



# CDFA // BNY MELLON DEVELOPMENT FINANCE WEBCAST SERIES

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## Financing Tools to Invest in Clean Energy



**BNY MELLON**



# Financing Tools to Invest in Clean Energy



## Zeyu Zhang

Coordinator, Research & Technical Assistance  
Council of Development Finance Agencies  
Columbus, OH



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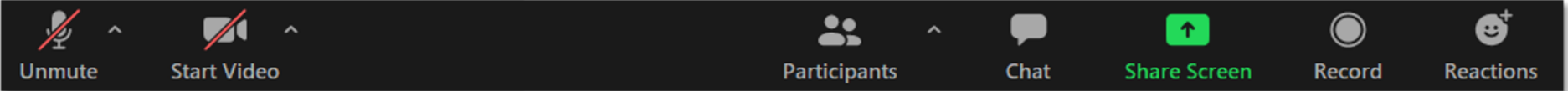
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## Seth Crone

Vice President  
BNY Mellon

## Robert Mattler

Manager  
Green Portfolio Solutions LLC

## David Tancabel

Environmental Policy Analyst  
U.S. Environmental Protection Agency

## Abigail Johnson

President  
Abacus Property Solutions



# Financing Tools to Invest in Clean Energy

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## Robert Mattler

Manager  
Green Portfolio Solutions LLC





**green  
portfolio  
solutions**



**Financing Tools to Invest in Clean  
Energy (CDFA) Oct. 18, 2022**

**Property Assessed Clean Energy  
(PACE) Financing: Green financing  
for new development, building  
upgrades and renewables**



# Today's Format:

- 15 Minutes PACE Presentation - the law, types and asset classes of PACE projects, misconceptions of the law
- Introduce yourself in Chat
- Presentation recorded for easy access later
- Thanks for attending & your questions!
- Let's Get Started ....



# The Problem: A CHANGING CLIMATE / OIL

BASED DECISION-MAKING FROM WASH., DC



- Hurricane Ian - FLORIDA
- Drought, Devastating Forest Fires, Water Issues in Western States
- 100/ 500 year Climate events happening more frequently in many parts of the country - Extreme heat/ Major flooding in Midwest; Extreme cold in Texas ....
- Geopolitical - U.S. still making foreign decisions based on oil imports;
- Green Construction Market Size Projected US \$ 774 Billion By 2030 - Exclusive Report By Acumen Research And Consulting  
Acumen Research and Consulting recently published report titled “Green Construction Market - Global Industry Analysis, Market Size, Opportunities and Forecast, 2022-2030”

# Current Status of Other Cities' Regulatory Environment Addressing Climate Change



- **D.C.'s Climate Standards Pushing Developers, Designers To Their Creative Limit** **BisNow** article August 22, 2022.  
Washington, D.C., has [the highest level of climate regulation of any U.S. city](#)
- The Oregon Commercial Reach Code provides an additional choice for builders, consumers and contractors to increase energy efficiency for the construction of structures regulated by the Oregon Structural Specialty Code (OSSC). <https://www.Oregon.gov/bsc/doces-stand/pages/reach.aspx>. This is optional !
- **Will New York City Be Ready to Implement Landmark Building Emissions Law?** **Gotham Gazette**, February 25, 2022. About 71% of emissions in New York City come from buildings, particularly about 50,000 structures over 25,000 square feet. Local Law 97, which was part of the Climate Mobilization Act, aims to cut emissions from the largest buildings by **40% by 2030** and by **80% by 2050**. The law requires that property owners make improvements and upgrades to their energy systems to comply with the new emissions caps.
- ***California to Ban the Sale of New Gasoline Cars*** – **NY Times, Aug. 24, 2022**  
The decision, to take effect by 2035, will very likely speed a wider transition to electric vehicles because many other states follow California's standards. At least 12 other states are already in line to adopt California's zero-emissions vehicle mandate.

# COSTS OF WAITING TO ADDRESS ADDING HIGHEST EFFICIENCY INFRASTRUCTURE TODAY ...

- BUILDING COST INCREASES (20% increase just this year)
- ANNUAL ENERGY COST INCREASES
- LOSING COMPETITIVE ADVANTAGE VS. PEERS (lower cost for tenants)
- LOSING OUT ON ECONOMIC ADVANTAGE BY ACTING NOW
  - Utility Rebates.
  - City incentives for becoming more sustainable.
  - Green PR Advantages.
- ACCESSING PROGRAMS/ RESOURCES AVAILABLE NOW
  - Labor Pool At Maximum; Continuous pressure for increases for near future.



# WHAT IS PACE ?

- Property Assessed Clean Energy (PACE)
- OREGON SPECIFIC CODE (ORS 223.680)
- Real Estate Financing: Available to commercial property owners to upgrade their buildings for sustainability, resiliency
- Tool for economic development - Another tool for developers to use in building their capital stack (Brownfield, Historic Tax, New Market Tax, Tax Abatements, Opportunity Zones, Community Revitalization Program (CRP); Community Development Block Grant (CDBG), Utility Rebates, etc.)



# \$\$ WHY PACE ?

## \$\$

- MOST BUILDINGS WASTE UP TO 40% OF THE ENERGY USED IN THEIR OPERATIONS
- IN TODAY'S ECONOMY, EVEN GREATER NEED TO SAVE ENERGY/WATER & SAVE CAPITAL !
- WITH INCREASED INTEREST RATES, MORE DIFFICULT TO BORROW FROM BANKS



## **ENERGY EFFICIENT BUILDINGS PROVIDE SAVINGS, COMFORT, HEALTH & WELFARE BENEFITS TO OCCUPANTS – PACE PROVIDES FLEXIBLE FINANCING TO MAKE THIS HAPPEN ..... TODAY !**

- Reduces Operating Costs - Directly Improves Building Owner's Bottom Line
- Higher NOI (net operating income) -Increases Property Value of Buildings
- More Efficient, Comfortable, & Healthier Buildings Attract and Retain Tenants
- Improves Community's Building Stock, Helps Attract More Economic Development

More Banks Supporting PACE:

1. Lower Building Costs Makes It Easier For Owner to Pay Mortgage
2. Higher Building Value Increases Bank's Collateral Value in Owner's Building



# MORE PACE BENEFITS

- 100% FINANCING (Both hard & soft costs)
- LONG TERM LOANS (Up to 30 years in Oregon)
- NON-RECOURSE LOANS      \*No Owner Guarantee\*
- MOST MAJOR INFRASTRUCTURE SYSTEMS/  
RENEWABLES





# MOST ASSET CLASSES BENEFIT USING PACE

- HOSPITALITY
- MULTI-FAMILY HOUSING
- OFFICE, INDUSTRIAL
- HOSPITALS, MEDICAL BUILDINGS, LABS
- DATA CENTERS
- NON-PROFITS
- AGRICULTURAL
- RETAIL
- SENIOR CENTERS



# PACE QUALIFIED INFRASTRUCTURE



- **RENEWABLES:** PV Solar, Wind Turbines, EV Charging Stations, Biomass, Geothermal, etc.
- **ENERGY EFFICIENCY:** Lighting, HVAC, Windows, Roofs, Elevators, Bldg Controls, Insulation, MF Appliances, Caulking, etc.
- **WATER EFFICIENCY:** Stormwater recapture, Low Flow Water Fixtures (toilets, sinks, showers), greywater systems, green roofs, irrigation.



