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GREEN CAPITAL

C-PACE: making an impact on insurance allocations

Q&A with Alexandra Cooley

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C-PACE is gaining traction with insurers because it offers access to invest in clean energy and impact opportunities. It has historically offered the potential for long-dated, attractive and stable risk-adjusted returns via a capital-efficient structure.

In Nuveen's third 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 insurers globally, more than eight in 10 said they were investing in, or planned to invest in, energy innovations in the next two years; 71% identified infrastructure as a focus area of their impact investing. Alexandra Cooley, Co-founder and CIO of Nuveen Green Capital sheds light on the benefits for insurers in allocating to C-PACE.

WHAT IS C-PACE AND HOW DOES THIS DIFFER FROM OTHER PRODUCTS?

C-PACE, which stands for Commercial Property Assessed Clean Energy, is a U.S. state policy-enabled financing mechanism. It allows commercial building owners and developers to access capital to make deferred maintenance upgrades in their existing buildings, support new construction costs and make renewable energy accessible and cost-effective.

Through C-PACE, commercial property owners can 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 program is enabled through a state-level policy that classifies clean energy upgrades and energy efficient measures as a public benefit — like a new sewer, water line or road.

The upgrades can be financed with no money down and then repaid as a benefit assessment on the property tax bill over a term that matches the useful life of improvements and/or new construction infrastructure, which is typically around 20 to 30 years. The assessment transfers on the sale of the property and can be passed through to tenants where applicable.

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

As an investment product, C-PACE typically offers higher yields than comparable products such as similarly rated commercial mortgage-backed securities (CMBS), or municipal and corporate bonds. The underlying security has proven to be a good fit for life insurers because it provides strong capital-efficient income, duration and diversification versus other fixed income products, alongside the opportunity to invest for impact without sacrificing risk-adjusted return.

Nuveen and its parent company, TIAA classify C-PACE as a type of asset backed security (ABS) market. Like other types of ABS, C-PACE securitizations are structured securities backed by underlying collateral, in this instance, C-PACE loans. Among other types of private ABS, C-PACE is unique in its combination of longer durations, higher credit quality and definable positive impact.

WHAT IS PRIVATE ABS? HOW IS C-PACE DIFFERENT FROM OTHER TYPES OF PRIVATE ABS?

An ABS is a structured security backed by a pool of underlying collateral, which is typically cash-flow generating. In public markets, ABS has long had a place in insurance portfolios, including CLOs, CMBS and agency residential mortgage-backed securities (RMBS), consumer ABS (cash flows from personal financial assets such as student loans and credit cards) and commercial ABS (pools of receivables, data centers, etc.). According to the Securities Industry and Financial Markets Association, approximately $1.5T in ABS are outstanding as of YE 2021, with around $302B in issuance in 2022 and $254B in issuance in 2023 YTD.

Like other asset classes, the ABS market has experienced some privatization in recent years. For more nascent or complex industries, issuing in private markets allows borrowers to gain greater certainty of execution for transactions, and work with lenders who are able to understand, price and execute on greater complexity than is readily digestible in public markets. The private ABS market often serves as both the "incubator" for new types of transactions (e.g., proved developed producing (PDP) securitizations) that are too complex for public markets to price, and the "lender of last resort", when traditional public and 144A markets dry up in periods of tighter credit conditions. Private ABS has grown dramatically in recent years, and Nuveen estimates that as of 31 December 2022, in excess of $50B of private ABS securities are held on U.S. insurance balance sheets, with FY 2022 issuance exceeding $10B.

If the private ABS market is the "Island of Misfit Toys", then what are the different characters on the island? In Figure 1, we've worked to describe the different types of private ABS transactions we see at Nuveen.

C-PACE differentiates itself from other types of private ABS in that it i) has longer duration relative to other ABS; ii) has the highest attachment point among private ABS; iii) has a near-zero default rate for both C-PACE securitizations and underlying collateral; and, iv) has a defined positive impact for investors. At Nuveen, when we think about different flavors of IG private fixed income, we are increasingly viewing C-PACE transactions (either in private ABS or whole loan format) as its own sub-category of IG privates, among private ABS, credit tenant loans, infrastructure debt/project finance and corporates.

