

**nuveen**

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# 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 programme reduces property owners' annual costs and provides better-than-market financing for new green construction.*

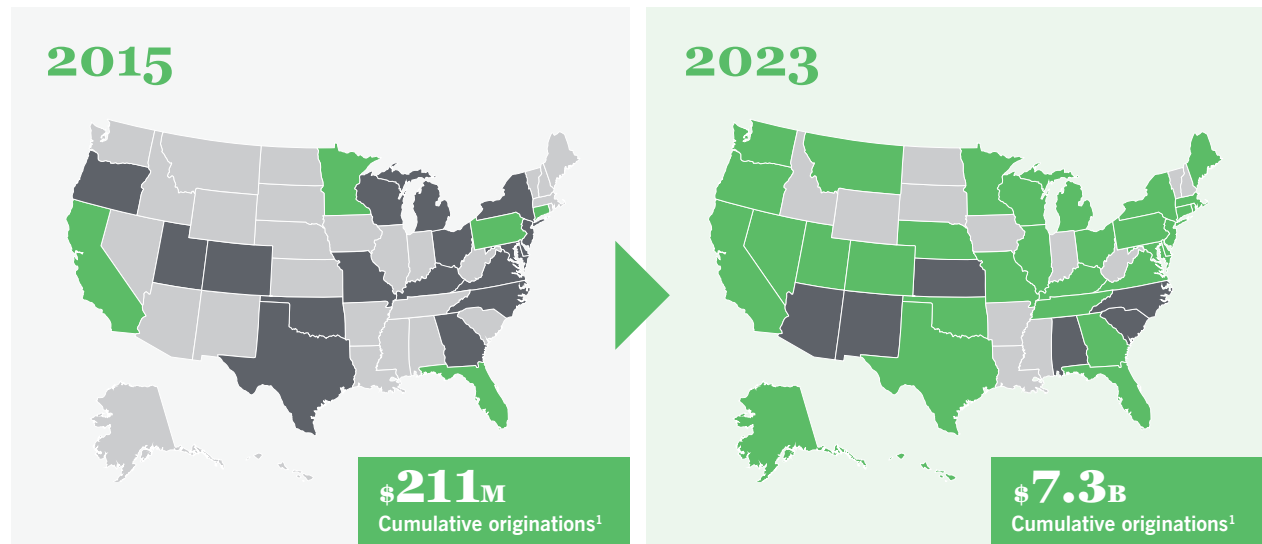
*Compared to other asset classes with comparable risk/return profiles, C-PACE offers a unique combination of longer durations, investment grade fixed-rate returns, definable positive impact and diversification which has the potential to benefit institutional investors. These areas are explored further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

# C-PACE market growth

*Policy expansion and adoption of C-PACE in the U.S. is driving growth in 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 decarbonisation 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 & recapitalisation**



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

The built environment is responsible for over

**42%**

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

# Why is demand for C-PACE growing?

An increasing number of institutional investors are prioritising 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 recognise 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 recognised 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 has 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 specialising in C-PACE, and were the first to securitise the asset class and help architect the C-PACE policy framework
- \$1.9B in assets under management (AUM)<sup>4</sup>
- \$1.4B in closed securitisations<sup>4</sup>
- Investments conform to ICMA Green and Sustainable Bond Principles
- NGC is the dominant C-PACE player, responsible for ~40% of market originations in 2023<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 programmes 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**



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

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



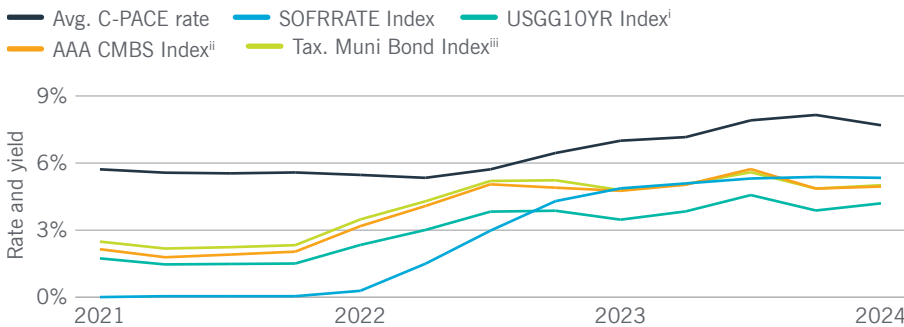
# What NGC's C-PACE platform offers institutional investors