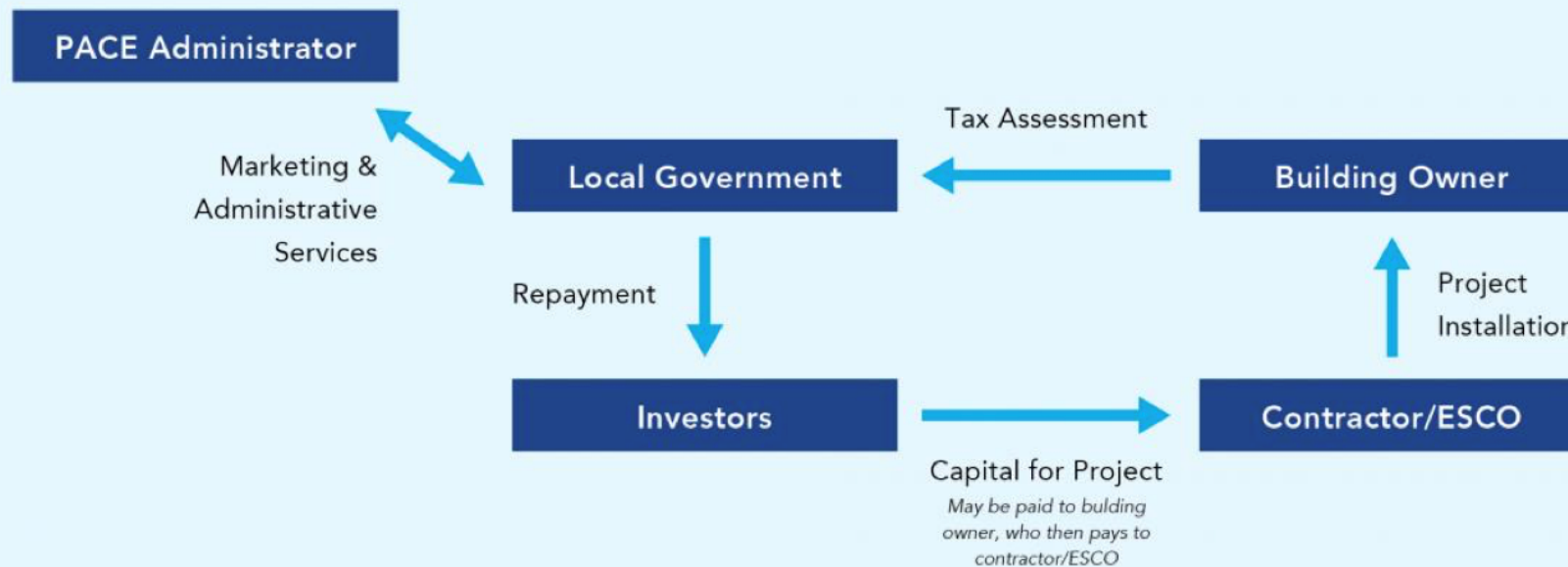
# STAKEHOLDERS IN PACE LOAN

(GC/ Contractors may also be involved)



\*In Deschutes Co, the County is the Administrator; Pay direct to Capital Provider\*

## Typical CPACE Financing Structure



# C-PACE MISCONCEPTIONS

**Misconception:** A senior lender's collateral position is affected by C-PACE

- PACE does not accelerate in the event of owner's non-payment. Just the past due portion of the C-PACE financing remains in default .
- A secured lender's remedies or foreclosure rights are not restricted by C-PACE financing. The lender may foreclose on its mortgage interest at any time upon the C-PACE special assessment delinquency on the property as if it were the sole lienholder.
- A senior lender can also require a monthly escrow of the annual C-PACE assessment payment, as it often does for property tax and insurance, as an additional risk mitigant.



# C-PACE MISCONCEPTIONS (cont'd.)



**Misconception:** Owners begin paying interest on C-PACE assessments before they obtain a certificate of occupancy, diminishing cash flow.

- Most C-PACE provider's will capitalize one to three years payments to help owners' initial cash flow without increasing debt.
- Improvements financed through C-PACE increase the value of the senior lender's collateral while reducing its risk, adding to ability to payoff debt.

**Misconception:** C-PACE interest rates, associated costs are extraordinarily high

- Costs associated with C-PACE transactions are similar to costs of conventional real estate loan products, which can be reimbursed 100% to developers or owners at closing, should they so choose.
- C-PACE interest rates average 6.00% - 7.00%, which is 3% - 4% below mezzanine/gap financing or private equity hurdle rates.



## The Henry Luxury townhomes with advanced energy technologies

### Project Quick Stats:

PACE district: Washtenaw County  
Property owner: Prentice Partners of Ann Arbor  
PACE contractor: G-Energy & Green Portfolio Solutions  
PACE lender: Greenworks Lending  
Amount financed: \$1,970,972  
Project term: 20 years  
Net 20 year savings: \$1,773,677  
Total 20 year savings: \$7,468,075

#### Energy conservation measures:

- LED lighting and controls
- Solar panel roof mounts
- High Efficiency building envelope, heating, ventilation, water heating and water fixtures
- Energy Star windows and appliances

**Impact:** This project will save up to 58.3 tons of CO2 release - the equivalent of 69 acres of US forest capturing harmful greenhouse gases.

### Overview

As Washtenaw County's first PACE project, The Henry will be an exciting addition to the Ann Arbor community and will reap significant savings for the property owner. This formerly vacant lot will include construction of two buildings for eleven three-level townhouses with additional co-working space.

With advanced energy technologies such as solar panels, electric vehicle charging stations for an on-site vehicle fleet, and other high efficiency appliances, The Henry is sure to succeed in its marketing to young professionals who are often energy and environmentally conscious.

"The Board and I are excited to support Washtenaw County's first PACE project," said County Chair Morgan. "We are committed to achieving our county's environmental and carbon neutrality goals. 'The Henry' reflects the kind of environmental impact that supports those goals. This project ensures that the environment will be preserved and protected for future generations. We're proud to know that this will be the first of several construction projects that produce energy efficient, accessible and sustainable housing in our community."

# Installation of Renewables for More Energy Efficient Buildings

LEAN & GREEN MICHIGAN CASE STUDY: DO Apparel

Nov. 2020



DO Apparel

## Project Quick Stats:

PACE district: Wayne County  
Property owner: McKae Properties, LLC and The McKae Group, LLC  
PACE lender: Greenworks Lending  
PACE contractors: Michigan Solar Solutions, Green Portfolio Solutions, FSI Engineers  
Amount financed: \$215,249  
Project term: 20 years  
Net 20 year savings: \$644,583  
Total 20 year savings: \$931,042  
Energy conservation measures:

- Solar PV

Impact: The DO Apparel solar project is estimated to save 1,402 metric tons of CO<sub>2</sub> over the next 20 years. That's the equivalent of eliminating greenhouse gas emissions from 303 passenger vehicles every year!

## Overview

The PACE project at DO Apparel shows how a property owner can use PACE to expand on a recently completed energy conservation project at a building; in this case with solar panels.

The DO Apparel building had recently undergone a solar installment atop one of the buildings on the property. Now, with upfront financing through PACE, the property owner is expanding solar capacity so that rooftop arrays will be spread across numerous parcels.

Cost-effective rooftop solar at the DO Apparel property will now power nearly 60% of the property's energy needs!

"PACE financing allowed us to make significant building upgrades that will reduce our monthly operating costs as well as our energy usage," said Matt McKae, owner and CEO of DO Apparel. "All with flexible terms and little to no money down, it really was a no-brainer."



# DETROIT UNITY TEMPLE



## Detroit Unity Temple

Michigan's first House of Worship PACE project

Located in the heart of Detroit's Palmer Park, the historic Detroit Unity Temple is the first house of worship to take advantage of PACE financing! This project is also the first PACE Express project completed in Wayne County.

Green Portfolio Solutions helped Detroit Unity Temple to receive \$250,000 – the maximum amount of financing under the PACE Express program.

Wright Energy Partners will complete the retrofit. The project bundles important roof repair with lighting, insulation, and building envelope improvements. Wright Energy Partners curated a cash-flow positive PACE project for Detroit Unity Temple that will result in long-term utility savings for the Detroit Unity Association, and a more comfortable building for all who visit and worship at Detroit Unity Temple.

