Financial Resources Workgroup Report to the
Sustainable Water Infrastructure Task Force
(7-24-08)

INTRODUCTION

The Financial Resources workgroup was asked by the Task Force to investigate and gather information on the following issues:

- What funding sources are currently available to finance drinking water and wastewater projects and how much funding is available from these sources? Projects are not limited to "bricks and mortar" construction but also include solutions to water quality problems that are less capital intensive.
- What possible funding sources should the Task Force consider that could provide sustainable funding of both drinking water and wastewater projects in the future?
- Should operating and maintenance costs be included as an eligible activity for sustainable infrastructure funding?

In order to address these questions, the workgroup held a series of discussions, both in person and by conference call, where these issues were raised and information was gathered and considered. In addition, members of the workgroup investigated the following sources for information to answer these questions:

- Drinking water and wastewater programs in all fifty states to see what funding mechanisms they have employed, done by a query sent out nationally through the Council of Infrastructure Financing Authorities
- Contacted federal agencies that have investigated these issues, most notably the Government Accountability Office, the Congressional Research Service and the Congressional Budget Office
- Contacted non-profit organizations that have a long-standing interest in sustainable infrastructure financing, most notably the National Association of Clean Water Agencies
- Conducted an extensive search of both the academic literature and other sources of information on local, state and federal funding programs and mechanisms that have been, or could be, applied to water quality issues.
- Researched and considered private sector investment alternatives (e.g. PPP, privatization), including high-level comparative evaluation of the United Kingdom privatization model

What follows is a distillation and compilation of the information collected. We note that the following report identifies financial resources that may be available for funding sustainable water infrastructure. Not all workgroup members support all of them.

EXISTING REVENUE SOURCES

The following chart shows the annual level of funding available for drinking water and wastewater projects from established sources of funding. We have divided these sources into two categories, "Direct" and "Indirect". The former category includes those programs whose sole or primary purpose is the funding of drinking water and wastewater projects. It is reasonable to assume that all of the funding identified for these sources is available for these purposes. On the other hand, the latter category of funding sources includes those programs whose primary purpose is something other than the funding of drinking water and wastewater projects. It is probably fair to assume that only a relatively small fraction of the funding identified for these sources would be applied to drinking water and wastewater projects. However, there is no clear indication in any of these programs that would allow us to calculate an exact dollar estimate for this amount.

With the above caveats in mind, we can say that, as of the date of this inquiry, approximately $572 million is available annually for drinking water and wastewater projects. In addition, some fraction of $206 million might also be available for these purposes on an annual basis.

Program Name	Source	Direct/Indirect	Agency	Annual Funding Available
U.S. Dept.of Ag (USDA)	Federal	Direct	USDA	$60,500,000
PENNVEST	State	Direct	PENNVEST	$280,000,000
PA Rural Water Association	Other	Direct	PARWA	$50,000,000
Growing Greener II	State	Direct	DEP	$60,000,000
EPA Earmark	Federal	Direct	DEP	$9,900,000
Comm. Dev. Block Grant (CDBG)/HUD	Federal	Direct	DCED	$42,000,000
Commonwealth Finance Agency (CFA)**	State	Direct	CFA	$67,000,000
Appalachian Region Commission (ARC)	Federal	Direct	DCED	$3,000,000
			sub-total	**$572,400,000**
Watershed Protection Grants	State	Indirect	DEP	$9,000,000
State Water Resource Planning	State	Indirect	DEP	$1,500,000
PA Finance Housing Authority (PHFA)	State	Indirect	PHFA	$1,000,000
PA Energy Development Authority	State	Indirect	PEDA	$10,000,000
Oil and Gas Orphan & Abandoned Wells	State	Indirect	DEP	$1,500,000
Industrial Sites Reuse / Brownfields	State	Indirect	DEP	$5,000,000
Housing & Redev. Assistance Program	State	Indirect	DCED	$1,600,000
Flood Protection Program	State	Indirect	DEP	$13,500,000
Farmland Preservation	State	Indirect	PADA	$33,000,000
Dam Safety	State	Indirect	DEP	$30,000,000
Community Revitalization	State	Indirect	DCED	$40,000,000
Community Conservation Partnership	State	Indirect	DCNR	$50,000,000
Abandoned Mine Reclamation	State	Indirect	DEP	$9,700,000
			sub-total	**$205,800,000**
			Total	**$778,200,000**

**The annual level of funding is difficult to determine and could be more than is indicated here.

Proposed Programs

Similar to the above information, we have compiled a list of potential funding programs that have been proposed in either state or federal legislation. All of the proposals that we identified would be classified as "direct" by the above definition, i.e. they all were targeted primarily at water-related activities. Based on our review, there is approximately $5 billion of state funding being proposed, and a total of $4 billion being proposed at the federal level. Assuming that 4.5 percent of the proposed federal funding would come to Pennsylvania, this implies total possible funding for the Commonwealth of $5.4 billion.

In compiling the following lists of Commonwealth and federal funding bills, we only counted legislation once in cases where one piece of legislation exactly duplicated another (e.g. one bill might be in the Senate while the other is in the House). That having been said, however, there were a number of instances where bills that we have identified below as being separate were actually quite similar. Consequently, the following lists may overstate the potential funding that could be forthcoming, if all of this legislation were to be adopted, which in itself is a problematic assumption.

			Total Proposed
Bill Number	**Source**	**Agency**	**Funding**
Act 64 of 2008	State	PENNVEST	$400,000,000
HB 100	State	SCC and Agric.	$450,000,000
HB 710	State	DCED	$15,000,000
HB 1331	State	EQB	$1,000,000
HB 2441	State	PENNVEST/SCC	$750,000,000
HB 2450	State	PENNVEST	$200,000,000
HB 2621	State	PENNVEST	$1,000,000,000
HB 2654	State	PENNVEST/SCC	$890,000,000
HB 2656	State	SCC and Agric.	$320,000,000
SB 101	State	PENNVEST	$1,000,000,000
SB 690	State	SCC	$10,000,000
		sub-total	**$5,036,000,000**
HR 569	Federal	CWSRF	$1,709,000,000
HR 700	Federal	CWSRF	$125,000,000
HR 720	Federal	States	$1,975,000,000
S 1968	Federal	States	$216,000,000
		sub-total	**$4,025,000,000**
		Total	**$9,061,000,000**
		Total for Pennsylvania	**$5,443,745,000**

POSSIBLE REVENUE MECHANISMS

The revenue mechanisms identified in our research and discussed below will be evaluated by the following criteria.[1] In each case we have provided either the results of other investigators assessments of these mechanisms or the workgroups best assessment obtained through our internal discussions. The evaluation criteria are:

