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Water Use Pricing



Managing Water Resources to Support North Carolina's Future

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Water Use Pricing

➤ Water Conservation Pricing

- Encourages water efficiency
- Discourages water waste
- Increasing Block Rates (IBR)
- Prelude to full cost pricing



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I want you to think of this presentation as a “how-to guide” to better fiscal management for your water system.

Your pricing strategy should accomplish 3 things: encourage the efficient use of water, discourage water waste, and provide the income you need to provide safe water to your customers.

There are various price structures that can be used, but the IBR structure can be an effective tool for gaining fiscal stability.

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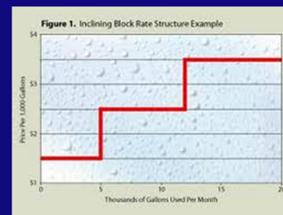
➤ Increasing Block Rate (IBR)

- Blocks based on historical use
- Lower unit cost for necessary use
- Higher unit cost for discretionary use
- 25% to 50% block increases



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Setting a good IBR structure will require the study of customer water uses and trends.

When developing the structure keep in mind the dynamics of your customer base (e.g. growing or shrinking, and by how much).

Look at different scenarios to find a good objective fit for your system – bottom line: rate structure should provide revenue to cover the costs of providing safe water to your customers.

Generally speaking, 3 or 4 blocks may be acceptable for the first 20,000 gal/mo.

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➤ Water Budget based Blocks

- Can be difficult to administer
- Blocks based on efficient customer use
- Indoor and outdoor demand component



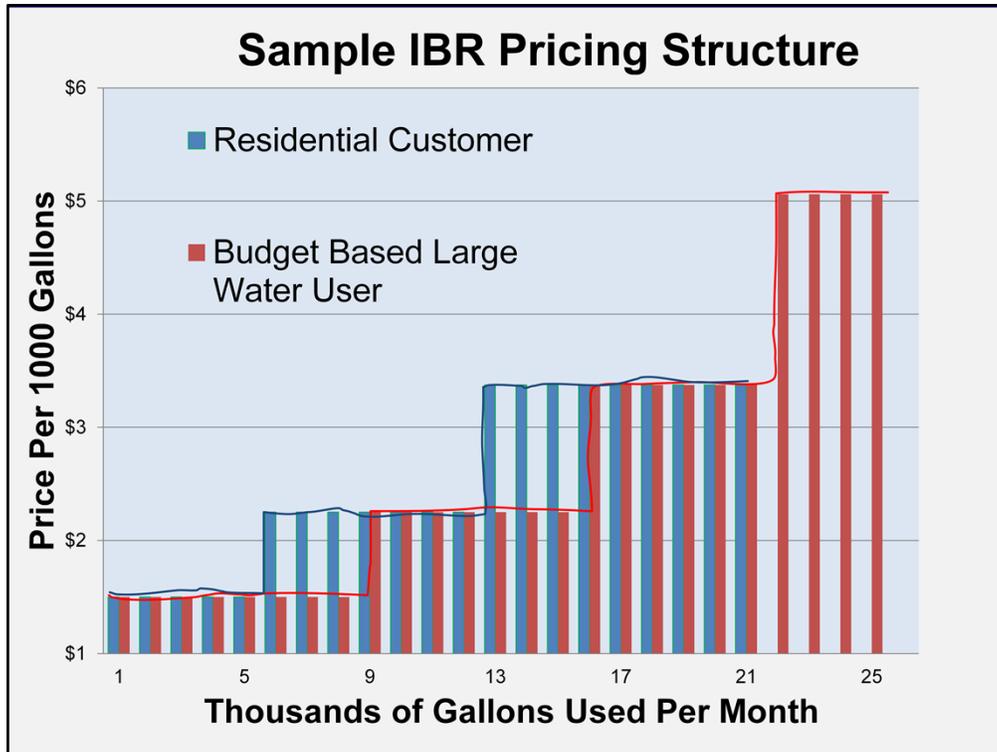
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This method can be used to equitably set rates for high use customers. (e.g. industries or commercial customers)

The blocks are defined by the efficient level of use for each individual customer.

Budget is based on average wintertime indoor usage plus an allocation for irrigation (based on ET rate and size of landscaped area) – the budget.



In this example, the large water user gets about an 11% discount at 20,000 gallons per month.

