Pay As You Save® (PAYS®)

December 13, 2005

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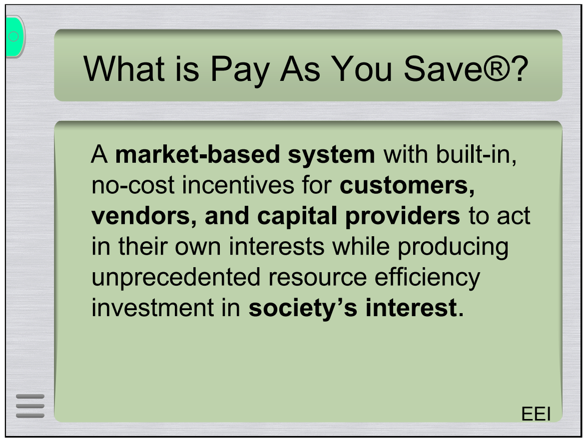
Good afternoon and welcome. My name is Harlan Lachman. My partner, Paul Cillo and I are the principals of the Energy Efficiency Institute. We are also the originators of the Pay As You Save® or PAYS® system.

We have been hired to staff PAYS America's effort to intervene in SEMCO's Gas Cost Recovery Plan case this winter. We are visiting Michigan to gather information for this work.

Tom Stanton invited us to do this presentation today to give you some background and a general understanding of the PAYS® system and to provide an opportunity for you get your questions answered.



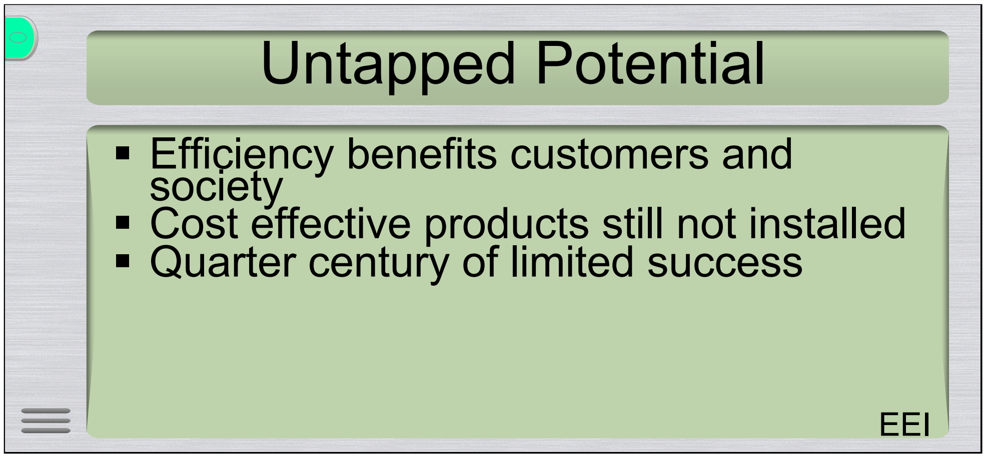
PAYS® is a market-based system with built-in, no-cost incentives for customers, vendors, and capital providers to act in their own interests while producing unprecedented resource efficiency investment that will benefit society.

First, PAYS® is not a program. It is a system -- it includes a set of market rules, a tariff, and a certification process.

Second, it provides incentives that require no public money. Yet, the incentives are sufficient so that customers, vendors, and capital providers, acting in their own interests, produce extensive and unprecedented investment in resource efficiency. When I say customers, I'm including renters, developers, building owners -- anyone who either owns or occupies a building and pays a utility bill.

Once in place, the PAYS® system can be adapted so that any customer can buy any cost effective, resource efficiency product from any certified vendor. The customer pays nothing up front and, from the beginning, is only committing to pay lower utility bills.

Paul and I designed PAYS® to remove market barriers to resource efficiency purchases. But we wanted to remove these barriers without the need to spend public money on cash incentives. That's what PAYS® does.



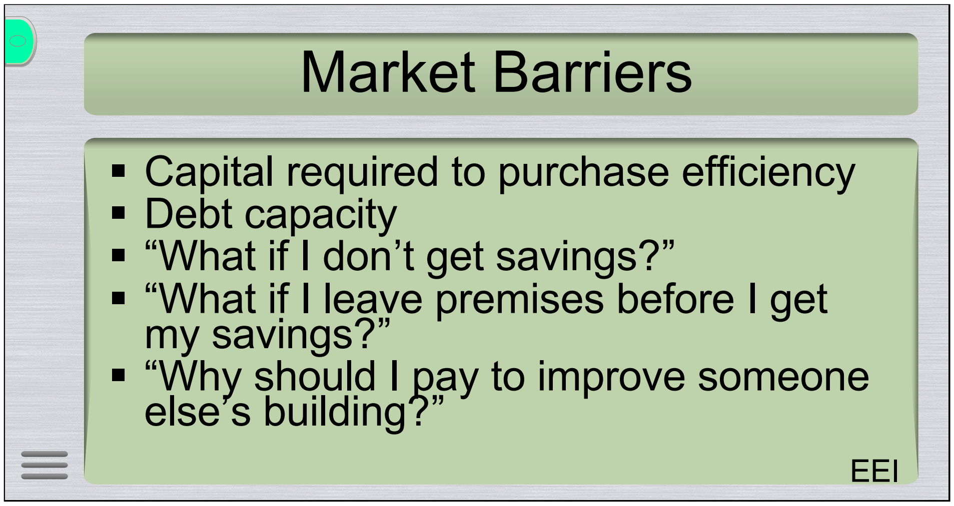
Everyone in this room probably believes resource efficiency is a good thing. Most people now know that it can improve the security and reliability of our energy systems, and our environment. If our businesses invest in energy efficiency they lower their costs and make themselves more competitive. And it can help our citizens by lowering their costs.

However most people in Michigan, like most states, still have not bought products that will save them money -- more money than these products cost.

Since the first oil crises in the '70s, a lot of approaches have been tried to get our nation's citizens to help themselves and society by buying resource efficiency products. We have appealed to their environmental and public concerns, we have provided information programs (advertisements, written materials, even in-home energy audits), improved appliance standards, and offered tax credits and low interest loans. Yet there are still numerous cost effective energy efficiency opportunities in most homes and businesses.

For the past decade, several states have spent millions of dollars of tax payer and ratepayer funds in payments to some customers to encourage their purchase of efficiency products. These rebate programs have been successful at getting these customers to buy them. Most programs are able to spend all their rebate money. However, at a time of rising budget deficits on both a state and federal level and rapidly escalating utility rates, there is not sufficient political will to raise enough money to reach all the customers who would use the rebate approach to buy cost effective efficiency products. And, even very high rebates, for example rebates equal to 80% of the cost of measures, have not been successful at helping renters or those people who are unsure how long they will remain in their premises or who have other needs or interests regarding their disposable capital.

Simply put, if we don't do something new, most cost effective resource efficiency opportunities will remain untapped potential.



There are many reasons why customers do not buy products that would save them more than the product costs.

