

**nuveen**

A TIAA Company



# Investing in *Commercial Property Assessed Clean Energy (C-PACE)*

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.  
NOT FDIC INSURED | NO BANK GUARANTEE | MAY LOSE VALUE

# What is C-PACE?

*C-PACE (Commercial Property Assessed Clean Energy) is a U.S. state policy-enabled financing mechanism which allows financing to be secured by a senior assessment, giving institutional investors access to invest in clean energy and impact opportunities, and delivers value for stakeholders across the lifespan of the loan. C-PACE also allows commercial property owners to obtain low-cost, long-term and fixed-rate financing for energy efficiency, water conservation and renewable energy commercial real estate projects. Most commercial property types qualify for C-PACE financing.*

*The clean energy upgrades and energy efficient measures financed by C-PACE are classified as a public benefit by the underlying U.S. state. Measures include projects such as LED lighting installation, improved insulation and solar panel installation among others.*

*Upgrades can be financed with no money down and then repaid over a term that matches the useful life of the building infrastructure, which is typically around 20 to 30 years. The assessment can transfer on the sale of the property and may be passed through to tenants.*

*In addition to facilitating sustainability efforts, the program reduces property owners' annual costs and provides better-than-market financing for new green construction.*

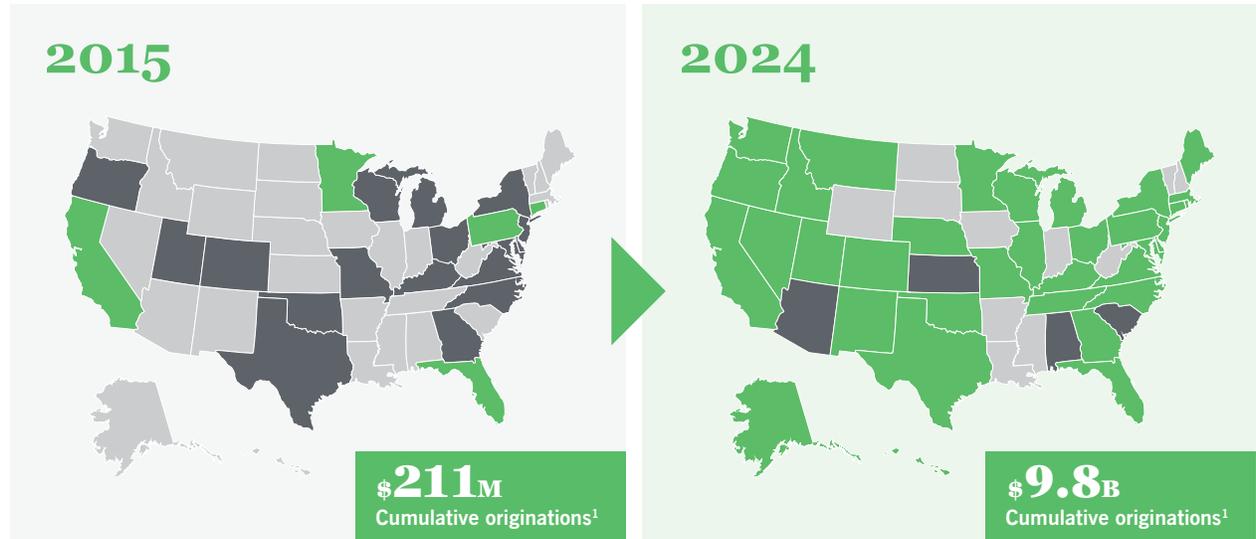
*Compared to other asset classes with comparable risk/return profiles, C-PACE offers a unique combination of longer durations, investment grade fixed-rate returns, definable positive impact and diversification which has the potential to benefit institutional investors. These areas are explored further in this piece.*

# C-PACE market growth

*Policy expansion and adoption of C-PACE is driving growth of the addressable market*

## Originations and available markets over time

■ Established markets ■ Markets in development



## PROJECTS C-PACE CAN FINANCE

*C-PACE brings private funding to facilitate the decarbonization of commercial real estate which has the potential to benefit property owners in a variety of ways.*