Figure 1: Types of private ABS transactions at Nuveen

	Description of underlying collateral	Security	Typical advance rates/LTV	Typical issuers	Maturity range (exp. WAL)	Expected spread to treasuries	Typical rating range	Structural features
C-PACE	A portfolio of C-PACE loans	Pool of individual C-PACE loans, secured by special voluntary assessments, benefit assessment, tax lien, or other governmental charges with respect to real property	+95%	C-PACE originators	~10yr	200 – 300+	AAA – A-	Concentration limits, delinquency ratio amortization triggers
Receivables	Pool of short term receipts generated from credit sales of goods/services	Priority security interest in receivables owned by issuer as well as relevant accounts of issuer as well as in the relevant accounts of the issuer	80 – 97%	Trade finance, healthcare/manufacturing firms, specialty finance, diamond trading, credit card servicers/issuers	4 – 7yr	+300 – 400	AAA – BBB-	Borrowing base concept, eligibility criteria for obligors/debtors
Data centers	Facilities that provide space, power and cooling for computing resources of various tenants	First mortgage liens on the data centers, property and fixtures owned by the issuer, the issuer's rights under the leases and servicing/management agreements, and the collection account and reserve sub-accounts	60 – 70%	Data center developers and private equity investors	5 – 12yr	+250 – 350	A – BBB	Leverage and debt service coverage amortization triggers, debt incurrence
Music royalties	Music copyrights	First priority security interest in music assets/copyrights owned by the issuer as well as the relevant collection and reserve accounts	65 – 75%	Private equity investors in music related intellectual property	5 – 7yr	+300 – 450	A – BBB	Leverage and debt service coverage amortization triggers, debt incurrence
LIHTC GP monetizations	Various cash flows associated with low-income housing multi-family properties	Rights to receive deferred management fees, share of NOI, and sales/refi proceeds related to low-income multi-family properties	60 – 85%	Affordable housing developers	5 – 10yr	+325 – 450	A – BBB	Property residual valuation amortization triggers, cash flow sweeps at initiation
PE mgmt. fee	Participation interests in distributions from GP interests in various high quality private equity funds	General partner participation interests	10%	Funds/asset managers specializing in minority investments in PE general partnership interests	~10yr	+225 – 300	AA – A	Leverage and debt service coverage amortization triggers, debt incurrence
Oil & gas	Mature oil & gas PDP assets	Working interest in proved, developed, and producing (PDP) wells, plus associated commodity hedges	50 – 65%	Energy production companies & private equity investors	2 – 5yr	+300 – 700	A – BB	Hedging requirements, production based amortization triggers
Insurance-linked	Life/annuity policies & structured settlements	Receivables derived from insurance policies	~95%	Asset managers focused on origination of insurance cash flow	~10yr	+200 – 275	AAA – A	Reference to insurer obligor credit ratings
Venture debt	Loans to early stage sponsor-backed firms	Loan assets, related property, and receivables	50 – 60%	Fund managers with credit strategies targeting venture/early stage tech/services firms	3yr	+300 – 400	A	Eligibility criteria, concentration limits, delinquency/default amortization triggers
Merchant vouchers	Loans to EM financial institutions backed by USD payment cash flows	Receivables generated by use of major U.S. credit card payment networks	5%	Large Latin American financial institutions/banks	7 – 10yr	+200	A – BBB	Debt service coverage tests, amortization triggers reference obligor credit rating/financial metrics

Source: Nuveen, as of Feb 2024.

WHAT MAKES C-PACE SO INTERESTING TO INSURANCE COMPANIES?

Attractive yields

Historically, the fixed rate coupons on our C-PACE assets have delivered an outpaced yield when compared to alternative investments and benchmark yields with similar capital-adjusted risk/return characteristics. Based on duration and structure, the two main investment comparisons to C-PACE are CMBS AAA notes and investment-grade municipal bonds. Figure 2 illustrates this relationship dating back to Q1 2020.

Relative value

C-PACE's non-extinguishable senior tax lien structure means that its baseline risk is low. The underlying security is positioned ahead of mortgages in the capital stack and other encumbrances in arrears, which means it is possible for C-PACE to achieve investment-grade ratings. Historically, C-PACE has offered better risk/return relative value than similarly rated vehicles with comparable underlying collateral as shown in Figure 3.

