "drinking water"
  - Clean Water State Revolving Fund (CWSRF) – traditionally for wastewater and other water quality projects
- A federal-state partnership:
  - States provide a 20% match on federal funds
  - Programs are administered by staff in the specific state

Drinking Water SRF

- Established by the 1996 amendments to the Safe Drinking Water Act (SDWA)
- All 50 states and PR have a DW SRF
- Congress appropriates funding for the DWSRF
- EPA then awards capitalization grants to each state based on the results of the Drinking Water Infrastructure Needs Survey and Assessment
- Bulk of money goes into a revolving loan fund
- Provides loans and other authorized assistance to water systems for eligible infrastructure projects

Federal Capitalization Provides Initial Funding

States Match Federal Capitalization Grants (20 percent of federal capitalization)

State DWSRF Program

Bond Proceeds

Bond Repayments

Low-Interest Loans

Loan Repayments

Bond Holders Provide Additional Funding

SRF - The Intended Use Plan (IUP)

- IUP – describes how the state plans to use available funds, includes list of *potential* projects
- A draft IUP must be posted for public comment
- Includes the Project Priority List …

SRF - Green Infrastructure Projects Reserve?

- Green Projects include:
  - Water efficiency, including meters
  - Energy efficiency
- Congress decides from year to year whether to include the Green Project Reserve as a requirement

SRF - Disadvantaged Communities?

- Some states offer additional incentives for low-income communities
- Eligibility criteria depends on the state

SRF - Additional subsidization may be provided as:

- Grants
- Principal forgiveness
- Negative interest rate loans

USDA – Rural Development

Rural Development - Addressing Rural Water and Waste Disposal Infrastructure Needs

- Rural areas rely on USDA, Rural Development's RUS to finance water and waste infrastructure improvements.
- Many programs to serve rural America
  - Water and Waste Disposal (WWD) Loans & Grants
  - Emergency Community Water Assistance Grants
  - Technical Assistance and Training Grants
  - Other programs

Slide provided by Benjamin Shuman, Senior Engineer
USDA, Rural Utilities Service

Rural Development - Applicant Eligibility

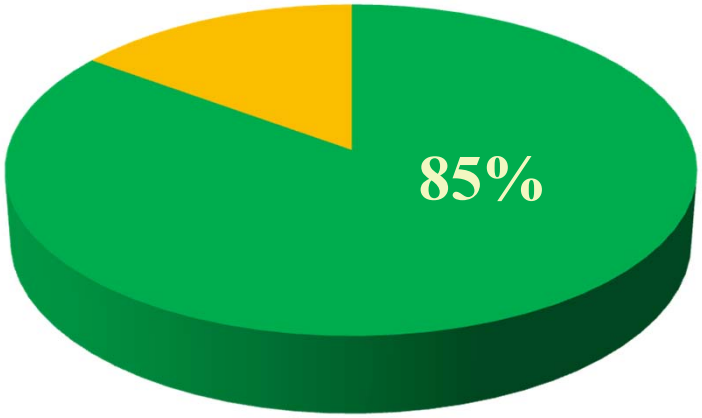
- Not for Profit Entities
- Native American Tribes
- Cities, Towns and rural areas under 10,000 population

Unable to obtain commercial credit at reasonable rates and terms

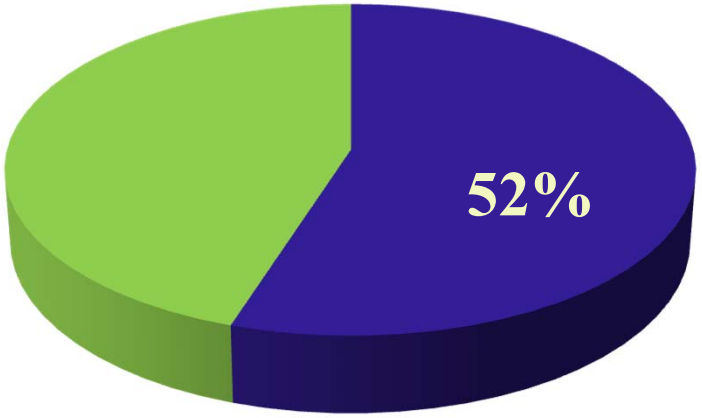
Slide provided by Benjamin Shuman, Senior Engineer
USDA, Rural Utilities Service

Rural Development - **Exclusively Rural Focus**

The majority of RUS projects funded serve populations well below 10,000.



5,000 or Fewer



1,500 or Fewer

Slide provided by Benjamin Shuman, Senior Engineer
USDA, Rural Utilities Service

Rural Development - Interest Rates (adjusted quarterly)

- For Current Rates, see https://www.rd.usda.gov/files/UWP-InterestRates.pdf
  - Poverty example: 2.000%
  - Intermediate example: 2.750%
  - Market example: 3.375%
- Terms: 40 years, state law, or useful life

Rural Development - Preliminary Engineering Reports

- Engineering analysis of need for the project, alternative solutions, and detailed description of the proposal
- Limited grant funds may be available to communities to assist in paying for PERs
  - Preliminary Planning Grants
  - SEARCH grants

Slide provided by Benjamin Shuman, Senior Engineer
USDA, Rural Utilities Service

Other Funding Programs – Federal and State

Navigate to Funding Tables

Step 1: efcnetwork.org
Step 2: Select “Funding Sources by State” under the Resources Tab

REQUIREMENTS RELATED TO FEDERAL FUNDING

Application Requirements

- Preliminary Engineering Report (PER)
- Environmental Report
- Financial and other documentation

Slide provided by Benjamin Shuman, Senior Engineer
USDA, Rural Utilities Service

Davis-Bacon Act Wage Rules

- Must use the most recent wage determination, found here:
  - http://www.wdol.gov/dba.aspx
- Select the appropriate state and county
- Select Construction Type “Heavy”
- Click “Search”
- Print the determination page and include it in project specifications and bid documents

American Iron and Steel Provision

- Requires iron and steel products in construction of projects be produced in the United States
- Waivers may be requested for an exception when necessary
- EPA Q&A document may be found here:
  - https://www.epa.gov/cwsrf/american-iron-and-steel-requirement-guidance-and-questions-and-answers
- EPA Training Material may be found here:
  - https://www.epa.gov/cwsrf/american-iron-and-steel-requirement-training-materials

Disadvantaged Business Enterprises (DBE)

- Typically Minority or Woman-Owned
- Must be given the opportunity to bid on any federally-funded project
- Assistance recipient must show a “good faith effort” to allow DBE’s to bid
- Not required to hire DBE

Reporting

- 3 major areas for federal programming
  - DBE
  - American Iron & Steel
  - Davis-Bacon

Project Signage

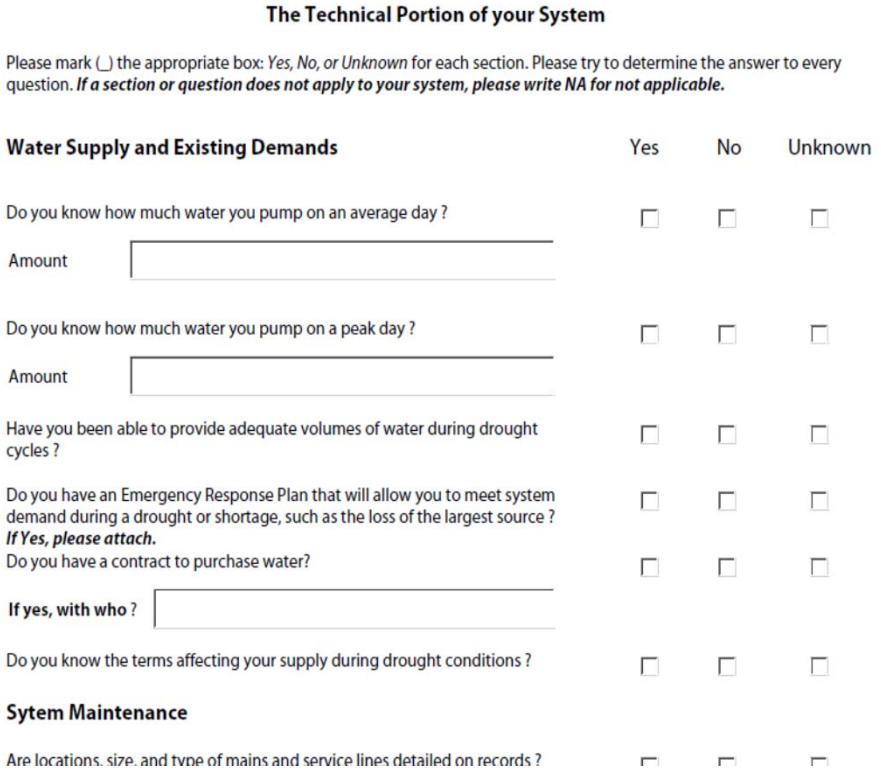
- Required for federally funded projects
- Options
  - Standard Signs
  - Posters or flyers hung in a public place
  - Newspaper or periodical advertisement
  - Online “sign” on community webpage or social media
  - Press release

TIPS ON HOW TO SCORE HIGHER ON YOUR FUNDING APPLICATION

Capacity Assessment

- Example from Utah: Worksheets for Public Water Systems
- Online at:

http://www.deq.utah.gov/forms/water/dw/docs/2014/03Mar/pdf/e-capassworksheet.pdf



The Technical Portion of your System

Please mark (_) the appropriate box: *Yes, No, or Unknown* for each section. Please try to determine the answer to every question. ***If a section or question does not apply to your system, please write NA for not applicable.***

Water Supply and Existing Demands	Yes	No	Unknown
Do you know how much water you pump on an average day ?	☐	☐	☐
Amount			
Do you know how much water you pump on a peak day ?	☐	☐	☐
Amount			
Have you been able to provide adequate volumes of water during drought cycles ?	☐	☐	☐
Do you have an Emergency Response Plan that will allow you to meet system demand during a drought or shortage, such as the loss of the largest source ? ***If Yes, please attach.***	☐	☐	☐
Do you have a contract to purchase water?	☐	☐	☐
If yes, with who ?			
Do you know the terms affecting your supply during drought conditions ?	☐	☐	☐
Sytem Maintenance			
Are locations, size, and type of mains and service lines detailed on records ?	☐	☐	☐

Can You Sleep at Night?

