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Energy Efficiency Financing Foundations

Training for Public Sector Facilities Managers and Finance Officers

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Module 5

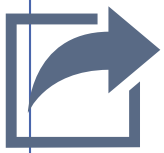
Technical and Financial Activities after Contract Signing

Learning Objectives

Understand how different financial products are repaid over time

Compare options for ongoing operations and maintenance

Consider motivations and methods for measuring and verifying savings



Walk through closeout procedures and post-closeout scenarios

Repayment

Loan Repayment

Repayment Considerations

- Typically repaid on a monthly basis.
- In some cases, **loan servicer** may be responsible for collecting payment from borrower.
- **Amortization**: schedule of principal and interest payments. "Straight-line" amortization is most common, meaning principal and interest add up to the same total payment amount each payment period.
- Interest rates may be **fixed** or **variable** ("floating"). Variable rates typically follow a commonly accepted index rate, such as the Secured Overnight Financing Rate (SOFR).
- Loan agreement may permit original lender to **assign** repayments to another lender or to **sell the loan**.

Example: Straight-Line Amortization Stormwater Facility, Redmond, WA

Redmond Way Stormwater Treatment Facility/DOE Loan

Total Loan Avail.	$ 4,412,000
Total Draw	$ 4,412,000
Loan Rate	2.60%
Maturity Date	6/30/2035
Loan #	L1200024

Year	Princ Bal	Princ Pymt	Interest	Total Pymt
2020	$ 3,710,522	$ 196,975	$ 95,719	$ 292,694
2021	$ 3,513,547	$ 202,158	$ 90,536	$ 292,694
2022	$ 3,311,389	$ 207,477	$ 85,217	$ 292,694
2023	$ 3,103,912	$ 212,936	$ 79,758	$ 292,694
2024	$ 2,890,976	$ 218,539	$ 74,155	$ 292,694
2025	$ 2,672,437	$ 224,289	$ 68,405	$ 292,694
2026	$ 2,448,148	$ 230,191	$ 62,503	$ 292,694
2027	$ 2,217,958	$ 236,247	$ 56,446	$ 292,694
2028	$ 1,981,710	$ 242,464	$ 50,230	$ 292,694
2029	$ 1,739,246	$ 248,843	$ 43,850	$ 292,694
2030	$ 1,490,403	$ 255,391	$ 37,303	$ 292,694
2031	$ 1,235,012	$ 262,111	$ 30,583	$ 292,694
2032	$ 972,901	$ 269,007	$ 23,686	$ 292,694
2033	$ 703,894	$ 276,086	$ 16,608	$ 292,694
2034	$ 427,808	$ 283,350	$ 9,344	$ 292,694
2035	$ 144,458	$ 144,459	$ 1,888	$ 146,347

Source: City of Redmond, WA, Debt Manual

Municipal Lease Repayment

Repayment Considerations:

- Municipal leases can be paid on monthly, quarterly, semi-annual, or annual schedules, depending on the terms of the agreement.
- Some municipal leases can be **refinanced** (e.g., if interest rates drop).
- Municipal leases include an **option to purchase** at the end of the lease period, typically for a nominal amount.
- In the case of a **certificate of participation**, lease payments are made to a trustee (not the lessor), who distributes the funds to multiple investors.

Example of a Municipal Lease Repayment Schedule

Source: Blaine County, Idaho, Municipal Lease Agreement

>> SCHEDULE OF PAYMENTS & OPTION TO PURCHASE PRICE <<

MUNICIPAL LEASE-PURCHASE AGREEMENT No.9023 (THE "AGREEMENT")
BY AND BETWEEN
Lessor: Government Capital Corporation and **Lessee:** Blaine County
Schedule dated as of March 20, 2020

PMT NO.	PMT DATE MO. DAY YR	TOTAL PAYMENT	INTEREST PAID	PRINCIPAL PAID	OPTION TO PURCHASE after pmt on this line
1	10/20/2020	$109,891.12	$11,145.83	$98,745.29	N/A
2	10/20/2021	$109,891.12	$15,047.05	$94,844.07	N/A
3	10/20/2022	$109,891.12	$11,490.40	$98,400.72	$210,976.26
4	10/20/2023	$109,891.12	$7,800.37	$102,090.75	$106,929.18
5	10/20/2024	$109,891.12	$3,971.95	$105,919.17	$1.00
Grand Totals		$549,455.60	$49,455.60	$500,000.00	

General Obligation Bond Repayment

Repayment Considerations

- Interest on municipal bonds is based on a simple-interest calculation using the **coupon rate**.
- Interest payments are called "**coupon payments**" (or simply "**coupons**") and are typically paid every six months, at half the annual coupon, until the bond's **maturity date**.
- Some bonds are **callable** (or "**redeemable**"), meaning the issuer can choose to pay them off early, typically if interest rates fall. May come at a higher rate to issuers to compensate for "call risk" to investors.
- Coupon rates may be **fixed** or **floating**. Floating usually based on an index rate such as U.S. treasuries.
- Coupon rates may also **step up** over time to hedge against potentially rising interest rates. Step-up bonds are typically callable, so the starting rate may be higher than non-callable bonds.
- General obligation bonds may require issuer contributions to a "**sinking fund**" to save up for repayment of total "**par value**" paid at maturity.

See Module 3 Appendix for more information on bond concepts and terminology.

Example: Pittsburgh, PA GO Bond Repayment Schedule

Debt Table Amortization Schedule

Below is the General Obligation Bond Amortization Schedule of each issued bond series. These tables show the amount of principal and the amount of interest that comprise each payment each year until the bond is completely paid off.

City of Pittsburgh
General Obligation Bond
SERIES 2017

Dated: April 10, 2018

Principal Due: Sept. 1 **Interest Due: March 1 & Sept. 1**

YEAR	PRINCIPAL	RATE	INTEREST	TOTAL
2018	$5,000.00	3%	$1,258,800.00	$ 1,263,800.00
2019	$2,015,000.00	4%	$2,517,450.00	$ 4,532,450.00
2020	$2,095,000.00	4%	$2,436,850.00	$4,531,850.00
2021	$2,175,000.00	5%	$2,353,050.00	$4,528,050.00
2022	$2,285,000.00	5%	$2,244,300.00	$4,529,300.00
2023	$2,400,000.00	5%	$2,130,050.00	$4,530,050.00
2024	$2,520,000.00	5%	$2,010,050.00	$4,530,050.00
2025	$2,645,000.00	5%	$1,884,050.00	$4,529,050.00
2026	$2,780,000.00	5%	$1,751,800.00	$4,531,800.00
2027	$2,915,000.00	5%	$1,612,800.00	$4,527,800.00
2028	$3,065,000.00	5%	$1,467,050.00	$4,532,050.00
2029	$3,215,000.00	3%	$1,313,800.00	$4,528,800.00
2030	$3,315,000.00	5%	$1,217,350.00	$4,532,350.00
2031	$3,480,000.00	4%	$1,051,600.00	$4,531,600.00
2032	$3,620,000.00	4%	$912,400.00	$4,532,400.00
2033	$3,765,000.00	4%	$767,600.00	$4,532,600.00
2034	$3,915,000.00	5%	$617,000.00	$4,532,000.00
2035	$4,110,000.00	5%	$421,250.00	$4,531,250.00
2036	$4,315,000.00	5%	$215,750.00	$4,530,750.00
Outstanding:	$54,635,000		$28,183,000.00	$82,818,000.00

