STAYING THE COURSE

2024 | CLIMATE REPORT

Borkum Riffgrund 3, Germany's largest offshore wind farm, jointly owned by Nuveen Infrastructure and Ørsted

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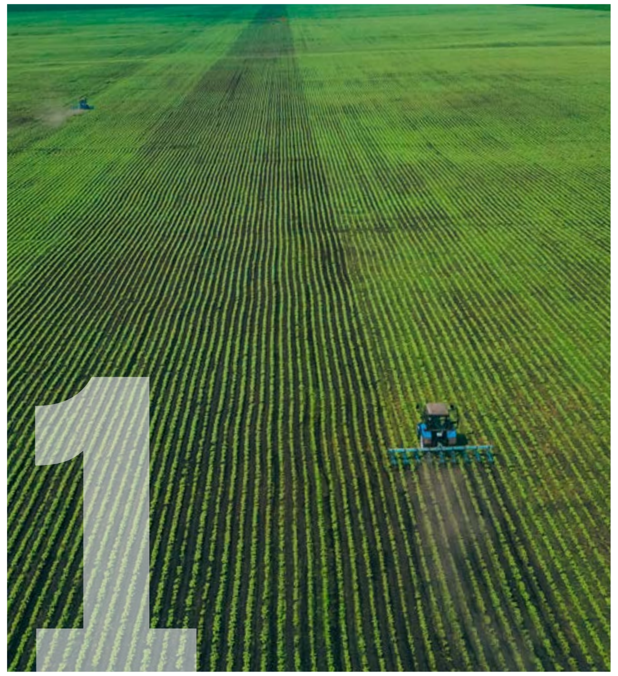

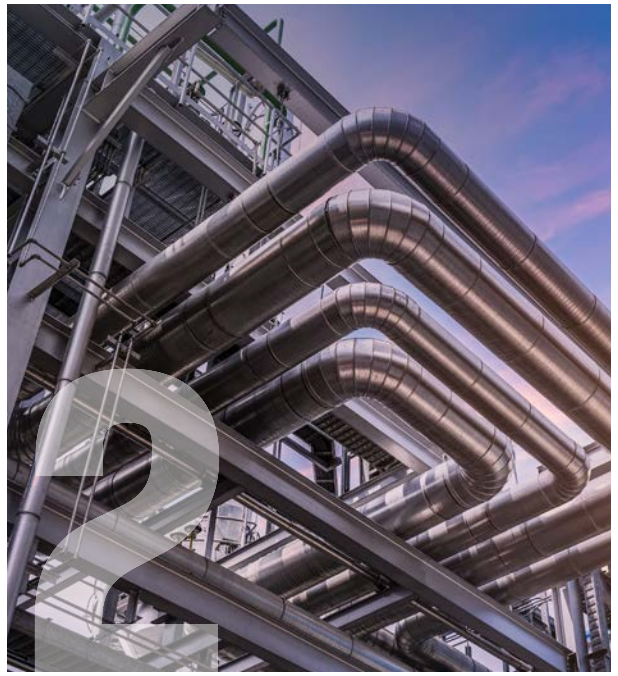

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TIAA's mission is to deliver financially secure retirement to those that have entrusted their assets to be managed by our firm. Throughout our history, we've traversed through economic difficulties, global turmoil, and catastrophes, as well as positive market runs and technological advancements solving some of the world's most pressing challenges.

Thasunda Brown Duckett
President and Chief Executive Officer

We know our country faces a retirement crisis where more than 40% of Americans won't have enough money to retire—and that changes to our climate will affect the way each of us is able to retire with dignity.[1] We also know the effects of a changing climate won't be felt equally across all geographies and economic groups.

Climate change is transforming not only how we generate energy, but also how we access natural capital, affecting nearly every supply chain and creating logistical challenges in the wake of severe and often unpredictable weather patterns and storms. Each of these events, separately and in tandem, creates risks for our clients' investment portfolios, and we recognize the changes that must be made to meet their investment objectives.

We must transform our business, our investment offerings, and our interactions with clients to deliver on our promises to a new generation and generations to come. Our focus on transformation is essential to achieving optimal long-term investment outcomes for our clients, while remaining rooted in the pace of change in the real economy.

To achieve our goals, including our goals to reach Net Zero carbon emissions across different portions of our business, we're focusing on efficient operations, portfolio repositioning, and engagement with companies around the globe. Many of these activities are carried out by Nuveen, the investment management arm of TIAA.

We're pleased to provide updates on these targets and how we'll continue to deliver for this generation and those to come:

1. TIAA General Account: Net Zero by 2050
2. Nuveen Real Estate: Net Zero by 2040
3. TIAA Corporate Operations: Net Zero by 2040

As stewards of our clients' financial futures and the generations beyond, we continue to make meaningful progress against these targets and guide the company through the low-carbon transition.

We continue to further align to the Task Force on Climate-Related Financial Disclosure (TCFD) guidelines and expand the coverage of our disclosures across new asset classes. Our future climate disclosures will evolve over time based on the data available and the industry standards put in place during this transformative time.