Is your system self sufficient?	Operating Ratio
Are you able to cover your debt service after paying for your day to day operations?	Debt Service Coverage Ratio
If your customers stop paying their bills, how long can you maintain operations?	Days Cash on Hand
Can your system meet its short term obligations?	Current Ratio
How much of your system's expected life has already run out?	Asset Depreciation

Whiteboard Video:
Financial Benchmarking for Water Utilities

http://www.waterrf.org/Pages/Projects.aspx?PID=4366

Quick Review of Key Financial Indicators

Operating Ratio

Current Ratio

Debt Service Coverage Ratio

Days of Cash on Hand

Asset Depreciation

Is your system self-sufficient?

Operating Ratio

$$\frac{\text{OPERATING REVENUES}}{\text{OPERATING EXPENSES}}$$

Include or Exclude

DEPRECIATION

ANNUAL COST OF WEAR AND TEAR ON THE SYSTEM

Read more: http://efc.web.unc.edu/2015/02/27/operating-ratio/

Are you able to cover your debt service after paying for your day to day operations?

Debt Service Coverage Ratio

$$\frac{\text{OPERATING REVENUES} - \text{OPERATING EXPENSES (EXCLUDING DEPRECIATION)}}{\text{PRINCIPAL} + \text{INTEREST PAYMENTS ON LONG TERM DEBT}}$$

GREATER THAN 1.25

Read more: http://efc.web.unc.edu/2015/04/23/debt-service-coverage-ratio/

Can your system meet its short term obligations?

Current Ratio

$$\frac{\text{UNRESTRICTED CURRENT ASSETS EXCLUDING INVENTORIES AND PREPAID ITEMS}}{\text{CURRENT LIABILITIES}}$$

Read more: http://efc.web.unc.edu/2015/10/01/key-indicator-current-ratio/

If your customers stop paying their bills, how long can you maintain operations?

Days Cash on Hand

$$\frac{\text{UNRESTRICTED CASH AND INVESTMENTS}}{\text{OPERATING EXPENSES EXCLUDING DEPRECIATION \& AMORTIZATION / 365}}$$

Read more: http://efc.web.unc.edu/2015/06/24/days-cash-on-hand/

How much of your system's expected life has already run out?

Asset Depreciation

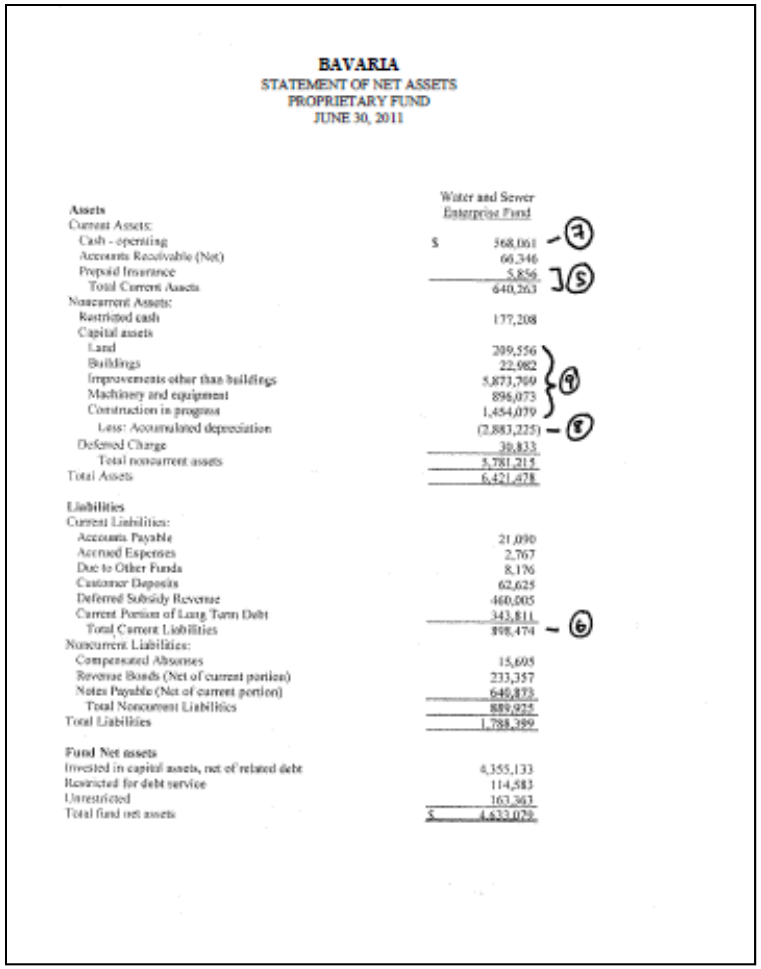
$$= \frac{Accumulated\ Depreciation}{Gross\ Plant\ and\ Equipment}$$

Caveat: this indicator is only as accurate as your depreciation schedule, and even then historic pricing is likely to distort the results.

Where Do We Get Started?

- Local governments: audited financial statements

- Non-governments: balance sheets, shareholder reports, annual reports, etc.



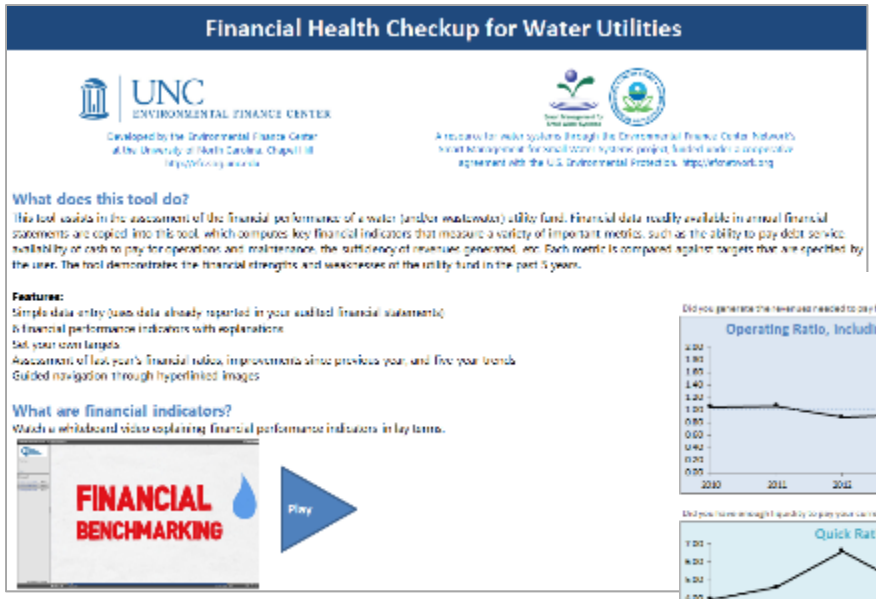
BAVARIA
STATEMENT OF NET ASSETS
PROPRIETARY FUND
JUNE 30, 2011

	Water and Sewer Enterprise Fund
Assets	
Current Assets:	
Cash - operating	$ 568,061
Accounts Receivable (Net)	66,346
Prepaid Insurance	5,856
Total Current Assets	640,263
Noncurrent Assets:	
Restricted cash	177,208
Capital assets	
Land	209,556
Buildings	22,982
Improvements other than buildings	5,873,769
Machinery and equipment	896,073
Construction in progress	1,454,039
Less: Accumulated depreciation	(2,883,225)
Deferred Charge	30,833
Total noncurrent assets	5,781,215
Total Assets	6,421,478
Liabilities	
Current Liabilities:	
Accounts Payable	21,090
Accrued Expenses	2,767
Due to Other Funds	8,176
Customer Deposits	62,625
Deferred Subsidy Revenue	460,005
Current Portion of Long Term Debt	343,811
Total Current Liabilities	898,474
Noncurrent Liabilities:	
Compensated Absences	15,605
Revenue Bonds (Net of current portion)	233,357
Notes Payable (Net of current portion)	646,873
Total Noncurrent Liabilities	889,925
Total Liabilities	1,788,399
Fund Net assets	
Invested in capital assets, net of related debt	4,355,133
Restricted for debt service	114,583
Unrestricted	163,363
Total fund net assets	$ 4,633,079

Financial Health Checkup for Water Utilities

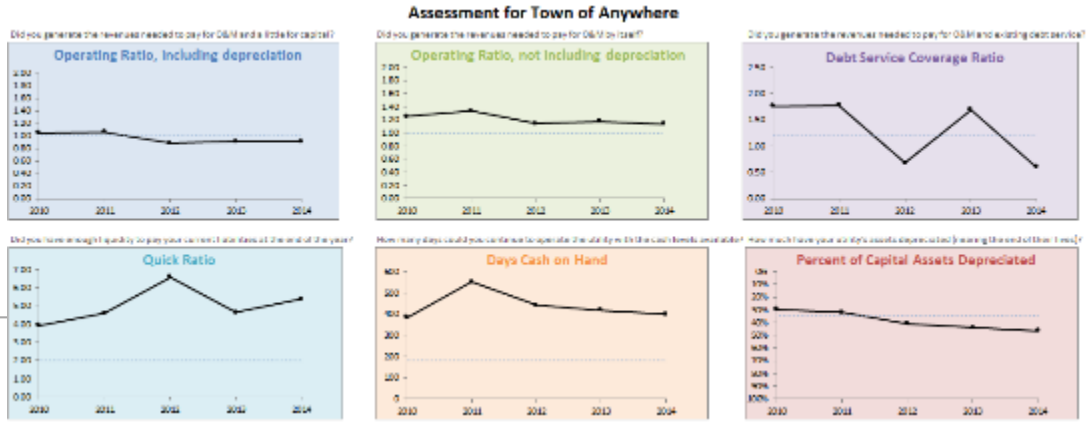
http://efc.sog.unc.edu or http://efcnetwork.org

