Better Buildings®
U.S. DEPARTMENT OF ENERGY

Workshop: Innovative Internal & External Financing Methods for Retail, Food Service & Grocery Energy Projects

May 16th, 2017

9.30am – 10.45am

U.S. DEPARTMENT OF ENERGY

Panelists

- Erin Hiatt, RILA
- Adam Sledd, Institute for Market Transformation
- Audi Banny, Institute for Market Transformation

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Innovative Financing for Energy Projects

May 16, 2017

RILA Retail Energy Management Program

RILA Represents...

The Leading Brands in Retail

Premier Members

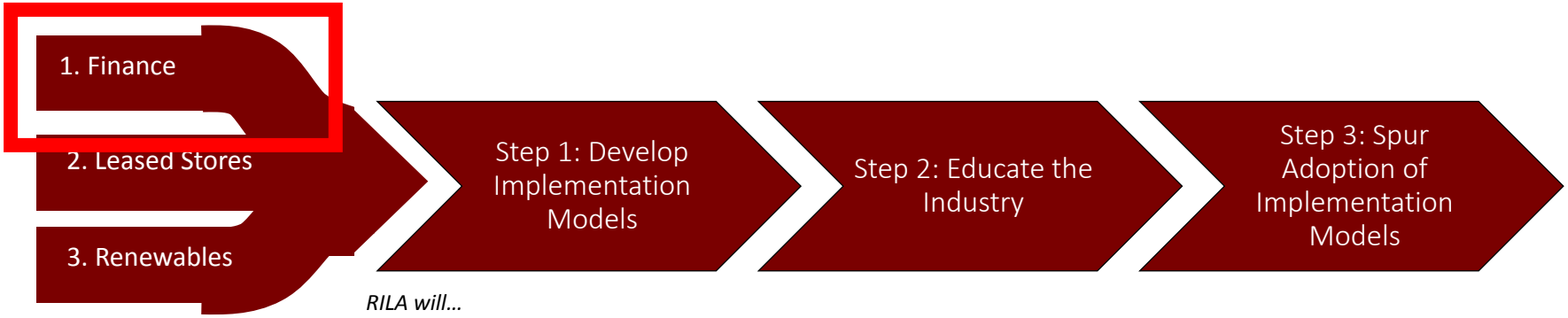
Three “floodgate” opportunities will advance energy programs

	Dimensions	Starting	Standard	Excelling	Leading	Next Practice
10	Front line employee engagement	• Educating through basic environmental-awareness signage in stores	• Developing store green team(s) or energy advocates to monitor on-site performance, reduction opportunities, and provide feedback to corporate energy management team	• Posting store energy consumption for all store associates to compare their store to other similar stores • Online platform for employees to review store consumption and submit ideas to reduce use as well as be active participants in energy management programs by inputting quantitative information	• Energy awareness campaign throughout stores, including signage, orientations, periodic trainings, competitions, in-store green teams, store meetings, scorecards, newsletters, etc. • Collaborative best practices forum to provide platform for high-initiative employees to receive recognition while sharing best practices with colleagues	• Training employees to educate customers about company's energy/eco-awareness efforts
11	Financial management	• Limited interaction with finance team (e.g. only for project approval) • Energy project approval not a high priority for the finance team	• Allow use of utility & government rebates and incentives for capital improvement projects • Energy reduction projects are • Identified projects receive a high	• Strong working relationship with finance team • Together with finance team, develop a process to pilot new projects in ways after implementation • Allowing use of external financing (e.g. loans from banks, service providers, etc.) to fund projects	• Integrating finance team into energy management decisions • "Energy innovation fund" to periodically test new energy reduction strategies/ energy strategy and projects	• Developing new financing models like the "PPA for efficiency projects" • Considering environmental key performance indicators (KPIs) like GHG emissions • Projects which exceed the internal ROI are funded through incremental debt financing
12	Systems procurement	• Operational costs/energy costs not considered in procurement decisions	• Some consideration of total cost of ownership in procurement decisions and negotiations	• Teams that procure energy consuming equipment consider total cost of ownership and it often influences purchase decisions • Procuring ENERGY STAR Certified for all qualified products	• Energy costs considered an integral component of vendor and initiative valuation	• Procurement business rules require net reduction in GHG emissions
13	Building auditing and re-tuning	• No comprehensive building re-tuning strategy in place, only re-tuning buildings as issues arise	• Walk-through energy audits on ad hoc basis	• Strategy in place to periodically audit and re-tune stores, corporate offices, data centers, and DCs to identify and	• Implementing portfolio wide re-tuning and replacement strategy	• Continuously re-tuning building systems • Working with landlords to ensure common areas are periodically re-tuned

Progress here will enable improvement everywhere

1. Financial Management
2. Leased Store Management
3. Renewable Energy

RILA will facilitate three steps to unlock these opportunities



RILA will…

- Research leading practices in the industry
- Document case studies (Implementation Models)

- Highlight successful Implementation Models through various channels
- Create new resources
- Host in-person and online workshops/ trainings

- Facilitate use of Implementation Models
- Provide support & consultation through partner organizations

Questions to Consider…

1. Does the majority of your energy use come from manufacturing and distribution or the aggregate of your retail operations?
2. Has your annual budget for OpEx and CapEx increased, decreased, or stayed the same over the past few years?
3. Do you track energy cost savings ($) from energy efficiency projects?
4. What aspect of your financing process is most challenging?

Innovative Financing for Energy Projects

Innovative Financing for Energy Projects

Goals:

1. Discuss budget and finance pain points with peers
2. Change the way energy projects are financed internally
3. Understand how to finance energy projects with external capital

Internal Financing

Internal Financing Models

Which of these are of interest? Which have you heard of?

- Internal Carbon Pricing
- Capital Investment Fund
- Revolving Loan Fund
- Expedited Approval
- Cross-Departmental Collaboration

