

# The Pennsylvania Sustainable Energy Finance (PennSEF) Program

## A Conversation with Pennsylvania's Community Colleges April 9, 2018



PENNSYLVANIA  
**TREASURY**  
Earn. Learn. Invest.



Drinker Biddle



PennSEF is a program that provides:

- a pathway to low-cost financing for energy efficiency and alternative energy projects that offer conservation savings guaranteed to equal or exceed their related installation costs
- technical assistance and expertise to support project participants through the identification of desirable projects, selection of qualified contractors, negotiation of fair contracts, and implementation and monitoring of conservation measures.

## WHAT IS PennSEF?

- Expertise and technical assistance from PennSEF throughout projects, from procurement to measurement and verification
- Pre-qualified ESCOs (local and national), lending confidence to participants
- Common documents used at all significant stages, reducing costs and improving negotiating leverage
- Access to tax-exempt bond financing, generally the cheapest capital available
- Project assembled into consolidated bond issuances, realizing substantial economics for participants

## WHAT ARE PennSEF'S **BENEFITS?**

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- Pre-contract audit provided at no cost to participants
- Investment Grade Audit is then performed and must offer self-financing improvements that total at least 90% of the savings identified in the pre-contract audit
- All program costs are addressed from the bond or other financing proceeds
- No cross-collateralization or risk associated with involvement of participants with lower credit ratings
- Economic development benefits include significant PA job creation and use of PA vendor supply chain

## MORE BENEFITS

- PennSEF establishes escalator for energy and water rates incorporated into the Guaranteed Savings Agreement (GSA)
- Dollar savings calculated as reduced consumption from technical measures X energy/water rates established by escalator clause in GSA
- Only energy/water savings are counted, not operational savings or deferred maintenance
- ESCO commits to use best efforts to attain contracted dollar savings through additional work (payment to cure shortfall, if needed)
- GSA provides a transparent construction contract with a strong guarantee
- GSA includes internationally recognized Monitoring and Verification (M&V) protocols

## AND MORE BENEFITS

## A potential project participant:

- indicates its interest in participation to PennSEF
- using PennSEF model documents (and PennSEF assistance as desired), selects an ESCO through a procurement process that satisfies the Pennsylvania Guaranteed Energy Savings Act
- receives a preliminary audit from selected ESCO (at no cost) outlining proposed measures and savings
- if satisfied with preliminary audit, enters into a PennSEF provided contract with selected ESCO (using PennSEF assistance as desired)
- receives an investment grade audit that demonstrates equivalent savings, and authorizes implementation

# HOW DOES ONE PARTICIPATE?

# Why Act Now?

Reduce energy and water costs

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Replace aging, high-maintenance equipment

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Improve safety and resiliency

