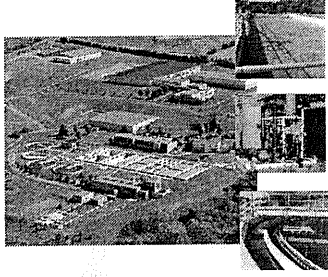


Creating a Sustainable Solution for Pennsylvania



Governor's Sustainable Water Infrastructure Task Force

Defining the Issue

- Examining drinking water and wastewater infrastructure; including treatment facilities and collection systems
- Need to develop a sustainable solution instead of continual heavy subsidy every few years

Governor's Role

- Infrastructure is a high priority within the Rendell Administration
 - 2008-2009 Budget includes funding for bridges, flood and dam initiatives as well as drinking water and wastewater
 - Focus of National Governor's Association with Governor Rendell as current chair

Sustainable Water Infrastructure Task Force

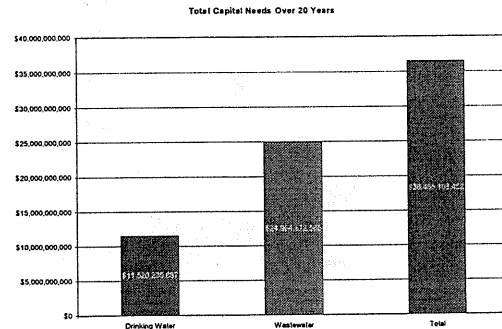
- Created by Governor Rendell through the signing of Executive Order 2008-02
- 30 members representing state government, members of general assembly, local government groups, business and industry, academia and environmental organizations
- 5 Work Groups, chaired by experts within the field

Collecting Public Input

- Important to collect input early
- Eight statewide meetings, hosted by Task Force members
- Approximately 60 individuals representing all sectors presented testimony
- Summary available on DEP website under "Hot Topics" -- "Sustainable Water Infrastructure Task Force"

people said they aren't paying for the true cost of service

Current Capital Needs



Current State and Federal Resources

- Grant and Loan programs from sources such as PennVEST, Growing Greener and Commonwealth Finance Authority provide an estimated \$525 million
- In addition, grant and loan programs that also provide some funding for these projects provide an estimated \$205 million
- In total, the current estimated subsidy available annually is estimated at \$730 million

Options: Federal Government

- Clean Water State Revolving Loan Fund
 - From 2004 to 2007, Pennsylvania's grant amount has decreased from \$53 million to \$27 million
- Drinking Water State Revolving Loan Fund
 - Pennsylvania's allocation has been approximately \$32 million annually

*more energy efficient pumps
20% for green retrofits*

Options: State Government

- General Obligation Debt or General Fund Appropriations
- Surcharge on Water Use
- Bond Financing
- Polluter and Beneficiary Pays Taxes and Charges on Products Related and to Water Use
- Taxes and Charges on Activities Unrelated to Water Use
- Paying for Expenses Necessary to Support New Development
- Public-Private Partnerships

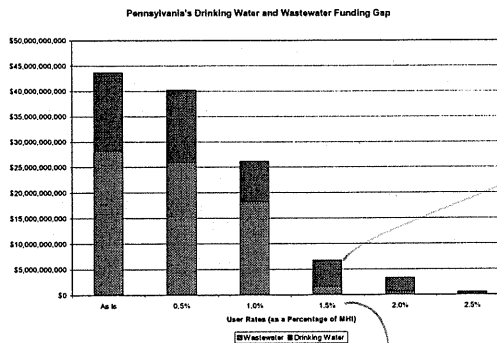
Options: User

- Increased reliance on user fees
- Full Cost Pricing
 - A method of obtaining funds from the users, as they are needed, in a sufficient amount to cost-effectively operate, maintain, repair, and replace all of the assets which are needed to provide the necessary level of service
- Affordability Issues

Gap Study

- Approximately 3,300 Drinking Water and Wastewater facilities in Pennsylvania.
- Data presented here is from 125 responding systems.
- Due to limited results, data is generalized to the state and cannot be broken down by geographic region.

Gap Study Results



\$6.2 Bill

% MHI

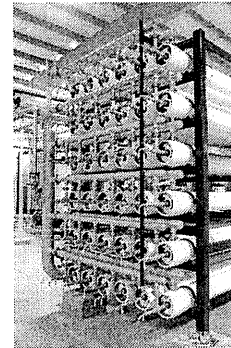
→ after limit of affordability

Recommendations

- Effective System Management
- Asset Management
- Efficient Operations
- Regionalization or Right-sizing
- Maximization of Non-Structural and Conservation Measures

Effective System Management

University Area Joint Authority is now entering its third year of operation on the Beneficial Reuse Project. This award winning and innovative initiative by the community that surrounds the Borough of State College and the Pennsylvania State University, treats secondary wastewater effluent to drinking water standards for a recycled water product that is used throughout the Region. With over eleven miles in distribution of recycled water and a state of the art advanced water treatment system, the University Area Joint Authority is producing and reusing nearly 1.0 MGD of water daily.



Asset Management

York Water Company

"A well managed, well regulated water system can self sustain all of these costs, in addition to all of the other necessary costs and still deliver potable and safe drinking water to your tap for under 1 penny a gallon."

The York Water Company is a system to model others after. Since 1816, the customers have paid for operating and maintenance costs. In order to be self-sustaining and maintain their record of not requesting government monies, the York Water Company has to maintain a very thorough asset management of its inventory. They know that there are approximately 60 feet of water main per customer, and the lifespan of a water main is approximately 120 years. At a cost of \$150 per foot, which include the materials and installation, the per person cost each year is \$75 for maintenance alone. Like it was said during the testimony, if the pipes are not replaced, the problem does not go away. It only compounds, and customers end up paying thousands of dollars instead of the \$75 per month contribution.

