Overview of Local Government Water and Wastewater Debt in North Carolina

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The Environmental Finance Center at the University of North Carolina, Chapel Hill is part of a network of university-based centers that work on environmental issues, including water resources, solid waste management, energy, and land conservation. The EFC at UNC partners with organizations across the United States to assist communities, provide training and policy analysis services, and disseminate tools and research on a variety of environmental finance and policy topics.

The Environmental Finance Center at the University of North Carolina, Chapel Hill is dedicated to enhancing the ability of governments to provide environmental programs and services in fair, effective, and financially sustainable ways.

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Debt and debt management for water and wastewater utilities are becoming increasingly important as our country's infrastructure needs continue to grow. The U.S. Environmental Protection Agency's 2011 Drinking Water Infrastructure Needs Survey and Assessment indicates that $384.2 billion in drinking water infrastructure investments is needed over the next 20 years. Ten billion dollars of this need comes from North Carolina and much (if not most) of the infrastructure will be funded through debt. This makes North Carolina one of only ten states in the country with drinking water infrastructure capital needs exceeding ten billion dollars. The needs on the wastewater side are similarly large. The 2008 U.S. Environmental Protection Agency Clean Watersheds Needs Survey reports a need of $6.6 billion in wastewater infrastructure, again making North Carolina one of the states with the largest infrastructure need.

There are a few basic ways utilities pay for these capital projects – some utilities are able to finance capital through revenues that they generate in a given year through pay-as-you-go financing. Others put money aside for years in sinking funds or reserve funds and are able to tap into those funds for large projects. In some cases, utilities are able to get state or federal grants to pay for projects where the funds ultimately come from wider pools of tax payers (state or federal) rather than only from their own utility customers. Finally, the most common method of paying for the big stuff involves borrowing funds and paying those loans back over time.

This paper focuses primarily on this method of capital financing and looks at broad debt trends among local government utilities in North Carolina to better understand current practices in the context of the frightening capital needs numbers.

Local governments rely on debt financing for a variety of capital needs, however water and wastewater are clearly dominant debt drivers. According to the State Treasurer, state and local governments in North Carolina had $32 trillion of total outstanding debt as of June 30, 2012, $8 billion of which was for water and wastewater debt. This number has been steadily increasing over time: in June of 2008, North Carolina local government utilities had $6.7 billion in outstanding debt for water and wastewater. It is interesting to note that the entire pool of outstanding issued by the state government in North Carolina in June of 2012 was $8.6 billion, almost the same as local government water and wastewater debt (1.4% of the state government debt was actually for local government water and wastewater projects attributed to state bonds issued in the 1990's to fund local water and wastewater grants and some loans).

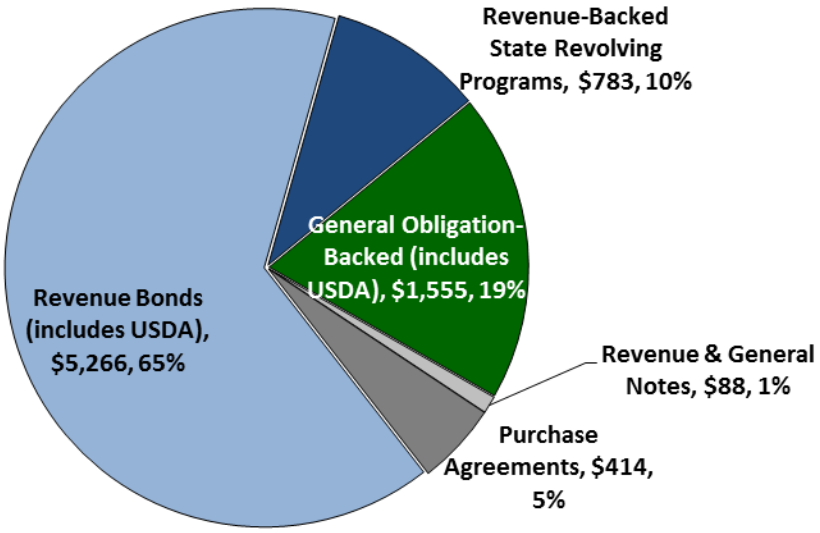
While state and federal grants play an important role for some utilities, if past trends continue, the majority of the new and rehabilitated facilities will be funded using debt that will ultimately be paid off by user fees. For obvious reasons, many utilities would prefer federal or state grants to loans, but federal and state assistance more times than not comes in the form of subsidized loans rather than outright grants.