Here are the main market barriers Paul and I have come across in 25 years of program design and management:

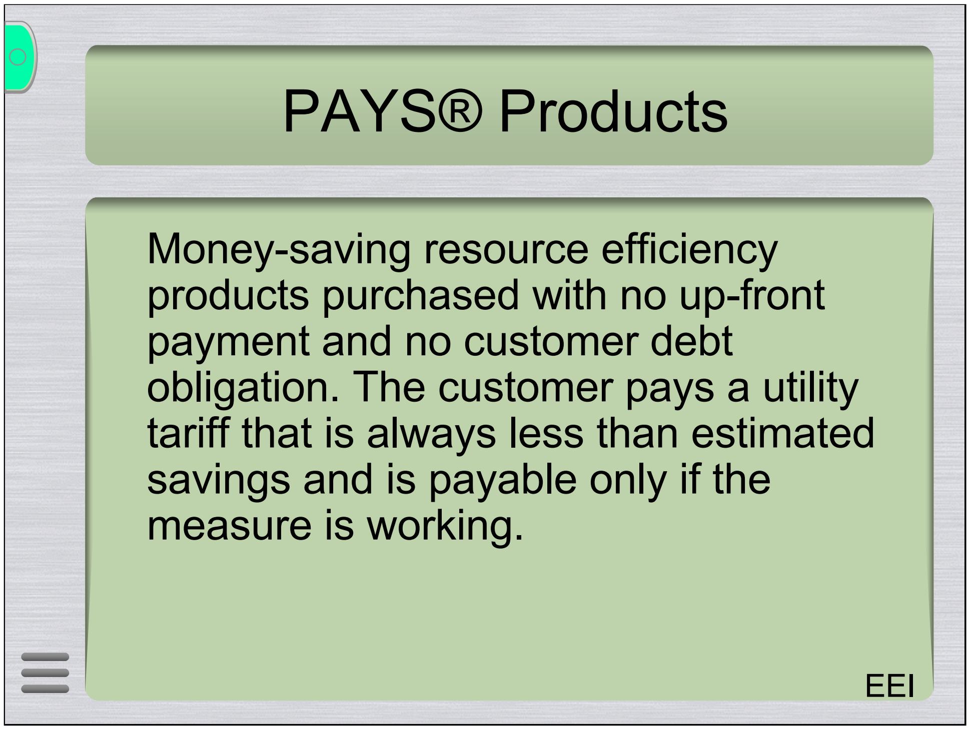
Unless a program offers free installation of measures, potential participants are required to come up with some money. Most folks have other pressing concerns: paying their bills, fixing their cars or homes, or sending their kids to good schools. Even buying Christmas gifts or new cars competes with the capital needed to buy energy efficiency. So most folks don’t think they have enough money to afford to buy efficiency products.

Some folks could borrow the capital, but their debt capacity may be limited or maxed out. Their credit could be sketchy or they could be saving their debt capacity for other, more important, purchases (a new car or house). Not everyone is willing or able to borrow the required capital.

When folks buy efficiency measures, they must pay up front or commit to long payments based on the assurance of savings. But what if the product breaks down before they get the savings that will pay them back? What if they relocate before they get their savings? What if they are renting? Does it make sense for them to invest in the landlord’s building?

All the risk and burden associated with getting savings is put on the current occupant who is paying the utility bill and whom we want or hope will purchase efficiency products -- quite a disincentive.
And most programs ignore the concerns of renters, a good percentage of both residential and commercial utility customers. These customers can legitimately ask, “Why should I pay to improve my landlord’s building?”

That’s why EEI developed PAYS®. PAYS® can help all customers, owners, renters, businesses, developers - anyone - buy resource efficiency products. In fact, they can buy PAYS® products more easily than less efficient products. And, PAYS® requires almost no public money!



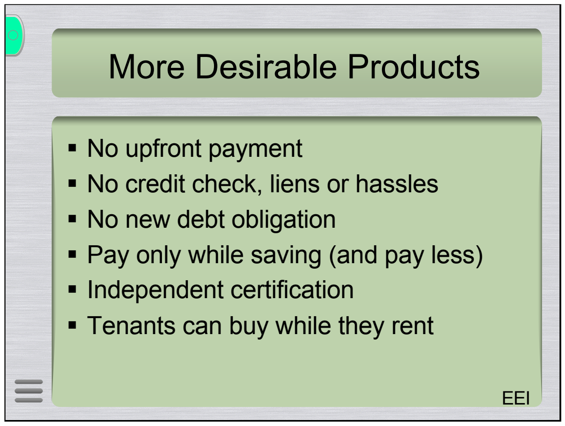
This is a simple definition of the products available through the PAYS® system that some people have found helpful.

Give people a chance to read it, then:

Utility customers who purchase PAYS® products pay nothing up front and incur no debt. They simple pay a lower utility bill because the tariffed charges are always lower than the independently certified estimated savings. An individual customer is not obligated to pay the tariff under either of two circumstances:

1. The customer leaves and is no longer a customer at the location where the measures are installed; or

2. The measure isn't working.



So why do we think that customers who are not buying efficiency products will choose to buy PAYS® products?

PAYS® customers can buy efficiency measures without paying anything up front. Nothing.

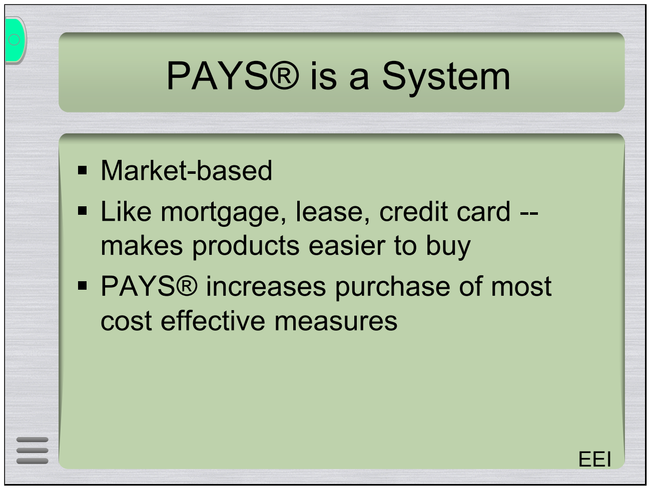
PAYS® is not a consumer loan, so there is no credit check, no lien, no credit approval -- all the hassles and issues of dealing with financing institutions are eliminated.

The financial obligation of the PAYS® tariff is attached to the meter, not the individual customer. The purchaser is only agreeing to pay a lower bill, so PAYS® customers are not taking on new debt. This means that municipalities, public schools, or hospitals do not need voter or board approval to buy a PAYS® product; businesses and individuals don't use up borrowing capacity to buy PAYS® products. Their entire debt capacity remains unchanged by a PAYS® purchase and available for other business or household priorities.

We call the system Pay As You Save® because customers pay only as long as they personally save. A PAYS® customer's obligation to pay ends when that customer relocates. And, the payments they do make are offset by bill savings. When someone agrees to buy a PAYS® product, they are actually agreeing to pay lower energy bills -- even including the PAYS® charges.

Independent certification of savings creates trust that savings will exceed payments and that the product is appropriate.

And PAYS® solves a problem that no program has been able to solve -- split incentives. Tenants can purchase PAYS® products because they only have to pay while they are a tenant at the location where the products were installed.

