Strategies to Enhance Resilience of Utility Finances

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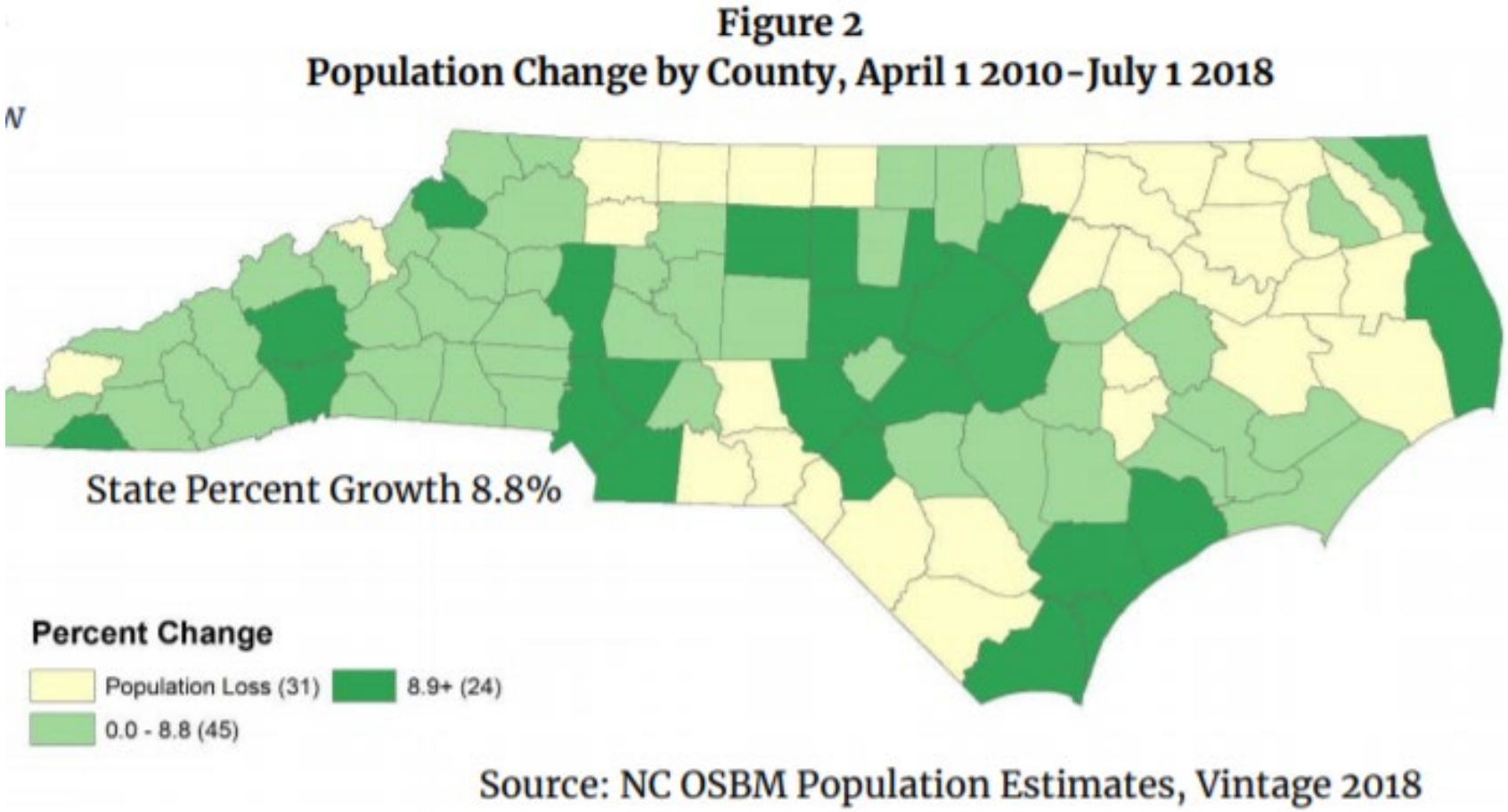
Water and Wastewater Finance Strategies Workshop
Environmental Finance Center, UNC School of Government
February 2021

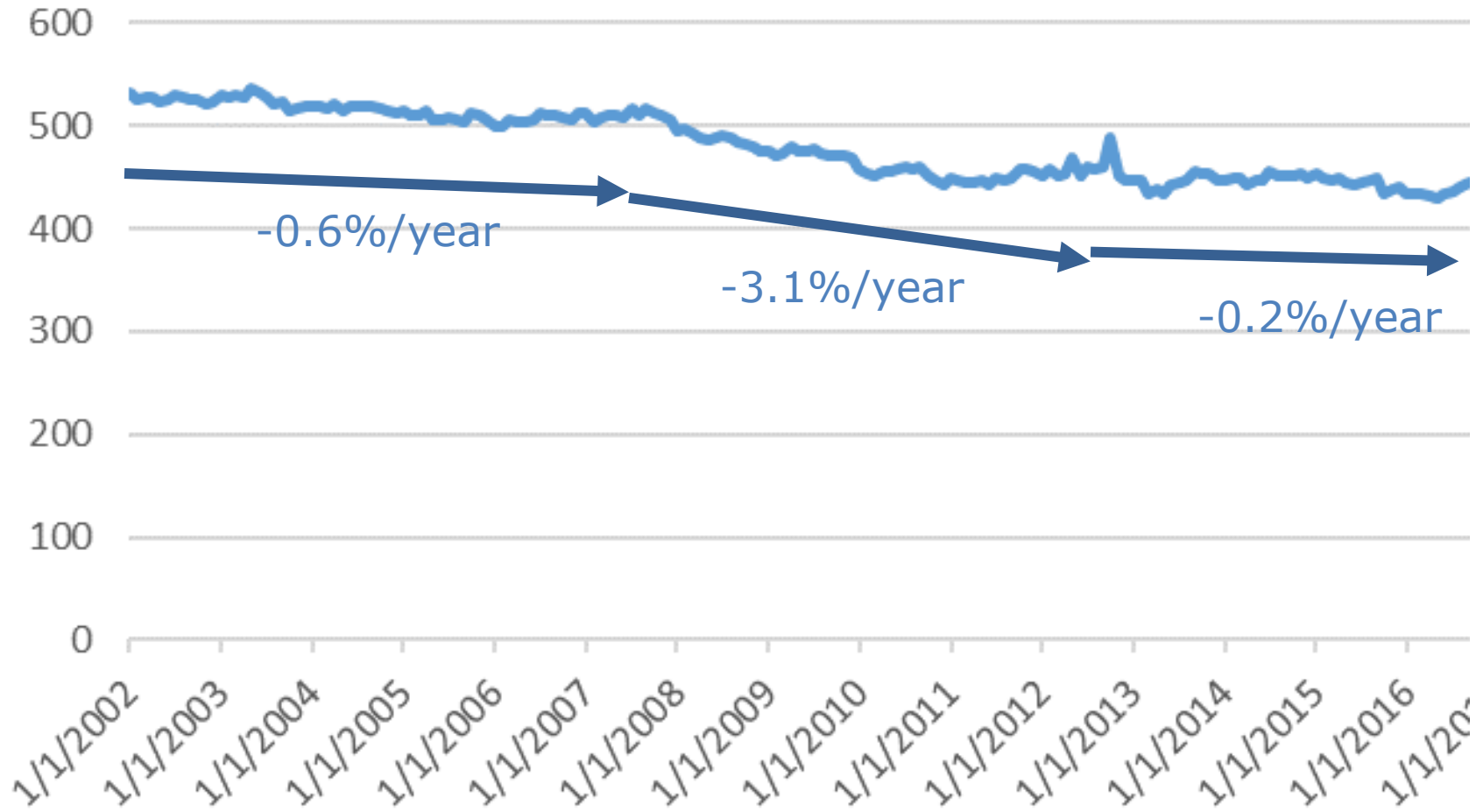
External challenges to utility financial viability

