



# PACE Financing for Energy Efficiency: Success Stories

October 7, 2014  
3:00-4:00 PM EDT

# Overview and Agenda

- Welcome and Overview
- Clean Fund
- City of Milwaukee
- Hilton Los Angeles/Universal City
- Additional Resources
- Question & Answer Session

# Today's Presenters

Name		Organization
John Kinney		Clean Fund
Erick Shambarger		City of Milwaukee
Steve Thompson		Hilton Los Angeles/Universal City
Rahul Young		ICF International

**John Kinney**  
**CEO**

**[John.Kinney@CleanFund.com](mailto:John.Kinney@CleanFund.com)**

**Clean Fund**

An innovative funding solution for building owners to invest in efficiency improvements.





# Situation



Energy efficiency still perceived as risky

Energy efficiency not seen as mission critical

EE benefits tenants and future owners at a current cost

Capital constraints force ruthless prioritization decisions

Building owners don't have compelling reasons to make EE investments.

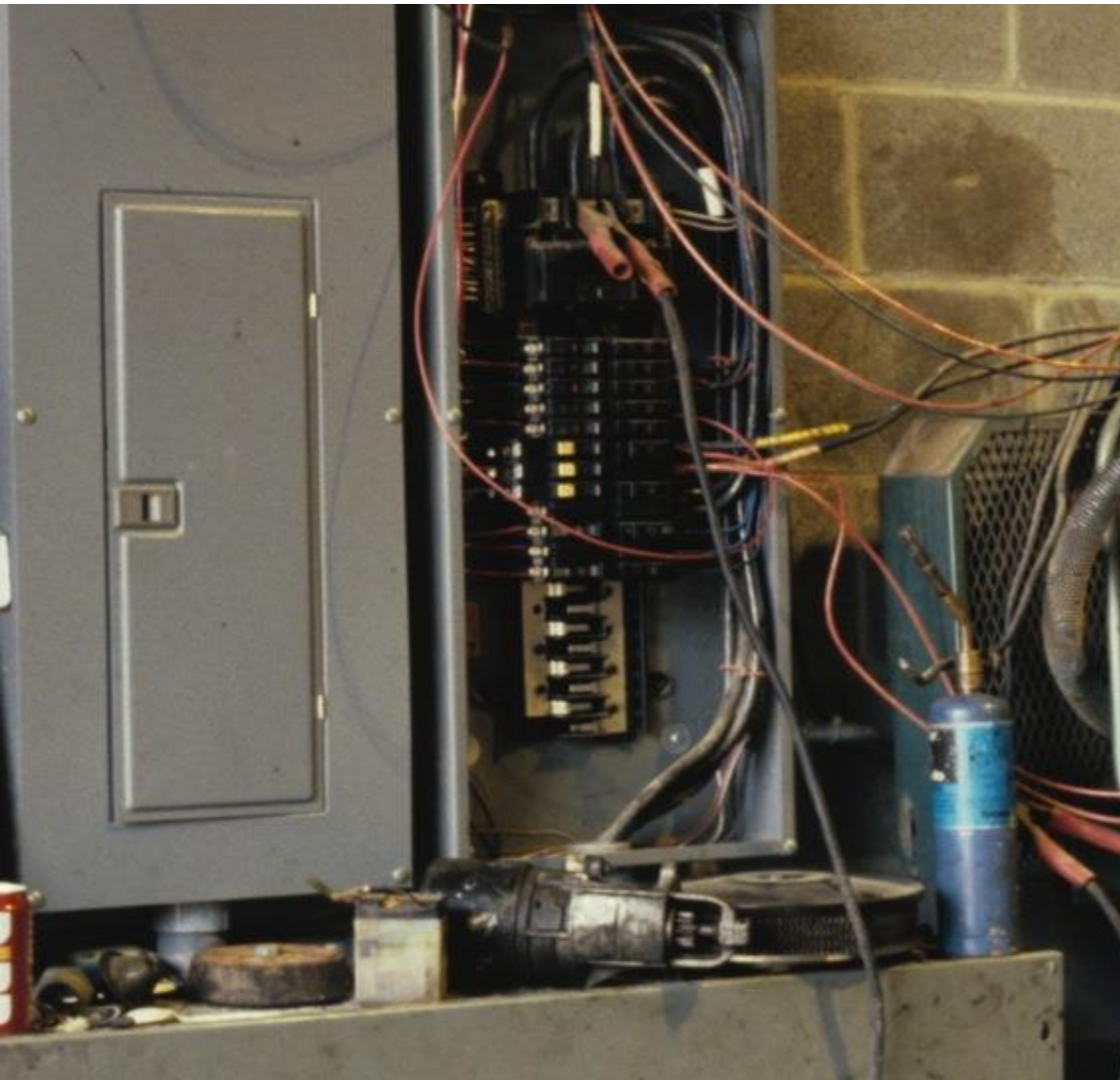


Capital budgets redirected towards mission critical projects in their core business.



Deferred maintenance, wasted gov't subsidies, and frustrated CRE stakeholders.

Real estate values (and our environment) suffer from postponing cash flow positive investments.



Less comfort and higher cost of occupancy.

