

Capital Finance Overview: Dealing with the New Normal

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Defining a Resilient Business Model for Water Utilities

- Water Research Foundation Project #4366
- Objectives:
 - To define new financial approaches and paradigms for water utilities in addressing current and future fiscal challenges
 - To explore new methods of identifying and reducing the risks associated with revenue variability
- On-going research discussion at www.efc.web.unc.edu
- Final research will be at www.waterrf.org

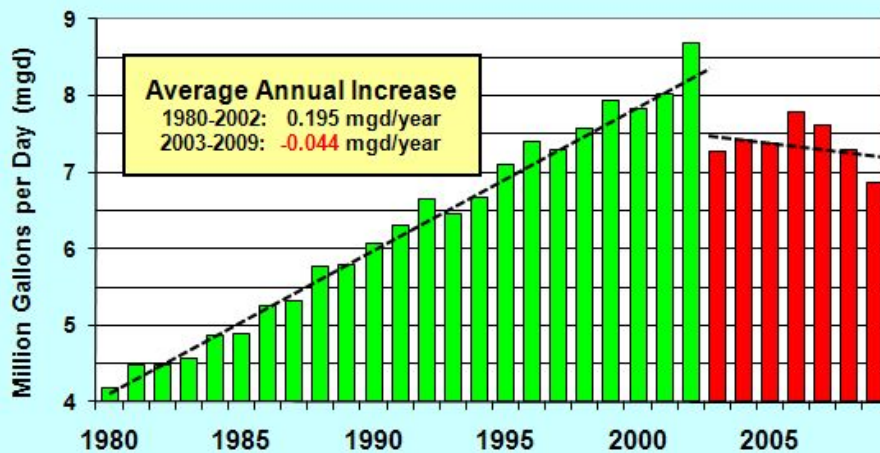


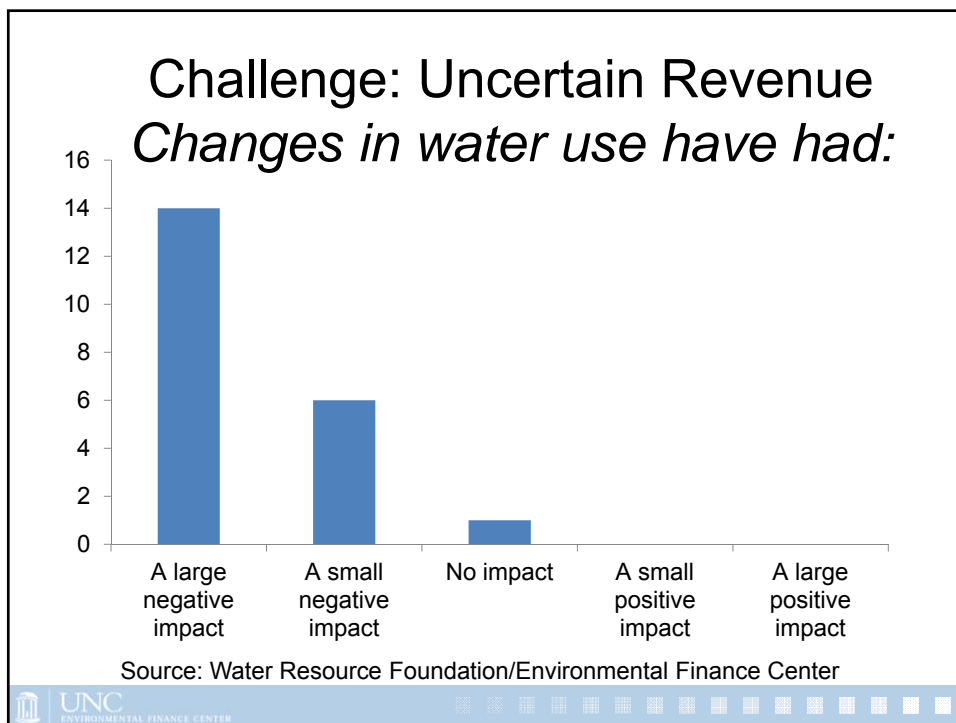
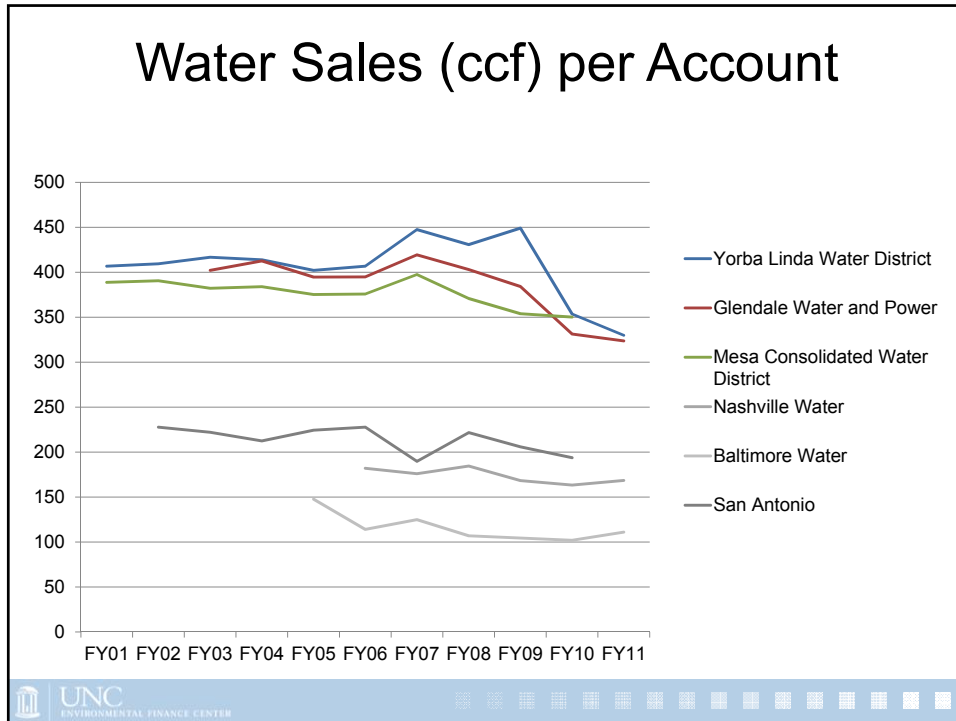
WHAT IS YOUR BUSINESS MODEL, WHAT DO YOU SELL?