Find the most up-to-date version in Resources / Tools



Excel®- based tool

Free to use

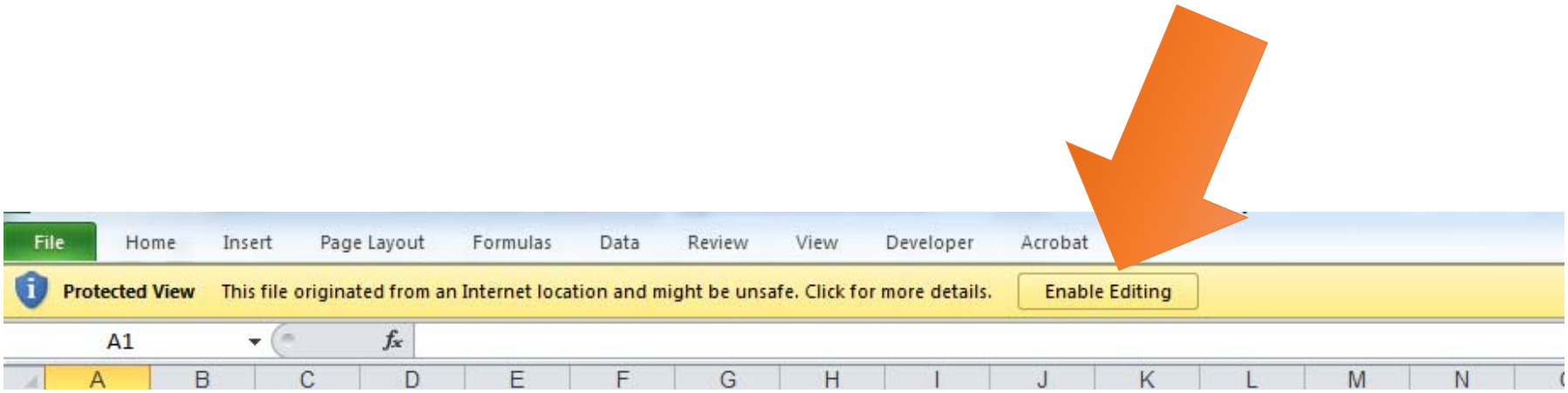


Created by the Environmental Finance Center at the University of North Carolina, Chapel Hill's School of Government

A resource for water systems from the EFCN's Smart Management for Small Water Systems project

funded under a cooperative agreement with the U.S. E.P.A.

Tip: when you first use this file after downloading from our website, click on “Enable Editing” at the top



Why Care About This?

- Funders and ratings agencies care about this
- As you think about the future needs of your system, you have to know where you are starting from

So....

- Now that we know where we are, let's decide where we are going…

- How do we estimate the future costs and revenues?

Two Related Concepts:

Asset Management
&
Capital Planning

Working smarter *not harder* is the essence of Effective Management / Asset Management

Asset Management Helps You Have the Most Impact in Your System By Spending Your Limited Dollars in the Best Way Possible

Five Core Components of AM

Current State of the Assets

Level of Service

Criticality

Life Cycle Costing

Long-Term Funding

Current State of the Assets

- What do I own?
- Where are the assets?
- What condition are they in?
- How much useful life is remaining?
- What is the replacement value?

Level of Service

Involve Customers

Involve Staff

Measurable Goals: Internal and External

Track Progress Towards Meeting Goals

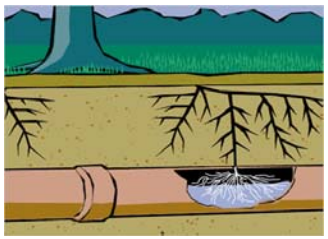
What would my customers want?

Asset Criticality

What is the probability or likelihood that a given asset will fail?

How do my assets fail?

What's the condition of my assets?



Asset Criticality

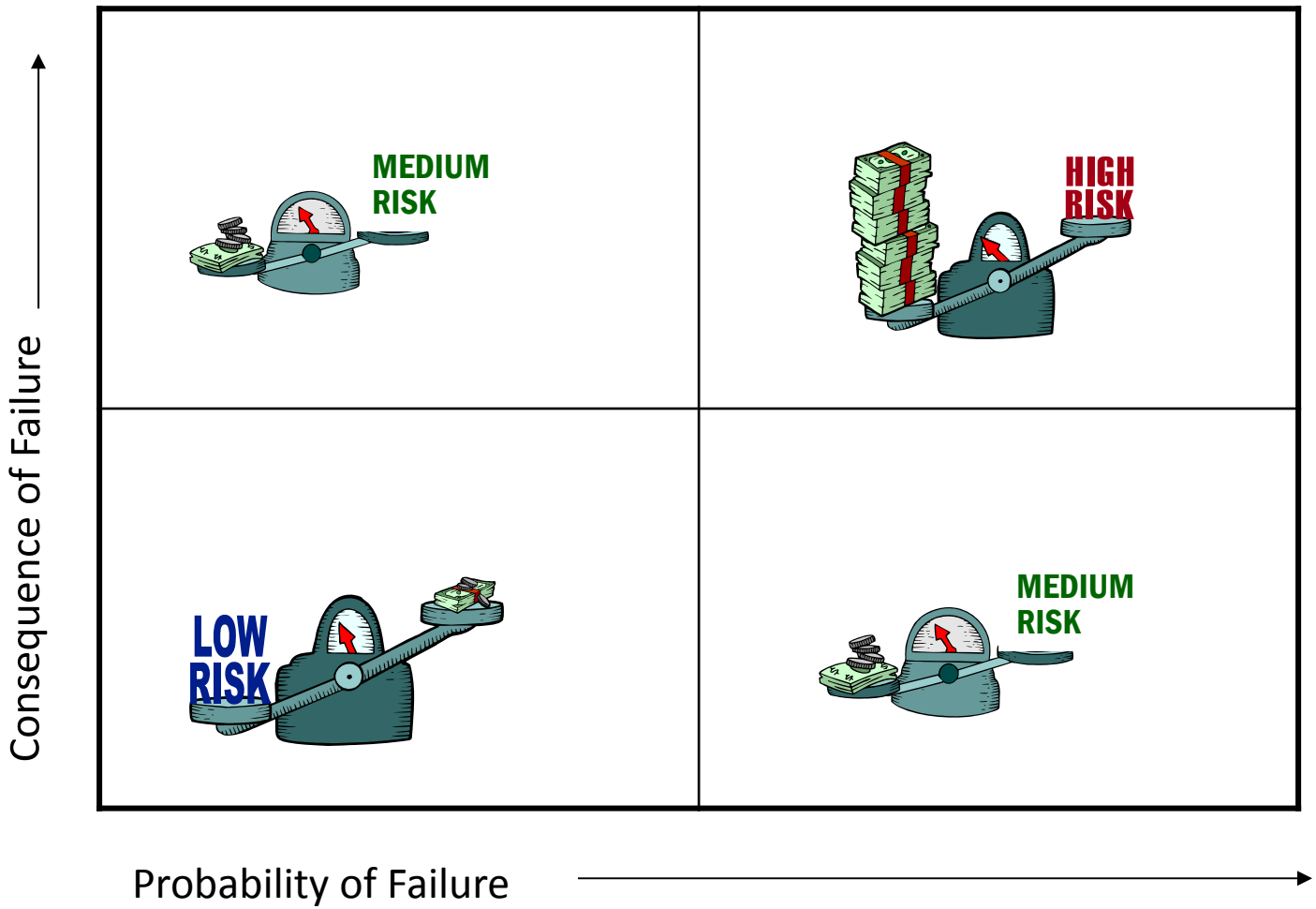
What is the consequence if the asset does fail?

What is the cost of the repair?

Are there legal consequences, environmental consequences, social consequences?

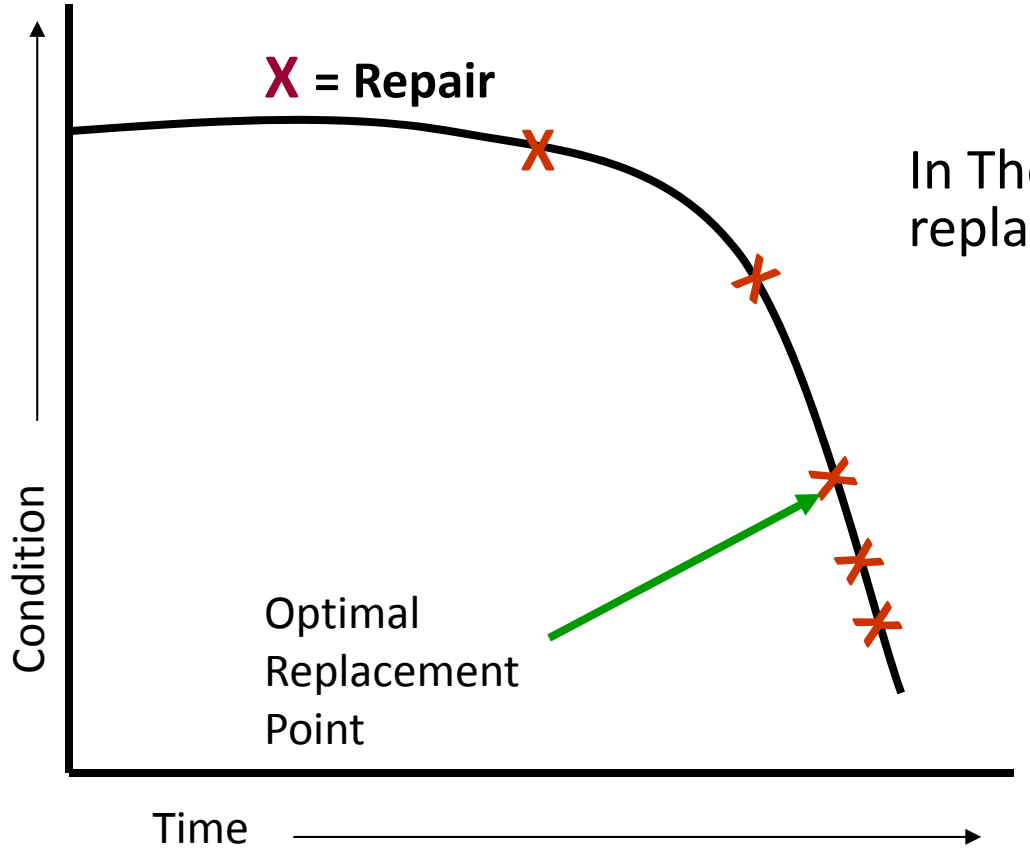
Are there redundant assets?

