KEEA Webinar

Keystone Energy Efficiency Alliance

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Pay As You Save® (PAYS®)

Energy Efficiency Institute, Inc.

I. **EEI Presentation Intro (est. 2 minutes) [Slide 1]**
   a. Good afternoon. I'm Paul Cillo, Vice-president of the Energy Efficiency Institute.
   b. Today's presentation focuses on what the Pay As You Save® system is and how a program built on the PAYS system works. Here is our agenda for this webinar: **[Slide 2]**
      1. What is PAYS®?
      2. Getting customers to say "Yes!" with an offer that works.
      3. Risk and how to manage risk so that the program offer isn't compromised
      4. Successful programs in other states built on the PAYS® system
   c. Programs based on PAYS® offer:
      i. the lowest start-up and operations cost of any program capable of producing comparable results.
      ii. the only programs that reach renters and hard-to-reach customers without paying most of the cost for installed measures,
      iii. the only programs capable of achieving a customer take up rate of 50% or more without large subsides.
   d. There is a lot to cover in one hour today. I'll stop at the end of each of these four sections to answer any clarifying questions if I said something and you didn't understand. We'll have time at the end for more questions.

II. What is PAYS®? **(**est. 8 minutes) [**Slide 3]**
   a. Concept originated in 1999 by Energy Efficiency Institute **[Slide 4]**
   b. PAYS® is a market-based system where customers, vendors, and capital providers acting in their own interests produce unprecedented resource efficiency investment that is also in society's interest.
   c. PAYS® is a system, not a program, but programs can be developed using the PAYS® system
      i. Programs involve a package of services paid for and delivered to customers
      ii. PAYS® is a market structure – a system that allows willing buyers and sellers to successfully get together in a transaction, and, in this case, to accomplish the public good of achieving efficiency, climate-change, and least cost resource goals.
   d. PAYS® has been implemented at six utilities in three states. Regulators in a fourth state recently approved four utilities' joint request to operate PAYS® programs. I'll talk later about these six programs.
   e. The PAYS® system as implemented in other states can be instructive. Specific program features we will highlight today come from years of experience thinking about how to design programs using the PAYS® system. But these examples are not the only ways to implement PAYS – the system is flexible.
   f. The PAYS system [**Slide 5]**

i. enables building owners or tenants to purchase and install money-saving resource-efficiency products with no up-front payment and no debt obligation.
ii. 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. When they vacate the premises, the payment obligation is automatically transferred to the next owner or occupant who gets the savings and takes over the payments.
iii. 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.
iv. Like a loan, PAYS allows for payment over time, but unlike a loan, the PAYS customer's obligation to pay ends when occupancy ends or the product fails.

g. How does a program using the PAYS® system work? [**Slide 6]**
   i. Here are the steps from the customers' point of view:
      1. A contractor or vendor who has been vetted and certified, markets resource efficient measures to potential participants. The contractor assures them that:
         a. the measures are appropriate for their home or business,
         b. the estimated savings exceed all costs associated with the measure, and
         c. someone the customer trusts has vetted the appropriateness of the project and the savings estimates.
      2. The customer selects measures and after they're installed pays the contractor nothing. A unique payment plan is set up.
         a. The customer is required to pay a monthly charge on the utility bill as long as the installed measures function and as long as the customer remains at that location.
            i. The payment is structured so that right from the beginning the estimated savings significantly exceed the monthly payments.
            ii. If the measure fails and is not repaired, the payments end.
            iii. If the customer vacates the premises, their payment obligation ends; the next customer at that location gets the savings and assumes the payment obligation.
            iv. However, if the measure is a portable measure, the customer has to settle up any outstanding balance at the time he or she leaves.
         b. Since the payment is to their utility, customers have confidence in the offer.
         c. Rules for disconnection for non-payment used for other utility tariffs apply to the PAYS® charge.
         d. Tenants pay for their savings while they remain customers at the location where efficiency measures were installed; landlords do not have to pay for their tenants' savings.
      3. And, customers who have measures installed have no new debt.
         a. Because the payment is a tariffed charge, this obligation is not a loan –there is no customer debt.
         b. For businesses or municipalities, since the customer is agreeing only to pay lower utility bills while they remain a customer at

that location, there is no requirement to get board or voter approvals authorizing new debt – again, there is no new customer debt.