Population Declines in Many Rural Communities



Source: North Carolina Office of State Budget & Management, "North Carolina's Changing Population Dynamic", https://files.nc.gov/ncosbm/documents/files/Population-Dyanmic-2020Report.pdf

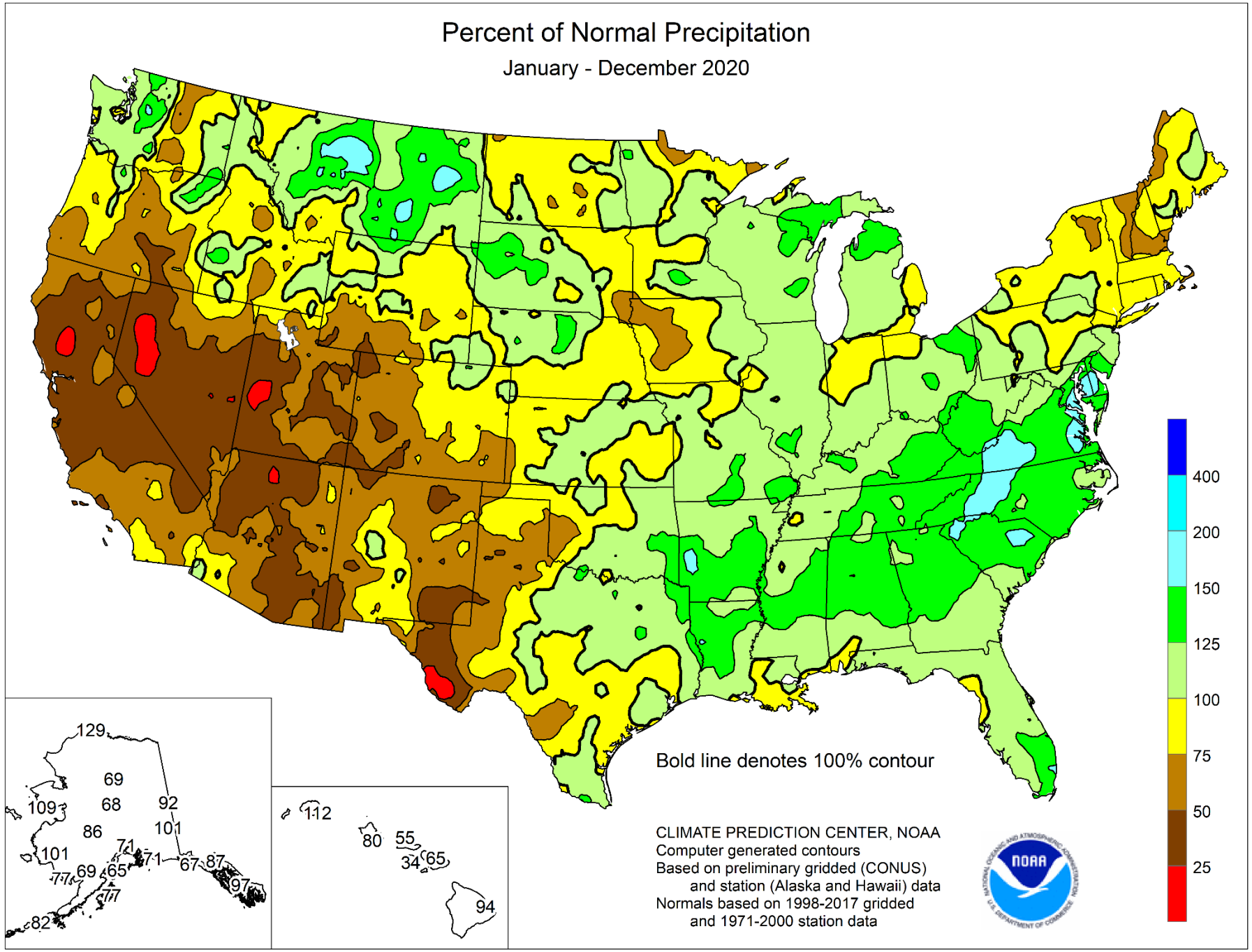
Declining Number of Active Water Accounts Over Decades