Internal Financing Strategies

Policies and Funds

- Internal Carbon Pricing
- Capital Investment Fund
- Revolving Loan Fund

Process Changes

- Expedited Approval
- Cross-Departmental Collaboration

Internal Financing Strategies

Policies and Funds

- Internal Carbon Pricing
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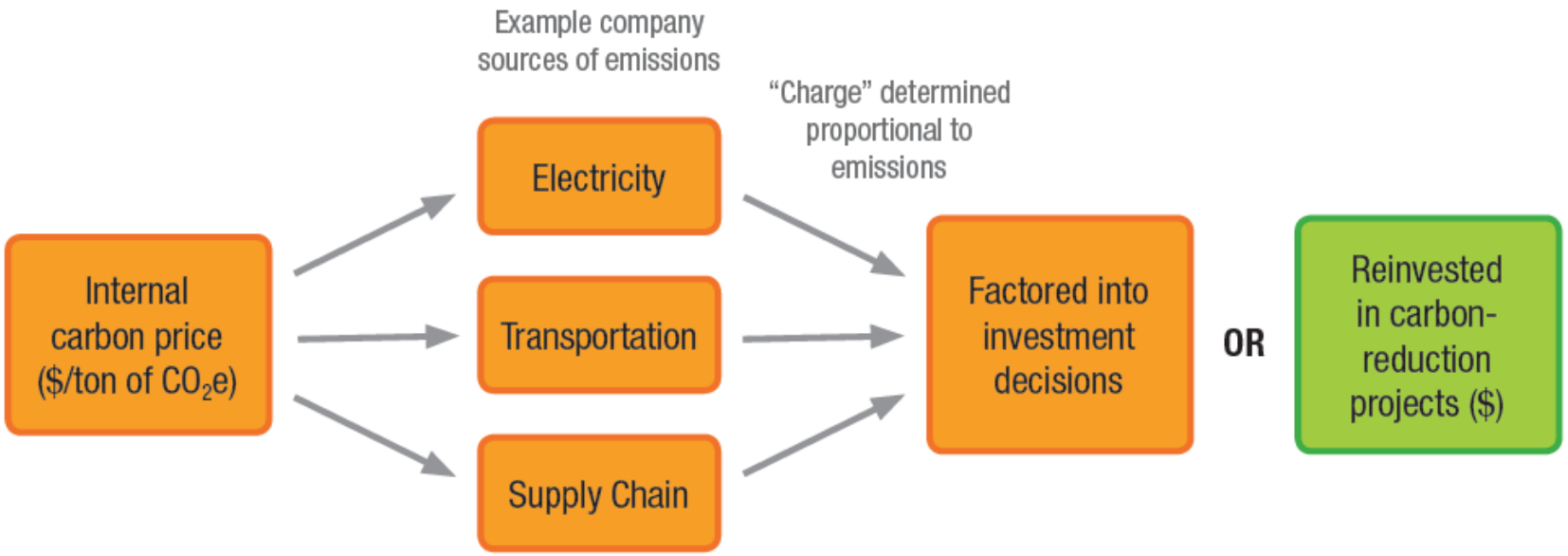
Internal Carbon Price

An internal policy that assigns a cost to the carbon emissions generated by company operations



Internal Carbon Price

- 517 companies reported using an internal carbon price in 2016
  - 732 companies will implement a price by 2018
- Department of Energy estimates social cost of carbon at $36 per metric ton

Example – LVMH

LVMH

€6 million

Investment

Carbon Price:

€15 per tonne of CO2

70% of projects in retail stores

Capital Investment Fund

A fund that is capitalized annually, where energy cost savings are allocated to participating stores' operating budgets

adidas Group Case Study – www.rila.org/energy

Implementation Model:

GreenENERGY Fund Invests $5.5 Million in Energy Efficiency and Renewable Energy since 2012

BARRIER

Hurdles to investing in energy efficiency and renewable energy projects due to time, budget, and expertise constraints

SOLUTION

Develop a greenENERGY Fund within the company that identifies investments in leased and owned stores, manages project risk, and monitors and verifies project savings

adidas GROUP

$11 million

Investment

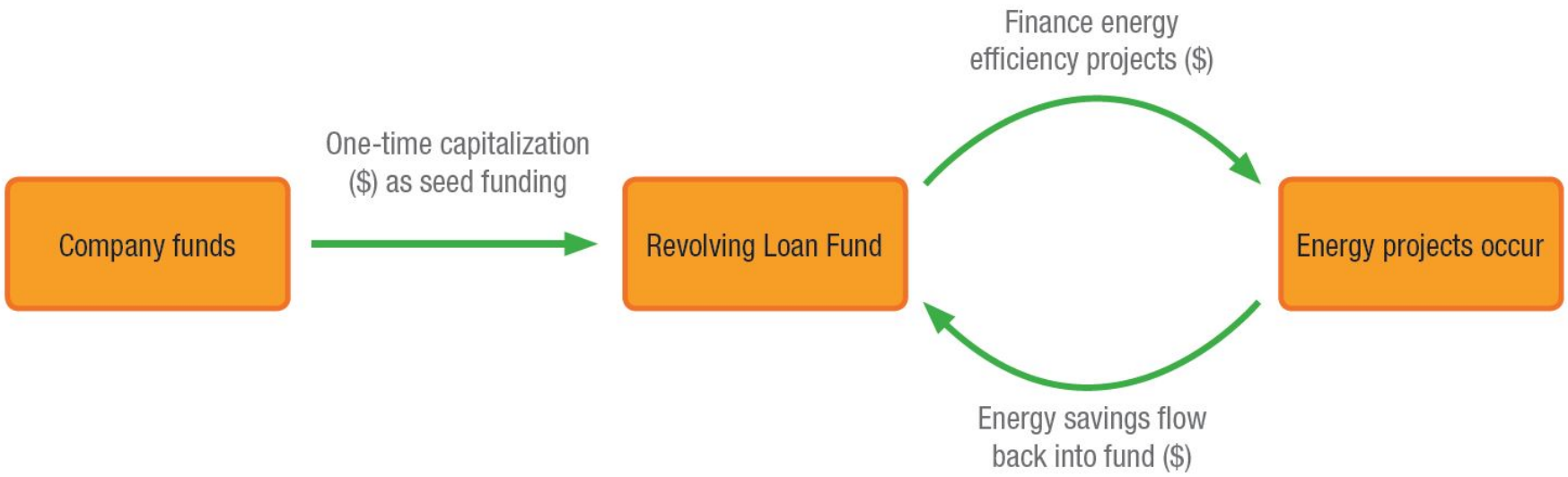
65

Projects

Averaged 30% IRR

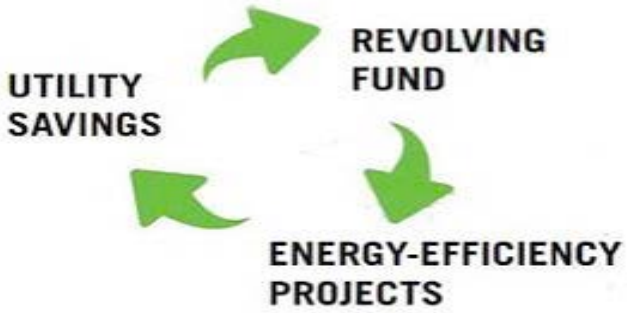
Revolving Loan Fund

A fund that is capitalized one time, where energy project cost savings are reallocated to the fund and reinvested



Revolving Loan Fund

- This is a new model for the retail sector
- Some retailers have been kicking the idea around
- Prominent in government agencies, non-profits, and universities



Example – Boston University

Boston University's Sustainability Revolving Loan Fund

Year created: 2008

Size: $1,000,000

Source of capital: Administrative budget

Average payback period: 1.97 years

Administrators: Vice President of Operations; the Co-Chair of the Sustainability Steering Committee

