NARUC PAYS® & Water Efficiency Presentation

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(**Overhead #1**) Hello, my name is Harlan Lachman. I'm Co-Executive Director of PAYS America, a new non-profit dedicated to providing research and education about the Pay-As-You-Save or PAYS system. PAYS America is interested in the development and implementation of a national market infrastructure that will stimulate the purchase of cost-effective, resource-efficiency products using the PAYS® system. Until we receive our 501-C3 designation, our fiscal sponsor is ACEEE.

Our background is in energy efficiency. My partner, Paul A. Cillo, and I each have more than 25 years of program design, management and training experience. Although PAYS was originally envisioned to promote energy efficiency, it can facilitate investment in all resource efficiency measures. Today I'm here to talk with you about how PAYS can help to stimulate investment in water use efficiency.

In almost every state, there are some areas in which water or the disposal of waste water is an issue. Even in a state like Vermont, where potable water is plentiful, problems with the environmental impacts of waste water disposal are severe enough to threaten development in our fastest growing region, Chittenden County.

Some current water use efficiency efforts take advantage of the Florida Public Service Commission's September 1997 Report and focus on rate design. Increasing rates, eliminating declining block rates, and billing based on usage have been shown to effect some conservation. However, rate design has limited impacts because, as this report acknowledges, the affluent can afford to pay more, the less affluent lack resources to pay for retrofits, and other customers do not respond because of a variety of other market barriers.

(**Overhead #2**) Market Barriers to customers installing water efficiency measures that will save customers money over their useful lives include:

Competition for capital (first cost). Some customers lack available capital to pay for measures. More commonly, they have what they consider to be more pressing needs. For example, a hotel might choose to spend available capital on marketing, upgrading facilities, or on key staff.

Assurance or confidence of savings. For customers to invest in water efficiency measures they need to trust that the savings will outweigh their costs. Usually the experts and the ones making claims are the same folks trying to sell them products.

Uncertainty about ownership or occupancy. These measures frequently have payback periods of several years. The longer the payback period, for both residential and commercial customers, the more likely measure installation will be deferred, especially in periods of economic uncertainty or if there is any consideration the occupant might terminate occupancy during the payback period (so they would end up paying for something but not getting all the benefits).

Debt. Some private water efficiency companies offer to finance installation of measures. However, some customers, especially businesses, do not want or cannot add to their debt. Again, in periods of economic uncertainty, businesses tend to try to decrease their debt, not increase it.

Split Incentives. This is the barrier that occurs when the decision maker (for example a developer or landlord) is not responsible for paying the utility bill.

Compounding these problems to achieving water resource efficiency is the fact that regulators in many states are not in charge of all water companies. Limited jurisdiction, limitations of rate design, and market barriers might make it seem problematic for regulators to effect significant water resource efficiency.

(**Overhead #3**) However, the Pay-As-You-Save or PAYS system offers a Market-Based approach applicable to all cost effective projects, regardless of jurisdiction of water companies. PAYS eliminates problems with each of these market barriers. Additionally, once in place, PAYS does not require public subsidies (although subsidies will make more measures cost effective.

Finally, for the most cost effective measures, PAYS can mitigate that unspoken problem – utility lost revenues.

What I hope to do today is describe PAYS, give you an example of how PAYS might work for a really cost effective water project and answer any questions you might have.

(**Overhead #4**) The PAYS system enables building owners or tenants to purchase and install money-saving water efficiency products with no up-front payment and no debt obligation. Those who benefit from the savings, pay for these products through a tariffed charge on their utility bill, but only for as long as they occupy the location where the products are installed.

The monthly charge is always lower than the product's estimated savings and it remains on the bill for that location until all costs are recovered. Like a loan, PAYS allows for payment over time, but unlike a loan the PAYS obligation ends when occupancy ends or the product fails.

(**Overhead #5**) PAYS accomplishes this with a market infrastructure that has three key elements:

1. A tariff with charges for measures installed at a location assigned to the meter.
2. Billing and payment on the distribution utility bill with disconnection for non-payment.
3. Independent certification that products and installation are appropriate and that estimated savings exceed payments in the near

The first PAYS pilot in the country is resource blind. In 2001, the New Hampshire Public Utilities Commission authorized two electric distribution utilities to implement a PAYS pilot for measures that saved electricity and also for measures that saved resources other than electricity -- as long as the measure was sufficiently cost effective. Since every home and business has an electric meter, the Commission's decision enables the PAYS tariff to be used for water saving measures even for customers of unregulated water utilities.

(**Overhead #6**) I said that PAYS was designed to be an effective market based approach to promoting resource efficiency. I want to take a few minutes to explain what that means:

Although the New Hampshire pilot is being run by the electric utilities who are both providing capital and certification, a true PAYS effort would not limit customers to utility approved projects.

Vendors would market their products directly to customers. Prices would continue to be set by the market place. One big difference between the current market and the PAYS market approach is that customers would know that an independent certifying agent verifies that 3/ the estimated savings will exceed the project's costs. And, this is based on retail savings including water and sewer and any other verifiable customer savings.