Source: City of Pittsburgh, PA, Debt Table Amortization Schedule

Revenue Bond Repayments

Repayment Considerations

- Revenue bonds are paid from **dedicated revenue sources** and are not backed by general tax revenue
- Payments are higher than general obligation bonds, since repayment is backed only by specific revenue streams tied to the financed projects
- Examples of revenue streams that may back public-sector energy efficiency projects:
  - Utility revenue
  - Facility revenue (hospitals, airports, port authorities, etc.)
  - Energy savings (e.g., Delaware SEU revenue bond, backed by energy saving performance contracts)
- Most often mature over relatively long terms (20 – 30 years), corresponding with life of improvements

Example: Stormwater Facility Improvements
Redmond, WA
Utility Revenue Bond

Stormwater Revenue Bonds

Issued in 2014 to construct and improve various pump stations, access chambers, regional facilities in the Overlake and Downtown areas of the City, and flow control and water quality facilities. Funding is also included for stream and habitat restoration projects. Annual debt payments are paid for from utility user fees.

Issue Amount:	$22,950,000
Issue Date:	July 24, 2014
Ratings:	Standard & Poor's: AAA
Principal Pymt Dates:	December 1, 2014 – 2034
Interest Pymt Dates:	June 1 and December 1, 2014-2034
Optional Redemption Date:	12/1/2024 for Bonds Maturing on or After 12/1/2025

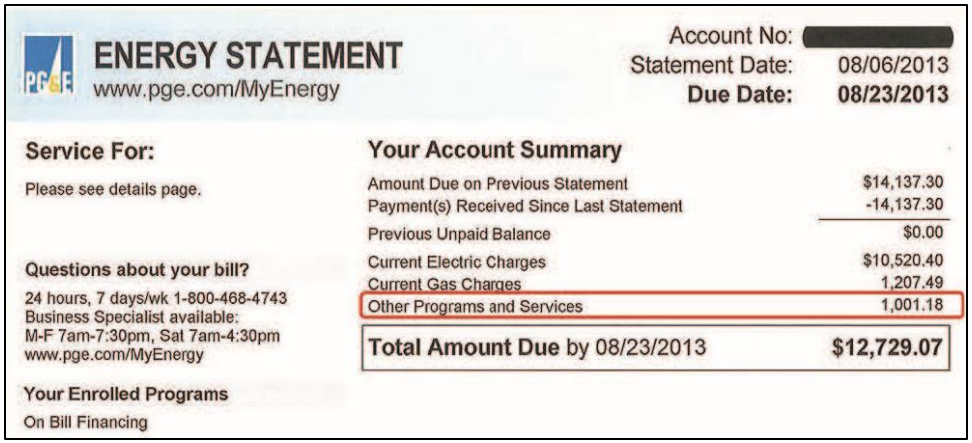
Year	Principal	Interest	Total
2020	880,000	891,360	1,771,360
2021	915,000	856,160	1,771,160
2022	955,000	819,560	1,774,560
2023	1,000,000	771,810	1,771,810
2024	1,050,000	721,810	1,771,810
2025	1,105,000	669,310	1,774,310
2026	1,160,000	614,060	1,774,060
2027	1,215,000	556,060	1,771,060
2028	1,275,000	495,310	1,770,310
2029	1,340,000	431,560	1,771,560
2030	1,405,000	364,560	1,769,560
2031	1,475,000	294,310	1,769,310
2032	1,550,000	220,560	1,770,560
2033	1,630,000	143,060	1,773,060
2034	1,710,000	61,560	1,771,560
TOTAL	$ 18,665,000	$ 7,911,050	$ 26,576,050

Source: City of Redmond, WA, Debt Manual

On-Bill Payments

Repayment Considerations:

- Repayments may stay with the utility ("**on-bill financing**"), if the utility is the capital provider, or may pass through the utility to a third-party capital provider ("**on-bill repayment**").
- Some on-bill programs seek to match repayments to projected energy savings through a "**savings to investment ratio**" (SIR) of at least 1:1. Unlike ESPC, however, energy savings typically are not guaranteed.
- Interest rates may be discounted from market rates or set at 0%.
- While payments may be made from operating budgets (similar to utility energy payments), internal budgeting decisions do not determine accounting treatment.
  - Consult your accounting professional before making decisions on accounting matters



ENERGY STATEMENT
www.pge.com/MyEnergy

Account No: [redacted]
Statement Date: 08/06/2013
Due Date: 08/23/2013

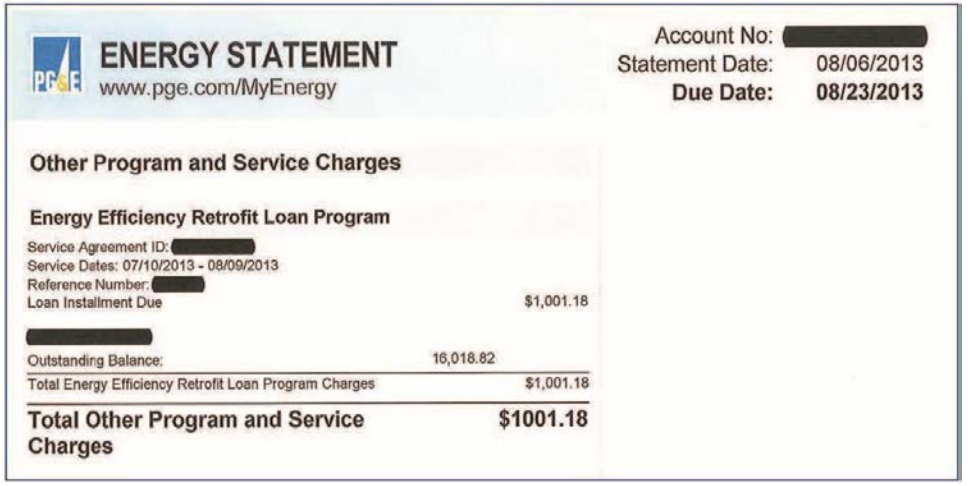
Service For:
Please see details page.

