

The Pennsylvania Sustainable Energy Financing (*PennSEF*) Program

# In a Nutshell



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

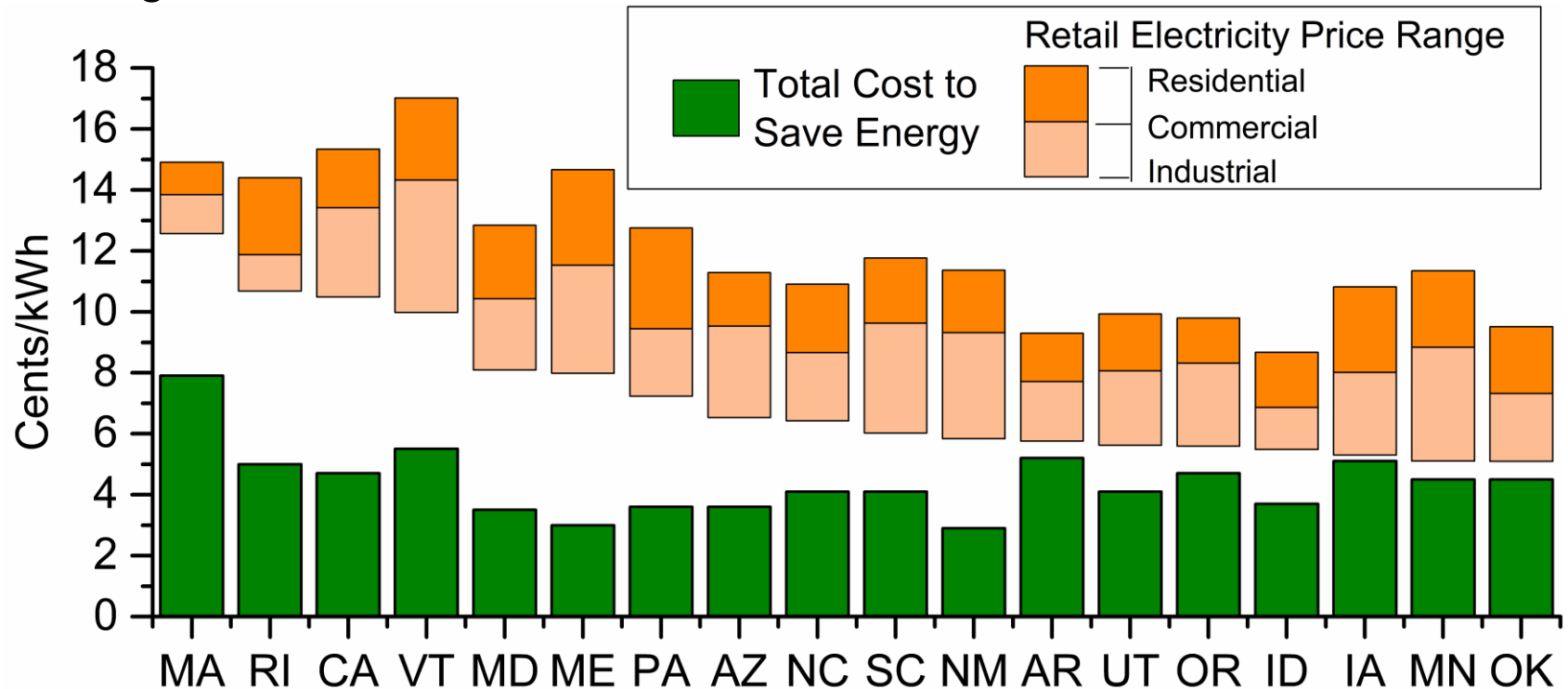
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Foundation for Renewable  
Energy & Environment  
<http://freefutures.org/>

