

**THIRD-PARTY OWNERSHIP OF PAYS<sup>®</sup>**  
**MEASURES**

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## **THIRD-PARTY OWNERSHIP OF PAYS<sup>®</sup> MEASURES**

The Pay as You Save<sup>®</sup> (PAYS<sup>®</sup>) system's "too good to refuse" offer has the potential to dramatically increase investment in energy efficiency and small-scale renewable energy, but only if third-party capital providers make the necessary funds available. Theoretically, third-party capital providers should welcome the opportunity to offer low-risk loans backed by a utility's ability to disconnect utility service for non-payment of PAYS<sup>®</sup> on-bill charges. In practice, however, third-party lenders are willing to provide capital for PAYS<sup>®</sup> measures only if utilities with the approval of regulators agree to guarantee repayment to the lenders regardless of collections from customers. Assuming credit markets continue to be tight, it is important that PAYS<sup>®</sup> provide lenders with both attractive financial benefits and substantial investment security so that they will want to participate in programs using the PAYS<sup>®</sup> system.

This memo addresses how third-party capital providers could retain ownership of installed energy efficiency and solar energy measures that they finance in order to take advantage of substantial federal tax credits for solar systems, accelerated depreciation, possible new federal tax credits for energy efficiency projects and allowances that may be available in various carbon, sulfur dioxide and nitrogen oxides trading programs. The memo also discusses recommendations for how these benefits should be allocated between the third-party capital provider and participating customers.

### **BACKGROUND**

PAYS<sup>®</sup> is an innovative market-based system designed to overcome barriers to investment in energy efficiency and renewable energy. The assumption behind PAYS<sup>®</sup> is that customers' failure to install efficiency and renewable measures over the past 30 years

is not just the result of ignorance, a lack of interest in saving money or protecting the environment, a lack of financing, or even high measure cost. Even where utilities offer programs providing information, financing, and rebates to lower measure costs, many customers refuse program offers. PAYS<sup>®</sup> addresses the real and pervasive market barriers that cause these refusals.<sup>1</sup>

PAYS<sup>®</sup> offers utility customers a “too good to refuse” offer to buy and have installed cost-effective energy efficiency and renewable measures in their homes or businesses with no up-front payment, no new debt obligation, independent certification that the estimated savings will exceed project costs both in the short and long term, and the obligation to pay only if the measures continue to work as intended and the customer remains at the location where the measures are installed. These benefits accrue with the installation of any PAYS<sup>®</sup> measures other than those that are easily removable such as compact florescent bulbs.

Customers have responded positively to PAYS<sup>®</sup> programs. The first programs based on the PAYS<sup>®</sup> system (at six utilities located in Hawaii, Kansas and New Hampshire) have all resulted in increased customer participation among customers who previously rejected offers to install cost effective renewable and efficiency measures. So far, these customers have used these programs to install measures costing more than six million dollars.<sup>2</sup>

One of the key elements of the PAYS<sup>®</sup> system is that the costs of the efficiency measures are recovered by a local utility from the customer benefiting from the measure

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<sup>1</sup> See [Pay-As-You-Save Energy Efficiency Products: Restructuring Energy Efficiency](http://www.paysamerica.org/EEL_Pays_1st_paper.pdf) -- Paul A. Cillo & Harlan Lachman, Energy Efficiency Institute December 1, 1999 available at [http://www.paysamerica.org/EEL\\_Pays\\_1st\\_paper.pdf](http://www.paysamerica.org/EEL_Pays_1st_paper.pdf)

<sup>2</sup> Harlan Lachman and Paul A. Cillo of the Energy Efficiency Institute based on reports from contacts in each of the states operating programs based on the PAYS<sup>®</sup> system.

installation through tariffed charges assigned to the meter location. If the customer moves, the responsibility to pay remains with the meter location, so customer concerns about moving out of a home or business before efficiency measures have saved more money than they cost are eliminated; this is equally true whether the customer owns or rents the property where the measures are installed. Customers pay for the efficiency measures with a portion of their savings, since to qualify as PAYS<sup>®</sup> products, all measures must have independent savings estimates that show that the measures will save the customer significantly more money than the measures cost in both the near and long term.