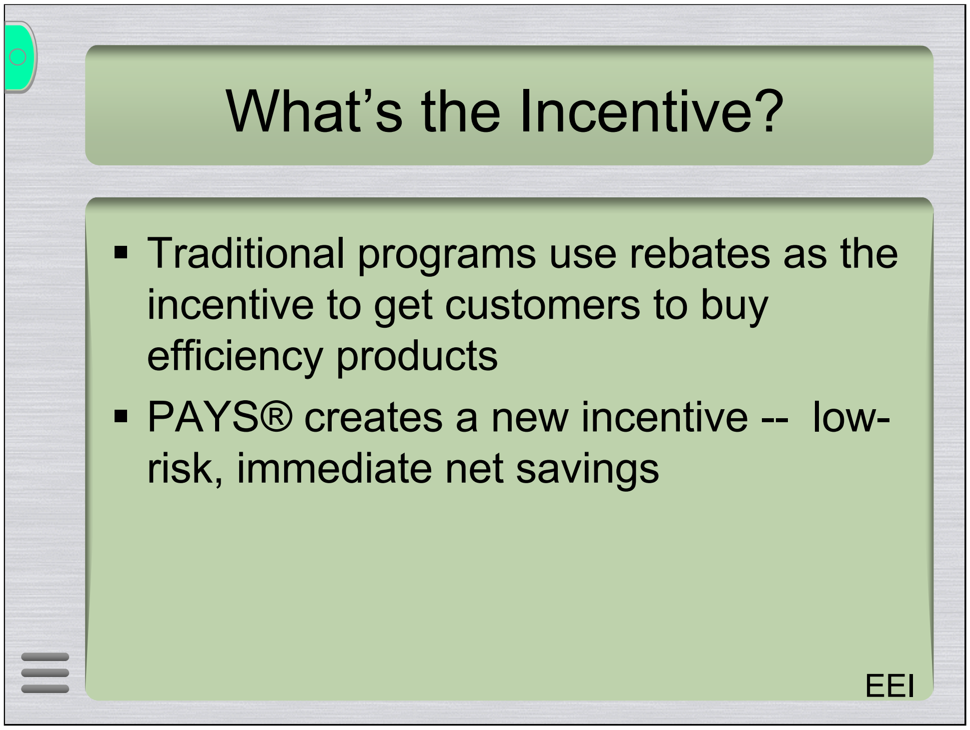


As I said earlier, PAYS® is not a program. It is a market-based system. Programs are controlled efforts where experts paid with program funds try to convince people to buy efficiency products -- usually with the help of rebates or low interest loans or both.

The PAYS® system allows vendors who sell efficiency products to make offers that potential customers will not want to refuse. In order to be able to make these offers, vendors must agree to take on most of the functions normally assigned to staff in a traditional program (marketing, savings estimates, selling. and the cost of consumer assurance).

Think about other market-based systems that help customers buy products --- mortgages, car leases, credit cards. Like these, PAYS® makes it easier for vendors to make offers that customers find attractive.

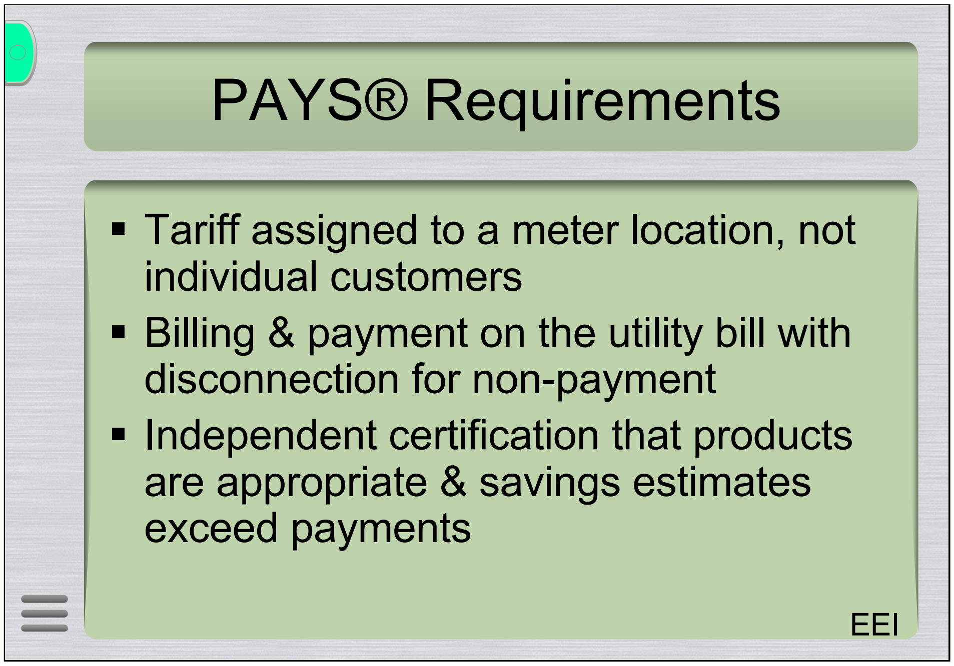
PAYS® can operate without a traditional program. Vendors will market the most cost effective measures that qualify as PAYS® products and customers will want to buy them. Depending on the interest rate available, and the lower the rate the more measures will qualify, even without any subsidy, most measures with five year paybacks will qualify.



The PAYS® system and traditional energy efficiency programs are both attempting to overcome market barriers to people buying efficiency products. But, they use different approaches.

Traditional programs offer a cash incentive to change customer behavior. Enough money is paid to customers to get them to buy a desirable product they would not otherwise buy. By definition, the rebate becomes the reason, or at least one of the reasons, for the purchase.

PAYS® does not use rebates as the reason for someone to purchase efficiency products. PAYS® doesn't need rebates at all. The PAYS® system creates a new incentive for customers --- low-risk, immediate net energy savings. This is the incentive to buy a PAYS® product. Pay nothing up front, get immediate savings, feel good about doing something good for the environment.



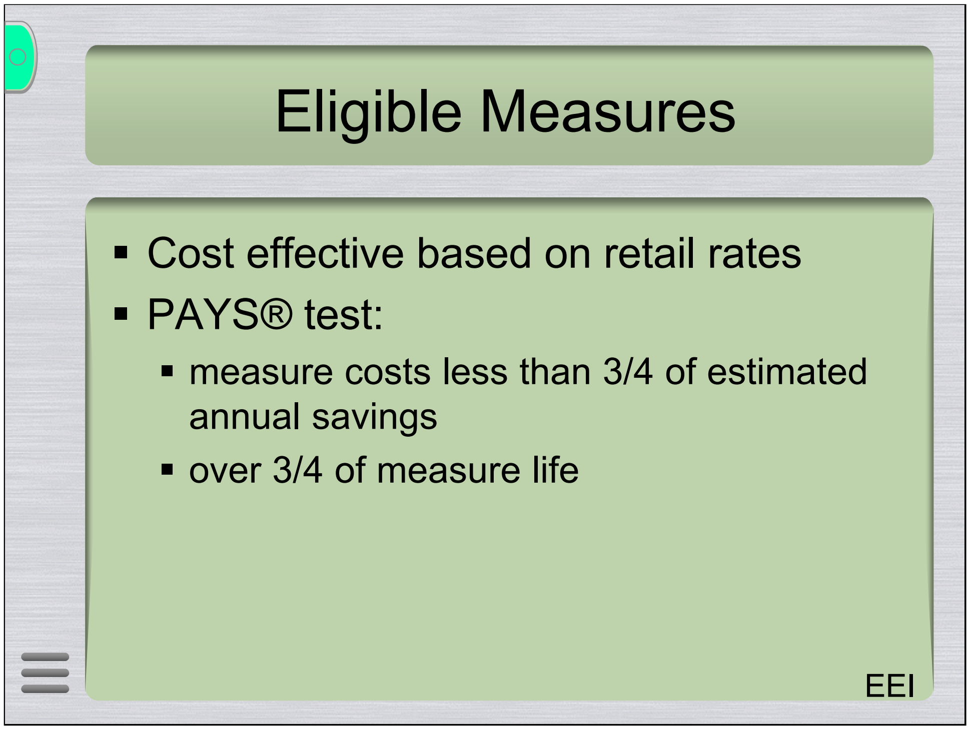
Although there are many elements to a well designed PAYS® system, the system must include these three elements to be PAYS®.

PAYS® requires a utility tariff assigned to a meter location. Assigning the tariff to the meter location creates a reliable cash stream over the term of payments regardless who owns or occupies the property. When a customer leaves the premises, the next customer picks up the PAYS® obligation for the term of their occupancy.

Since billing and payment is on the utility bill enforced with disconnection in the event of nonpayment, the payment stream for PAYS® products is as reliable as other utility tariffs -- typically better than a 98% collection rate. Additionally, we recommend that utilities be allowed to recover any uncollectable charges after a diligent collection effort from all ratepayers.