Questions about your bill?
24 hours, 7 days/wk 1-800-468-4743
Business Specialist available:
M-F 7am-7:30pm, Sat 7am-4:30pm
www.pge.com/MyEnergy

Your Enrolled Programs
On Bill Financing

Your Account Summary

Amount Due on Previous Statement	$14,137.30
Payment(s) Received Since Last Statement	-14,137.30
Previous Unpaid Balance	$0.00
Current Electric Charges	$10,520.40
Current Gas Charges	1,207.49
Other Programs and Services	1,001.18
Total Amount Due by 08/23/2013	**$12,729.07**



ENERGY STATEMENT
www.pge.com/MyEnergy

Account No: [redacted]
Statement Date: 08/06/2013
Due Date: 08/23/2013

Other Program and Service Charges

Energy Efficiency Retrofit Loan Program

Service Agreement ID: [redacted]
Service Dates: 07/10/2013 - 08/09/2013
Reference Number: [redacted]
Loan Installment Due $1,001.18

[redacted]
Outstanding Balance: 16,018.82

Total Energy Efficiency Retrofit Loan Program Charges $1,001.18

Total Other Program and Service Charges $1001.18

Source: CH Energy (showing typical PG&E bill with on-bill financing included)

Efficiency as a Service Payments

Repayment Considerations:

- Shared savings repayment arrangements are defined contractually.
- Generally involves a split of savings between customer and service provider above a specified savings threshold.
- Typically do not require payment if energy savings not realized.
- Consult your accounting professional before making decisions on accounting matters.

Case Study: Redaptive, Inc.

- Customer pays monthly for all of the reduction in energy usage, multiplied by an "avoided rate" established at the start of the agreement
- "Avoided rate" is typically lower than the customer's current utility rate, providing immediate savings to the customer.
- Most agreement terms range from five to 15 years
- Ongoing energy usage and reduction are measured by proprietary submeter that is installed at every site and utilizes proprietary platform to determine recurring customer payments
- Customers pay for directly identified and measured energy savings
- For more information, see U.S. DOE, "Redaptive: Developing a Net-Neutral Renewable Energy and Efficiency Project for The Institute For Advanced Study Campus"

Source: U.S. Securities and Exchange Commission, Redaptive, Inc. Form S-1 (Registration Statement)

ESPC Payments: Construction Period

Repayment Considerations

- The **construction period** begins with financial contract signing and typically runs for 12, 18 or 24 months.
- Generally, no payments for the first 12 months, but funds from the financing proceeds are held in escrow for future payment once construction is complete.
- Interim payments may be due if the construction period lasts longer than 12 months.
- Interest-only payments from the escrow account may accrue during this period.
- Interest-only payments are usually capitalized (i.e., repaid according to the financing schedule), since no guaranteed savings accrue during the construction period to cover them.
- Once the construction period is complete, the payment period begins.

To learn more about energy savings performance contracting, visit the Performance Contracting National Resource Center (PCNRC)

Example: DOE Sample Agreement

- *"The term of this Contract shall be _____ years measured beginning with the Guarantee Period Start Date."*
- *"Nonetheless, the Contract shall be effective and binding upon the parties immediately upon its execution, and the period from Contract Execution until the Guarantee Period Start Date shall be known as the Construction Period."*
- *"All savings resulting from installation of the measures during the Construction Period will be fully credited to Owner."*
- *"Owner shall not be required to begin any payments to ESCO under this Contract unless and until all equipment installation is completed by ESCO."*

Source: U.S. Department of Energy, Model Energy Savings Performance Contract, Schedules, and Exhibits

ESPC Payments: Payment/Guarantee Period

Typical Repayment Arrangement:

1. Customer provides the utility bills to the ESCO.
2. ESCO calculates savings per agreed verification protocol, and discloses savings calculation on the invoice.
3. ESCO invoices the customer, assuming savings exceed a stipulated threshold.
4. Customer makes payment.

DOE Sample ESPC Contract

Payments due to ESCO under this Section 3 shall be calculated each _____ in the following manner:

(i) By the _____ day after receipt, Owner shall provide ESCO with copies of all energy bills for the Project Site(s) which it shall have received for the preceding month;

(ii) Upon receipt of the required information, ESCO shall calculate the savings in accordance with the agreed-upon calculation formulae in **Schedule C (Savings Measurement and Verification Plan; Post-Retrofit M&V Plan; Annual M&V Reporting Requirements)**.

(iii) Based upon paragraphs (i) and (ii) above, ESCO shall prepare and send to Owner a _____ invoice which shall set forth for each _____ the amounts of the energy and operations dollar savings calculated in accordance with **Schedule C (Savings Measurement and Verification Plan; Post-Retrofit M&V Plan; Annual M&V Report Requirements)** and for the services as provided for in **Schedule J (Compensation to ESCO for Annual Services)**. The invoice will set forth the total _____ payment due from Owner.

Source: U.S. Department of Energy, Model Energy Savings Performance Contract, Schedules, and Exhibits

ESPC Repayments and Savings Guarantees

Repayment Considerations:

- ESCO contract payments are typically backed by guaranteed energy savings.
- If savings do not materialize up to the guaranteed amount, ESCO must provide payment to make the customer whole. In this case, net effective repayment amount owed to ESCO may be negative (i.e., ESCO may owe payment to customer).
- ESCO may be required to fix installations at no cost to customer, which can result in future repayments during the contract period once savings begin to occur.

Example: Sample ESCO Contract
State of Massachusetts

6.03 Performance Guarantee

ESCO guarantees to the Customer the following:

1) Products provided by the ESCO meet or exceed the published catalog ratings and that these ratings were accurately used in the calculation of energy and water savings estimates,

2) Representations made concerning energy or water consumption in its estimates are accurate, and

3) Based on the projected use of energy and water for the equipment, conditions and operations in place at the time of completion of the Work, which the Customer and the ESCO have agreed to and documented in Baseline Data and Projection attached hereto as Attachment 6, the Customer will save at least _____ dollars ($_____) per year, and/or _____ dollars ($_____) during the term of this Contract.