Average cost-savings: $70,782 per project

Average return on investment:
57 percent including utilities incentives

Internal Financing Strategies

Policies and Funds

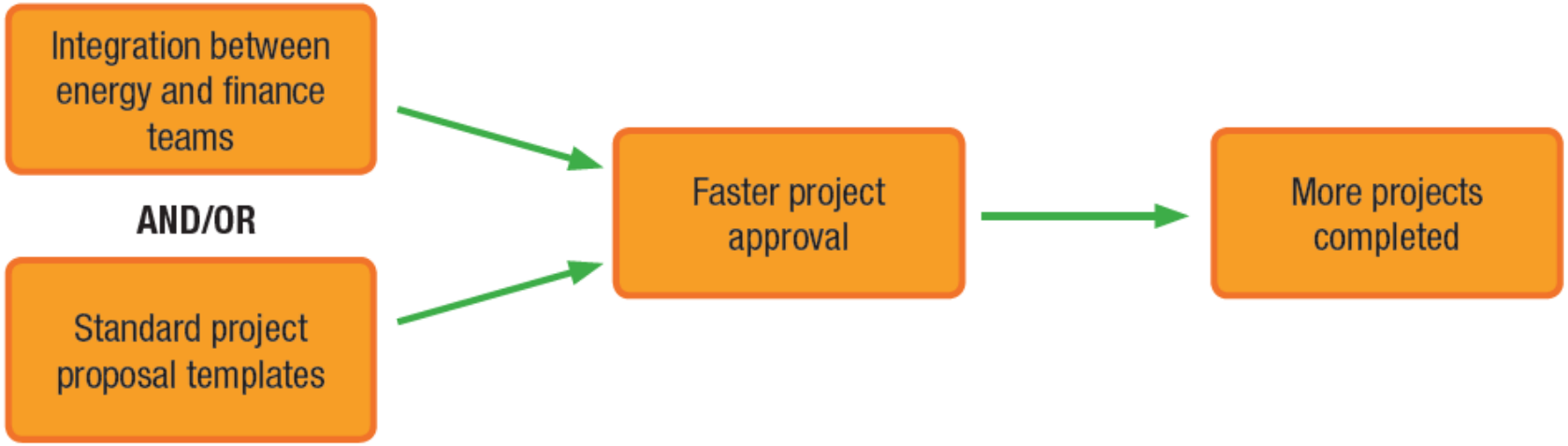
- Internal Carbon Pricing
- Capital Investment Fund
- Revolving Loan Fund

Process Changes

- Expedited Approval
- Cross-Departmental Collaboration

Expedited Approval

An internal process that fast-tracks energy projects for approval



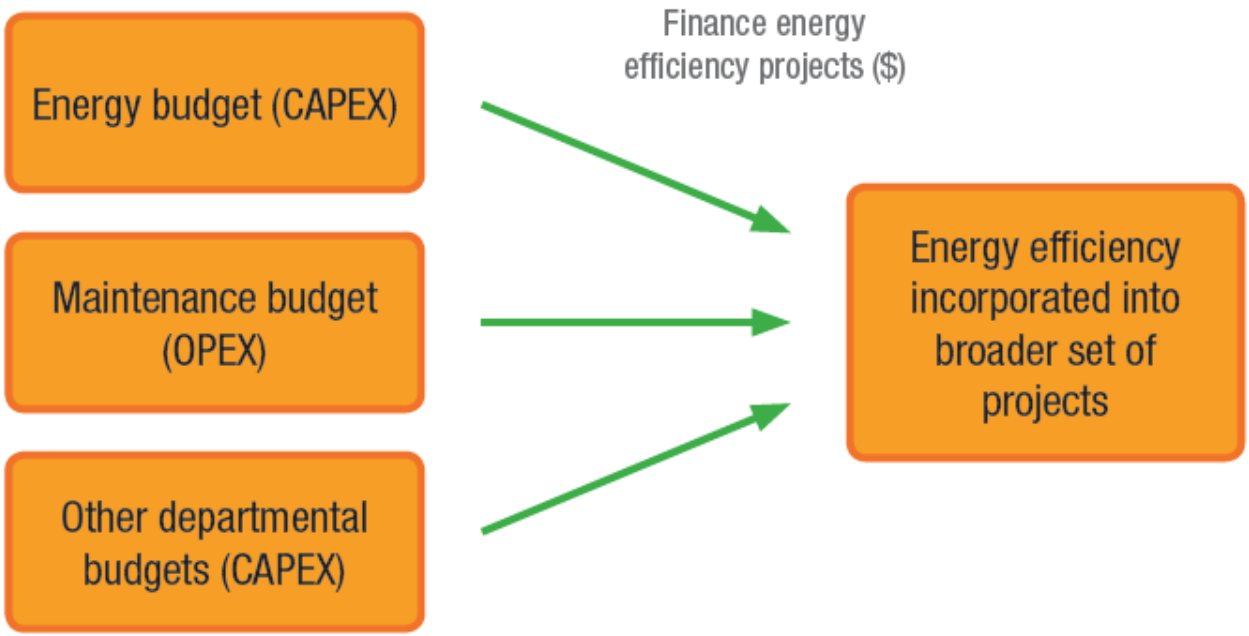
Kohl’s

Modify Project Proposal Process

- Kohl’s: Embedding the Finance Department into the Energy Team

Cross-Departmental Collaboration

This process aligns the benefits of energy projects across departments, which work together to fund projects



Best Buy

Update Internal Purchasing Systems

- Best Buy: Updated Store Lighting Options

External Financing

Why Use External Financing?

- State or utility incentives can make the difference between meeting and missing your hurdle rate
- Some financing options make your project cash flow positive from the start
- Do more projects

Key Questions to Identify a Financing Option

- How many buildings will your project cover?
- Do you own or lease your buildings?
- How long do you hold a typical location?
- How quickly do you need financing?
- Do you want to manage installation?
- Do you want to manage operations and maintenance?
- Can you take debt on your balance sheet?

As a General Rule…

If there are projects to be done, and money to be saved, somebody will finance your project.

External Financing Options

Major Initiatives or Green Construction

- Green Bonds

Energy Efficiency Finance

- Energy Performance Contract (EPC)
- Energy Service Agreement (ESA)
- Managed Energy Service Agreement (MESA)

Specialized Financing

- Property Assessed Clean Energy (PACE)
- On-Bill Repayment (OBR/OBF)
- Tax-Increment Financing (TIF)

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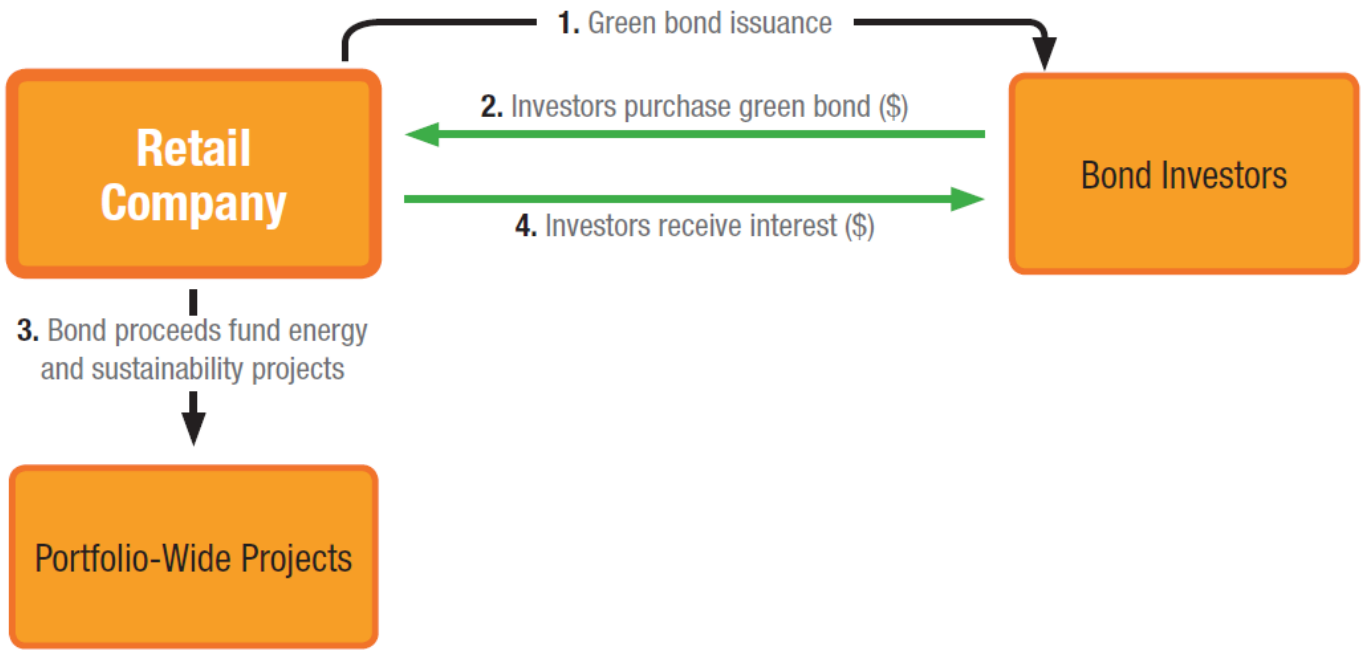
Green Bonds

Traditional debt with a twist: lower interest rates in exchange for commitments to sustainability or energy projects.