\$50.25 (residential customer) -vs- \$44.63 (large water user)

Tier 1 = indoor use

Tier 2 = outdoor use

Tier 3 = excessive use

Tier 4 = wasteful use

Blocks: \$1.50; \$2.25; \$3.37; \$5.06

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➤ Education and Outreach

- Analyze your current rate structure
- Perform annual reviews
- Distribute value added information to customers



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You should start the process by analyzing your current pricing strategy (why is your rate structure set the way it is, is there room for improvement?).

Understand what the rate setting objectives are for your system (e.g. full cost recovery, maintain affordability, attract industry, etc.).

Utilities should always provide useful information to their customers (e.g. flushing schedules, repairs, and water quality issues/achievements).

An informed customer is easier to work with when it comes time to make rate adjustments.

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➤ Full Cost Pricing

- Generates revenue to cover all system costs.
- Should be a goal for every water system.
- Eligibility for infrastructure funds requires water rate structures adequate to pay the cost of maintaining, repairing, and operating the system. [SESSION LAW 2008-143 (Drought Bill)]



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Full cost pricing can be a tough strategy to implement, but it's necessary.

The first step is to develop a plan for improvements; find out what your costs are, and the shortfall in revenue to cover those costs.

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➤ How to Approach Full Cost Pricing

- Determine System Costs

- Personnel
- Non-personnel
- Capital Reserve
- Asset Management Plan



- Phase-in Full Cost Water Rates



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You have a choice to make – continue using a rate structure that does not cover the costs of providing safe water (Wrong Decision), or investigate options that would allow you to cover system costs over time (Right Decision).

Understand that a successful pricing program will not happen overnight, but with good planning, it can become a reality.

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➤ Personnel Costs



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Personnel costs include wages, salaries and benefits for administrative and O&M staff, and for other services such as engineering and legal.

Be sure to only include costs that are associated with running the water system.

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➤ Non-personnel Costs



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Includes costs for office operations such as: utilities, space rental, mortgage, supplies, and maintenance.

Includes costs for system operations such: chemicals, water tests, electricity, repairs, and contract services.

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➤ Capital Reserve



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This estimate should cover the costs of anticipated or planned capital projects for the next five to ten years.

It should account for future debt and cash obligations.

Since this estimate is dependent on the timing of investments, an asset management plan should be used to schedule costs.

The water Capital Reserve account should not be used to supplement non-water expenditures.

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➤ Asset Management Plan (AMP)

- Develop an Inventory of Assets
- Rank Criticality of Assets
- Determine Rehabilitation and Replacement Costs
- Determine Timing of Maintenance/Replacement
- Incorporate into Capital Improvement Plan (CIP)



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Adds significant value in helping you properly manage capital investments.

Rank assets in order of importance.

Should include all components of your system that will need servicing or replacement (e.g. pumps, tanks, valves, vehicles, etc.).

The AMP should be worked into your CIP, which is your guide for making capital investment decisions.

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➤ Income Should Cover System Costs



North Carolina Department of Commerce



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Determine your revenue streams.

Your main revenue stream should come from your customers, which means all water use should be properly metered where practical (non-revenue water should be kept to an absolute minimum).

Listed are some familiar loan and grant organizations. Although these organizations are very important when it comes to project funding, they don't necessarily guarantee *money in the bank* for system needs.

Your customers are, and will always be, your major source of continuous revenue.

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➤ Full Cost Rate Setting

- Designed to cover costs not covered by other income
- Customer Revenue = **Costs** – Other Income



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Your full cost pricing strategy should cover the deficit between actual revenue and required revenue.

For example, if you determine your deficit is \$50,000/year, then full cost pricing would adjust customer rates to cover this deficit.

Full cost rate setting is not a one-time static analysis. Annual reviews of your pricing strategy should be performed.

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➤ Costs:

- O&M (personnel + non-personnel)
- Debt service on capital investments
- Depreciation (equipment replacement)
- Price Escalation (future construction)



The last two bullets should be covered by your capital reserve account.

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➤ Implementing Full Cost Water Rates

- Analyze shortfall of current rate structure
- Plan when adjustments need to be made
- Communicate value of water to customers
- Communicate need for water rate adjustments
- Phase-in water rate adjustments over time



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Don't try to correct all the shortfall at once. (Phase it in)

Plan when to implement rate structure adjustments; communicate.

Develop an information/education program.

An educated customer is more amenable to change than one that's uninformed.