Water system in North Carolina

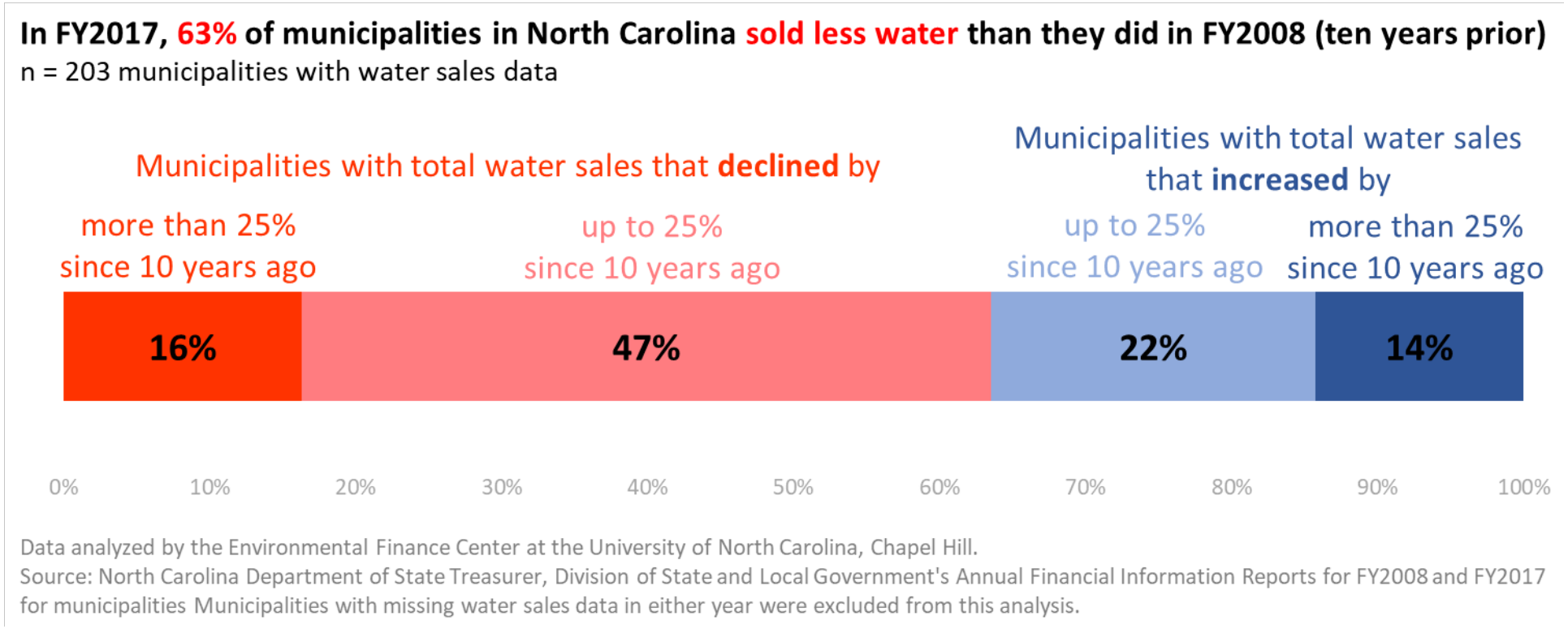
Hurricane and Flooding

Water system in North Carolina



Changes in climate, drought and precipitation

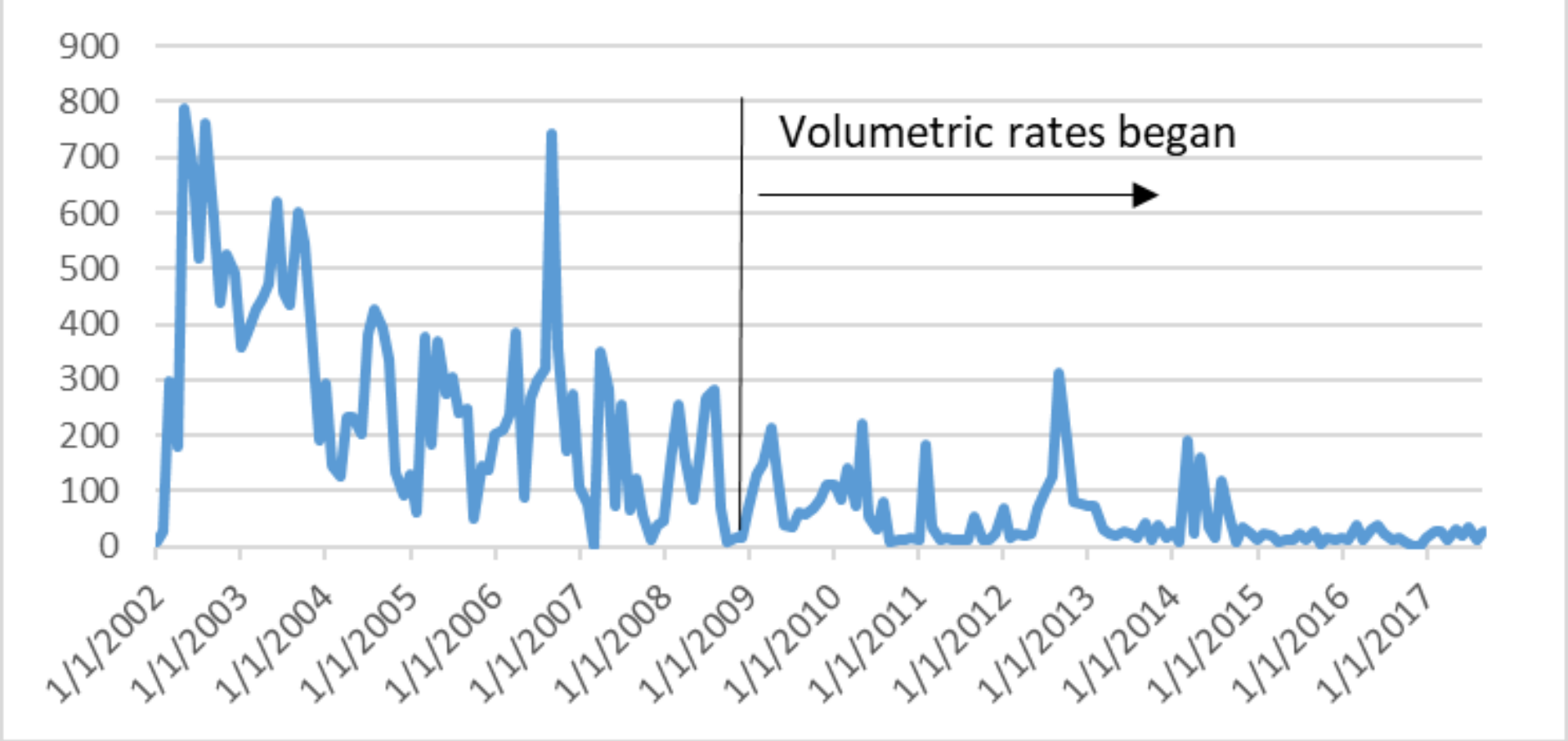
Many in North Carolina Are Experiencing Declining Water Sales



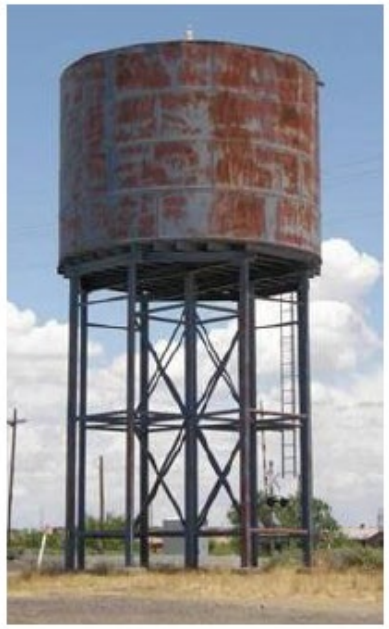
Proportionally the same for small water systems.

Loss or Reduction of Industry/Large Users

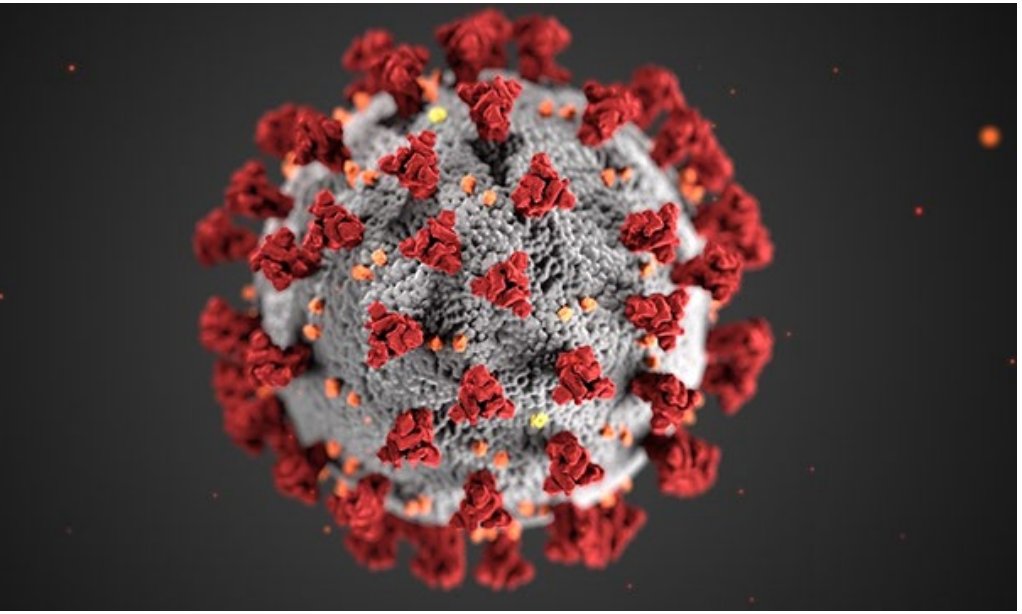
Volumetric sales to the single largest customer (small industrial plant)



Rising Capital Costs



And then there was 2020



NC Governor Roy Cooper

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GOVERNOR » Governor Cooper Extends Moratorium on Utility Cut Offs and Implements Evictions Moratorium

Governor Cooper Extends Moratorium on Utility Cut Offs and Implements Evictions Moratorium

Raleigh

May 30, 2020

Governor Roy Cooper signed Executive Order No. 142 to extend the prohibition of utility shut-offs and implement a moratorium on evictions. The Order goes into effect today with the Governor's signature.