The third key component of the PAYS® system is an independent certification process that provides assurance to customers that the products they are purchasing are appropriate for their application and that savings estimates are reliable and will exceed their payments.

If you look at these three key elements, it will be obvious why each state's public utilities commission must approve implementing PAYS®. In most states, only Commissions can approve tariffs.



PAYS® cost effectiveness is based on retail rates -- the rates that customers pay.

For measures to be eligible as PAYS® products, they must pass what we call the 3/4 - 3/4 rule. The payment term for PAYS® products cannot be longer than three quarters of the measure's estimated life.

The amount of the monthly payment cannot exceed three quarters of the estimated savings. This formula ensures that all customers who buy PAYS® products will get immediate financial savings --even if their savings estimates are off by as much as 25%.

Additionally, by requiring measures to pass this screening test, PAYS® assures customers they will not have to pay for measures beyond the end of their useful life, that is, beyond the period of time that the measure is delivering savings.

PAYS® & Subsidies

- Only the most cost effective measures qualify as PAYS® products
- With PAYS®, subsidies are not used to lower buyer's first cost
- Subsidies qualify more measures as PAYS® products

EEI

If a market based system is the best solution to get customers to buy efficiency products, it has limitations. People tend to buy things they want -- not necessarily what we want them to want.

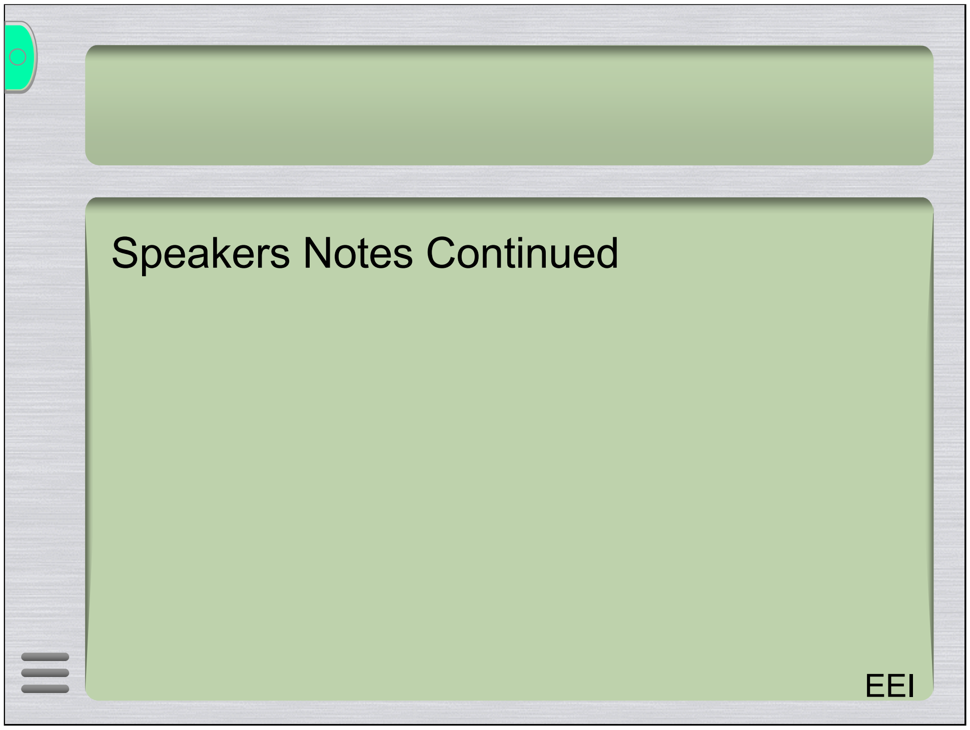
When most states consider which resource efficiency measures are beneficial , they look at things through a societal perspective. Policy makers consider societal benefits not included in current rates like future cost increases, avoided Transmission and Distribution costs, the real benefits of a more secure and reliable system, environmental benefits, economic development benefits, etc.

PAYS® screens measures using today's rates. That's it. It is not that we don't think these other benefits are important. But PAYS® forces everyone to realize that measures that qualify under more comprehensive, societal screening tools but not the PAYS® 3/4 - 3/4 rule may not be great deals for the customers who we want to buy them today.

The traditional approach to get customers to buy measures that benefit society has been to offer rebates and increase the rebate amount until enough customers start buying these efficiency measures and program funds are exhausted. When rebate amounts are high enough and rebates are available, some customers buy measures. When program funds are expended, activity stops.

PAYS® can be used with subsidies too. Using PAYS with subsidies accomplishes 3 things.

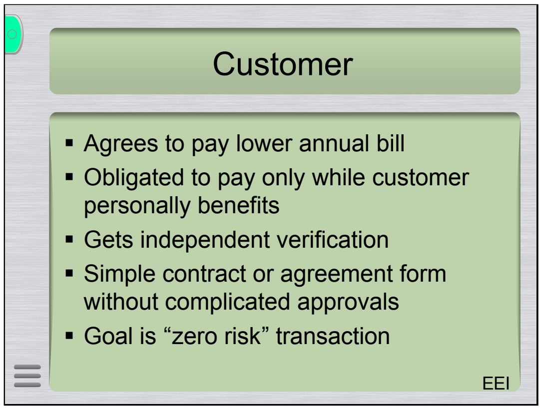
First, it allows available public funds to get more work done. All the measures that are desirable from a societal perspective can be subsidized just to the amount necessary to qualify them as PAYS® products. Last winter we gave testimony in NH proving that using PAYS® with subsidies requires less public funding compared to traditional rebate programs. Our testimony showed that 72% of the rebates paid in NH were not needed (the measures were cost effective enough to qualify as PAYS® products without any subsidy at all). Using public funds as we recommended, to qualify more measures as PAYS® products, would have resulted in four times as much work for the same amount of ratepayer money.



Another benefit of using PAYS® this way is that it eliminates the boom and bust cycle created by rebate programs -- robust purchases when rebate funds are available, followed by sharp drops in purchases when funds are used up. If measures are cost effective enough to qualify as PAYS® products, customers will buy them. For those measures that require a subsidy to qualify as PAYS® products, customers will buy them when subsidies are available. Regardless of whether subsidies are available, the market for PAYS® products remains vibrant because the incentive to buy efficiency products is not the subsidy.

And the third benefit of using PAYS® with subsidies is that PAYS® makes subsidy programs more equitable. Customers without capital or debt capacity, folks unsure about occupancy, low income customers, the elderly, businesses looking for quick paybacks cannot and do not participate in traditional efficiency programs because they can't come up with the copayment. These customers can all participate with PAYS® since there is no upfront payment required.

Considering the efficient use of public funds, market stability, and customer equity, it makes sense to use PAYS® as the foundation of any state's resource efficiency effort.



Let's take a look at PAYS® from the different perspectives.
The purchasing customer agrees to pay monthly PAYS® charges that are lower than the estimated savings. The obligation to pay the charges applies only while the customer remains at the location where the measure was installed, and only if the measure keeps functioning.

The vendor's savings estimates are checked by an independent third party.

The contract in our lighting program was a simple form. The customer's signature followed a disclosure that if they had been using their lighting less than a specified number of hours per day, they'd lose money. In other words, in this case the tariff only required self-certification.