6.04 Performance Remedies

ESCO shall be bound to both the annual and total guaranteed savings stated in this section. If, during the term of this Contract, the utility savings are less than the guaranteed amount, ESCO shall be required to implement one or more of the following remedies, such remedies to be at the sole and exclusive discretion of the Customer:

1) Within forty five (45) days after determination that actual savings are less than guaranteed, modify the installation at no cost to the Customer so that the guaranteed savings rate as projected in Attachment 6 is attained, and pay or credit, at the Customer's option, to the Customer an amount equal to the difference in the actual savings, if any, and the guaranteed savings, and/or

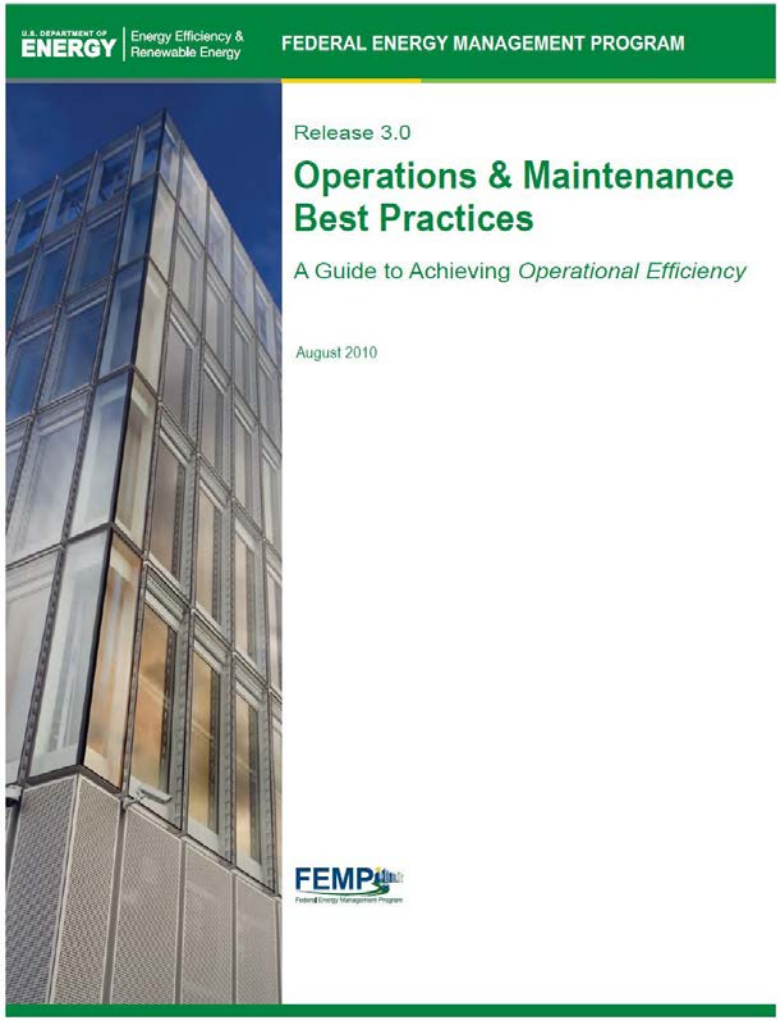
2) Pay or credit the Customer, at the Customer's option, an amount equal to the difference between the actual savings, if any, and the guaranteed savings, as projected in Attachment 6.

Source: State of Massachusetts, Sample Energy Management Services Agreement

Operations and Maintenance (O&M)

In-House O&M

- **Operations and Maintenance**:
  Decisions and actions regarding the control and upkeep of property and equipment. Includes:
  - Optimization of scheduling, procedures, systems, and controls
  - Performance of routine, preventive, predictive, scheduled and unscheduled maintenance to avoid equipment failure or decline
- **Operational Efficiency**:
  Coupling of life-cycle maintenance technologies with equipment calibration, tracking, and computerized maintenance and management capabilities
- Internal O&M **best practices** include:
  - Developing a written maintenance plan
  - Defining O&M metrics
  - Regular interfacing between O&M managers and other department managers
  - Obtaining upper management buy-in
  - Persistent maintenance plan implementation



Source: U.S. DOE Operations and Maintenance Best Practices Guide

Financing and O&M

Key Considerations

- Some financing arrangements (e.g., ESPC and EaaS) integrate ongoing operations and maintenance responsibilities into the contract
- Clear allocation of responsibility for O&M—including measurement, repair and replacement, and mutual reporting requirements—helps ensure long-term energy and cost savings.
- In some cases, contractor will perform all O&M activities on all installed efficiency measures.
- In other cases, fully outsourced O&M may not be practical, due to issues such as building management practices, building access, or cost of outsourcing.

Interfacing with Contractors at Each Stage of the Process

Key O&M Topics	ESPC Stage
1. Describe overall responsibility for the operation, maintenance, repair, and replacement at the project level	Initial and Final Proposals
2. Describe responsibility for the operation, maintenance, repair, and replacement of each ECM.	Final Proposal
3. Define different conditions under which Repair and Replacement (R&R) work will be performed, who will be liable, and the source of funds for performing R&R activities.	Final Proposal
4. Define reporting requirement for O&M activities and its frequency.	Final Proposal
5. Submission of the ECM-specific O&M checklists by the ESCO.	Final Proposal
6. ESCO provides O&M training & submits the Operations and Maintenance Manual for ECMs, including: • New written operations procedures; • Preventive maintenance work procedures and checklists.	Project Acceptance
7. Government (or ESCO) periodically reports on maintenance work performed on ECMs	Performance Period
8. Identification of O&M issues that can adversely affect savings persistence; Steps to be taken to address the issue	Performance Period

Source: U.S. DOE Operations and Maintenance Best Practices Guide

Third-Party O&M

- O&M can also be arranged separately from financing, through an O&M contract
- While many contracts cover full-service O&M, including equipment repair and replacement, others may cover labor only, or a more limited aspect of O&M, such as inspections or preventive maintenance.

Steps to Think About When Considering an O&M Contract

- Develop objectives for an O&M service contract, such as:
  - Provide maximum comfort for building occupants.
  - Improve operating efficiency of mechanical plant (boilers, chillers, cooling towers, etc.).
  - Apply preventive maintenance procedures to reduce chances of premature equipment failures.
  - Provide for periodic inspection of building systems to avoid emergency breakdown situations.
- Develop and apply a screening process. The screening process involves developing a series of questions specific to your site and expectations. The same set of questions should be asked to perspective contractors and their responses should be rated.
- Select two to four potential contractors and obtain initial proposals based on each contractor's building assessments. During the contractors' assessment process, communicate the objectives and expectations for the O&M service contract and allow each contractor to study the building documentation.
- Develop the major contract requirements using the contractors' initial proposals. Make sure to include the requirements for documentation and reporting. Contract requirements may also be developed by competent in-house staff or a third party.
- Obtain final bids from the potential contractors based on the owner-developed requirements.
- Select the contractor and develop the final contract language and service plan.
- Manage and oversee the contracts and documentation.
  - Periodically review the entire contract. Build in a feedback process.