- Effectiveness - is it reasonable to expect that the funding mechanism would raise sufficient funds to make its implementation worthwhile? In particular, would the funding mechanism provide a long-run sustainable source of funding for drinking water and wastewater projects?
- Efficiency - do payers pay in rough proportion to either their contribution to water quality problems (e.g. discharges to streams) or their demand for the benefits of clean water (e.g. safe drinking water)?
- Equity - does the funding mechanism overly extract payments from one rate class of payers relative to others? This factor recognizes the imbalance of systems across the state regarding their aligning infrastructure funding needs with user payments. Equity would dictate that, to the extent possible, well-run systems do not bear the cost of rehabilitating poorly run and inefficient systems.
- Administrative Simplicity - are the costs associated with implementing this funding mechanism reasonable in relation to the funds collected? Are the administrative mechanisms need for collection either in place or easily instituted?
- Political Considerations - recognizing that any proposal to collect new fees or taxes will be unpopular with at least some groups, could this source or these sources create unmanageable opposition among the various affected constituencies? We note that any opinions expressed on this criterion merely reflect our best assessment given our knowledge of current circumstances, which may be limited in some respects.
- Legal Impediments – are there existing or potential legal barriers to implementing the proposed funding mechanism?

We also note that in a few places in the following discussions we use the term “full cost pricing”. What we mean by that are user charges imposed by drinking water or wastewater systems that are sufficient to cover all of the costs of operating those systems, including replacement costs associated with existing facilities. That is, a user rate that reflects full cost pricing would include operating and maintenance costs, the upgrading and replacement of capital assets as needed and debt service on existing borrowing. Such an approach would fully recover the cost of providing either drinking water or wastewater service in an economically efficient manner while also promoting the efficient use of water by customers.

Caveats

[1]Note: this methodology is borrowed from “A National Clean Water Trust Fund: Principles for Efficient and Effective Design”, by Kenneth I. Rubin of the PA Consulting Group for the Association of Metropolitan Sewerage Agencies, August 5, 2003.

- Affordability: Relative to all of the funding mechanisms to be discussed below, the effects of project construction on the users of drinking water and sewer systems must be recognized. Unless the funding mechanism in question would provide 100 percent grant funding for projects, which is neither realistic nor desirable, system customers will generally see user rate increases as a result of a project being constructed. To the extent that customers are affected by user rate increases, their ability to afford these rate increases is an issue that must be recognized and addressed in deciding upon appropriate levels and allocation of funding subsidies. Since this issue is applicable to all of the funding mechanisms to be considered, we will not necessarily repeat this caveat in each case but, rather, simply recognize at the outset that affordability considerations are important and must be recognized. However, there are one or two cases below, both involving system user charges, where we will explicitly discuss this issue.

  For an example of an affordability approach, see Appendix A to this report. This is a description of how PENNVEST defines affordability in making its subsidy determinations. As you can see from that discussion, PENNVEST defines an affordable user rate for drinking water and wastewater system customers as being one that is between one and two percent of the median household income of those system customers.

- Investor Owned Utilities (IOU's) vs Publicly Owned Systems (POS's): Some funding mechanisms will have different effects on IOU's compared with POS's, because existing rate structures are generally different in these two cases. Many IOU's already charge their rate payers for the full cost of providing service, including replacement of existing infrastructure. For example, Distribution System Improvement Charges (DSIC's) are levied by some drinking water utilities to recover the cost of line replacements shortly after they are made. These systems also recover depreciation expense which can provide a source of capital to help fund capital replacements. POS's do not typically levy such charges but rather, usually base their rates on the recovery of operating and maintenance costs as well as debt service. Debt service costs include the recovery of principal, which is the equivalent to depreciation on the debt-financed portion of the facilities. In addition, some POS's include in their rates a payment to the general fund of the municipality that owns the system, as a method to provide a return on the investment made by the municipality in the utility operations. We recognize, of course, that there are exceptions to these general rules for both IOU's and POS's. Because of these differences in rate structures, ownership, taxation, rate-setting methods and regulatory requirements, any funding mechanism that adds to user rates will have differential effects on system customers and the utilities themselves depending on the ownership structure and current rate-setting methodology. Potential differences in impacts of user rate increases are tied closely to our concept of Equity, as defined above.

The revenue mechanisms discussed below are arranged in rough order of familiarity to policy makers and, secondarily in the breadth of those affected by the mechanism, from

the most broad to the least broad in application. It must be noted, though, that is a very rough categorization and is employed simply in an attempt to give some structure to the discussion. Not all of the mechanisms fit neatly into this structuring.

Perhaps a good context that should be kept in mind when considering these funding alternatives is provided by the following[2]:

> "This approach to water infrastructure financing may be attractive to those who favor an expanded federal funding role because the tax or fee would be fairly broad-based. During EPA-sponsored meetings on water quality financing mechanisms and fees supporting the 1996 Alternative Funding Study, a majority of panelists preferred broad-based, low-level fees, where virtually everyone would pay a little, compared to fees placed on a particular economic sector, such as fees on a specific industry. The panelists also recommended that fees be designed so that consumers could easily perceive the relationship between the fee and the purposes of the fees. Additionally, a preferred infrastructure funding system would be based on a clear relationship between those who pay and those who benefit."

Transfers from the Federal government to the Commonwealth

As noted in the previous sections, there already are federally funded programs for both drinking water and wastewater project financing. These are generally financed by annual federal appropriations, which is our assumption here.

- Effectiveness – in principle there would be every reason to believe that the financial resources available to the federal government would be adequate to address drinking water and wastewater funding needs. In practice, this is not the case, which is why we the Task Force is going through this exercise in the first place.
- Efficiency – the correlation between personal and corporate income tax payments and pollution problems created or water quality benefits enjoyed is weak at best.
- Equity – the transfers occasioned by this funding mechanism are between taxpayers and drinking water and wastewater system customers, as opposed to transfers among classes of users.
- Administrative Simplicity – this is the one criterion on which this funding mechanism rates very high. It would be administratively very simple for the federal government to collect sufficient revenues for the funding needs that we are discussing.
- Political Considerations – the political and budgetary impediments to sustainable federal funding for drinking water and wastewater funding needs are very substantial, if not insurmountable.

[2] "Potential Revenue Sources to Support a Water Infrastructure Trust Fund: Fees or Taxes on Selected Products Commonly Disposed of in Water", Mary Tiemann, Specialist in Environmental Policy, Congressional Research Service, May 1, 2008, pg. 2.