"Our modest building upgrades will allow us to reduce our operating cost, reduce our energy usage and increase our awareness of other saving opportunities," said Eugene Franklin of the Detroit Unity Temple. "It's a 'win-win' for us all!"

December 20 19

### ✔ Project Quick Stats

**PACE District:** Wayne County

**Property Owner:** The Detroit Unity Association

**PACE Contractor:** Green Portfolio Solutions, Wright Energy

**PACE Lender:** Greenworks Lending, LLC

**Amount Financed:** \$250,000

**Total Savings:** \$527,825

**Energy Conservation Measures:**

- Lighting improvements
- Insulation
- Building envelope
- Roof repair

**Project Term:** 20 years

**Impact:** The Detroit Unity Temple PACE project will result in a reduction in CO2 emissions equivalent to eliminating the energy use of 124 homes for each of the 20 years of the project.





## Strand Theatre used PACE to meet operating expenses during COVID-19 pandemic

“Due to the PACE refinance we are able to defer payments until July of 2023. By doing this we are able to meet all of our operating expenses during this COVID-19 pandemic,” December 2020 Project Quick Stats: \_\_\$1,810,000 Project; Net Savings: \$4,775,266; Total Savings: \$8,236,171.

**Energy Conservation Measures:** High efficiency HVAC LED lighting Building insulation and infiltration Project Term: 25 years Impact: Refinancing through PACE helped the Strand Theatre continue to meet its operating expenses during the economic downturn associated with the COVID-19 pandemic and remain in business as a historic centerpiece within the community

## Black Desert Resort gets record \$153 million for green initiatives, buying nearby Red Mountain Resort



Black Desert Resort is receiving \$153 million in financing from the state's PACE program aimed to boost renewable energy and efficiency. In the case of Black Desert Resort, those renewable resources include using its own water wells and a water recycling system that will keep the resort from drawing off the city water supply, and the largest-of-its-kind system to [draw power off the Internet](#) to reuse the amount of electricity the resort needs from existing power lines.

# Green Portfolio Solutions, LLC

- Robert Mattler, JD LLM LEED AP BD & C Managing Member
- DETROIT 2030 DISTRICT VOLUNTEER  
([www.2030districts.org/detroit](http://www.2030districts.org/detroit))
- [Greenps14@gmail.com](mailto:Greenps14@gmail.com)
- (248) 762-4370 (cell)





# Financing Tools to Invest in Clean Energy

## Abigail Johnson

President  
Abacus Property Solutions



# BNY MELLON-FINANCING TOOLS TO INVEST IN CLEAN ENERGY



**Abigail Johnson, LEED AP**

President, Abacus Property Solutions  
Executive Director, Virginia PACE Authority

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*October 18, 2022*

# ABBY JOHNSON, LEED AP

## Background

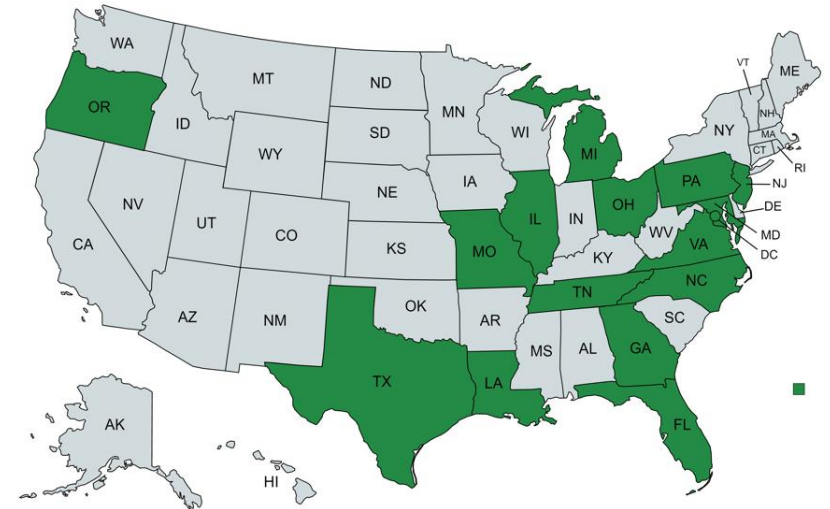
October 18, 2022

- **Real estate advisory expertise**

- Translates environmental and economic value of energy efficiency and clean energy to commercial real estate sector
- Underwrites and arranges financing for clean energy projects
- 15+ years CRE finance/building science experience

- **C-PACE expertise**

- Program administrator for MDPACE in Maryland (Abacus) and VA C-PACE in Virginia (Virginia PACE Authority)
- C-PACE program/project consulting in 14 states and counting
- Significant state and local legislative experience
- Executive Committee of PACENation's Board of Directors



# COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)

**C-PACE 101**

October 18, 2022

100% upfront financing for eligible projects and properties

Eligible projects: vary from energy efficiency, water efficiency and renewable energy to including resiliency, seismic, and environmental remediation

Eligible properties: private and nonprofit commercial, multifamily and agricultural –only residential 1-4 units excluded in most states

Competitive fixed-rate, fully amortizing loans up to 25-30+ years

New construction available in many states

Retroactive PACE available in select states



# COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)

**C-PACE 101**

October 18, 2022

Capital Provider structures financing terms and conditions directly with property owner

Secured by a voluntary special assessment lien placed on the property

As a special assessment, stays with property upon sale or refinance

As a special assessment, lien is enforced by a locality or Capital Provider (depending on state)

