SUSTAINABLE ENERGY FUND

On-Bill Repayment

Model for Pennsylvania

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This document contains an On-Bill Repayment Pilot program.

The Sustainable Energy Fund would like to thank the Commission and the Commission Staff for the opportunity to submit this model for a scalable On-Bill Repayment program for the Commonwealth of Pennsylvania.

In this era of globalization, an important factor in the success of any business is the effectiveness or efficiency with which it consumes its inputs or resources. This holds true for energy resources just as it does for human and material resources. In order to increase energy productivity, businesses must replace outdated or aging production equipment with newer more efficient equipment or retrofit facilities. These facility retrofits can include changes to heating, cooling and illumination. To replace this equipment or retrofit these buildings often means investing significant capital today for projects that will return the investment over the next 3 to 8 years.

Pennsylvania has increased the realization rate of energy efficiency projects over the last couple of years through utility-based Energy Efficiency and Conservation programs. To increase the energy efficiency uptake rates, these programs in general provide incentives in the form of rebates to a subset of customers and socialize the cost of the rebates plus administrative costs across all ratepayers. The model has limitations in that: (a) it leaves a remaining investment net of the rebate for the customer; (b) it recovers costs from the entire rate class not just those directly benefiting from the program; and, (c) it tends to favor measures with low capital costs and short paybacks. Often these low capital cost short payback measures are not the best measures from a technical or economic perspective simply the cheapest upfront.

In contrast, the On-Bill Repayment model recommended by Sustainable Energy Fund seeks to (a) cover 100% of the upfront costs; (b) recapture program costs directly from program participants; (c) lower participants overall utility bills; and, (d) pay for program and capital costs from utility bill reductions. It is Sustainable Energy Fund's belief that such a model would not just increase energy productivity, but also encourage the implementation of deeper energy efficiency measures and measures with higher upfront costs but lower lifecycle costs. For the EDC's in Pennsylvania to be successful in Phase II of Act 129 they must search for deeper efficiency measures as CFLs and other low cost measures have become more commonplace.

The On-Bill Repayment model consists of five entities: (1) Energy User; (2) Contractor; (3) On-Bill Administrator; (4) EDC/LDC; and, (5) Capital Pool Participants.

(1) Energy Users are EDC and/or LDC customers.

(2) Contractor is an energy efficiency contractor registered with the Attorney General's Office as a contractor and approved by the On-Bill Administrator to participate in the program.

(3) On-Bill Administrator is the managing organization responsible to act as a conduit for capital from the capital pool to projects and subsequently recover the distributed capital from project owners for repayment to capital pool participants. The On-Bill Administrator also acts as a single source for applications, credit approval and contractor qualification. Additionally, the On-Bill Administrator

Comment [N1]: On-bill financing and repayment programs have a proven track record of extending the scope and breadth of energy efficiency programs across the country. Pilot testing such a program in Pennsylvania is a powerful idea that could have significant impact on energy savings in the Commonwealth. The following comments are provided in the spirit of helping to fine tune the proposed pilot to ensure that it results in an optimal strategy for moving forward after the pilot period is complete.

Comment [N2]: Agreed, but this may be more of a program design issue than an issue of whether or not financing (on-bill or off-bill) is available. Credible programs (typically performance-based) are currently delivering deeper savings with longer paybacks across the country. Most are rebate programs where the incentive is used to reduce the overall payback time for the suite of measures installed. On-bill financing could be layered on top of such programs to expand their reach, but financing in and of itself does not necessarily drive deeper savings. Good program design is also a pre-requisite.

Comment [N3]: Many on-bill programs allow customers to utilize available rebates as well as financing to achieve energy savings. As a consequence many customers may not need to finance 100% of the upfront costs. The pilot could test scenarios where 100% of the costs are financed, but could also explore scenarios where lesser percentages are provided – as a means to better understand where EE financing generates optimal results.

Comment [N4]: Many customers are reluctant to make investments in longer term measures for a variety of non-energy related issues: they don't know how long they will own the building, the activity is disruptive to occupants (lighting or HVAC redesign, shell improvements, etc.), or they mistrust the savings projections. The proposed pilot could benefit by being designed to specifically evaluate these non-energy obstacles to longer term measures and to determine if on-bill financing is an effective tool in overcoming them.