Lenders are willing to provide funding, provided utilities guarantee repayment of PAYS<sup>®</sup> obligations as noted above. If Commissions allow utilities to treat non-payments the same as any other uncollectible as recommended by the creators of the PAYS<sup>®</sup> system (i.e., recovered from all ratepayers), the risk of any PAYS<sup>®</sup> related bad debt is transferred from utilities to their ratepayers. Ratepayer impacts are limited if repayment streams are protected by utilities' ability to disconnect for non-payment of bills. In fact, according to comments submitted by the Energy Efficiency Institute to the Michigan Public Service Commission, overall bad debt for all customers should be reduced inasmuch as all PAYS<sup>®</sup> participants will have lower bills, lowering the risk of bad debt and the amount of utility bad debt should bad debt occur.<sup>3</sup> Non-participants only pay for PAYS<sup>®</sup> installations in those limited situations in which the PAYS<sup>®</sup> customer's service has been disconnected for not-payment (to the extent the successor customer does not pay for the measures) or where correctly installed measures fail after extended warranty and

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<sup>3</sup> See comments of the Energy Efficiency Institute, Inc. March 1, 2006 in Michigan Public Service Commission Case No. U-13808 at 5. <http://www.paysamerica.org/DTELtr.pdf>

cannot be repaired.<sup>4</sup> Non-participants benefit since they are not required to pay for costly programs and rebates to get measures installed.

The risk of PAYS<sup>®</sup>-related bad debt is extremely low if the PAYS<sup>®</sup> program design includes vendor bonding, quality control, required measure insurance, extended warranties, and effective utility collections. To date, bad debt at the six utilities in three states operating programs based on the PAYS<sup>®</sup> system has amounted to less than two thousandths of one percent of the six million dollars invested in measures.<sup>5</sup> However, absent the aforementioned utility guarantee, capital providers view the risk as much bigger – potentially the entire amount of the capital provider’s funds paid for installed measures. Perceived risk is one of the key barriers to investment in renewables and efficiency – both by customers and capital providers. PAYS<sup>®</sup> has the potential to address both customer and capital provider perception of risk and, as noted below, harness available tax and other credits to make such investments extremely attractive.

### **OWNERSHIP OF PAYS<sup>®</sup> MEASURES**

Providing third-party capital providers with tax credits and allowances associated with the ownership of energy efficiency and solar projects will likely require that someone other than the participants maintain an ownership interest in measures installed under the PAYS<sup>®</sup> system. The threshold question is necessarily whether third-party capital providers financing PAYS<sup>®</sup> measures maintain the necessary ownership interest for the required time period.

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<sup>4</sup> If measures are incorrectly installed, contractors must repair or replace them at their expense, or if the contractor fails to do so, this cost will be covered through their bonding agent. Additionally, extended warranties will be sought for all measures, further making this type of measure failure unlikely.

<sup>5</sup> Harlan Lachman and Paul A. Cillo of the Energy Efficiency Institute based on reports from contacts in each of the states operating programs using the PAYS<sup>®</sup> system.

## Ownership of PAYS<sup>®</sup> Measures in States that Have Implemented Or Are Considering a PAYS<sup>®</sup> System

Curiously, except for measures which are considered removable, the question of who owns permanently installed PAYS<sup>®</sup> measures has not been addressed in the states where variations of PAYS<sup>®</sup> have been implemented, New Hampshire, Kansas and Hawaii. In New Hampshire, where “portable” measures were initially permitted, ownership of portable measures was clearly assigned to the customer who initially purchased the measure. Additionally, the issue of who owns measures considered to be permanently installed has not been explicitly addressed in the states where PAYS<sup>®</sup> is currently being seriously considered. Those states currently include Michigan, New York and Texas.

Ownership must be separately analyzed for PAYS<sup>®</sup> measures which are considered removable and those which are considered permanent. The payment obligation for removable measures, such as compact florescent lights (CFLs), remains with the customer who first arranges for installation of PAYS<sup>®</sup> measures and agrees to pay for the measures through a finite number of installment payments. The implicit assumption appears to be that the customer owns the measures as personal or chattel property and may take them when terminating a lease or selling a property. If the customer moves from the property before full payment is made, the customer remains personally liable to completely pay all remaining installment obligations.<sup>6</sup> Alternatively,

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<sup>6</sup> While PAYS<sup>®</sup> is generally promoted as not requiring that customers undertake a debt obligation, installation of removable measures is an exception since the obligation is assigned to the customer rather than the meter. Customers can take the items upon leaving the location or leave them for the succeeding owner or tenant. If the latter, the customer may be able to make individual arrangements to sell the item to the successor customer and use the proceeds to pay off the outstanding obligation.

programs could have been structured so that the customer could be considered to be leasing the measures with ownership retained by the utility, the capital provider, or another third party. However, the challenges of trying to keep track of such measures, identify their location at the time customers leave the location, and recover items not returned by these customers has resulted in those utilities with a program allowing portable measures requiring the participant to own the measure and be responsible for whatever balance is outstanding when the customer relocates.

By contrast, the payment obligation for permanent PAYS<sup>®</sup> measures is assigned to the meter; both the remaining obligation to pay and the remaining measure benefits are legally transferred by operation of the utility tariff to succeeding customers, unless the departing customer chooses to pay all of the remaining payments for PAYS<sup>®</sup> measures. The measures are essentially treated as though they are fixtures: physical property that is permanently attached to the real property where the meter is located.