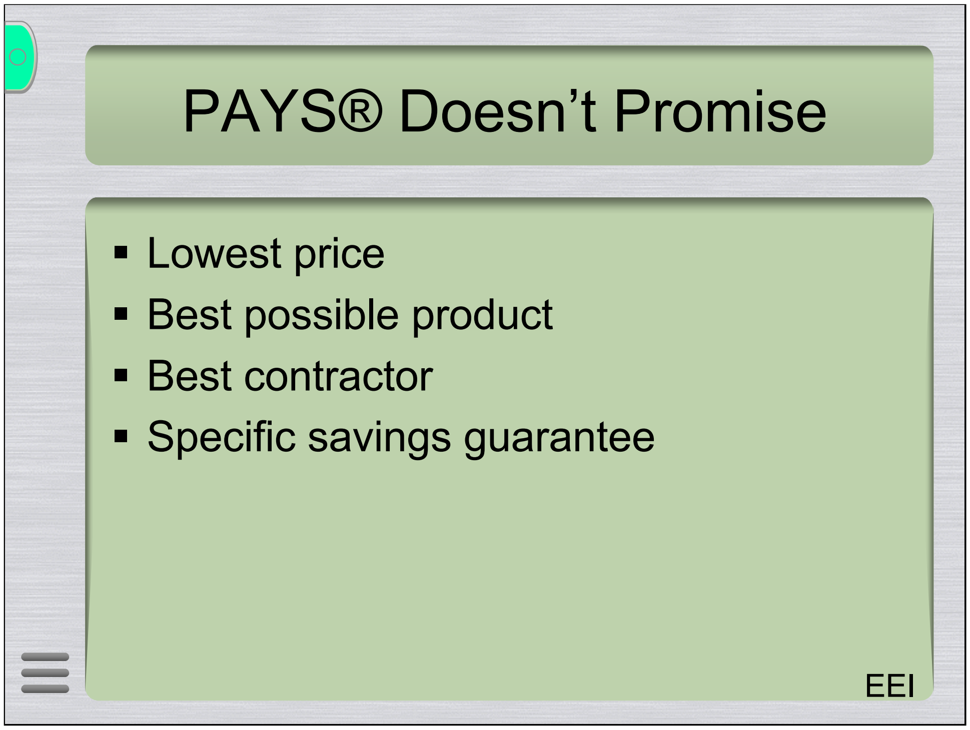
The contract for major measures was a longer form approved by the NH Commission, utility lawyers, and the NH Office of Public Counsel. But we made sure it was readable and that a simple signature could start the process. We have since learned that some of this information may be able to be put into the tariff and removed from the contract.

We also establish an agency relationship between the certification agent and the customer so that the certification agent has legal standing to operate on the client's behalf without liability.

Obviously, there is no such thing as zero risk. We call it zero risk for the customer because:

1. someone other than customer or vendor checks the offer;
2. the customer can end the deal by leaving;
3. The customer doesn't have to convince the next occupant to pay more for their home or business to recover his original investment; and
4. if the measure stops working it is fixed or the customer stops paying.

A well-designed PAYS® system makes the contracting process safe, easy, and as risk free as possible for the customer.

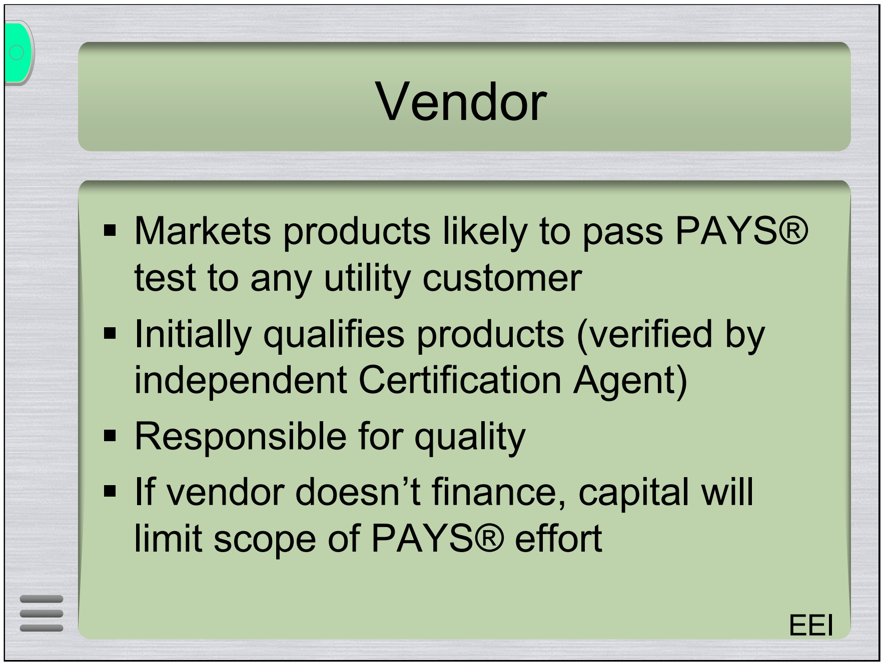


Caveat emptor will still be the rule.

But PAYS® will promise that savings estimates meet the 3/4 - 3/4 rule and that customers only pay while they personally benefit.

We don't guarantee the lowest price, the best possible product, the best possible contractor. All we guarantee is that savings estimates checked by a trusted third party will significantly exceed future costs and that payments will only be required while the purchaser remains at the location and the product continues to work.

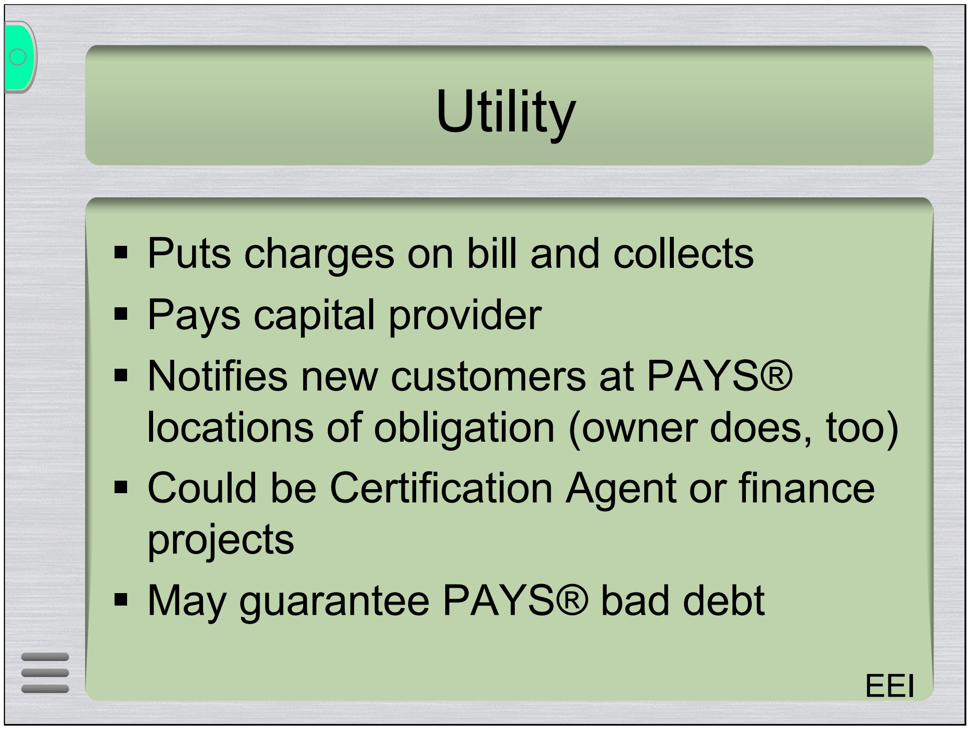
But we don't guarantee a specific savings nor do we monitor the savings. Independent evaluation by GDS Associates has proven that such a guarantee is not required to get customers to buy PAYS® products.



• PAYS® is market based so vendors market eligible products directly to customers. The vendor does a preliminary eligibility calculation using the PAYS® screening tool. The Certification Agent checks to make sure the measure is eligible.

• The vendor not only markets the products and convinces customers to buy, vendors are responsible for any costs associated with messing up. They pay for failed inspections. Bonding or irrevocable letters of credits covers the cost of a botched job or a warranty not honored. There is no need for an extensive and expensive quality control program.