- Legal Impediments – there are no legal impediments associated with this funding mechanism, other than the need for legislation that would authorize and appropriate sufficient funds. The underlying impediments to such legislation being enacted, however, are political, not legal.

State-level funding of projects with either General Obligation debt or General Fund appropriations

This option is quite similar to the federal funding option just described. As noted in the previous sections, there already are state funded programs for both drinking water and wastewater project financing. These are generally, but not exclusively, financed by annual appropriations from the General Fund or by General Obligation bonds, whose debt service is paid from General Fund proceeds. Our comments on the evaluation criteria in this case mirror those made above relative to the federal government.

- Effectiveness – in principle there is reason to believe that the financial resources available to the Commonwealth would be adequate to address a substantial portion of our drinking water and wastewater funding needs, although the Commonwealth is much more constrained in this regard than is the federal government. In practice, while the Commonwealth has made significant contributions to this funding effort, they have historically not been sufficient to address the entire funding need.
- Efficiency – the correlation between personal and corporate income tax payments and pollution problems created or water quality benefits enjoyed is weak at best.
- Equity – as with payment financed with taxes imposed at the federal level, the transfers occasioned by this funding mechanism are between Commonwealth taxpayers and drinking water and wastewater system customers, as opposed to transfers among classes of users.
- Administrative Simplicity – as was the case with the federal government, this is the one criterion on which this funding mechanism rates very high. It would be administratively very simple for the Commonwealth to collect sufficient revenues for the funding needs that we are discussing.
- Political Considerations – the political and budgetary impediments to sustainable Commonwealth funding for drinking water and wastewater funding needs, via the use of General Obligation debt or General Fund proceeds are very even more insurmountable than in the case of the federal government.
- Legal Impediments – with one exception, the situation regarding the lack of legal impediments to Commonwealth funding is the same as with federal funding. The only difference is that the Commonwealth is legally constrained to balance its budget each year, while the federal government is not. A partially countervailing condition, however, is that the Commonwealth employs a capital budget process whereas the federal government does not.

Mandate full cost pricing

This is not a funding mechanism in the sense of it being a source of potential revenues to the Commonwealth that it could use to finance water-related infrastructure projects. Rather, it is a mechanism to help fund these projects internally, thus reducing, but not eliminating, the need for Commonwealth or federal financing. If the Commonwealth were to mandate full cost pricing for all drinking water and wastewater systems, this would result in different effects on system customers, depending upon whether their systems already charge rates consistent with full cost pricing.

This funding approach is one where "affordability", as discussed in the above caveat, is an important consideration. There could be adverse affordability effects for both residential customers, as well as industrial and commercial customers, to the extent that they would experience rate increases as a result of a full cost pricing mandate.

Adverse affordability effects may be exacerbated to the extent that higher user charges resulting from a full cost pricing mandate were applied based on users' volume of use.

- Effectiveness – full cost pricing is designed to recover the current cost of service, and may include the recovery of costs related to new investment soon after it is made. But, full cost pricing by itself cannot provide the up-front capital needed to enable water and wastewater utilities to undertake the capital investments needed to upgrade and rehabilitate their infrastructure. Simply, full cost pricing may make it feasible for a utility to repay money that was borrowed to finance improvements, but it cannot provide the up-front funding needed to make those improvements.
- Efficiency – there is a close correspondence between user charge payments and both problems created (wastewater) or benefits gained (drinking water). However, to the extent that benefits created by drinking water and wastewater systems extend beyond these systems' users, this mechanism would be an excess financing burden on these users.
- Equity – in one sense, this approach to funding water infrastructure would rank very high on this criterion, since it would impose the greatest costs on those systems and users who are not currently bearing the full cost of their water and wastewater infrastructure usage. This view is particularly appropriate when the effects of this approach are viewed across systems. When viewed within systems, however, higher charges that are based on the volume of use are likely to be inequitable since, in most drinking water and wastewater systems, ~~and~~ fixed costs (i.e. those not associated with use) constitute a significant proportion of total costs. Consequently, costs created by water use do not vary proportionately to that use.
- Administrative Simplicity – this would not be a simple approach for the Commonwealth to administer since it would require oversight of all drinking water and wastewater systems to ensure that they are, in fact, charging full costs. This would require knowing not only user charge collections but also all costs associated with these systems' operations, including future capital costs. In effect, the level of oversight required might be equivalent to requiring the Public Utility Commission regulate all drinking water and wastewater utilities, including

POS's. While few states (notably Maine and Wisconsin) have taken this approach, most follow Pennsylvania's current approach of regulating IOU's and those POS's that provide service outside their municipal boundaries.

- Political Considerations – it would be reasonable to expect significant resistance to this approach from the residential, industrial and commercial customers of POS's but little, if any resistance, from IOU's and their customers. In addition, it can be anticipated that many POS's would object to this level of oversight by the Commonwealth into local rate-setting policies.
- Legal Impediments – the Commonwealth does not currently have the legal authority to mandate full cost pricing, so legislation creating this authority would be needed.

Surcharge on water use

A program utilizing this approach has been adopted in Maryland. Known colloquially as a "Flush Tax", in Maryland's case this is a flat $2.50 monthly charge added to residential customers' sewer bills, along with an equivalent $30 annual charge to owners of on-lot septic systems. Revenue collected from residential sewer customers are allocated to upgrades of wastewater treatment plants, while revenues collected from on-lot septic system owners are allocated to the upgrade or replacement of failing septic systems or to the farmers for the nutrient reduction projects.

As with a full cost pricing mandate, this funding approach is one where "affordability" is also an important consideration. Again, there could be adverse affordability effects for both residential customers, as well as industrial and commercial customers, to the extent that they would experience rate increases as a result of a full cost pricing mandate. Also, as with a full cost pricing mandate, adverse affordability effects may be exacerbated to the extent that higher user charges resulting from a full cost pricing mandate were applied based on users' volume of use.