Assuming the permanent measures are considered to be fixtures does not lead to any definite conclusion regarding ownership of the measures. At least four possibilities exist:

1. The fixtures are owned by the tenant or property owner that enters into a contract for the installation of PAYS<sup>®</sup> measures. The tenant or property owner may take the measures upon leaving the building, in which case the tenant or property owner is liable for any remaining payments. If the tenant or property owner leaves the measures in place when leaving the property or terminating a lease, the

- measures are treated as fixtures and the ownership interest in the measures transfers to the successor customer.<sup>7</sup>
2. The fixtures are owned by the property owner and the tenant has no right to remove the fixtures unless explicitly authorized by owner. When the property owner sells or leaves the property, it can remove the measure and is liable for any remaining payments, or leave the measures in place and the measures are treated as fixtures and the ownership interest in the measures transfers to the successor property owner.
  3. The fixtures are owned by the capital provider until all payments are made. This would facilitate the capital provider being able to take advantage of tax credits and allowances especially if the duration of the ownership period was established to ensure this benefit.
  4. The fixtures are attached to the meter and there are no individual ownership interests until full payment is made for the measure, at which point ownership transfers to the tenant or property owner.<sup>8</sup>

Numerous variations on the four possibilities exist. Ownership of property is often characterized as a “bundle of rights” and ownership interests can be spread among

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<sup>7</sup> The fixture actually becomes the property of the property owner through property law. Property rights to real property are often thought of as “bundle of rights” and a tenant who leases the right to use property takes on the benefits and obligations of the property. Property owners may have rights under real estate law if a tenant or previous owner removes a fixture, but that is a question of property law rather than a function of a utility PAYS<sup>®</sup> tariff. Note that it should not be assumed that fixtures must necessarily remain with the real property. Some fixtures may be removed, particularly those used in commercial trade.

<sup>8</sup> Since a meter cannot own real property, the utility that owns the meter might be considered to be the owner of the fixtures. It could transfer ownership to the occupant or building owner once all payments have been received. There is, however, no basis for concluding that ownership transfers to the utility and no legal framework for utility transfer to property owners upon full payment. Moreover, it is unlikely that utilities would be willing to accept temporary ownership and any potential liabilities and responsibilities that would be linked to that ownership.

the landlord, tenant and, perhaps, others such as the company that installs measures and retains a lien to guarantee payment. The person generally thought of as the property owner retains the right to sell, lease, devise or give away the property; at the same time a lessee has paid for the right to use and/or occupy the property, a bank has a mortgage interest, a plumber may have a lien and a capital provider may have a lien or other interest in the fixtures.

PAYS<sup>®</sup> programs have managed to avoid confronting ownership issues and have simply assumed that: permanent measures will remain with the property; the business or resident at the property will benefit from the measures (one of the privileges of ownership); and capital providers will be paid as result of the threat of disconnection for non-payment and utility guarantee of repayment regardless of collections, all without the capital provider (in the current six programs) retaining a security or other ownership interest in the measures. All of the contracts for the six programs based on the PAYS<sup>®</sup> system make it clear that no party may remove or damage the measure before all payments have been received. Once the measure and any charges (e.g., including repairs and or additional interest resulting from missed payments) have been fully paid, in all six programs ownership is transferred to the building owner by contract. None of the six programs allows anyone to retain a security interest in the measures. The existing programs do not explain what entity holds ownership interest during the payment period and then transfers it to the building owner upon full payment. Fortunately, to date there have been no situations in which it was necessary to determine actual ownership.

Because a clear definition of ownership interests has not been necessary in past PAYS<sup>®</sup> programs, no attempt was made to provide clarity and the result has been

considerable ambiguity. The issue of measure ownership was instead finessed by addressing all the rights of each party and the eventual ownership of measures after all payments have been made in contractual documents, but not the fundamental issue of ownership during the payment period.

It is important to recognize that this lack clarity is not inevitable. A PAYS<sup>®</sup> system can be established with clear ownership rights. The key is to ensure that rights are set out in the papers establishing the contractual relationships between the parties to a PAYS<sup>®</sup> transaction. Possible relationships are discussed in the next section.

#### Ownership Interests to Facilitate Third-Party Capital Provider Harvesting of Credits, Accelerated Depreciation, and Allowances

Third-party capital providers will likely require a defined ownership interest in PAYS<sup>®</sup> measures in order to be able to harvest significant financial benefits from investment tax credits for solar water heaters, energy efficiency, renewable energy credits and allowances that can be sold in the cap-and-trade programs that have been established for nitrogen oxides, sulfur dioxide and are established and will perhaps be established for carbon dioxide.