Asset Criticality



Which category of assets do I care the most about? The least?

Life Cycle Costing: Replacement of Assets



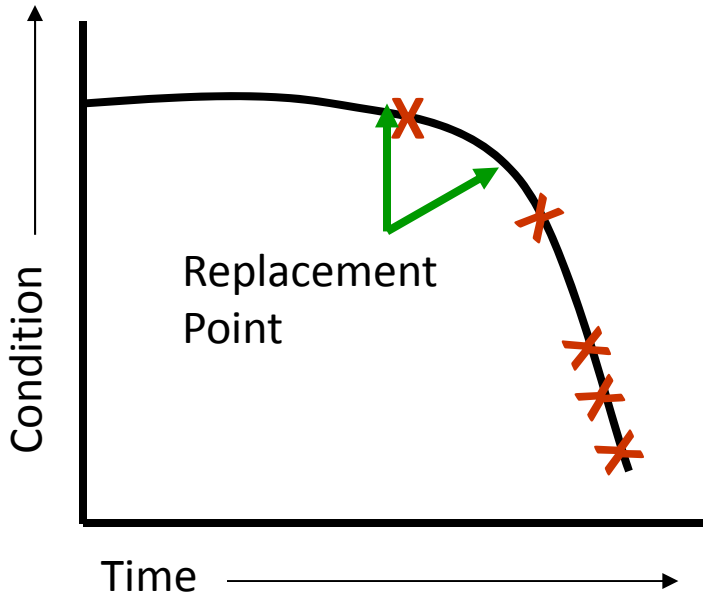
In Theory, there is an exact right time to replace an asset

Not possible to know the optimal time to replace every asset

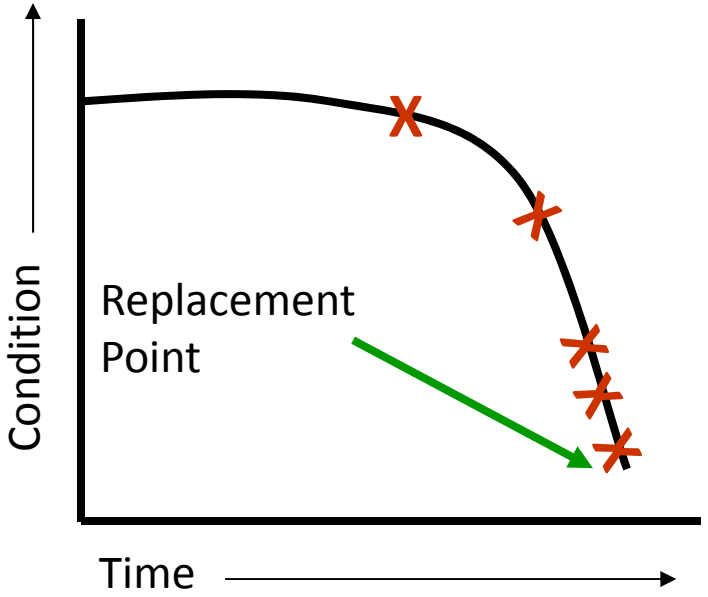
So… need to use the concept of risk

Life Cycle Costing & Risk

High risk : replace assets early, before failure



Low risk assets: run to failure and replace afterwards



Long Term Funding

- This is where capital planning comes in
- Once you figure out how to get the longest life out of your assets, plan to have the money you need to replace them when necessary
- More on this Asset Management Framework at: https://www.env.nm.gov/dwb/assistance/documents/AssetManagementGuide.pdf

Long Term Capital Plan

- An official multi-year document that identifies and prioritizes capital projects, identifies funding sources, and sets timelines

Capital Improvement Program

- Identify regulatory deficiencies (discuss with regulatory agencies, look at proposed regulations, talk to consultants), in a 10-20 year window
- Identify growth needs, expansion

Capital Improvement Program

- Identify deferred maintenance problems or where current service is inadequate
- Prioritize based on need realizing that “hidden” infrastructure tends to be ignored

Capital Improvement Program - Timelines

- Use **Asset Management Plan** to plan for capital expenses in the long term (~20 years)

Capital Improvement Program - Timelines

- Create a **Capital Improvement Plan** with a narrower timeline (~5 years) in more detail. Specify the projects and accurate estimates of cost. Plan where money will come from.

Capital Improvement Program - Timelines

- Create a **Capital Improvement Budget** with an even narrower timeline (1 – 2 years) committing funds for the planned capital projects. Get it approved/adopted.

Example Capital Improvement Plan (CIP)

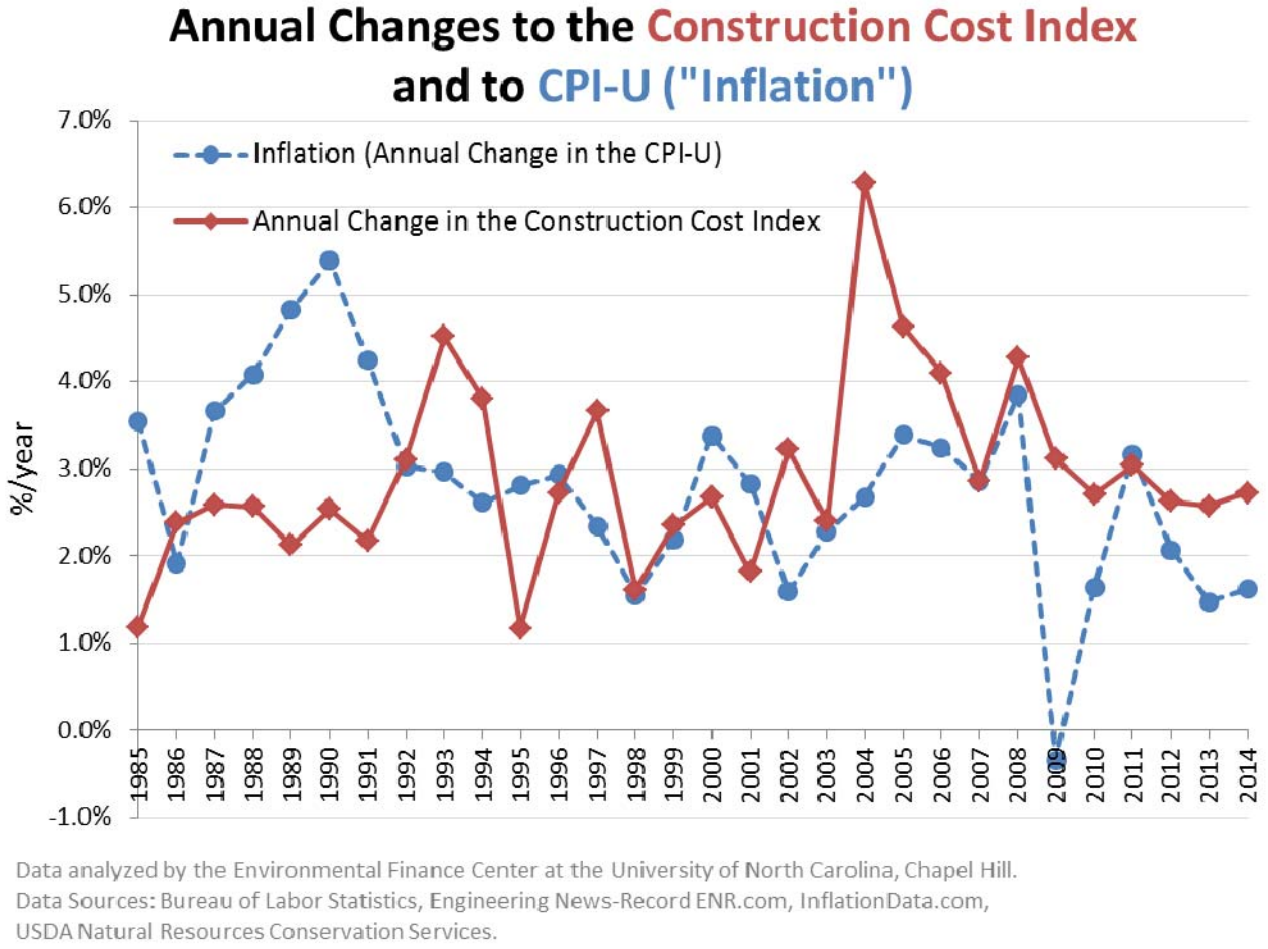
	Planning Years (Values in 000s)						
Project Name	**FY 02**	**FY 03**	**FY 04**	**FY 05**	**FY 06**	**Future**	**Total**
Water Supply & Treatment							
Water Treatment Objective							
Lime pumps and slakers	740						740
Chemical Enclosures		500					500
Filter 7-18 Control			330				330
Filter Gallery Rehab	1,140						1,140
High Service Pumps		1,500					1,500
Upgrade or Replace Reclaim System Drier	200						200
New Membrane Skids				5,700			5,700
Sodium Hypochlorite Plant	2,000						2,000
Additional Storage Tanks					5,000	3,300	8,300
Repair R/O Capacity		150					150
Filter Gallery Mech Parts	300						300
MMIS						150	150
VFDs - HSP		344					344
Membrane Replacement		1,600					1,600
Painting of Water Plant						3,000	3,000
Phase II Emergency Power Generator						1,500	1,500
Portable Generator - South Well Field				150			150
Repalcement of Fuel Tanks			170				170
Upgrade of Existing Control System @ WTP						580	580
							81
Water Treatment Total	4,380	4,094	500	5,850	5,000	8,530	28,354

Where Can You Find the Prices?