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Reduce operating costs

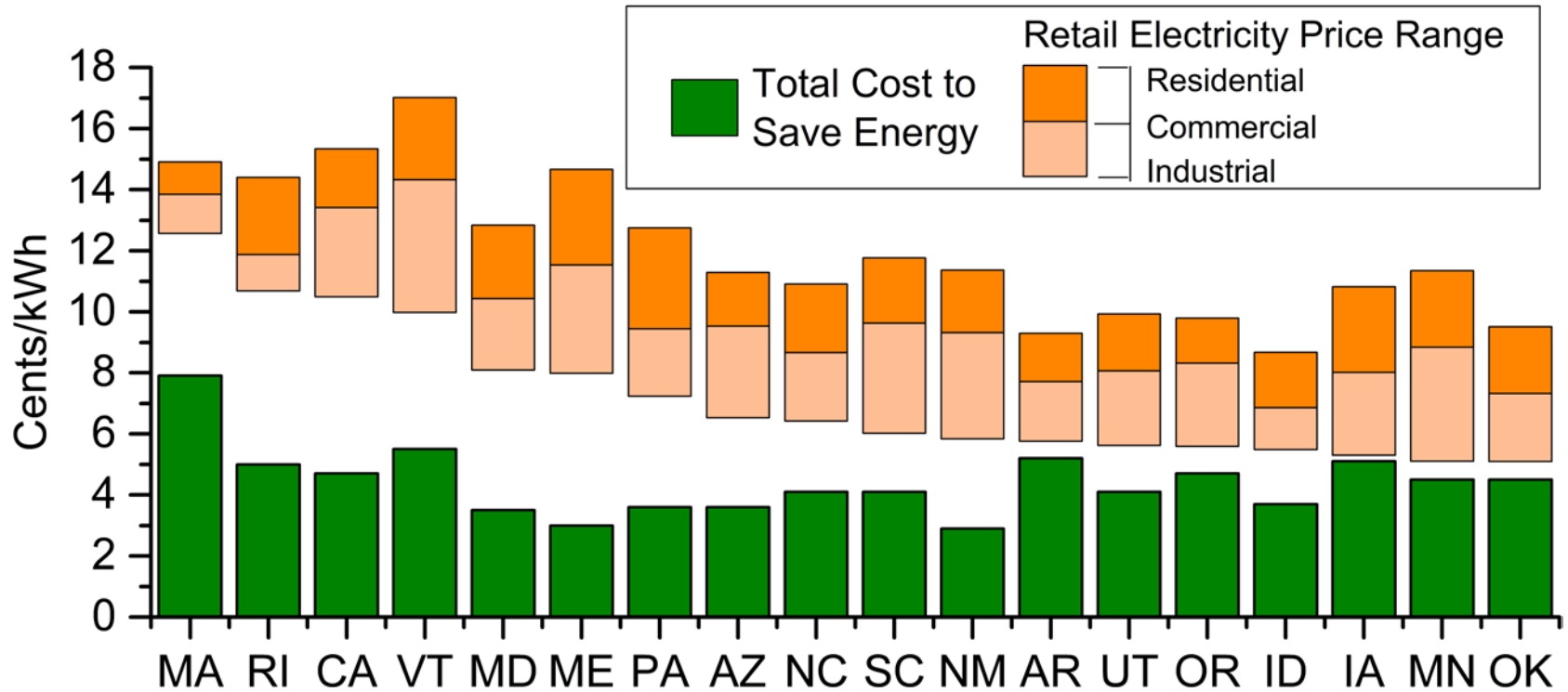
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Reduce carbon footprint



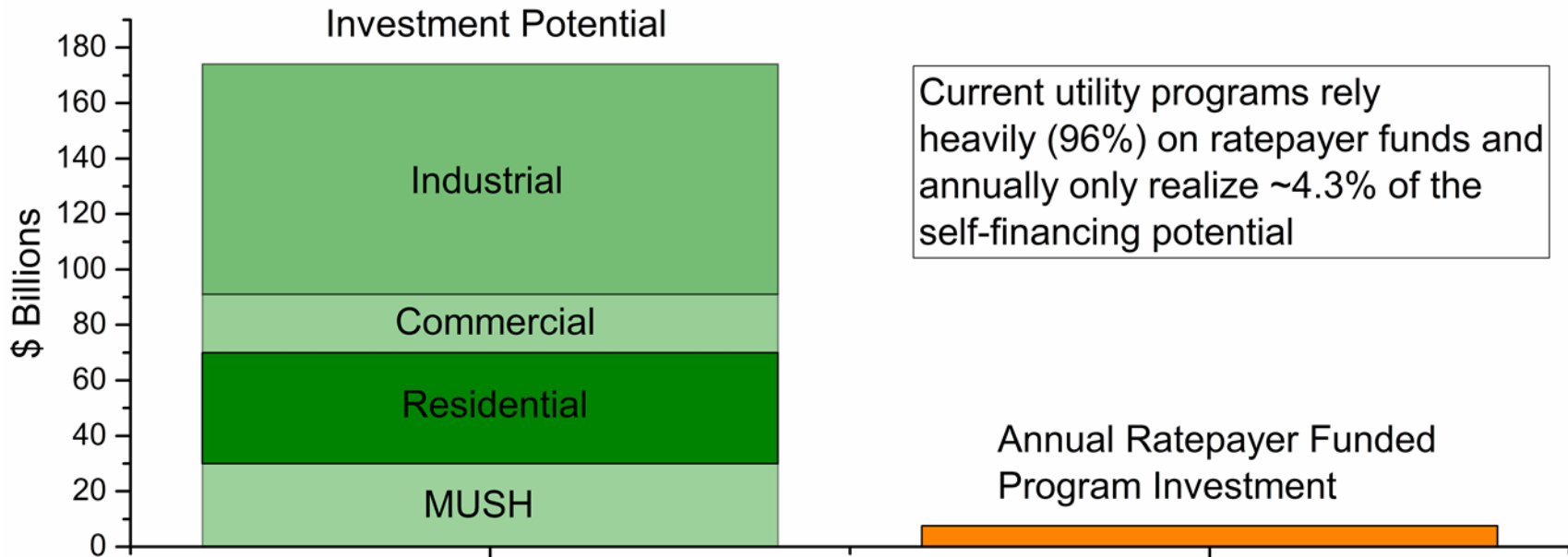
# The “Negawatt” – not consuming

The cost of saving energy is significantly less than electricity rates throughout the U.S.





