



**Sustainable Water Infrastructure Task Force
Commonwealth of Pennsylvania
Presentation for Public Meeting on May 27, 2008**

Hello, I am Yvette Austin Smith a Managing Director for CRA (or Charles River Associates) International. I will provide a brief description of CRA but before I do, I would like thank Senator Musto and the other members of the task force for giving CRA an opportunity to present today. I would also like to commend Governor Rendell and the Commonwealth for taking such a proactive stance to the challenges surrounding water and wastewater infrastructure.

First, a brief introduction to CRA. CRA is a 40 year old economics and business consulting firm with 750 professionals and 26 offices throughout the world. CRA specializes in advising companies, investors and public sector entities in industries that are characterized by significant regulation, asset intensity and exposure to underlying commodities markets. We advise and consult on strategy, operations, financial transactions and litigation. Of specific relevance to this meeting, CRA has advised on sales, privatizations, modernizations, financings and restructurings of water and wastewater assets in the United States, Europe, the Middle East and Asia. As I mentioned at the start, I am a Managing Director for CRA and head the firm's Corporate Finance Advisory services out of New York.

As we understand it, there are five key areas on which the task force has focused in order to provide its findings the governor. These areas are needs assessment, innovative measures, financial resources, financial sustainability and legal and regulatory issues. For the remainder of my remarks, I hope to provide the task force with a few productive suggestions and ideas based on CRA's experience in water and wastewater. These suggestions and idea coalesce around one central theme: increased private sector investment in water and wastewater assets.

There are varying manifestations of private sector involvement in water and wastewater assets around the globe. If we were to display a few examples on a continuum, in the

middle you might find Europe (especially Western Europe). There, private sector companies, including infrastructure investments funds, own and operate a large percentage of water and wastewater assets. These assets were generally built and initially operated for some period of time by public sector entities prior to being purchased by private sector companies. Two relatively recent examples include Thames Water (purchased by the Australian Macquarie Bank) and Southern Water (purchased most recently by a consortium led by JPMorganChase). Moving away from the middle, at one end of the continuum are arrangements that are more typical in developing and emerging economies. These economies may lack the financial or technical wherewithal, or in some cases, the political incentives, to develop a modern water or wastewater system. In these cases, private sector companies may build and operate water and wastewater infrastructure, with the government as the sole client. After a period of time -- long enough for the private sector to recoup its investment -- the assets may be transferred to the public sector¹. At the opposite end of the continuum, and much more common in the United States, are medium and long-term operations and maintenance (so-called "O&M" contracts). I suspect many of you are familiar with this arrangement in which a private sector company (the two largest being Veolia and CH2MHill) or an investor-owned utility (such as York Water) operates and maintains a municipally-owned system during an agreed-upon contract term. Although these arrangements may also include capital asset management, the assets themselves, continue to be owned by the public sector entity. While there are many instances of success with O&M contracts in the United States, there has been reluctance in the US to move towards private sector ownership of water and wastewater assets. For some municipalities, this reluctance is preventing an objective examination of what could be a valuable option.

What are the potential benefits of private sector investment? There are four main benefits to private sector investment. The first is that such a transaction can provide immediate revenue to the public sector. Structured either as an asset sale or as a concession agreement with an eventual asset sale, the public sector would receive a significant upfront payment and, possibly, a schedule of future payments. Secondly, a sale of water and wastewater assets to the private sector can transfer risk from the public sector to the private sector, which often has greater flexibility to profitably absorb the risk. For example,

¹ Such build-operate-transfer (BOT) arrangements are distinguishable from design-build (DB) contracts, which are common in the United States.

risk sharing agreements with consortium partners or the use of financing techniques that are less available to the public sector. Third, private sector investment can create a greater certainty as to future user rates. A typical feature of these transactions is that the private sector entity agrees to a schedule of rates or rate increase, at least over an initial investment period. The rates are negotiated to provide a sustainable level of financing for the system. However, to the extent that the rates are insufficient to adequately fund the system, this risk is absorbed by the private sector. Finally, private sector investment often leads to greater access to technological resources, benefiting water quality and customer service.

The benefits of private sector investment in water and wastewater assets can be substantial. However, it is important for the public sector to understand when and under what circumstances, such benefits would be realized.