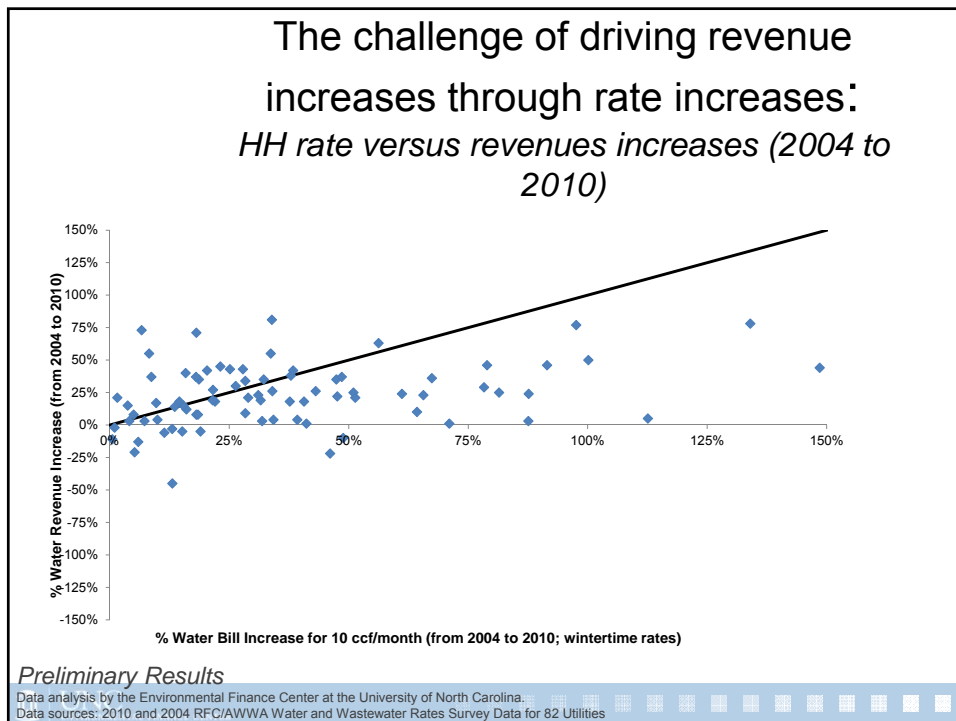
Water Sales (1980-2009)

(Slide provided by Orange Water and Sewer Authority)

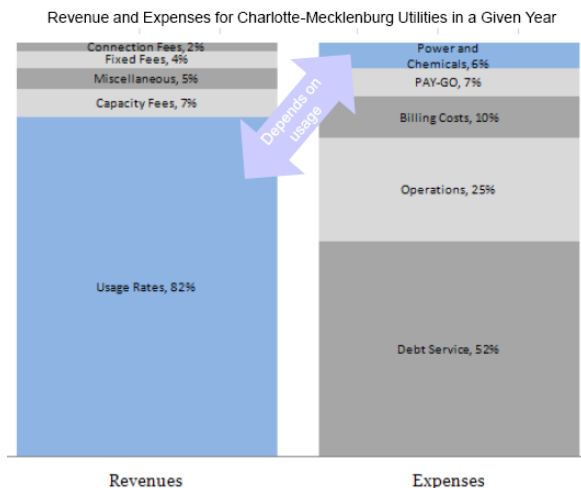
Figure 3. OWASA Water Sales, FY 1980-2009







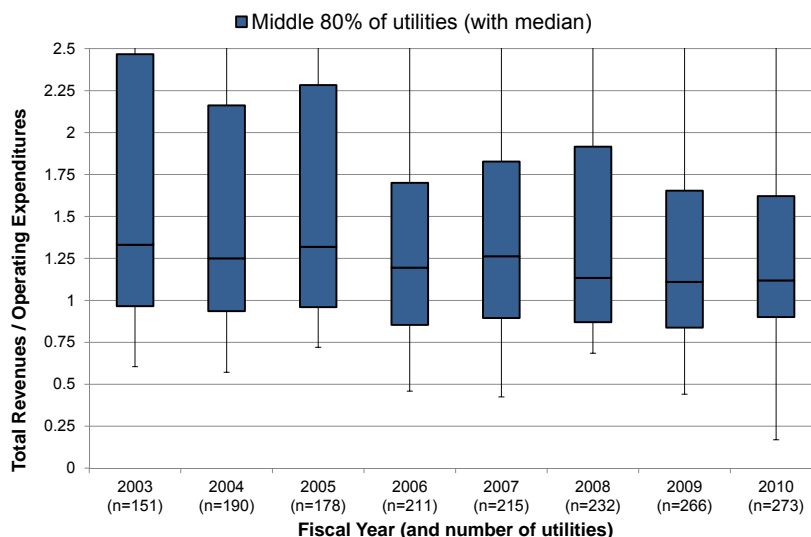
Short Term Fixed vs. Variable



Source: CMU Director Doug Bean's presentation to the Charlotte City Council on December 1, 2008.



Non-Capital Operating Ratios for Colorado Water/Sewer Utilities



Preliminary Results

Data analyzed by the Environmental Finance Center at the University of North Carolina.
Data source: Colorado Water Resources and Power Development Authority.



A Utility Finance Policy is?