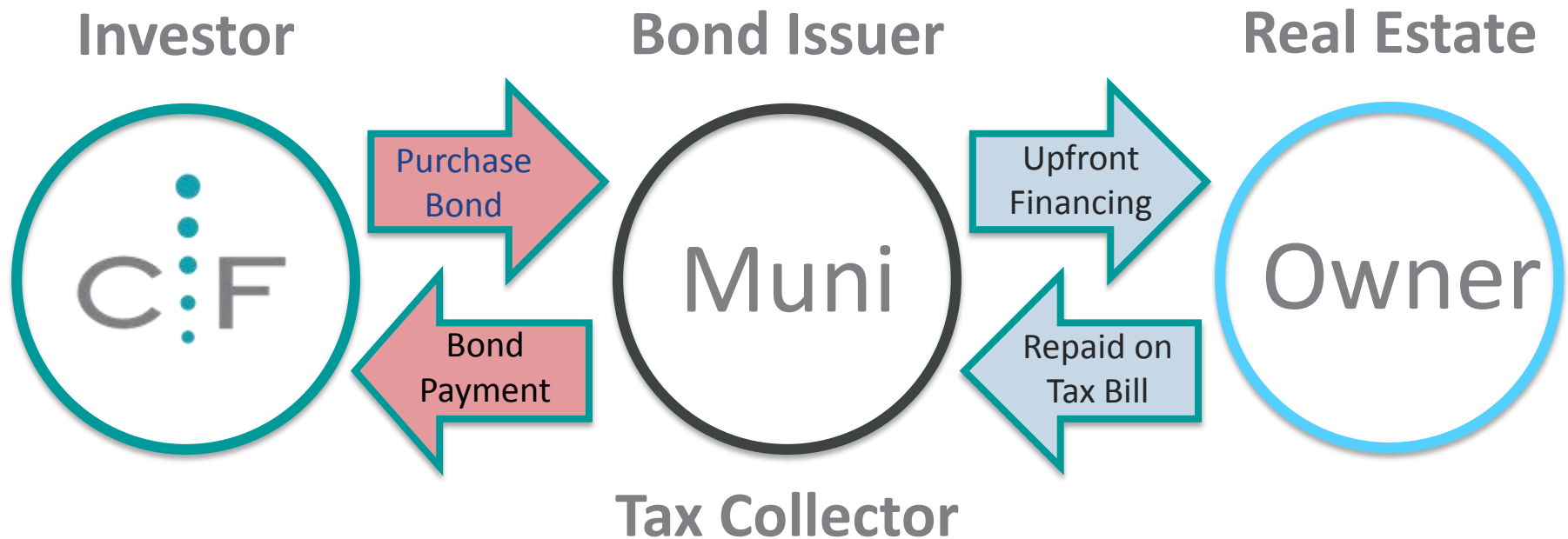
Fewer buildings are customers for cash-flow positive investments.

Higher risk for mortgage holders.



# PRIVATE CAPITAL FOR PRIVATE PROPERTY

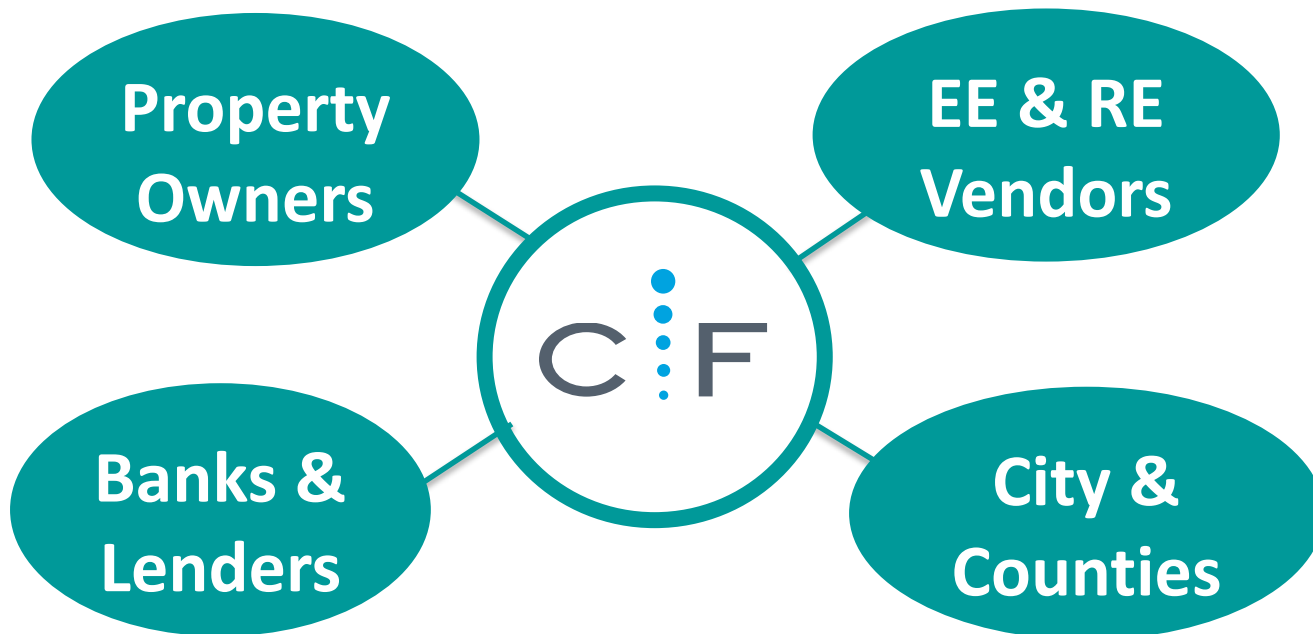
## Muni finance enabled by tax collections