**New construction & gut rehabs**



**Renovations & repositioning**



**Solar & renewables**



**Bridge & recapitalization**



**WHY IS IT SO IMPORTANT TO DECARBONIZE THE BUILT ENVIRONMENT?**

The built environment is responsible for over

**42%**

OF ANNUAL GLOBAL CO<sub>2</sub> EMISSIONS<sup>2</sup>

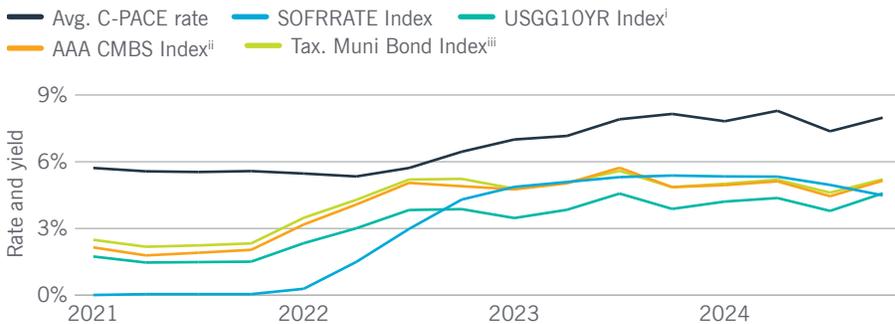
# What NGC's C-PACE platform offers institutional investors

## 1

### ATTRACTIVE YIELDS

In recent years, C-PACE has seen higher yields compared with benchmarks and other alternatives with similar capital-adjusted risk/return characteristics. Based on duration, collateral and structure, the two main investment comparisons to C-PACE are CMBS AAA notes and taxable municipal bonds. Figure 1 illustrates this relationship dating back to Q1 2021.

**Figure 1: C-PACE coupon compared to alternative investments and benchmark yields**



Past performance does not predict or guarantee future results.

Source: Nuveen, as of Dec 2024

<sup>i</sup> Bloomberg US 10 Year Treasury

<sup>ii</sup> Bloomberg 7-10 Year AAA CMBS Index

<sup>iii</sup> Bloomberg Taxable Municipal Bond Index

## 2

### RELATIVE VALUE

C-PACE loans do not extinguish on bankruptcy or foreclosure and the underlying security is positioned ahead of mortgages in the capital stack and other encumbrances in arrears. This lowers risk and makes it possible for C-PACE to achieve investment-grade ratings.

## 3

### DURATION

The weighted average life of a C-PACE asset is eight to 12 years (historically, for pooled securitizations) which is substantially shorter than the stated 20 to 30 year legal maturity at origination. Weighted average life calculations consider how long it would take to pay down the outstanding principal adjusted by an assumed prepayment speed as a proxy for risk assessment.



## 4

**DIVERSIFICATION**

NGC expects portfolio geographic diversification to increase and to maintain property type diversification.

Property type diversification is largely spread across standard asset classes with more than half of the portfolio's concentration in hospitality and multifamily assets, offices, industrial, senior living, retail and "other" assets.

Geographic diversification will be driven by new policy expansion, and the penetration and growth of NGC's integrated originations team.

## 5

**LOW HISTORIC DEFAULTS**

C-PACE as an asset class has had low losses and, to date, NGC have never taken a loss on its portfolio, which has a historic delinquency rate of 1.76%.

**Figure 2: Historical delinquencies > 60 days by portfolio**



Source: Nuveen, as of 31 Dec 2024.

## 6

**VERTICALLY INTEGRATED PLATFORM**

NGC is fully vertically integrated, with in-house originations, credit, legal and asset management teams promoting top-to-bottom alignment of interest. This structure generates a predictable, scaled flow of C-PACE originations. Regionally based origination teams source transactions locally, generating persistent geographic diversification. A dedicated policy team also works to enact C-PACE legislation in new markets. All loans are approved by C-PACE administrators who conduct an engineering review of all funded measures. NGC also partners with a range of third-party engineering consultants to provide an additional review in collaboration with the in-house sustainability team of technical experts.

# Why is demand for C-PACE growing?

An increasing number of institutional investors are prioritizing sustainability. In Nuveen's 2023 EQuilibrium survey of global institutional investors, 74% and 83% of insurers, respectively, said they consider or plan to consider impact and climate risk in their investment decisions. For impact-focused<sup>3</sup> insurers globally, more than eight in 10 said they were investing in, or planned to invest in, energy innovations in the next two years.

With C-PACE, investors are able to recognize the externalities associated with where their money is going. Given similar investments with identical risk/return profiles, institutional investors would choose the one that has the potential to deliver a positive outcome, especially as the projects that C-PACE finances are recognized as a public benefit by the underlying U.S. state. As C-PACE deals are typically investment-grade and long-duration, these also tend to fit institutional investors' core criteria.

In terms of specific environmental impact, C-PACE has funded building improvements that have led to reduced energy and water consumption, along with a lower level of greenhouse gas emissions.