Comment [N5]: Agreed. Given this context we suggest that a key area for analysis during the pilot is "how deep" an EE financing program can go. To date, the primary goal of such programs has been to "go wide" - to expand the reach of EE programs to impact more customers and, in the process, generate more aggregate savings. Going deep means generating more energy savings for an individual customer. While such deep savings may be facilitated by a financing program, effective program design is also critical. The pilot should be structured to explore the interface between financing and program design and their mutual impacts on achieving deeper energy savings.

provides valuable oversight of contactors in reviewing quoted savings for reasonableness and inspecting a portion (5%-15%) of installations to ensure they deliver quoted savings.

(4)EDC/LDC is the local Electric or Gas Distribution Utility.

(5) Capital Pool Participants provide the cash necessary to fund approved energy efficiency projects.

The utilization of an On-Bill Administrator enables the program to be consistent across the Commonwealth regardless of the utility providing electric distribution service. This consistency means a small business with locations in Erie and Philadelphia can leverage the same program with the same process. In addition, the program has the potential to reach scale more quickly.

For almost a century, utilities have successfully aggregated and leveraged the promise of customer payments into low capital rates for infrastructure investments. By pooling demand for capital across all utilities through a single administrator, the program will aggregate payments from many ratepayers across the Commonwealth's diverse demographic in search of the same competitive rates. The use of a pool of capital providers enables the program after reaching scale to be competitive. Just as ratepayers having the ability to access a pool of Energy Generation Suppliers creates a natural competition that provides ratepayers with least cost electric rates over time, utilizing a capital pool will create competition by capital sources and provide ratepayers least cost access to capital over time.

The On-Bill Administrator, EDC/LDC and Capital Pool Providers are compensated for their participation in the program. The On-Bill Administrator receives a portion of the origination fee and interest rate spread between the rate paid by the energy user and the rate received by the Capital Pool Participant. Capital Pool Participants receive compensation in the form of interest and a portion of the origination fee. The EDCs/LDCs would receive compensation for billing, collection and payment through a coordination fee similar to that implemented for EGS's of approximately $2.35.

Pilot Program

The purpose of the pilot program is to:

(1) Better understand the potential uptake rate of a full-scale program and its corresponding capital requirements;

(2) Uncover potential hidden costs and administrative issues;

(3) Prove or disprove that the barrier to small commercial and industrial participation in Act129 programs is access to capital; and,

(4) Develop the data necessary for future support by capital providers of sufficient magnitude in order to supply any potential unmet need in Pennsylvania.

The pilot program is limited to small commercial and industrial customers including for profit entities as well as low-income master metered dwellings, schools, non-profits and governmental entities.

Comment [N6]: As currently implemented, EE financing programs fall into three large categories.

In typical "on-bill financing" programs, loan funds are provided directly by a utility or a program administrator (e.g. NYSERDA in New York) in conjunction with a utility. The utility administers the EE programs, provides the loan, and processes repayments.

An alternative is an "on-bill repayment" program in which an outside lender originates and funds the loans. The utility administers the EE programs and processes repayments, but does not provide the loan. (This is similar to – but not precisely the same as – the Pennsylvania model proposed here. See below for further discussion.)

A third model is "off-bill financing" where a third party both provides the loans and administers the EE programs.

All three models have been implemented and analyzed and, as a consequence, a solid knowledge base on their advantages and disadvantages has been developed.

The proposed Pennsylvania model appears to be a hybrid of off-bill financing and on-bill repayment, with the Administrator assembling capital and providing loans as well as managing and implementing EE programs, while the utilities ... [1]

Comment [N7]: Consistency across program offers and financing terms is important for the pilot program; however, establishing a single On-Bill Administrator is not necessarily essential for such consistency. Individual utilities providing the same programs and the same financing terms could achieve the same result. Perhaps the pilot, while implementing one specific approach, could analyze alternative means of delivering the same results.

Comment [N8]: It would be useful if the pilot could test a number of compensation scenarios, especially in terms of how the aggregate cost of the financing program impacts payback period. Several of the programs currently in operation provide 0% interest loans to the customer – either directly or by buying down the interest rate charged by a third party lender. Other programs charge more, but all try to keep the interest rate/customer charges as low as possible in order to optimize participation levels and still maintain the lowest cost possible for acquiring the energy efficiency "resource." A ... [2]

Comment [N9]: It may be that access to capital is not be the only barrier to small commercial and industrial participation in Act 129 programs. It therefore may be prudent to re-state this goal for the pilot program as an effort to identify the optimal role for financing in Act 129 programs.

