

BUILDINGENERGY BOSTON

C-PACE as a Financing Tool to Comply with Regional Building Energy Performance Standards

**Michael Doty (Greenworks Lending)
Wendy O'Malley (MassDevelopment)
Kim Aboulhosn (Cargo Ventures)**

Curated by Scott Greenbaum (Greene Energy Consultants)

Northeast Sustainable Energy Association (NESEA)

February 28, 2022

SPEAKERS



Wendy
O'Malley

VP C-PACE Program – Mass Dev
Administrator Of C-PACE In
Massachusetts



Cargo Ventures
Hold



MIKE DOTY

Nuveen Green Capital
Certified Energy Manager
National Lender For C-PACE



Introduction



Nuveen Green Capital is a national leader in sustainable commercial real estate financing solutions and an affiliate of Nuveen, the investment manager of TIAA responsible for \$1.2 trillion in assets under management as of September 30, 2021. Established in 2015 by the C-PACE industry's founders and standard-setters, Nuveen Green Capital is a private capital provider dedicated to making sustainability a smart financial decision for commercial real estate owners who seek to improve the energy, water and resiliency performance of their property.

NUVEEN GREEN CAPITAL IS AN INDIRECT SUBSIDIARY OF NUVEEN LLC AND TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA (TIAA) AND A MEMBER OF THE TIAA GROUP OF COMPANIES.

MassDevelopment

- Works with businesses, nonprofits, financial institutions, and communities to stimulate economic growth throughout Massachusetts
- Promotes capital investment and economic development by providing financing and development solutions
- In FY21, MassDevelopment financed or managed 416 projects generating investment of more than \$1.86 billion in the Massachusetts economy
- These projects are projected to create or support more than 6,578 jobs and build or preserve more than 1,909 housing units



PACE Massachusetts

- Commercial Property Assessed Clean Energy (PACE) Massachusetts Program launched July 28, 2020
 - PACE legislation passed in H4586
- MassDevelopment is Lead Program Administrator
 - Administers PACE in consultation with the Massachusetts Department of Energy Resources (DOER)
- PACE guidelines including approval requirements, financing documents and RFI for Capital Providers available at:
www.massdevelopment.com/PACE

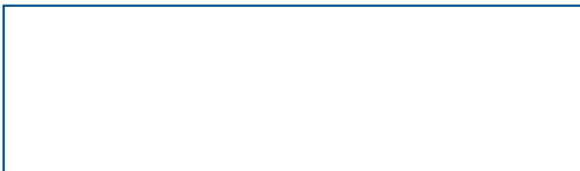


Opted in Municipalities

Acton	Agawam	Amesbury	Amherst	Barnstable	Bellingham
Beverly	Boston	Brockton	Chelsea	Chicopee	Concord
Devens	East Longmeadow	Easthampton	Easton	Erving	Fall River
Fitchburg	Franklin	Gardner	Gloucester	Great Barrington	Greenfield
Holyoke	Lanesborough	Lexington	Lowell	Ludlow	Middleborough
Milton	Montague	New Bedford	North Adams	North Andover	Northampton
Norwood	Orange	Pittsfield	Plymouth	Randolph	Rockland
Salem	Somerville	Springfield	Taunton	Wakefield	Wellfleet
Wendell	West Springfield	Yarmouth			

Cargo Ventures

- Cargo Ventures was built on a strong foundation of exclusive relationships with key clients and stakeholders. This allows us to respond to our customers with the agility of a boutique firm while maintaining access to the financial resources of a much larger organization.
- We have successfully combined innovative development expertise with creative real estate financing and our disciplined approach to property management has yielded impressive results.
- Our ability to develop state-of-the-art logistics facilities, in key transportation markets, is just one reason why our clients continue to locate their operations in projects developed and managed by Cargo Ventures.