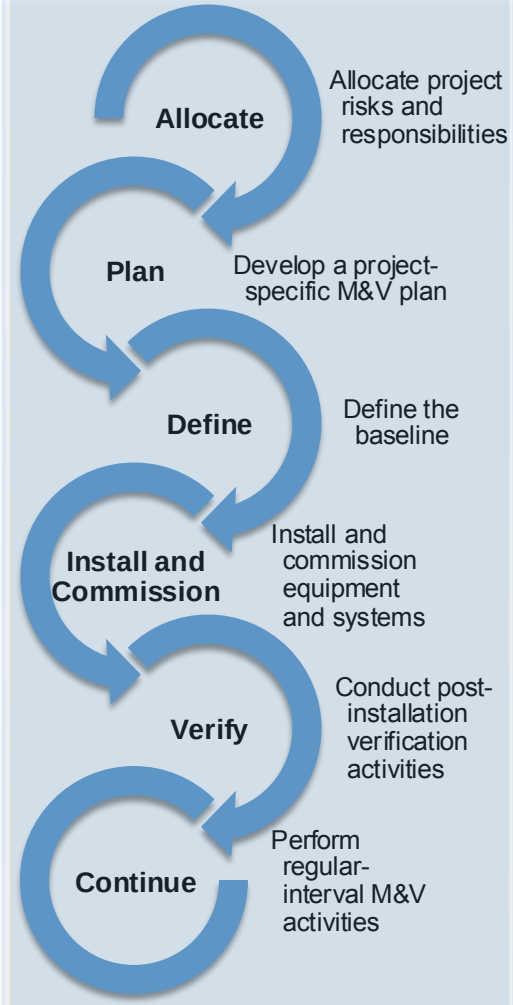
Source: U.S. DOE Operations and Maintenance Best Practices Guide

Measurement and Verification (M&V)

M&V Overview

Basic Concept:

- Process of quantifying the energy and cost savings resulting from improvements in energy-consuming systems.
- Energy and savings are compared to a historical baseline, which may be adjusted to reflect changes in physical or operating conditions.



Source: U.S. Department of Energy, Federal Energy Management Program (FEMP), M&V Guidelines

Basis of Energy Savings

Savings Drivers:

- Energy savings depend on both performance and usage
- Improved performance of facilities and equipment reduces energy consumption
- Increased efficiency may also reduce number of hours needed to run facility or equipment

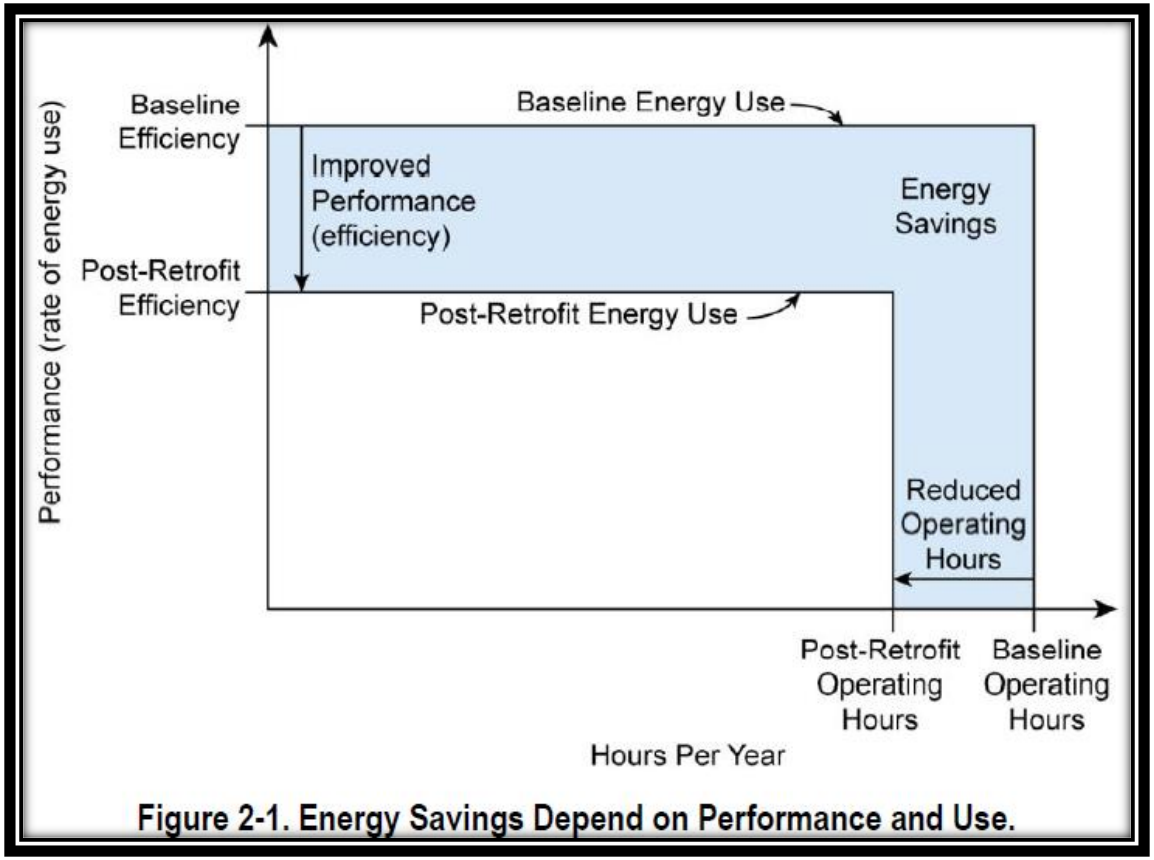


Figure 2-1. Energy Savings Depend on Performance and Use.

Source: U.S. Department of Energy, Federal Energy Management Program (FEMP), M&V Guidelines

M&V Motivations

- Documenting whether projected savings levels are being achieved as required by guaranteed savings contract and/or efficiency program
- Determining whether any corrective actions are required to resolve project performance issues
- Optimizing the performance of facilities and maximizing savings
- Ongoing education of stakeholders on the value of energy efficiency
- Identifying and planning future energy efficiency projects
- Programmatic compliance and pre-requisite for receiving incentives
- Contractual requirements and alignment of provider and building owner interests

Learn More: The Business Case for Conducting Measurement and Verification in State and Local Government Energy Savings Performance Contract Projects

In-House M&V

In-House M&V: Measurement and verification of savings conducted voluntarily by the customer, not subject to programmatic or contractual requirements.