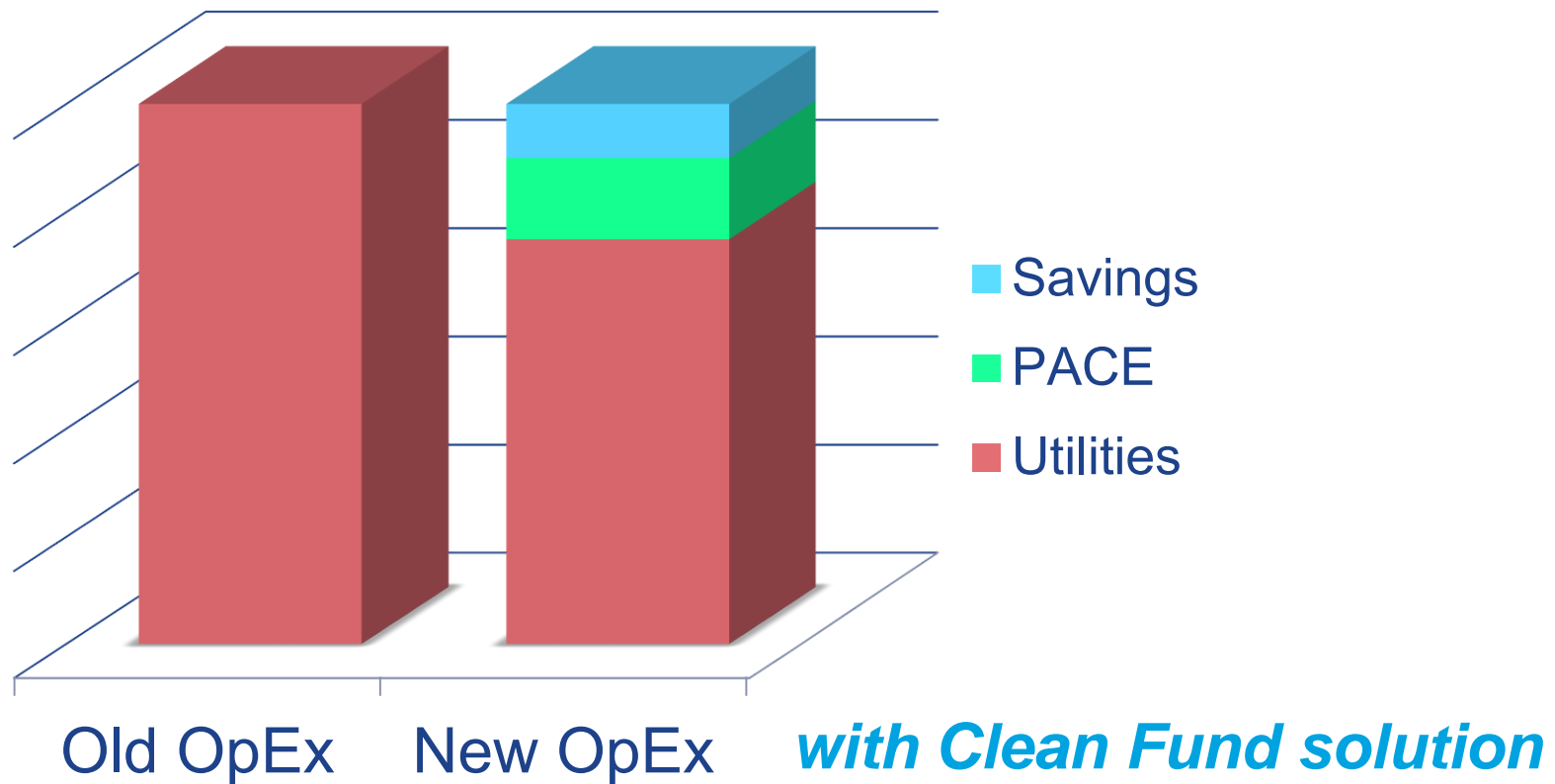
**Property tax obligations are different than debt**