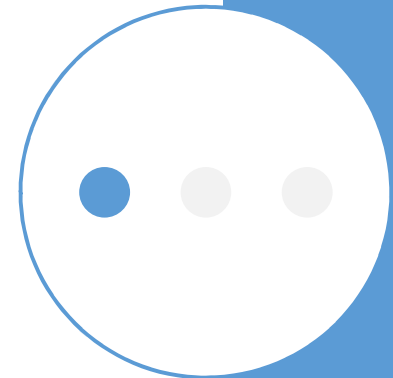
Our Goal Today

- What is C-PACE and how does it apply to Commercial Buildings in Massachusetts?
- What are the implications of BERDO 2.0
- How does BERDO 2.0 interact with C-PACE in Boston as well as other markets with carbon emission legislation
- What situations are best suited for use of C-PACE
- How C-PACE Applies to New Construction



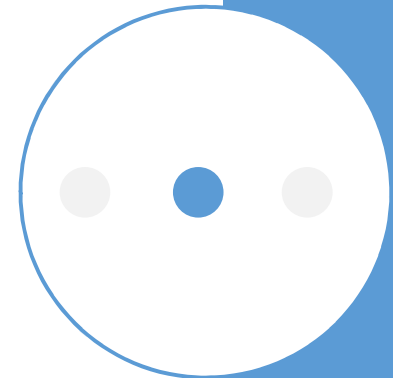
WHAT IS A *C-PACE*?

- Commercial Property Assessed Clean Energy (**C-PACE**) Is A Tool That **Can** Finance Energy Efficiency And Renewable Energy Improvements On Commercial Property. Like Other Project Financing, **C-PACE** Uses Borrowed Capital To Pay For The Upfront Costs Associated With Energy Efficiency Or Renewable Energy Improvements.
- **No personal or corporate guarantees required!**



PACE Structure

- Secured by a public benefit assessment legally identical to a sewer or sidewalk assessment from a municipality for the benefit of funding public projects
- PACE is most often a fixed-rate, fully amortizing **ownership structure** with long (~20-year) maturity.
- Funding comes from a private lender (ex. Greenworks) and security is provided by a non-accelerating property tax assessment that transfers on sale.
- Projects are **accretive to building value**...they replace broken/outdated equipment and/or improve building's net operating income
- C-PACE financing requires lender consent from any lienholder on a property. This is required by state law as any payments currently due or past due on a C-PACE assessment is collected prior to a senior lender.
- PACE is a non-recourse property obligation – in the event of foreclosure or sale...
 1. Lender cannot accelerate note
 2. Obligation transfers to new property owner
 3. New owner takes possession of a more valuable asset



Powerful Solution



Cash Flow

- 100% Financing
- Long Payback Period, Fixed Rate
- Covers All Hard And Soft Costs
- Owner Keeps ITC And Tax Benefits



Flexible & Secure

- No Personal Or Corporate Guarantee
- Transfers On Sale
- Costs Can Be Passed Through In Lease Or Hospitality Structures
- Preserves Borrowing Capacity



Easy to Qualify

- Qualify Based On Property Value
- Funds Most Energy And Water Projects
- All Standard Commercial Property Types
- Non-accelerating

WHAT QUALIFIES

C-PACE investment by project type or use, again cumulatively and from PACE Nation, is as follows:

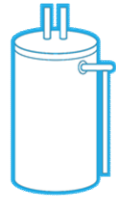
- **Energy efficiency 49%**
- **Renewable energy 23%**
- **Mixed-uses 22%**
- **Resiliency 7%**



Automated Building Controls



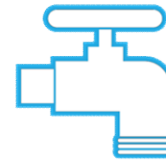
HVAC Systems



Boilers, chillers and furnaces



High Efficiency Lighting



Hot Water Heating Systems



Variable Speed Drives



Water Conservation



Resiliency



Building Envelope

PACE FINANCING

Who benefits?