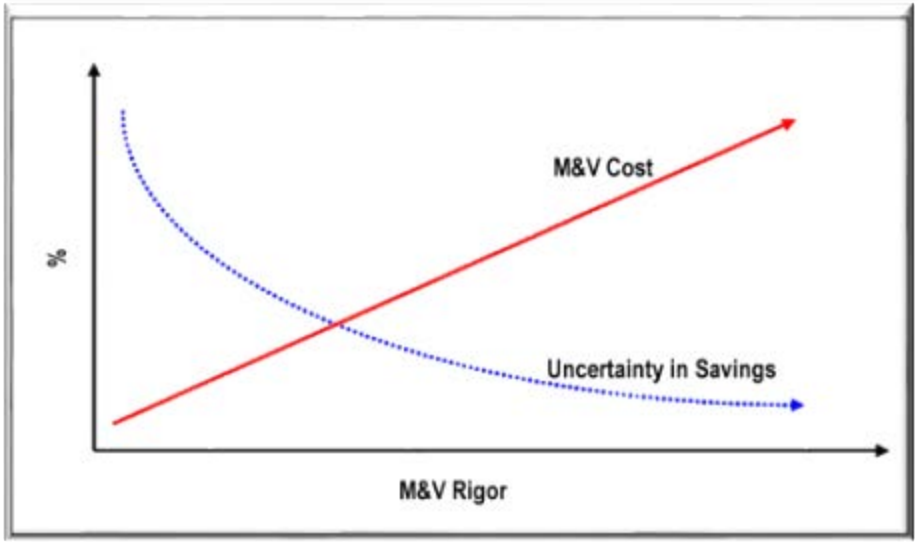
Key Considerations

- M&V reduces risk of nonperformance. Chosen level of M&V cost and rigor is subject to customer's judgment, based on priorities and preferences.
  - Considerations may include scale of a project, energy rates, useful life of the measures installed, comprehensiveness of ECMs, interactive effects of different measures, benefit-sharing arrangement across departments, and magnitude of savings.
  - High level of spending and rigor may not always be needed.
- M&V data can be used for other purposes, including commissioning, system optimization, and periodic recommissioning.

M&V Rigor

Increasing rigor:
- Increases costs
- Decreases savings uncertainty

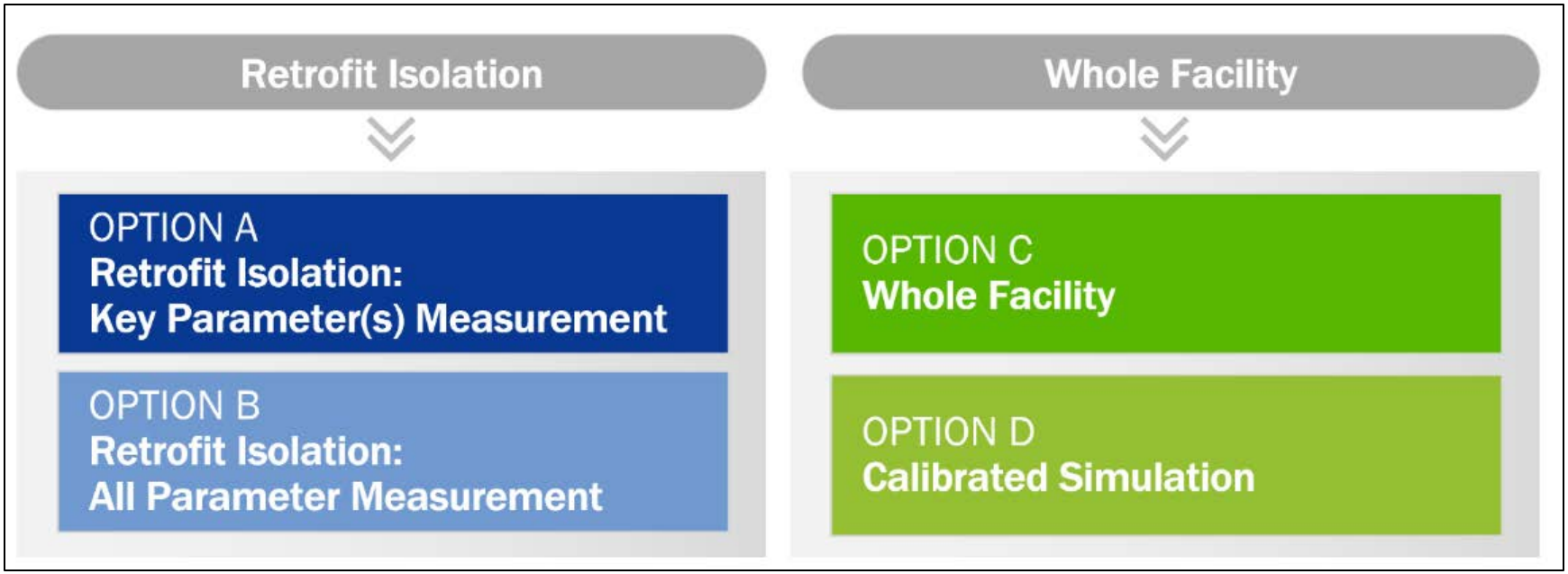
At some point, additional cost will outweigh value of certainty



Source: U.S. Department of Energy, Federal Energy Management Program (FEMP), M&V Guidelines

M&V Options

- Multiple options to determine savings resulting from energy improvements:
  - May be focused on savings from specific measure installation
  - Or may focus on overall facility energy savings
- Retrofit isolation can involve:
  - Metering of specific equipment to determine actual energy usage
  - Calculations-based on alternative parameters (e.g., hours of operation)
- Whole-facility approach may depend on availability of baseline energy usage



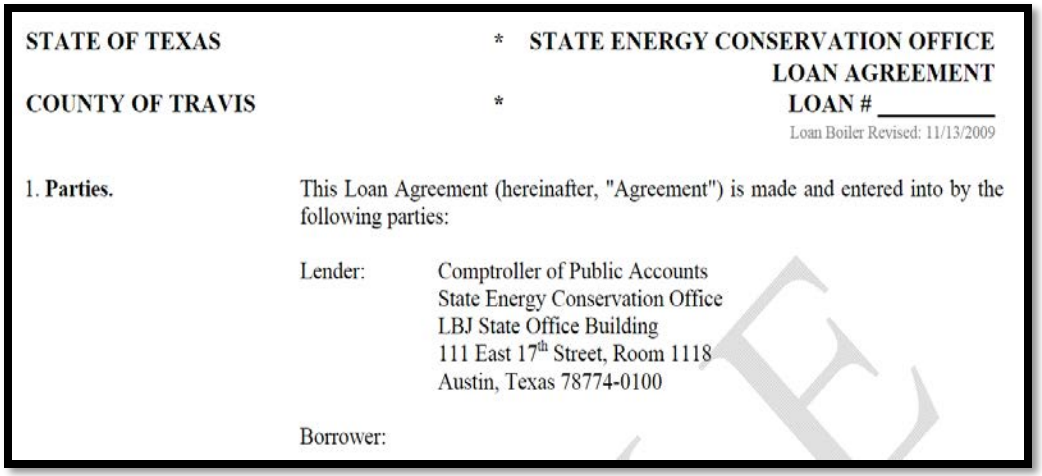
Source: Efficiency Valuation Organization (EVO), International Performance Measurement and Verification Protocol (IPMVP)