- Call a vendor. Actually, call a few.
- Ask other systems
- Look at past expenses but adjust for increases in costs

Measures of Inflation

- Consumer Price Index (CPI)—measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services
- Construction Cost Index (CCI)—average prices for labor and key construction materials from 20 cities across the United States



Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Data Sources: Bureau of Labor Statistics, Engineering News-Record ENR.com, InflationData.com,
USDA Natural Resources Conservation Services.

http://efc.web.unc.edu/2012/09/26/using-an-index-to-help-project-capital-costs-into-the-future/

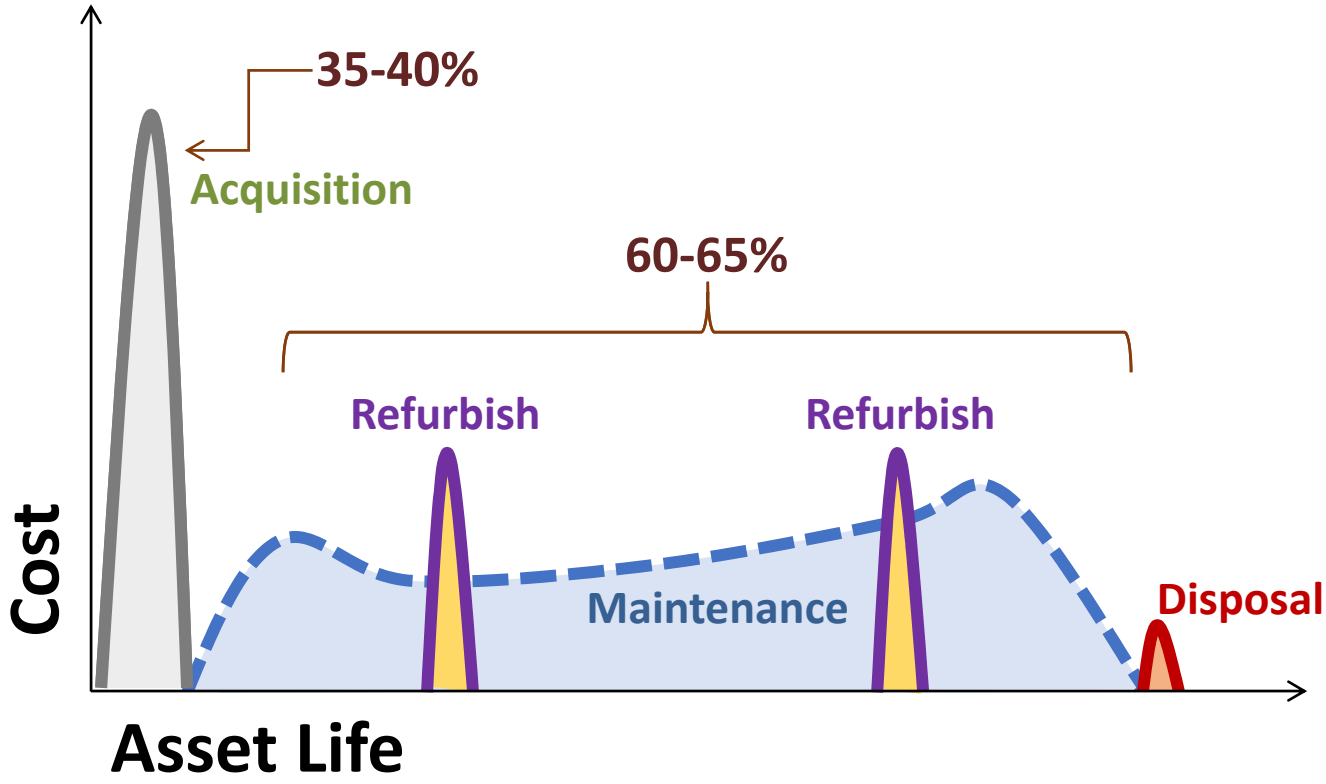
Drive Down the CIP Cost

- Is it possible to
  - Eliminate projects?
  - Defer projects?
  - Repair or refurbish instead of replace?
  - Find a non-asset solution?
  - Find collaboration/partnerships alternatives with neighboring systems?
  - Improve balance of cash vs. debt-financed?
- Re-evaluate water demands of your customers. Many systems are now noticing that *total* demand is *decreasing* over time.

Reminder: Life Cycle Costing

- Purchase Price ≠ Total Price

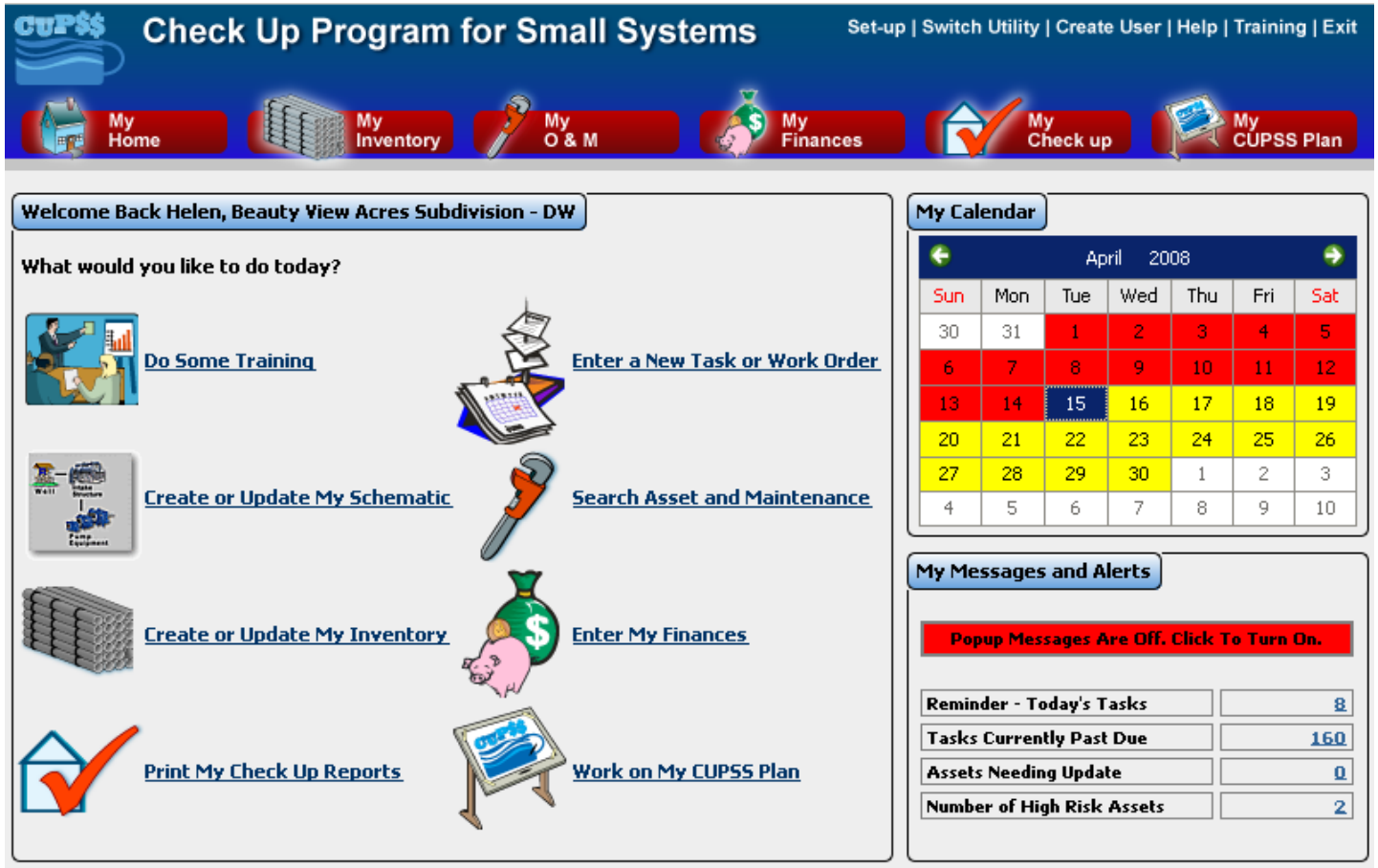
Capital Investments are Just the Tip of the Iceberg…