## WHY NUVEEN GREEN CAPITAL (NGC)?

- A subsidiary of Nuveen specializing in C-PACE, that was the first to securitize the asset class and help architect the C-PACE policy framework
- \$3.1 billion in capital raised across securitizations, private funds and separately managed accounts<sup>4</sup>
- Investments conform to ICMA Green and Sustainable Bond Principles
- NGC is the dominant C-PACE player, responsible for ~50% of market originations in 2024<sup>5</sup>



# Overview of the C-PACE sustainability framework



NGC's sustainability framework seeks to enable the **transition to a low carbon economy** by facilitating the implementation of **renewable energy systems, energy-efficient technologies, water conservation and climate resiliency improvements** contributing amongst other sustainable measures to the reduction of carbon emissions in the built environment



The sustainability framework leverages the **resource efficiency indicators** defined under C-PACE programs to meet this objective, providing funding for projects that meet one of the following indicators:

- **Energy efficiency**
- **Renewable energy generation**
- **Water conservation**
- **Climate resiliency**



NGC provides reporting along a diverse set of metrics to measure the impact of C-PACE funding, including:

- **Electricity saved**
- **Renewable energy capacity added**
- **Water saved**
- **Construction of affordable housing units**
- **Historic building rehabilitation**
- **Green building certifications**
- **Lifetime total carbon emissions avoided (MTCO<sub>2</sub>e)**
- **Total sq ft of space earthquake hardened**



C-PACE aligns and contributes to the following UN Sustainable Development Goals:

- **SDG 6: Clean water and sanitation**
- **SDG 7: Affordable and clean energy**
- **SDG 11: Sustainable cities and communities**



## Case studies



### Bishop's Lodge Auberge Resort Santa Fe, NM

**Lifetime savings (kWh):** 13,266,576

**Lifetime savings (metric tons CO<sub>2</sub>):** 7,392

**Lifetime water savings (gallons):** 122,254,512

- Bishop's Lodge is a luxury Auberge Resorts Collection hotel in northern Santa Fe, located in the foothills of the Sangre de Cristo Mountains
- The 98-key luxury hotel features 6,000 sq ft of indoor meeting and banquet space, multiple restaurants and bars, an art gallery, a full-service spa, pool and outdoor activities such as hiking and horseback riding
- \$76.2 million in C-PACE financing was used to recapitalize energy and water efficiency improvements that were part of the hotel's \$127.2 million renovation and will also be used toward several ongoing improvements, including a wastewater treatment facility
- The strategic use of C-PACE enabled the asset to transition to more favorable financing terms



### VivaVerse Solutions Data Center Houston, TX

**Lifetime energy savings (\$):** 1,969,613

**Lifetime savings (kWh):** 16,809,614

**Lifetime savings (metric tons CO<sub>2</sub>):** 10,098

**Lifetime water savings (gallons):** 9,588

- This 774,000 sq ft office/industrial building will be converted to a state-of-the-art data center as part of the broader ViVa Center technology hub
- NGC provided \$40 million (24% LTV) in C-PACE capital to finance the conversion of the former office headquarters to a data center
- The fully pre-leased project will offer 12 MW of power when completed and will cater to hyperscale users (companies that use large data centers of 10,000 sq ft+) in the cloud computing and artificial intelligence sectors
- C-PACE proceeds will be used to install sustainable building components, such as energy-efficient windows, LED lighting, advanced HVAC systems and high-efficiency plumbing



## 2008 N Broad St Philadelphia, PA

**Lifetime energy savings (\$):** 986,759

**Lifetime savings (kWh):** 5,591,302

**Lifetime savings (metric tons CO<sub>2</sub>):** 4,361

**Lifetime water savings (gallons):** 4,129,035

**Total housing units created:** 40

- C-PACE financed measures include a high performance building envelope, interior and exterior LED lighting, a high efficiency all-electric HVAC system including VRF (variable refrigerant flow) heat pumps, a high efficiency all electric domestic hot water boiler and low flow plumbing fixtures. The property is also designed to an Energy Star score of 95, placing it in the top 5% of energy efficient dormitories nationally.
- The six-story, 34,801 sq ft all-electric student housing building adjacent to Temple University is projected to realize \$986.8K in lifetime energy savings, 5.6 million kilowatt hours (kWh) of energy, as well as 4.1 million gallons of water over the lifespan of the funded measures
- In addition, the C-PACE funded measures will enable the building to avoid an estimated 4,361 metric tons of carbon emissions, while also providing 40 new housing units for students