## 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 Mar 2024

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

<sup>ii</sup> Bloomberg AAA CMBS

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

## 2

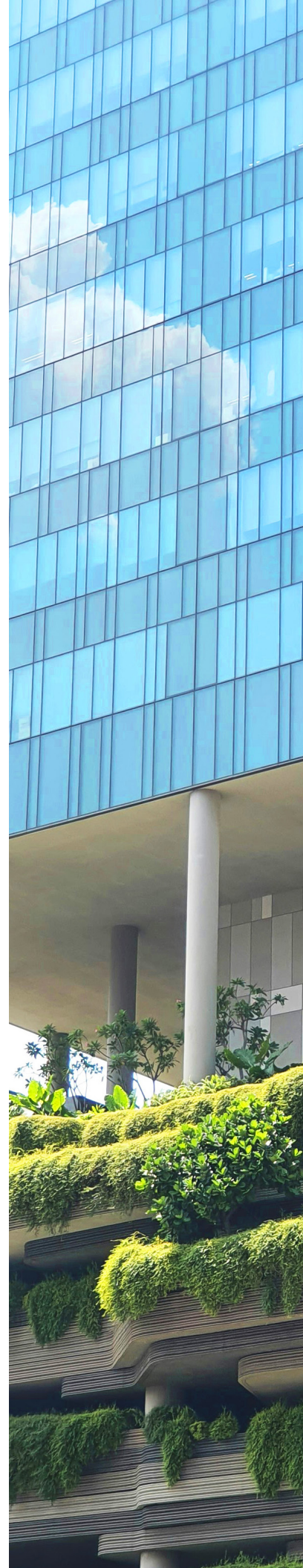
### RELATIVE VALUE

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 securitisations) 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.

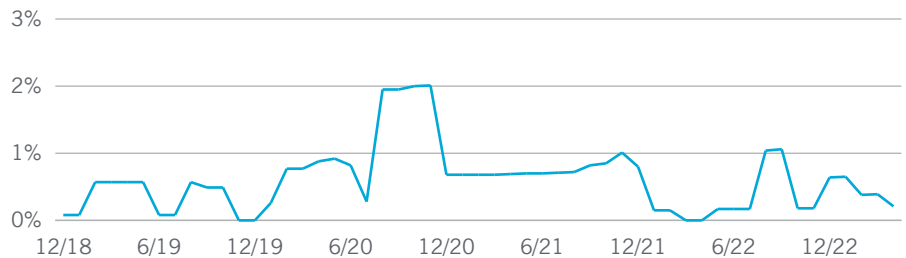
Geographic diversification will be driven by new state programmes, and the penetration and expansion of NGC's integrated originations team.

## 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 below 1%.

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



Source: Nuveen, as of 30 Apr 2023

## 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 to new markets across the U.S. 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.

## Case studies



### The InterContinental Hotel San Antonio, TX

**Lifetime energy savings (\$):** 19,130,788

**Lifetime savings (kWh):** 110,594,910

**Lifetime savings (metric tonnes CO<sub>2</sub>):** 66,518

**Lifetime water savings (gallons):** 28,650,000

- Located in central San Antonio, the InterContinental Hotel will be reimaged and renovated to become a 21-story luxury hotel and conference centre
- Features include 391 rooms, a restaurant, lobby, rooftop bars, coffee bar, an outdoor pool and whirlpool, a business and fitness centre and 20,000 sq ft of meeting space
- Once renovated, C-PACE-funded sustainability measures are projected to save \$402,000 in year-one energy costs and \$19.1 million in lifetime energy costs
- Measures include building envelope improvements, efficient LED lighting and plumbing and new HVAC system which will save 110.6 million kilowatt hours (kWh) and 28.7 million gallons of water over their effective useful lifespan. In addition, the C-PACE financed project will avoid an estimated 66,518 metric tonnes of carbon.



### Spring Garden Apartments Philadelphia, PA

**Lifetime energy savings (\$):** 4,286,260

**Lifetime savings (kWh):** 41,715,935

**Lifetime savings (metric tonnes CO<sub>2</sub>):** 31,640

**Lifetime water savings (gallons):** 16,385,940

**Total housing units created:** 329

- Located in the Callowhill neighborhood of Philadelphia, Spring Garden Apartments is a new multifamily development which will include 13,900 sq ft of retail space
- This project marks the largest C-PACE financed project in the state of Pennsylvania, and the second multifamily deal under C-PACE policy
- \$40 million in C-PACE capital funded key sustainability measures including building envelope, LED lighting, water conservation systems and a high efficiency HVAC system. The property owners are projected to realise \$4.3 million in energy savings, to save 41.7 million kilowatt hours (kWh) of energy, as well as to save 16.4 million gallons of water over the effective useful lifespan of the measures.
- In addition, the complex's 329 housing units will provide much-needed residential space to the Callowhill area of Philadelphia