Multifamily housing sector

- Rental buildings, coops, and affordable housing can take advantage of long-term financing
- PACE is a lifeline for multifamily buildings that cannot refinance their mortgage but must undertake renovation work to comply with new building energy efficiency laws

Commercially tenanted buildings

- PACE charge payments can be passed through to tenants in most commercial leases
- Commercial building owners often hold properties for <10 years; owners only pay debt service for the savings that they enjoy as PACE obligation is inherited by successor owners

Municipalities

- PACE is an economic development engine, with 13,000+ jobs created to date
 - PACE projects also increase property values and cash flow, improve resident health and comfort, and contribute to environmental goals
-

PACE FINANCING

Project Eligibility

- The property must be commercial real estate located in New York City (including multifamily of 5+ units, non-profit and religious facilities)
 - All measures must be cost-effective energy efficiency measures, renewable energy systems, or related costs
 - New construction and resiliency measures under consideration for PACE eligibility by the State
-

Energy Action and Assessment: Boston's BERDO 2.0 Ordinance

After five years of being covered by BERDO, and every five years thereafter, buildings must also report distinct improvements in energy performance including. The three main pathways include:

- Achieving Certification through LEED, Energy Star or Zero-Net Energy Certification
- Completing onsite energy efficiency or renewables projects that reduce energy consumption *or* GHG emissions by 15% in a five-year term
- Completing an energy assessment or audit by a qualified professional which includes targeted recommendations to reduce energy use and GHG emissions

These strategies will collectively help Boston's largest buildings lower their GHG emissions, save money on energy bills and meet The City's Carbon Fee goal by 2050.

Phase 1 BERDO Regulations: Draft Carbon Emissions Cap

By 2025 covered buildings will need to reduce carbon emission based on building use and fuel type or face fines:

Building use	Emissions standard (kgCO ₂ e/SF/yr.)					
	2025 - 2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-
<u>Assembly</u>	7.8	4.6	3.3	2.1	1.1	0
<u>College/ University</u>	10.2	5.3	3.8	2.5	1.2	0
<u>Education</u>	3.9	2.4	1.8	1.2	0.6	0
<u>Food Sales & Service</u>	17.4	10.9	8.0	5.4	2.7	0
<u>Healthcare</u>	15.4	10.0	7.4	4.9	2.4	0
<u>Lodging</u>	5.8	3.7	2.7	1.8	0.9	0
<u>Manufacturing/ Industrial</u>	23.9	15.3	10.9	6.7	3.2	0
<u>Multifamily housing</u>	4.1	2.4	1.8	1.1	0.6	0
<u>Office</u>	5.3	3.2	2.4	1.6	0.8	0
<u>Retail</u>	7.1	3.4	2.4	1.5	0.7	0
<u>Services</u>	7.5	4.5	3.3	2.2	1.1	0
<u>Storage</u>	5.4	2.8	1.8	1.0	0.4	0
<u>Technology/Science</u>	19.2	11.1	7.8	5.1	2.5	0

- Significant Daily Fines for not filing the relevant BERDO report
- Alternative Compliance Payment valued at \$234 per MTCO₂e
- These ***Carbon Caps*** further ***amplify value of energy and carbon savings***



Berdo / C-PACE Case Study

Subject Property: 700K sqft office and retail building in Manhattan

Current Energy Use:

- 11,000,000 kWh Electric
- 17,000 MMBTU Steam
- 4081 Tons CO₂e
- Electric Cost: \$0.20 kWh
- Steam Cost: \$36.10 MMBTU
- 2030 Penalty: \$340,158/yr

Goal to Not Incur Penalty:

- 7,500,000 kWh Electric
- 14,000 MMBTU Steam

Project Opportunity To Get There:

- Electric Measure Cost \$6,300,000
- Steam Measure Cost \$974,000

LL97 Project

Energy Efficiency Cash Flow with 25-Year C-PACE Financing

Input Assumptions			
Project Cost (Net Incentives)	\$7,274,000	Total Incentives	\$0
Closing Fees (3.00%)	\$218,220	Energy Efficiency Savings (Year 1)	\$808,300
Other Estimated Costs ¹	\$462,660	C-PACE Repayment Term	25 Yrs
Total Financed Amount	\$7,954,880	C-PACE Repayment Rate	5.90%