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Financial Strategies for Resiliency

Financial Strategies for Resiliency

- Careful reduction and management of operating costs
- Planning for asset management and capital costs
- Build up reserves
- Set and track financial performance targets
- Plan and budget for
- Revenue enhancement
- Rate adjustment approaches
- Alternative rate designs

Careful Reduction and Management of Operating Costs

Reduce non-revenue water

Energy management

Asset management to reduce maintenance

Partner with other utilities

Monitor expenditures over time

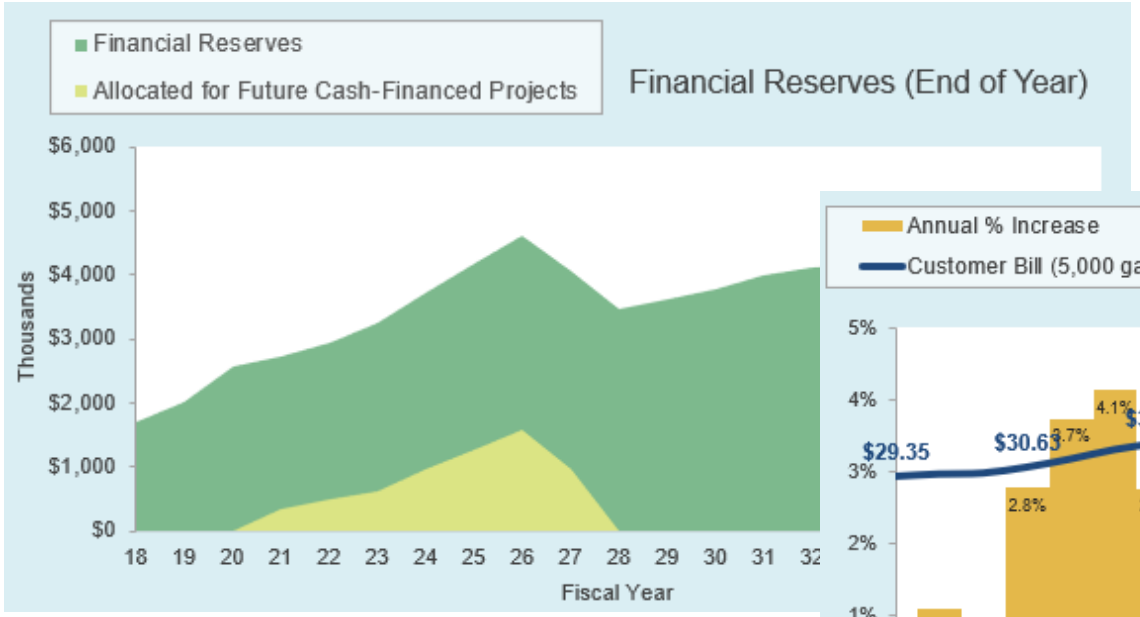
Planning for asset management and capital costs

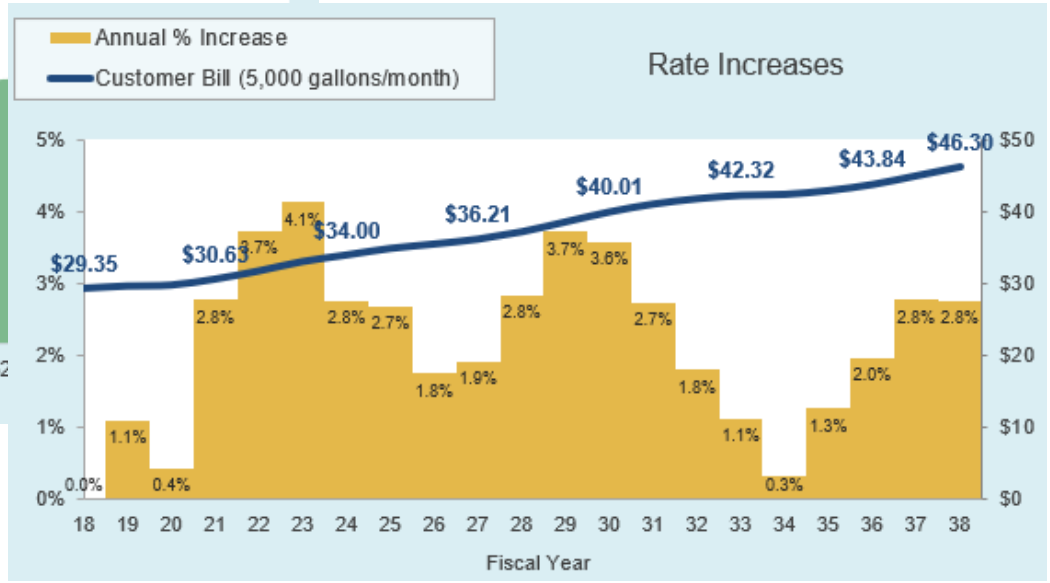
- Re-examine the need for expansions
- Partner with other utilities on regional capital projects to reduce costs and achieve higher priority points
- Create an asset management plan and a capital improvement plan
- Explore and test funding scenarios (debt vs. cash)
- Learn about different subsidized funding programs
- Look into debt refinancing if applicable
- Find out how to achieve a (higher) credit rating

Plan to Pay: Scenarios to Fund your C.I.P.

http://efc.sog.unc.edu or http://efcnetwork.org
Find the most up-to-date version in Resources / Tools

List your capital projects and compare different scenarios for funding them by automatically estimating the impact on your rates.





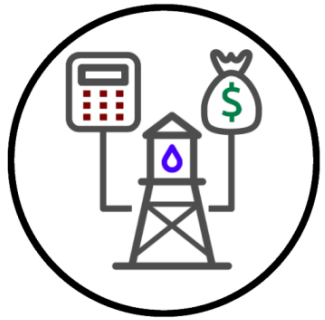
Excel®-based Free to download Free to use

What is the Value of an SRF Loan? Subsidized Loan Calculator

https://efc.sog.unc.edu/resource/what-value-srf-loan-subsidized-loan-calculator

Enter subsidized loan terms and this dashboard calculates the “grant equivalent” value of the loan compared to financing through a bond or commercial loan

Tableau®-based	Online calculator	Free to use



Visualizing the Value (of a State Revolving Fund Loan)

JUNE 3, 2020 / AUSTIN THOMPSON / 2 COMMENTS

Print PDF

Imagine a town called “Smallville.” Smallville, as you might guess, is small. The town’s water utility needs a new water tank, and they need it now. Like most systems across the US, Smallville’s system is aging and has significant

Read the blog post https://efc.web.unc.edu/2020/06/03/visualizing-the-value-of-a-state-revolving-fund-loan/

Build Up Reserves

Reserves are funds built up over time that you can use for various purposes.

Build reserves early: *before* signs of problems.

If you are already suffering from loss of customers or water use, it might be too late, unless you can raise rates quickly.

Many Types of Reserve Funds

- Operating Reserves
- Repair Fund
- Emergency Fund
- Rainy Day Fund (Revenue Shortfall Fund)
- Rate Stabilization Reserves
- Debt Service Reserves
- Capital Reserves
- Renewal and Extension Reserves
- Others?

How Much Do You Need In Your Reserves?

- Look into setting a minimum target for a reserve fund to cover a reasonable decline in revenues so that you can continue to operate the water system and buy yourself enough time to make additional adjustments to mitigate the loss.

- Consider, for instance, a reserve that would cover at least three or four months of all O&M expenses. More would be better. For long-term resilience, aim for more than a year.

Examples of Targets for Reserves by Large Utilities (in 2014)

Utility	Reserve Fund Targets
City of Minneapolis, MN	**15%** of revenue budget for the next year
Orange Water and Sewer Authority, NC	The greater of **33% of O&M budget** or 20% of the total estimated cost of the succeeding 3 years of the CIP budget
Baltimore Dept. of Public Works, MD	Minimum of **90 days** cash on hand
Charlotte Water, NC	**100%** of operating expenses for the current budget
Water District No.1 of Johnson County, KS	The Board will be notified when the rate stabilization reserve reaches a **minimum level of $2 million**

Source: Water Research Foundation report, 2014, *Defining a Resilient Business Model for Water Utilities.*