- a. A method for maintaining a better credit rating
- b. A tool for influencing board decisions
- c. A bunch of words not worth the paper they are written on
- d. A vision of what a utility would like to become
- e. All of the above?

Variations

- Length: 1 to 40 pages
- Format: 1 policy, dozens of separate policies
- Board role: reviewed, approved, informed
- Customer/public role: extensive, as an after thought
- Contents: metrics, reserve policies, financial philosophies and objectives

EBMUD



Policy 4.02

EFFECTIVE 12 JUL 05

CASH RESERVES AND DEBT MANAGEMENT

SUPERSEDES 14 JUN 05

IT IS THE POLICY OF EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Maintain operating and self-insurance reserves necessary to provide ongoing working capital while maintaining a reasonable balance between debt and current revenue financing of capital projects. Adequate reserves and sound financial policies promotes the District's good standing in the capital markets; provides financing flexibility; avoids potential restrictive debt covenants; maintains markets for District debt; and facilitates future financing of capital projects at reasonable costs.

Maintaining the balance between current funding sources and debt financing is critical to retaining the District's financing flexibility. Flexibility allows the District to use a variety of revenue or debt-financing alternatives, including issuing low cost variable rate and other revenue supported debt.



Financial Policies and Guidelines: *Internal financial policies*

EBMUD Financial Indicator	Target
Working capital reserve	≥ 3x monthly net O&M expenses
Self-insurance reserve	1.25x expected annual costs
Contingency/rate stabilization reserve	20% of annual water volume revenues
Debt service coverage ratio	≥1.6x coverage
Debt-funded capital	≤65% of total CIP spending over 5 year planning period



Orange Water and Sewer Authority

FINANCIAL PERFORMANCE OBJECTIVES		
Measurement	Objective	Section
Working Capital Reserves	The greater of 4 months of O&M budget or 20% of the succeeding 3 years of CIP budget	A.1
Capital Improvements Reserve Fund	Minimum fund balance target of 2% of annual depreciated capital costs	B.1
Debt Service Coverage Ratio	≥ 20	D.1
Debt Burden to Asset Value	$\leq 5\%$	D.2
Sufficiency of Revenues Above Debt Requirements	Annual Debt service shall not exceed 35% of annual gross revenues	D.3
Credit Ratings	Aa2 – Moody's; AA+ – Standard & Poor's; AA+ – Fitch	D.4
Cash Financing of Capital	Annual revenues and cash reserves shall provide not less than 30% of CIP funding	E.1
Rate/Revenue Stabilization Fund	Minimum fund balance target of 5% of projected water and sewer revenue	E.2
Service Affordability	Average annual residential bill divided by real median household income shall be $\leq 15\%$.	F.2

RESOLUTION ADOPTING ORANGE WATER AND SEWER AUTHORITY FINANCIAL MANAGEMENT POLICY

WHEREAS, Orange Water and Sewer Authority recognizes the importance of sound business practices and strong financial policy to support the utility's long-term fiscal sustainability; and

WHEREAS, Orange Water and Sewer Authority's *Strategic Financial Management and Planning Document* has guided financial policy since 1996; and

WHEREAS, staff and the Board of Directors' Finance Committee have developed a revised financial management policy; and

WHEREAS, the revised Orange Water and Sewer Authority *Financial Management Policy* reflects sound financial policy and provides guidance for financial practices and procedures;

NOW, THEREFORE, BE IT RESOLVED:

1. That the Orange Water and Sewer Authority *Financial Management Policy* is hereby adopted.
2. That Orange Water and Sewer Authority's *Strategic Financial Management and Planning Document* adopted September 14, 2006 is hereby rescinded.

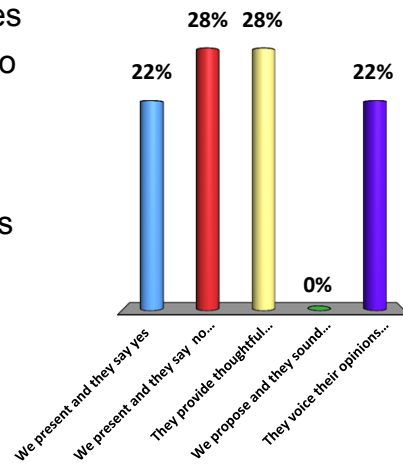
Adopted this 26th day of March, 2009



Gordon Merkley, Vice Chair

What best describes your governing board's role in financial decision making?

1. We present and they say yes
2. We present and they say no and tell us to cut
3. They provide thoughtful ideas that are incorporated into proposals and decisions
4. They voice their opinions loudly, but generally follow management's lead.



Governance Structure Matters

- Municipal
- County
- Authority/special district
- Elected board
- Appointed board
- Number of local governments
- Number of board members
- For-profit board

ORANGE WATER AND SEWER AUTHORITY

A public, non-profit agency providing water, sewer & reclaimed water services to the Carrboro-Chapel Hill community.

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ABOUT OWASA

- Board Of Directors
- Board Of Directors' Meetings
- Staff Information
- Employment Opportunities
- Performance & Financial Information
- Topics of Interest

MANAGE MY ACCOUNT

START OR STOP SERVICE

WATER WATCH

TASTE OF HOPE

Home > About OWASA >

Performance & Financial Information

As a single-purpose governmental entity, OWASA's financial activities are reported as a sole enterprise fund. We operate on a fiscal year that begins on July 1 and ends on June 30. The documents below provide information about our service objectives, business model and performance.

Budget for Fiscal Year 2013, 5-year Capital Program and Rates effective in October, 2012; related items

- [Summary of rates and fees](#). Monthly rates for water, sewer and reclaimed water service will not increase in October, 2012. Various other fees including those for connecting to the OWASA system will increase in October based on updated cost calculations.
- [Annual budget](#) (July, 2012 - June, 2013)
- [Summary of 5-Year Capital Program](#)
- [Financial Management Policy](#)
- [Comparison of water and sewer bills in the Triangle region as of January, 2012](#)
- [UNC Environmental Finance Center information on NC water and sewer rates](#)

Key Indicators and Performance Measurements

- [Key Performance Measurement Dashboard](#) - a snapshot in graphic form of information we use to measure organizational performance.