C-PACE loans are prepayable per agreement with Capital Provider

Personal or corporate guarantees not required as real property provides security

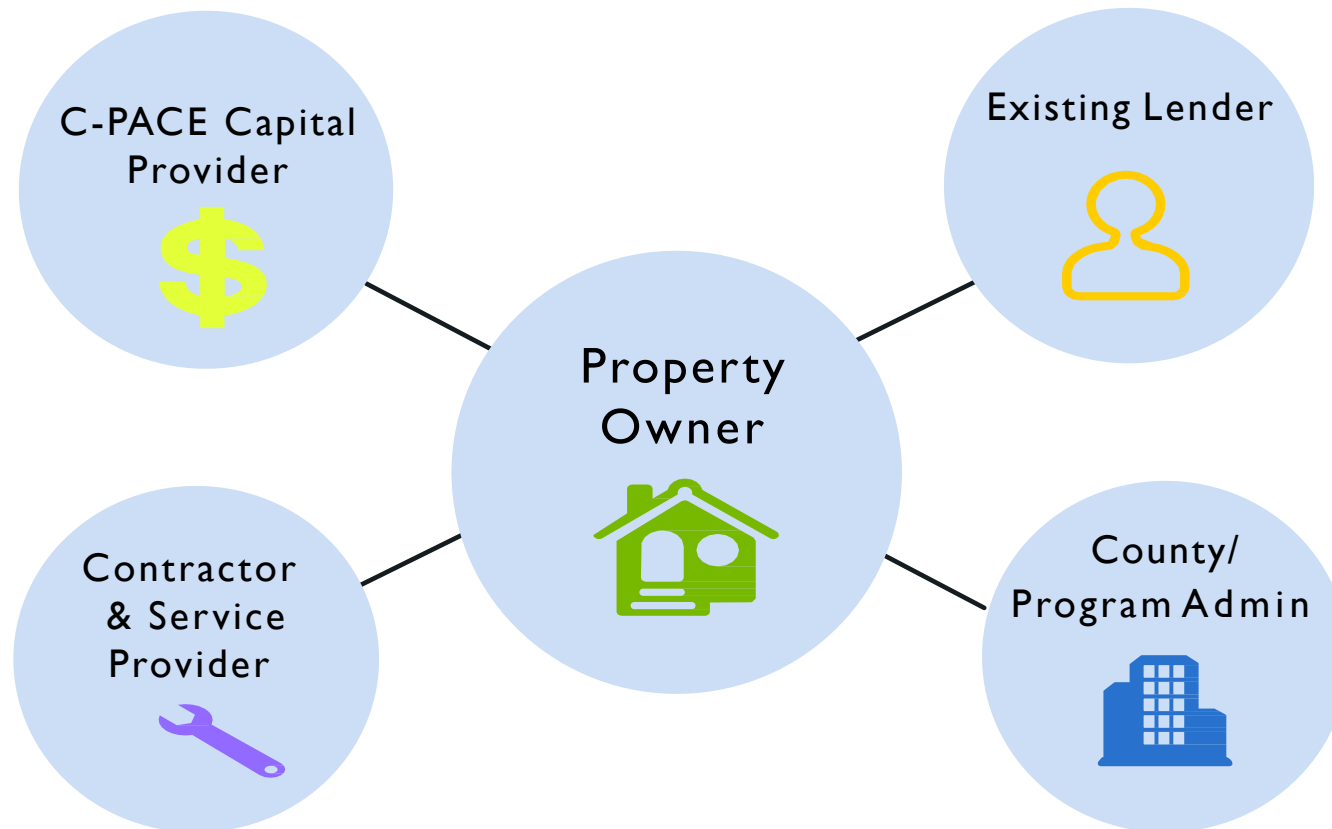




# COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)

*C-PACE Stakeholders*

*October 18, 2022*



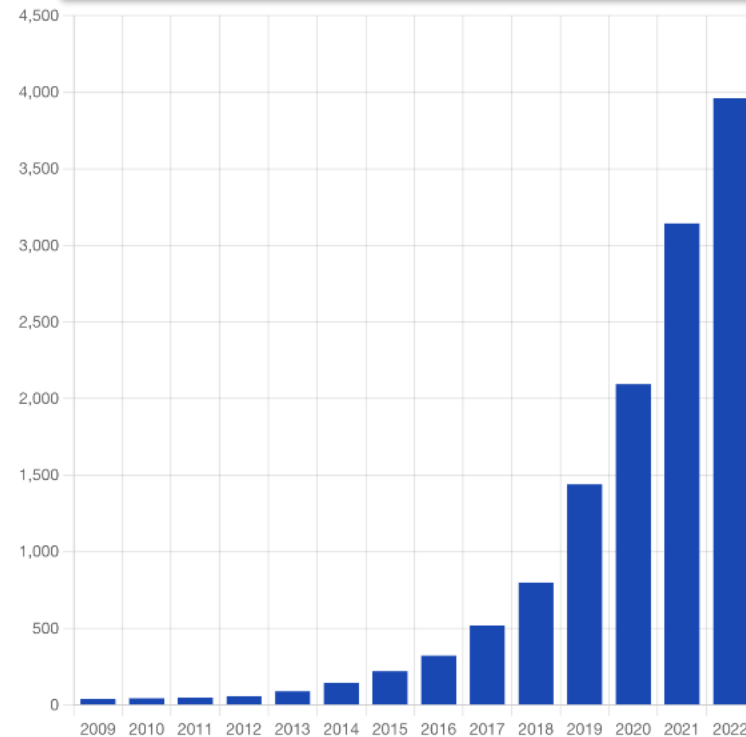
# COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)

*National Snapshot*

*October 18, 2022*

- \$4.2 billion
- 2,900 projects
- 52,000 jobs

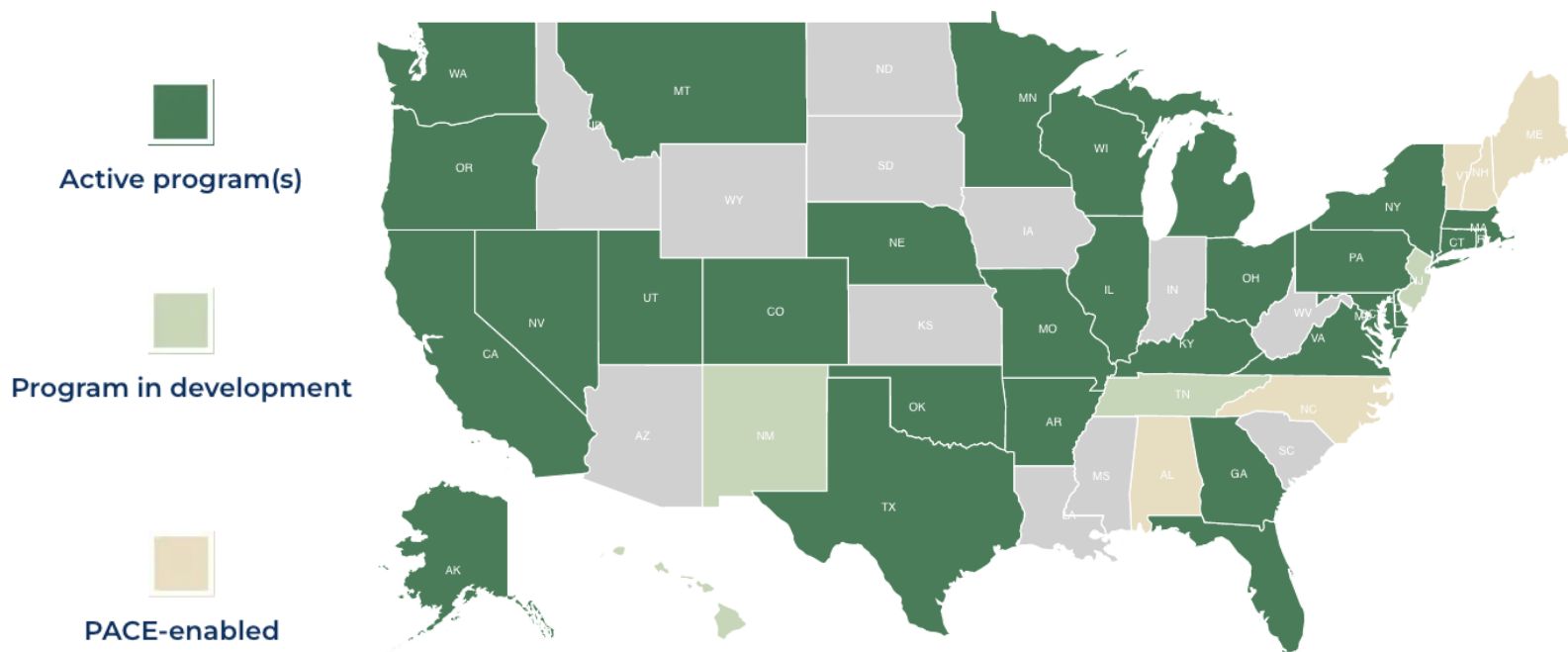
Cumulative C-PACE 2009-2022



# COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)

*National Snapshot*

*October 18, 2022*



	State	Investment (\$, MM)
1	CA	\$998
2	OH	\$631
3	CT	\$227
4	TX	\$227
5	MI	\$226
6	CO	\$225
7	MN	\$211
8	NY	\$209
9	MO	\$157
10	WI	\$149

30 active states

# COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)

*Public-Private Partnership*

*October 18, 2022*

## PUBLIC



C-PACE loan secured by special assessment on property

Locality enforces C-PACE loan in case of foreclosure

## PRIVATE



Funding provided by private Capital Providers for private sponsors

Program admin is hired by public entity and paid through closing fees

Public/Private: C-PACE loan installments are paid back to Capital Providers or taxing authority

# COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)

*Project Variation*

*October 18, 2022*

<b>Project size</b>	19%: <\$1MM; 33%: \$1 to \$4.9MM; 48%: > \$5MM +
<b>Project type</b>	E/E: 55%; R/E: 17%; Mixed: 15%; Resiliency: 3%
<b>Lead time</b>	6 months to 1 year plus (lender consent requirement can slow process)
<b>Underwriting timeline</b>	Many variables and need for third party audits, appraisals, lender consent
<b>Conversion rate</b>	High with lender consent and with Capital Providers providing senior plus C-PACE
<b>Borrower options</b>	Compete with financing options – bank loans, equipment leases, ESAs, PPAs, etc.
<b>Volume</b>	2,900 projects funded since 2008, rapid growth from 2018 to present
<b>Lender consent</b>	Required in most states and also by most C-PACE lenders and investors
<b>Construction type</b>	Retrofits and new construction; new construction dominating market where allowed; flexibility around repayment - flexible I/O and capitalized interest periods

# COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)

## Program Development: Considerations

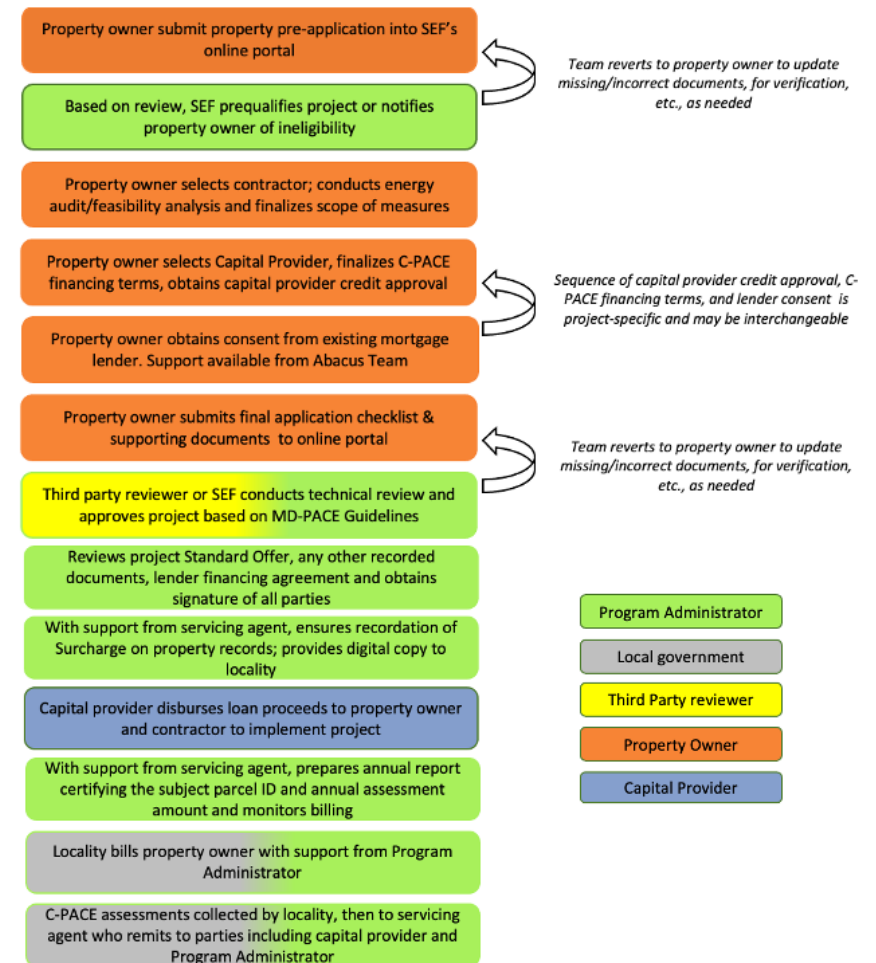
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### • Legislative

- State enabling legislation
- Local ordinance or resolution
- Differences of state or local law or practice

### • Structural

- Uniformity – legal, administrative
- Lender consent
- Lien priority
- Eligibility
- Fees
- Certifications
- Program administrator role
- Closing and post-closing protocols
- Marketing and education



# COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY (C-PACE)

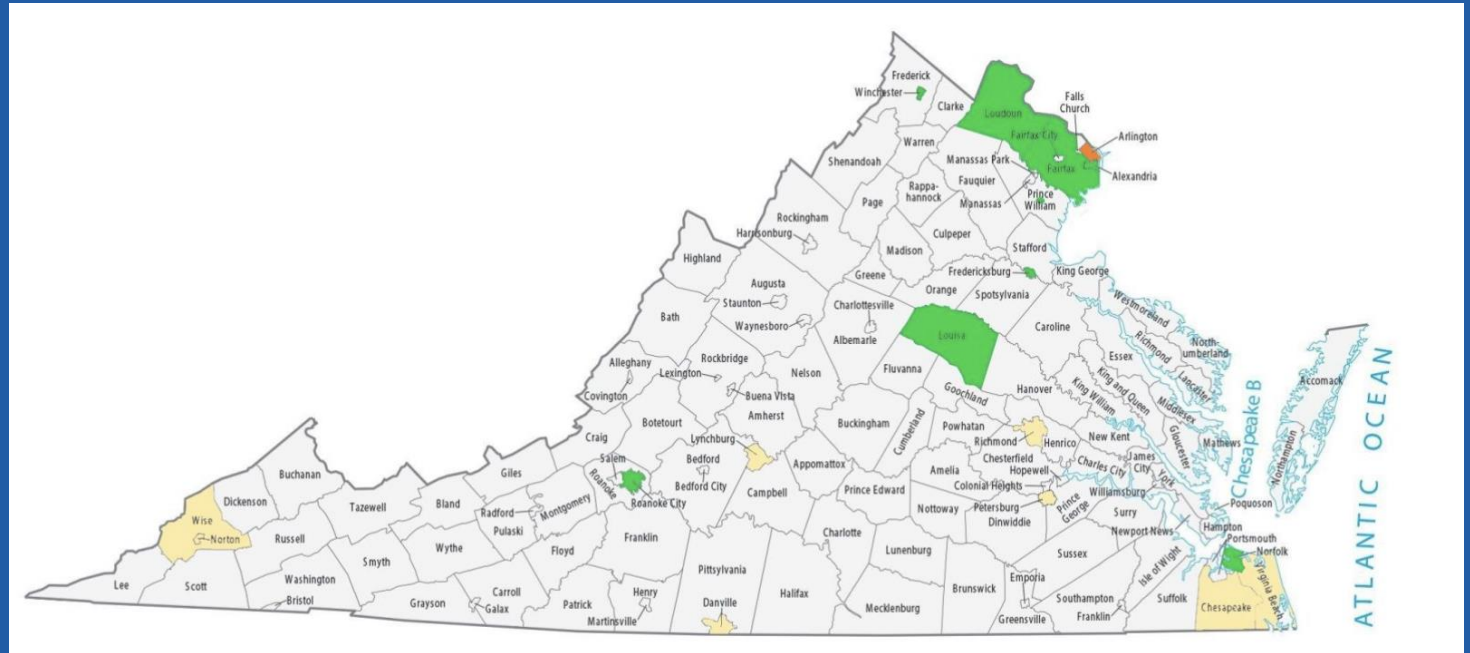
*Program Development: Lessons Learned*

October 18, 2022

- **Limit statutory “re-dos” at state or local level**
  - Creates C-PACE fatigue
  - Makes harder to keep ordinances up to date
  - Know impacts of legislative policy (e.g., ability to enforce)
- **Create uniform program throughout state to avoid confusion and complexity to avoid. .**
  - Different programs across jurisdictional borders = little demand
  - Adopting ordinances without input from C-PACE community
  - Create stand-alone program with structural flaws
  - Repealing ordinances
- **Consequences of different kinds of program administration models**
  - On-bill C-PACE – needs servicing by program admin or local gov’t
  - Capital Provider billed and collected – HUD consideration