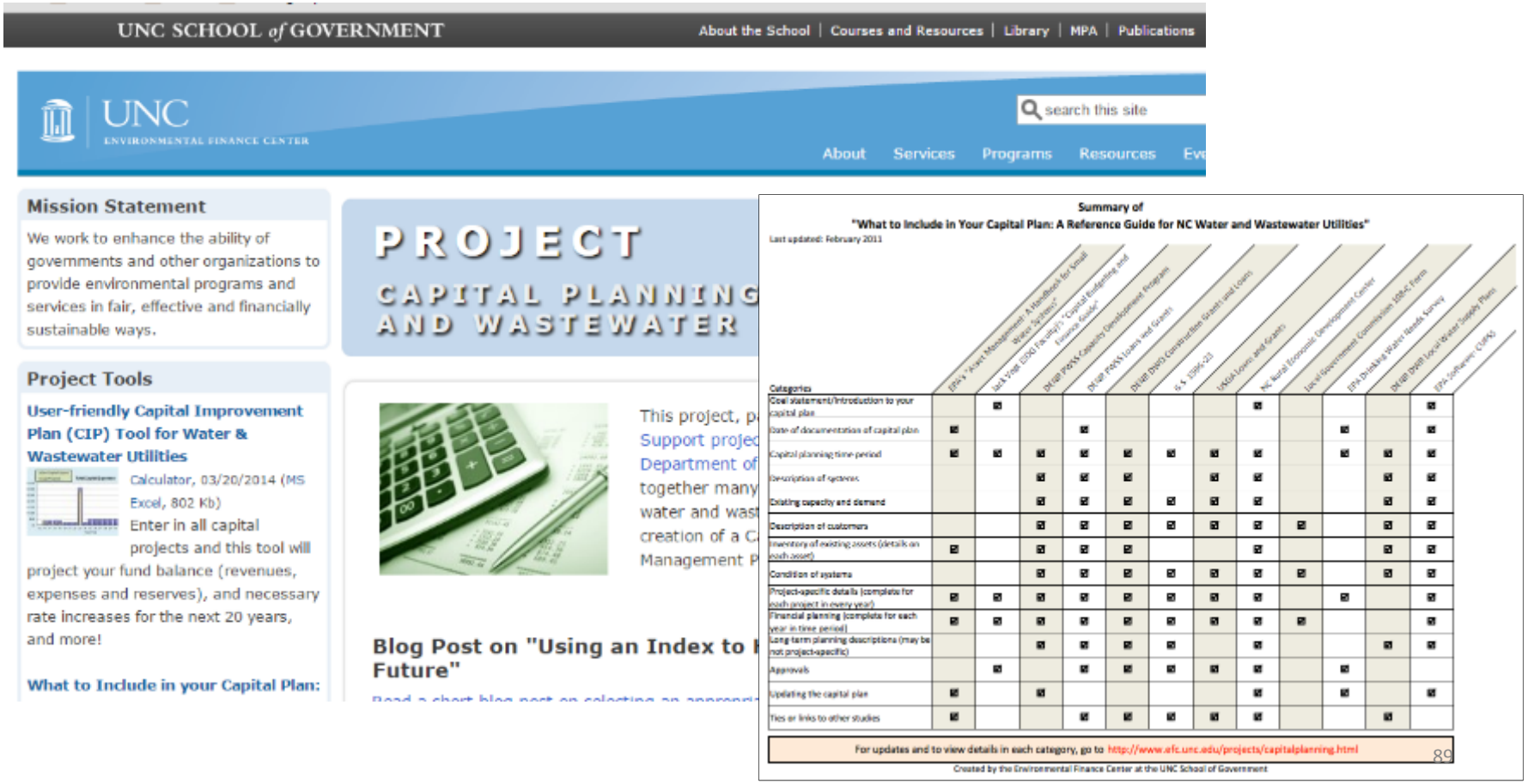
Source: Adapted from Steve Allbee, USEPA

Software: CUPSS (EPA)

http://www.epa.gov/cupss/

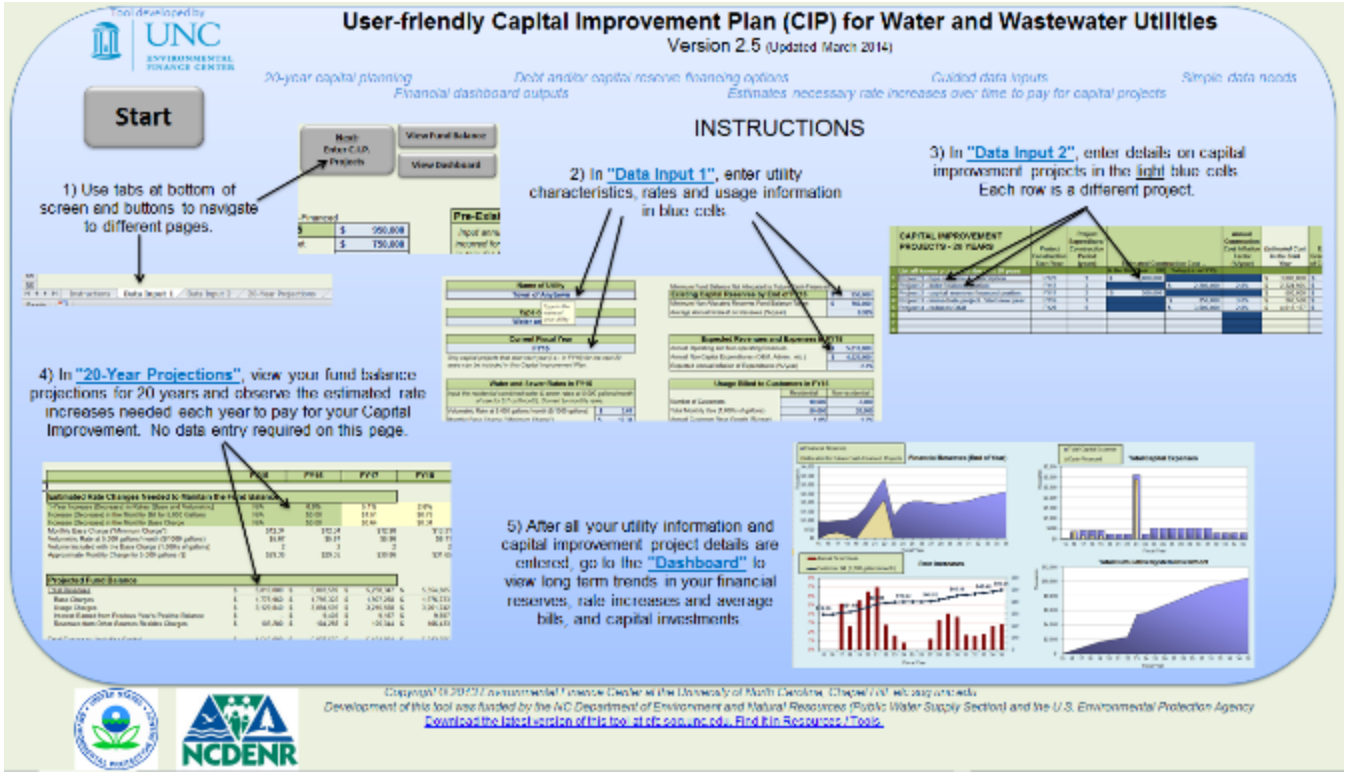


Resource Webpage for Capital Planning



User-Friendly Capital Improvement Plan (C.I.P.) for Water & Wastewater Utilities Tool

Free, simplified CIP tool using only MS Excel,
developed by the Environmental Finance Center at UNC.

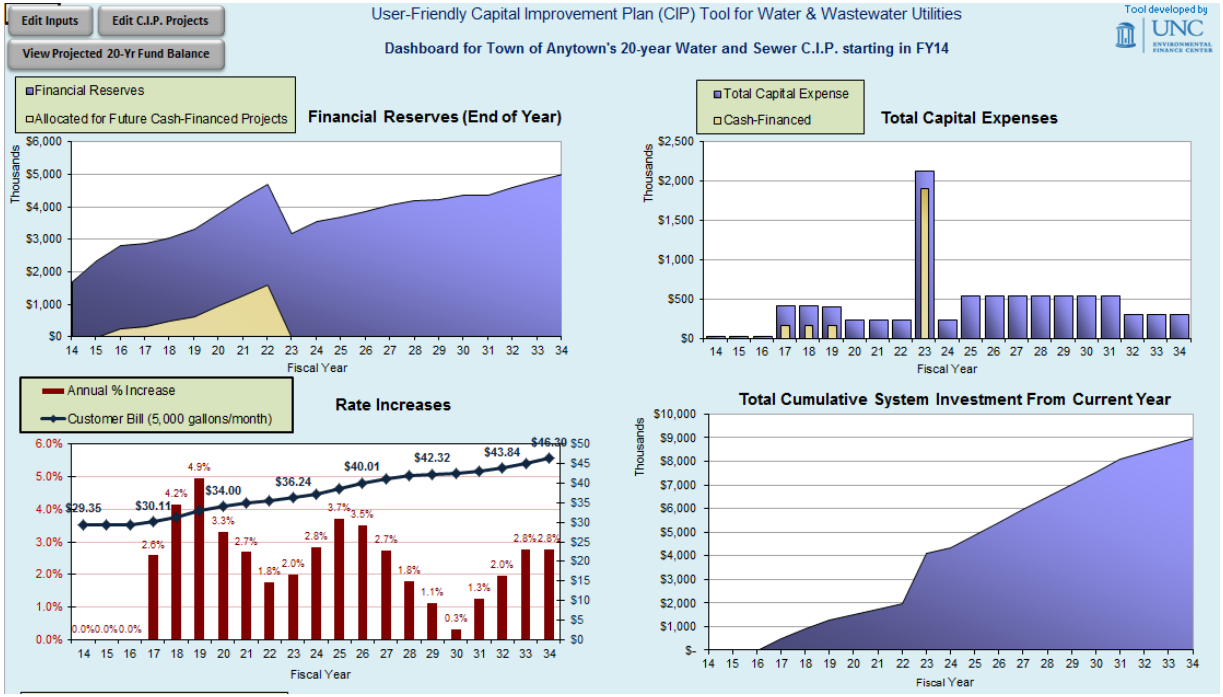


Download the latest version at http://efc.sog.unc.edu. Find it in Resources / Tools.

Tool development was funded by the Public Water Supply Section of DWR/ NCDENR and partly by the USEPA.

What the Tool Does

Summarizes your utility's capital needs in the next 20 years, and estimates rate increases needed to fully fund the capital projects, based on debt and/or cash funding requirements



Rate setting

Will it provide sufficient cost recovery?

What exactly does this include?

Are we following the applicable laws?

Will revenues be resilient to changing water demands?

Are we allocating the costs to the right customers?

Do these rates send the right signals to our customers, based on our objectives?