# KEY STAKEHOLDERS

Goal is to Make Complex Transactions Easy

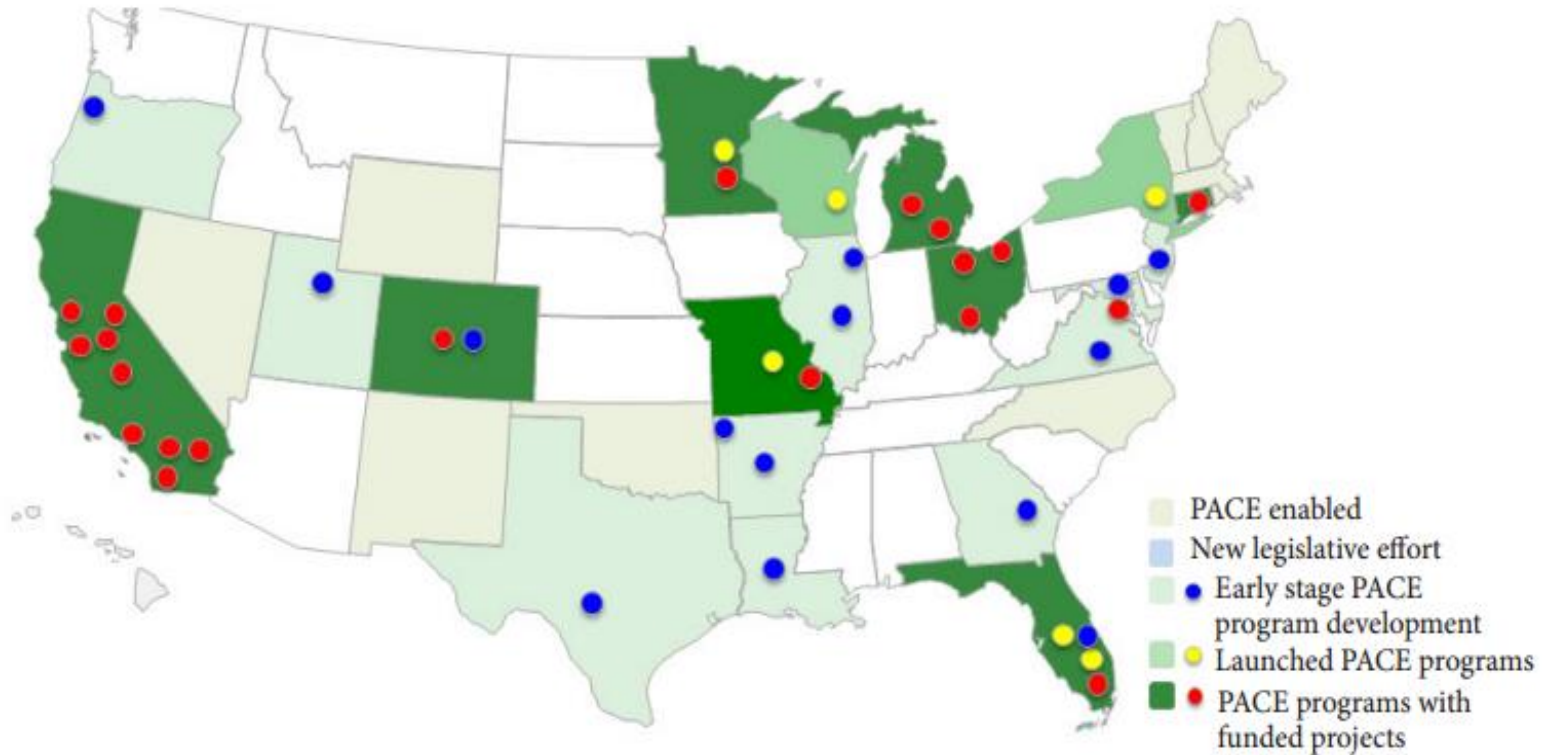


Clean Fund aligns all stakeholders for a “win-win”



Building investments make money

# CLEAN FUND MARKET TODAY – 19 ACTIVE PROGRAMS



# STRAIGHTFORWARD UNDERWRITING

- Project meets local program criteria
- Project increases property value (cash-flow)
- Maximum determined by property value
- Minimum size depends on program expenses
- Clean Fund requires mortgage holders' approval

# THE CLEAN FUND SOLUTION

<b>Investment Barrier</b>	<b>Solution</b>
Capital constraints	Up to 100% financing
Benefit alignment	Eligible as pass thru
Uncertain hold time	Transferable financing
Long payback period	Cash flow positive
Covenant compliance	No covenants
Not mission critical	Maintain debt capacity

# SONOMA MOUNTAIN VILLAGE

- \$1.6 million PACE financing for portion of 1MW PV
- \$200,000 of energy savings
- \$150,000 of tax payments
- Building repositioned as clean energy campus

# PROLOGIS HEADQUARTERS IN SAN FRANCISCO

\$1.4MM solar and EE project

- No equity required
- Tax up by \$130K/year
- Utilities down \$130K/year
- Tenants receive prorated benefit



# 855 MAIN STREET (BRIDGEPORT, CT)

- \$2MM Energy Efficiency Upgrade
- \$241,000/year in savings
- \$166,000/year in new tax
- Lender Approval
  - \$2MM impairment avoided
  - \$75,000 savings/year
  - At 6x cap rate = \$1,250,000

# WHO TO CHOOSE AS PACE PARTNER

- Go with a leader in commercial PACE
  - Who has a track record?
  - Who is working with programs?
- The Team needs experience in multiple areas
  - Structured Finance
  - Municipal Finance
  - Project Finance
- Private company with mission-oriented investors
  - Low-cost and flexible terms
  - National ability to issue PACE bonds
  - Maximize value of PACE with other finance tools

Invest in energy efficiency without using equity or creating covenants.

Complete ALL cash flow positive energy improvement measures.

Align expense of improvements with occupants who benefit.

**Erick Shambarger**  
**Deputy Director, Office of Environmental**  
**Sustainability**

**City of Milwaukee**



# *Creating Better Buildings with PACE Financing*

- Energy efficiency makes older cities more competitive
- Investing in energy efficiency means:
  - Local jobs
  - Better Buildings
  - Lower operating costs
  - Better local air quality



- Cities need economic development tools to support existing buildings, not just new development.
- Reallocate budgets currently wasted on excess energy into building improvements that improve living conditions



## *Why Energy Efficiency is Important to Cities*

- Operational savings
- Improved occupant comfort and satisfaction  
→ less complaints
- Tax benefits
- Reduce risk of unexpected breakdowns



*Why Energy Efficient Equipment is Important to Building Owners*



Property Assess Clean Energy (PACE) Financing provides funds to participating commercial building owners to make energy efficiency, water efficiency, and clean energy projects like:

- New boilers
- New chillers
- Advanced building controls
- Solar Energy
- Lighting
- Other permanently fixed energy-saving improvements