• Vendors can finance the measures. If they do, there is no limit to the number of jobs they can sell. There are no budget restraints as with traditional programs. Otherwise, the availability of capital for measure installation will be what limits PAYS® product sales.



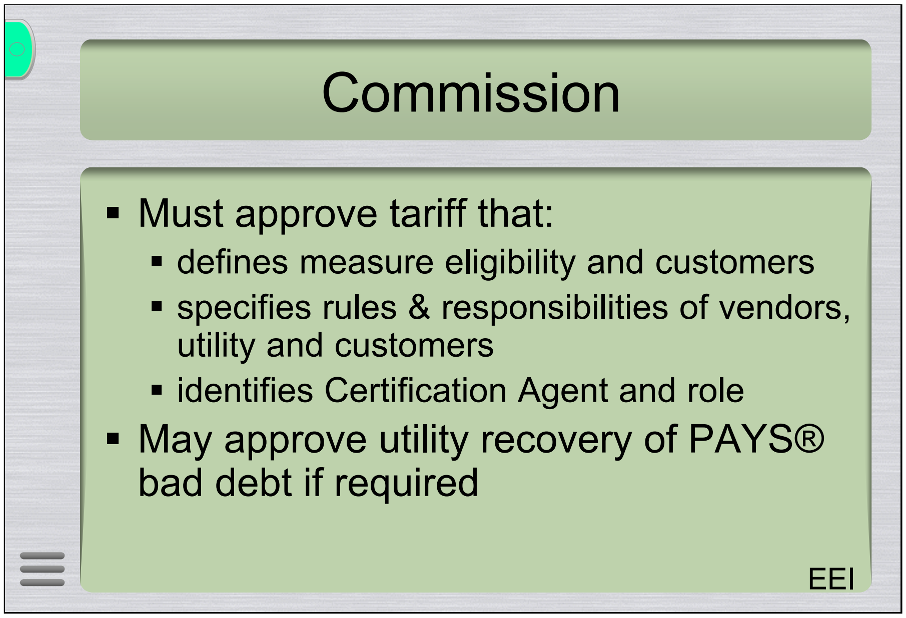
• The essential utility functions are to put PAYS® charges on the utility bill and collect them just as they do any other tariffed charges; to repay the capital providers; and to notify new customers at a PAYS® location of their tariff obligations.

• Charges must be on the utility bill. Once on the bill, payments don't change during course of the term. The term can be extended to cover costs associated with missed payments, non-occupancy or any costs for repairs.

• Although we recommend an independent certification agent, a utility may serve this role in a pilot, particularly if the utility has been operating energy efficiency installation programs and has in-house expertise. Both NH utilities served this role.

• While we expect that third parties will want to provide the capital, utilities may also be interested. One NH utility financed their pilot by borrowing funds as needed from their regular line of credit.

• If necessary to obtain third party capital, the utility could use its existing collection system as a guarantee against any PAYS® related bad debt.



• PAYS® requires a regulatory tariff. To exist, PAYS® must be approved by the Commission. The tariff needs to spell out the rights and responsibilities of all the parties.

• The tariff can limit PAYS® to specific products or fuel savings (e.g., gas or electric) or be available for any eligible project that qualifies using the 3/4 - 3/4 rule.

• The tariff can be available to all customers or be targeted to specific classes or sub groups (e.g., municipalities or large non-profits).

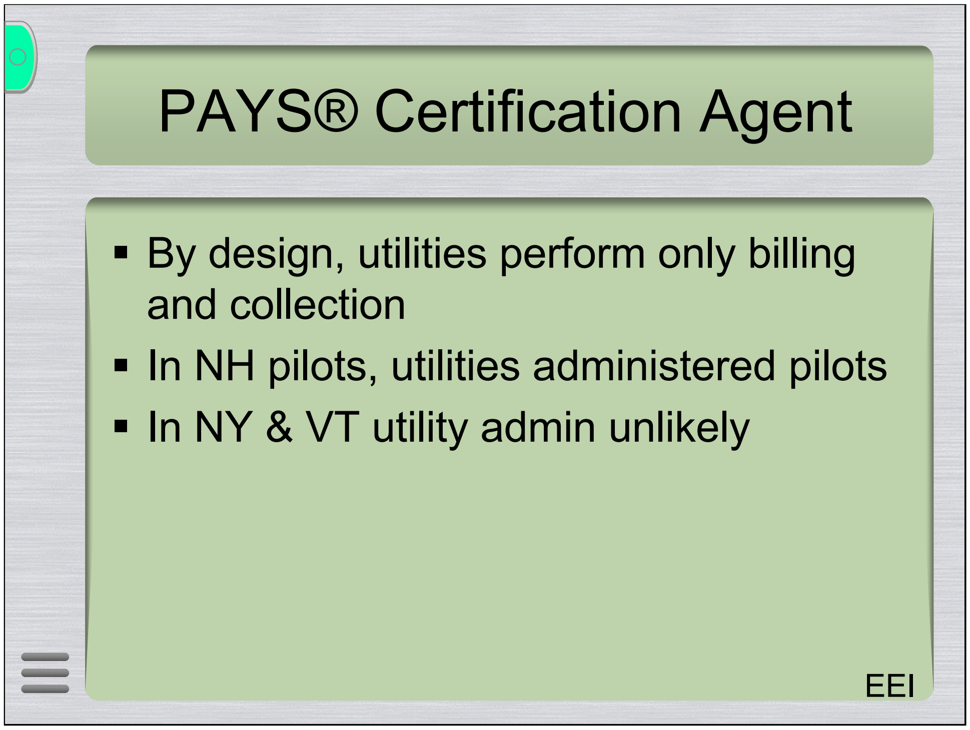
• The tariff should specify what requirements vendors must meet to be able to sell PAYS® products (for example, in NH we insisted on bonding or an irrevocable letter of credit, extended warranties, financial penalties for failed inspections, etc.).

• The tariff should state what the utility will do (billing, notification of new customers, bad debt treatment).

• It should also specify what customers must do (payment obligations, owner disclosures, customer damage to measures, etc.).

• It identifies the certification agent and defines the certification process.

• The Commission could also approve utility recovery of PAYS® bad debt just as they do for every other tariff to ensure capital providers make funds available to pay for the upfront cost of PAYS® products.



Once the PAYS® system is in place, administrative functions are done primarily by the Certification Agent -- approving measures, handling customer concerns, working out glitches with the transfer of funds between the utility and the capital provider.

When creating PAYS®, we wanted utilities to only perform billing and collection functions. Clearly, under current rate structures, utilities have a significant disincentive to help their customers save energy.

However, both utilities in New Hampshire provided certification oversight for their pilots. It is unlikely utilities will fill this role in PAYS® systems being discussed in Vermont or New York.

PAYS® New Construction

- Pay developers more than incremental cost to install cost effective products
- Building occupants (who benefit) pay over time
- Doesn't increase building cost

EEI

We want to take a moment to highlight a unique feature of PAYS® as it applies to new construction.