Fundamentally, private sector involvement is a viable option if the private sector partner can assist the public sector in meeting a need that the public sector cannot, or cannot efficiently, meet. Examples of inefficiency would include both actual and opportunity costs in excess of project benefit. Thus, it is important for the public sector to be able to accurately identify its infrastructure needs in order to assess a private sector proposal. CRA believes that infrastructure need should not be based on replacement of existing infrastructure. Rather, an accurate needs assessment should be based on an understanding of the relevant population's current and anticipated water and wastewater demand. To conduct an accurate demand study, water and wastewater services should be stratified by use. Simplified categories of use are residential, commercial and industrial. In an actual demand study it would be necessary to create more specific categories of use. Use categories are important because they determine parameters such as volume, water quality, and volatility of demand (e.g., peak versus non-peak demand). Further, the stratified demand functions for water and wastewater services should be understood under various likely demographic, economic and climatological scenarios. For example, the Commonwealth may wish to better understand the change in demand for water and wastewater services due to the state's population shift from urban centers to outlying residential communities. By constructing an integrated model of water demand, the public sector will be able to better understand the anticipated infrastructure needs.

This may seem like common sense. Yet, CRA has often found that such demand data, especially forward-looking data (e.g., forecasted demand) is not available. The key reason is inadequate resources to properly assess the population's water demand exacerbated by highly-fragmented water and wastewater systems. However, those regions that are able to accurately determine system demands are better positioned to assess proposed solutions.

Jumping ahead a bit, let's assume that a municipality or region has determined that its resources are inadequate to meet the system demands. Certainly many of you are well informed about the various traditional sources of funding: (dwindling) federal, state and local monies (e.g., revolving loans, property taxes). One of the reasons we are here today is because the funds from these sources is considered to be inadequate (at least in current form) to meet the Commonwealth's infrastructure needs. Let's also assume that the municipality has exhausted opportunities for increased revenue or reduced cost. For the sake of time, I am skipping over what is truly an important step. That is (as the task force has recognized) to think innovatively about increasing revenue streams and or reducing costs. The question then arises: what types of projects would be good candidates for private sector investment?

A few key considerations:

- The project must be of sufficient size to drive economies of scale. In practice, this means either a large urban system or a consolidation of smaller systems. The latter may be particularly relevant to the Commonwealth given that greater regionalization has been identified as a possible solution. Another possibility to provide a larger-scale investment opportunity would be to consider private sector investment in the Pennvest or a similar program. For suitable opportunities, a private sector participant may be able to provide incremental debt or equity financing that could be combined with the lower-cost, but limited, debt financing of the existing Pennvest program. This would allow the private sector participant to aggregate risk across multiple water and wastewater projects -- thereby mitigating overall risk, with the end result being a reduction in the cost of such financing.
- To attract the most valuable private investors, the public sector sponsor should also be able to demonstrate a political commitment to successfully pursuing private

sector investment. This support may be in various forms including enabling legislation, policy statements, the establishment of tax incentives (including tax-advantaged debt financing) or a favorable regulatory regime. Infrastructure transactions can create substantial political backlash. Similar protest has derailed the success of previous attempts to increase private sector investment in water and wastewater assets. However, it is extremely expensive, both in dollar costs and time, for the private sector to conduct the necessary pre-transaction marketing and due diligence. The private sector has demonstrated that is only willing to make such an investment when there is assurance that the project is politically supported. Given Governor Rendell's support of public private partnerships -- most notably the Pennsylvania Turnpike -- the Commonwealth should be well-positioned to attract high-quality private investors.

- The project should consist of discrete and identifiable cash flows without the existence of cross-project subsidies. Such cash flows may be linked to a specific asset or set of assets, specific geographic boundaries, or a specific scope of operation. A thorough understanding of the population's water needs (as described above) can be critical in identifying the appropriate scope for the private sector investment.

One final observation: In the US, CRA has seen different private sector appetite for water versus wastewater. Wastewater has generated greater interest because (1) ownership of wastewater systems is frequently less fragmented than water; (2) the regulatory framework is more straightforward; (3) there has traditionally been less political sensitivity to private sector investment in wastewater (versus water) and (4) wastewater and its by-products are increasingly being recycled to create new assets of economic value. This may be an important consideration as the Commonwealth seeks solutions the challenges of combined sewer overflows.

In conclusion, I would like to, again, thank Senator Musto and the other members of the task force for giving CRA an opportunity to present today.