***PACE FINANCING***

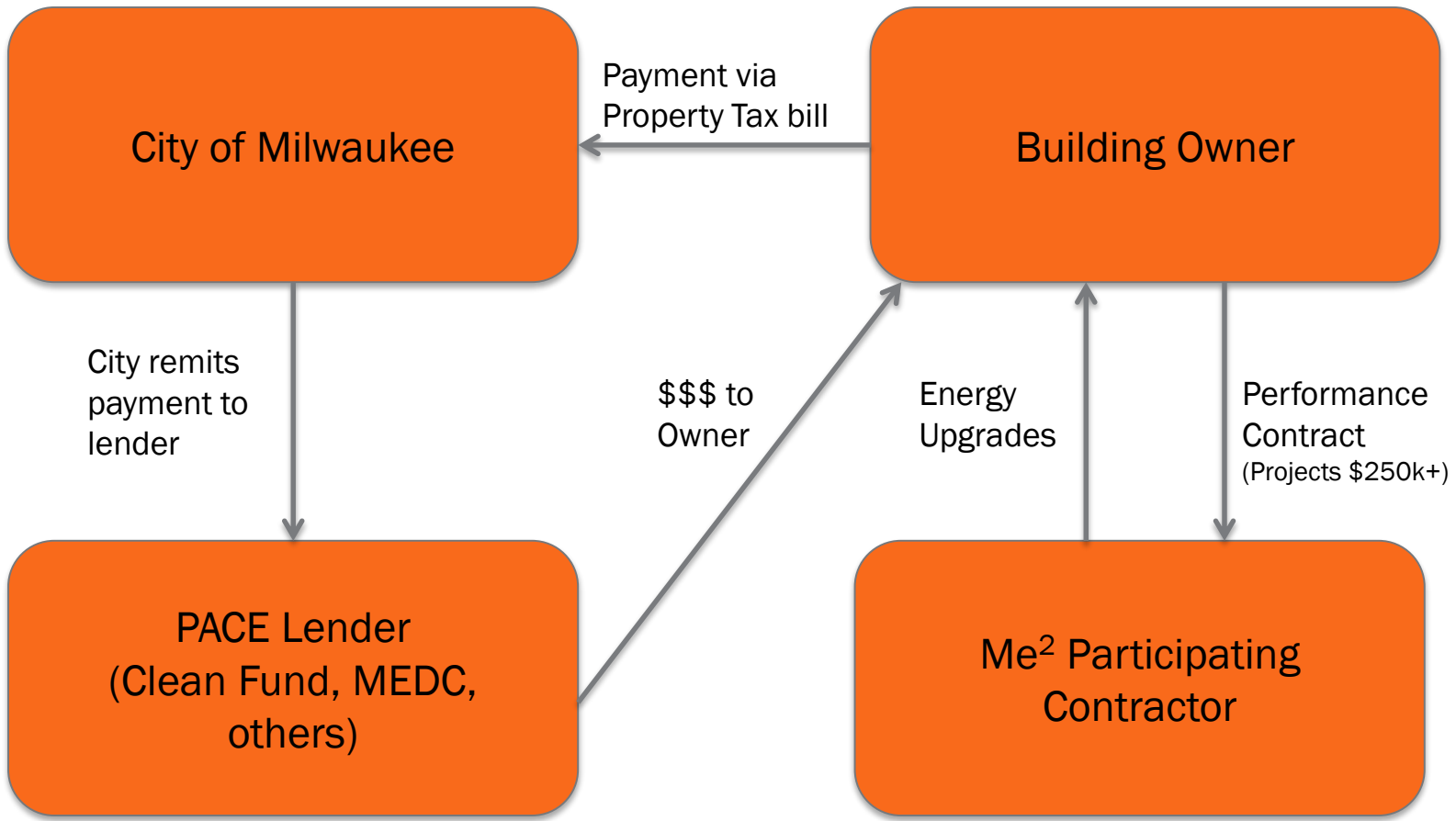


**PACE makes private loan capital available to Milwaukee building owners via public/private partnership**

- **Loans are provided by private investors**
- **Payments for the improvements are collected from participating buildings by the City through a voluntarily-assumed municipal special charge**
- **Special Charge is collected on the annual property tax bill**



**Benefits to Building Owner, Tenants, and the Community**



# *PACE FINANCING- Square Dance*

# ELIGIBILITY

- Existing commercial building located in the City of Milwaukee
- No property tax delinquencies in the past three years
- No bankruptcy or administrative judgments
- Max PACE project size: 20% of Property Value
- Must use Participating Me2 Commercial Contractor → *support of local jobs*
- Energy Savings Performance contract for projects \$250,000+
- Existing Lien Holder Acknowledgement
- Participate in the Better Buildings Challenge

**PACE FINANCING**

# APPLICATION

1. Visit [SmartEnergyPays.com](http://SmartEnergyPays.com) for program information and list of Participating Contractors
2. Submit PACE Interest Form
3. Develop your project with Participating Me<sup>2</sup> Contractor
4. Submit PACE Application with defined project
5. Get lien holder(s) acknowledgement/consent
6. Close loan with City and Lender, such as Milwaukee Economic Development Corporation.

- Lender: Milwaukee Economic Development Corp.
- PACE Equity was project developer, using 5 installation contractors
- Scope: HVAC, Windows, Lighting, Steam Traps
- Project Size \$662,000
- Amortization: 18 years
- Annual payment: \$62,000
- Annual Guaranteed Savings: \$56,000



## CASE STUDY: UNIVERSITY CLUB

- Patience- especially on first project
- Sync lender underwriting requirements with City underwriting and associated customer forms/information requests
- Manage expectations
- Think through and clarify scenarios for customer defaults

## **PACE TIPS FOR CITIES**



- Cut energy use by 20% by the year 2020
- Gain public recognition for your efforts
- Attract tenants
- Free tools to track and manage your energy use
- PACE financing makes energy efficiency MAKE SENSE





# Better Buildings CHALLENGE

U.S. DEPARTMENT OF ENERGY

## MILWAUKEE

11 pledges received, plus City government facilities

6.5 million square feet

[city.milwaukee.gov/BBC](http://city.milwaukee.gov/BBC)