# The Challenge: Financing from Savings



Source: McKinsey Global Institute. The Case for Investing in Productivity. Consortium for Energy Efficiency (CEE), 2015. Annual Industry Report 2015: The State of the Efficiency Program Industry: Budgets, Expenditures and Impacts.

# How does it Work?

Low financing rates are available in the bond markets

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Long-term financing allows deep retrofits to be self-funding

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Pooled financing saves on average financing costs and permits smaller projects to take advantage of bond financing

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Program provides negotiating leverage

## Indicative Borrowing Rates

| PA Tax-Exempt Revenue Curve 9/8/2017 |      |      |      |      | PA Taxable Curve 9/8/2017 |      |      |      |      |
|--------------------------------------|------|------|------|------|---------------------------|------|------|------|------|
| Term                                 | AAA  | AA   | A    | BBB  | Term                      | AAA  | AA   | AA   | Baa  |
| 1                                    | 0.86 | 0.95 | 1.10 | 1.45 | 1                         | 0.98 | 1.15 | 1.30 | 1.95 |
| 5                                    | 1.21 | 1.45 | 1.60 | 2.00 | 5                         | 1.68 | 1.80 | 2.23 | 2.60 |
| 10                                   | 1.88 | 2.13 | 2.28 | 2.68 | 10                        | 2.25 | 2.50 | 2.70 | 3.20 |
| 15                                   | 2.00 | 2.30 | 2.55 | 2.95 | 15                        | 2.35 | 2.60 | 2.80 | 3.30 |
| 20                                   | 2.05 | 2.35 | 2.62 | 3.05 | 20                        | 2.42 | 2.70 | 2.90 | 3.42 |

Rates are *indicative only* and are quoted for general category ratings and not for sub-categories such as Aa3.

Rates are as close of the market on September 8, 2017.

Rates are generalized for a category rating and do not reflect the various nuances in the market in terms of the way investors see credits. For instance hospital credits are not seen in as positive a light as school district credits, and even within those credit categories it depends on the name of the hospital or school district. In addition, it does not account for various possible increases in ratings due to things like Pennsylvania's Intercept Program if that can back a school district's bonds.

Rates in the Revenue Curve table are quoted as trading off the same GO category. The amount they trade off will depend on the borrower and the perception in the market of that borrower. The same rates may or may not apply for Lease Revenue Bonds or Certificates of Participation.

# Who Can Participate?

Program assists governmental and non-profit entities to procure and finance sustainable energy improvements

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This includes:

Municipalities  
Community Colleges  
Counties  
Public Authorities  
School Districts

Correctional Institutions  
Universities  
Hospitals  
Private Schools  
Large Non-profit Agencies

# What Measures Are Included?

Many! A wide range of energy & water conservation measures (electrical **and** thermal) can be financed

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Distributed generation (including solar PV and combined heat and power), microgrids, smart energy management are important candidates for this Program

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Major lighting upgrades, HVAC improvements (including boiler and chiller replacement), process and steam redesigns, building envelope upgrades, & motor drive/pumping systems overhauls are examples – ***the key is that the new equipment creates energy and water bill savings sufficient to finance the investment***

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The most attractive projects integrate ***deep retrofits*** with ‘low hanging fruit’

# How to Become a Participant?

**1. Provide a non-binding Letter of Interest and begin discussions with the FREE Team to identify your goals and concerns.**

**2. Attend the Education Day organized by FREE for potential Participants.**

**3. Provide the ESCO(s) you choose with access to your site, facilities staff and energy and water bills.**

**4. Use a simplified procurement to select an ESCO to perform a pre-contract audit and present an initial proposal.**

Your LOI will be shared with FREE's pre-qualified ESCO list.

The FREE Team will review in detail on Education Day how the financing works. You will also have an opportunity to meet ESCO representatives.

We work with electric, natural gas and water suppliers to help make access to bills from multiple sites a simple process.

The pre-contract audit establishes a benchmark. Any resulting project must provide savings equal to at least 90% of the savings the audit predicts.