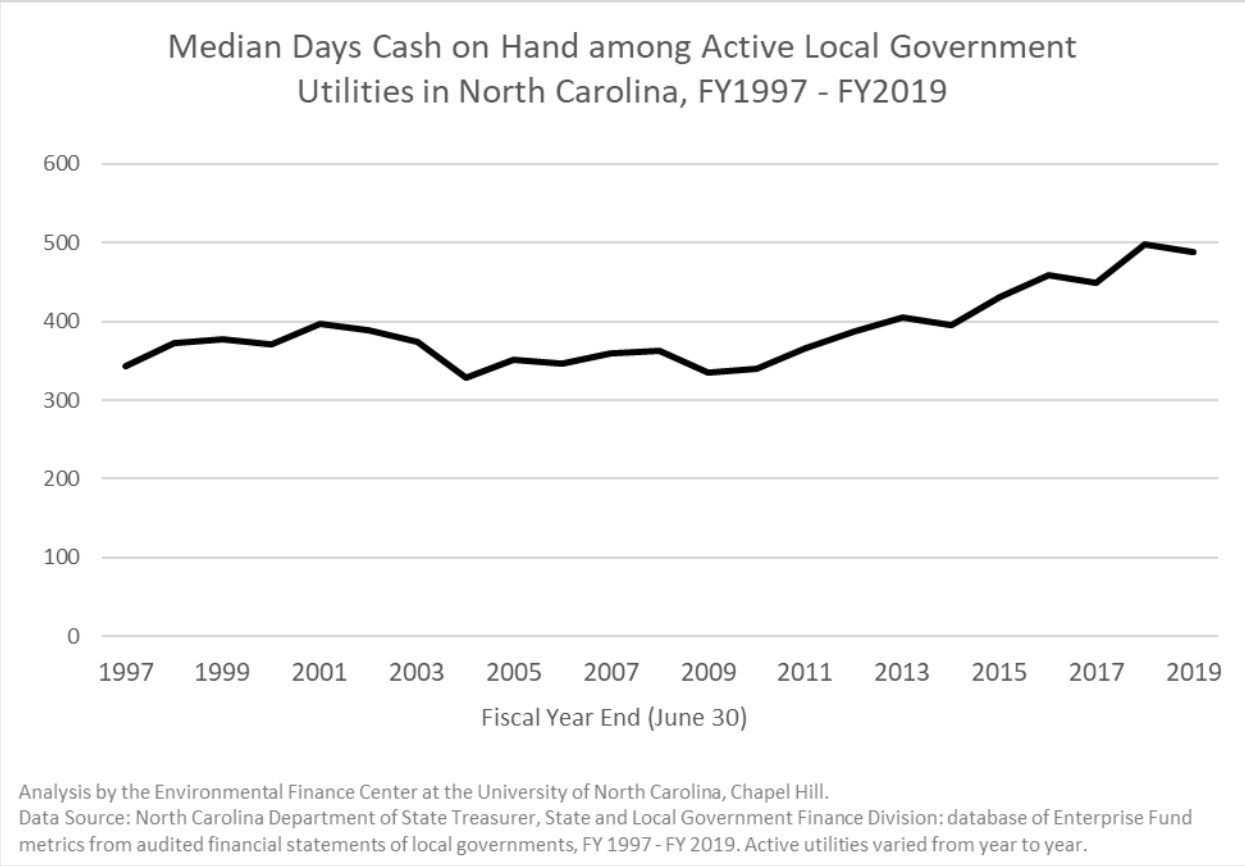
Example of Target for Reserves by a Small Water System

Town of Shallotte, NC (2,300 accounts):

"Our Board of Aldermen have always used a 90% rule: keeping **at least 90% of current budget** on hand in case of emergencies.

Being a coastal community, we realize that a hurricane could do significant damage."

W/WW Reserves in North Carolina Leading Up to 2020



Water System Reserves During the COVID-19 Pandemic

APRIL 16, 2020 / CHRISTIAN LUTZ / 0 COMMENTS

Print PDF

Local governments have an increased public health responsibility to ensure that people have access to clean water during the COVID-19 pandemic. During this time, many utilities are refraining from shutting off customers' water, despite unpaid bills. In more than a dozen states, mandates have even been put in place to

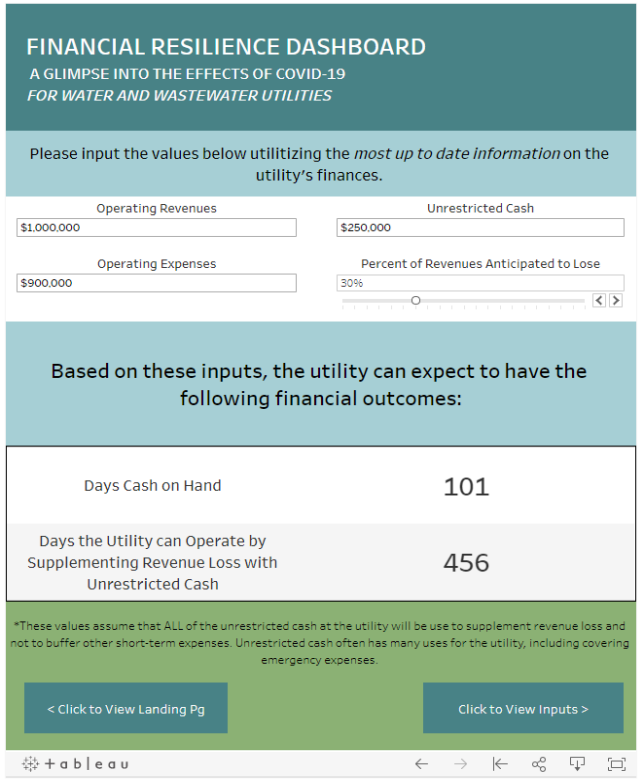
64% of local government utilities in NC had >365 days cash on hand at the end of FY2019 (less than 50% prior to FY2011).

Read the blog post https://efc.web.unc.edu/2020/04/16/water-system-reserves-during-the-covid-19-pandemic/

Financial Resilience Dashboard

https://efc.sog.unc.edu/resource/financial-resilience-dashboard-glimpse-effects-covid-19-water-and-wastewater-utilities

How long will your unrestricted cash and reserves offset different levels of revenue losses and still cover expenditures on O&M?

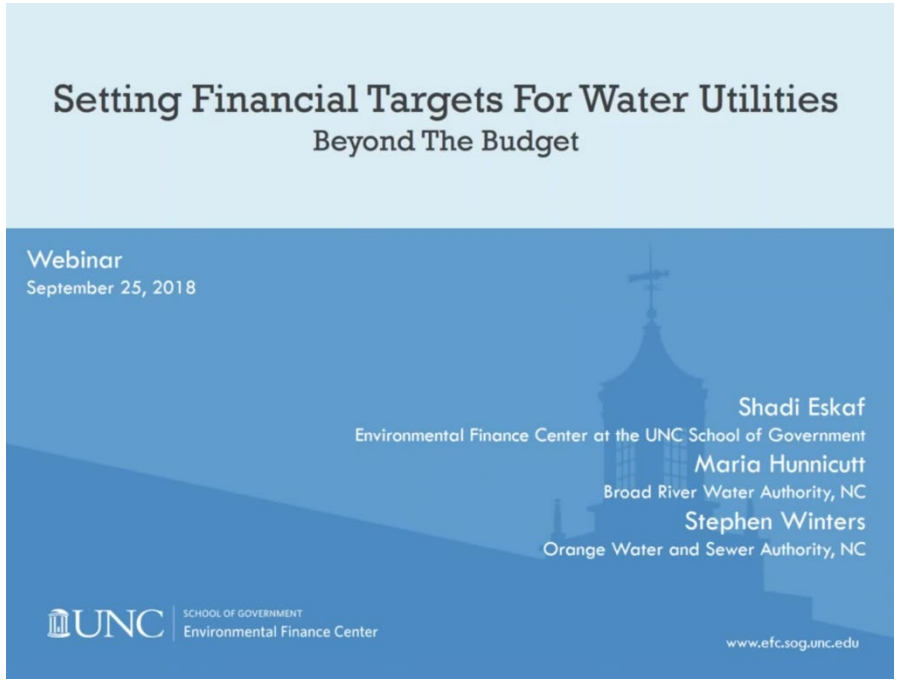


North Carolina-specific version with pre-populated FY2019 data

Tableau®-based | Online calculator | Free to use

Set Up and Track Financial Performance Targets

Set up specific financial performance targets, measure and monitor performance indicators, and adjust financial decisions to maintain success.