The precise ownership interests necessary to qualify for various financial benefits may vary and are beyond the scope of this paper. To the extent there are sophisticated tax-related financial instruments involved, tax lawyers familiar with such instruments must be involved. The purpose of this section is to describe a process for ensuring that third-party capital providers have the necessary ownership interest.

The key to establishing ownership interests is clear and unambiguous contracts between the parties (customers, contractors, the utility, and the capital provider). Since

the contract will be part of a tariffed PAYS<sup>®</sup> program, ideally a form contract should be reviewed and approved as part of the regulatory process establishing the PAYS<sup>®</sup> program. While a utility regulatory agency generally has no authority to establish or approve contractual relationships between non-utility parties, it can condition utility participation in a PAYS<sup>®</sup> program on its satisfaction that all parties will be treated fairly and that the PAYS<sup>®</sup> program will accomplish its stated goals.

If one of the goals of that program is to establish a set of financial incentives that will attract third-party capital providers, the utility regulator will want to ensure that contractual relationships exist that make it possible for available incentives to be utilized, and to provide the customer with confidence and maximize the likelihood that the tariffed program will provide real economic and environmental benefits to the participating customer and utility customers generally. While the simplest approach would be to have one master contract that would apply to all PAYS<sup>®</sup> measures for a given utility's regional or state program, there may be good reasons to have different contracts for different types of measures or classes of customers. Given the multiplicity of financial incentives available, it may well make sense to have different ownership interests for different programs.

In order to adequately address the ownership issue the contract must: 1) provide the third-party capital provider with a sufficient property interest to take advantage of available financial incentives; 2) provide the customer (and succeeding customers at the meter prior to full payment of the PAYS<sup>®</sup> obligation) with any property interest necessary for the third-party capital provider to take advantage of available financial

incentives; and 3) provide for transfer of full ownership of the PAYS<sup>®</sup> measure to the building owner upon full payment of the PAYS<sup>®</sup> charges.

The simplest approach would be for the third-party capital provider to maintain full ownership of the PAYS<sup>®</sup> measures until full payment is received for the measures. If a particular incentive requires that the third-party capital provider maintain ownership for a specified period of time, all contracts targeting that financial incentive would spread installments payments over a time period no shorter than the specified time period. The contract would provide for transfer of full ownership of the PAYS<sup>®</sup> measures to the building owner when all installments have been paid.<sup>9</sup>

Contracts will obviously become more complicated if and when it becomes necessary to give the customer and third-party capital providers specific ownership interests, since PAYS<sup>®</sup> is premised upon the payment obligation being assigned to the meter rather than a particular customer. If necessary to comply with the needs of a specific financial incentive, contracts could be written pursuant to which explicit ownership interests essentially track the meter obligation or are assigned to the third-party capital provider as necessary. The contract would provide the initial customer with a payment obligation and ownership interest<sup>10</sup> that would pass to its successor customer and each successor customer, if and when a customer leaves the premises upon terminating a lease or selling the premises, until full payment for the PAYS<sup>®</sup> obligation is made. It would also obligate the initial customer and each successor customer to make necessary disclosures to their immediate successor customers and, if necessary for the

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<sup>9</sup> Full payment of the installments would include full payment of any additional amounts added to the original cost for repairs as provided for in the contract.

<sup>10</sup> Assumes the customer owns the property; tenants would not assume measure ownership. In all cases disclosure obligations would belong to the building owner.

third-party capital provider to receive financial benefits, provide the third-party with a necessary ownership interest and prohibit the customer from removing measures from the property. The contract would have to provide for a variety of possible situations including: 1) destruction of the property by fire, wind or flood; 2) vacancy; 3) non-payment of the utility bill and disconnection of service; 4) and other possibilities which creative attorneys can and will imagine.

The contract may have to be written to provide that the third-party capital provider own the PAYS<sup>®</sup> measure and lease it to the customer for a specific number of years, in order to comply with United States Internal Revenue Service (IRS) requirements applicable to investment tax credits or accelerated depreciation. In that case a contract could provide the third-party capital provider with the requisite ownership interest for the necessary period of time, provide for a lease of the measure to the customer for that same time period and then the transfer of the ownership interest to the property owner at the conclusion of the lease period required by the IRS.

## **POSSIBLE FINANCIAL BENEFITS ACCRUING TO THIRD-PARTY OWNERSHIP**

A variety of federal and state incentives are available to promote investment in energy efficiency and renewable energy. While the incentives are directed to energy users, providing the incentives through an intermediary such as third-party financiers of PAYS<sup>®</sup> measures could effectively increase the penetration of the incentives and promote the common goals of the incentive programs and the PAYS<sup>®</sup> programs.