Apple’s Green Bond

- $1.5 billion issuance
- February 2016
- 7-year, 2.85% interest
- Will finance:
  - o green buildings
  - o energy efficiency projects
  - o renewable energy
  - o energy storage
  - o resource conservation efforts

Apple's Green Bond

Projects

16

Allocation

$441.6 million

By Category[2]

$129,050,362	$232,606,832	$74,606,485	$461,050	$2,864,029	$2,054,305
Renewable energy	Green buildings	Energy efficiency	Water efficiency	Recycling/Material recovery	Safer materials

Apple's Green Bond

Projected Environmental Benefits

The 16 projects to which Apple allocated Green Bond funds in the aggregate are expected to result in the following environmental benefits upon completion:

1,873,200 sq. ft.
Green buildings

20,209,300 gal.
Water savings (annual)

6,670 metric tons
Waste diverted from landfills

127 MW
Newly installed renewable energy capacity

330,530,400 kWh
Renewable energy generation (annual)

191,500 metric tons CO_2e
Greenhouse gas emissions avoided[3] (annual)

37,034,300 kWh + 31,900 therms
Energy savings (annual)

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Starbucks' Sustainability Bond

- $500 million issuance
- May 2016
- 10-year, 2.45% interest
- Funds go to supply chain management

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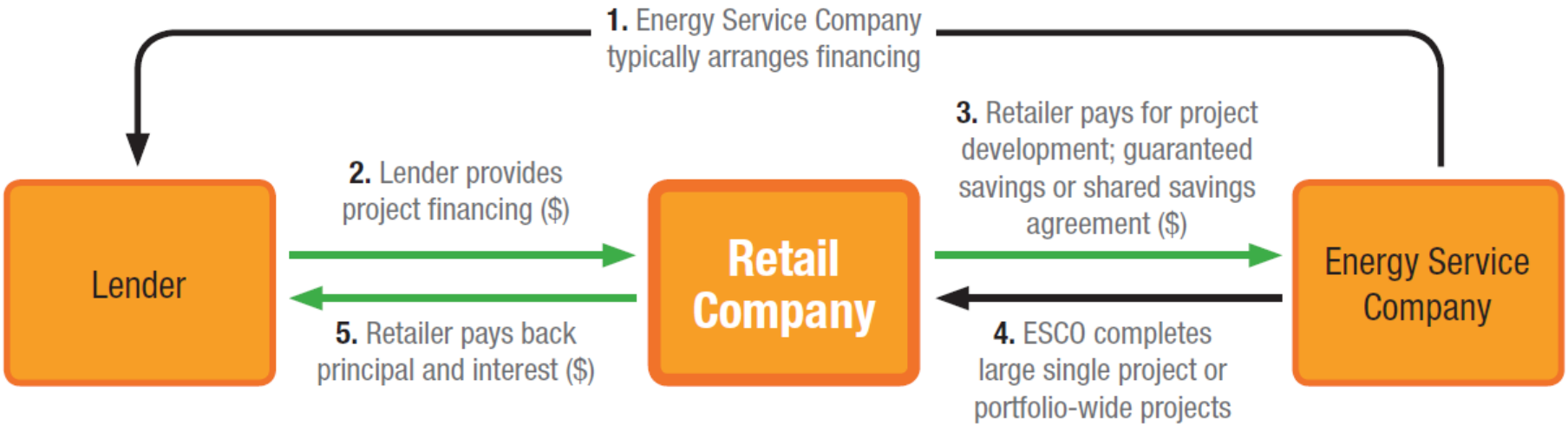
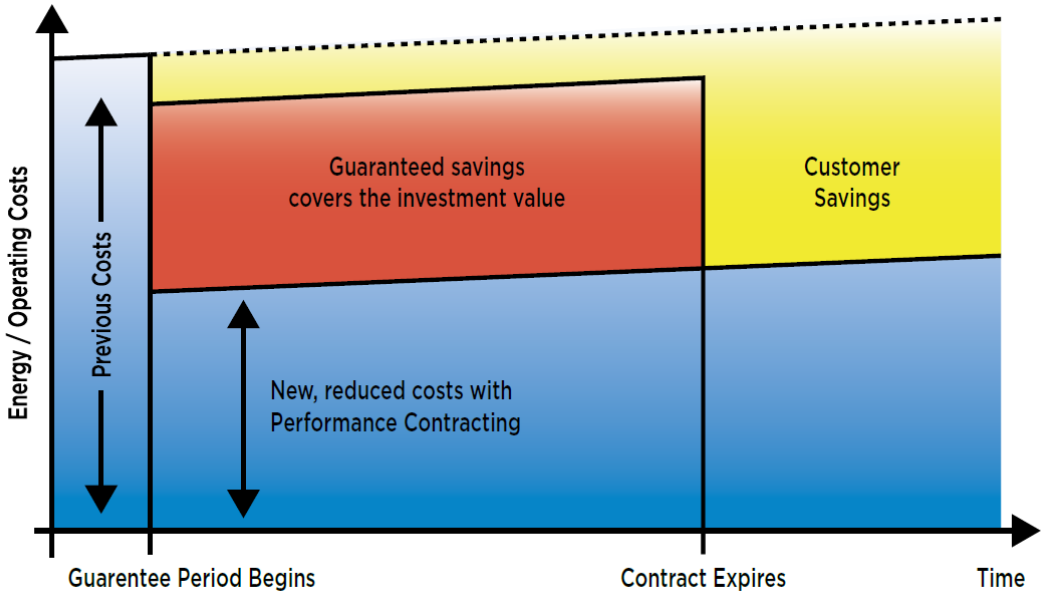
Energy Performance Contract (EPC)

The ESCO model, where a 3rd party financier takes on upfront project costs in exchange for a portion of future utility savings.