Strategic Plan

- [Strategic Plan](#) as adopted in March, 2010
- [Strategic Plan Update](#) in January, 2012

Capital Improvement Projects and Investments

This map represents some of the water and sewer projects completed since 2000 to serve the needs of our community.

Cost of Improvements and Investments

Paying for capital and infrastructure projects accounts for 62 cents of every dollar spent by the utility, and is in many ways like a mortgage that has to be paid back over time. Utilities work hard to maintain a AAA-credit rating. This allows the utility to build new projects at the lowest possible borrowing rate and save millions in interest costs.

New Rates

Effective July 1, the proposed rate increase will impact each customer differently based on their water usage. For most residential customers, the impact of the new rate structure and tier rates will lead to an increase from between \$2.37 to \$8.59 per month, with most seeing increases between \$4 and \$4.55 per month.

For the typical customer who uses 8 Ccf of water each month, the total monthly bill increase will be \$4.59. Of this \$4.59, \$2.35 will pay back construction loans. The remaining \$1.74 pays for increases for personnel, chemicals, maintenance and S11 customer service.

A very small percentage of customers will see their total bill decrease because of the reduction in the sewer cap.

Water and Sewer Rates 2011-2012	2011 (current)	2012 (proposed)
Year 1 (4-14 Ccf)	\$1.46	\$3.00
Year 2 (9-14 Ccf)	\$1.64	\$1.35
Year 3 (9-18 Ccf)	\$2.49	\$3.41
Year 4 (over 18 Ccf)	\$1.52	\$5.30
Sewer Charges	\$4.31	\$4.14

Water and Sewer Improvements

Brier Creek Relief Sewer/Sugar Creek Treatment Plant Upgrades	\$50 million
Cataula Pump Station Expansion	\$20 million
Franklin Water Treatment Plant Expansion	\$18 million
Irwin Creek Relief Sewer	\$25.6 million
Lee St. Dulon Water Treatment Plant Improvements	\$13 million
Long Creek Lift Station and Relief Sewer	\$25 million
Mallard Creek Wastewater Treatment Plant Improvements	\$2.7 million
McIntosh Creek Relief Sewer, Phase I and II	\$13 million
McIntosh Creek Wastewater Treatment Plant Improvements	\$14 million
McIntosh Creek Wastewater Treatment Plant Expansion	\$24 million
New South Creek Sewer Line	\$39 million
New Rocky River Wastewater Treatment Plant	\$18 million
New South Water Main	\$40 million
New Southwest Water Main	\$14 million
West Water Treatment Plant Improvements	\$5 million
New West Water Main	\$15 million

Rehabilitation
More than \$100 million invested in rehabbing and maintaining aging water and sewer lines.

Fire Protection
Utilities provides water for fire protection throughout Mecklenburg County and is responsible for repairing 15,000 hydrants and valves.

Operating Efficiently

In an effort to maintain lower costs for customers, Utilities has increased its efficiencies in areas like energy management and reduced staffing levels. Utilities has fewer positions today than in 2005.

Water and Sewer Customer Accounts and Staff Positions

Minor Leak Average Repair Time (Days)

18 Ccf Customer Bill Comparison to Other Cities

Utilities' water and sewer rates are among the lowest in the region.

Did you know?

\$1 purchases 400 gallons of water from Utilities.

By comparison, \$1 purchases a single 16.9oz bottle of water from the store.

For the same \$1, Utilities delivers 400 gallons of water to customers any time, day or night.

Henry County WSA, GA

- *“Beginning October 1, 2008 and on the first day of October of each year thereafter, the water and sewer rates in effect as of September 30th, 2008 and each year thereafter shall be increased by 5 percent. **The 5 percent rate increase shall be computed each year by increasing the previous year's rates by 5 percent.** Said rates shall remain in effect until modified, amended or terminated by the Authority.”*



The screenshot shows a web browser window with the URL `efc.web.unc.edu`. The page header features the UNC Environmental Finance Center logo and navigation tabs: GENERAL INFORMATION, ENERGY, DRINKING WATER & WASTEWATER, FINANCIAL BENCHMARKING, and WATERSHEDS, WETLANDS & STORMWATER. The main content area displays a blog post:

All A-board! Strategies to Get Your Board on Track with Financial Policies
 By Mary Tiger, on July 17th, 2012.
Mary Tiger is the Chief Operating Officer for the Environmental Finance Center and Project Manager for the Water Research Foundation Project.

Making the way to financial sustainability can feel like an uphill battle for utilities when stressed by unexpected weather, economic and demographic obstacles. However, getting a governing board in understanding of and agreement with financial goals can keep a utility on-track to achieve financial resiliency and avoid drastic adjustments in rates.

Continue reading [All A-board! Strategies to Get Your Board on Track with Financial Policies](#)

On the right side, there is a 'Recent Comments' section with entries such as 'Christine Boyle on Finding the Right Grant for State and Tribal Wetland Programs' and 'Mary Tiger on American Idol for Water Utility Finance: The Results Show'.