**TAKE THE  
PLEDGE**



### **City government Buildings**

**US Bank Building**

**City Center at 735**

**A.H. Wells Building**

**BMO Harris Bank Headquarters**

**One Park Plaza**

**100 E Wisconsin Ave**

**MGIC Building**

**Columbia Property Trust**

**The Blue**

**Milwaukee Athletic Club**



**MyPortfolio**

Sharing

Planning

Reporting

Recognition

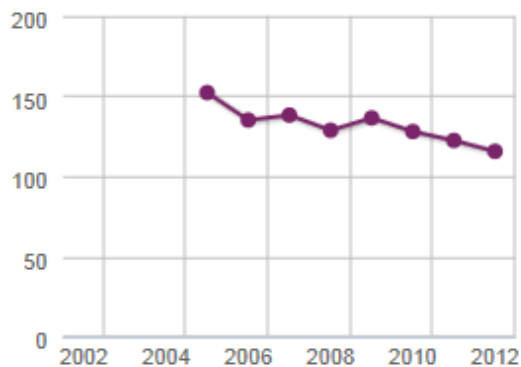
Properties (127)

[Add a Property](#)

Notifications (0)

You have no new notifications.

Source EUI Trend (kBtu/ft<sup>2</sup>)



My Properties (127)

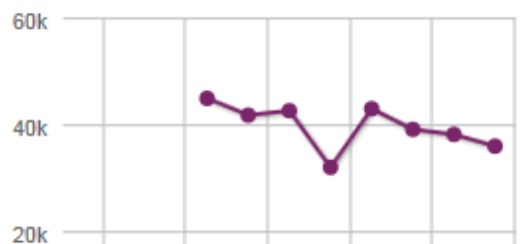
[Add a Property](#)

Filter by:

[Create Group](#) | [Manage Groups](#)

Name	Action
<a href="#">2nd/Plankinton Parking 1174</a>	<input type="text" value="I want to..."/>
<a href="#">ANDERSON WATER TOWER 1004</a>	<input type="text" value="I want to..."/>
<a href="#">AREA HQ Cameron- DPW 1547</a>	<input type="text" value="I want to..."/>
<a href="#">ATKINSON LIBRARY 1066</a>	<input type="text" value="I want to..."/>
<a href="#">Americology Plant 1716</a>	<input type="text" value="I want to..."/>
<a href="#">Aux. Greenhouse (South) Nursery 1753</a>	<input type="text" value="I want to..."/>
<a href="#">Aux. Grnhouse (North) Forestry 1720</a>	<input type="text" value="I want to..."/>
<a href="#">BAY VIEW LIBRARY 1775</a>	<input type="text" value="I want to..."/>

Total GHG Emissions Trend (MtCO<sub>2</sub>e)



**Erick Shambarger**  
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**[city.milwaukee.gov/sustainability](http://city.milwaukee.gov/sustainability)**



**Steve Thompson**  
**Director of Property Operations**

**Hilton Los Angeles/Universal City**

# Hilton Los Angeles/Universal City Hotel



**-Built in 1983**

**-24 stories/489 rooms**

**-748,339 ft2 facility**

**-AAA -4 Diamond Full Size Service Hotel**

**-Located a block away from the entrance to City Walk and Universal Studios Hollywood theme park**

# 2013 Waste Management Stats

Total Recycled Weight		Total Food/Trash Waste Collection			
TYPE	Total Generated	TYPE	Total Generated	Total Recovered	TOTAL
Comingle	24.52tns	Food	777.46tns	661.94tns	
Cardboard	21.23tns	Construction/D emo Debris	77.56tns	74.64tns	
Room Amenities	3.27tns	Trash	8.53tns	0.77tns	
Appliances	0.85tns	Green Waste	5.79tns	5.79tns	
E-waist	0.58tns	Hand Sort	4.38tns	1.31tns	
Toner cartridges Laundry Drums Aerosol Cans	1.36tns				
Lamps	1tn				
Kitchen oil	5.94tns				
<b>Sub-Total</b>	<b>58.75tns</b>	<b>Sub-Total</b>	<b>873.72tns</b>	<b>744.45tns</b>	
<b>Tons Diverted from Landfill</b>					<b>803.20 (86%)</b>

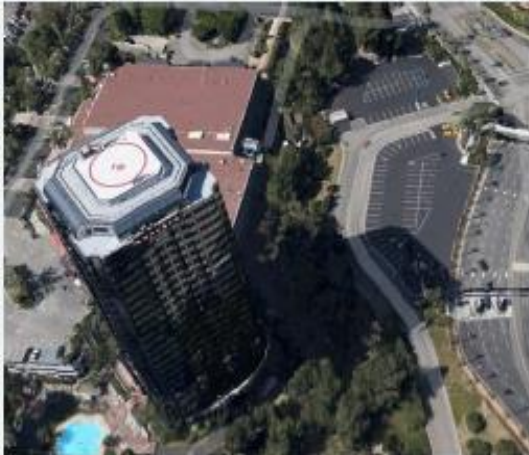
# Sustainability Reporting History



- 2001 Started first commingle recycling program.
- 2009-2010 Green Seal “Bronze” Level
- 2010-2011 Green Seal “Silver” Level
- 2011-2013 Green Seal “Silver” Level
- 2013 California Green Lodging “Environmentalist”
- 2013 Tripadvisor/greenleaders “Gold” Level
- 2014 Tripadvisor/greenleaders “Gold” Level
- 2013-2014 LAPACE-Energy Upgrades**