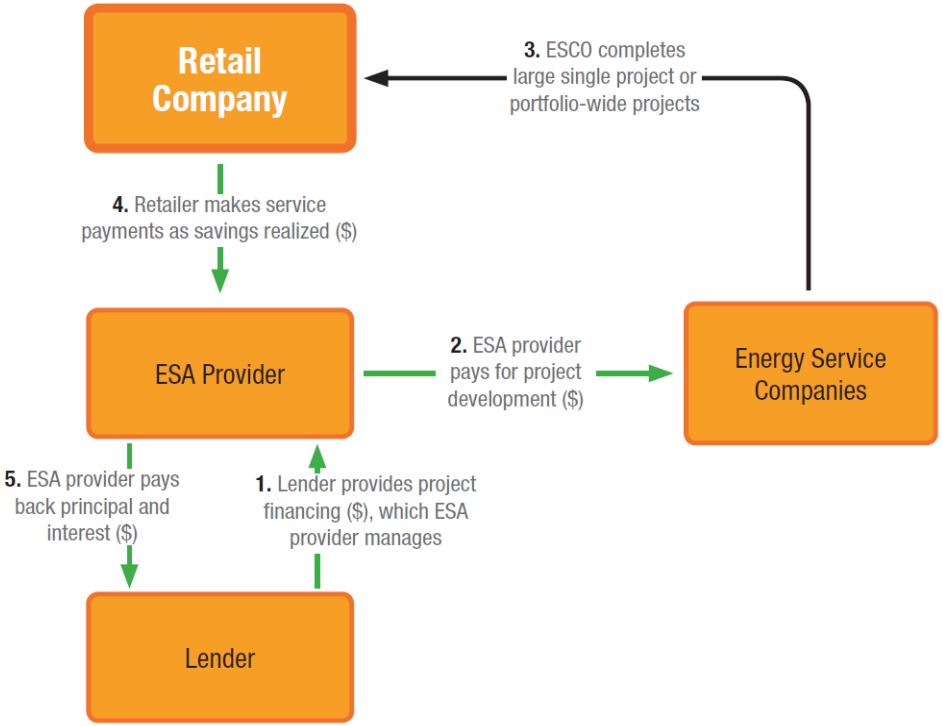


EPCs – A Classic Model



Energy Services Agreement (ESA)

An innovation on the Energy Performance Contract, that incentivizes a wider range of projects and off-balance sheet financing.



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ESA Case Study: Metrus Energy

METRUS ENERGY

CASE STUDY: Fortune 500 Efficiency Upgrade

TOTAL IMPACT

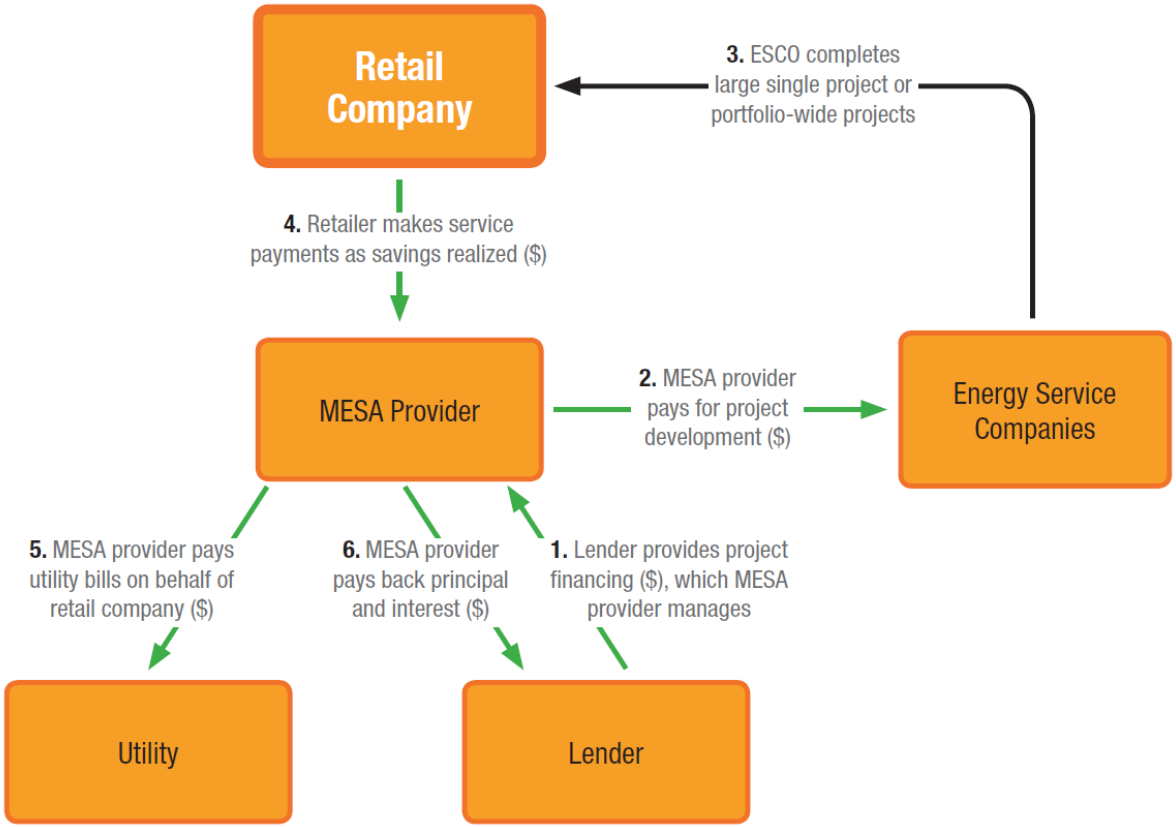
TOTAL INVESTMENT	TOTAL ANNUAL SAVINGS	TOTAL ANNUAL CO_2 SAVINGS
$4.2 MILLION	$550,000	7,300 TONS

EFFICIENCY UPGRADES

- Lighting retrofits
- Variable frequency drives and controls

Managed Energy Services Agreement (MESA)

A twist on the Energy Services Agreement, where a single firm manages equipment, maintenance, and utility bill payment.



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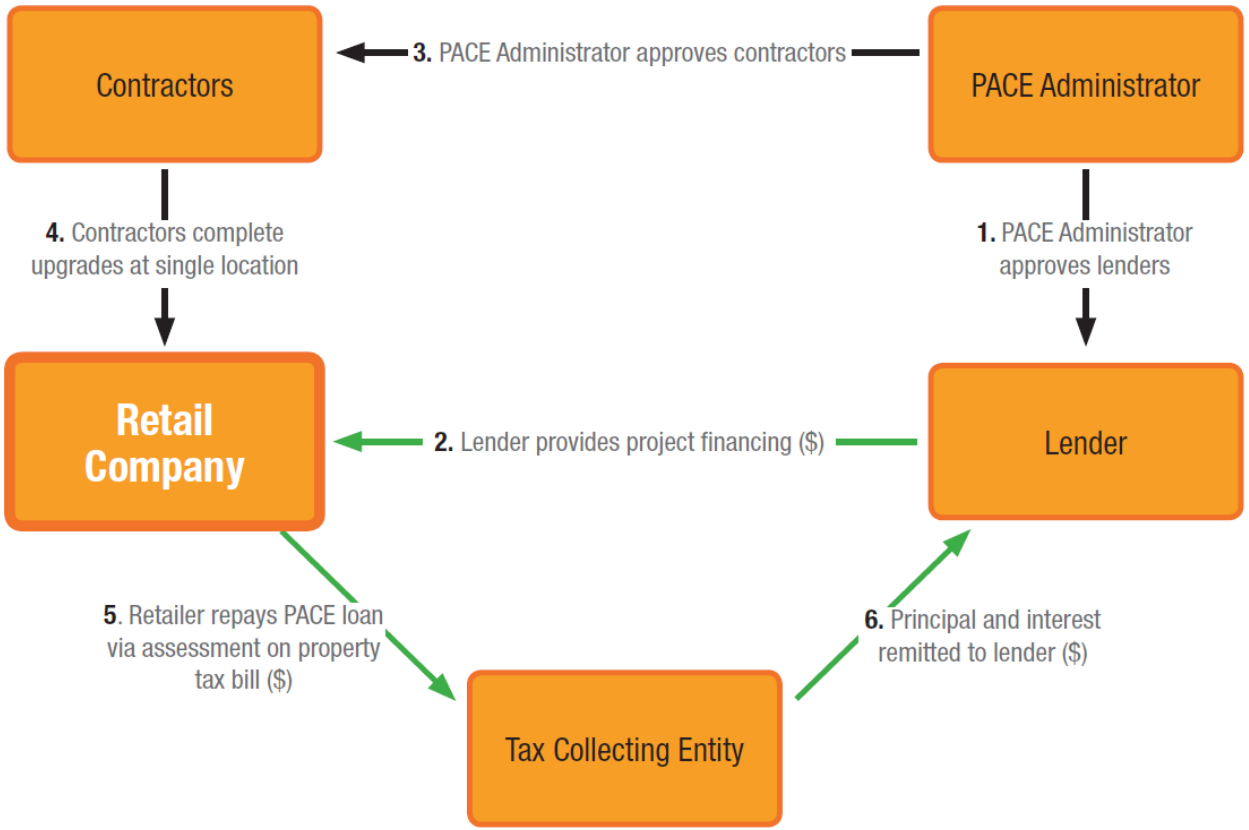
Property Assessed Clean Energy (PACE)