Duration

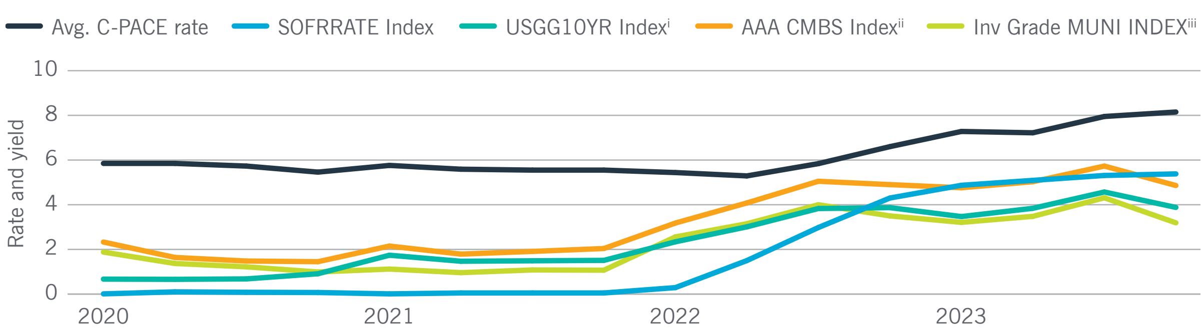
C-PACE investments are typically 20–30-year final life, with weighted average life from eight to 12 years, fixed-rate and fully amortizing. For investors seeking fixed income duration, this is a highly attractive profile.

Diversification

Nuveen Green Capital's national footprint, mid-market focus and underwriting model have enabled the firm to construct a diversified portfolio targeting compelling returns and no losses to date. As C-PACE continues to grow nationally and the asset class continues to mature (see Figure 4), Nuveen Green Capital anticipates enhanced granularity in their managed portfolio. C-PACE can be leveraged across all standard CRE asset classes and within every state with an active C-PACE program. Nuveen Green Capital expects their geographic diversification to continue its expansion. Additionally, it also anticipates property type diversification to maintain similar shape as standard asset classes will continue to be a core origination focus.

While asset sizes and leverage ratios do not necessarily speak to diversification, these illustrate the trends across the C-PACE industry. Nuveen Green Capital and other C-PACE issuers are participating in more complicated, institutional projects than ever before, which has resulted in a year-over-year spike in average asset size. Furthermore, the tightening of overall CRE debt has played a part in the year-over-year reduction in DTV (debt-to-value). Although, as total average debt on our assets has decreased, the LTV (lien-to-value, tied to the C-PACE assessment only) has increased. The increased LTV is an indication of higher C-PACE usage and greater standardization of the asset class within the capital stack.

Figure 2: C-PACE coupon compared to alternative investments and benchmark yields



Source: Nuveen.
i Bloomberg USGG10YR Index Q1 2020 – Q3 2023
ii Bloomberg CB14 Index Q1 2020 – Q3 2023
iii Average of Bloomberg I13969US, I13970US, and I13971US Indexes Q1 2020 – Q3 2023

Figure 3: C-PACE relative value versus other A – AAA bonds

	C-PACE	MUNI	CMBS	CTL	ESOTERIC ABS
Historic underlying DQ rate	<100bps No losses incurred to-date	<10bps[i]	~560bps over the past 12 months[iii]	<10bps loss incidence[iv]	Varies, based on asset class
Underlying credit	Tax assessment lien on commercial real estate; Max LTV 35%	Varies, typically municipal power to assess taxes	Mortgage on commercial real estate Max LTV ~75%	Tenant (typically IG) is credit obligor; Max LTV 95 – 100%	Varies, aggregation of esoteric commercial or consumer contracts
Liquidity	Semi-liquid	Highly liquid	Liquid	Illiquid	Semi-liquid
Spread range	110–300 bps / US10y	S&P IG Muni Bond Index at 4.5% YTM as of 10/5/23[ii]	25 – 175 / US10y	150 – 200bps / US20y	~100 – 400 / varies
Net zero attributes	All proceeds toward climate mitigation or adaptation Green / Sustainable Bond Opinions May qualify for SFDR Article 8 or 9	Depends on issuance/proceeds	N/A	N/A	Varies

Source: Nuveen.
i Municipal bonds through a potential recession – What to expect
ii S&P Municipal Bond Investment Grade Index | S&P Dow Jones Indices
iii Special Servicing Rate Inches Up in August 2023: Office Continues to Struggle
iv 2003–2015 Credit Risk Loss Experience Study: Private Placement Bonds

Average asset size & loan rate

NGC's average asset size has seen exponential growth since inception, where the average total financed amount per asset in 2023 was $14.3 million. This is up over 130% from 2022 where our average total financed amount was $6.1 million. Furthermore, NGC has also seen year-over-year growth in the average loan rate. In 2023, the average loan rate for NGC's C-PACE assets was 7.62% which is up 30% from 2022 where the average loan rate was 5.85%.