## 500 Sargent Drive (Hotel Marcel) New Haven, CT

**Lifetime energy savings (\$):** 5,062,084

**Lifetime savings (kWh):** 21,055,039

**Lifetime savings (metric tons CO<sub>2</sub>):** 11,452

**Lifetime water savings (gallons):** N/A

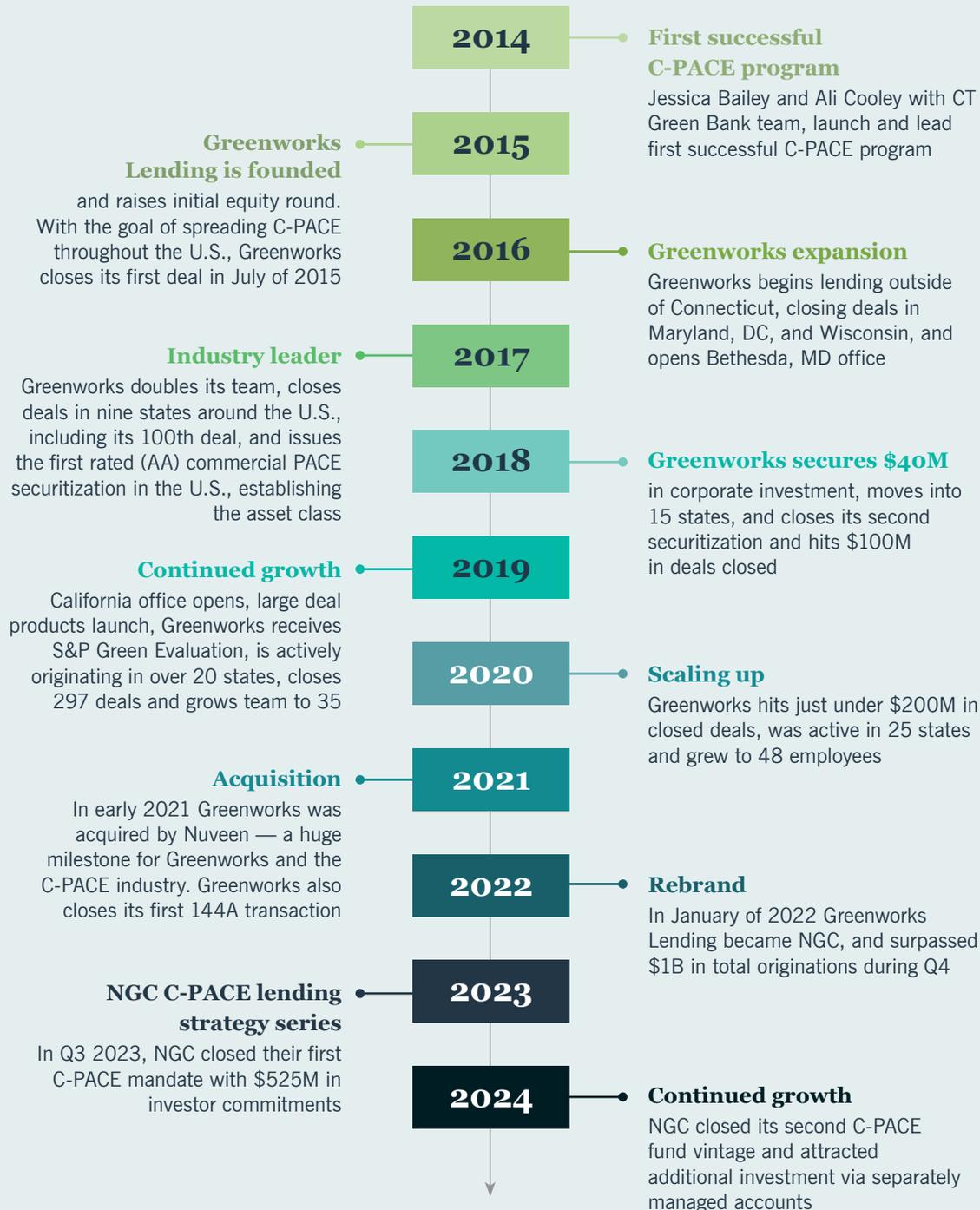
**Total housing units created:** 165 rooms

- Hotel Marcel, which is part of the Tapestry Collection by Hilton, is the first anticipated net-zero hotel and Passive House-certified hotel in the United States. The building, which originally opened in 1970, is listed on the Connecticut Register of Historic Places and the National Register of Historic Places.
- The hotel utilized over \$7M of C-PACE to finance an adaptive reuse project which included a large-scale solar array that will allow the property to generate its own electricity for lighting, heating, cooling and hot water for its common areas, restaurant, laundry, meeting rooms, and 165 guest rooms and suites. C-PACE financing was also used for envelope measures such as roofing, windows, insulation and lighting. The hotel will use 80% less energy than a typical hotel in the U.S.