Utility debt comes in many shapes and sizes ranging from $100 million dollar Wall Street bond issues to $40,000 vehicle loans from community banks. Debt can be categorized based on how it is collateralized (securitized) or by the type of entity that lends the funds. At one time, the preferred method of securitizing large water and wastewater debt issues was to use the full faith and credit of the population served by the project. This method of securitization results in "general obligation" debt – a type of debt that requires a majority vote in a bond referendum. General obligation debt is often sold as general obligation bonds on the commercial capital markets, but it also is the primary form of securitization that the U.S. Department of Agriculture's Rural Development Water and Wastewater Loan program uses. Per referendum changes to general obligation debt in 2013, units must now include a statement of the estimated interest on the bonds and publication of bond order (General Assembly of North Carolina, 2013).

Over time, many utilities that relied on general obligation debt have begun to turn increasingly to revenue-backed debt (e.g. revenue bonds) in which the security behind the debt consists of the utilities' legal authority to generate (and if needed raise) user fees and rates. In general terms, utilities issuing revenue bonds pledge their rate setting authority and utilities issuing general obligation debt pledge their tax raising authority. Utilities are not obligated to use what they legally pledge to actually pay off the debt, and most utilities rely on the revenues from rates to retire debt even if legally they may have pledged their general tax authority.

General Obligation debt and revenue backed-debt can be complicated to issue and many smaller utilities with smaller projects turn to simpler forms of debt. Utilities are allowed to pledge their assets as security for loans just as homeowners pledge their house as collateral for their mortgages. This type of debt most often comes in the form of what is known as "installment purchase" and has been an important source of debt for smaller utilities over the last 10 years. Lenders certainly do not want to take over water and wastewater assets and they have become comfortable with these loans because they assume, so far correctly, that utilities would do everything possible (raise taxes, raise rates, etc.) to make sure that a lender was never even close to taking over the water tank, water treatment plant, main downtown sewer line, etc.

Most water and wastewater debt is issued as long-term debt with terms between 10 to 40 years. Figure 1 shows a breakdown of outstanding long-term state and local government water and wastewater debt for North Carolina as of June 30, 2012. The total outstanding water and wastewater debt statewide was $8.1 billion ($7.6 billion among local governments only).