Comment [N10]: Focusing the pilot on these market segments is prudent and tracks the bulk of the non-residential EE financing programs that are being or have been implemented.

Energy users and contractors are readily available throughout Pennsylvania to participate in the program. Sustainable Energy Fund believes there are existing third parties that could fulfill the role of the On-Bill Administrator and Capital Pool Participant(s) for both the pilot and a continuous program. If there are no third parties willing to engage in the pilot program at a reasonable rate, Sustainable Energy Fund is prepared to act as either the On-Bill Administrator or the Capital Pool Participant (or both) in an effort to see On-Bill Repayment in the Commonwealth. In absence of a third-party capital provider Sustainable Energy Fund is willing, contingent on Board approval, to provide up to 2 million dollars in capital towards the program. The only remaining elements to implement an On-Bill Repayment program in Pennsylvania are a willing EDC or LDC and approval by the Commission.

During the pilot, twenty-five basis points would be added to the origination fee to be used by the EDC/LDC towards recovery of costs to modify their billing software. In addition, Sustainable Energy Fund recommends that if at the end of the pilot the entire cost of the modifications to the billing software are not recovered through the basis point adder, that the EDC/LDC would be able to recover the remainder of the costs during their next rate case or through a 1307 recovery mechanism.

Comment [N11]: Given the unknowns about how this pilot will roll out, it may be prudent to simply indicate that cost recovery options for the EDC/LDC's will be explored – during the pilot or possibly through a future rate case - without proposing a specific number.

Attached are two straw man tariffs and a cross-functional flow chart of the various parties.

ENERGY SAVINGS ADVANCE RIDER

A. PURPOSE

Provide customers the opportunity to receive an Advance to be used to implement energy efficiency improvements to reduce their energy consumption, thereby decreasing utility bill charges. The savings that result from the reduced energy and distribution charges are used to repay the Advance.

B. APPLICABILITY

The Energy Savings Advance rider applies to Small Commercial and Industrial Customers including schools, institutional, nonprofit and governmental entities.

C. CUSTOMER ELIGIBILITY

(1) Energy Saving Advances less than $35,000:

(a) Utility account current for previous 12 months;

(b) No disconnection or termination of service in past 24 months; and,

(c) A customer for at least the last 24 months.

(2) Energy Saving Advances $35,000 or greater:

(a) Utility account current for previous 12 months;

(b) No disconnection or termination of service in past 24 months;

(c) A customer for at least the last 24 months; and,

(d) Lender Approval.

(3) New Utility Customer:

(a) If less than $35,000: a customer of another Pennsylvania jurisdictional utility or cooperative for at least the past 24 months with no disconnection or termination of service for non-payment in past 24 months and current account for preceding 12 months OR lender approval;

(b) If $35,000 or greater: a customer of another Pennsylvania jurisdictional utility or cooperative for at least the past 24 months with no disconnection or termination of service for non-payment in past 24 months and current account for preceding 12 months AND lender approval.

D. PROJECT ELIGIBILITY

(1) Act 129 EE&C Rebates

(a) Any project in which the customer has applied for a prescriptive rebate under the Act129 Energy Conservation and Efficiency Plan; or

Comment [N12]: Is there any documentation on why $35,000 was identified as the threshold amount?

Comment [N13]: Most programs require that customer only be current as of the transaction date. Many customers might be excluded by this more stringent standard, even if they missed a payment in error and immediately caught up in the next billing cycle.

Comment [N14]: Is the "Lender" in this case the On-Bill Administrator?

(b) Any project in which the customer has applied for a custom rebate under the Act129 Energy Conservation and Efficiency Plan if program had funding available; or

(c) Any project for which rebates are no longer available since they are either fully subscribed or wait listed.

(d) Note: Rebates would be assigned towards principle repayment.

(2) Building Envelope Measures. Single or multiple Building Envelope improvements that increase the building's overall performance by a minimum of 10% over IECC 2006 code or 25% over the building's current performance.

(3) Specific Energy Efficiency Measures

(a) Lighting. Lighting efficiency measures that decrease electrical consumption due to lighting by a minimum of 25%.

(b) Heating, Ventilation and Air Conditioning. HVAC measures such as duct insulation and sealing or other HVAC measures that decrease overall energy consumption by a minimum of 20%.

(c) Industrial Methods. Methods such as building automation controls, flue gas heat recovery, motor efficiency upgrades, variable frequency drives, compressed air system improvements and others that decrease energy consumption by a minimum of 15%.