## ABOUT NUVEEN GREEN CAPITAL

Since its founding in 2015, NGC has become one of the industry's leading providers in the rapidly growing C-PACE market.

NGC offers expertise to borrowers and investors. The firm boasts a national footprint and underwriting model which results in a diversified portfolio with a predominate focus on quality hospitality, multifamily and office sectors, providing investment mainly for new development, renovation and recapitalization projects.



## AWARDS & RECOGNITION

### 2014

- Jessica Bailey named a Champion of Change by the Obama White House for her work in solar deployment

### 2019

- Jessica Bailey included in The EY Entrepreneurial Winning Women™ program, which identifies successful women entrepreneurs whose businesses show real potential to scale

### 2020

- NGC named one of the Top 100 Impact Companies by 2020 Real Leader Impact Awards

### 2022

- Jessica Bailey and Ali Cooley named on Commercial Observer's list of the 50 Most Important People in Commercial Real Estate
- Ali Cooley received CREFC's 20 Under 40 award, spotlighting the future leaders of the CRE finance industry
- NGC's 2022 securitization won Esoteric Deal of the Year in GlobalCapital's US Securitization Awards
- NGC named 2022 ESG Lender of the Year by Real Estate Capital USA

### 2023

- A NGC project awarded Redevelopment of the Year in CoStar's Impact Awards
- Jessica Bailey named Winner of 2023 Women in Sustainability Leadership Awards by WSLA
- GlobeSt names Jessica Bailey and Ali Cooley CRE's Best Bosses for 2023 and recognizes Jessica Bailey with a Woman of Influence Award
- 2023 Insurance Asset Risk Awards North America—Climate investment initiative of the year

### 2024

- 2024 Insurance Asset Risk Awards UK & Europe—Climate mitigation investment initiative of the year
- GlobeSt. named NGC as a 2024 Rainmaker in CRE Debt, Equity & Finance
- REC USA—C-PACE Lender of the Year and Fundraise of the Year (sub \$1bn)
- GlobalCapital US Securitization Awards—ESG Issuer of the Year
- Ali Cooley won Crain's New York Business' "Notable Leaders in Finance" award
- Jessica Bailey was named a Crain's New York "Notable Leader in Sustainability"
- Jessica Bailey and Ali Cooley listed on the Commercial Observer 2024 Power 50 in Finance
- Ali Cooley named as one of Kayo's 24 Leading Women in Real Estate Private Equity
- GlobeSt. listed Ali Cooley in the Women of Influence 2024 (Finance Executive Category)
- Ali Cooley named in the Pensions and Investments Influential Women in Institutional Investing list

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**For more information, please visit [nuveen.com](https://nuveen.com).**

**Endnotes**

- 1 Source: Cumulative PACE originations as reported by C-PACE Alliance as of 31 Dec 2024.
- 2 Source: <https://www.architecture2030.org/why-the-built-environment/>
- 3 Impact investors focus on generating an intentional and positive social or environmental impact while seeking financial returns
- 4 Source: Nuveen Green Capital, as of 31 Dec 2024.
- 5 Source: Based on historic NGC originations as a percentage of annual PACE originations as reported by C-PACE Alliance, as of 31 Dec 2024.

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C-PACE assets are subject to various risks, including but not limited to: risks of insufficient cash flow of the subject property due to impaired operations or value; risks of a decline in the real estate market or financial conditions of a major tenant; risks of delinquencies and defaults; failure of the subject properties to complete agreed upon construction, repairs or improvements or achieve projected energy savings; limited operating history of certain subject properties; risk of assessments underlying certain C-PACE assets failing to comply with applicable state or local laws; risks of disputes with subject property owners and mortgage lenders; environmental contamination risks affecting the subject property; lack of industry-wide prepayment information available for commercial C-PACE assessments; and changes in laws and policies impacting C-PACE programmes.

Responsible investing incorporates Environmental Social Governance (ESG) factors that may affect exposure to issuers, sectors, industries, limiting the type and number of investment opportunities available, which could result in excluding investments that perform well. ESG integration is the consideration of financially material ESG factors within the investment decision making process.

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