ALTERNATIVE RATE STRUCTURES



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Fixed versus variable

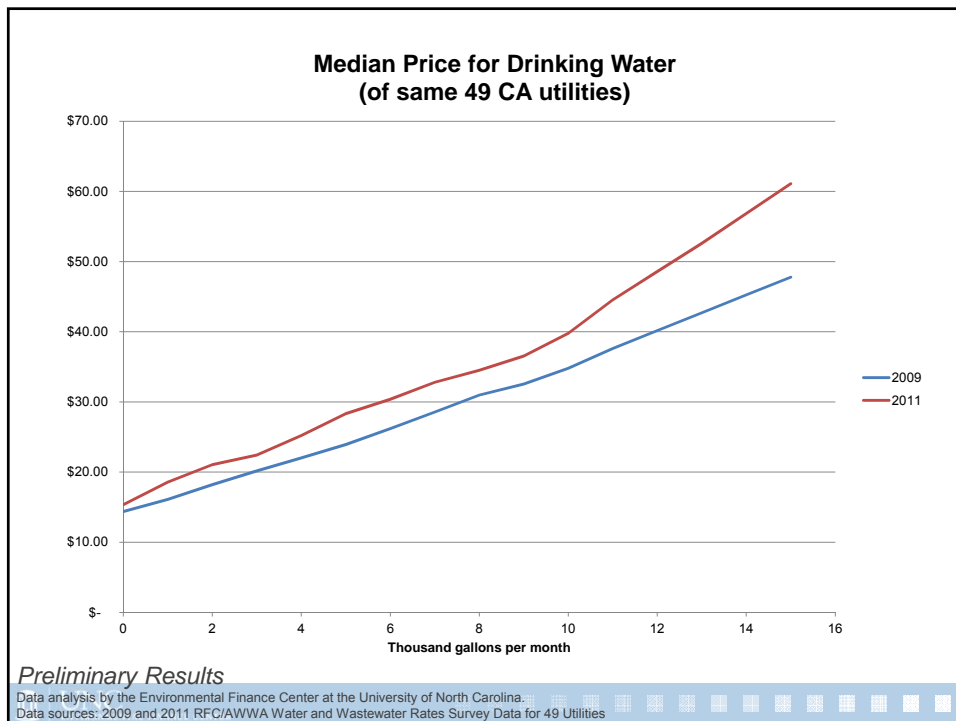
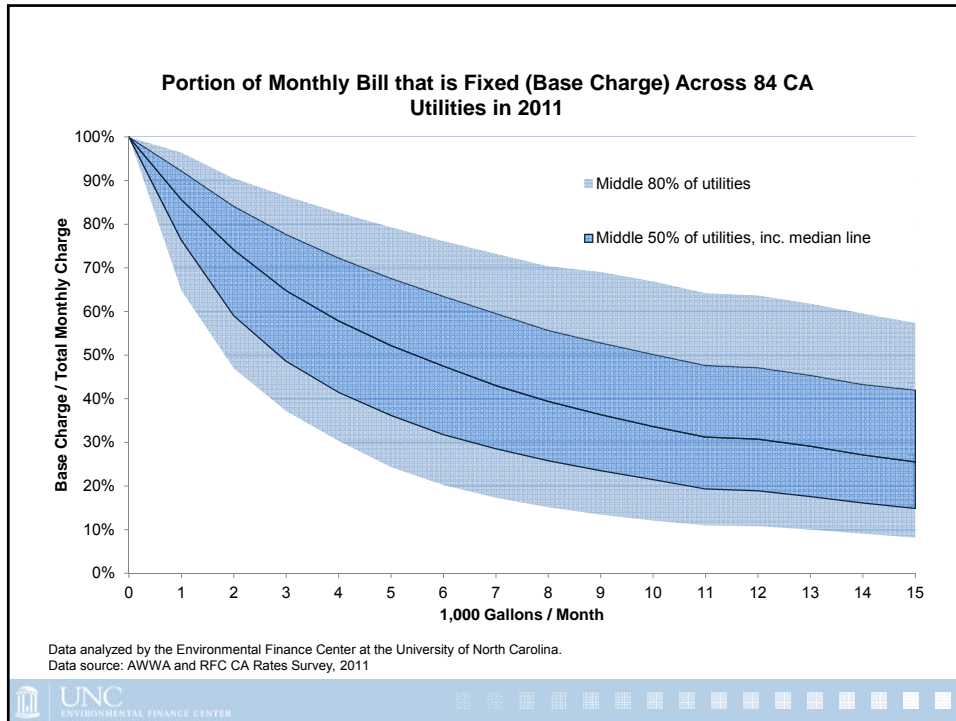
	Cary	Durham	Raleigh
Fiscal Year	% of revenue collected from volumetric charges as a percent of all revenue collected from households (base & volumetric)		
'07	91.4%	82.0%	76.3%
'08	90.8%	82.2%	74.5%
'09	90.4%	71.0%	74.7%
'10	91.1%	73.5%	75.4%
'11*	92.3%	72.1%	78.0%
*FY11 does not include all 12 months in any of the data sets			

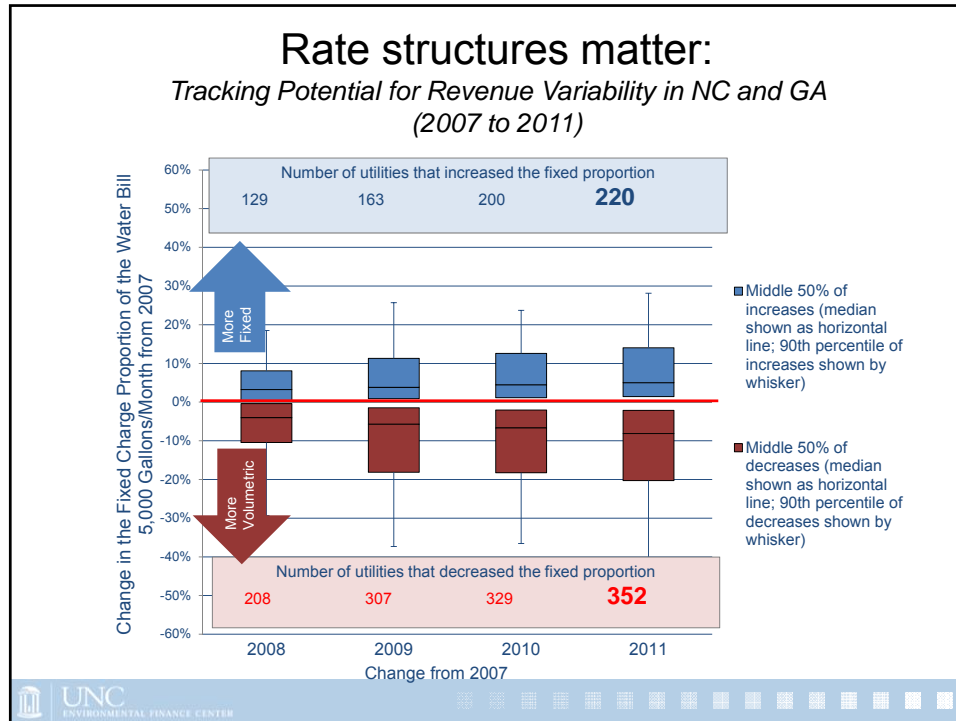
Data analyzed by the Environmental Finance Center at the University of North Carolina.
Data source: Each utility's customer billing records, project funded by NC Urban Water Consortium