Property type diversification

NGC's property type diversification is largely spread across standard asset classes with a 59.3% concentration in hospitality and multi-family assets (36.3% and 23.0% respectively). NGC's office concentration at year-end 2023 was 15.4%, which is a reduction from 16.7% in 2022. The balance of our portfolio is 7.3% industrial assets, 5.3% senior living assets, 6% retail assets and 6.7% "other" assets.

NGC's "other" assets category includes C-PACE retrofit projects on agricultural projects, houses of worship, parking garages, car washes and golf courses.

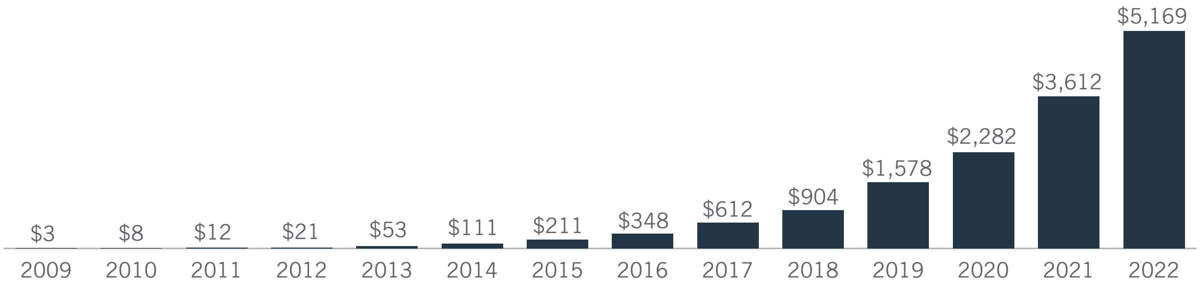
Geographic diversification

NGC's average exposure to any single state is 9.1% with a maximum concentration of 23.7%.

No losses to-date and low historic defaults

Nuveen Green Capital has zero losses since inception and a delinquency rate below 1% within their managed portfolio. NGC's considers the full outstanding principal balance of the underlying asset delinquent if a payment is late by greater than 60 days.

Figure 4: C-PACE investment (millions)



Source: PACE Market Data - PACENation as of 31 Dec 2022.

Impact

Since C-PACE is a public benefit assessment, the underlying program operations means that proceeds advanced by C-PACE lenders are going toward renewable energy, energy efficiency or resiliency commercial real estate projects. By facilitating the implementation of renewable energy systems and energy-efficient technologies, C-PACE programs significantly contribute to reducing carbon emissions. Statistical data from cities with robust C-PACE initiatives indicate a notable decrease in CO_2 emissions, making strides toward climate change mitigation goals.[1] We have received a green or sustainable bond opinion on all its issuances. An S&P Green Opinion was received on bonds issued in two private securitizations and three public securitizations.

WHAT GIVES YOU CONFIDENCE IN THE FUTURE OF C-PACE AS A VIABLE INVESTMENT FOR INSURERS?

It's the fact that C-PACE has evolved from proof of concept to a sought-after component of insurers' allocations. Since inception, C-PACE has delivered both notable performance, diversity and impact benefits to its investors. The biggest hesitation with impact investing to date has been the ability to do it at a market rate and at scale. We now have a platform that enables investors to allocate capital through various channels at scale, which is a significant differentiator and an important one as we continue to work to unlock impact investing at scale in the institutional marketplace.

About Nuveen Green Capital

Since being founded in 2015, Nuveen Green Capital (NGC) has become one of the industry's leading providers in the rapidly growing Commercial Property Assessed Clean Energy (C-PACE) market, a U.S. public-private financing program for energy efficiency, climate resiliency, water conservation and renewable energy commercial real estate (CRE) projects.

NGC provides deep sector expertise to execute its C-PACE strategy, backed by the broader Nuveen platform. The national footprint, mid-market focus and underwriting model enables NGC to construct a diversified portfolio with a predominate focus on quality hospitality, multi-family and office sectors, providing investment mainly for new development, renovation and recapitalization projects.

For more information, please visit nuveen.com.

Endnotes

1 Environmental and Energy Study Institute, "Sustainable Communities: C-PACE Financing for Commercial Buildings," 2021.

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