# LOCAL PROGRAMS: VA BEFORE STATEWIDE

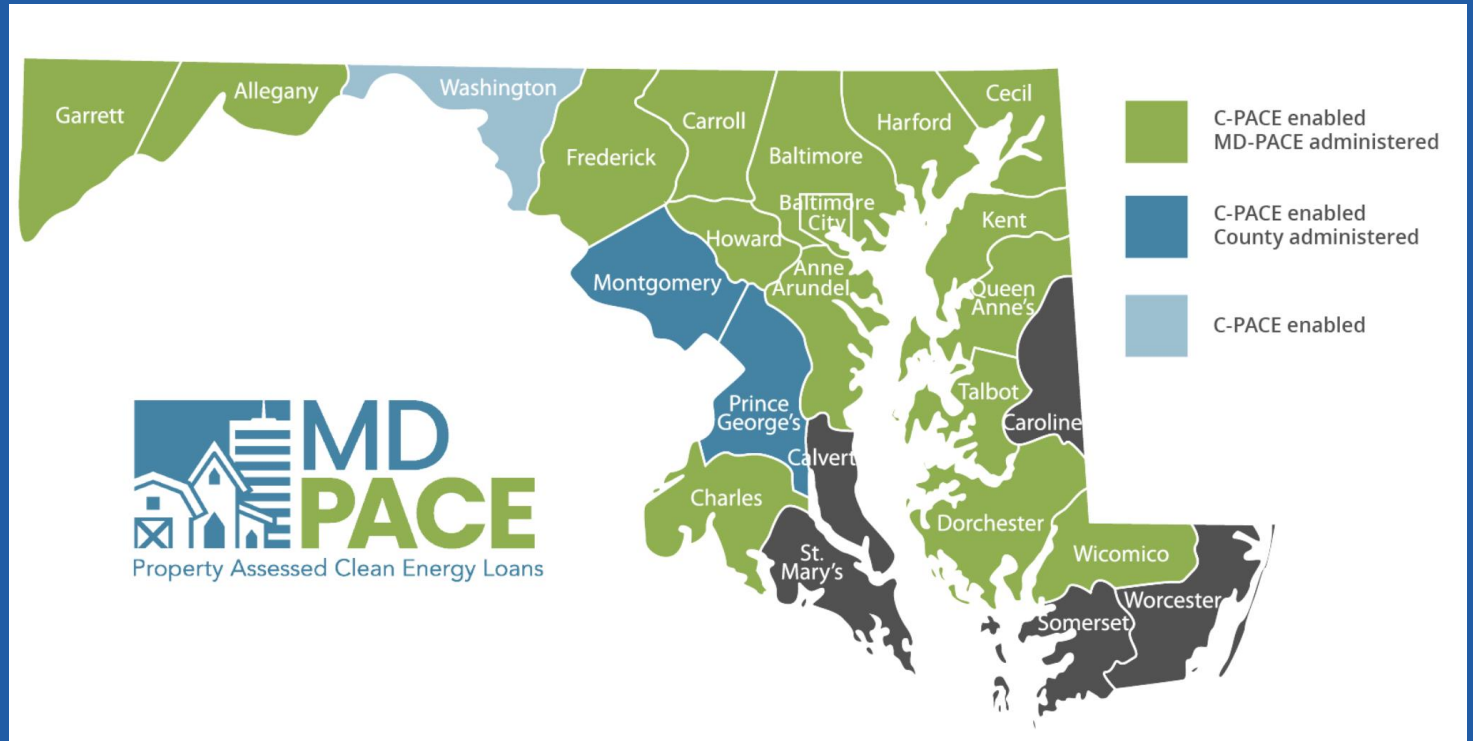




# LOCAL PROGRAMS: VA BEFORE STATEWIDE

	In Guide?	In Ordinance	City of Norfolk	City of Roanoke	City of Alexandria
Closing Fee	Yes	No	1.25%	1.25%	1.25%
Total Project Costs					
Floor for fee	Yes	No	\$3,300	\$3,300	\$3,300
Ceiling for fee	Yes	No	\$50,000	\$50,000	\$50,000
"Servicing" (BCR + Reporting)	Yes	No	1.5% of annual pymt; floor = \$330, ceiling = \$1,800	1.5% of annual pymt; floor = \$330, ceiling = \$1,800	1.5% of annual pymt; floor = \$330, ceiling = \$1,800
Billing (the B in BCR)	Yes	No	Capital Provider or VPA	Capital Provider or VPA	Capital Provider or VPA
Collection (the C in BCR)	Yes	No	Capital Provider or VPA	Capital Provider or VPA	Capital Provider or VPA
Remittance (the R in BCR)	Yes	No	Capital Provider or VPA	Capital Provider or VPA	Capital Provider or VPA
City/County Seal included on tax bill?	Yes	No	No	No	No
Reporting required?	Yes	No	Only if servicing	Only if servicing	Only if servicing
Recorded documents	No	No	C-PACE Certificate with amortization schedule Lender/owner consent	C-PACE Certificate with amortization schedule Lender/owner consent	C-PACE Assignment of Lien, Lender/owner consent
Eligible Property Types	Yes	Yes	Multifamily 5+ units	Multifamily 5+ units	Multifamily 5+ units
Resiliency and stormwater?	Yes	Yes	Yes	Yes	Yes
2 year lookback, comm condos, no project limits	Yes	Yes	mentioned; will follow up	asked 6/1/2021	sent sample
included areas		No	N/A	N/A	N/A
Loan term	Yes	Yes	shorter of (weighted average) useful life or 30 years (checking with attorney)	shorter of weighted average useful life or 30 years	shorter of measure with longest life or 30 years based on GAAP
Project Minimum Loan Amount	Yes	Yes	\$50,000	\$30,000	\$50,000
Project Maximum Loan Amount	Yes	Yes	30% of market value or \$25MM, whichever is greater	\$20MM	30% of market value or \$25MM, whichever is greater
Fully amortization required	depends	depends	Yes	Yes	Yes
Program Maximum Loan Amount (private loans)	Yes	Yes	N/A	N/A	N/A
Property tax due dates	N/A	N/A	3/31; 9/30; 12/5	4/5 and 10/5	6/15 and 11/15

# QUASI STATEWIDE: MDPACE

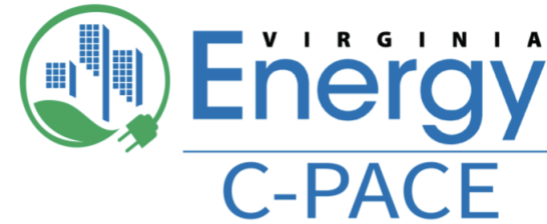


# QUASI STATEWIDE: MDPACE

County	Max Debt-to-Value Ratio	Max Loan-to-Value Ratio	Savings-to-Investment Ratio	Minimum Loan Amount	Maximum Term (in years)*	Retroactive C-PACE Financing?
Allegany	None	None	None	\$25,000	20	No
Anne Arundel	None	None	$\geq 1$	\$25,000	20	No
Baltimore	$\leq 90\%$	$\leq 20\%$	None	\$5,000	20	No
Baltimore City	None	None	None	\$25,000	25	Yes
Carroll	None	None	$\geq 1$	\$25,000	20	No
Cecil	None	None	None	\$25,000	20	No
Charles	None	None	$\geq 1$	\$25,000	20	No
Dorchester	None	None	None	\$25,000	20	No
Frederick	None	None	$\geq 1$	\$15,000	20	No
Garrett	None	None	None	\$25,000	20	No
Harford	None	None	None	\$25,000	20	No
Howard	None	None	$\geq 1$	\$15,000	20	No
Kent	None	None	None	\$25,000	20	No
Queen Anne's	None	None	None	\$25,000	20	No
Talbot	None	None	$\geq 1$	\$25,000	20	No

STATEWIDE  
PROGRAM:  
VA C-PACE

September 2022



# VIRGINIA C-PACE PROGRAM GUIDELINES

Virginia's C-PACE Program (VA C-PACE) is sponsored by the Virginia Department of Energy and administered by the Virginia PACE Authority