Year	Utility Bill and Incentive Savings			Tax Impact		Net Savings	
	C-PACE Payment ²	Utility Bill Savings	Utility Rebate (If Applicable)	Depreciation ³	C-PACE Interest Deduction ⁴	Payment + Tax Cash Flow ³	Cumulative Savings
0	\$0						
1	(\$627,175)	\$808,300	\$0	\$1,527,540	\$102,292	\$1,810,957	\$1,810,957
2	(\$627,175)	\$828,508	\$0	\$0	\$100,455	\$301,787	\$2,112,744
3	(\$627,175)	\$849,220	\$0	\$0	\$98,504	\$320,549	\$2,433,293
4	(\$627,175)	\$870,451	\$0	\$0	\$96,430	\$339,706	\$2,772,998
5	(\$627,175)	\$892,212	\$0	\$0	\$94,227	\$359,264	\$3,132,262
6	(\$627,175)	\$914,517	\$0	\$0	\$91,887	\$379,229	\$3,511,491

Energy Savings and Incentives \$27,609,721

Cash Value of Tax impact \$3,149,685

C-PACE Tax Payments **(\$15,679,378)**

Net Savings \$15,080,027

Savings to Investment Ratio (SIR): 1.96

Cargo Ventures

"C-PACE provided us with upfront capital enabling us to install several energy efficient upgrades to our building, helping us cut our energy costs while preserving capex. We are grateful to MassDevelopment, The City of Boston and Greenworks for working together to enable us to make these critical energy efficiency upgrades," Jacob Citrin, Founder and CEO of Cargo Ventures.

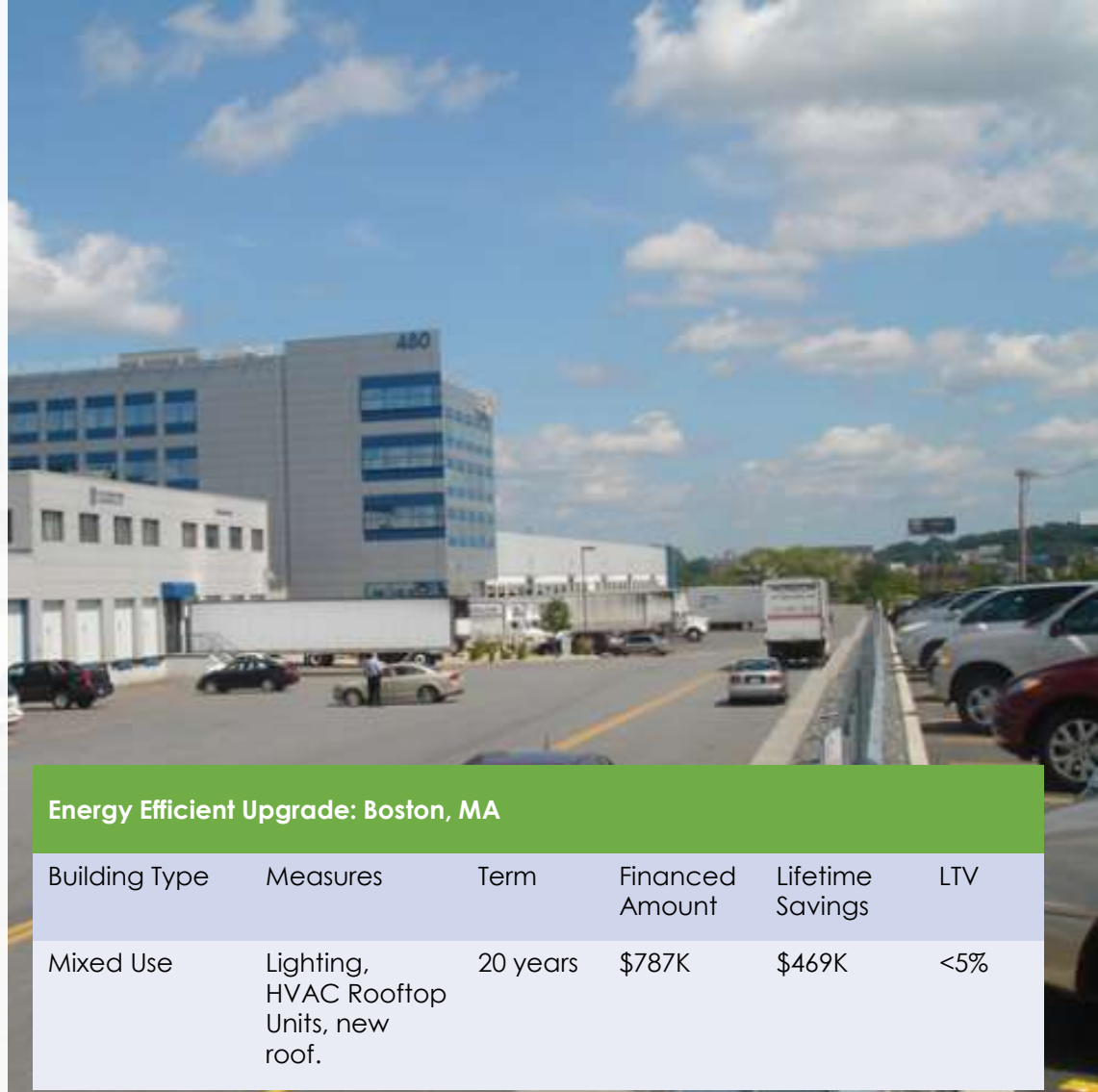
– Jacob Citrin, Founder and CEO of Cargo Ventures.