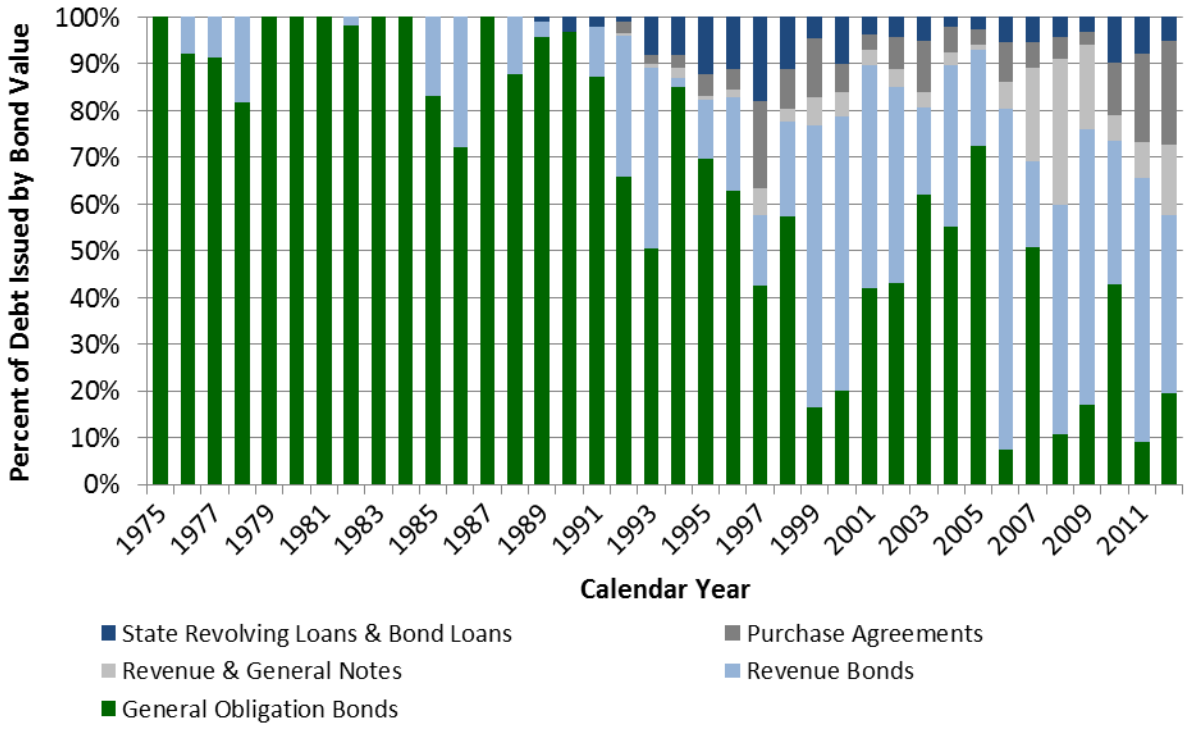


Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Data Sources: North Carolina Department of State Treasurer State and Local Government Finance Division. Debt shown in millions. Total long-term water and wastewater debt among state and local governments in NC was $8.1 billion as of June 30, 2012 ($7.6 billion among local governments).

Figure 1. NC state and local governments' total outstanding water and wastewater debt by bond type as of June 30, 2012

It is clear that the vast majority of outstanding debt for the past few years is in the form of revenue-backed debt with 65% outstanding as revenue bonds and 10% outstanding as state revolving fund debt as of June 2012, which is also normally loaned in the form of a revenue-backed agreement. The health of this type of debt now and in the future depends on effective rate setting.

Figure 2 shows the distribution of debt issuance each calendar year from 1975 to 2012. Rather than indicating outstanding debt as shown in Figure 1, this figure gives the trends in the new debt issued each year, by bond value. As reliance on general obligation bonds decreases, there is a clear trend of increased reliance on revenue bonds, installment and loan purchases, and short-term revenue and general notes.



Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Data Sources: North Carolina Department of State Treasurer State and Local Government Finance Division.

Figure 2. Bond issuance type by bond value for NC local government water and wastewater utilities from 1975 to 2012

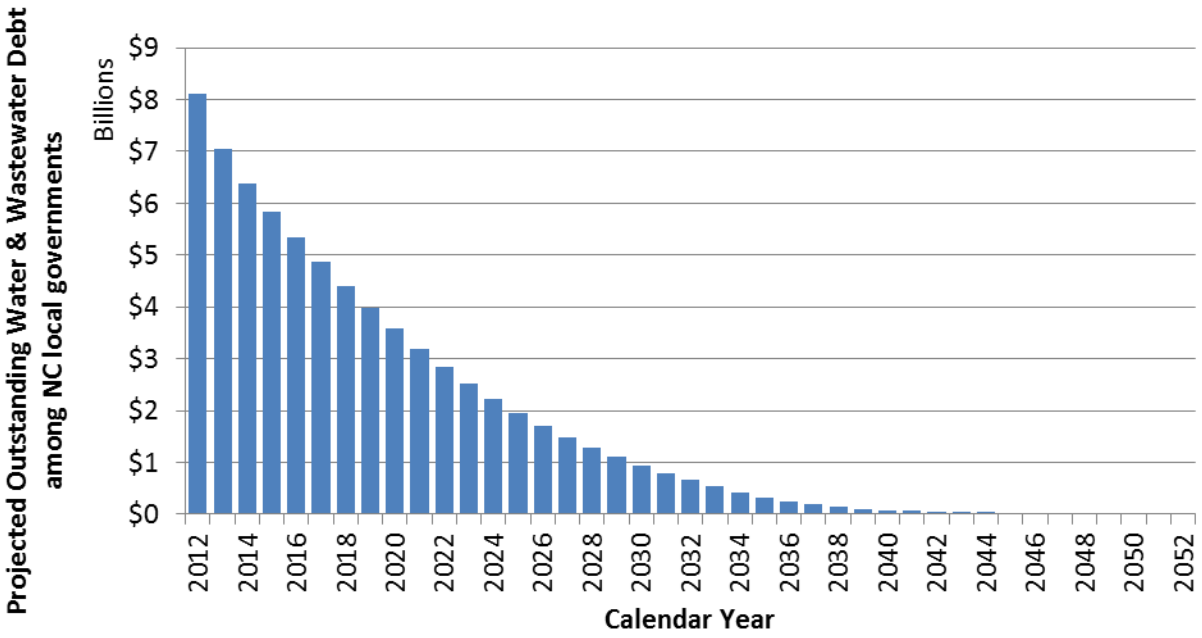
In North Carolina, the Local Government Commission within the Department of State Treasurer's State and Local Government Division[1] must approve almost all water and wastewater debt. This oversight has resulted in widespread recognition that North Carolina's local government debt capacity and reliability are among the best in the country. As mentioned earlier, public infrastructure funding assistance has increasingly taken the form of subsidized debts. The State of North Carolina's Drinking Water State Revolving Fund (DWSRF) and Clean Water State Revolving Fund (CWSRF) and the federal government's USDA Rural Development Water and