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Charlotte-Mecklenburg Utilities

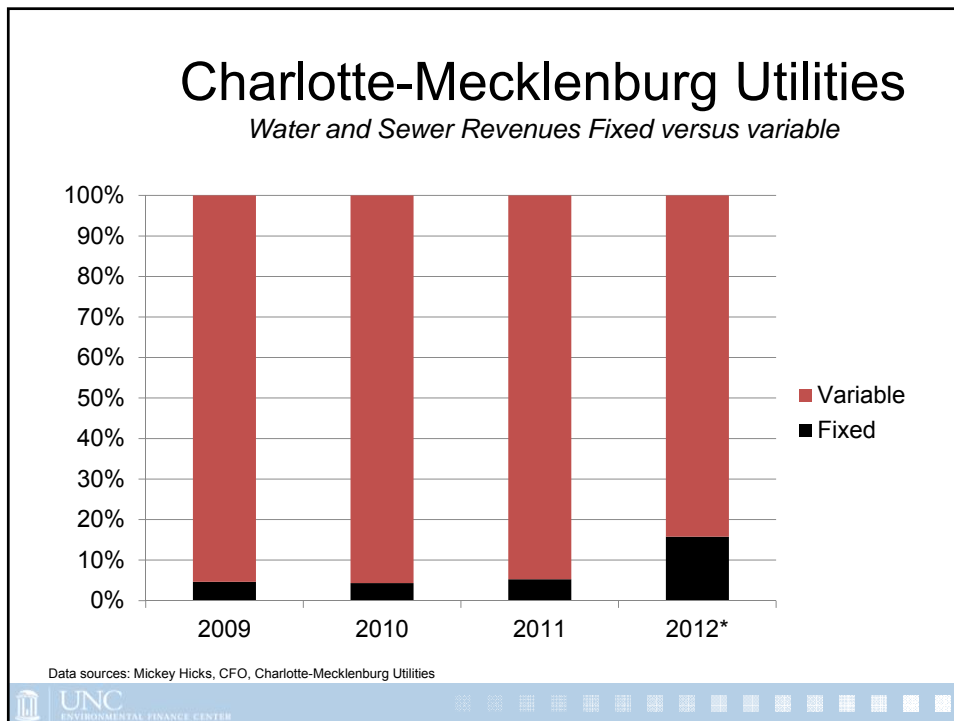
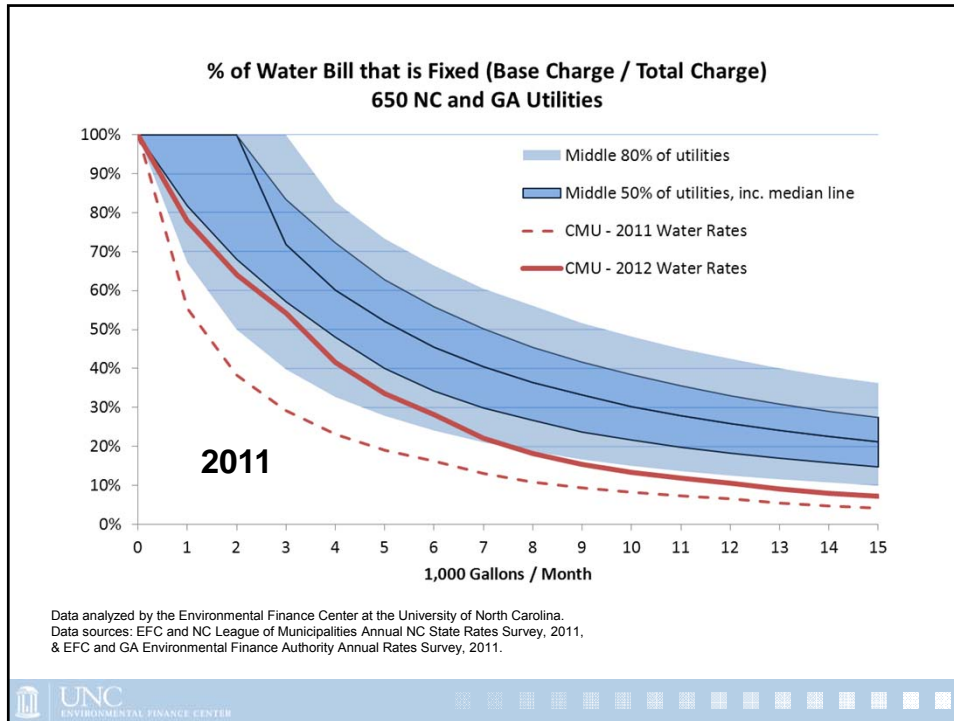
Proposed Rate Increase