More information and examples from NC utilities on a recorded webinar: https://efc.sog.unc.edu/event/setting-financial-targets-water-utilities-beyond-budget

Examples of Financial Performance Targets

- Minimum Reserves / Cash on Hand
- Working Capital Reserves
- Debt Service Coverage Ratio
- Debt Burden or Debt-Per-Customer
- Cash Financing of Capital Projects
- Rates Affordability
- Credit Rating

Examples of Financial Performance Targets (in 2014)

Financial Metric	Policy Target
Debt Service Coverage Ratio	• Parity coverage of 1.5x • Total coverage of 1.2x
Debt Load	• Debt service less than 40% of total revenue requirements
Capital Funding	• Minimum of 25% of annual capital expenses funded through rate-funded capital (PAYGO)
Days Cash on Hand	• 180 days
O&M Budget Escalation	• Maximum annual O&M budget escalation of 5%
Operating Reserve Fund	• Minimum fund balance of 90 days of annual O&M expenses
Capital Reserve Fund	• Minimum fund balance of 25% of annual Capital expenses
Rate/Revenue Stabilization Fund	• Minimum fund balance target of 5% of projected annual revenues
Rate Revenue Composition	• Minimum of 25% of annual revenue from fixed charges
Rate Increases	• Minimum of automatic rate increases indexed to inflation
Service Affordability	• Maximum annual bill of an average customer of 2% of median household for each water and wastewater

Targets should be customized for each utility based on objectives, conditions, and purpose. Do not copy-and-paste another utility's.

Source: Water Research Foundation report, 2014, *Defining a Resilient Business Model for Water Utilities.*

Evidence of Success in North Carolina

When comparing NC utilities against others of similar size, similar number of FTEs, and similar presence/absence of a full-time utility manager, the EFC found statistical evidence that:

Utilities that started using financial targets by 2013 →

→ Had higher operating ratios in FY2017

→ Were twice as likely to have higher operating revenues than operating expenses in FY2017

Plan and Budget for Use Reductions

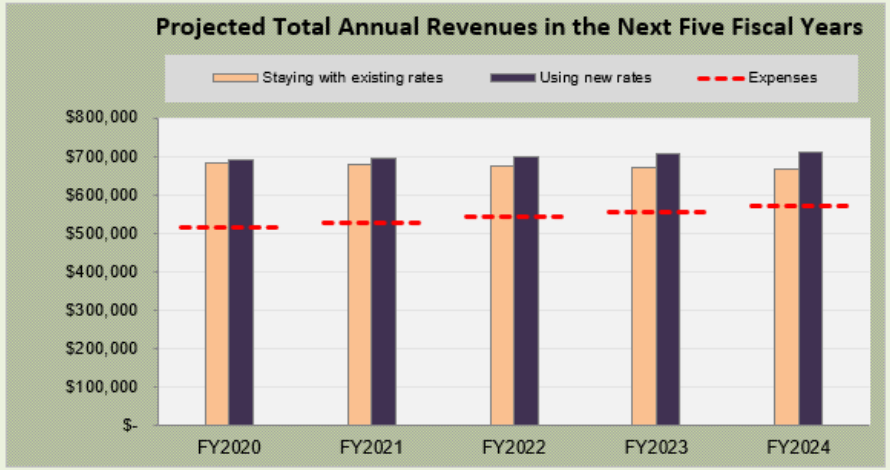
- Conservative forecasts
- Run scenarios, not a single forecast
- Look at your long-term trends to inform forecast
- Incorporate short-term and long-term reductions in demand
- Assess the likelihood and consequence of sudden, significant decline in use
- Establish a policy or protocol to move any “excess revenue” into a reserve fund

Water & Wastewater Rates Analysis Model

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

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

Cash-flow model to compare different rates on your projected fund balance to determine sufficiency of covering costs.

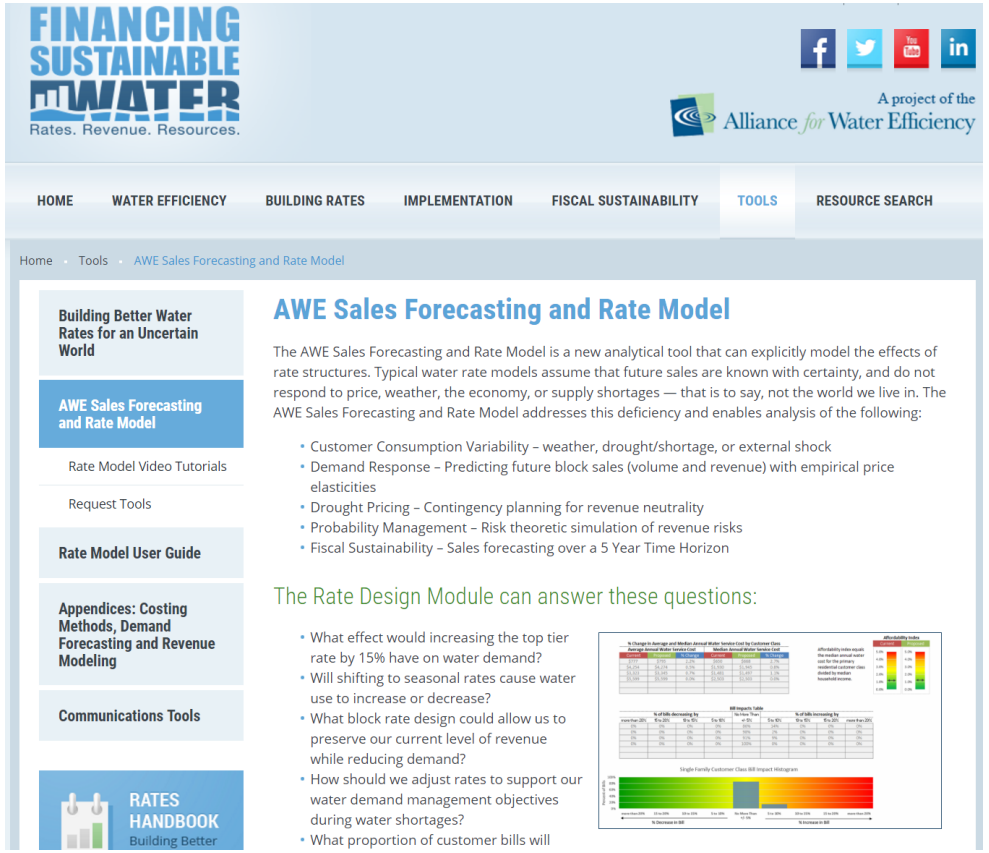


	FY2020	FY2021	FY2022	FY2023	FY2024
Net revenues without changing rates (existing rates)	$166,199	$149,665	$132,780	$115,532	$97,909
Net revenues after changing rates (new rates)	$174,771	$166,844	$158,602	$150,036	$139,817
Net Revenues Gained (Lost) Using the New Rates	***$8,572***	***$17,178***	***$25,822***	***$34,504***	***$41,908***