[1] Staff from the Department of the State Treasurer support the nine member Local Government Commission, and the work of staff and the commission are so interconnected and commonly referred to simply as the Local Government Commission. For more information, see: https://www.nctreasurer.com/slg/Pages/Local-Government-Commission.aspx

Waste Disposal Direct Loans and Grants Program are sizable water lenders operating in the state.

An examination of North Carolina water and wastewater utilities' total debt issuance trends reveals that a shrinking portion of new debt is issued as general obligation bonds after revenue bonds have stepped in to take a larger share, making up 57% of debt issued in calendar year 2011. Installment purchase agreements have generally made up less than 10% of debt issued prior to 2010, but became increasingly popular after 2010, when purchase agreements accounted for 20% of debt issuance.

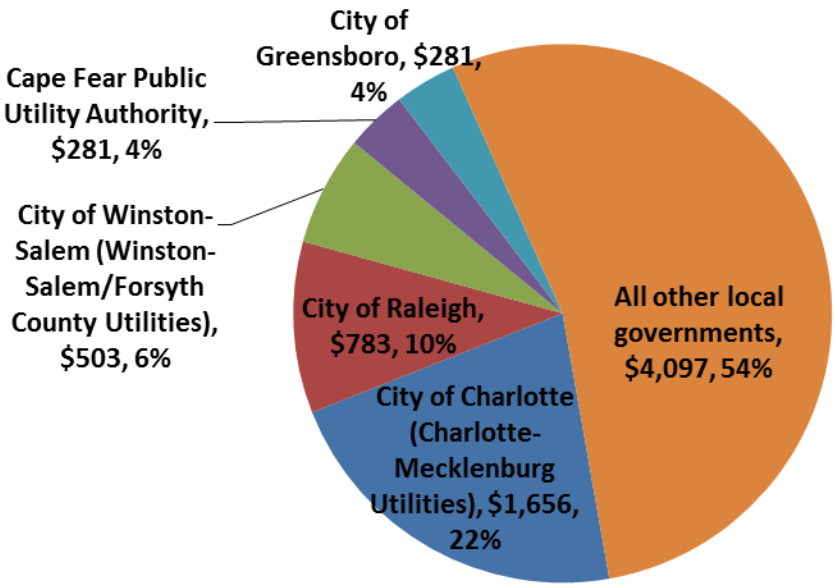
While North Carolina's aggregate outstanding debt has continued to grow, there is a considerable variation in the impact of this debt on how much and for how long individual utilities will need to generate revenue from their customers to pay off the debt. Figure 3 below shows the outstanding total water and wastewater debt for North Carolina as of June 30, 2012 and how this debt would be paid off based on linear payments to maturity date. Some of the outstanding debt will be with utilities for a long time to come (as long as 2052 in some cases), but most of this existing debt will be retired much sooner, with a 50% reduction in outstanding debt by 2019.



Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Data Sources: North Carolina Department of State Treasurer State and Local Government Finance Division. Assumes no new debt is incurred after June 30, 2012.

Figure 3. Projected reduction in debt for existing outstanding debt as of June 30, 2012

The majority of this debt typically falls on a small number of utilities. Figure 4 shows a comparison of the utilities with outstanding debt greater than 4% of the total outstanding debt for utilities in the entire state as of June 30, 2012 ($304 million). The City of Charlotte (Charlotte-Mecklenburg Utilities) carried just under a quarter of the water and wastewater debt for the whole state ($1.65 billion), followed by the City of Raleigh at ten percent and Winston-Salem/Forsyth County at 6%.