A rapidly growing financing method that pays for 100% of a project's upfront costs and is repaid for with an assessment added to the property's tax bill.



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PACE Case Study: BrandsMart USA

- Home appliance and electronics big box discount retailer
- 3 separate PACE deals: $1.8 million, $2.225 million, and $3.1 million
- 15-20 year repayment, tied to property

Results

- 34% projected reduction in annual utility costs

PACE Case Study: Big Boy Restaurant

Big Boy restaurant in Ann Arbor, MI (small business)

Improvements

- Building controls, high-efficiency HVAC, lighting

PACE Assessment

- Loan Size: $88,488
- Terms: 10 year repayment, 4.75% fixed interest

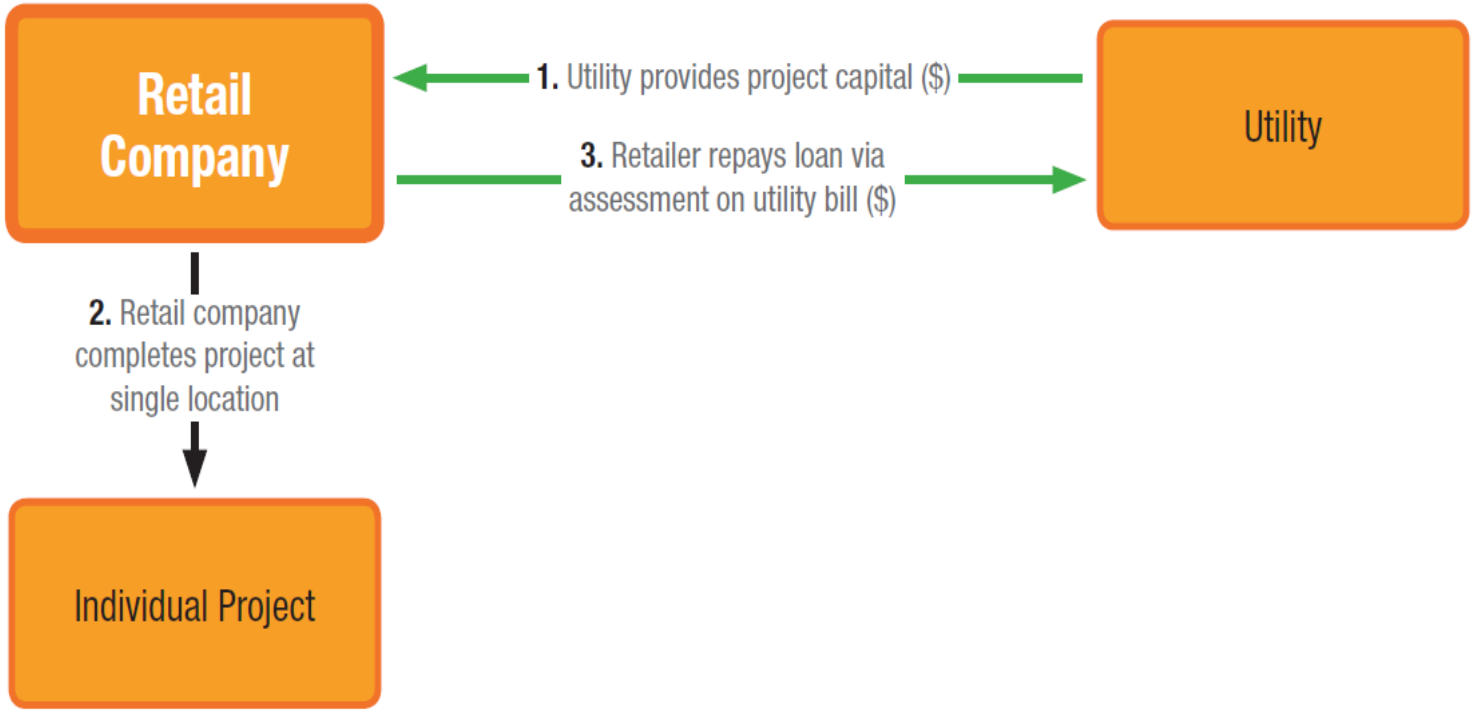
Results

- 19% projected reduction in annual utility costs = $8,300 annual savi

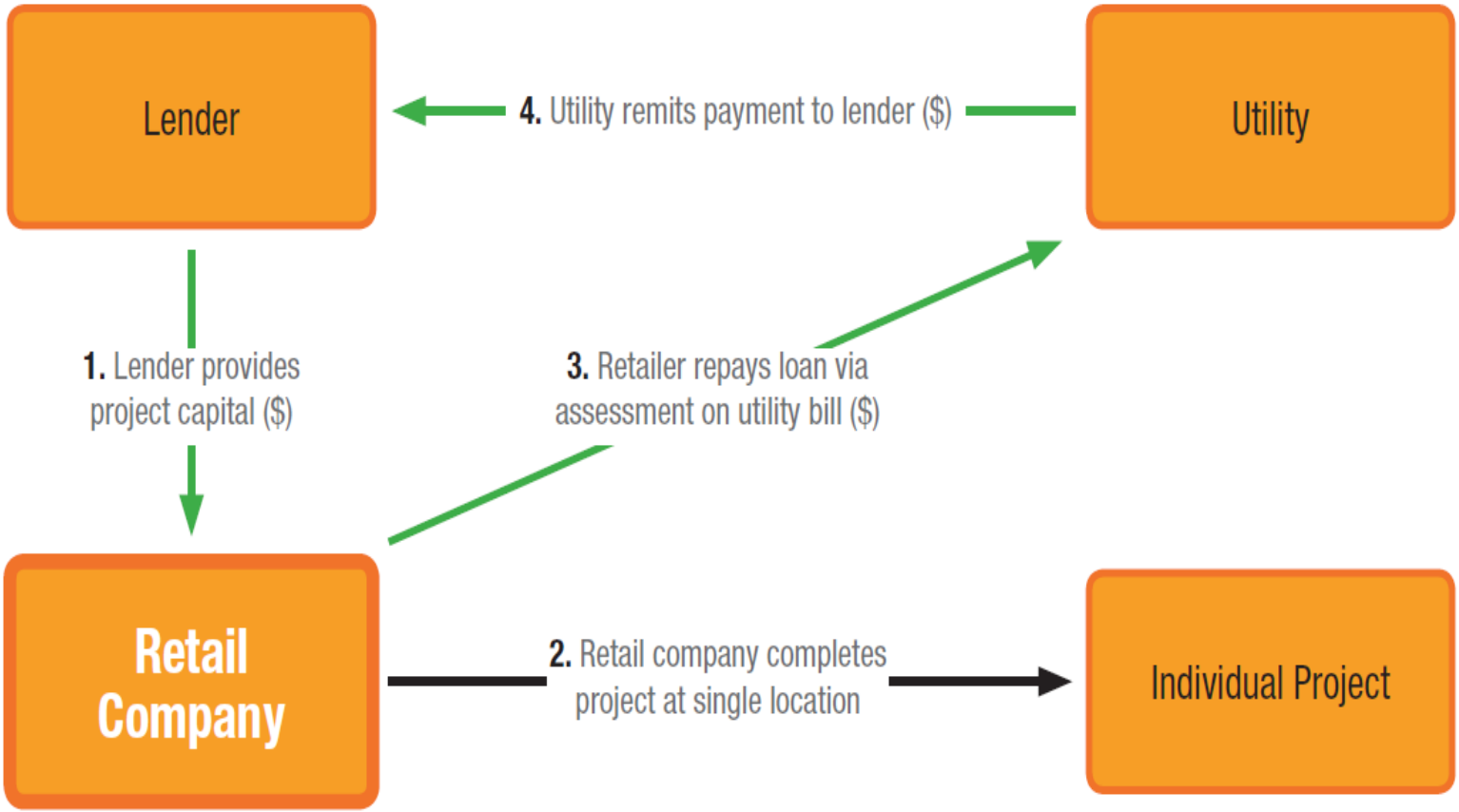
http://www.pacenow.org/wp-content/uploads/2013/07/7.24.2013-Ann-Arbor-PACE_Big-Boy-Case-Study.pdf

On-Bill Financing (OBF)

Finance energy projects that are repaid through a line item on your utility bill, with zero or low interest rates.



On-Bill Repayment (OBR)



OBF Case Study – Grocery Retailer

Annual Energy Costs:	**$48,333**
% of Energy Savings:	**42%**
Estimated Annual Energy Savings:	**$20,429**

Top Energy-Saving Projects

1: Upgraded HVAC compressor.

2: Replaced air-cooled HVAC condenser.

3: Retrofitted low-temperature display cases with anti-sweat heater controls.

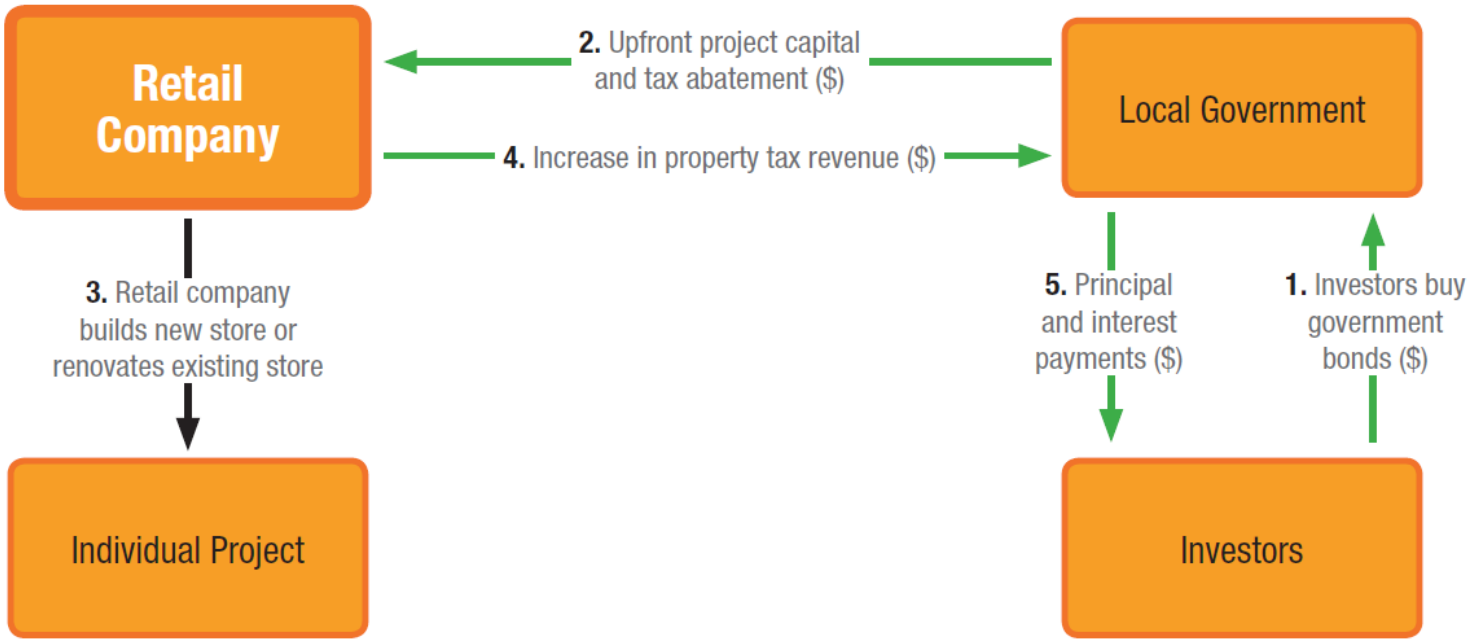