Closing Out Financing Arrangements

Close-Out: Loans

- Loan repayment can be a time to consider additional draw-downs or new loans for further improvements
  - Lender may offer lines of credit, allowing for multiple draws up to a maximum amount.
  - Repayments may go into a revolving loan fund, allowing for new loans.
- Prepayment and/or refinancing may be possible if prevailing interest rates drop or borrower needs to offload debt. Loans may come with a prepayment penalty.
- Lender may accelerate repayment of the full outstanding amount if the borrower fails to pay or violates other loan covenants.

Sample Loan Agreement:
Texas LoanSTAR Program



STATE OF TEXAS * STATE ENERGY CONSERVATION OFFICE
LOAN AGREEMENT
COUNTY OF TRAVIS * LOAN # _____
Loan Boiler Revised: 11/13/2009

1. **Parties.** This Loan Agreement (hereinafter, "Agreement") is made and entered into by the following parties:

Lender: Comptroller of Public Accounts
State Energy Conservation Office
LBJ State Office Building
111 East 17th Street, Room 1118
Austin, Texas 78774-0100

Borrower:

"This agreement shall terminate upon repayment, in full, of the Loan."

Source: County of Travis, TX, LoanSTAR Sample Contract

Close-Out: Municipal Lease

- Typical close-out:
  - Option to purchase equipment for nominal amount
  - Transfer of title (if not already transferred up front) and any other rights and interest
- Alternatives:
  - Prepayment: repaying the full amount of the outstanding lease obligation prior to the final due date
  - Non-Appropriation: lessee does not allocate funding for lease payments during the annual budget cycle, is released from future payment obligations, and returns leased equipment

Close-Out Options: Municipal Leases

Option 1: Purchase and Title Transfer

"Lessee shall have the option to purchase Lessor's entire interest in all of the Property subject to a Property Schedule and to terminate any restrictions herein on the Property under such Property Schedule on the last day of the Lease Term for a Property Schedule, if the Property Schedule is still in effect on such day, upon payment in full of the Lease Payments due thereunder plus payment of One (1) Dollar to Lessor. Upon exercise of the purchase option as set forth in this Section 11.01 and payment of the purchase price under the applicable Property Schedule, and performance by Lessee of all other terms, conditions and provisions hereof, Lessor shall deliver to Lessee all such documents and instruments as Lessee may reasonably require to evidence the transfer, without warranty by or recourse to Lessor, of all of Lessor's right, title and interest in and to the Property subject to such Property Schedule to Lessee."

Option 2: Prepayment

"Lessee shall have the option to prepay in whole the Lease Payments due under a Property Schedule, but only if the Property Schedule so provides, and on the terms set forth in the Property Schedule. Lessee shall give written notice to Lessor of its intent to purchase Lessor's interest in the Property at least sixty (60) days prior to the last day of the Lease Term for applicable Property Schedule."

Option 3: Non-Appropriation

"If during the then current Original Term or Renewal Term, sufficient funds are not appropriated to make Lease Payments required under a Property Schedule for the following fiscal year, Lessee shall be deemed to not have renewed such Property Schedule for the following fiscal year and the Property Schedule shall terminate at the end of the then current Original Term or Renewal Term and Lessee shall not be obligated to make Lease Payments under said Property Schedule beyond the then current fiscal year for which funds have been appropriated. Upon the occurrence of such nonappropriation (a "Nonappropriation Event") Lessee shall, no later than the end of the fiscal year for which Lease Payments have been appropriated, deliver possession of the Property under said Property Schedule to Lessor."

***Note**: Non-appropriation clauses were previously used as a means of classifying leases as off-balance-sheet operating debt, but this mechanism is no longer recognized for accounting purposes, unless there is a substantial likelihood of non-appropriation.*

Source: Village of Stickney, IL, Master Tax-Exempt Lease/Purchase Agreement

Close-Out: Muni Bonds

- Issuer repays **par value** ("face value"/"dollar value"/"nominal value" at issuance) on **maturity date**.
- Issuer ceases making **coupon payments**. May cease earlier if the bond is **called** (prepaid).
- If issuer sells bonds as a series, with different maturities, there will be a separate close-out at each maturity date.
- **Zero-coupon bonds** pay zero interest for the duration of the bond agreement. If the bond accrues interest that has not been paid, issuer will pay accrued ("accreted") interest at maturity. These are called "**capital appreciation bonds**."
- If the bond does not have an interest rate, issuer may pay back only the face value of the bond at the maturity date. (Purchasers pay a discount up front for these types of bonds, as compared with capital appreciation bonds)
- In some cases, issuer may sell new bonds and use the proceeds to close out the old ones, if allowed under the original bond agreements. Bonds that allow this are called **refundable**.

CELINA CITY SCHOOL DISTRICT
County of Mercer, Ohio
Relating to the original issuance of
$75,982,675.45
School Improvement Bonds, Series 2021
(General Obligation)
(Unlimited Taxes)

$11,875,000 CURRENT INTEREST BONDS (SERIAL BONDS)

Year	Principal Amount Maturing	Interest Rate Per Annum	Reoffering Price	CUSIP©* (151069)	Year	Principal Amount Maturing	Interest Rate Per Annum	Reoffering Price	CUSIP©* (151069)
2022	$915,000	4.000%	104.062%	FV8	2028	$1,395,000	5.000%	125.218%	GA3
2023	1,155,000	4.000	107.556	FW6	2029	1,465,000	5.000	127.185	GB1
2025	1,205,000	5.000	117.358	FX4	2030	1,535,000	5.000	129.346	GC9
2026	1,265,000	5.000	120.414	FY2	2031	1,615,000	5.000	131.240	GD7
2027	1,325,000	5.000	123.115	FZ9					

$63,460,000 CURRENT INTEREST BONDS (TERM BONDS)