Drinker Biddle



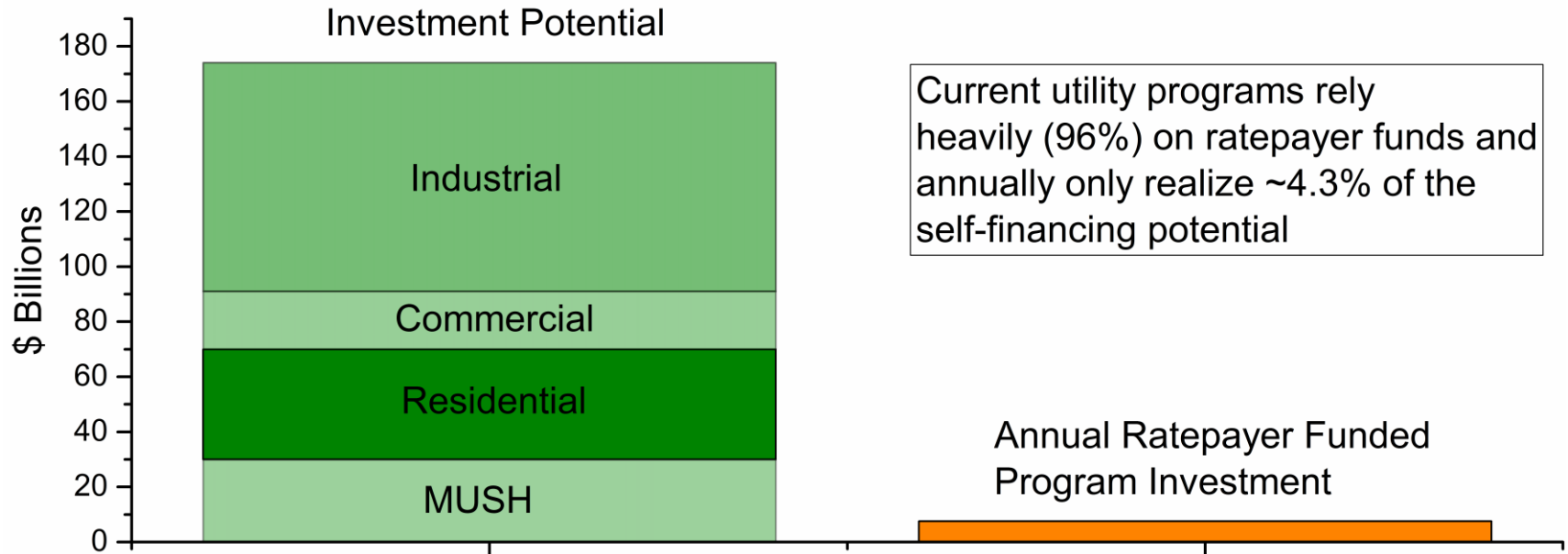
# The “Negawatt” – not consuming

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



Source: Hoffmann et al. (2015). The Total Cost of Saving Electricity Through Utility Customer-Funded Energy Efficiency Programs: Estimates at the National, State, Sector and Program Level. Lawrence Berkeley National Laboratory (LBNL).; Energy Information Administration (EIA) Annual Electric Power Industry Report (EIA-861)