- Effectiveness – annual revenue estimates for the Maryland Flush Tax are approximately $72 million - $60 million from residential users and $12 million from septic system owners. If a similar charge were to be implemented in Pennsylvania, we might expect revenues of about double these amounts, based on population alone. If so, these would not be sufficient to address the existing funding needs in the Commonwealth.
- Efficiency – a flat charge paid for water use yields a rough correspondence between payments and either problems created (wastewater) or benefits gained (drinking water). This efficiency could be improved if the charge were per unit of water used, rather than a flat charge. Also, industrial and commercial water users should be included in the group of payers.
- Equity – There are two respects in which equity concerns are manifest in this case. First, in accordance with the caveat discussed above pertaining to IOU's and POS's, if a water use surcharge were to be applied equally to customers of both types of systems, this would be inequitable from the perspective of the former group of ratepayers (again, we are abstracting from the possibility that

some POS's already similarly charge full costs). In essence, this surcharge would raise the likelihood of there occurring a transfer of revenues from those ratepayers who are already paying for their system operations and capital needs to those ratepayers who are not doing so. The second equity concern is similar to that raised relative to a full cost pricing mandate. As before, when viewed within systems, equity may be mitigated if surcharges are based on the volume of use and fixed costs (i.e. those not associated with use) constitute a significant proportion of total costs.

- Administrative Simplicity – surcharges associated with water use would seem to be administratively very simple and easy to implement, particularly those that are collected as part of normal water/sewer bill collections. The infrastructure for collecting surcharges already exists. However, there have been instances where other fee collection efforts have proven to be administratively difficult. Our overall assessment of this criterion is that it would probably be comparatively easy to implement, but we note some reservation on that assessment.
- Political Considerations – given the affordability and equity considerations discussed above, significant opposition could be expected from IOU's and their customers, as well as from POS's that are already charging adequate user rates. Commercial and industrial users might also be expected to oppose surcharges, particularly if they were to be applied on a volume of use basis. On the other hand, typical POS's and their customers might be less opposed to surcharges, although even there some resistance should be expected simply because of the rate increases that they would have to pay
- Legal Impediments – the Commonwealth is not legally prohibited from imposing taxes on necessities, although it has generally been Commonwealth policy to exempt necessities from taxation. If water use is deemed to be a necessity and a surcharge for its use is construed to be a tax, then implementing such a program may constitute a deviation from Commonwealth policy, albeit legally permissible.

Bond financing

Water-related infrastructure could be (and a good portion already is) financed by the issuance of bonds (we will abstract from commercial bank loans but these amount, for all practical purposes, to bond financing). In the case of public entities, this typically takes the form of tax-exempt bonds while in the private sector, taxable bonds are generally issued. Bond financing of projects has many of the same characteristics as does the funding of projects via the implementation of a surcharge, in the sense that users of the facilities being constructed pay for the debt service on the bonds just as they do the surcharges added to their water bills. However, there are two differences:

- in the case of tax-exempt financing, both the state and federal governments finance a portion of the projects through the revenues lost from tax exemption, and
- revenues paid by system users devoted to bond debt service stay with the system that they use, rather than being paid into a fund that may or may not yield financial benefits for those particular users.

The evaluation criteria for bond financing of water infrastructure projects are as follows:

- Effectiveness – conceivably, there is little to limit to the amount of funds that could be raised on the bond markets for infrastructure financing. Admittedly, some potential borrowers may not be considered to be investment grade or may face other borrowing limitations, but, on the whole, bond financing has the potential to account for a significant portion of our water-related funding needs
- Efficiency – since bond debt service is passed along to users in the form of higher user fees, there is a close correspondence between payments and either problems created (wastewater) or benefits gained (drinking water). The primary deviation from this efficiency is the extent to which general taxpayers indirectly subsidize these projects through the payment of higher taxes necessitated by the tax-exempt status of municipal bonds.
- Equity – the equity effects of this funding mechanism are essentially the same as the equity effects of existing user charges. The primary concern would be whether user charges would be imposed on volume of use and, if so, whether system costs vary by volume of use or, on the contrary, costs are largely fixed. In the latter case, volumetric user charges may reasonably be viewed as being inequitable, as we have defined equity here.
- Administrative Simplicity – user charges needed to finance bond debt service are administratively very simple and easy to implement.
- Political Considerations – since there is a rough correspondence between payment of these water-related user charges and either the water quality problems caused by individuals or the benefits they receive from clean water, the political acceptance of such charges is likely to be moderately favorable. This is mitigated, however, by the possible inequity that may be perceived in such a system, as described above.
- Legal Impediments – there are no known legal impediments to this financing approach.

Taxes and charges on products related to water use

These funding mechanisms generally fall into two categories:

- beneficiary pays – wherein products and activities that use water and benefit from that water being clean are subject to tax
- polluter pays – wherein products and activities that contribute to water quality degradation are subject to tax. These, in turn, can be further broken down into:
    - point sources of pollution
    - non-point sources of pollution

We will consider each of these in turn.

Beneficiary pays

Funding mechanisms that fall into generally involve taxes on the sale of beverages produced for human consumption with the exception of those that do no directly use surface waters in their production. Beverages commonly included in this category are:

- bottled water
- soft drinks
- artificially carbonated water
- ice
- beer
- wine
- potable liquors

The latter two categories are included in the Johnstown Flood Tax, which has been in place for many years.

This alternative can also include a two-tiered system in which there is a higher tax rate applied to bottled water and ice to reflect their relatively higher water content compared with other products.

- Effectiveness – this option appears to be capable of consistently raising a significant amount of funding in a relatively stable manner. For example, the Johnstown Flood Tax, which is a tax of 18% on sales by Pennsylvania Liquor Control Board, over and above the 6% sales tax, raises approximately $250 million annually.
- Efficiency – with a flat tax on all products, this option is not particularly efficient since water comprises different proportions of each product. Using a two-tiered system as described above somewhat improves efficiency
- Equity – since a beverage tax would be placed on a broad range of products, as opposed to drinking water and wastewater system users directly, the equity effects of such a tax are similar to those of funding financed through either federal or Commonwealth tax collections. There is no clear nexus between the use of drinking water and wastewater system services and the consumption of these products.
- Administrative Simplicity – this tax would be relatively simple to administer since there are already mechanisms in place for collecting sales taxes.
- Political Considerations – the potentially broad applicability of beverage taxes might serve to enhance their acceptance, since many individuals would be affected in relatively small amounts. Acceptability would also be enhanced by the perceived connection between tax payments and the benefits of water usage. In addition, the taxation of bottled water would likely be most favorably viewed among these options, particularly among environmental groups, given its negative disposal and carbon-intensive delivery impacts. On the other hand, the imposition of a broad tax on a variety of products could elicit the opposition of an equally broad array of constituencies. The net effect of these considerations is difficult to determine.
- Legal Impediments – while sales taxes are widely applied and generally accepted, we note that taxing bottled water, as opposed to other soft drinks and other products that use water, has met with difficulty in some instances. For example,

here that there is currently a legal challenge to the bottled water tax imposed by the city of Chicago. Opposition comes from beverage manufacturers who argue that the tax violates the state constitution which prohibits the imposition of a tax on a single food product. Similarly, a decision by the Wisconsin Department of Revenue to tax bottled water was overturned by the state Tax Appeals Commission in 1994; the Commission determined that bottled water was similar to food and milk and, as such, the legislature did not intend for bottled water to be a taxable item. Minnesota has explicitly exempted bottled water from soft drink taxes. In contrast, however, the Hawaii state legislature is considering legislation to establish a bottled water tax.