Year	Principal Amount Maturing	Interest Rate Per Annum	Reoffering Price	CUSIP©* (151069)	Year	Principal Amount Maturing	Interest Rate Per Annum	Reoffering Price	CUSIP©* (151069)
2033	$3,420,000	2.000%	99.253%	GE5	2046	$11,120,000	2.625%	96.859%	GH8
2036	5,400,000	2.125	98.407	GF2	2051	12,690,000	2.750	96.415	GJ4
2041	9,835,000	2.375	96.953	GG0	2058	20,995,000	2.875	96.127	GK1

$647,675.45 CAPITAL APPRECIATION BONDS

Year	Original Principal Amount	Maturity Amount	Approximate Equivalent Interest Rate	Original Principal Per $5,000 Maturity Amount	Original Offering Price to Public Per $5,000 Maturity Amount	Approximate Yield to Maturity	CUSIP©* (151069)
2024	$647,675.45	$1,205,000	21.124%	$2,687.45	$4,870.55	0.850%	GL9

"Interest on the Current Interest Bonds will be payable semi-annually on June 1 and December 1 of each year."

"The Capital Appreciation bonds will not pay current interest but will accrete in value from their date of issuance and the accreted value will compound on December 1, 2021 and semiannually thereafter."

Source: Municipal Securities Rulemaking Board (MSRB) Electronic Municipal Market Access (EMMA), Celina City School District, School Improvement Bonds Official Statement

Close-Out: Title Transfer

Title under Various Financing Arrangements:

- **Loans, bonds, and on-bill financing/repayment**: Title to the property rests with borrower from the beginning of the financing agreement.
- **Tax-exempt lease**: Title most commonly transfers at the beginning of the lease period, but may in some cases transfer at the end of the period.
- **ESPC**: Title retention during the contract period depends on the underlying financing structure.
- **Efficiency as a Service**: Title stays with the service provider until the end of the agreement, and then transfers to the customer, unless the customer renews the contract or returns the equipment.

Structures in which title may transfer at close-out: Tax-Exempt Leases and EaaS

Who owns the equipment under a tax-exempt lease?
Title may either be retained by the lessor until all payments have been received or may be granted to the lessee at lease inception. In this case, the obligation is secured by a 'perfected' first security lien on the equipment. In most cases it is preferable to pass title up front to avoid any potential tax issues.

Association for Governmental Leasing and Finance
https://www.aglf.org/faq

Efficiency as a Service

"The customer then enjoys lower utility bills throughout the contract term. The ESA provider retains ownership of the equipment for the duration of the ESA term and pays for maintenance to ensure reliability and performance. New efficiency measures can be added during the duration of the contract. At the end of the contract, the customer can elect to purchase the equipment at fair market value, extend the contract, or (less commonly) return the equipment."

Source: U.S. Department of Energy, Building Technologies Office, "Efficiency as a Service"

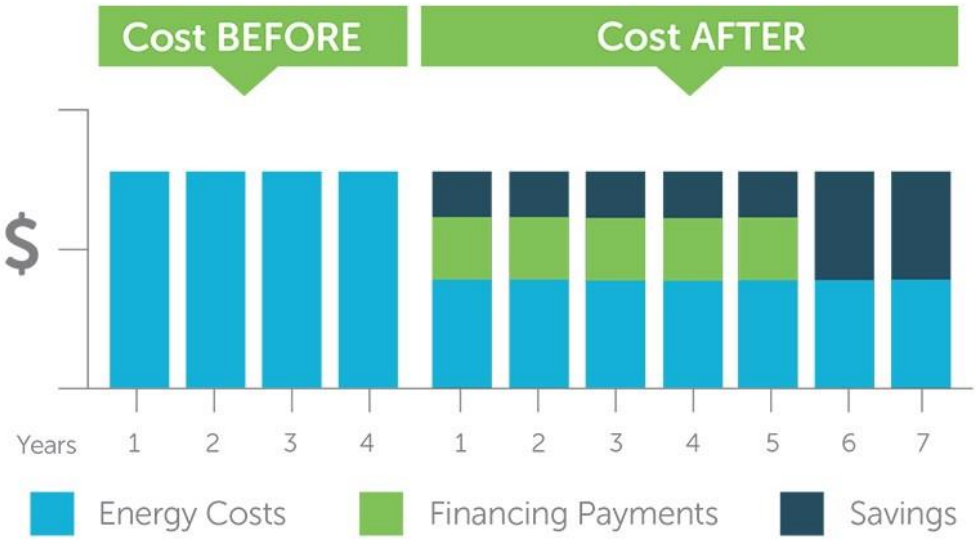
Close-Out: O&M Transfer

- Loans, bonds, and on-bill financing/ repayment generally leave O&M responsibility with the borrower.
- Tax-exempt leases also leave borrower with maintenance responsibility. For this reason, they are labeled "**net leases**."
- ESPC and EaaS arrangements generally assign at least some O&M responsibilities to the service provider.
- These services may wrap up at the end of the contract term.
- Service providers often offer **ongoing maintenance contracts** after the initial contract period.
- Borrower may contract with contractor or third party for O&M services or take internal responsibility.

Post Close-Out Energy Savings

Key Considerations:

- If equipment is still operating and in good condition, net savings to customer (utility bill savings minus financing payments) will go up substantially with the termination of financing payments.
- Some financing arrangements are structured to coincide with the estimated useful life of the equipment. If the equipment reaches the end of its useful life at the end of the financing term, borrower may need to reinvest in equipment replacement.



Source: Efficiency Vermont, "How to Finance Your Business's Energy-Saving Project"

Additional Resources

- International Performance Measurement and Verification Protocol (IPMVP)
- Uniform Methods Project for Determining Energy Efficiency Program Savings (UMP)
- Energy Savings Performance Contracting for State and Local Governments: Strategies for Successful Measurement and Verification of Savings
- The Business Case for Conducting Measurement and Verification In State and Local Government Energy Savings Performance Contract Projects
- Evaluating ESPC Results
- eProject eXpress (ePX)
- ENERGY STAR Portfolio Manager
- Energy Savings Performance Contracting (ESPC) Toolkit
- Benefits of Using Owner's Representatives
- C-PACE Value of M&V [when published]
- Practices for Demonstrating Energy Savings from Commercial PACE Projects
- Efficiency Valuation Organization (EVO), International Performance Measurement and Verification Protocol (IPMVP)
- U.S. Department of Energy, Federal Energy Management Program (FEMP), M&V Guidelines
- Northeast Energy Efficiency Partnerships (NEEP), "Common Statewide Energy Efficiency Reporting Guidelines"

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