## **1. American Recovery and Reinvestment Act of 2009**

The American Recovery and Reinvestment Act of 2009 (2009 Act), popularly referred to as the Stimulus Bill or Act, provides significant new incentives that could be incorporated into a PAYS<sup>®</sup> program. The 2009 Act includes important changes to existing incentives, including elimination of the caps on the 30-percent tax credit for solar water heaters, small wind facilities, and geothermal heat pumps used in non-business properties. In addition, the 2009 Act extends the placed-in-service date for many non-business energy efficiency improvements to December 31, 2010; increases the credit from 10 percent to 30 percent; and sets a single overall (and lifetime) cap for these expenditures at \$1,500, rather than the several smaller caps for each kind of improvement in effect under prior law. Finally, the Act provides a new, 30-percent credit for investment in a “qualifying advanced energy manufacturing project” that re-equips, expands, or establishes a manufacturing facility for a wide variety of renewable technologies.

In addition, there are incentives available for businesses that might be incorporated into a PAYS<sup>®</sup> program directed at commercial and industrial customers. Section 48 of the Internal Revenue Code, as amended by the 2009 Act, now provides the opportunity to opt for an investment tax credit (ITC) to a variety of facilities that had only been eligible for the Section 48 production tax credit (PTC). Such facilities include wind, biomass, geothermal, landfill gas and trash placed in service from 2009 through 2012 (for wind) and through 2013 (for the other power sources).<sup>11</sup> The change from PTC to ITC means the incentive will be provided up front and will not depend upon the production of

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<sup>11</sup> Qualified hydropower, and marine and hydrokinetic facilities are also included, but it would be difficult to incorporate such facilities into a PAYS<sup>®</sup> program.

energy. In fact, the 2009 Act provides an option that may provide even more rapid access to the incentive payment. While Treasury has not yet written the rules, the Conference Report indicates that investors will have the option of taking a cash grant from the Treasury Department within 60 days of completion of a project.

A PAYS<sup>®</sup> program could attempt to take advantage of Partnership Flip Structures (PFS) to incorporate into the PAYS<sup>®</sup> contract a sale of the Section 48 tax advantages to a third-party capital provider. PFS's have been used for both wind and solar energy in the past.<sup>12</sup> We have been advised, but have not confirmed, that PFSs that sell the tax advantages to a third-party capital provider require that the investor own a portion of the investment (up to 99%) for a period of at least six years (the term of accelerated depreciation). Ordinarily the investor could only use the tax credit to offset passive income; however, a capital provider that actually advances the funding for the Section 48 project and maintains the requisite ownership interest, as we envision in a PAYS<sup>®</sup> program, could use the credit to offset active income.<sup>13</sup>

A PAYS<sup>®</sup> program could, for example, include the following characteristics. A third-party capital provider would provide funds for the purchase and installation of an energy efficiency or solar hot water heating system at a utility customer's home or business. The investor would own the system for seven to twelve years, depending upon the system installed. The customer at the location where the system is installed would pay a monthly charge on its utility bill calculated to provide a positive cash flow to the customer, such that the charge is less than the estimated savings obtained from the newly

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<sup>12</sup> The discussion of PFS's is based upon a February 18, 2009 conversation between Harlan Lachman, President of the Energy Efficiency Institute and a co-creator of PAYS<sup>®</sup> and Peyton Boswell, a financial advisor and capital provider.

<sup>13</sup> *Id.*

installed system. Metering of actual energy savings would not be necessary, since installations have been proven to provide the estimated savings. The customer's obligation to pay would end if the system were to fail and could not be repaired without raising the customer's monthly charge. The investor or its agent could take steps to reduce its risk of measure failure by measures including extended warranties from contractors, insurance contracts and bonding. Additionally, the tariff could be written so that any costs required to repair non-functioning measures could be recovered by extending the term of payments, ensuring customers of no increase in monthly costs (i.e., continued positive cash flow) and recovery of these repair costs. The creators of PAYS<sup>®</sup> recommend that capital providers be required to agree to also make funds available as needed to effect such repairs. Inasmuch as this requirement is intended to ensure recovery of their original investment, it should not be construed as onerous.

At the end of the customer's payment period, after the system has been fully depreciated, the investor would sell the PAYS<sup>®</sup> measure to the building owner for an assumed value of one dollar.

A PAYS<sup>®</sup> program structured so that the third-party capital provider advances the money for a Section 48 project would eliminate the need for the customer installing the measures to come up with the necessary capital and would provide significant tax benefits to the third-party capital provider. The PAYS<sup>®</sup> program and the PAYS<sup>®</sup> contract could be designed to ensure that the tax credits are shared between the third-party capital provider and the PAYS<sup>®</sup> customer. The precise allocation would be determined as part of the program design and public service commission regulatory approval process with the goal of providing both the capital provider and the PAYS<sup>®</sup> customer with sufficient

economic incentive to participate in the PAYS<sup>®</sup> program and install as many energy efficient and renewable technologies as possible.