The beneficiary pays approach can also be applied to products associated with swimming, fishing and boating. The evaluation criteria for these options mirror those for products that use water more directly in their production, so will not be repeated here.

Cross-state nutrient credit sales would be one subcategory of possible beneficiary-pay options, particularly relative to clean-up of the Chesapeake Bay. To the extent that water quality improvements in the Bay would benefit individuals, businesses and governmental entities in Maryland and Virginia, sales of nutrient credits created by nitrogen and phosphorous emissions by Pennsylvania point sources and non-point sources to Maryland and Virginia buyers would be one possible revenue source to finance these Pennsylvania activities.

<u>Polluter pays</u>

As noted above, there are two variations of this type of tax:

- point sources – which are typically associated with wastewater treatment systems. These are often called "flush taxes" and are applied to products that enter the wastewater treatment systems. Examples of these types of taxes and charges are taxes on the sale of:
    - toilet paper
    - toiletries
    - soaps and detergents
    - water softeners
    - cooking oils
    - paints and coatings
    - chemicals
    - dyes and pigments
    - printing inks

  Of the products listed here, however, we should note that a tax on toilet paper might be controversial, for the same reason that a surcharge on water use might be controversial. Again, it has customarily been the policy in Pennsylvania to exempt necessities from taxation and toilet paper (and perhaps others on this list) would likely be viewed as a necessity.
- non-point sources – which are contaminants that enter water bodies directly from both urban and agricultural run-off during storms. Examples of these revenue sources would be taxes on:
    - pesticides

- fertilizers

Examples of where such fees have already been enacted have been described as follows, [3] "Several countries and a few states have found that increasing the costs of agricultural chemicals is an effective way to reduce their use or to raise revenue to support various programs or activities. For example, Austria, Finland, Norway, Sweden, and the states of Iowa, Nebraska, and Wisconsin have enacted specific fertilizer and/or pesticide taxes or fees. In 1987, Iowa enacted legislation that raises revenue in three ways: pesticide manufacturing registration fees, pesticide dealer licensing fees, and fertilizer taxes. Nebraska imposes fees on commercial sales, use, and consumption of fertilizer. Wisconsin imposes licensing fees on fertilizer and pesticide dealers and applicators**.** Sweden has assessed a tax on fertilizers and pesticides since 1984, while Finland and Norway impose taxes on the retail price of pesticides." In the present context of the Chesapeake Bay nutrient discharge issues facing Pennsylvania, one variant of such charges might be a fee correlated with the nitrogen and/or phosphorous content of fertilizers.

While these two types of polluter pays revenue raising mechanisms involve different products, the evaluation criteria for both types are sufficiently similar that we will consider them together, with exceptions noted only as needed.

- Effectiveness – taxes imposed on the sale of these types of products would be sufficiently broad based and would involve such a large number of products and transactions that they would appear virtually certain to raise fairly large amounts of revenue.
- Efficiency – there is a rough correspondence between the use of these products and the water quality problems created by their use. However, this correspondence is rough at best. A uniform tax rate would not account for the varying impact that different chemicals have on water quality, not would it account for the varying treatment costs, to the extent that treatment is done at all. Varying tax rates tied to water quality impacts may be better in this regard but might prove to be too complex to implement.
- Equity – as with the beverage tax described above, there is no clear nexus between the use of drinking water and wastewater system services and the consumption of these products. Consequently, we remain agnostic on the equity implications of such taxes as well.
- Administrative Simplicity – these taxes would be relatively simple to administer since there are already mechanisms in place for collecting sales taxes.
- Political Considerations – again, as with beverage taxes, the potentially broad applicability of these taxes might serve to enhance their acceptance, since many individuals would be affected in relatively small amounts. Acceptability would also be enhanced by the perceived connection between tax payments and water quality problems created by the use of these products. On the other hand, the imposition of a broad tax on a variety of products could elicit the opposition of an

[3] "Fees on Pesticide and Fertilizer Chemicals", Claudia Copeland, Specialist in Environmental Policy, Congressional Research Service, April 21, 2008, pg. 4.

equally broad array of constituencies. The net effect of these considerations is difficult to determine.

Note: Of particular note in this regard would the effect on the agricultural industry in Pennsylvania that might be occasioned by fertilizer and pesticide taxes. Since agriculture is a national industry that is very competitive, Pennsylvania farmers may have difficulty passing increase fertilizer and pesticide costs on in the form of higher prices to consumers. They could be expected to vigorously oppose such taxes. Still, it is interesting, as noted above, that these taxes have been imposed in other agricultural states, such as Nebraska, Wisconsin and Iowa. Investigating agricultural operations were affected in those states would be an avenue worth exploring should these taxes be given consideration in Pennsylvania.

- Legal Impediments – the do not appear to be significant legal impediments to these types of fees and charges, other than what was noted above regarding a toilet paper tax. To the extent that any of these products are viewed as necessities by the courts, assessing a tax on their sale face successful legal challenges.

Taxes and charges on activities unrelated to water use

There are a wide variety of possible fees and charges that fall into this category. For the purposes of this discussion, we will identify different possibilities but will apply our evaluation criteria to them as a group. As we did in the above section, we will note those instances when the evaluation of a particular mechanism differs significantly from the group as a whole. Instances of such fees and charges that have either been suggested or actually implemented are as follows:

- Taxes on "public bads" – these are charges imposed on the sale of products that are in some way seen to be socially undesirable and, therefore, whose taxation, if for no other reason that it will serve to discourage the consumption of these undesirable products. Items typically included in this category are cigarettes and liquor, although charges on liquor sales have already been discussed in connection with beverage taxes. Fines for illegal activities have also been included. It has even been suggested that a currently illegal product, marijuana, be legalized so that it too can be taxed. Examples of fees and taxes on "public bads" that have been used to collect revenues for water-related funding include cigarette and tobacco taxes that have been levied at one time or another in Washington, Idaho and Minnesota
- A "clean water restoration fee" has been suggested as another possible funding mechanism. This fee would be similar to the corporate environmental income tax, which was enacted in 1986 to increase funding for the Superfund Trust Fund. That tax was .12 percent of corporate alternative minimum taxable income above $2 million. The appeal of this tax is the incredibly broad base, which allows a minimal impact on individual businesses. Additionally, it affects only larger corporations required to pay the alternative minimum tax--that is, corporations who, because of special deductions, exemptions, etc, do not pay the normal tax rate. Additionally, this tax applies only to corporations with an alternative minimum tax of $2 million and over.