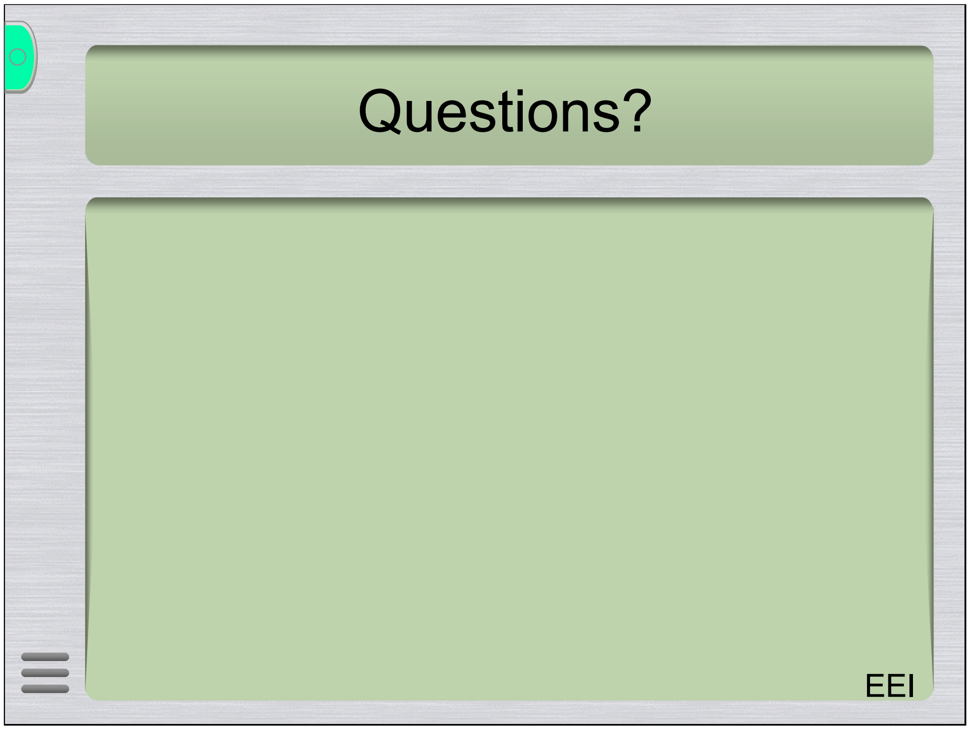
With PAYS® we want market forces -- not public funds -- to get developers and builders to install the most efficient equipment.

But more efficient equipment costs more and either raises the cost of construction or shrinks developers or builders profits if they cannot pass these costs on to the buyer because of market forces or mortgage limitations.

With PAYS®, the Certification Agent pays Developers MORE than the incremental cost of installing efficient equipment. This means that Developers pay more to build inefficient buildings than to build efficient ones. When the marketplace rewards building more efficient buildings, everyone benefits.

But from the buyers perspective, building costs don't increase at all. Banks don't have to lend more money. Customers will even have an easier time making all their monthly payments because even with PAYS® charges, they will pay less than than they otherwise would have to pay for utilities.

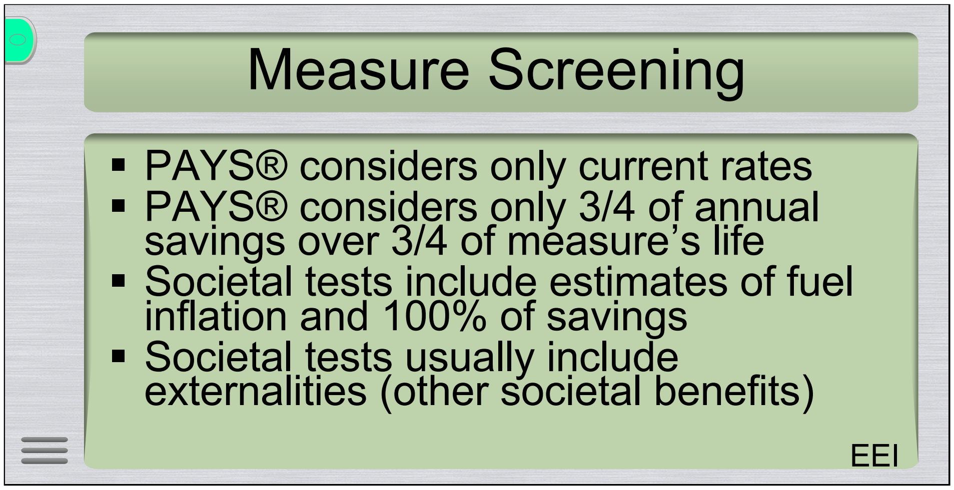
And since PAYS® only has to pay for a little more than the incremental cost of efficient equipment, a lot of technologies qualify.



This is the last slide we used in our presentation.

The remaining slides were prepared to use if questions arose which might be answered more clearly with a visual aid.

Some of the information contained in these slides was shared during a more free-flowing dialogue with attendees.



In order to assure customers they will benefit from installation of efficiency products, PAYS® uses current retail rates and only a portion of a product's total estimated savings. We only consider 3/4 of the estimated measure life to ensure that if the product a customer buys operates for less time than a typical product, the customer still comes out ahead.

We only consider 3/4 of the savings because, with a market driven program, the customer must get enough benefit to warrant the installation. Remember, with PAYS®, the savings is the incentive to install the measures. PAYS® assures customers they will get enough savings to pay for the installation and still provide them with additional savings equal to at least one third of the cost.

On the other hand, traditional programs count 100% of the estimated savings. Remember, with these programs, the incentive to buy the product is the rebate, not the promise of future savings.

Traditional programs also include energy price increase estimates in savings calculation to avoid "lost opportunities." Most people think energy prices will continue to go up over time. Not considering these future energy price increases in the savings calculations might cause customers to not do installations that will benefit society and customers in the long run.

Additionally many traditional programs include externalities. They quantify the value of avoiding future transmission and distribution costs and the value of an enhanced environment and economic development. While these costs may or may not directly benefit the purchaser, they benefit all of us. Since we are paying for the rebates, we want to make sure these benefits are not lost.

We want to emphasize that considering fuel escalation, environmental adders, avoided T&D costs, etc. is reasonable and should be the basis for public policy. However, based on the past quarter century, it doesn't look like enough money will ever be raised to fund the installation of all measures using this traditional approach.

As we testified in New Hampshire, PAYS® allows customers to install the measures that benefit them now and for society to add whatever funds it can to qualify additional measures that meet these other criteria. The good thing about our approach, is that all customers, renters, the elderly, folks with credit concerns or less capital, get to benefit now regardless of the decision of policy makers. And, as our testimony proved, the funds society does raise will go further if PAYS® is the incentive used to get customers to purchase efficiency.

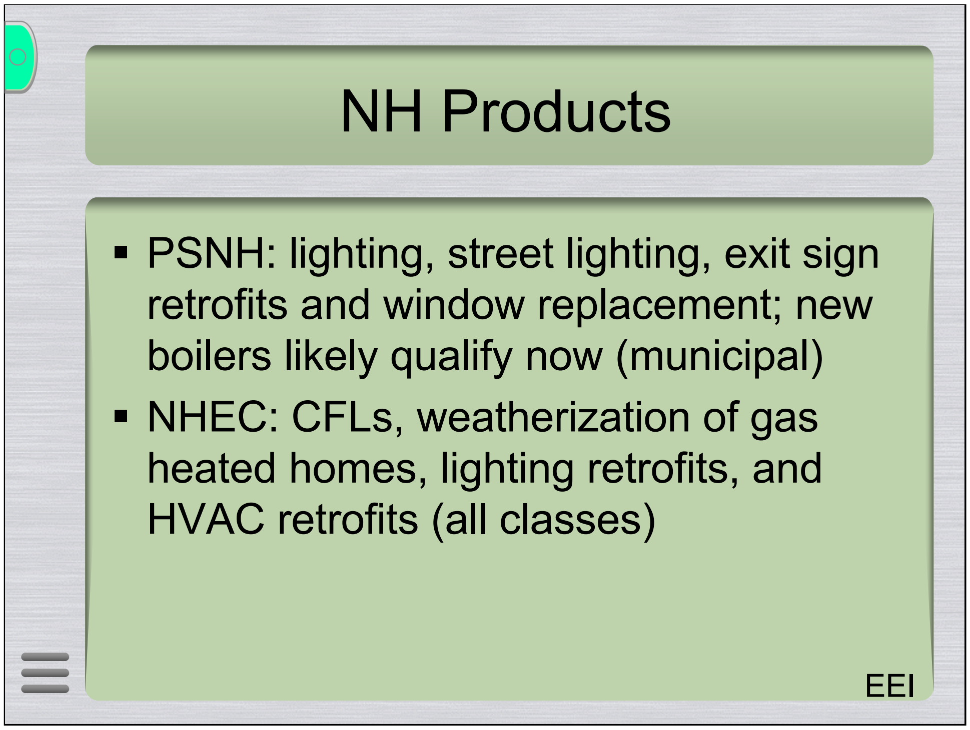
Permanent/Portable Measures

- Portable measures can be easily removed by occupant (CFLs)
- Permanent measures are part of structure (central HVAC, lighting fixtures, insulation)
- Some measures defy easy classification and require policy determination

EEI

Permanent measures are measures that remain with the premises. Some distinctions are easy. CFLs are obviously not permanent measures. Lighting fixtures are. Central air conditioning is permanent. Window air conditioners are not.