# Contracting and Financing

**5. Sign a Guaranteed Savings Agreement, pursuant to which the ESCO will provide an investment grade audit, a construction proposal, and savings guarantee.**

**6. Accept the proposal, which spells out how the guarantee works and how savings are monitored and verified.**

**7. Retrofit work is performed by the ESCO, and all equipment is regularly checked to ensure performance specifications are met.**

**8. Your financial savings are verified over the minimum period of time needed to pay off all retrofit costs.**

The investment grade audit (IGA) is used by the ESCO to establish its dollar savings guarantee to you.

The FREE Team will provide comparative metrics so that you can compare your guarantee to ones provided to other Participants. This creates a competitive process in your favor!

You sign off on construction payments after you review and approve ESCO documentation.

The verification of savings is extremely important, and you will receive regular reports from ESCOs documenting them.



# Procurement Process

Pennsylvania government units can procure using a flexible process under the Guaranteed Energy Savings Act.

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The government unit issues an RFP that permits selection on the basis of multiple criteria to meet its needs. Criteria can include being a qualified ESCO under the program.

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The government unit selects one ESCO to prepare a preliminary audit.

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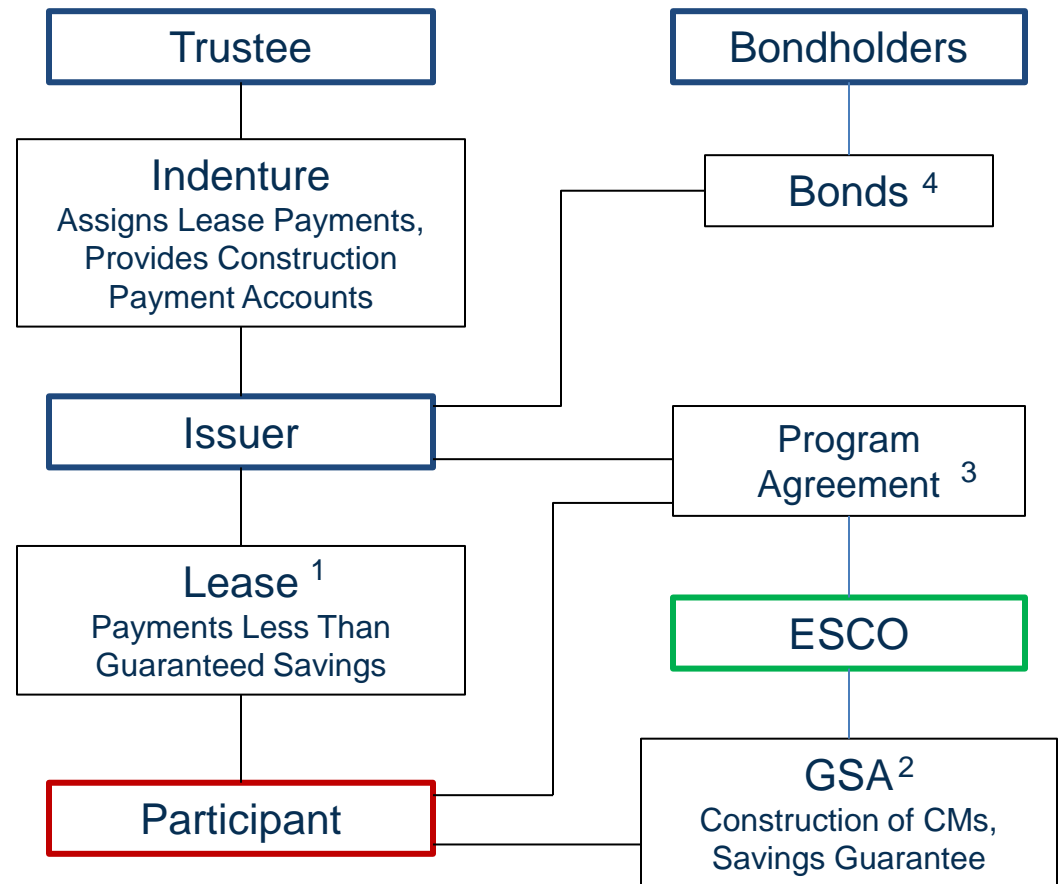
If satisfied with the preliminary audit, the government unit makes a final selection of the ESCO and signs a Guaranteed Savings Agreement.

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If not satisfied the government unit can exit the program at no cost or engage another ESCO.