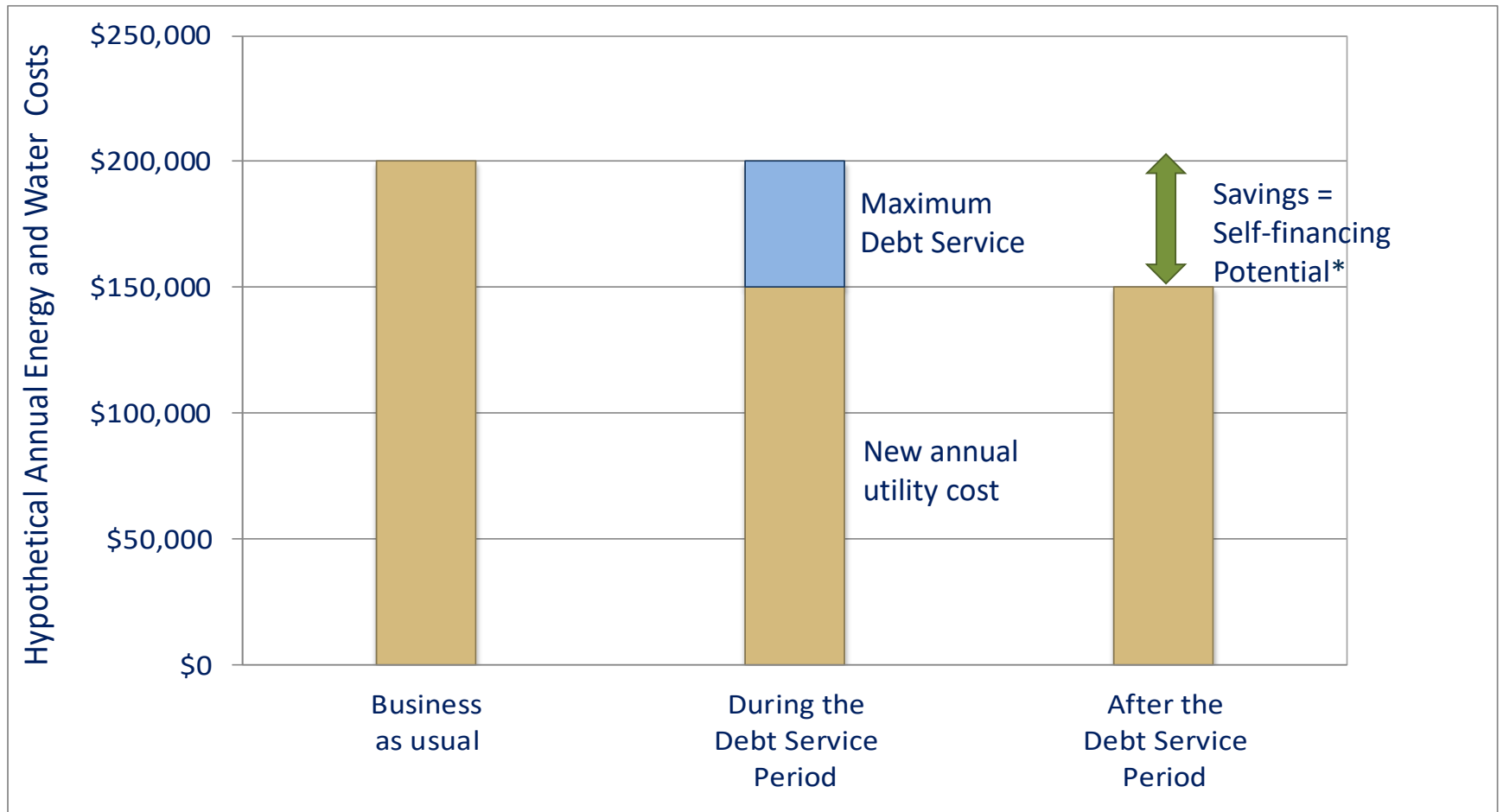
# The Challenge: Financing from Savings



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.

# Financial Performance



\* Payback years to retire debt service depend upon the measure (e.g., lighting improvements might pay back in 4 yrs while chiller replacements might take more than 12 yrs). Market experience suggests that the average payback for measures is in the 5-10 year range. After a measure has paid back its share of the debt service, the participant receives the full annual savings from investment in the measure. Often, measures have performance lifetimes in excess of 12 years, and items like chillers can have performance lifetimes greater than 20 years.

# Sustainable Energy Financing Basics

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

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Uses pooled tax-exempt financing based on the credit of the governmental and non-profit entities

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Provides guaranteed dollar savings that exceed financing costs

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Includes a wide array of energy & water conservation measures (electrical and thermal), CHP, distributed generation (e.g., solar PV), microgrids, smart energy management

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Integrates deep energy retrofits with 'low hanging fruit'

# KEY PROGRAM FEATURES

- ✓ Prequalification of local and national energy service companies\* through an RFQ process
- ✓ Standardized documentation that facilitates pooled financing – which lowers costs for ***all*** Participants
- ✓ Guaranteed Savings Agreement is a transparent construction contract with a strong guarantee and spells out a monitoring and verification (M&V) plan in detail
- ✓ FREE's Legal, Financial and Technical Experts assist throughout negotiations

\* Sometimes abbreviated as ESCOs, it includes construction, engineering, energy service and other companies prepared to sign performance contracts in accordance with the *PennSEF* Program requirements.