- There are a number of land trusts that the state owns where the state is getting royalties, especially in those areas where the oil and gas drilling has increased significantly in the past few months. The trust fund where this money goes could be used for infrastructure improvement.
- Charging an admission fee to state parks has also been suggested since Pennsylvania is one of the few states in the country that do not charge such fees.
- Revenues generated from gaming activities is another possible source of funding.

Our assessment of these types of fees and charges according to our evaluation criteria is as follows:

- Effectiveness – among the possibilities listed above, the clean water restoration fee would probably offer the largest amount of potential revenues, followed by oil and gas royalties, taxes on cigarettes and other "public bads" and state park admission fees.
- Efficiency - none of these fees and charges could be viewed as being efficient as we define it here since they have no logical connection to water use.
- Equity – once again, the equity implications of such fees are very difficult to determine since the fees do not directly involve either drinking water or wastewater system users, per se. All we can note is the obvious point that some class of fee or tax payers will be disproportionately affected by each mechanism, e.g. cigarette or liquor consumers in the case of "public bads", industrial and commercial users in the case of a "clean water restoration fee", state park users in the case of state park user fees, etc., but that there is no obviously preferable way to choose among these adverse effects.
- Administrative Simplicity – as with other taxes on products and activities discussed above, the fees and charges listed here would be relatively easy to implement and administer.
- Political Considerations – all of these proposals could be expected to engender significant political opposition.
- Legal Impediments – there do not appear to be any legal barriers to the implementation of any of these proposals.

Charges tied to local infrastructure effects

Local development impact fees and tax increment finance financing are two mechanisms for paying for water-related infrastructure improvements and expansions by assessing local economic impacts. In the case of impact fees, the costs of infrastructure improvements needed to accommodate new development are assessed directly on the developers. In the case of tax increment financing, the effects that infrastructure improvements have in increasing local real estate values create a revenue source to finance these improvements.

We should note here that affordability concerns may come into play with these funding mechanisms if the development that is occasioning the infrastructure needs is either commercial or industrial use. The affordability concern would involve possible

disincentives for such entities to either expand or locate in the Commonwealth to the extent that they bear the full cost of those activities through the application of either one of these funding mechanisms.

- Effectiveness – impact fees would almost certainly be sufficient to finance the infrastructure improvements occasioned by new development. Tax increment financing would be more speculative since the effects of infrastructure improvements on local real estate values would not necessarily be either direct or closely related to the costs of the improvements.
- Efficiency – both of these mechanisms would rank high in efficiency since there would, in each case, be a direct connection between revenues raised in water-related infrastructure use.
- Equity – since these funding mechanisms do not occasion transfers of revenues among classes of either drinking water or wastewater system users, it is not likely that there would be any serious equity problems associated with either of them.
- Administrative Simplicity – impact fees would be relatively simple to implement and administer. Tax-increment financing would be more complex given the necessity to estimate the effects that infrastructure improvements would have on property values.
- Political Considerations – it is likely that the developer community would be opposed to both of these funding mechanisms, particularly impact fees. Also, local governments would be opposed to the Commonwealth using these mechanisms to raise revenues since they are both tied to local effects that are currently the purview of local governments.
- Legal Impediments – given the local effects just noted, there may be significant legal impediments to the Commonwealth using either of these funding mechanisms.

Internal revenues created by managerial and operational efficiencies

One funding source that has been mentioned as a possibility for drinking water and wastewater systems is the realization of cost savings that could be achieved through better management of their existing assets. As noted in testimony presented by the Congressional Budget Office[4], "The potential for managing assets efficiently in the case of wastewater and drinking water systems has increased with the advent of sophisticated analytical tools that can optimize the design of pipe networks (in some cases, identifying links that can be abandoned rather than replaced) and that can be used to evaluate the tradeoffs involved in maintaining or replacing equipment. Asset management has been shown to produce significant payoffs in extending the life of equipment, eliminating redundant systems, reducing the cost of operations and maintenance by as much as 40 percent, and improving systems' reliability by roughly 70 percent."

[4] "Current and Future Investment in Infrastructure", testimony of Peter R. Orszag, Director, Congressional Budget Office, before the Committee on the Budget and the Committee on Transportation and Infrastructure, U.S. House of Representatives, May 8, 2008, pg. 23.

As with the mandating of full cost pricing, achieving cost savings by drinking water and wastewater systems does not generate revenues for the Commonwealth to allocate but, rather, these cost savings stay with the systems where they are realized. That having been said, though, the attractiveness of this approach is that it is a "win-win". It does not impose higher costs on anyone and yet can potentially help finance much needed infrastructure improvements. It may, in fact, be in the Commonwealth's interest to create cost saving incentives to encourage this behavior on the part of drinking water and wastewater systems.

- Effectiveness – the ability of cost savings to generate revenues for infrastructure improvements is not easily assessed. We simply do not have estimates for this potential funding source.
- Efficiency – this source of funding would obviously rank high in efficiency since there would be a direct correlation between revenues generated and water-related infrastructure usage.
- Equity – there are no equity impacts of this funding mechanism since it does not add to fees and charges paid by anyone but rather is simply a reduction in costs that would otherwise be paid and the channeling of these cost savings into new infrastructure.
- Administrative Simplicity – the administrative simplicity of this funding mechanism is entirely dependent upon the easy of identifying and implementing operational and administrative cost savings. This will vary from one drinking water and wastewater system to another.
- Political Considerations – there should be little, if any, political opposition to this funding mechanism.
- Legal Impediments – there would be no legal impediment to this funding mechanism.

Public-Private Partnerships

Note: the following discussion borrows heavily from a working document prepared for the workgroup by CRA International.

By public-private partnerships, we mean the investment in water-related infrastructure assets by the private sector. There are several alternatives for private sector investment in water and wastewater assets. Common examples include:

- Design Build Operate (DBO)
- Design Build Finance Operate (DBFO)
- Build Operate Own Transfer (BOOT)
- Operate and Maintain or Manage (O&M)
- Privatization

The first four alternatives are distinguished from the last (i.e., privatization) by the structure of ownership for the physical plant and water system assets. In the first four cases, ownership of the asset is often maintained by a public entity, whereas with privatization this

is not the case. In general, privatization may be expected to be most appropriate for large, vertically integrated systems or systems that can be combined to create a similar scale of operation.