PROPERTY SUMMARY

Built in 1975, 440 William M. McClellan Highway is a 121,000-square-foot mixed-use warehouse building. Thirteen tenants are located at the property, including JetBlue Airways Corp., Starbucks, ABM Industries, and Panasonic.

OPPORTUNITY

C-PACE financing will be used to cover multiple energy efficiency measures including replacement of rooftop HVAC systems, and a new roof. The building owner was also able to recapitalize on the LED lighting investment previously made in the building. These upgrades will save the property owner an estimated \$469,000 over the lifespan of the equipment and allows for deferred maintenance needs to be addressed for \$0 out of pocket.



Energy Efficient Upgrade: Boston, MA

Building Type	Measures	Term	Financed Amount	Lifetime Savings	LTV
Mixed Use	Lighting, HVAC Rooftop Units, new roof.	20 years	\$787K	\$469K	<5%

THE DUPONT BUILDING

“PACE financing closes a significant gap in the market for funding energy efficiency projects for commercial properties. We have been working for years to bring PACE to Delaware and are so excited to finally make this new program a reality for The Buccini/Pollin Group and the historic DuPont Building. This project will create many local jobs and will significantly lower the property’s carbon footprint. It’s an exciting win/win for all parties involved.”

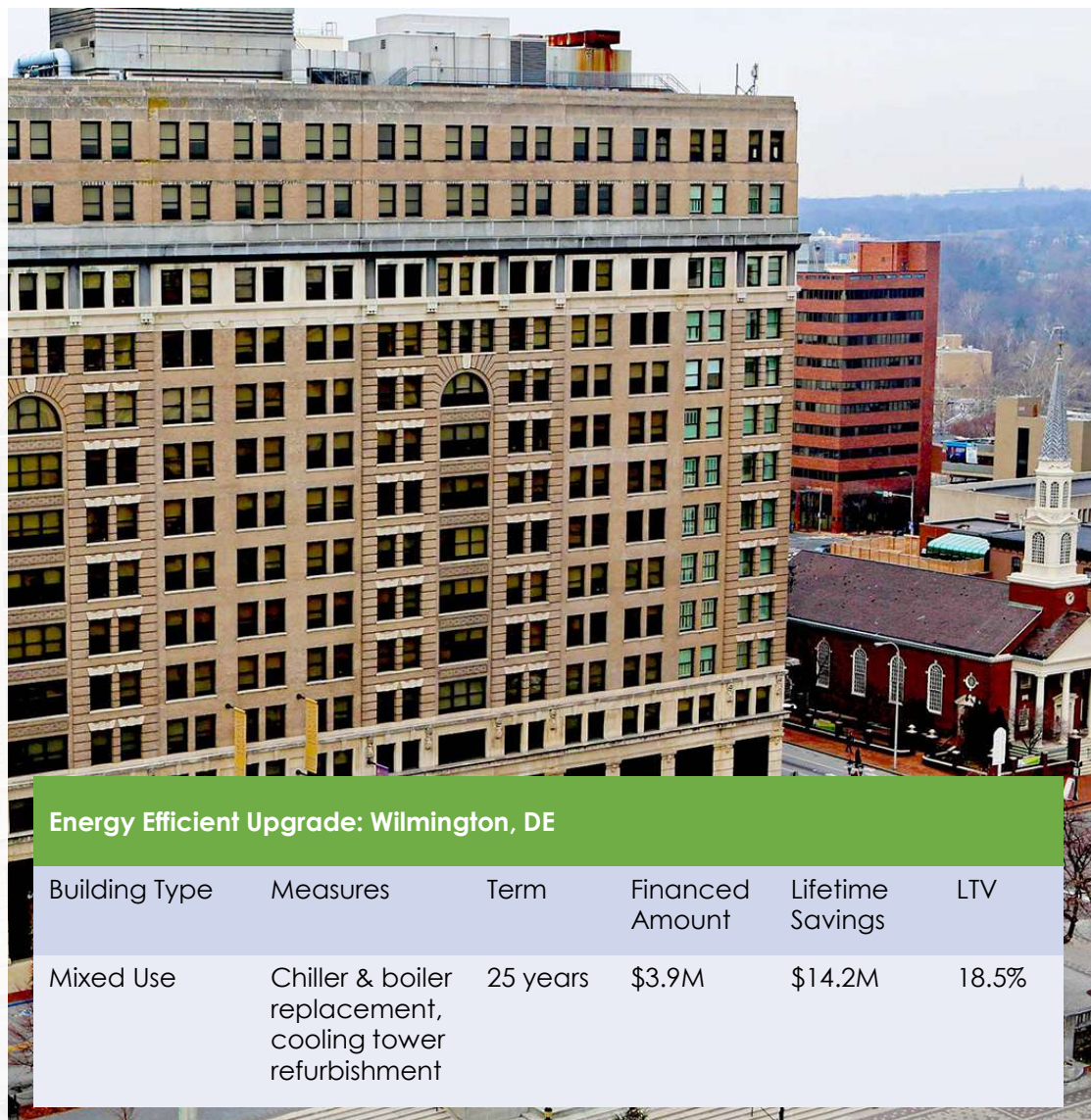
– Doug Edwards, Seiberlich Trane Energy Services

PROPERTY SUMMARY

The DuPont Building is a hallmark of downtown Wilmington, DE. Constructed in 1908, it was the longtime home to the DuPont Company until 2015. The building has been undergoing renovations which will modernize the building to convert it into a mixed-use facility consisting of a hotel, luxury apartments, a theatre, retail space, and office space.

OPPORTUNITY

C-PACE financing will be used to cover multiple energy efficiency measures including chiller plant replacement, boiler replacement, and cooling tower refurbishment. These upgrades will save the property owner an estimated \$14,217,721 over the lifespan of the equipment.



Energy Efficient Upgrade: Wilmington, DE

Building Type	Measures	Term	Financed Amount	Lifetime Savings	LTV
Mixed Use	Chiller & boiler replacement, cooling tower refurbishment	25 years	\$3.9M	\$14.2M	18.5%

Slide 20

LJ(4) see notes from slide 36
Leone, Jennifer (HPD), 9/9/2020

25 Van Zant Street

“C-PACE is an opportunity to focus attention on the vital matters of energy efficiency and better overall management of real estate assets. We found the process to engage C-PACE financing very helpful.”