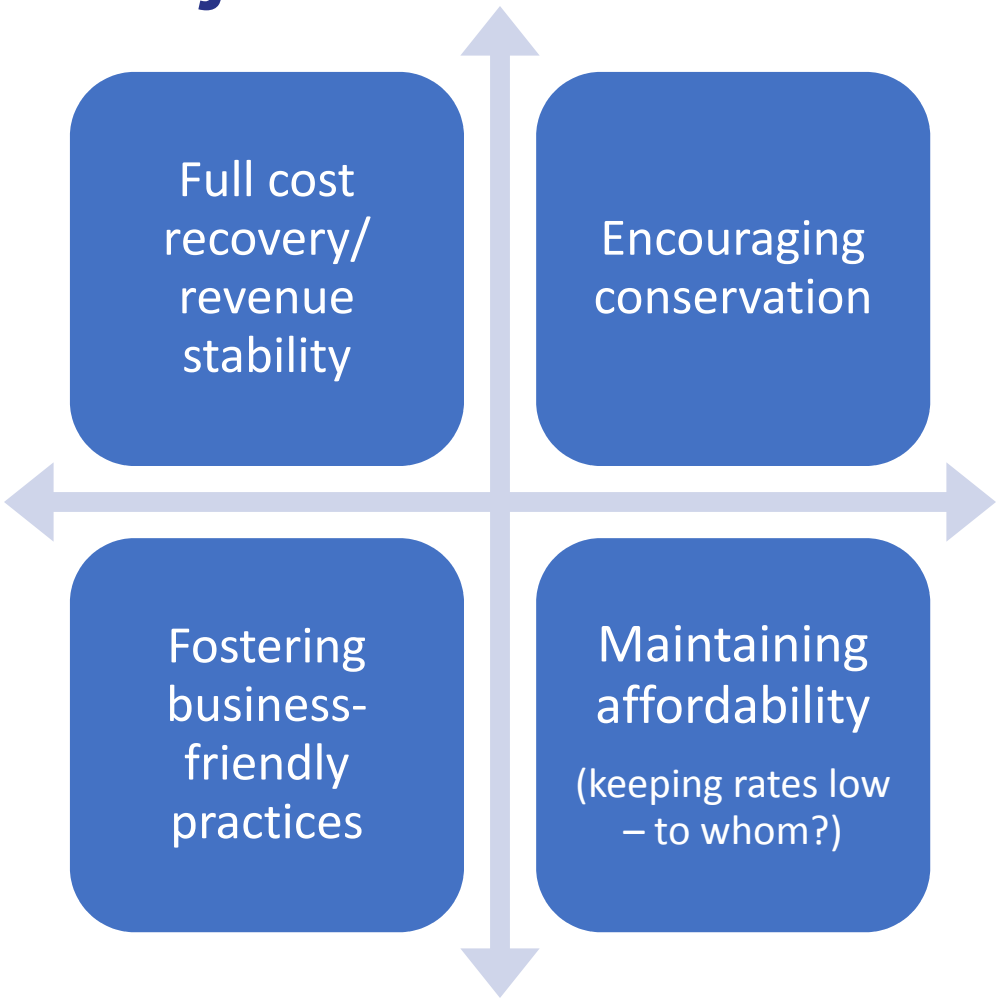
Will our customers understand these rates?

Will our customers be able to pay these rates?

“Full Cost Pricing”

- Operations & maintenance expenditures
- Taxes and accounting costs
- Contingencies for emergencies
- Principal and interest on long-term debt
- Reserves for capital improvement
- Source water protection

Rank Your Rate Setting Objectives



1. _____
2. _____
3. _____
4. _____

Refer to this list and focus on the highest ranked objectives when following the guidelines for selecting the appropriate rate structure design.

Elements of Rate Structure Designs

1. Customer classes/distinction
2. Billing period
3. Base charge
4. Consumption allowance included with base charge
5. Volumetric rate structure
6. (If applicable) Number of blocks, block sizes and rate differentials
7. (Optional) Drought Rates
8. Frequency of rate changes

How Rates and Usage Interact

Set rates based on projected water use

Raising rates lowers water use

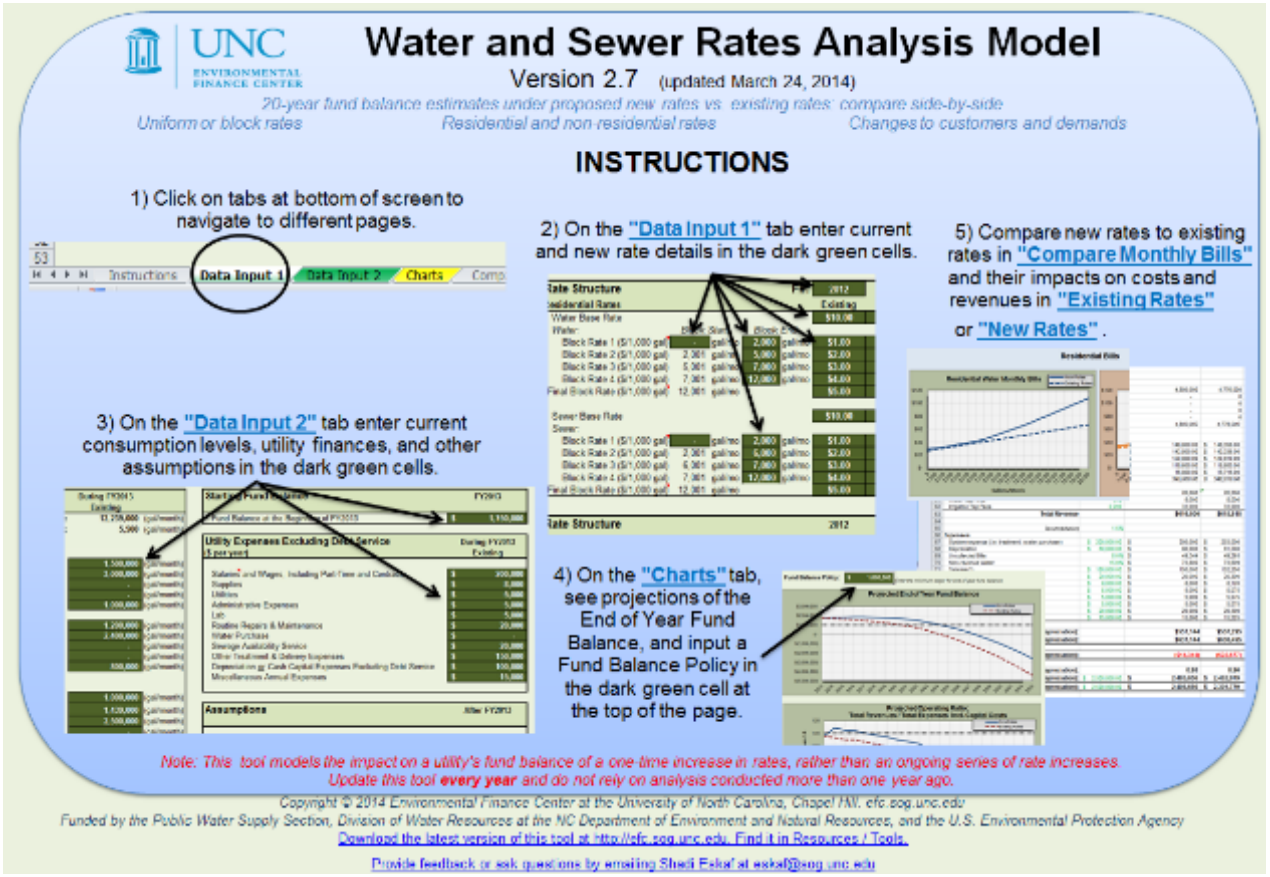
Rule of thumb: water use declines ~2-6% as rates increase 10%

Frequency of Rate Changes

- Always review your rates annually (recommended)
- Review your financial health indicators annually, and then review your rates if any of the indicators reflect poor financing
- Perhaps less politically charged option: Raise rates each year automatically based on inflation

Water and Sewer Rates Analysis Model

Free, rate-setting tool using only MS Excel,
developed by the Environmental Finance Center at UNC.

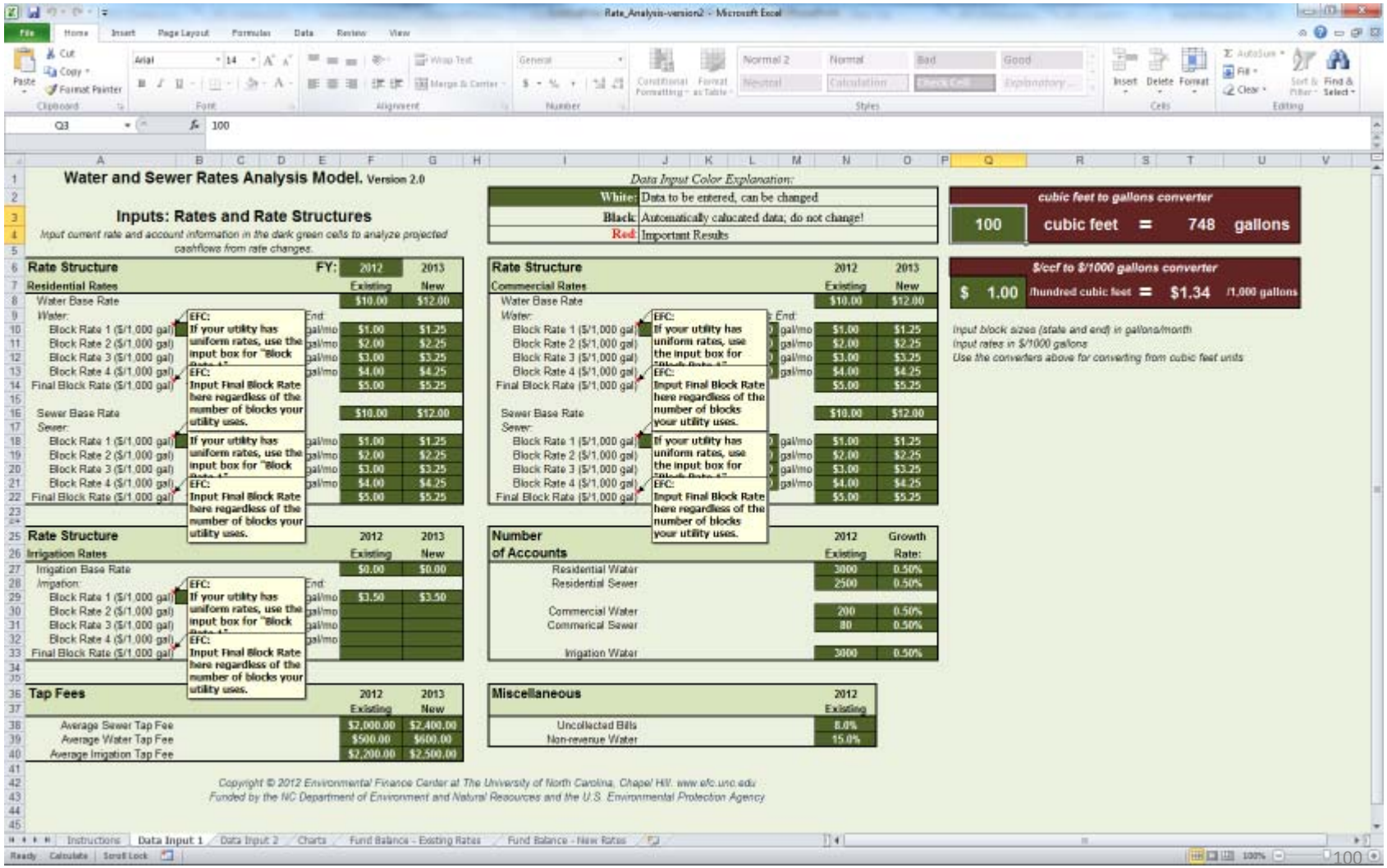


Download the latest version at http://efc.sog.unc.edu. Find it in Resources / Tools.