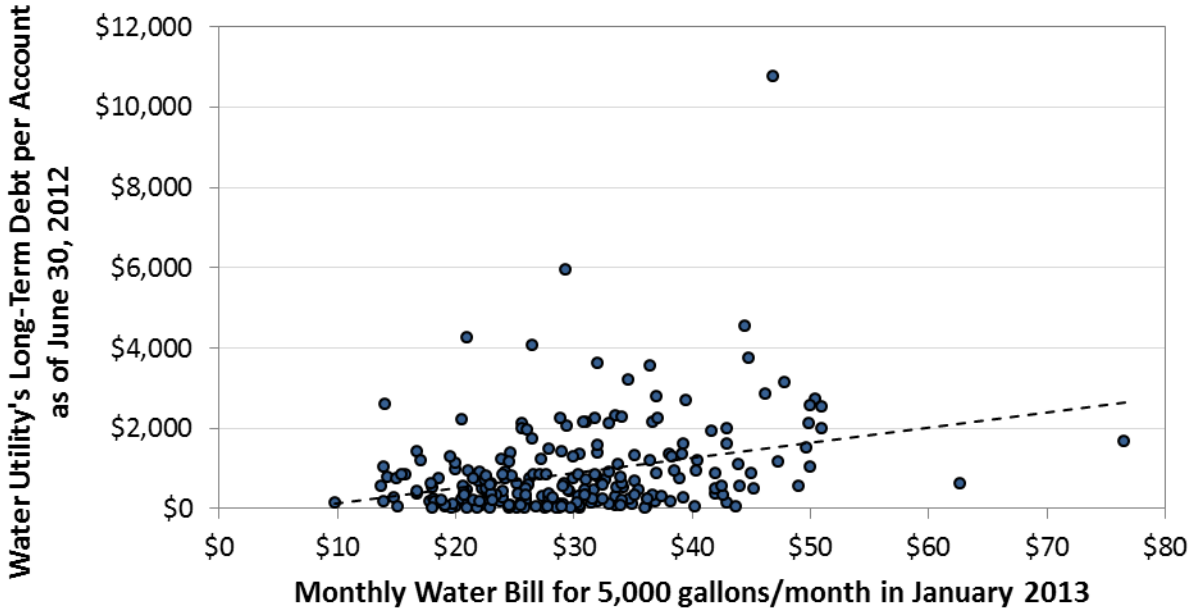
Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Data Sources: North Carolina Department of State Treasurer State and Local Government Finance Division. Debt shown in millions. Total long-term water and wastewater debt among local governments in NC was $7.6 billion as of June 30, 2012.

Figure 4. NC water and wastewater debt allocation among local government owned utilities as of June 30, 2012

Although these utilities carry a significant portion of the state's total debt, their debt is spread out over large customer bases. Charlotte-Mecklenburg Utilities, for example, have the largest service population in North Carolina, with 245,854 service connections in 2012 according to EPA's Safe Drinking Water Information System (SDWIS). Consequently, their long-term debt per account is not the highest in the state despite the fact that they carry nearly 22% of the state's debt.

At the end of June 2012, 497 local governments in North Carolina had outstanding debt for water and/or wastewater utilities, 385 of which had outstanding debt specifically for the water utility. Figure 5 shows the water long-term debt per account for fiscal year 2012 versus the monthly water bill at 5,000 gallons of consumption for the 235 water debt-paying local government utilities in North

Carolina with available rates, accounts and debt data. Of the 235 utilities with available data, seven have water bills for 5,000 gallons that are over $50/month[2]. While the majority of utility bills fall within the $20-$35 monthly range, Figure 5 shows that utilities with higher long-term debt per account generally charge higher rates to their customers than utilities with lower debts per account.



Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Data Sources: Rates data from the North Carolina League of Municipalities and Environmental Finance Center's 2013 water & wastewater rates survey, debt data from the North Carolina Department of State Treasurer State and Local Government Finance Division, and number of accounts data from the U.S. Environmental Protection Agency's SDWIS database.
Debt includes only outstanding water debt (not wastewater). Water bills reflect inside city rates, not outside city rates.

Figure 5. Long-term debt per account and monthly water bills charged to residential customers in 235 NC water utilities

Debt plays a critical role in utility finance. As infrastructure needs grow and grants become increasingly limited, utilities that have historically avoided debt will no longer be able to continue this trend. Utilities must pay close attention to this type of financing, as the cost of debt will ultimately be passed onto utility customers. Many local governments have run into problems in dealing with debt, and it is important that the benefits of debt are balanced with an understanding of its limitations.

[2] In the case of municipal utilities that have different (higher) rates for customers outside their borders, the lower "inside rate" is used for this calculation. If the outside rate were used, many more utilities would show up as having at least some of their customers pay over $50/month for 5,000 gallons of water.

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