– Winthrop E. Baum

PROPERTY SUMMARY

25 Van Zant St. in Norwalk, CT is making a push to attract trade and business school tenants by rebranding itself as the Workforce Training Center. The 5-story, 265,000-square-foot commercial property was built in 1923 as a hat manufacturing facility. Real estate developer Winthrop E. Baum has announced a \$12.5 million budget to upgrade the building’s high-tech infrastructure, with the goal of creating a smart building that can accommodate the high-tech needs of remedial training, vocational training and continuing education entities.

OPPORTUNITY

With a desire to create office space that would appeal to a 21st century workforce, the owners decided to tap into C-PACE to access advantage financing for highly energy-efficient measures which included new windows, roof, and an exterior insulation and finish system to increase the efficiency of the building as well as curb appeal.

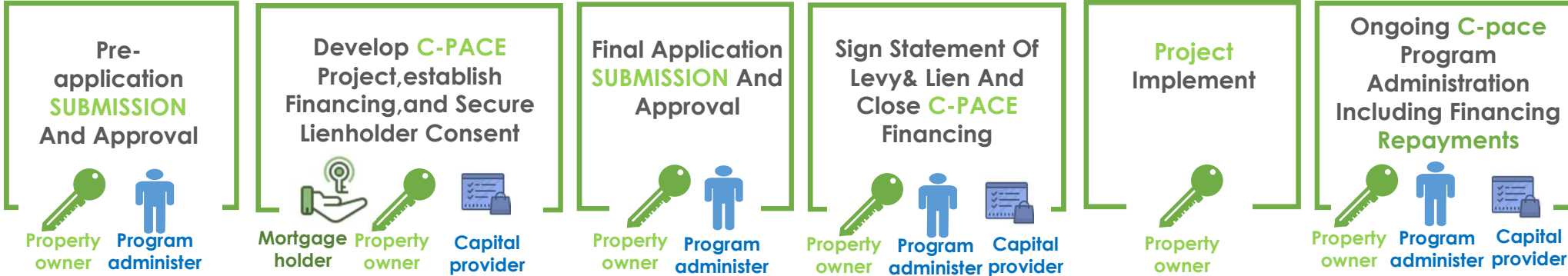


Energy efficiency: Norwalk, Connecticut

Property Type	Measures	Term	Financed Amount	Lifetime Savings	LTV
Office Building	Windows, Roof, EIFS	25 years	\$6.8M	\$13.6M	32%

WHAT'S THE PROCESS ON GETTING C-PACE?

1 → 2 → 3 → 4 → 5 → 6



WHY OR WHY WOULDN'T AN OWNER TAKE A C-PACE LOAN

ADVANTAGES

- Increases Equity Yield On Project.
- Long Amortization Period
- Can Lead To Low Interest Rates Because Of The High Security Of Loan Repayments Attached To The Property Tax Bill.
- Improve Income Tax Liability
- Decrease Energy Costs Without Putting General Funds At Risk.
- Taps Into Large Sources Of Private Capital.

DISADVANTAGES

- Available Only To Property Owners.
- Cannot Finance Portable Items (Screw-in Light Bulbs, Standard Refrigerators, Etc.).
- Can Require Dedicated Local Government Staff Time.
- May Require High Legal And Administrative Setup Obligations.
- Not Appropriate For Investments Below \$500,000.
- Potential Resistance By Lenders/Mortgage-holders

WHERE IT WON'T WORK

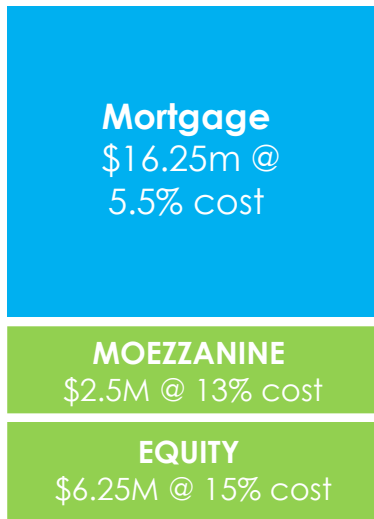
- **Loan Is Less Than \$500,000**
- You Have A Government Building
- You Have A Tax-exempt Property
- You improvements don't have a positive Cost Benefit Ratio