# CONTACT INFORMATION

Abacus Property Solutions

[info@abacusprop.com](mailto:info@abacusprop.com)

Virginia PACE Authority

[info@virginiapace.com](mailto:info@virginiapace.com)

[www.abacusprop.com](http://www.abacusprop.com)

[www.virginiapace.com](http://www.virginiapace.com)



# Financing Tools to Invest in Clean Energy

## David Tancabel

Environmental Policy Analyst  
U.S. Environmental Protection Agency





State and Local Climate  
and Energy Program



# Avoid the Mismatch

U.S. EPA's Updated Tools to Help Find the Right Solution for the Situation

David Tancabel

CDFA – Financing Tools to Invest in Clean Energy  
October 18, 2022



# Our Tools and Resources Support State, Local and Tribal Stakeholders on Climate and Energy



## Develop Inventories and Set Goals

### GHG INVENTORY TOOLS

#### State Inventory and Projection Tool

Develop and update inventories for 11 sectors. Forecast emissions through 2050

#### Local Inventory Tool

Develop community-wide inventories or inventories of local government operations only

#### Tribal Inventory Tool

Develop community-wide inventories or inventories of tribal government operations only



## Design, Compare, or Evaluate Policy



**AVoided Emissions and gEneration Tool**  
Evaluate changes in power plant emissions from energy policy



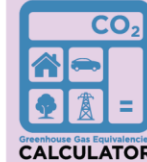
**Co-Benefits Risk Assessment Health Impacts Screening and Mapping Tool**  
Quantify and monetize health impacts of reducing emissions



**Health Benefits per kWh**  
Estimate the health benefits per kWh of clean energy



## Communicate and Support Policy Implementation



**Greenhouse Gas Equivalencies Calculator**  
Convert a unit of energy to the equivalent amount of CO<sub>2</sub> emissions from using that amount



**Heat Island Reduction Program**  
Resources to implement heat island mitigation policies and projects



**Technical Support**  
Provide 1-1 technical support for state, local and tribal stakeholders



**Convene Stakeholders**  
Engage state, local and tribal decision-makers



**Local Action Framework:**  
A Guide to Help Communities Achieve Energy and Environmental Goals



**Energy and Environment Guide to Action:** State Policies and Best Practices for Advancing Energy Efficiency, Renewable Energy, and Combined Heat and Power



**Quantifying the Multiple Benefits of Energy Efficiency and Renewable Energy:**  
A Guide for State and Local Governments



**Local Government Climate and Energy Strategy Series:**  
A Guide to Developing and Implementing Greenhouse Gas Reduction Programs



# Find the Right Solution for the Right Situation

- Clean Energy Financing Toolkit for Decisionmakers
- ENERGY STAR Home Upgrade Tool
- Financing Strategy Example: Inclusive Utility Investment

# Coming Soon!

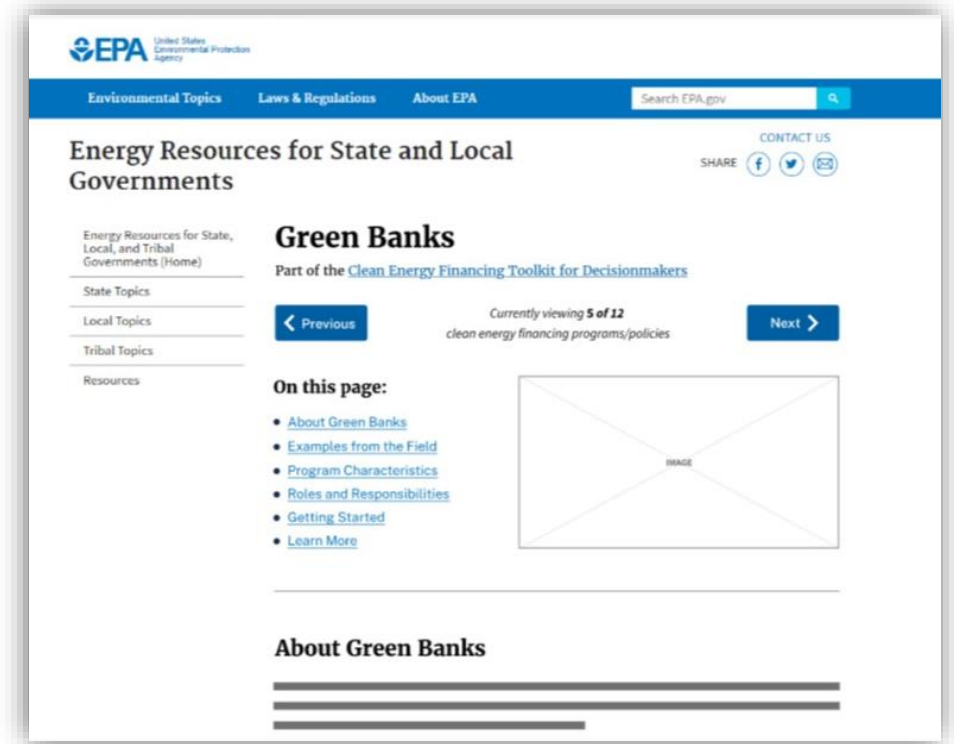
## Clean Energy Financing Toolkit for Decisionmakers

- Intended for state and local government officials and their staff
- Web-based toolkit offering 101 level understanding
- Complements EPA's State Energy and Environment Guide to Action

The screenshot shows the EPA website interface for the 'Clean Energy Financing Toolkit for Decisionmakers'. The page features a navigation bar with 'Environmental Topics', 'Laws & Regulations', and 'About EPA'. Below the navigation bar, the title 'Clean Energy Financing Toolkit for Decisionmakers' is prominently displayed, followed by a subtitle: 'A toolkit of financing programs and policies supporting investments by state and local governments and others in clean energy.' A brief description follows: 'This toolkit provides information on several types of clean energy financing programs that state and local governments are pursuing to catalyze investment in clean energy, including energy efficiency, renewable energy, sustainable transportation, and electrification. This information is intended to help users understand a range of financing programs across multiple sectors and provides examples from state and local jurisdictions.' Below this, a 'Directions' section lists two bullet points: 'Select characteristics to highlight relevant policies and programs that fund clean energy initiatives.' and 'Click on a policy or program to learn more about how agencies and others might approach creating and implementing it.' The main content area contains several filter sections: 'Target sectors' with checkboxes for Residential (Renters, Homeowners, Multifamily), Public, Commercial, Nonprofit, Industrial, and Transportation; 'Typically funded by' with checkboxes for Public funds (checked), Private funds, and Ratepayer funds; 'Level of funding needed' with radio buttons for High level of funding (selected), Moderate level of funding, and Low level of funding; and 'Enabling legislation needed' with radio buttons for Required, May be required (selected), and Not required. At the bottom, there are six buttons representing different financing programs: 'Community shared solar', 'Energy efficient mortgages', 'Energy loans and credit enhancements', 'Energy project leases', 'Green banks', and 'Municipal bonds and green bonds'.