Such a program could provide substantial benefits to both the capital provider and the customer. Assuming an investor in the 35% tax bracket, one would multiply 85% times the cost of the system (the amount allowed to be depreciated for a solar system from which the 30% tax credit or payment has been taken), multiplied by the allowable schedule of depreciation, multiplied by the tax rate. The third-party capital provider could share the benefits in a variety of ways. One possibility would be to harness the value of the tax credits to lower system costs enough to qualify them. For example, assuming a \$5,000 installed cost for a solar water heater (purchased in bulk) and a \$0.16 per kWh rate (or a \$3.98 cost per therm of gas assuming an 85% combustion efficiency), if one could convince the capital provider to offer zero interest for 12 years and a discount of \$300, a solar installation would qualify. The question is whether a capital provider would invest money for 12 years knowing within one year it would get 30% of its investment back as profit plus about 5.0% of the investment back each of the next six years (.85% of system cost ÷ 6 years X 35% tax bracket). In addition, the net present value of accelerated depreciation would provide an additional 20 -25% of the entire system cost.<sup>14</sup>

While there is precedent for the IRS accepting a third-party provider's claim for tax credits based upon use of a lease-back arrangement, we do not offer a legal opinion as to whether the IRS would accept a PAYS<sup>®</sup> tariffed charge combined with the lease back of a PAYS<sup>®</sup> measure as a sufficient basis for ITCs or accelerated depreciation. We attempted unsuccessfully to obtain guidance on this point from the IRS and recommend that a tax lawyer be consulted if this approach elicits sufficient interest.

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<sup>14</sup> *Id.*

Another possible approach would be for the capital provider to retain ownership of measures installed in utility customers' homes and businesses, and lease them to the utility. Using this approach, the utility would, in effect, be purchasing negawatts from the capital provider to satisfy its load requirement. The utility would collect the PAYS<sup>®</sup> charges from its customers where PAYS<sup>®</sup> measures were installed to reimburse the utility for its leasing costs, and would make lease payments to the capital provider regardless of the collections from its customers. Once the lease period ended, measure ownership could be contractually transferred to the utility, which in turn, could transfer it to individual building owners. Leasing to utilities would allow a Commission to rule that this leasing arrangement is the best way to produce negawatts or negatherms, justifying its approval of a PAYS<sup>®</sup> tariff and may be more appealing to capital providers who prefer a single lessee, the utility. This approach may also provide a basis for capital providers to access tax incentives under IRS Section 48 as noted above.<sup>15</sup>

## **2. Emissions Allowances**

Third-party capital providers that retain ownership of the energy efficiency and renewable energy measures they finance should be able to monetize the value of the emissions reductions that result from the measures by obtaining emissions allowances from set-asides established as part of many states' compliance with the new Clean Air Interstate Rule (CAIR). In a cap-and-trade program such as CAIR, regulated

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<sup>15</sup> While this paper focuses on how third party capital can be structured to harness tax and other credits using the PAYS<sup>®</sup> system, other systems that are designed to assign measure ownership to entities other than the building owner, for example the municipal services fee approach being used by Berkeley, California; Palm Desert, California; and Babylon, New York could also be structured as recommended in this paper. The authors believe that the benefits of doing so may be greater than those realized by using low cost municipal financing, especially if it is true that investors may provide capital at zero interest and a discount in order to claim tax and other credits.

sources (primarily large electric generating plants) must have an emission allowance - a tradable permit to emit one ton of a particular pollutant – for each ton of the pollutant emitted. The trading program provides the opportunity to sell surplus or purchase needed allowances. Energy efficiency and renewable energy projects can obtain emission allowances from the CAIR set-asides that can be sold and turned into cash to offset the costs of financing and installing the measures.

The extent to which energy efficiency and renewable energy developers will be able to take advantage of emission allowance set-asides is dependent upon how each state implements CAIR. As background, CAIR became effective in 2009 and permanently capped emissions of nitrogen oxides (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) emissions in 28 northeastern states and the District of Columbia. It replaced and expanded the geographical coverage of NO<sub>x</sub> Budget Trading Program that had existed under the NO<sub>x</sub> SIP Call, with the expectation of far greater emissions reductions and increased regional cooperation. CAIR is expected to provide a uniform, more accessible emissions allowance trading program than the NO<sub>x</sub> SIP Call, one that will not only benefit the environment at large, but will help to incentivize energy efficiency and renewable energy projects for a variety of developers. CAIR also replaces the SO<sub>2</sub> cap-and-trade program under the Acid Rain Law, effective next year.