- Your Local Government Has Not Legislated It Yet
- Unqualified Improvements
- Your senior lender does not consent to C-PACE
- Requires funding greater than **35%** Of As Complete Property Value
- Your Current Mortgage And **C-PACE** Can't Be More Than **95%** Of The Property Value
- Less Than <5-unit Mult-family

NEW CONSTRUCTION

- ✓ **C-PACE** Is Roughly Half The Prize Of Mezz/Pref
- ✓ Non Acceleration Means Senior Lenders Will Likely Find Comfort
- ✓ Can Be Fully Repaid At Anytime With No Yield Maintenance
- ✓ Can Fill Construction Budget Gaps Due To Cost Overruns Or Delays

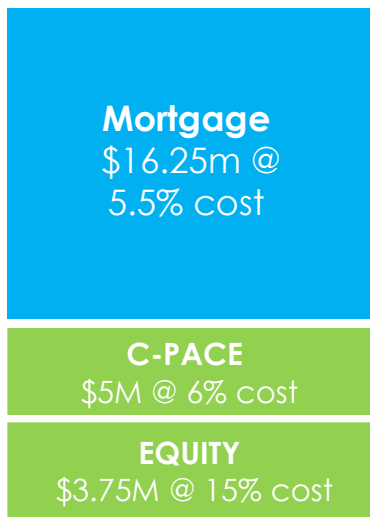
Traditional capital stack



8.63%

Weighted avg cost of capital

capital stack with c-pace



7.63%

Weighted avg cost of capital

Increase Return On Equity:



In This Example, **ROE Improved 46.5%** Via The Replacement Of Mezzanine Debt And Reduction In Equity

Decrease Weighted Cost Of Capital:



WACC Improves With **C-PACE** Financing, In This Case 160bps. The Scenario At Left Yielded An Estimated \$310k/Yr

Permanent Financing From Day One:



Long-term Fixed Rate Capital That Stays With The Property From Construction Through Term

THE HAYDEN

“Greenworks’ C-PACE Financing ... Increased Return On Equity, And Decreased Overall Cost Of Capital. Greenworks Also Did A Fantastic Job Sorting Through The Inherent Complications Of A Historic Redevelopment Project.”

MICHAEL TOMKO,
PRESIDENT,
THE TOMKO COMPANY

PROPERTY SUMMARY

The Hayden Is A Two-building Historic Property Located In Columbus, Ohio. The 100-year Old Buildings Are Centerpieces Of The Downtown Business District, But Sat Vacant For Ten Years, And Are Being Redeveloped Into Office & Retail Spaces, To Be Completed In June 2019.

OPPORTUNITY

After The Vacancy, Many Of The Mechanical Systems Were Dated Or Not Operational. Both Buildings Required A Major Renovation By The New Owner In Order To Meet Indoor Air Quality And Building Code Standards.



New Construction / Gut-renovation: Columbus, Ohio

Building Type	Measures	Term	Financed Amount	Total Project Cost	LTV
Office	Lighting, HVAC, Elevator Upgrades	25 years	\$4.67 M	\$20.7 M	21%*

*C-PACE LTV <20% until final completion disbursement.

Slide 26

- LJ(2)** it would be very useful to see more detail about measures ("HVAC" is meaningless), projected annual energy savings & cost savings, annual costs. What was buildings GHG before? After? This would contextualize for LL97.
Leone, Jennifer (HPD), 9/9/2020
- LJ(3)** Like the info on Slide 21
Leone, Jennifer (HPD), 9/9/2020
- MD1** With new construction savings are less attributable but I will talk through this in some detail.
Mike Doty, 9/14/2020

Discussion:

- Mike asks Kim as an owner what are you considering when you think about BERDO?
- Kim asks Wendy - Will PACE work for every upgrade?
 - What are the implications for electrification like VRF systems
 - What popular items just won't work?
- Wendy asks Mike pitfalls and failed applications?
- What about DEEP energy retrofits?