Another big difference is that customers don't have to pay anything up front. A number of companies offer to install and finance the cost for money-saving projects to those customers who can take advantage of their offer and are willing to pay these companies' financing rates and installation charges. The electric industry term used to describe these types of vendors is energy service companies or ESCOs.

A third big difference is that customers' obligations to pay are limited to the duration of their occupancy.

The up-front cost for measures can be vendor financed. ESCOs currently do that now for those customers who can use the ESCO model. Capital can be provided from a bond fund. A number of cities have used their bonding authority to run resource efficiency programs (e.g., Burlington, Vermont). Or capital can be obtained from a third party capital provider at market rates. As many of you know, utility collection rates are usually higher than 97%. This is higher than any credit card, loan or mortgage collection rate so PAYS offers a valuable cash stream. We have found banks reluctant to provide the capital until PAYS is more widespread. The system is very different from what they are used to. There is no loan, lien or customer debt obligation. PAYS is a tariffed charge. Other third party capital providers such as insurance companies seeking a reliable cash flow will be needed until PAYS becomes more established.

Once the measures are installed, whoever gets the savings pays the charge for as long as they remain at the premises. If they leave, the next customer at that location assumes the charge, just as they assume the savings.

The utility collects the charges and forwards payments to the capital provider: either the vendor, to pay off the bond, or to the third party capital provider.

(**Overhead #7**) Before we review an example, there are three points I want to emphasize. In November 1994, my partner, Paul A. Cillo and I published a paper in the Electricity Journal with Peter Kelly Detwiler called a "Win/Win approach For C&I Customers." We demonstrated how by financing measures using a system similar to PAYS, the addition of a shared savings surcharge could mitigate against lost revenue rate impacts. In fact, the example we used in the paper showed how both participants and non-participants could benefit from a sufficiently cost effective project.

Many water saving projects are sufficiently cost effective and the measures are sufficiently long lived that a shared savings surcharge could be used to mitigate against at least some utility revenue erosion.

The second point I want to restate is that if the resource-blind, New Hampshire tariff is used, customers of non-regulated water and sewer utilities will have access to the PAYS system. While their electric bill will increase, their total utility bills will be reduced and a valuable resource will be saved.

(**Overhead #8**) The third point I want to make is the differences between PAYS and ESCO services. Because the PAYS charge is a tariff, there is no customer debt obligation. The charge only shows up on a customer's bottom line as a lower bill. This means government organizations or customers with annual budgets, don't need Board or voter approval to get projects done. Businesses worried about their debt to equity ratings face no barrier.

Other differences are that the obligation to pay exists only as long as the customer remains at the location, and that a trusted, independent, certification agent has certified the savings estimates. ESCOs can offer their services to customers as PAYS products – in fact with PAYS, their services are more attractive.

Now lets look at a real life example

(**Overhead #9**) Gene Overmeyer of Water & Energy Services out of St. Pete Beach Florida, develops ESCO proposals to customers. Water & Energy Services offers to install and finance water and energy saving installations. For public housing projects, Gene estimates that they can install a flapperless toilet, combined with low flow showerheads and aerators (both with tamper resistant screws) for about $500. These measures are estimated to reduce average water usage from 80-125 gallons per person per day to 45 gallons per person per day. This represents a net savings of at least 35 gallons per person per day.

Assuming 2.5 persons per unit results in almost 32,000 gallons of water and sewer saved per unit each year. In a number of cities, for example Atlanta, combined water and sewer rates equal almost a penny a gallon. But there are a number of areas such as Las Vegas where combined water and sewer rates are around seven tenths of a cent a gallon. That would translate to annual savings of about $223 or just over a two-year payback. But housing authorities have annual budgets and

restrictions on the types of long-term agreements they can sign. Even such cost effective projects are not a sure sale.

(**Overhead #10**) With PAYS, Gene would be able to make the following offer to a housing authority -- after faxing it and getting approval from a certifying agent. The Housing Authority would hire Water & Energy Services to install the measures in each of their units. Assuming a 7% cost of money and a five year payment duration, for each unit the numbers might look like this:

A monthly payment of $11.90 which includes a $2 per month surcharge to the water utility to offset lost revenues. This equals annual payments of $142.

The housing authority would receive gross monthly savings of $18.63 or $223 in annual savings. The net savings come out to $6.73 per month or $80 per year per unit. Since this is just a tariff, the housing authority would not need special approvals to implement the project; these PAYS products are not a loan and have no lien – just a lower bill.

Water & Energy Services gets an easier sale. For each unit, taxpayers get net savings of more than $500 over the five-year payment period and $223 each year thereafter, assuming no water or sewer rate increases. 32,000 gallons per unit are saved each year. And the water utility collects $24 a year per unit to mitigate against lost revenues.

(**Overhead #11**) In summary, the PAYS system enables regulators to replace a market-place that is not functioning in customers' or society's interests with a marketplace that works. PAYS products can create vibrant markets for ESCOs and other vendors. PAYS can make investment in water efficiency attractive to customers of both regulated and non-regulated utilities, enabling them and society to realize significant water savings. And, once the infrastructure is in place, PAYS requires little, if any, public funding.

I'd be happy to answer any questions with the remaining time?