# Largest Commercial PACE Project in the U.S.:

## The Hilton Los Angeles/Universal City completes \$7 million upgrade



## **2013-2014**

- **Chillers/BAS Replacement**
- **Elevator Modernization**
- **Front of the House LED Lighting Retrofitting**
- **Back of the House New Generation Fluorescent Lamp Retrofitting.**
- **Guest room HVAC Motor Replacement**
- **Guest Room Window Tint Film Installation**
- **Guest/Bathrooms Showerheads replacement**
- **Smart Glass Installation in key areas**
- **Ballroom Foyer HVAC Upgrade**
- **Dual EV Charger Unit Installation**



# Chillers/BAS Replacement

## Previous:

- TRANE 475 tons Water Cooled Centrifugal Chillers-non variable speed driven



Before

## Replacement:

- YORK 450tons Centrifugal Variable Speed Driven Chillers
- Premium Efficient Motors and CDW Pumps
- HVAC new controls
- BAS (Building Automation System) Upgrade



After

**Estimated Annual Energy Use Reduction: 2,744,458 KWH x  
\$.1316/KWh = \$361,170.00**

# Elevator Modernization

(8 Traction & 6 Hydraulic)



**Guest Elevators**



**Garage Elevators**



**Service Elevators**



**Kitchen Elevators**

- Regenerative drive cars for 8 Traction Elevators that save up to 50 percent energy over conventional systems. 8 30hp motors eliminated
- Elevator produce power in the down direction  
The energy generated when the cab goes into braking mode is converted into electricity and fed into the building's system.
- LED lighting retrofitting

# Light Retrofitting(12M+lamps)

## FRONT OF THE HOUSE:

Public Areas  
Guest Tower and  
Corridors  
Ballrooms  
Meeting rooms  
Food Outlets  
Fitness & Bus. Center



TCP LED Elite  
Designer  
Series



Standard LED  
Lamps



Elite LED 4W  
Deco  
(Replaces  
25W)

## BACK OF THE HOUSE:

Corridors  
Kitchens  
Restrooms  
Offices  
Garage Parking Levels



T5 Lamps,  
Miniature  
Bi-Pin



T8 Lamps



Ballasts

# Guestroom HVAC & Refrigeration Motor Replacement



High efficiency **EC (Electrically Commutated) Motors** use heavy duty rare earth magnets rather than dual electromagnets. This reduces power as well as wasted heat energy allowing refrigeration motors to have a double impact on energy savings.

# Guest/Bathroom Showerheads Replacement



**Replaced  
existing 500units  
2.5 gpm for 1.75  
gpm**

## ESTIMATED YEARLY WATER SAVINGS

Existing: 2.5gpm

FORMULA: 500 units x 2.5 x 2 guest x  
10mn x 365 days x 85% occupancy =  
**7,756,250** gallons

New: 1.75 gpm

FORMULA: 500 units x 1.75 x 2 guest x  
10mn x 365 days x 85% occupancy =  
**5,429,375** gallons

$7,756,250 - 5,429,375 =$  **2,326,875 gls.**

# Guestroom Window Tint Film



## Scope of Work Done:

- 2,416 panes of all room view panes

## High Performance OptiTune 22 Film

- It combines high solar energy rejection with low internal reflectance, making it ideal for commercial installations.
- It reduces up to 87% of glare, rejects up to 85% of solar energy, blocks 99% of UV radiation, and provides a warm neutral appearance.
- The Data Logger Assessment results showed a reduction of up to 38° of heat inside guestrooms during heavy sunny days reducing A/C use.

# Smart Glass Installation

Installed View Dynamic Glass that automatically transitions between clear and variable tint, providing control over the amount of light, glare and heat reducing AC costs.



Presidential Suite

14 panes or  
367 ft<sup>2</sup>

In addition, these installs have reduced the impact of UV rays from sunlight in these areas and increased guest satisfaction.

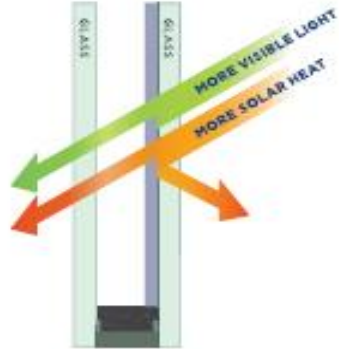
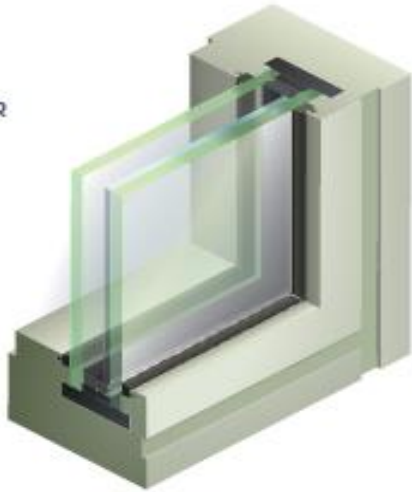


Lobby

21 panes or  
528ft<sup>2</sup>

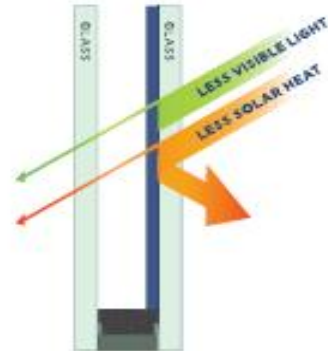
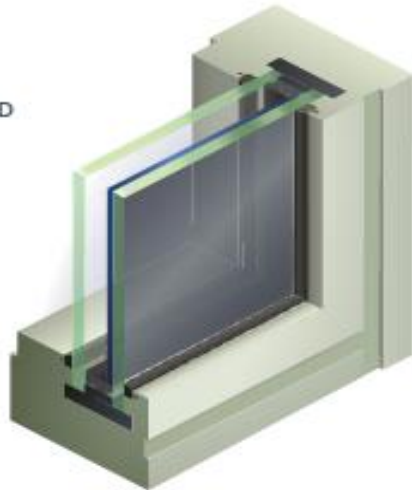
# View Dynamic Glass transitions between clear and variable tint states

CLEAR



When glass is in the clear state more visible light and heat goes thru

TINTED



When glass transition to tinted state less visible light goes thru



# Ballroom Foyer HVAC Upgrade

Replaced the existing fans power boxes at foyer-interface w/control system-mechanical/electrical and plumbing included to add HVAC balance in Ballroom Foyer.



