This guide details the financing step of an energy efficiency project. For an overview of a typical energy efficiency project, check out Third Partners' Energy Efficiency 101 ,which outlines a standard project cycle: Assessment, Proposal, Financing, Implementation, and finally Measurement and Verification (M&V).

Energy Efficiency Financing 101

Energy cost savings are typically the strongest incentive to develop an energy efficiency project, with improved environmental performance providing an extra benefit. The opportunity for cost savings is enormous: the U.S. Department of Energy estimates that the average facility **wastes 30%** of the energy it consumes.

Any energy efficiency project that produces measurable savings includes one or more **energy conservation measures or "ECMs"**. Before an energy efficiency project can be financed, a project developer must identify and quantify the anticipated cost savings from all of the available ECMs using the following data: historical utility or sub-metered consumption data (12-24 months), installed cost estimate, and projected energy performance of the new equipment.

Once the financial projections are developed, organizations have two options for financing projects:

- ➔ **(1) use internal funds, or**
- ➔ **(2) seek financing from an external source**.

Internal Financing Structures

An organization that funds its internal energy efficiency projects is usually subject to its own **cost of capital or requirements on financial return** which may be used to prequalify ECMs or ECM packages. There are several strategies for organizations to produce financing for energy efficiency projects; Third Partners provides advisory on this process and can help determine the best course of action for your organization:

- ➔ A **carbon or energy use tax** can be levied on internal departments based on the quantity of carbon emissions produced or energy consumed. The proceeds from this tax can be used to finance projects.
- ➔ Energy efficiency project finance can be included in pre-existing **capital asset funds** for regular facilities improvements, and the proceeds from energy efficiency projects can be funneled back into the asset fund in future years.
- ➔ **Rebates & tax incentives** can offset project costs up to 70% and are often available from energy utilities or federal, state, and local governments for a wide variety of ECMs.
- ➔ The energy efficiency project can be assigned to any **internal budget** at the time of planning, and the financial benefits (from reduced energy costs) can accrue to the standard facilities operations budget. This is the easiest method because it involves existing accounts and budgets, but it often dissociates the savings from the expense, which many organizations wish to avoid.

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External Financing Structures

Obtaining external financing for an energy efficiency project can be complex, but there are **financial vehicles and legal structures** that can simplify the process. Adoption of these structures is becoming more and more commonplace as the financial and energy industries realize the economic opportunity of energy efficiency.

One advantage that third party financing has over internal financing is that third party financing **distributes the risk of an energy efficiency project** to multiple parties. Some third party financing structures also include a performance guarantee, ensuring a project developer or technology installer has a stake in the performance of the retrofit.

Primary External Financing Options

- **Commercial Line of Credit** - A basic financing arrangement similar to a bank loan.
- **Capital Lease** - In a capital lease the energy efficiency asset is owned partially by the lessor and lessee and is treated as a capital asset on the lessee's balance sheet. The lessee also treats the lease payment as a liability. In most cases, when the lease expires, the lessee either owns the equipment outright or buys out the lessor for a nominal fee.
- **Operating Lease** - In an operating lease the lessor maintains ownership of the equipment and the lessee has the right to its use. Payments are considered operational expenses and the leased asset stays off the lessor's balance sheet. At the end of the lease term, the lessee can purchase the equipment at fair market value. In general, operating leases recognize expenses later than equivalent capital leases.
- **Energy Service Agreements (ESA)** - The financier for an ESA is typically an ESCO, or energy services company. The ESCO provides the asset and owns it throughout the agreement. The property owner or tenant pays the ESCO an amount up to the value of historical energy costs and the ESCO pays the energy bill. At the end of the contract, the building owner can purchase the energy-efficiency equipment at fair market value.
- **Shared Savings Agreement** - This is similar to an ESA where an ESCO provides the equipment at little or no cost, and the energy cost savings are then shared at an agreed upon percentage between the ESCO and the property owner or tenant. This agreement hinges upon having a concrete & reliable calculation of actual energy saved by the ECM.

Less Common External Financing Options

- **Power Purchase Agreement (PPA)** - A power purchase agreement is a contract between two parties, one who generates electricity (the seller) and one who is looking to purchase electricity (the buyer). A PPA provider owns and maintains generation equipment and the building owner agrees to purchase energy from the PPA provider at an agreed rate. This is relevant primarily for renewable energy projects.
- **Property Assessed Clean Energy (PACE)** - PACE pays for 100% of project costs and is repaid for up to 20 years with an assessment added to the property tax bill. PACE financing stays with the building upon sale and is ideal for retrofits where building owners may not have access to traditional financing sources.

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