Testimony by: Jeff Hines
May 29, 2008, Mazie Gable Elementary School, Red Lion

Efficient Operations

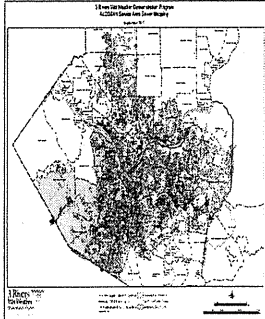
Milton Regional Sewer Authority

The Milton Regional Sewer Authority (MRSA) has undergone two very effective changes recently. They have reevaluated their rate structure and have been working on a wastewater to energy project. MRSA recently had to implement a sewer rate increase. The increase will pay for the raising operation and maintenance costs as well as establish a capital reserve fund for future capital improvements. However, MRSA was faced with a choice when it was restructuring its rates. They could establish the capital reserve fund or wait and see if they would receive federal funding down the road. There are three significant problems with the latter of the two options. First, the amount of federal funding available is decreasing significantly. Second, the cost of water and wastewater projects is increasing. Lastly, there are more municipalities than ever vying for the federal funding that is available. It is obvious why MRSA chose to establish their own capital reserve fund. The second change MRSA has been working through is the wastewater to energy process. Once in place, MRSA will become the world's first Publicly Owned Treatment Works to be a net generator of electrical energy. The process will use anaerobic treatment to break down a significant amount of high strength wastewater from a large local manufacturing customer and will result in the production of a significant amount of biogas that will be used by a Caterpillar type of GenSet engine to produce electricity. The plant will only use half of the electricity it will produce and will therefore be able to sell the remainder to the local grid.

Testimony By: George Myers
May 28, 2008, Bethlehem, PA

-leaky pipes
→ off-grid treatment facilities
burn methane off-gas to
supply elec.

Regionalization or Right-sizing



3 Rivers Wet Weather

- Serves over 300,000 households in 83 municipalities, including the City of Pittsburgh
- Area consists of 4,000 miles of sewer pipe and 4,000 miles of private domain pipe run by 10 different operating/financial authorities and over 500 elected officials and 75 appointed officials
- Facilitate and implement regional approaches and standardized engineering protocols
- Critical components of success are leadership and communication

Maximization of Nonstructural and Conservation Measures

East Liberty Spotlight

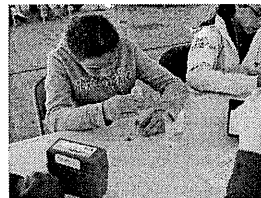
The major problem facing East Liberty, a Pittsburgh neighborhood, is that it has one pipe that carries both sanitary and storm water. The goal for East Liberty is to keep as much storm water as possible out of the sewer system. The plan to achieve this is the "green" approach. This approach can reduce as much as one inch of rainwater from reaching the combined sewer pipe during each rain event. This is significant since East Liberty receives approximately thirty-eight inches of rainfall each year. Currently 57.8% of East Liberty is covered by impervious surfaces such as buildings, streets, and parking lots. The use of green infrastructure would add penetrable surfaces to the landscape. It would allow the rainwater that currently falls on the aforementioned impervious surfaces to soak into the ground, not allowing it to get into the inlets or sewer pipe. Portland, Oregon has seen success with this innovation. That city installed paver blocks to allow water to penetrate through the breaks in between the blocks into a stone layer below and eventually into subsurface soil. Other cities, including the North Shore of Pittsburgh, have seen success through the planting of trees and other vegetation, giving the water a place to go. These methods not only allow for a solution to the storm water problem, but also, through the photosynthesis cycle, absorb Carbon Dioxide from the atmosphere making the area a healthier place to live.

Testimony by: Tom Cahill and Nate Wildfire
May 19, 2008, Carnegie Mellon University, Pittsburgh, PA

The Need for Education

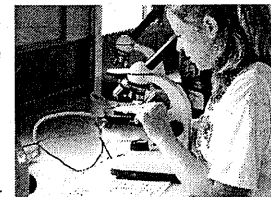
- Public Education
 - Customer education
 - Public school programs
- Workforce Development
 - Recruitment and Succession planning
 - Greater access to Continuing Education for operators
 - More programs like that of Montgomery County Community College
- Industry Board and Management Training

ALCOSAN Summer Program



These middle school students are hard at work during ALCOSAN's summer program.

The program is designed to teach students the actual value of the water they often take for granted.



Infrastructure Progress

- November 1, 2008: Report delivered to Governor Rendell
- Report information disseminated to public
- November 4, 2008: PA Voters Approved Act 64 Referendum (\$400 million)
- Act 63 assumes \$670 million FY '08-'09

Federal Stimulus Funding

- PA will receive approximately \$220 M in Clean Water and Drinking Water State Revolving Funds
- Required 20% set-aside for "green infrastructure projects"
- Funding will be provided through Pennvest
- PA also competing for funding from NOAA, Army Corps and NRCS

Governor's Sustainable Infrastructure Task Force Report

For More Information Visit DEP's Web Site:

<http://www.depweb.state.pa.us/>

Hot Topics: Sustainable Water Infrastructure

Questions or Comments:

Marcus Kohl, Office of Water Management
Pennsylvania Department of Environmental Protection
mkohl@state.pa.us
Ph. 717-783-7404