4. The contractor offers extensive protections to the customer:
    a. There are provisions for inspections by an independent entity the customer trusts who has the authority and resources to make things right.
    b. The job is bonded for the duration of the payment period. Whether or not the contractor stays in business, no matter when a problem turns up during the payment term, the program will have funds to make things right. Protocols are in place to let participants know what to do if things go wrong.
5. If repairs are required, the amount participants pay each month will not increase but the term of the repayment may be extended to cover the additional costs for repairs.

ii. From a systems view, here's what's happening: [**Slide 7]**
    1. [Discuss the key roles and the flow of money in the chart.]

iii. Results: Evaluations of the programs based on the PAYS® system in other states document that: [**Slide 8]**
    1. More customers will purchase more resource efficiency measures.
    2. Customers who turned down previous offers will say yes to a PAYS offer.
    3. Even without rebates, customers will purchase expensive, cost-effective retrofits.
    4. This type of offer is so effective, contractors have used it to sell goods and services even when a program design did not call for contractor marketing.
    5. The primary limiters for current programs based on the PAYS system are the amount of capital made available by utilities and contractor capacity.
    6. We will discuss individual program results in more detail later.

iv. Are there questions about how the big moving parts of a PAYS program work?

III. Getting customers to say "Yes!" with an offer that works (est. 15 min) **[Slide 9]**

a. We're now going to spend some time talking about the offer to the customer because it's the key to the whole system. Successful programs require that customers say, "Yes".

b. By definition, cost effective efficiency measures pay for themselves over their useful lives. Most pay back more – in many cases much more – over their lives than they cost.
    i. So why aren't customers waiting in line to get cost effective measures installed in their homes and businesses?
    ii. Why are most efficiency programs having to offer customers rebates of 30-100% of measure costs to get some customers to install measures when these customers obviously benefit from these measures even without these incentives?

c. Our conclusion is that the reasons most customers have not installed the most cost effective efficiency measures that more than pay for themselves, is not only the cost, lack of financing, or lack of information – the barriers that most programs have attempted to solve.

i. Rebates, zero interest financing and information have worked for some customers: typically those who need help least (those who are educated, financially well off, or early adopters).

ii. However, unless the rebates approach 100% of measure cost, most customers (renters, moderate income people, businesses, municipalities) do not participate.

d. We think that widespread participation requires an offer that eliminates all of the barriers that keep customers from saying "Yes". **[Slide 10]**

i. Any barrier that stops customers from saying Yes, undermines the program.

1. The barriers that are not addressed by programs are what get in the way of widespread resource efficiency uptake.
2. Solving some of the barriers isn't enough to achieve the 20% take up rate a program needs to succeed. Any persistent barriers are like weak links of a chain; if any link remains weak and fails, the chain fails. All the weak links need to be eliminated for the chain to do its job.
3. We need to solve all of the barriers to get all customers to say "Yes". That's what we call "an offer that works."

ii. Review the list of barriers: [**Slide 11]**

1. Inability to pay up-front costs. This could be due to a lack of capital or competing demands for capital or an inability to use money that may be necessary for more important priorities.
2. Fear that the customer won't see savings: because measures fail, the customer leaves before getting sufficient savings to offset measure costs, or expensive repairs eat up savings.
3. Customer hassle: wrong permits, contractor doesn't show up, contractor steals or damages something, measures are installed incorrectly, or the wrong measures are installed.
4. Future problems: the job is over, a problem surfaces, and there is no easy recourse.
5. Limited debt capacity (or a need to save it): Inability to incur debt.
6. Cash flow will be worse in the short term.
7. Building owner is not the bill payer (e.g., new development or rental property).

e. The premise of Pay As You Save® is that if you could remove all these barriers for customers, if you could assure potential participants:

i. that they will not have to pay any money up front
ii. that there was no chance they would have to pay but not save,
iii. that someone they trust is available and committed to deal with unanticipated problems and has the resources to follow through,
iv. that if anything goes wrong at any time while they are paying for the measure, someone they trust will fix things,
v. that they will incur no debt,
vi. that their only obligation is to pay a lower bill from the start, and
vii. that if they're renting, they don't need to coax their landlord to pay for measures that won't save the landlord any money,

the only intelligent customer response is to participate. Even then, not everyone will say yes, but "an offer that works" makes it harder for someone to say "no" than to say "yes".

f. Why is an "offer that works" so important to a successful program? [**Slide 12]**

i. Widespread customer participation is the foundation of a successful program.
    1. More participants means more savings and a faster path to climate change or other efficiency goals.
    2. An offer that works yields widespread customer participation; high take-up rates.