Examples of public-private partnerships (excluding privatization) that have already been implemented in the United States for water infrastructure operations include:

- Hoboken, NJ: partnered with United Water in 1994. The city retained ownership of the infrastructure and rate-setting responsibility. United Water supplies the water, performs system maintenance and repairs, customer service, billing and collections, and 24-hour emergency service. The partnership serves 33,000 people.
- Jersey City, NJ: partnered with United Water in 1996
- Cranston, RI: partnered with Poseidon Resources in 1997
- Carlsbad, CA: partnered with Poseidon Resources
- Danville, VA: partnered with AmericanAnglian Environmental Technologies, a subsidiary of American Water Works, in 1998.
- Seattle, WA: partnered with American Water in 1997
- Buffalo, NY: partnered with American Water

Perhaps the most relevant example of privatization or drinking water and wastewater assets is from the United Kingdom (UK). In 1989, the UK privatized the region's water and wastewater sector, forming 10 private sector companies. These water companies are very similar to investor owned water utilities in the United States. However, it is important to note that the UK companies operate under a regulatory regime that is different from that in the U.S.

Given the regulatory differences between the U.S. and the UK, the UK model of privatization may not be fully applicable to the U.S. at this time. One possible hybrid privatization approach is summarized below.

The key concepts of the hybrid model are:

- A private sector investment consortium (the Consortium) consisting of an equity investor and an operations partner.
- Asset ownership is divided between existing assets and new assets. Existing assets are owned by the public sector and new assets are financed and owned by the Consortium and leased to the public sector.
- The Consortium provides O&M services and O&M cost savings are anticipated due to the investment in new assets
- The public sector receives rate income from system users and pays O&M service fees and lease payments for the new assets. Some portion of the lease payments will be accrued. Revenue shortfalls (i.e. the excess of O&M fess and lease payments over rate income) may be financed through the issuance of tax-exempt bonds.
- The Consortium receives O&M service fees, cost savings generated by O&M efficiencies and lease payments. The Consortium pays for the new assets.

The intended outcome of this framework is an eventual transfer of all assets (with the possible exception of water rights) to the private sector Consortium. From an economic point of view, such a transfer should fairly compensate the public sector for the value of the transferred assets. The transfer should also fairly compensate the private sector for the

accrued lease payments. During the interim, the public sector may be responsible for implementing a contractually agreed-upon rate schedule that assumes a gradual increase in rates to reflect full value pricing.

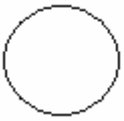
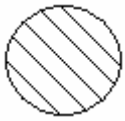
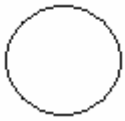
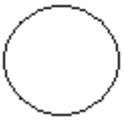
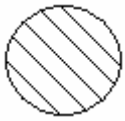
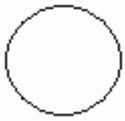
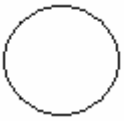
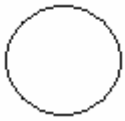
As with a full cost pricing mandate and water use surcharges, this funding approach is one where "affordability" is also an important consideration. Again, there could be adverse affordability effects for both residential customers, as well as industrial and commercial customers, to the extent that they would experience rate increases as a result of a full cost pricing mandate. Also, as with a full cost pricing mandate, adverse affordability effects may be exacerbated to the extent that higher user charges resulting from a full cost pricing mandate were applied based on users' volume of use.

Our evaluation of this framework is as follows:

- Effectiveness – public-private partnerships have the potential of providing a significant long term source of funding for water infrastructure financing.
- Efficiency – this approach would rank high in efficiency since there is a direct relationship between water-infrastructure use and source of project funding.
- Equity – as with full cost pricing and any other funding mechanism that relies ultimately on user charges, in one sense this approach to funding water infrastructure may rank very high on this criterion, since it would likely impose the greatest costs on those systems and users who are not currently bearing the full cost of their water and wastewater infrastructure usage. This view is particularly appropriate when the effects of this approach are viewed across systems. When viewed within systems, however, equity may be mitigated if higher charges are based on the volume of use and fixed costs (i.e. those not associated with use) constitute a significant proportion of total costs.
- the ability of users to pay higher user fees would be an issue here. Fundamentally, privatization will require an overall increase in water user rates. Based on the United Kingdom experience, the increase in user rates is likely to be more significant in the early years of privatization. This corresponds to the period of significant capital expenditures. However, the rate of increase is expected to decline over time. Furthermore, the use of the hybrid privatization model should elongate the period of time over which users effectively pay for capital improvements.
- Administrative Simplicity - full privatization will require regulatory change. This will entail some degree of administrative complexity. However, our assessment of this potential complexity is tempered by the fact that, at this point, we do not have a clear picture of what regulatory changes might be necessitated by this approach.
- Political Considerations – there would likely be significant political opposition to privatization, particularly from consumer groups and interest groups representing current public owners of water infrastructure assets. However, based on early experience, the political environment may be more favorable to private sector participation in wastewater assets versus drinking water assets.
- Legal Impediments – to the extent that full privatization would require regulatory changes, as noted above, there would be commensurate legal issues that would have to be addressed.

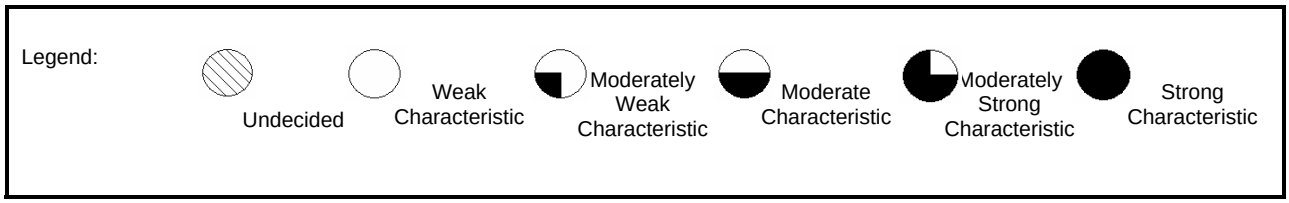
The following is a chart that gives a pictorial summary of the above evaluations of alternative funding sources. This oversimplifies our assessments of these mechanisms but nonetheless serves as a quick reference to the above discussions.