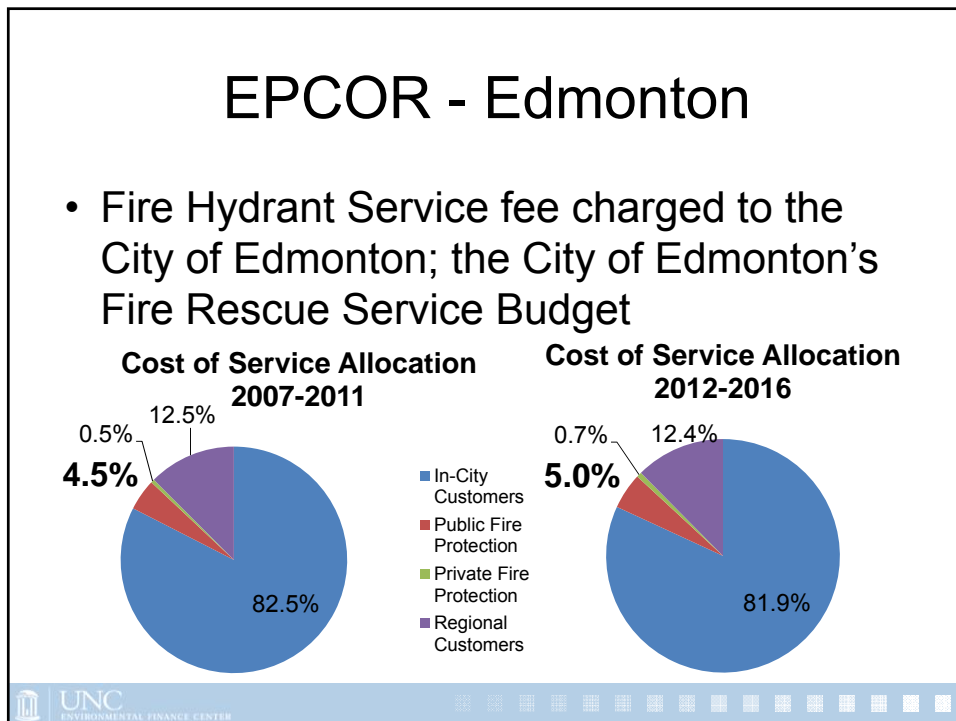
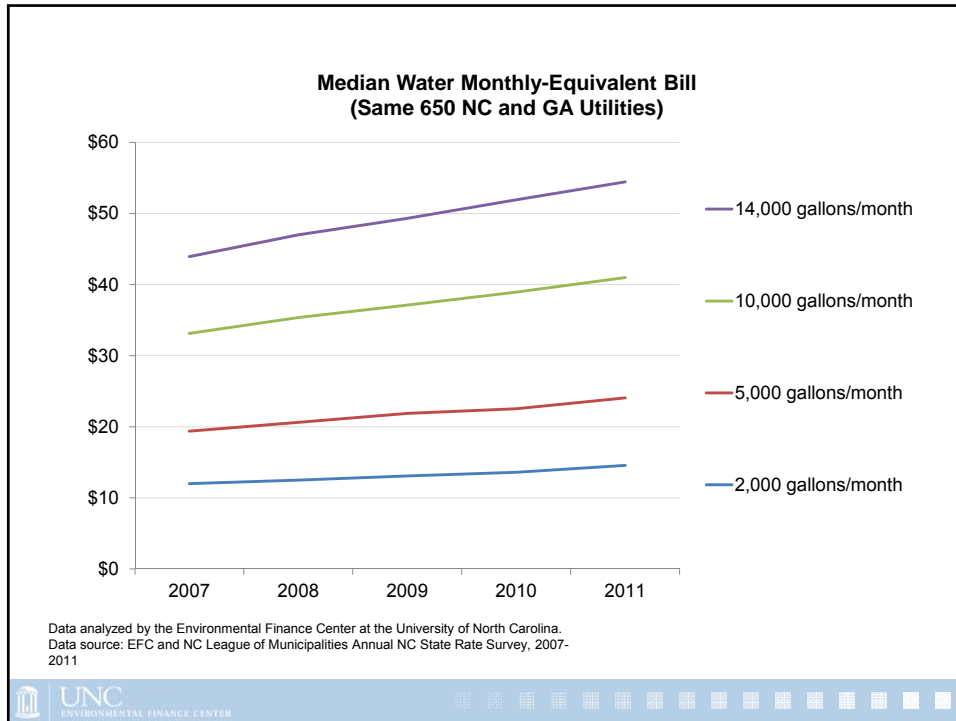
Description	Existing Structure	Combination of Options
Water Rates		
<i>Fixed Charges</i>		
Billing Charge	\$2.40	\$2.40 per bill
Availability Fee	n/a	\$2.19 per eq meter
<i>Usage Rates</i>		
Residential	Usage Range	
Tier 1	0-4	\$1.45 \$0.89 per ccf
Tier 2	4-8	\$1.64 \$1.77 per ccf
Tier 3	8-16	\$2.69 \$3.55 per ccf
Tier 4	>16	\$5.32 \$4.61 per ccf
Non-Residential		\$2.04 \$1.86 per ccf
Sewer Rates		
<i>Fixed Charges</i>		
Billing Charge	\$2.40	\$2.40 per bill
Availability Fee	\$0.00	\$3.73 per eq meter
Usage Rate	\$4.31	\$3.99 per ccf
<i>Sewer Cap</i>		
Single-Family Residential	24	16 ccf
Multi-Family Residential	11	11 ccf
Non-Residential	None	None ccf

Adopted Rate Increase

Water Rates	
<i>Fixed Charges</i>	
Billing Charge	\$2.40
Availability Fee	\$2.25
<i>Usage Rates</i>	
Tier 1: 0-4 ccf	\$0.98
Tier 2: 4-8 ccf	\$1.96
Tier 3: 8-16 ccf	\$3.41
Tier 4: <16 ccf	\$5.32
Sewer Rates	
<i>Fixed Charges</i>	
Billing Charge	\$2.40
Availability Fee	\$4.30
Usage Rate	\$4.14
<i>Sewer Cap</i>	
Single-Family Res	16 ccf
Multi-Family Res	11 ccf
Non-Res	None