Comment [N15]: Given the limited nature of this pilot – and as a means to focus on and test various financing strategies – it may be prudent to limit the EE program offers in the pilot to those being provided in the current Act 29 EE Rebate programs (section 1 above). This approach should allow the pilot to test financing for a range of EE strategies from relatively basic (prescriptive) to the deeper approaches available through a custom program. Perhaps the alternative programs outlined in 2 and 3 (envelope measures and customer-specific measures) could be modeled and analyzed from a financing perspective without necessarily implementing them on the ground during the pilot.

E. TERMS

(1) Minimum Energy Savings Advance $1,000.

(2) Energy Saving Advances less than $35,000 AND Building Envelope, Lighting or HVAC Measures Installed:

(a) Interest Rate X % *(Note: Target 6 to 8%, with 4% spread above capital pool participant rate)*

(b) 1.25% Origination Fee.

(c) Repayment term not to exceed 8 years, life of the equipment or 20% positive projected project cash flow.

(d) Building owner signs declaration to notify future owner/tenant of any remaining balance on the meter and ESAP may file UCC-1.

(d) In the event of termination of service prior to end of ESA repayment, remaining balance follows the meter to the new customer.

(3) Energy Saving Advances less than $35,000 AND OTHER THAN Building Envelope, Lighting or HVAC Measures Installed:

(a) Interest Rate X % *(Note: Target 6 to 8%, with 4% spread above capital pool participant rate).*

(b) 1.25% Origination Fee added to loan principle

(c) Repayment term not to exceed 8 years, life of the equipment or 20% positive projected project cash flow.

(d) Balloon Advance payment due immediately upon termination of service.

(4) Energy Saving Advances $35,000 or greater:

(a) Interest Rate 6 to 9%.

(b) Maximum 1.25% Origination Fee.

(c) Repayment not to exceed 7 years.

(d) Balloon Advance payment due immediately upon termination of service.

F. APPLICATION OF PAYMENTS

(1) The Company shall apply payments received from the customer first to charges for electric energy. The remainder of the payment shall be applied to the Energy Savings Advance up to the amount of the monthly payment.

(2) Payments which are insufficient to pay for both the balance due for the prior billing period and for the current billing period are applied first to the unpaid balance of the prior billing period including the past due Energy Savings Advance payment, then the remainder is applied to the current billing period in the sequence stated in item (1) above.

G. TERMINATION FOR NONPAYMENT OF ENERGY SAVINGS ADVANCE

(1) The Company, at its discretion, may terminate electric service, upon notice to the customer when appropriate for nonpayment of an undisputed delinquent ENERGY SAVINGS ADVANCE amount.

Comment [N16]: Again, one of the critical aspects of the pilot will be to test and refine what combination of fees, interest rates and payback periods will be optimal for acquiring the energy efficiency "resource" at the lowest cost.

Comment [N17]: Ditto Comment N14

Comment [N18]: **SELECT REFERENCES**

Bell, C. J., Nadel, S., & Hayes, S. (2011). *On-Bill Financial for Energy Efficiency Improvements* (No. E118). Washington D.C: American Council for an Energy Efficient Economy.

Fuller, M. (2008). *Enabling Investments in Energy Efficiency, A study of programs that eliminate first cost barriers for the residential sector*. Vermont: Efficiency Vermont.

Henderson, P. (2012). *On-Bill Financing Overview and Key Considerations for Program Design* (No. ib:12-08-a). New York, NY: Natural Resources Defense Council.

NYSDPS. (2008). *On-Bill Financing, Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard (EEPS)* (No. 07-M-0548). Albany, NY: State of New York Public Service Commission.

The Cadmus Group. (2012). *California 2010-2012 On-Bill Financing Process Evaluation and Market Assessment* (No. CPU0056.01). San Francisco, CA: California Public Utilities Commission.

ESA PROGRAM ADMINISTRATOR COORDINATION TARIFF

A. APPLICATION

The tariff provisions apply to the Energy Savings Advance Program Administrator (ESAPA).

B. Commencement of EDC/ ESAPA Coordination

(1) ESAPA must complete registration with the Company.

(2) The Company shall complete the processing of the registration for Coordination Services within ten (10) business days after the date of service of the registration. The Company shall approve the registration unless grounds for rejecting registration, as defined below, exist.

(3) The Company may reject any registration for Coordination Services on any of the following grounds:

(a) the ESAPA has undisputed outstanding debts to the Company arising from its previous receipt of Coordination Services from the Company under this Tariff; or

(b) the ESAPA has failed to submit a completed registration within thirty (30) calendar days after the date of registration of written notice of registration deficiency.