Excel®-based Free to download Free to use

AWE Sales Forecasting and Rate Model

http://www.financingsustainablewater.org/



Structural and Managerial Strategies for Resiliency

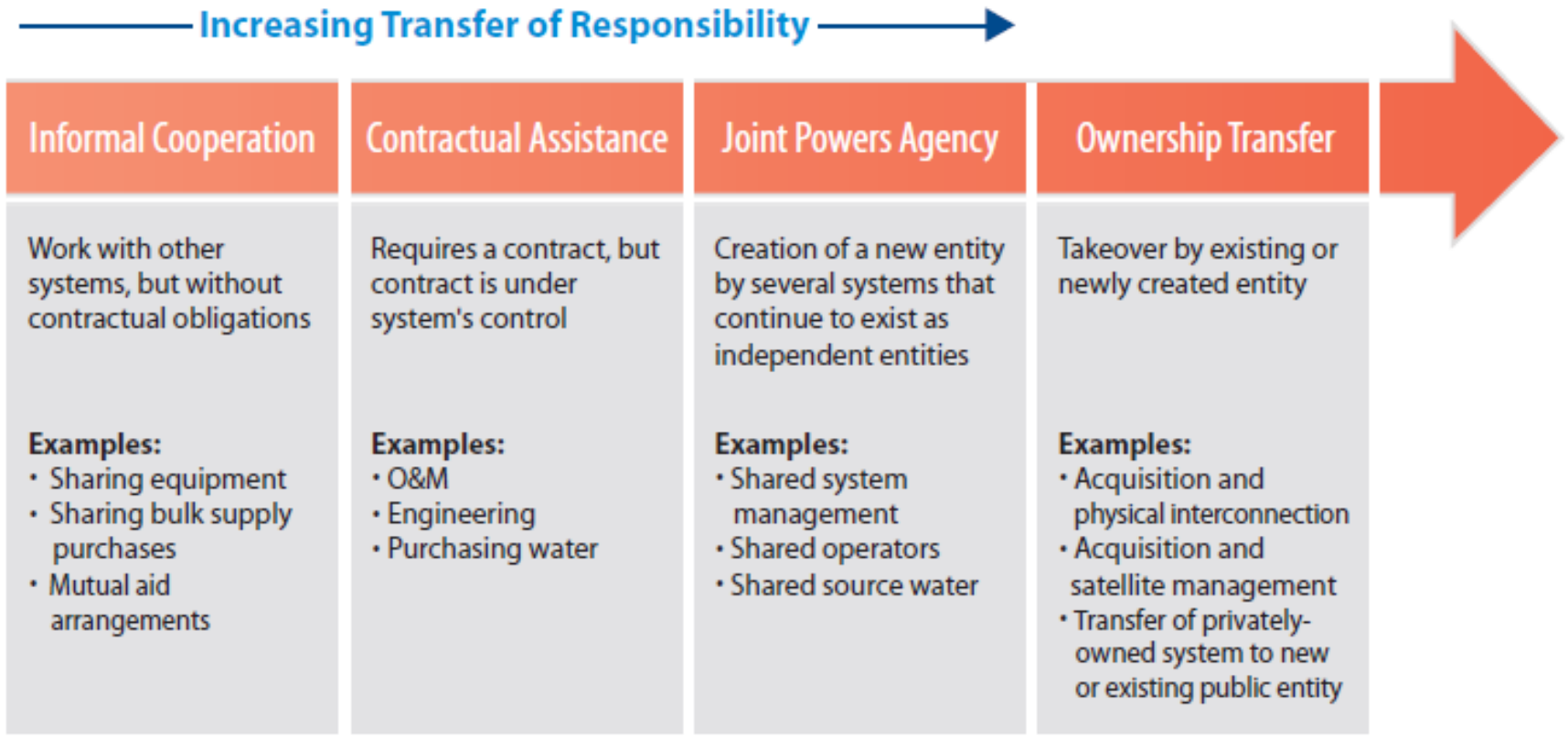
Structural and Managerial Strategies for Resiliency

- Assist with economic development efforts
- Partnerships with other water systems
- Communication

Partnerships with Other Utilities

- Share services
- Sell excess water to other water systems
- Buy water from another water system and reduce or eliminate the need for treatment
- Consolidate with other water systems to create a regional utility
- Transfer ownership of your water system

Spectrum of Partnership with Other Utilities

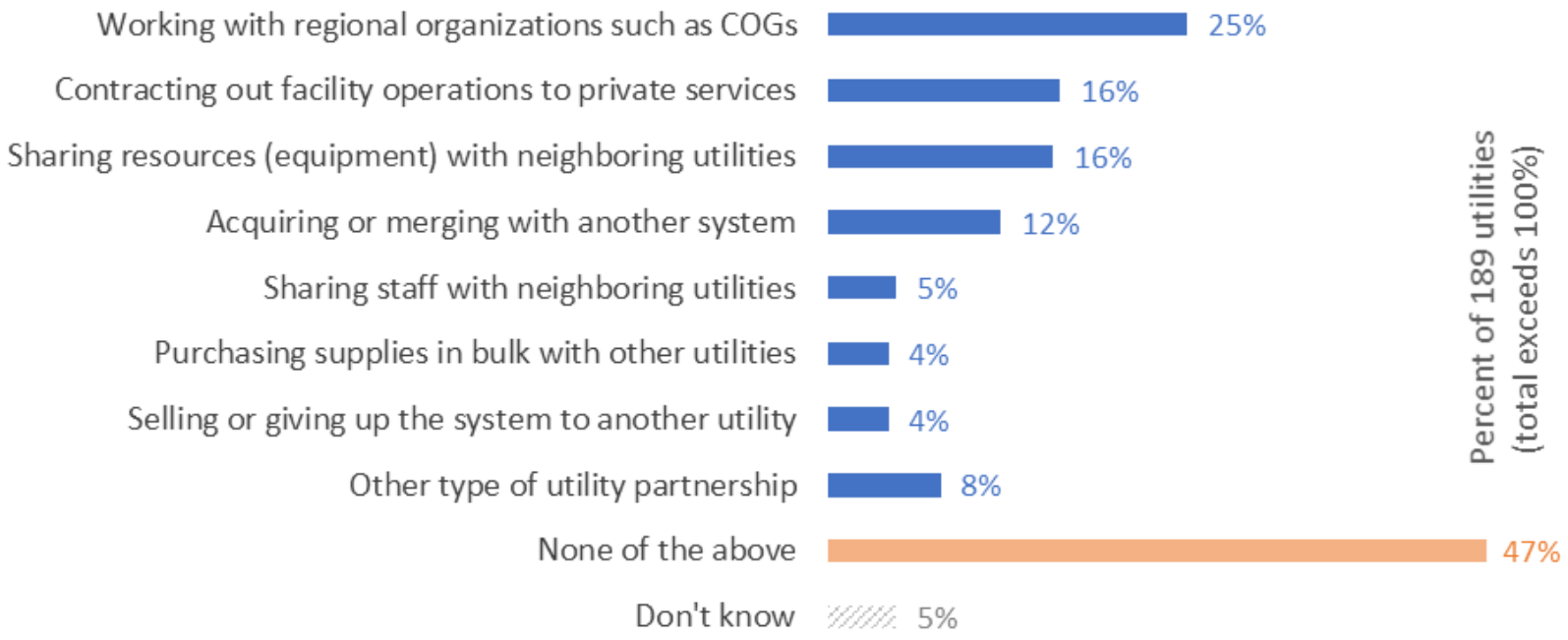


Any kind of collaboration can be helpful

Partnerships in NC

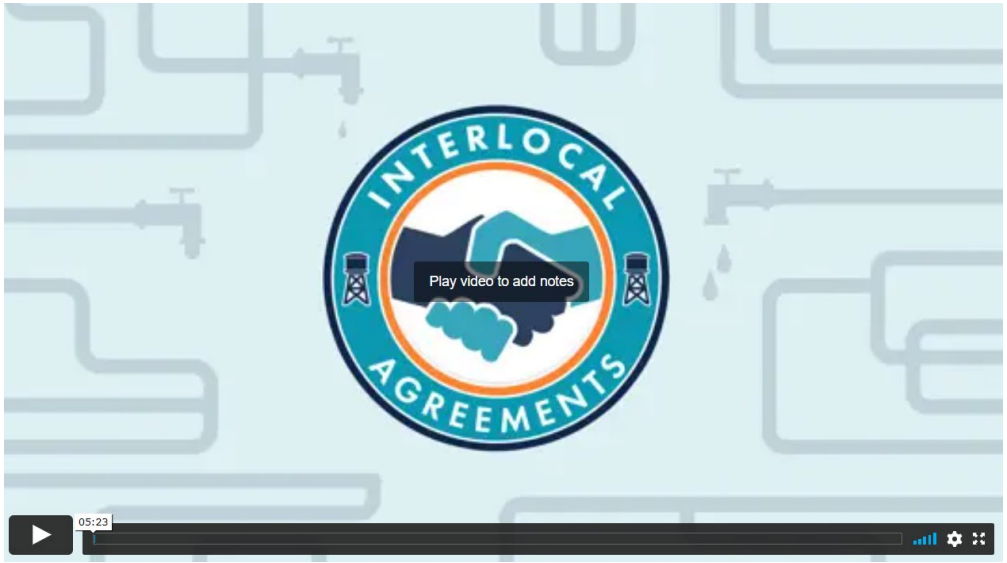
Partnership activities that North Carolina utilities are currently engaged in or are considering. Excludes interconnections and wholesale purchase/sale agreements for water or wastewater treatment and delivery between utilities.