# Financing Structure

1. Participant enters into Lease with the Issuer in which it agrees to make quarterly payments for installation of energy/water conservation measures (“CMs”).
2. Participant enters into a Guaranteed Savings Agreement (“GSA”) with an Energy Service Company (“ESCO”), which constructs CMs and guarantees annual savings for the life of the agreement.
3. Participant and ESCO enter into Program Agreement and agree to report performance of the CMs and job creation.
4. Issuer issues bonds secured by payments under the Participants’ Leases.



# Guaranteed Energy Savings Agreement



## Purpose

-Agreement between ESCO and Participant to undertake implementation of one or more conservation measures at the host's facility.



## Mechanism

-ESCO agrees to design, construct and install conservation measures selected by Participant

-ESCO guarantees that the amount of savings (after payment of operation and maintenance costs) will exceed the payments due under the Lease.

-The Participant assumes operating responsibility, starting at the project's time of completion.

# Measurement & Verification Baseline Calculation, Included Savings

Fixed escalation of energy and water rates determined by the Program

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Dollar savings are guaranteed as technical performance times escalated energy/water rates

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Only energy/water savings are counted, not operational and maintenance savings

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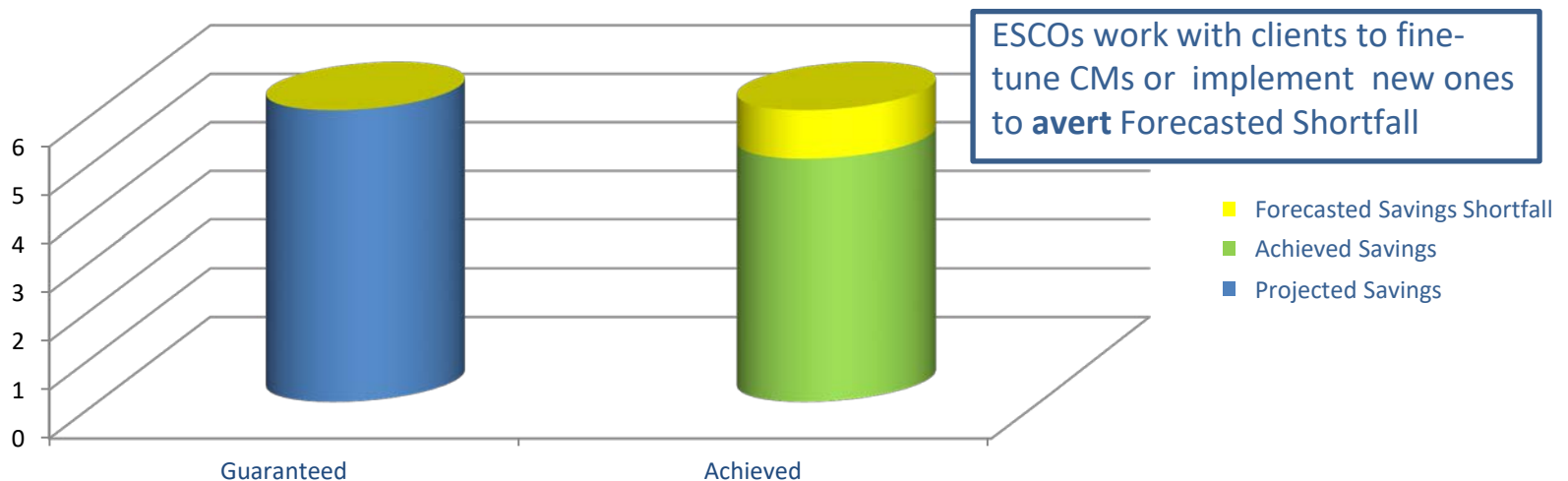
Internationally recognized Monitoring and Verification (M&V) protocols are used

# Diagnostic M&V

## Purpose

Diagnose Progress by Quarter – will the Project annually meet its Guarantee? Contractual remedies implemented as necessary

- ✓ Uses the same DOE Sponsored IPMVP
- ✓ Based on FEMP Guidelines: Measurement and Verification for Federal Energy Projects Version 3.0
  - Option A** – ISOLATE RETROFIT–MEASURE KEY PARAMETER
  - Option B** – ISOLATE RETROFIT–MEASURE ALL PARAMETERS
  - Option C** – WHOLE BUILDING DATA ANALYSIS
  - Option D** – CALIBRATED SIMULATION



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***If Pam or Ann cannot answer your question, they will find the person who can!***





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