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➤ Avenues for Communication



ACCOUNT NUMBER	Customer Name	Service Dates	Net Total
12345600	Sunny Waters	10/15/11 - 12/15/11	143.84
12	1078 El Campo		

ACCOUNT NUMBER	Customer Name	Service Dates	Net Total
12345600	Sunny Waters	10/15/11 - 12/15/11	143.84

WATER BILL PROVIDED FOR THE MONTH OF 11/15/11. THIS BILL IS SUBJECT TO A 1.5% HEALTH RECONSTRUCTION FEE. SERVICE WILL BE STOPPED ON CHARGE. EMERGENCY AFTER HOURS TOLL-FREE CHARGE. IF YOU HAVE A QUESTION REGARDING THIS BILL, PLEASE CONTACT YOUR OFFICE AT 951.616.1234. (951) 616-1234



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Town hall meetings – be prepared for rebuttal.

Printed information on the water bill – avoid over doing it.

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➤ Communicate Value of Water



Emphasize the value of safe water.

Customers will resist paying more for what they don't perceive as more valuable.

Ask yourself: *why should I pay more for water* . After answering the question, find a way to communicate to your governing authority and customers the convincing picture that came to your mind.

People must understand that paying a little more for safe water can have far reaching impacts: continued public health; economic stability; and neighborhood safety.

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➤ Communicate Need for Adjustments



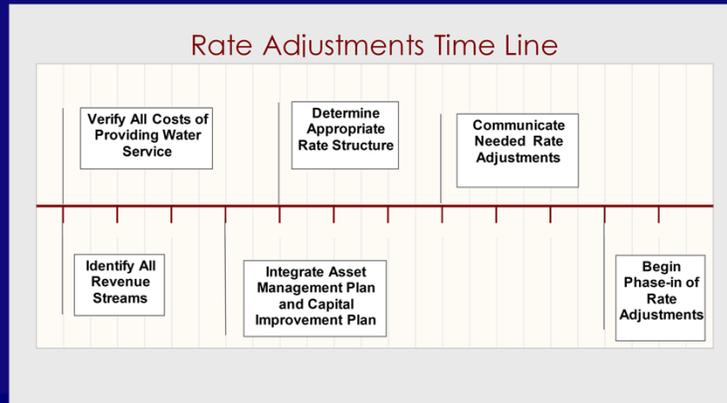
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Results of failure to implement full cost pricing, and proper fiscal management practices.

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➤ Plan for Adjustments Over Time



Track due diligence efforts and the phasing-in of rate adjustments.

Keep the momentum going by tracking your progress.

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➤ Don't Wait to Take Action-Now is the Time

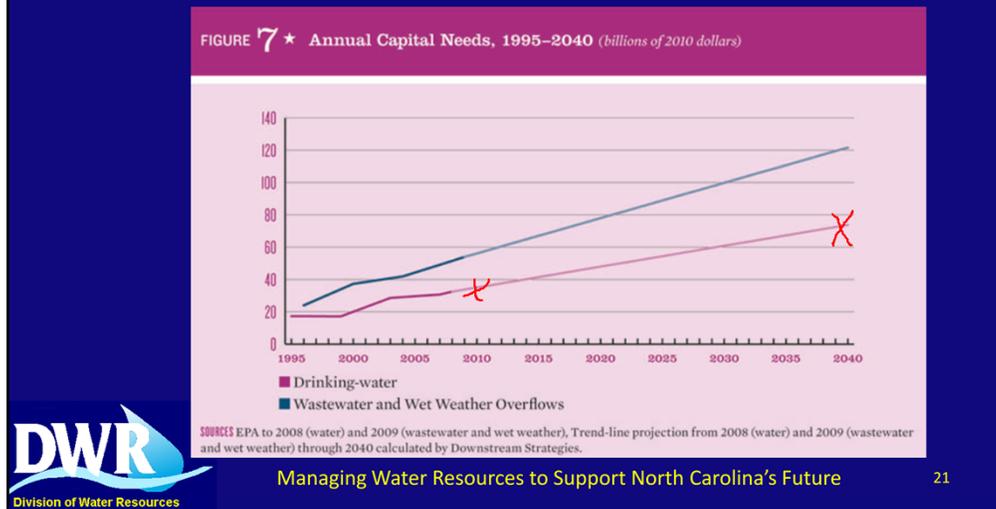


Chart is taken from ASCE's 2012 *Failure to Act* report for water and sewer infrastructure.