n = 189



Source: 2017 North Carolina Water and Wastewater Utility Management Survey conducted by the Environmental Finance Center at the UNC School of Government and the North Carolina League of Municipalities.

A lot to be considered in crafting an interlocal agreement



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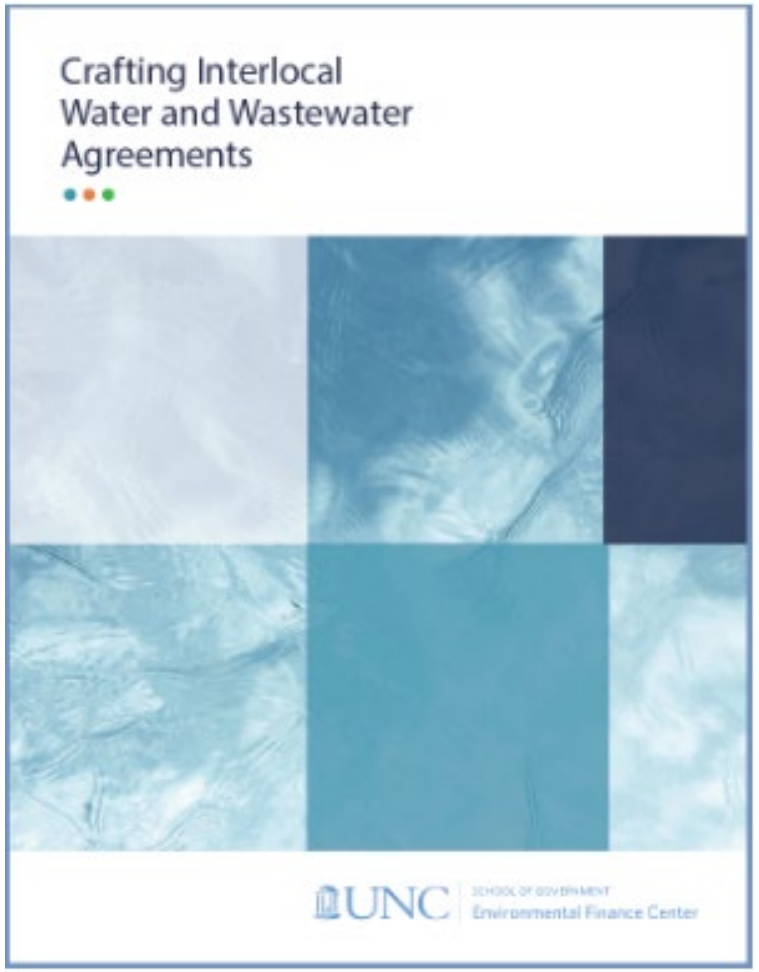
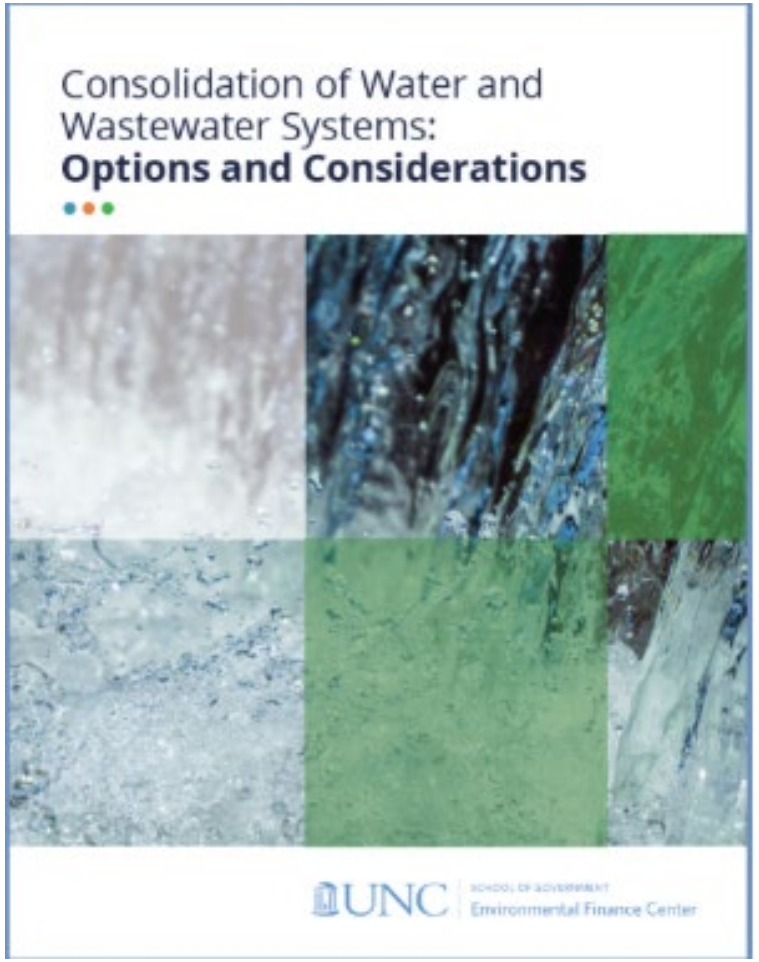


https://efc.sog.unc.edu/project/utility-regionalization-and-consolidation

Interlocal agreement considerations described in the guide

1. Defining Current and Future Service Areas
2. Annexation and Growth
3. Key Usage Thresholds
4. Meter Maintenance
5. Water Quality Concerns
6. Water Pressure
7. Adequate Payment for Use of Capital
8. Calculation and Modification of Commodity Charges
9. Reselling Water or Capacity
10. Handling Supply Interruptions and Shortages and Emergencies
11. Transferability of Conservation Status/Measures/Emergency Reduction
12. Non-Revenue Water

Consolidation Considerations



https://efc.sog.unc.edu/project/utility-regionalization-and-consolidation

Forms of Consolidation

- Direct Acquisition - one higher-capacity utility absorbing another in its entirety.
- Joint Merger - two or more utilities often, but not necessarily, of similar capacity consolidating to become a new entity that is jointly owned by the participating utilities.
- Balanced Merger - hybrid of the other two types and involves two or more utilities consolidating and creating a governance structure that is designed to allow for participation by the previously existing utilities in future decision-making.
- Consolidation of Governance/Operations/Management

Existing NC Models

- Municipality operating as a regional utility – Raleigh
- Water and sewer authority – Cape Fear PUA
- Single county government – Harnett County (125k)
- Joint Management Agency – W-S/Forsyth County
- Metropolitan Water District and Metropolitan Sewerage District – special purpose unit of gov/fewer than 5 in NC
- Sanitary District – public health focused
- Private Nonprofit Associations/Water Cooperatives – Davidson Water (50k connections)
- Investor-Owned Utilities – Aqua NC (regulated by NCUC)

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