CAIR will likely undergo significant changes as the U.S. Environmental Protection Agency responds to a remand of CAIR from the U.S. Court of Appeals for the D.C. Circuit. On July 11, 2008 the court found “several fatal flaws in the rule,” vacated the rule in its entirety and remanded to the EPA for rectification.<sup>16</sup> The court

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<sup>16</sup> North Carolina v. EPA, 531 F.3d 896, 901 (D.C.C. 2008). The court found, *inter alia*, that EPA’s pollution trading programs did not adequately address the issue of upwind states

subsequently remanded the case without vacatur for EPA to reconcile the several fatal flaws with the July opinion.<sup>17</sup> The court determined that “notwithstanding the relative flaws of CAIR, allowing CAIR to remain in effect until it is replaced by a rule consistent with our [previous] opinion would at least temporarily preserve the environmental values covered by CAIR.”<sup>18</sup> As a result, EPA must work to remedy the significant legal flaws in the rule, but the regulations will proceed as planned until revised rules are promulgated.

Under the previous trading program, the EPA had recommended that each state include an energy efficiency/renewable energy (EE/RE) set-aside in its overall allowance budget.<sup>19</sup> EPA had estimated that if all the states in the program set-aside just 5 percent of their NO<sub>x</sub> allowance budget for EE/RE projects, over \$5 billion could potentially be saved in consumer energy costs, and over \$150 million in air quality compliance costs (in addition to the creation of over 20,000 new jobs).<sup>20</sup>

In addition to the NO<sub>x</sub> and SO<sub>2</sub> emission allowances available through CAIR, it’s possible that allowances will also be available through carbon dioxide trading programs in the future. While the current value of the NO<sub>x</sub> and SO<sub>2</sub> allowances are relatively low, they are likely to increase when the economy recovers. Combined with the value of CO<sub>2</sub> allowances that might be available if a nationwide carbon dioxide cap-and-trade program

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exceeding their pollution caps, thus interfering with maintenance by downwind states of their own pollution abatement programs.

<sup>17</sup> See *North Carolina v. EPA*, 550 F.3d 1176 (D.C.C. 2008).

<sup>18</sup> *Id.* at 1178.

<sup>19</sup> See 63 Fed. Reg. 57356, 57436 (states may allocate “a portion of [their] trading program budget to implementers of energy efficiency and renewables projects that reduce energy-related NO<sub>x</sub> budgets.”). States are expected to cap overall emissions and distribute allowances (one allowance = emission of one ton of a particular pollutant) according to need.

<sup>20</sup> <http://www.epa.state.il.us/air/cair/documents/cair-compilation01-21-06-revised.pdf>

is implemented<sup>21</sup>, a PAYS program could obtain significant value obtaining allowances from state set-asides.

Set-aside programs have had an uneven history to-date.<sup>22</sup> Massachusetts, for example, is a major success story. It now allocates 10% of its trading program allowances to its Public Benefit Set-Aside (PBSA), which is 5% more than was offered under the previous NO<sub>x</sub> Budget Trading Program. In addition, the Massachusetts Department of Environmental Protection may transfer a maximum of 2% of the state trading budget from the new unit set-aside account to the PBSA if approved allocations of allowances for EE/RE projects exceed the PBSA budgets.<sup>23</sup> The possibility of transferring allowances to the EE/RE set-aside is important given the historical success of the state's set-aside program and past oversubscription of allowances.<sup>24</sup>

In New York, by contrast, the set-aside program failed to elicit substantial interest and the set-aside will be given in the future to the state's New York State Energy and Research and Development Authority which will sell the allowances and use the proceeds to fund energy efficiency and renewable energy projects that implement clean energy technology.<sup>25</sup>

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<sup>21</sup> The United States Congress is currently considering adoption of a cap-and-trade program and it is premature to speculate on the precise form of such a program. Assuming a cap-and-trade program is adopted, development of implementing regulations would likely take two or three years.

<sup>22</sup> For an early review of the set-aside programs, see *State Set-Aside Programs for Energy Efficiency and Renewable Energy Projects Under the NO<sub>x</sub> Budget Trading Program: A Review of Programs in Indiana, Maryland, Massachusetts, Missouri, New Jersey, New York, and Ohio*, Climate Protection Partnerships Division, Office of Atmospheric Programs, U.S. EPA, [http://www.epa.gov/cleanenergy/documents/eere\\_rpt.pdf](http://www.epa.gov/cleanenergy/documents/eere_rpt.pdf), September 2005.

<sup>23</sup> 310 CMR 7.32(c)(2)(b).

<sup>24</sup> In fact, Massachusetts has so many applications for EE/RE set-aside allowances that it was forced to grant fractional allowances to accommodate all interested parties.

<sup>25</sup> See DEP'T OF ENVTL. CONSERVATION, CAIR SUMMARY OF EXPRESS TERMS, available at <http://www.dec.ny.gov/regulations/38561.html>.