However, some measures do not fit into easy classification and a collaborative or the Commission would have to make a decision about their status. For example, in New Hampshire, refrigerators would be portable measures because folks take them with them when they relocate. However, in New York City, by law, most refrigerators must remain in apartments and would be considered permanent.



Any measure that produced documented savings (regardless of fuel saved) qualified under the tariff approved by the New Hampshire Commission. One measure, a ventilating system for a health club, qualified because the elimination of costly annual repairs was almost as significant as the estimated annual energy savings. Measures installed by PSNH included lighting, street lighting, exit sign retrofits and window replacement. A boiler replacement just missed qualifying but may qualify this year due to increased fuel costs.

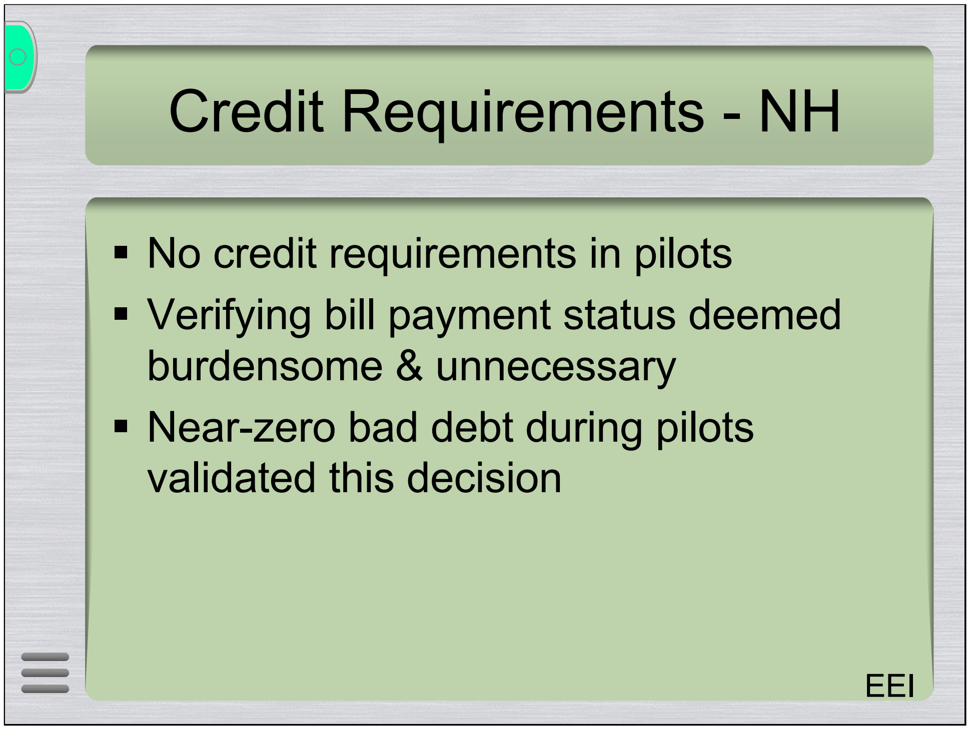
At NHEC, measures included CFLs, weatherization of gas heated homes (even though NHEC only sells electricity to its members), lighting retrofits, and HVAC upgrades.

Missouri Products

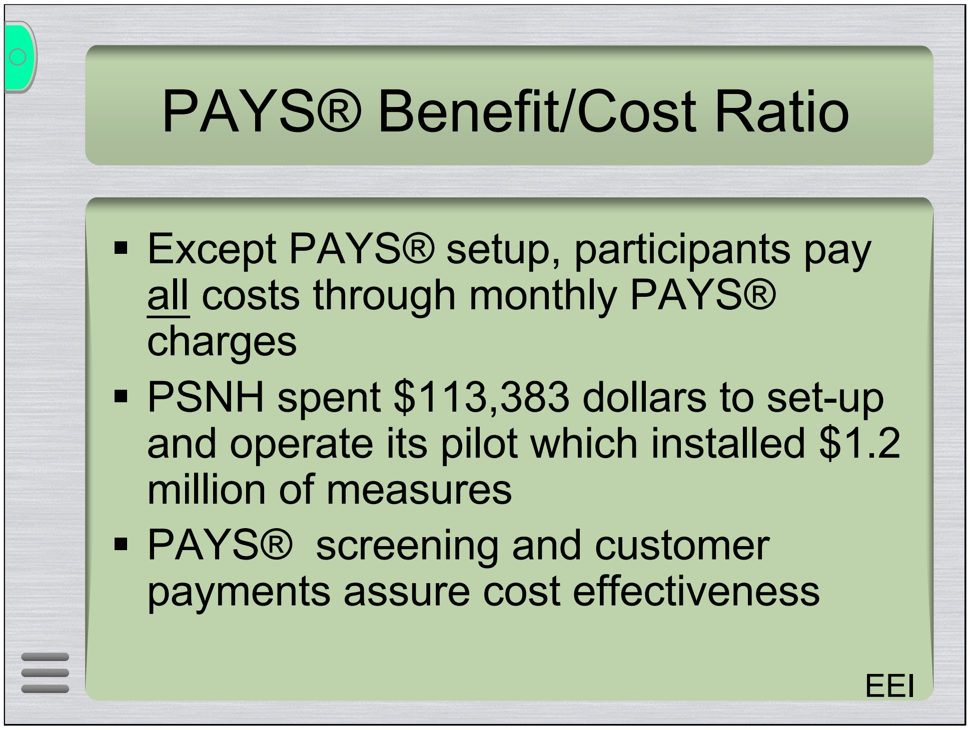
- CFLs
- Weatherization (barely)
- Lighting
- Controls
- HVAC
- Motors and Industrial buildings
- Water Saving items

EEI

These were the products we found to be cost effective in our Missouri Analysis available on the www.paysamerica.org website.



There were no credit requirements. All customers were eligible to participate. In development of the pilot we discussed calls to customer service staff to verify that customers were current with their bills but this was determined to be burdensome to the staff and, with the threat of disconnection for non-payment, unnecessary. And, the near-zero bad debt during the two years of the pilots serving all classes of customers validated this decision.



BCR refers to benefit cost ratio. BCRs are used to determine if an energy efficiency program or system is cost effective.

Once the PAYS® system is in place, all costs for measures are repaid through monthly PAYS® charges. We don't have the latest up-to-date information for New Hampshire. You would have to get it from the utilities or the NH Commission. But according to the quarterly reports that were filed by the utilities for activity through 2003, NHEC spent about $35,000 dollars to operate its pilot which installed more than $138,000 dollars worth of cost effective measures. PSNH spent about $113,000 dollars to set up its pilot to install $1.2 million dollars of cost effective measures. Cost effectiveness is assured because only cost effective measures based on retail rates without externalities qualify as PAYS® products and the utility does not pay anything for them. Since customers pay for 100% of program costs, there are no costs associated with free ridership.