GENERAL ASSEMBLY OF NORTH CAROLINA

Session 2009

Legislative Fiscal Note

BILL NUMBER: House Bill 1771 (First Edition)

SHORT TITLE: Encourage Water Conservation Improvements.

SPONSOR(S): Representative K. Alexander

FISCAL IMPACT

Yes ( ) **No ( )** **No Estimate Available ( )**

	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
REVENUES	**Range – See Assumptions and Methodology**				
EXPENDITURES					
POSITIONS (cumulative):					

PRINCIPAL DEPARTMENT(S) & PROGRAM(S) AFFECTED:

EFFECTIVE DATE: Tax credit is effective for taxable years beginning January 1, 2011 and expires for tax years on or after January 1, 2016.

BILL SUMMARY:
This bill would provide a 35% tax credit for the construction of a rainwater harvesting system at a taxpayer's residence or place of business. The bill places a ceiling on the credit of $3,000 for residential systems and $1,000,000 for commercial systems. It also authorizes cities, counties and water and sewer authorities to finance such improvements through revolving loans and assessments. If the system is financed by a local government, the credit can only be taken to the extent loan or assessment payments are made.

BACKGROUND:
As populations grow around the country, one of the challenges that municipalities face is providing enough water to their residents. One technique to reduce the demand on municipal water supplies is rainwater harvesting. Rainwater harvesting reduces municipal water demand by storing the rooftop runoff from rain in tanks and then using it for irrigation purposes and toilet flushing needs. A number of municipalities, mostly in the Southwestern United States, have implemented incentives for the implementation of rainwater harvesting systems.

ASSUMPTIONS AND METHODOLOGY:
There are three distinct markets in the rainwater harvesting industry: (a) rain barrels, (b) full residential systems, and (c) commercial systems. Rain barrels are typically plastic storage tanks, with a capacity between 55-100 barrels. They are used in irrigation by attaching a hose to the bottom of the tank and using a gravity feed. A full residential system includes tanks with a storage capacity between 1,000 to 5,000 gallons and will typically include a pump to assist in irrigation purposes. A commercial system is similar to a full residential system but on a larger scale. Some commercial systems also pipe the rainwater back into the building to provide water for toilets.

I. Rain Barrels

The current cost of a rain barrel is about $100. A number of water districts have provided rebates for the purchase of rain barrels which are typically $25-30 per rain barrel purchased. This is close to the 35% credit provided in the bill.

Based upon the experience of some large municipal water districts, we expect that approximately 15,000 rain barrels will be purchased each year. As a result, we are expecting tax credits with respect to rain barrels as follows:

	FY 2010-11	FY2011-12	FY2012-13	FY 2013-14	FY2014-2015
Number of Barrels	7,500	15,000	15,000	15,000	15,000
Cost per Barrel	$102	$104	$107	$109	$112
Amount Spent on Barrels	$762,375	$1,565,003	$1,605,693	$1,641,822	$1,675,643
Tax Credit (35%)	**$266,831**	**$547,751**	**$561,993**	**$574,638**	**$586,475**

II. Full Residential Systems

A full residential system involves storage tanks with a combined capacity of 1,000 to 5,000 gallons, a pump and extensive gutter and plumbing work. These systems are typically professionally installed and cost approximately $2 per gallon of storage. The average system at water districts offering incentives typically includes 3,000 gallons of storage with a cost of $6,000.

The water districts we have examined provide a rebate with a cap that ranges from $500 to $750. The bill under consideration would provide a larger credit with the typical system receiving a credit of $2,100. Due to this difference, we have estimated the adoption of full residential systems under the bill in two different ways. First, we have created a low estimate that assumes that the adoption rate of full residential systems will be similar to these municipalities regardless of the larger credit. We have also created a high estimate by using a linear regression model to take the larger credit into account. Under our low estimate, we expect 130 full residential systems to be installed each year. Under our high estimate, we expect 320 full residential systems to be installed each year.