UNC ENVIRONMENTAL FINANCE CENTER RFC





Peakset Base Model

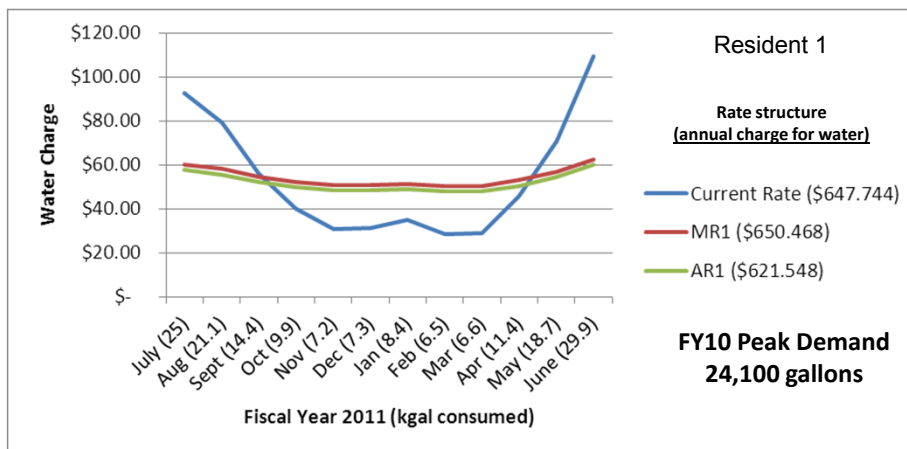
- *Inspiration = energy sector*
- A customer's base charge would be individually set based on their three-year rolling average peak
- Builds more of utility cost recovery into the base charge while still promoting customer conservation and efficiency

	Current Residential Rate Structure	High Fixed (AR1)	Medium Fixed (AR2)	Low Fixed (AR3)
% Fixed Revenue	18%	57%	47%	37%
Base Rate	\$6.00/meter – water + \$6.00/meter - irrigation	\$1.85/kgal of historic peak demand	\$1.49/kgal of historic peak demand	\$1.12/kgal of historic peak demand
Variable Rate	\$3.46/kgal of previous month's use	\$0.52/kgal of previous month's use	\$1.25/kgal of previous month's use	\$2.01/kgal of previous month's use



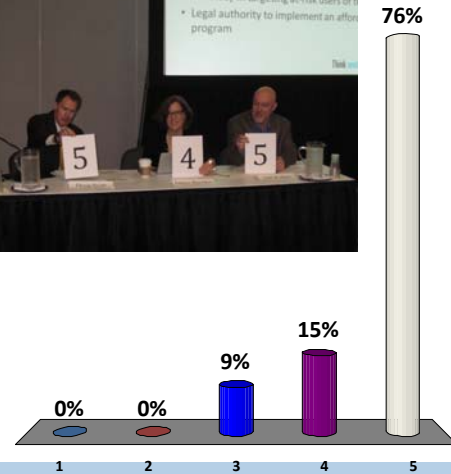
How would it impact individual customers?

Comparison of monthly charges for water under current rate and two Peakset Base scenarios



On a scale of 1 -5, how well would the WaterWise Dividend Model work for your utility or the utilities you work with?

1. Very well
2. Pretty well
3. Maybe so, maybe not
4. Not well
5. Dreadfully



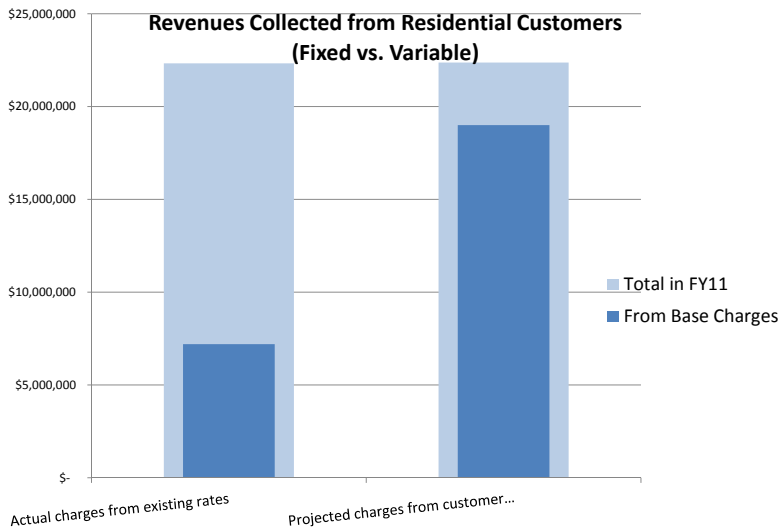
Customer_{select} Pricing Model

- Customers choose allotment and “lock in” for one fixed charge for the year
- All usage over allotment is charged an overage charge

Modeled Water and Irrigation Schedule (with sewer charge the current rate) for Georgia Utility

Plan name	Monthly water allotment	Cost for water under current rate structure	CustomerSelect Plan Cost	Overage Charge
Lifeline	2,000 gallons	\$8.93-\$13.13	\$8.13	\$6.83/kgal
Basic service/Small family	6,000 gallons	\$15.23-\$30.38	\$18.70	\$6.83/kgal
Light irrigation/Large family	10,000 gallons	\$35.43-\$54.18	\$32.52	\$6.83/kgal
Heavy irrigation	24,000 gallons	\$64.75-\$146.68	\$81.30	\$6.83/kgal
Water waster	unlimited	>\$154.18	\$162.60	NA

Customer *select* Pricing Model



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For on-going research discussion visit:

www.efc.web.unc.edu

For final research results visit:

www.waterrf.org

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