One key element of Massachusetts's success is that it allowed the aggregation of projects. Individual energy efficiency and renewable energy measures are unlikely to produce sufficient allowances to be easily sold on the market. The transaction costs of trying to sell a relatively small number of allowances would make such transactions uneconomic. A third-party capital provider, however, could aggregate many projects through a PAYS® program, spread the transaction costs over a large number of units and come up with a valuable asset. EPA has strongly supported aggregation in its guidance document outlining how a set-aside program could work:

One key mechanism for awarding small projects is to allow aggregation of a number of smaller projects under a single application for one or more full tons of allowance awards. EPA strongly encourages aggregation of energy efficiency and renewable energy projects to achieve awards in full one-ton denominations. The aggregation of projects or actions can be done by an appropriate entity such as an ESCO, a building owner/operator, a real estate investment trust, a state energy office, or other appropriate organization.<sup>26</sup>

In states such as Massachusetts that permit aggregation and make it easy for applicants to take advantage of the set-aside program, there is significant potential for third-party capital providers to capture the value of emissions allowances. To capture that value, PAYS® program contracts could be designed that explicitly give the third-party capital provider the right to obtain emissions allowances resulting from energy efficiency or renewable energy PAYS® measures. In this case, the third-party capital provider need only hold a “straw” from a property’s “bundle of rights.”

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<sup>26</sup> Office of Atmospheric Programs and Office of Air and Radiation  
U.S. EPA, *Guidance on Establishing an Energy Efficiency and Renewable Energy (EE/RE) Set-Aside in the NO Budget Trading Program*, [http://www.epa.gov/cleanenergy/documents/ee-re\\_set-asides\\_voll.pdf](http://www.epa.gov/cleanenergy/documents/ee-re_set-asides_voll.pdf), March 1999, at 22.

## **ALLOCATION OF BENEFITS**

The goal of a PAYS<sup>®</sup> program should be to provide utility customers with offers to install energy efficiency and renewable measures that are “too good to refuse.” In practice that means that the financial incentives described above should be shared between the capital providers and the customers to both provide an incentive for third-party capital providers to invest and to also reduce the cost to customers of PAYS<sup>®</sup> measures.

There could be substantial dollars at stake. We have been advised by one investor that for solar and renewable installations, federal tax benefits are so robust, in excess of 50% of the value of the investment, that an investor would be willing to provide capital at zero interest and at a substantial discount.<sup>27</sup> While it is important to provide sufficient financial incentives to interest third-party capital providers in funding a PAYS<sup>®</sup> program, we do not recommend that the third-party capital provider be able to keep all the benefits.

One practical way to allocate the benefits or allowance value would be for utility regulatory commissions to require utilities or their agents to use “requests for proposals” to select third party capital providers based on their willingness to share a significant portion of the value of these monetized tax and other credits. Another option would be for the commission to simply condition its approval of a PAYS<sup>®</sup> tariff and program on its satisfaction that the benefits are being fairly allocated. The key is to provide a sufficient incentive to third-party capital providers to invest while also providing PAYS<sup>®</sup> customers

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<sup>27</sup> Conversation between Harlan Lachman, President of the Energy Efficiency Institute and a co-creator of PAYS<sup>®</sup> and Peyton Boswell, February 18, 2009.

with an offer that overcomes existing barriers to investment in energy efficiency and renewable energy measures.

## **CONCLUSION**

Existing energy efficiency and renewable energy programs continue to be unable to overcome a variety of real and pervasive market barriers that inhibit investment. PAYS<sup>®</sup> addresses those market barriers, but is itself inhibited by its inability to attract sufficient capital from third-party capital providers.

In order for PAYS<sup>®</sup> to be able to provide customers with an offer that is “too good to refuse,” third-party capital providers must be offered financial incentives that are also too good to refuse. Those incentives may be available through substantial federal tax credits for solar systems, accelerated depreciation, possible new federal tax credits for energy efficiency projects, nitrogen oxides and sulfur dioxide emissions allowances from set-asides that are part of the federal CAIR cap-and-trade program and, perhaps, carbon dioxide allowances through a future carbon dioxide cap-and-trade program.

In order to make those benefits available to third-party capital providers, PAYS<sup>®</sup> contracts must be modified to provide third-party capital providers with the ownership interests in PAYS<sup>®</sup> measures necessary to take advantage of the various federal and state programs. In addition, utility regulators must ensure that utility regulators will need to ensure that appropriate contracts are developed. In addition, utility regulators must ensure that the financial incentives described above are shared between the capital providers and the customers to both provide an incentive for third-party capital providers to invest and to also reduce the cost to customers of PAYS<sup>®</sup> measures.