Financial Mechanisms – Quick Reference

	Effectiveness	Efficiency	Equity	Administrative Simplicity	Political Considerations	Legal Impediments
Transfers from the Federal government to the Commonwealth						
State-level funding of projects with either General Obligation debt or General Fund appropriations						
Mandate full cost pricing						
Surcharge on water use						
Bond financing						
Taxes and charges on products related to water use						
Beneficiary pays						

[5] Note: this format is also borrowed from "A National Clean Water Trust Fund: Principles for Efficient and Effective Design", by Kenneth I. Rubin of the PA Consulting Group for the Association of Metropolitan Sewerage Agencies, August 5, 2003. See pg. 31.

Polluter pays	
Taxes and charges on activities unrelated to water use	
Charges tied to local infrastructure effects	
Internal revenues created by managerial and operational efficiencies	
Public-Private Partnerships	



Conclusion

There is no single funding mechanism that stands out as the answer to the water infrastructure financing problem. One approach that might be useful, however, would be to consider a range of mechanisms, each of which would partially address the problem. If this approach were adopted, it might be advisable to increase the likelihood of its political acceptance by recycling revenues raised by each mechanism back to the groups from which they are raised. For example, revenues raised from water and wastewater system surcharges could be earmarked for financial assistance to such systems. Likewise, revenues raised by fertilizer and pesticide taxes could be targeted to fund water quality improvement projects undertaken by agricultural operations. While individual entities within each group would be affected differently (i.e. some would receive net benefits while others would pay net costs), at least there would be a rough equivalence between what the group as a whole pays for water quality solutions and the funding they receive to finance these solutions.

SHOULD OPERATING and MANITENANCE COSTS BE FUNDED?

The sense of the workgroup is that on-going costs such as operating and maintenance costs should not receive public funding but rather should remain the responsibility of the drinking water or wastewater system owners. One exception to this general rule, however, might be the funding of nutrient credits, which can often be an ongoing cost. Public funding of such costs through a funding program such as PENNVEST could work as follows.

Structure of nutrient credit loans:

We are suggesting the creation of a Nutrient Credit Purchase Account as the structure for nutrient credit loans offered by PENNVEST. These would work as follows:

- The borrower and a credit provider/aggregator establish a series of annual nutrient credit payments to be made over a set period of time, such as twenty years.
- Alternatively, the borrower requests an amount of funding that will cover future credit purchases of a set period of time, such as twenty years, based on current nutrient credit market prices and an estimated rate of inflation in the price of nutrient credits
- In either of these cases, PENNVEST calculates the amount of funding that would have to be invested today at prevailing interest rates in order to generate the future stream of credit payments.
- PENNVEST loans this amount of funding to the borrower at whatever interest rate is warranted by the borrower's ability to pay.
- An account is established with an independent entity that is approved by PENNEST, such as the State Treasurer, in the name of the borrower. The loan proceeds are deposited into that account and earn interest at the established rate. The borrower access the account annually in order to make nutrient credit purchases.
- At the same time, the borrower commences loan repayments to PENNVEST based on the terms of its loan with PENNVEST.

Advantages of this structure:

- Many nutrient credits will be created and paid for annually, rather than all up front, as with a traditional capital-intensive project.
- Borrowers may not always be able to establish extended contracts with single credit providers, so would need a source of funding for future credit purchases that might come from a variety of credit providers.
- Even if one credit provider offers a long-term credit contract to a borrower, that provider may go out of business in the future. So, paying for twenty years worth of credits up front would not be desirable.
- Paying for twenty years worth of credits up front also effectively transfers the ability to earn interest on excess funds to the credit generator. It would be better to have our borrower earn interest on temporarily excess funds. It would also be better to maintain some control over how those excess funds are invested.

Alternative uses

The approach outlined above could be used to finance on-going costs where this might be deemed desirable from a sustainability perspective. Helping with the creation of a circuit rider program to consolidate small, nonviable water or sewer systems might be one example. An important caveat, however, is that open-ended commitments to fund future costs should be avoided.

Appendix A
PENNVEST's Affordability Methodology

The following is a description of PENNVEST's "affordability" methodology that we currently use to determine where to place our grant funds in order to make otherwise prohibitively expensive projects affordable to their users. This same approach also determines the interest rates that we charge on our loans, the loan repayment period and, in some cases, the amount of funding that PENNVEST offers to applicants.

The general philosophy that lies behind our affordability methodology is that the ultimate determinant of a community's ability to pay for a project hinges on the ability of the project's users to pay for the services they receive, i.e. the drinking water, wastewater or storm water services provided by a PENNVEST-funded project. We adjust the financial assistance that we offer to a community to make the project affordable for its users. Such adjustments can take the form of reduced interest rates on our loans, extended loan payback periods or grants (or some combination of the three). In order to decide what, if any, adjustments to make, however, we must first define what we mean by "affordable".

For any applicant we use a number of demographic factors to measure the local economic circumstances of the community. Most of these factors are derived from the 1990 U.S. Census and are available to us on a Census tract or block level basis from the Penn State Data Center. The specific data we use are:

- median household income – For this factor we update the 1990 Census data by changes in the Consumer Price Index in order to get an estimate of the current income level.

- the percentage of the population over age 64

- the percentage of the population below the poverty line

- the rate of population change in the community between 1980 and 1990

We also use a measure of local economic well-being that is constructed by the Department of Community and Economic Development and used in its Financially Distressed Municipalities Matching Assistance Program. This Early Warning System measure is constructed from nineteen variables that measure the financial condition of each municipality in the Commonwealth.

All of these measures are used together to construct a "target percentage" for an applicant community. This is the percentage of annual income that the users of a project are reasonably expected to be able to pay for either drinking water, wastewater or storm water service. This percentage is constrained to be between one and two percent of median household income. The relationships between each of the above factors and an applicant's target percentage are:

- Median household income – direct relationship (the lower is median household income, the lower is the target percentage)

- The percentage of the population over age 64 – inverse relationship (the higher is the percentage of the population over age 64, the lower is the target percentage)

- The percentage of the population below the poverty level – inverse relationship (the higher is the percentage of the population below the poverty line, the lower is the target percentage)

- The rate of population change between 1980 and 1990 – direct relationship (if population declined the target percentage is reduced)

- Early Warning System measure of economic distress – inverse relationship (the more distressed a community is, the lower is the target percentage)

Once calculated, the target percentage is then used to derive the target user rate for an applicant community. This target rate is simply the product derived from multiplying the target percentage by median household income. It is this target rate that we try to achieve by manipulating the terms of the financial assistance that we offer our applicants. In doing this we compare the target user rate with the actual rate that project customers will have to pay after the project being funded by PENNVEST is completed. This estimate takes into account all costs borne by these users, not just those associated with the project we are funding.