ii. Contractors quickly understand "an offer that works" because it makes their marketing job easy.
    1. The results so far for the residential PAYS® program in Kansas are that 50% of those receiving offers have said "Yes".
    2. Contractors get that if most customers say yes without a hard sales job, they will have more work and need to spend less time and money selling.
    3. Contractors get that if this type of offer will be around next year and the year after, they can expand their business to take advantage of this growth market.
    4. The difference between an offer that works and rebates as an incentive for customers to participate is that
        a. An offer that works provides the foundation of a sustainable market structure that creates demand for the most cost effective products year after year.
        b. Rebates create demand only while they are available. All rebate programs have some version of the following: "The payment of rebates is subject to the availability of funds."

iii. Capital providers become interested in active markets where there is a high participation rate, contractor capability to deliver, and the need for significant amounts of capital. Capital providers want:
    1. large loans to justify transaction costs,
    2. as much certainty as possible that they will get back their principal and interest, and
    3. one loan rather than many loans.

    PAYS® programs not only create an active marketplace, but also provide a structure that invites one large, nearly risk-free loan.

iv. Program costs are lower because with an offer that works, contractors who can capitalize on this market opportunity are willing to do some of the work, like marketing, measure assessment, and quality control that have traditionally added to program costs.
    1. For the most cost effective measures, "an offer that works" also eliminates the need for other customer incentives – the offer is the incentive.
    2. Additional incentives can be used to make less cost-effective measures qualify as PAYS® measures – in most cases, subsidies to qualify additional measures cost much less than rebates.

g. Focusing on the offer to the customer is the most important aspect of a PAYS® program design because the offer determines the extent to which the program will meet efficiency, climate change, and least-cost resource goals.
    i. Anything that undermines the offer – undermines contractors' and capital providers' confidence in the program and makes them less willing to participate or take on additional responsibilities.
        1. For example: A less desirable offer that is harder for contractors to

market, makes them less willing to provide extended warranties.

ii. In every program we've ever been involved in there is always the question: "Well can't you just…" simplify the program by having participants assume some of the traditional risks associated with participation
    1. You can "just" as long as it doesn't undermine the offer.
    2. Usually this question comes from one program partner or other wanting to shift risk onto someone else, usually the customer. But shifting risk onto the customer undermines "an offer that works", and reduces the number of customers who will say "yes" instead of "no".
    3. The reason I'm making such a big deal of the role of the offer in a successful program is that it's usually the first thing to suffer during design negotiations. Since it's the foundation of a successful program, the whole program suffers if the offer suffers.

h. Summary: [**Slide 13]**
    i. "An offer that works" for the customer needs to solve all the barriers to customer acceptance
    ii. "An offer that works" is pivotal to other key program components including contractor services, capital, and program costs.
    iii. Each time "an offer that works" is compromised, the results the program can produce are reduced.

i. Are there any clarifying questions at this point?

IV. **Managing risk (**est. 12 minutes) [**Slide 14]**

a. Risk undermines offers. Managing risk appropriately is critical to protecting an offer that works.

b. Like recreation, business, or anything else worth doing in life, efficiency programs involve risks. **[Slide 15]**
    i. Some players are better equipped to manage risks than others.
    ii. Customers are the least capable of managing risks
        1. Customers are also more likely to perceive risks that aren't real
            a. For example, even for measures that have been proven to reduce usage, like efficient lighting, customers worry that savings won't materialize.
        2. That is both a problem and an opportunity
            a. Problem if you try to put that risk on the customer and expect them to say "yes."
            b. Opportunity is to solve their problem and get to "yes".
        3. Regardless of how effective a program design is at mitigating potential risks, any remaining perception of risk inhibits participation and results.
    iii. No one wants to accept risk and, if they do, they want to be paid to do so
    iv. The tendency is for those involved in program delivery is to try to get someone else to take on risk. That risk usually ends up with the customer.
    v. It's essential in program design negotiations:
        1. that risks not be put on those for whom management of risk creates a problem for the program, undermining results; and
        2. that real risks be distinguished from perceived risks
            a. real risks can really happen and if they do they have real consequences
            b. perceived risks are those perceptions of risk that are in excess of

the real risk. Perceived risks either cannot really happen or if they do, they don't have the imagined consequences.