# Benefits of the *PennSEF* Program

- ✓ Pre-Contract Audit Provided at No Cost to Participants
- ✓ Investment Grade Audit is then performed on the basis of the Participant's priorities and must offer self-financing improvements which total at least 90% of the savings quoted in the Pre-Contract Audit
- ✓ All Program Costs are Paid within the Bond Issue
- ✓ Project Pooling Means Economies of Scale for Document and Rating Costs
- ✓ No Cross Collateralization or Risk Associated with Involvement of Participants with Lower Credit Ratings
- ✓ Customized and Serialized Financing Optimization
- ✓ Economic Development Benefits Include Significant PA Job Creation & Use of PA Vendor Supply Chain

# More Benefits of the *PennSEF* Program

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 set by the Program

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Only energy/water savings are counted, not operational savings or deferred maintenance

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Companies installing measures agree to use best efforts to attain dollar savings through additional work (payment to cure shortfall, if needed)

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

## 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	A	BBB
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 of 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.

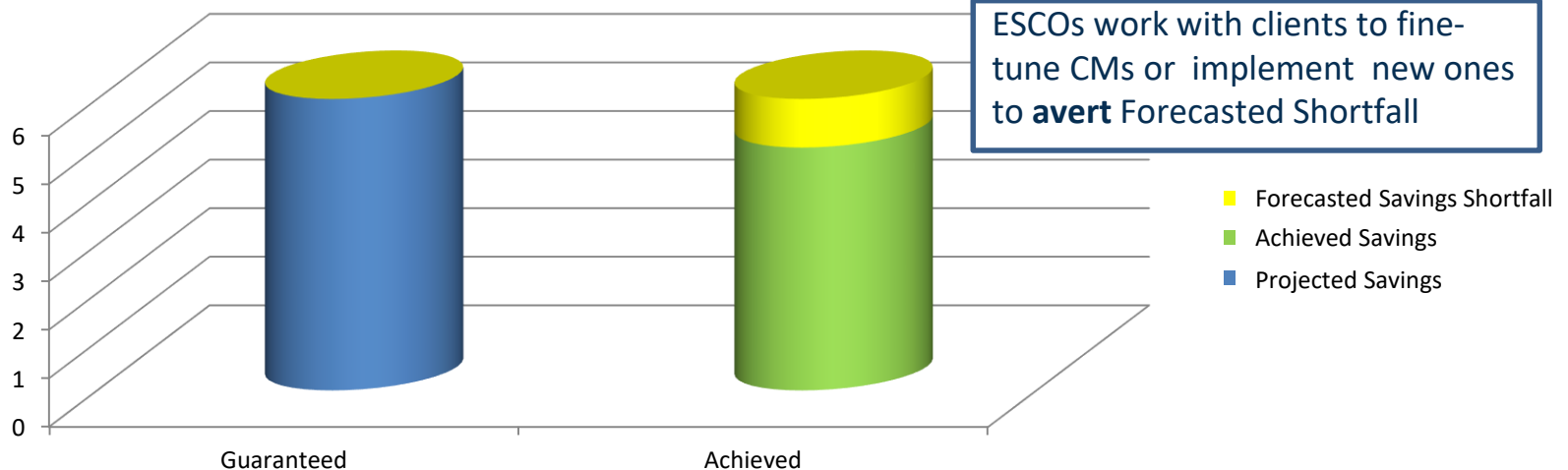
Rates in the Revenue Curve table are quoted as trading off the same GO category. The amount they trade off will depend on the borrower and the perception in the market of that borrower. The same rates may or may not apply for Lease Revenue Bonds or Certificates of Participation.