Low Estimate					
	FY 2010-11	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-2015**
Number of Full Residential Systems	65	130	130	130	130
Cost per System	$6,099	$6,260	$6,423	$6,567	$ 6,703
Amount Spent	$396,435	$813,802	$834,961	$853,747	$871,334

High Estimate					
	FY 2010-11	**FY2011-12**	**FY2012-13**	**FY 2013-14**	**FY2014-2015**
Number of Full Residential Systems	160	320	320	320	320
Cost per System	$6,099	$6,260	$6,423	$6,567	$6,703
Amount Spent	$975,840	$2,003,204	$ 2,055,288	$2,101,532	$2,144,823

We expect that these systems will be financed under the authority provided by the bill. For purposes of our analysis, we have assumed that the systems will be financed for 15 years with an interest rate of 5%. Credits are only provided to the extent that payments are made on the applicable loan. We expect the following payments and tax credits:

Low Estimate - Loan Payments	$38,193	$116,597	$197,039	$279,291	$363,237
Low Estimate – Tax Credit	**$13,368**	**$40,809**	**$68,964**	**$97,752**	**$127,133**
High Estimate - Loan Payments	$94,015	$287,008	$485,019	$687,485	$894,123
High Estimate – Tax Credit	**$32,905**	**$100,453**	**$169,757**	**$240,620**	**$312,943**

III. Commercial Systems

Commercial systems are similar to full residential systems but will have storage that typically ranges from 5,000 to 100,000 gallons. The typical size of a commercial system is 30,000 gallons with a cost of approximately $60,000.

No utility to date has offered significant incentives for the construction of commercial systems. The City of Austin Water Utility is, though, beginning a commercial incentive in July of 2010 and anticipates that four systems will be installed. Given that the State of North Carolina has a population about 11 times greater than the Austin Water Utility, we would estimate that 44 systems might be installed.

	FY 2010-11	**FY2011-12**	**FY2012-13**	**FY 2013-14**	**FY2014-2015**
Number of Commercial Systems	22	44	44	44	44
Cost per System	$60,000	$61,584	$63,185	$64,607	$65,938
Amount Spent	$1,320,000	$2,709,696	$2,780,148	$2,842,701	$2,901,261

We also expect that these systems will be financed under the authority provided by the bill. For purposes of our analysis, we have again assumed that the systems will be financed for 15 years with an interest rate of 5%. We expect the following payments and tax credits:

Loan Payments	$127,172	$388,230	$656,076	$929,948	$1,209,462
Tax Credit	**$44,510**	**$135,881**	**$229,627**	**$325,482**	**$423,312**

IV. Summary of Fiscal Impact

We expect the fiscal impact from the tax credit as follows:

Low Estimate of Credit					
	FY 2010-11	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-2015**
Rain Barrels	$266,831	$547,751	$561,993	$574,638	$586,475
Full Residential Systems	$13,368	$40,809	$68,964	$97,752	$127,133
Commercial Systems	$44,510	$135,881	$229,627	$325,482	$423,312
Total fiscal impact	**$324,709**	**$724,441**	**$860,583**	**$997,871**	**$1,136,920**

High Estimate of Credit					
	FY 2010-11	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-2015**
Rain Barrels	$266,831	$547,751	$561,993	$574,638	$586,475
Full Residential Systems	$32,905	$100,453	$169,757	$240,620	$312,943
Commercial Systems	$44,510	$135,881	$229,627	$325,482	$423,312
Total fiscal impact	**$344,247**	**$784,085**	**$961,376**	**$1,140,739**	**$1,322,730**

SOURCES OF DATA: City of Austin – Austin Water Utility; San Antonio Water System; Metropolitan Peninsula Water Management District; James City Water Management District; Santa Rosa City Water Department; Albuquerque Bernalillo County Water District; The Texas Manual on Rainwater Harvesting; and Moody's economy.com.

TECHNICAL CONSIDERATIONS: None

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