c. For those perceiving risk, there is no difference between real and perceived risk
d. Guaranteeing against perceived risk is easy. Since there is no real risk, the guarantee has little or no cost.
e. Guaranteeing against real risk has a cost.

c. Let's take a look at how risk, both perceived and real, inhibits successful programs from the perspectives of customers, capital providers, contractors, and non-participants: [**Slide 16]**

i. Customer Perspective
1. Typically, potential participants are not at the decision-making table during program design
2. The parties who are at the table tend to want to shift risks away from themselves and they often end up being shifted to potential participants
a. Risk that new occupants will not want to take on the PAYS® obligation when the home or building is sold or leased
b. Risk that savings won't exceed payments
c. Risk that measures will fail
d. Risk that the customer won't be at the location long enough to recapture the investment
3. To the extent the risks that a program addresses are shifted to potential participants, only participants able to assume those risks, typically the most well off and educated, will participate.
4. This undermines the program offer's ability to produce widespread participation capable of meeting aggressive greenhouse gas reduction goals.

ii. Capital Providers
1. In our conversations with potential capital providers, there are two principal risks for capital providers that limit availability of capital:
a. Risk that the capital provider will not recover its principal and interest
b. The number and hassle of transactions (because the more interactions, the greater the cost and risk that someone will default)
2. To the extent there are multiple smaller loans and any risk regarding repayment of capital and interest, fewer capital providers are interested, the payment durations they offer are shorter, and the interest rates they charge are higher. This makes a PAYS® program impractical because the monthly payments are too large and the payment durations are too short to qualify many measures.

iii. Contractor Perspective
1. If rebates and tax credits are limited or their availability is subject to change, contractors are not going to ramp up their businesses.
a. Why risk vetting, hiring and training staff only to have to let them leave and raise unemployment costs due to program changes?
2. If rebates and tax credits are not sufficiently robust, ensuring many more sales, contractors are unlikely to take on new responsibilities and

costs
3. If incentives are targeted to the easiest customers to sell, i.e., the most well off and educated, that is who the best contractors will target

iv. Non-participants
1. Utility customers who are not participants in the utility's resource efficiency programs do not like paying for programs that effectively preclude their participation
2. Non participants do not want to pay more than is fair or necessary to get others to install measures
3. Non participants don't like the idea of paying for savings that they are not sure benefit them, especially if rates go up, new plant is built, climate change goals are not realized, and they don't see any quantifiable benefits.
4. Any program that fails to provide assurances to non-participants will not have widespread support.

d. Protecting the offer from risk and matching risk with reward creates successful programs: [**Slide 17]**
i. If you base a program on "an offer that works", a risk-free offer:
1. Everyone can participate (renters, those uncertain how long they will stay in their home or business, those without credit, etc.); all customers are asked to do is agree to pay lower utility bills.
2. To the extent participants are confident they will pay less than they save, they will agree to pay 100% of the costs for their savings.
3. Since participants pay for 100% of the most cost effective measures, non participants are assured they are not paying for fellow customers' savings
4. Non-participants pay only to set up the program and in those cases where individual customers fail to get savings
5. Contractors will have an easier time selling goods and services with an offer that works.
a. Selling more goods and services to more customers increases profits.
b. If there are assurances the system will remain in place, there is no reason not to target all customers, ramp up their staff, and accept additional program responsibilities.

ii. If a program requires
1. only one loan to a participating utility and
2. the utility guarantees repayment regardless of collections from customers, and
3. if regulators approve the program,

there will be a plenty of capital providers willing to provide large amounts of capital. If bond or other low cost funds are not available, we typically recommend an RFP to obtain the best rate.

e. Risk also impacts utilities [**Slide 18]**
i. For example, as we have promoted the PAYS system, every utility has been concerned about guaranteeing payment to capital providers regardless of collections, and overseeing contractors. We have built in checks and balances so that the risk to utilities of non-collection are minimal:
1. Non-collection

a. Disconnection for non-payment ensures high repayment rates; higher than mortgages
b. Ensuring positive cash flow makes it easier for customers to make payments for PAYS® measures and for their other utility bills.
c. If a customer misses a payment, the term can be extended so those who benefit from the measures installed at their location pay the cost rather than all ratepayers, as long as the measure continues to function at that location.
d. Being able to repair measures and extend the term means most measures can be kept operating; if they were installed incorrectly or the wrong measure was installed, contractor bonding for the duration of payments corrects the situation.
e. To date, six utilities in three states have helped customers of all types to purchase $10 million in measures, yet have reported bad debt of less than one hundred dollars or one-one thousandth of one percent – virtually zero.

ii. Contractor oversight
1. Certification, bonding, controlling contractor access to the PAYS® offer, detailed contracts, and a unique agency relationship appear to have eliminated problems for utilities dealing with contractors.
2. Although all the utilities operating programs have assumed the certification agent role, PAYS envisions an independent Certification Agent. This would mean the utility would not have to assume any of the hassles of contractor oversight or staffing costs.

f. Questions?