## 2008 N Broad St Philadelphia, PA

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

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

**Lifetime savings (metric tonnes 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 realise \$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 tonnes 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 tonnes CO<sub>2</sub>):** 11,452

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

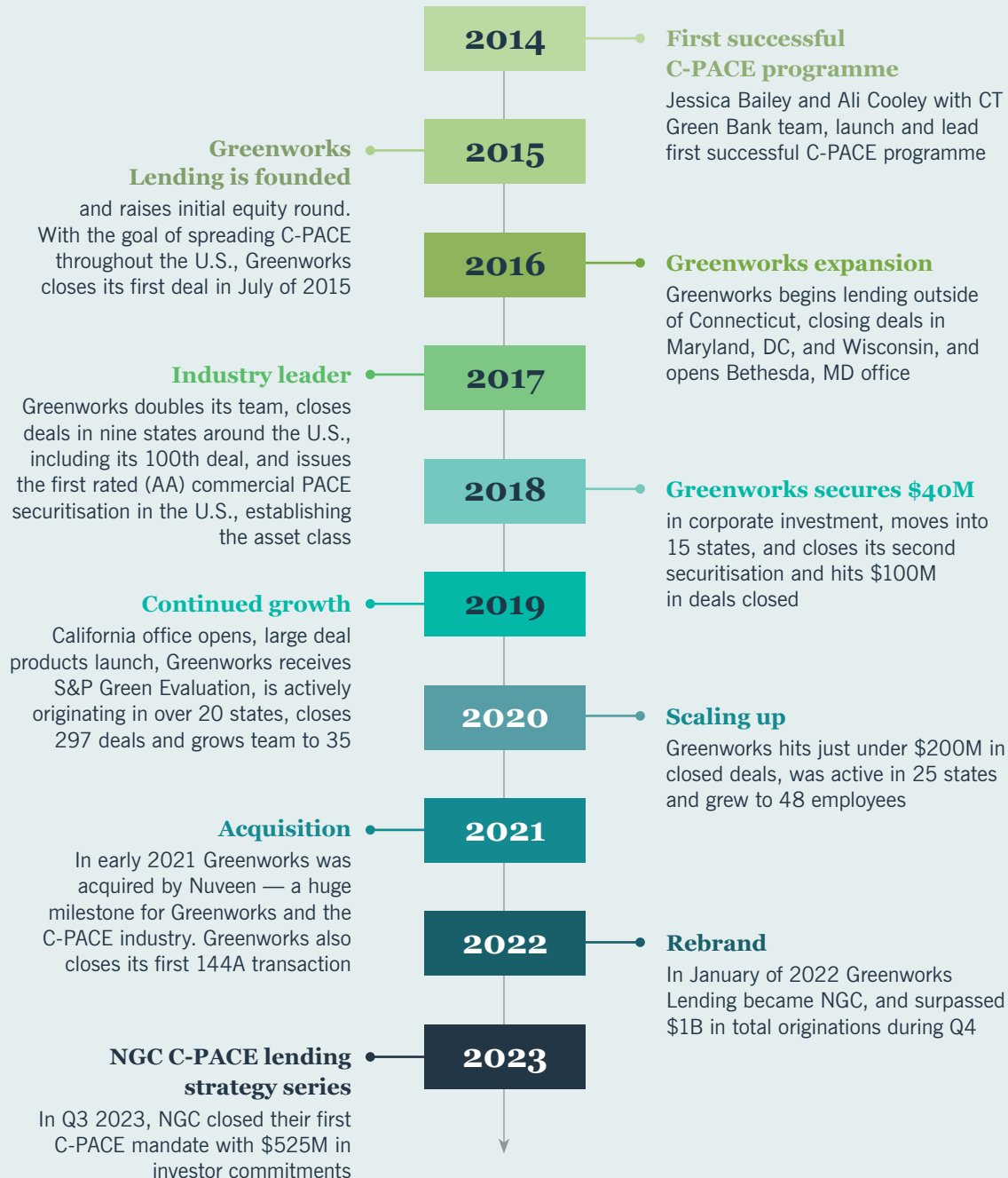
**Total housing units created:** 165 rooms

- 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 utilised 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, mid-market focus 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 recapitalisation 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™ programme, 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 securitisation 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 recognises 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—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

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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 2023.
- 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 2023. Note: AUM is defined as the outstanding principal balance of all assets currently held, serviced, or managed by Nuveen Green Capital. "Inflows" to AUM consist of new originations, and "outflows" consist of principal payments
- 5 Source: Based on historic NGC originations as a percentage of cumulative PACE originations as reported by C-PACE Alliance, as of 31 Dec 2023.

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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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