(4) Upon successful registration for Coordination of Services, the Company will assign the ESAPA a provider identification number to be used in subsequent electronic information exchange between the ESAPA and Company. This number shall be consistent with the ESAPA's Dunn & Bradstreet Business number.

(4) Coordination Services shall commence within fifteen (15) days after the Company's acceptance of an ESAPA's registration for Coordination Services.

C. COORDINATION OBLIGATIONS

(1) The Company shall provide all Coordination Services, as provided herein, necessary for the ESAPA to extend credit and disburse funds to serve retail customers within the Company's service territory.

(2)The ESAPA must maintain in good standing with the Pennsylvania Public Utility Commission.

(3)The ESPA must make all necessary arrangements for obtaining the capital to supply Advances in a amount sufficient to meet its program Commitments.

(4) The ESAPA and the Company shall supply to each other all data including customer payment history or other information reasonably required by the E ESAPA or Company in connection with the provision of Coordination Services, in a thorough and timely manner.

(5) An ESAPA and the Company must be equipped with the following communications capabilities:

(a) Internet electronic mail, including the ability to receive CSV and ASCII file attachments;

(b) Internet browser capable of access to the Company web-site and file uploads and downloads; and,

(c) Internet EDI peer-to-peer communication with push and pull capability.

(6) The Company shall make available to an ESAPA, on a daily basis, the following information regarding that ESPA's Customer in electronic files available on the Company's website: (a) EDC Account Number; (b) Billing Route; (c) Customer Name; (d) Service Address; (e) Service City; (f) Service State; (g) Service Postal Code; (h) Mailing Address; (i) Mailing City; (j) Mailing State; (k) Mailing Postal Code; (l) Telephone; (m) Rate Class; (n) Annual kWh; (o) Whether Customer is on budget billing; and (p) Whether the Customer is on special a payment agreement.

D. BILLING, COLLECTION and PAYMENT

(1) The Company will bill the ESAPA customer for the payment due. The Company will submit an invoice to the ESAPA of $2.35 for each ESA participant billed. This charge is to bill the customer, collect the customer payment and remit payment to ESAPA.

(2) The invoice may be transmitted to the ESAPA by any reasonable method requested by the ESAPA. An ESAPA small make payment for Charges incurred on or before the due date shown on the bill. The due date shall be determined by the Company and shall not be less than fifteen (15) days from the date of transmittal of the bill.

(3) Payments to ESAPA s will occur electronically twenty (20) days after consolidated EDC bills are issued and will continue throughout the billing cycle. If the 20th day falls on a weekend or bank holiday, payments will occur on the next business day. Only payments collected will be remitted to the ESAPA. The Company will notify the ESAPA of any of its customers who failed to pay a portion or all of the ESA payment.

(4) The Company is authorized to conduct collection activities and, if necessary, terminate its service delivery. The Company is required to notify the ESAPA when it has begun collection activity and if service is terminated.

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An alternative is an "on-bill repayment" program in which an outside lender originates and funds the loans. The utility administers the EE programs and processes repayments, but does not provide the loan. (This is similar to – but not precisely the same as – the Pennsylvania model proposed here. See below for further discussion.)

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All three models have been implemented and analyzed and, as a consequence, a solid knowledge base on their advantages and disadvantages has been developed.

The proposed Pennsylvania model appears to be a hybrid of off-bill financing and on-bill repayment, with the Administrator assembling capital and providing loans as well as managing and implementing EE programs, while the utilities are responsible for processing repayments. This a new and innovative approach. It would therefore be useful if - in addition to testing this particular hybrid aproach - the pilot could look at the hybrid in relation to more traditional models of EE financing to determine whether - and to what extent - elements of these more traditional approaches might also be incorporated into a full-scale EE financing program once the pilot is complete.

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It would be useful if the pilot could test a number of compensation scenarios, especially in terms of how the aggregate cost of the financing program impacts payback period. Several of the programs currently in operation provide 0% interest loans to the customer – either directly or by buying down the interest rate charged by a third party lender. Other programs charge more, but all try to keep the interest rate/customer charges as low as possible in order to optimize participation levels and still maintain the lowest cost possible for acquiring the energy efficiency “resource.” A critical aspect of the pilot will be to determine the optimal combination of resource acquisition cost and market-acceptable rate of return for the capital pool providers.