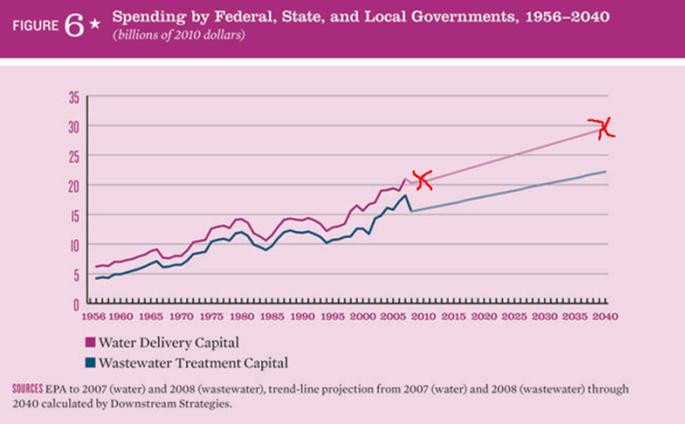
Capital needs for water infrastructure are projected to increase over 100% over the next 30 yrs - \$35B to \$74B.

This equates to a capital needs increase of about 3.7% per year.

NOTE: 2010 dollars

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➤ Don't Wait to Take Action-Now is the Time



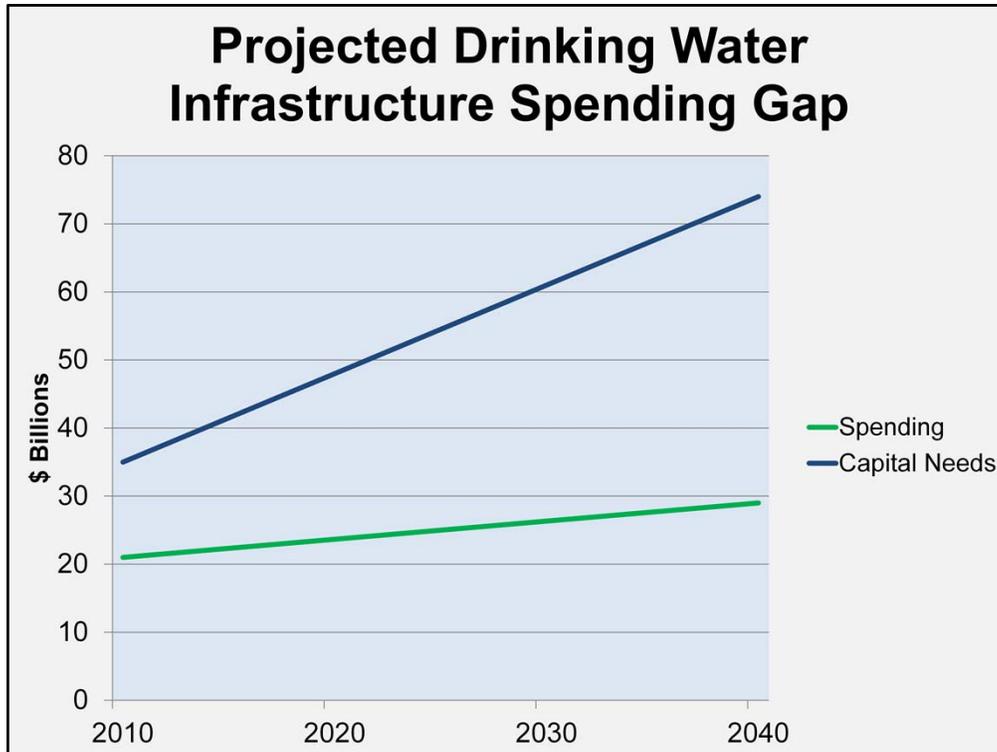
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Spending for water infrastructure is projected to increase by only about 38% over the next 30 yrs - \$21B to \$29B.

This equates to a spending increase of only about 1.2% per year.

NOTE: 2010 dollars



This chart shows why collecting adequate revenue and building a capital reserve account are so important.

During 2010, capital needs were 67% greater than spending, and are projected to increase to 155% above spending by 2040.

The spending gap is projected to increase by nearly 3% each year.

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➤ Orange Water and Sewer Authority

- 2001 – Completed master plan study
- 2002 – Implemented seasonal rate structure
- 2007 – Implemented 5-tiered IBR structure for residential customers
- Combined residential bill has doubled since 2001



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OWASA is a utility serving about 80,000 people in Southeastern Orange county.

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➤ Orange Water and Sewer Authority

- Water sales have declined 25% since 2002
- Customer base has increased by 11% since 2002
- Treatment plant expansions delayed
- Better positioned to weather droughts



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➤ Achievements:

- Customer conservation and efficiency
- Increased customer base 
- Deferment of capital projects 
- More secure water system



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Achievements from rate adjustments.

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