Tool development was funded by the Public Water Supply Section of DWR/ NCDENR and partly by the USEPA.

http://efc.sog.unc.edu/reslib/item/water-sewer-rates-analysis-model

Data Input 1



Water and Sewer Rates Analysis Model. Version 2.0

Inputs: Rates and Rate Structures

Input current rate and account information in the dark green cells to analyze projected cashflows from rate changes.

Data Input Color Explanation:

White:	Data to be entered, can be changed
Black:	Automatically calculated data; do not change!
Red:	Important Results

cubic feet to gallons converter

100 cubic feet = 748 gallons

$/cef to $/1000 gallons converter

$ 1.00 /hundred cubic feet = $1.34 /1,000 gallons

Input block sizes (state and end) in gallons/month
Input rates in $/1000 gallons
Use the converters above for converting from cubic feet units

Rate Structure — FY: 2012 Existing / 2013 New

Residential Rates

	End:	2012 Existing	2013 New
Water Base Rate		$10.00	$12.00
Water:			
Block Rate 1 ($/1,000 gal)	gal/mo	$1.00	$1.25
Block Rate 2 ($/1,000 gal)	gal/mo	$2.00	$2.25
Block Rate 3 ($/1,000 gal)	gal/mo	$3.00	$3.25
Block Rate 4 ($/1,000 gal)	gal/mo	$4.00	$4.25
Final Block Rate ($/1,000 gal)		$5.00	$5.25
Sewer Base Rate		$10.00	$12.00
Sewer:			
Block Rate 1 ($/1,000 gal)	gal/mo	$1.00	$1.25
Block Rate 2 ($/1,000 gal)	gal/mo	$2.00	$2.25
Block Rate 3 ($/1,000 gal)	gal/mo	$3.00	$3.25
Block Rate 4 ($/1,000 gal)	gal/mo	$4.00	$4.25
Final Block Rate ($/1,000 gal)		$5.00	$5.25

EFC: If your utility has uniform rates, use the input box for "Block Rate 1"

EFC: Input Final Block Rate here regardless of the number of blocks your utility uses.

Rate Structure — 2012 Existing / 2013 New

Commercial Rates

	End:	2012 Existing	2013 New
Water Base Rate		$10.00	$12.00
Water:			
Block Rate 1 ($/1,000 gal)	gal/mo	$1.00	$1.25
Block Rate 2 ($/1,000 gal)	gal/mo	$2.00	$2.25
Block Rate 3 ($/1,000 gal)	gal/mo	$3.00	$3.25
Block Rate 4 ($/1,000 gal)	gal/mo	$4.00	$4.25
Final Block Rate ($/1,000 gal)		$5.00	$5.25
Sewer Base Rate		$10.00	$12.00
Sewer:			
Block Rate 1 ($/1,000 gal)	gal/mo	$1.00	$1.25
Block Rate 2 ($/1,000 gal)	gal/mo	$2.00	$2.25
Block Rate 3 ($/1,000 gal)	gal/mo	$3.00	$3.25
Block Rate 4 ($/1,000 gal)	gal/mo	$4.00	$4.25
Final Block Rate ($/1,000 gal)		$5.00	$5.25

EFC: If your utility has uniform rates, use the input box for "Block Rate 1"

EFC: Input Final Block Rate here regardless of the number of blocks your utility uses.

Rate Structure — 2012 Existing / 2013 New

Irrigation Rates

	End:	2012 Existing	2013 New
Irrigation Base Rate		$0.00	$0.00
Irrigation:			
Block Rate 1 ($/1,000 gal)	gal/mo	$3.50	$3.50
Block Rate 2 ($/1,000 gal)	gal/mo		
Block Rate 3 ($/1,000 gal)	gal/mo		
Block Rate 4 ($/1,000 gal)	gal/mo		
Final Block Rate ($/1,000 gal)			

EFC: If your utility has uniform rates, use the input box for "Block Rate 1"

EFC: Input Final Block Rate here regardless of the number of blocks your utility uses.

Number of Accounts

	2012 Existing	Growth Rate:
Residential Water	3000	0.50%
Residential Sewer	2500	0.50%
Commercial Water	200	0.50%
Commerical Sewer	80	0.50%
Irrigation Water	3000	0.50%

Tap Fees

	2012 Existing	2013 New
Average Sewer Tap Fee	$2,000.00	$2,400.00
Average Water Tap Fee	$500.00	$600.00
Average Irrigation Tap Fee	$2,200.00	$2,500.00

Miscellaneous

	2012 Existing
Uncollected Bills	8.0%
Non-revenue Water	15.0%

Funded by the NC Department of Environment and Natural Resources and the U.S. Environmental Protection Agency

Instructions | Data Input 1 | Data Input 2 | Charts | Fund Balance - Existing Rates | Fund Balance - New Rates

Water and Sewer Rates Analysis Model - Results

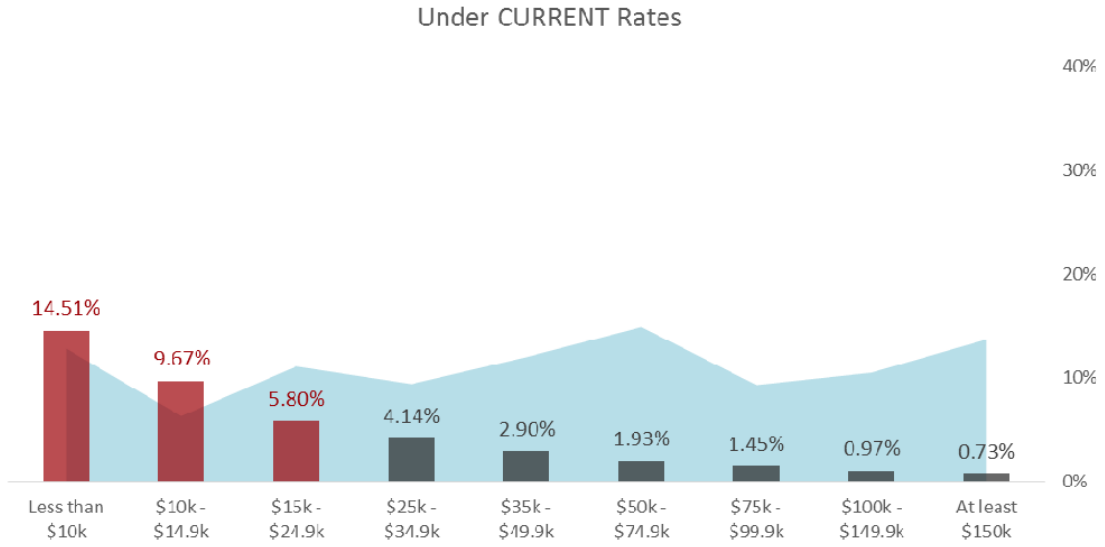
- Results are Excel Spreadsheet with:
  - The Fund Balance Under **Existing** Rates
  - The Fund Balance Under **Proposed** Rates

…Projected for the next 20 years

Affordability

Water and Wastewater Residential Rates Affordability Assessment Tool

Affordability of Water & Wastewater Rates in *Sample Community*
Assessed at 5,000 Gallons/Month and 2015 Income Levels



Affordability

The table below shows key socioeconomic indicators for *Atlanta*, with the state and national averages available for comparison. Values in red indicate that the indicator is "most stressed," as compared to both the state and national average.

Example: Affordability for Low-Income Customers in *Atlanta*

	Atlanta City, Georgia in 2015	Georgia in 2014	United States in 2014
Median Household Income	$47,527	$49,342	$53,482
% Unemployment	7.5%	6.7%	5.8%
% Not in the labor force	35.0%	36.7%	36.1%
% of all people with income below poverty	24.6%	18.5%	15.6%
% with Social Security income	22.4%	27.0%	29.3%
% with Supplemental Security income	5.9%	5.2%	5.3%
% with cash public assistance income	2.6%	1.9%	2.8%
% with Food Stamp/SNAP benefits	17.5%	15.2%	13.0%

To access the tool that generated this chart and table see http://www.efc.sog.unc.edu/reslib/item/water-wastewater-residential-rates-affordability-assessment-tool

Polling Question 4

Would you like to subscribe to the Environmental Finance Center blog? *(choose one)*

- Yes
- No

Polling Question 5 and Evaluation Survey Link

Are you interested in receiving in-depth technical assistance for your small water system? *(choose one)*

- Yes
- No
- Would Like More Information About This

QUESTIONS

Thank You!

And please let us know if you have any questions.

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Twitter: https://twitter.com/staceyib_enviro