# Dual EV Charger Unit Installation



**ChargePoint  
CT4023  
Wall Mount  
Dual Port**

- To attract more eco-friendly travelers
- To meet the green demand for EV stations
- To set a good example and exercise our strong position in environmental responsibility



**Existing Location**

**Rahul Young**  
**Vice President**

**ICF International**

# Better Buildings Challenge Financial Allies

- Highlighting and connecting providers of innovative energy efficiency financing products.
- Currently 20+ active BBC Financial Allies
- All Allies commit to place \$25M+ in energy efficiency financing over the next 12 months.
- BBC spotlights financing implementation models, connects Allies with interested Partners, and publicizes completed deals.
- Contact: Rahul Young, ICF—[rahul.young@icfi.com](mailto:rahul.young@icfi.com).



HANNON  
ARMSTRONG  
SUSTAINABLE INFRASTRUCTURE



GREENWOOD  
ENERGY

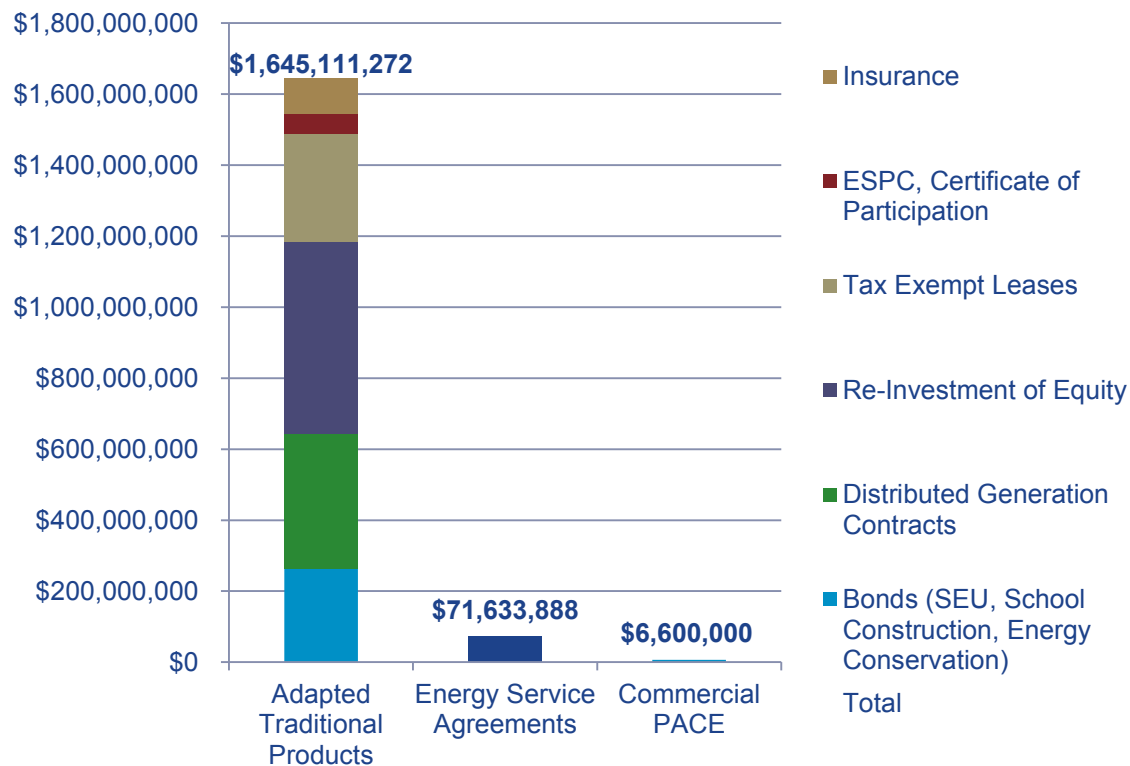


METRUS ENERGY



# Better Buildings Challenge Financial Allies

BBC Financial Allies have placed over \$1.7B in financing since the beginning of the Better Buildings Challenge.



# Additional Resources

# For More Information

- Clean Fund
  - [Commercial PACE Financing at Pier 1 Implementation Model](#)
  - [Prologis Pier 1 Energy Efficiency Upgrade](#)
- City of Milwaukee
  - PACE Financing Implementation Model

# Question & Answer Session



# Join Us for the Next Better Buildings Webinar

## Finding the Next Big Thing(s) in Building Energy Efficiency: HIT Catalyst and the Technology Demo Program

**Date:** Tuesday, November 4

**Time:** 3:00 – 4:00 PM EDT

**Overview:** Join Better Buildings program participants who are working with U.S. Department of Energy staff to test promising technologies in their buildings. Learn what they are finding and how you can get involved.

Register [here](#).

# Additional Questions? Feel Free to Contact Us

[betterbuildingswebinars@ee.doe.gov](mailto:betterbuildingswebinars@ee.doe.gov)

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