V. **Results of programs based on PAYS® in other states** (est. 10 minutes) **[Slide 19]**

a. The first PAYS® programs were implemented in 2002 by two NH utilities (Public Service Co. of NH and NH Electric Coop) under NH regulator order.
i. The first PAYS measures were installed in the town of Stratford, NH: a street lighting project [**Slide 20]**
1. the town changed out 58 fixtures for a cost of $13,000
2. Savings were projected at more than $6,000
3. It was about a two-year payback
ii. Voters had turned down this very cost-effective project twice because they didn't want to take on new debt
iii. Since PAYS® involved no new debt, it did not require voter approval
1. The selectman went ahead with the project.
2. One of the selectman commented that "We couldn't have done it without PAYS®."
iv. Since then, four additional utilities in two other states have developed programs based on the PAYS system and four more in another state just received approval to implement programs.

b. Overview of PAYS-based programs to date [**Slide 21]**
i. Here are a list of the programs that we know have been implemented based on the PAYS system.
ii. All of the programs operated have tested some PAYS system components

c. Review of the six programs

i. **Slide 22** New Hampshire (2002-present)
   1. Here are some excerpts from the independent evaluation of the first PAYS programs done by GDS Associates.
   2. Evaluators confirmed that because of PAYS® customers installed measures that otherwise would not have been installed and that overcoming the debt problem was key, especially for municipalities.

ii. **Slide 23** Kansas (2007-present)
   1. Here are some facts about the Kansas HowSmart program
   2. The program began in 2007
   3. As of August 2010, Midwest Energy's program got customers, primarily residential customers, to invest $2.3 million in resource efficiency projects.
   4. Despite offering no rebates, 50% of customers receiving offers have accepted them.
   5. There have been 432 projects by 359 homeowners, 53 rental properties, and 10 commercial businesses
   6. Again there were no rebates; in order to qualify for additional measures, customers with means paid additional $631,294 upfront to qualify measures they wanted (more than 25% of program activity)
   7. In Kansas, the program has been limited about the capacity of contractors to do installations and by regulators limiting the amount that the utility can finance

iii. **Slide 24** Hawaii (2007-2009)
   1. In Hawaii, the legislature required the regulators develop a solar hot water (SHW) heating pilot to be operated by three utilities
      a. –Hawaiian Electric Company (2007-09)
      b. –Hawaii Electric Light Company (2007-09)
      c. –Maui Electric Company (2007-09)
   2. The utilities already offered a $1000 rebate for SHW installation
   3. The PAYS® program began in 2007.
   4. High demand forced three year pilot to finish in two years
   5. In 2nd year, 74% of households accepting the PAYS® offer had previously rejected other offers (even with the $1,000 rebate). This is consistent with our work in other states and the results of focus groups. Customers who turn down other offers will accept a risk free PAYS® offer.

d. Why is program activity in these three states so small?
   i. All of these programs have been limited by the utilities or their regulators as to the number of participants allowed or the dollars that can be expended in any program year and none of the implementing utilities had a program to increase contractor capacity to meet increased demand.
   ii. Customer demand or willingness to accept the offer has not been a limiting factor:
      1. The Hawaii Commission limited the pilot to 200 systems for each of three years. Demand was so high Hawaiian Electric Co. petitioned the Commission to allow it to complete the 600 system installations in 2 years instead of 3.
      2. Public Service of New Hampshire has expended its Commission approved operating budget of $600,000, supplemented by repayments,

each program year; often within the first quarter or half of the year.

3. This year, Midwest Energy in Kansas almost doubled participation from the year before (as it had the year before that);
    a. it had to stop operations when the Commission would not approve increasing program funding for its How$mart program
    b. Midwest Energy's initial years were limited by demand that exceeded what contractors could handle; within three months, contractors experienced a 6-month to one-year backlog.

VI. More information: EEI, Colchester, VT www.eeivt.com **[Slide 26]**