Rebates & Financing

Mill Valley Market qualified for a $100,000 zero-interest loan from PG&E to help fund their energy-efficiency projects and eliminate many upfront costs.

Total Rebates Earned:	**$22,244**
Total Loan Amount:	**$100,000**
Payback Period:	**4.9 years**

Tax Increment Financing (TIF)

A common type of gap financing used to fund new construction or renovations.



TIF Case Study – Target

Project

- 125,000 Square Foot Target Retail Center
- Development cost was $13 million

TIF Package

- City provided $1 million upfront toward infrastructure improvements
- City agreed to 15-year tax abatement

What options are appealing?

Major Initiatives or Green Construction

- Green Bonds

Energy Efficiency Finance

- Energy Performance Contract (EPC)
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Tools & Resources

RILA External Financing Calculator

Input Project Information

RILA'S ENERGY EFFICIENCY FINANCE CALCULATOR

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1: Starting Questions | 2: Finance Mechanisms | 3: Basic Financial Metrics | 4: About the Finance

Background

This calculator is designed to help retail professionals understand how they can leverage external financing to fund energy or sustainability projects within their facilities portfolios as well as view initial, basic finance metrics for a specific project.

Using the calculator is simple

Step 1: Answer the questions on this worksheet highlighted in yellow, using drop-down menus when provided.