# FREE's IMPROVED M&V

## Purpose

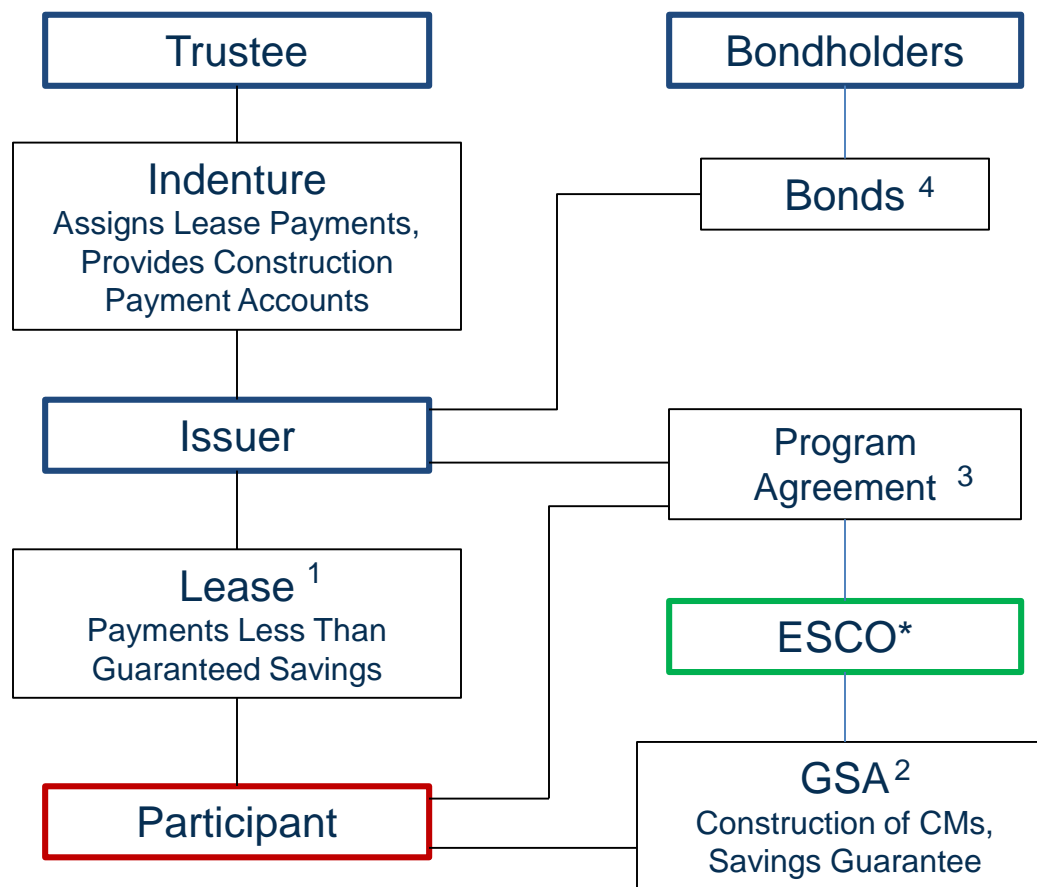
Diagnose Progress by Quarter – Will the Project annually meet its Guarantee? Contractual remedies implemented as necessary.

- ✓ 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



# PennSEF 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 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 meet or exceed the payments due under the Lease or Installment Payment Agreement.

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

# STEPS TO **FINANCING**



## Documentation and ESCO Solicitation

- Create common documents
- Prequalify ESCOs (obligate them to the terms of the Program)



## Education Day

- Educate participants
- Introduction to ESCOs

# STEPS TO FINANCING

- ✓ Participant Support
  - No-cost Pre-Contract Audit and Investment Grade Audit
  - Benchmark energy costs and financing rates
  - Negotiate Guaranteed Savings Agreements and Schedules
- ✓ Support Financing
  - Rating Agency Presentations
  - Protect Participant Interests

# For further information...

<http://freefutures.org/free-policy-briefs/policy-briefs>

<http://freefutures.org/seu-initiative/free-sustainable-energy-financing-advisory-service>



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