# Toolkit Profiles

- Overview
- Examples from the field
- Program characteristics
- Roles and responsibilities
- Getting started tips
- Resources to learn more



# 12 Profiles of Clean Energy Financing Strategies

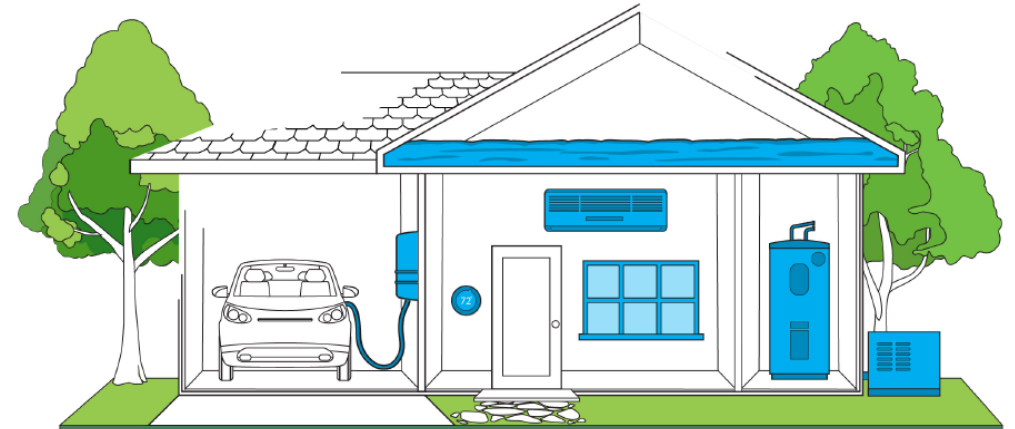
- Community Shared Solar
- Loans and Credit Enhancements
- Green Banks
- Bonds
- Energy Efficiency Mortgages
- Property Assessed Clean Energy (PACE)
- On-bill Loans
- Inclusive Utility Investments
- Leases
- Performance Contracting
- Power Purchase Agreements
- Revolving Loan Funds

# ENERGY STAR Home Upgrade Tool



Measures include:

- Clean Heat / Efficient Cooling
- Super-Efficient Hot Water
- Smart Climate Controls
- High-Performing Windows or Storm Windows
- Well-Insulated Attic
- Electrification Ready



On average, a homeowner could save approximately \$500 a year on utility bills if installing all measures in the ENERGY STAR Home Upgrade

# ENERGY STAR Home Upgrade Tool

A one-stop-shop for consumers to navigate the upgrade process:

- Learn about the benefits of each upgrade
- Find certified models
- Find equipment manufacturers and service providers
  
- How can I make this upgrade more affordable?
  - Calculate potential savings
  - Learn about rebates/financial incentives

The screenshot displays the ENERGY STAR Home Upgrade Tool interface. At the top, there is a navigation menu with categories: CLEAN HEATING AND COOLING, SUPER-EFFICIENT WATER HEATER, SMART THERMOSTAT, WELL-INSULATED AND SEALED WINDOWS, HIGH PERFORMING WINDOWS, and ELECTRIC VEHICLE READY. Below the menu, there is a section titled "ALL ENERGY STAR HOME UPGRADES" with icons for HEATING & COOLING and WATER HEATING. The main content area is titled "CLEAN HEATING AND COOLING" and includes a "LEARN MORE" button. Below this, there is a section titled "IS IT TIME TO REPLACE MY HVAC SYSTEM?" with a sub-section "It May Be Time For A Replacement If:" and a "Types Of Heat Pump Systems" section. At the bottom, there is a section titled "HOW CAN I MAKE THIS UPGRADE MORE AFFORDABLE?" with a sub-section "Upgrading your HVAC system can be a major investment, even if it is an investment that leads to energy bill savings for years to come. Take advantage of available rebates, tax credits and other special financing to help reduce the upfront cost."

**CLEAN HEATING AND COOLING**

Switch to an ENERGY STAR certified heat pump to save energy and money year-round. Find buying and installation guidance to help you choose the right equipment. Learn about incentives and savings and get tips for using and maintaining your new equipment. [LEARN MORE →](#)

**CLEAN HEATING AND COOLING**

An ENERGY STAR Home Upgrade includes switching to an ENERGY STAR certified heat pump. More efficient than furnaces or boilers, heat pumps serve double duty with heating and cooling, making this investment usable year-round. Combine this upgrade with other high impact energy efficiency improvements to achieve significant energy and cost savings while transitioning from fossil fuels for a cleaner, healthier, and more comfortable home.

**IS IT TIME TO REPLACE MY HVAC SYSTEM?**

In most cases, your HVAC equipment shows signs that it is underperforming well before you reach the point of needing an emergency replacement. Recognizing the symptoms early can help you plan for a replacement that will not only keep your home comfortable year-round but will save you money as well.

It May Be Time For A Replacement If:

**WHAT KIND OF HEAT PUMP SHOULD I CHOOSE?**

If you currently have a furnace or boiler, upgrading to an ENERGY STAR certified heat pump can help you transition from fossil fuels for a cleaner, healthier home. Here are a few different types of heat pump systems you should consider as part of your ENERGY STAR Home Upgrade:

Types Of Heat Pump Systems

**HOW CAN I MAKE THIS UPGRADE MORE AFFORDABLE?**

Upgrading your HVAC system can be a major investment, even if it is an investment that leads to energy bill savings for years to come. Take advantage of available rebates, tax credits and other special financing to help reduce the upfront cost.

# Inclusive Utility Investment

A utility pays for cost-effective upgrades on the customer side of the meter and recovers those costs through a site-specific charge on the bill as defined by a utility tariff.

## Fundamental attributes in combination:

- Can pay for 100% of the investment costs
- All customers are eligible regardless of credit standing or home ownership
- Recovery is tied to the premise/meter vs an individual
- Recovery is made on the utility bill
- Strong consumer protections



Energy Justice Lab; University of Michigan

Millions of households are trapped in a "donut hole," unable to secure funds for energy efficiency upgrades.

# Contact Information

- Clean Energy Financing Toolkit for Decisionmakers
  - David Tancabel ([tancabel.david@epa.gov](mailto:tancabel.david@epa.gov))
  
- Energy Star Home Upgrade
  - [https://www.energystar.gov/products/energy\\_star\\_home\\_upgrade](https://www.energystar.gov/products/energy_star_home_upgrade)
  - Dan Lawlor ([lawlor.daniel@epa.gov](mailto:lawlor.daniel@epa.gov))





# Our Tools and Resources Support State, Local and Tribal Stakeholders on Climate and Energy



## Develop Inventories and Set Goals

### GHG INVENTORY TOOLS

#### State Inventory and Projection Tool

Develop and update inventories for 11 sectors. Forecast emissions through 2050

#### Local Inventory Tool

Develop community-wide inventories or inventories of local government operations only

#### Tribal Inventory Tool

Develop community-wide inventories or inventories of tribal government operations only



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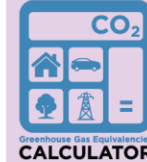
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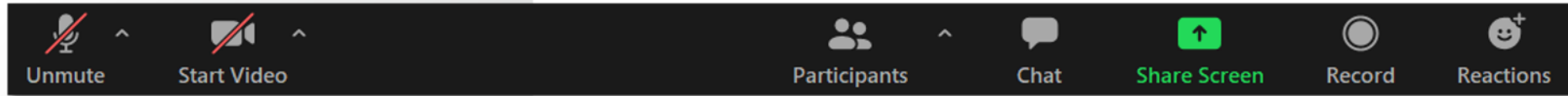


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# Audience Questions



**Submit your questions by  
using the chat function!**



# Upcoming Events at CDFA

## CDFA TRAINING INSTITUTE

We offer 17 courses in development finance designed for all skill levels. Learn more and register today at [www.cdfa.net](http://www.cdfa.net)

### **CDFA // BNY Mellon Development Finance Webcast Series: Funding Childcare Facilities**

Tuesday, November 15, 2022 // 2:00 - 3:00 PM Eastern

### **CDFA Federal Financing Webinar Series: Tools for Rural Communities from USDA**

Tuesday, October 25, 2022 // 2:00 - 3:30 PM Eastern

### **CDFA National Development Finance Summit**

November 2-4 // Denver, CO

### **Intro Brownfields Finance Course**

December 7-8 // 12:00 - 5:00 PM Eastern

# Contact Us



**Seth Crone**  
**BNY Mellon**  
Vice President  
seth.crone@bnymellon.com

**Zeyu Zhang**  
**Council of Development Finance Agencies**  
Coordinator, Research & Technical Assistance  
614-705-1302  
zzhang@cdfa.net

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