Step 2: Click on tab 2 above or the "Step 2: See Results Here" button to view information and resources on external financing mechanisms tailored to your project.

Step 3: Click on tab 3 above or the "Step 3: See Metrics" button to view calculations of financial metrics for your project.

Step 4: Click on tab 4 above or the "Step 4: About Finance Metrics" button to view additional information about the finance metrics.

(A) Answer These Questions To Get Customized External Financing Recommendations

Question	Answer	
How many facilities will the project cover?	10	
What is the total projected project cost across all facilities?	$250,000	
Does your company typically lease or own facilities?	Mix	
What is the typical hold period for a single facility?	10	Years
Do you value the ability to pass upgrades on to the next occupant in case of sale/move-out?	No	
How quickly are you looking to get financing?	One Year or Less	
Are you looking to manage project installation yourself, or would you prefer third-party management?	3rd Party Managed	
Do you want third-party assistance with ongoing operations and energy management?	Yes	
What is your tolerance to take on additional debt on your company's balance sheet?	Medium	

(B) Answer These Questions To See Basic Financial Metrics For Your Project

Question	Answer	
What are the projected annual cost savings across all facilities?	$300,000	
What is your company's hurdle or discount rate?	10%	(Typically 7-10%)
Do your locations have green leases or leases that address the split-incentive issue?	In Some Locations	

Step 2: See Results Here >

Find Applicable Financing Mechanisms

1: Starting Questions	2: Finance Mechanisms	3: Basic Financial Metrics	4: About the Finance Metrics

	Mechanism	Summary	Advantages	Downsides
Good fit for your project	Property Assessed Clean Energy (PACE)	Property-assessed clean energy (PACE) programs allow local and state governments, when authorized by state law, to fund the up-front cost of energy improvements on commercial and residential properties. Property owners repay their improvement costs over a set time period—typically 10 to 20 years—through property assessments, which are secured by the property itself and paid as an addition to the owners' property tax bills. A PACE assessment is a debt of property, meaning the debt is tied to the property as opposed to the property owner(s), so the repayment obligation may transfer with property ownership depending upon state legislation. This eliminates a key disincentive to investing in energy improvements, since many property owners are hesitant to make property improvements if they think they may not stay in the property long enough for the resulting savings to cover the upfront costs.	• Repayment is tied to the property tax, so the building can change ownership during repayment. • PACE offers 100% financing with no upfront costs for the property owner. • PACE can be used as gap financing.	• All projects must be located in a PACE district. PACE districts are in most major cities and are growing, but are not everywhere in the US. • PACE deals must be structured for individual properties, therefore they're unlikely to be used for portfolio-wide initiatives.
Good fit for your project	On-Bill Financing / Repayment (OBF/OBR)	On-bill financing (OBF) and repayment (OBR) are financing options whereby a utility or lender supplies capital to a utility customer to make energy efficiency improvements and is repaid through regular monthly loan payments on an existing utility bill. One of the benefits of these programs is the potential to serve a broad set of retailers, including retailers in both owned and leased spaces. When funds are provided by the utility, the repayment structure is termed On-Bill Financing (OBF). On-Bill Repayment (OBR) is when a private financial institution extends loans to utility customers and relies on the utility's bill presentment function for repayment. On-bill programs have mostly focused on energy efficiency measures, though renewable energy and water efficiency projects may be eligible as well. On-bill programs vary by state and by provider, and each program has its own terms and processes.	• On-bill is convenient because the loan is paid back through the utility bill. • It enables tenants to make efficiency improvements where buildings owners are not encouraged to do so. • Programs offer low to zero interest rates.	• On-bill programs are only offered by select utilities. • Program specifications vary by utility. • On-bill programs are sometimes only tied to certain types of energy savings measures (such as lighting or HVAC).
t fit	Managed Energy Service Agreement (MESA)	Managed Energy Service Agreements (MESAs) are contracts under which a third-party energy efficiency contractor assumes the energy management of a client's facility, including the installation of energy efficiency upgrades and responsibility for utility bills, in exchange for a series of payments based on the customer's historic energy use. MESAs offer a turn-key energy retrofit and financing approach that	• Addresses split incentive in multi-tenant buildings, so leased spaces can use a MESA structure. • Customers do not bear performance	• MESAs are typically reserved for projects measuring 250,000 square feet or $500,000 and above. • MESAs can have a long negotiation

See Basic Finance Metrics

1: Starting Questions	2: Finance Mechanisms	3: Basic Financial Metrics	4: About the Finance Metrics

Basic Financials At-A-Glance for Your Project	
Internal Rate of Return (IRR)	38%
Annual Return on Investment (ROI)	25%
Net Present Value (NPV)	$1,179,185
Simple Payback Period	2.4 Years

DISCLAIMER: Every company has their own process to determine metrics for a given project. While you should use internal calculations and forms for final presentation, these numbers provide simplistic estimates to guide your expectations when using more complex models.

Suggested Financing Mechanisms	How This Mechanism Will Affect Finance Metrics
1. Energy Performance Contract (EPC)	• Expect lower returns in exchange for lowered risk and long-term repayment typically seen in EPCs.
2. Managed Energy Service Agreement (MESA)	• No upfront project costs will increase NPV. Long-term returns will be difficult to project, as customers have the option to buy equipment outright at various points within an MESA contract.
3. Energy Service Agreement (ESA)	• No upfront project costs will increase NPV. Long-term returns will be difficult to project, as customers have the option to buy equipment outright at various points within an ESA contract.

Understand Finance Metrics

1: Starting Questions	2: Finance Mechanisms	3: Basic Financial Metrics	4: About the Finance Metrics

Basic Financial Metrics **Financial Metrics for Your Project**

DISCLAIMER: Every company has their own process to determine metrics for a given project. While you should use internal calculations and forms for final presentation, these numbers provide simplistic estimates to guide your expectations when using more complex models.

Internal Rate of Return (IRR) 122%

Internal rate of return (IRR) is a metric used in capital budgeting measuring the profitability of potential investments. You can think of IRR as the rate of growth a project is expected to generate. Although IRR is an appealing metric to many, it should always be used in conjunction with NPV for a clearer picture of the value represented by a potential project.

Annual Return on Investment (ROI) 79%

Return on Investment (ROI) measures the amount of return on an investment relative to the investment's cost. Because ROI is measured as a percentage, it can be easily compared with returns from other investments, allowing one to measure a variety of types of investments against one another.

Net Present Value (NPV) $1,729,185

Net Present Value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows. A positive NPV indicates that the projected earnings generated by a project or investment (in present dollars) exceeds the anticipated costs (also in present dollars).

Because of the time value of money, money in the present is worth more than the same amount in the future. This is both because of earnings that could potentially be made using the money during the intervening time and because of inflation. NPV takes this all into account and allows a company to compare and rank projects. The higher the NPV, the better the project.

Simple Payback Period 0.8 Years

The payback period is the length of time required to recover the cost of an investment. The payback period of a given investment or project is an important determinant of whether to undertake the position or project because all other things being equal, the better investment is the one with the shorter payback period.

It's important not evaluate investments solely based on the payback period because it does not take into account factors such as the time value of money. Therefore, NPV and IRR must also be considered.

RILA External Financing Calculator

- Available at: RILA's Financial Management website
- Condenses today's conversation into a 15 minute tool
- Internal and External Financing Guides also available

Wrap Up & Next Steps

Thank You!

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