Our 2024 report reflects the key areas of our business transforming the way we think about investing and generating retirement income on behalf of our clients:

1. Governance: Our dedication to addressing climate-related risks starts with our Board and firm leaders who set the strategy and monitor progress. This past year we added our Climate Center of Excellence to the central Responsible Investing team and continue to promote collaboration between the investment side of the house and our operations with the Sustainability Action Team.
2. Strategy: By expanding carbon data coverage; engaging deeply with public companies; seeking efficiency improvements in our operations and directly owned assets; and investing parts of our General Account to reflect carbon intensity guidelines. We also began exploring a range of new climate scenarios that may inform future strategic asset allocation in the General Account.
3. Risk management: In 2022, TIAA began a phased build-out of our enhanced climate risk management framework, a map of processes that will help us take a consistent approach to how we invest, adhere to existing and evolving regulations, operate our business efficiently, and represent ourselves in the fast-changing world.
4. Metrics and targets: TIAA and Nuveen are on track or ahead of schedule against all three interim Net Zero targets to date, with reductions in carbon intensity or carbon emissions ranging from 21% to 31% versus 2019.

We're proud of our transformative progress to date, and we'll continue this positive momentum to deliver on our retirement equality promises.

TIAA General Account:
Net Zero by 2050

Nuveen Real Estate:
Net Zero by 2040

TIAA Corporate Operations:
Net Zero by 2040

1. EBRI, March 7, 2019. See also: *TIAA Retirement Bill of Rights*, tiaa.org/public/learn/retirement-planning-and-beyond/retirement-bill-of-rights.

1 Governance

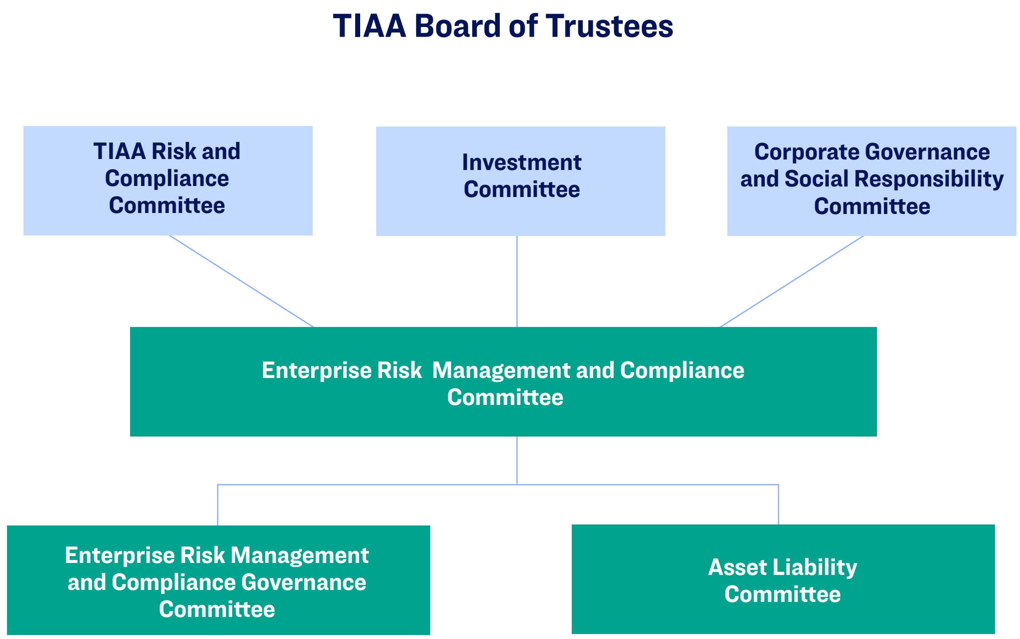
Dedication—from the top down

Dedication—from the top down

TIAA's commitment to addressing climate-related risks starts with Board members and leaders who set strategy and monitor progress.

Board oversight

TIAA uses numerous frameworks to identify and assess climate-related financial, compliance, regulatory, operational, reputational and strategic risks. Significant risks are presented to the Board and management committees.



Board and management committees: Key roles and responsibilities

Board committees	**TIAA Board of Trustees**	Oversees the design and implementation of the TIAA climate risk strategy and delegates oversight of certain climate-risk related issues to its standing committees
	TIAA Risk and Compliance Committee (RCC)	Oversees the climate risk framework
	Investment Committee (IC)	Oversees investment activity, investment policies and strategies for the company's General Account (GA)
	Corporate Governance and Social Responsibility Committee (CGSR)	Oversees the enterprise sustainability approach
Management committees	**Enterprise Risk Management and Compliance Committee (ERMC)**	Oversees the climate risk framework and monitors the company's climate risk profile across the risk universe
	Enterprise Risk Management and Compliance Governance Committee (ERCG)	Oversees implementation of the climate risk framework, reporting of the company's climate risk profile, and review of recommendations and status related to governance
	Asset Liability Committee (ALCO)	Provides management oversight of any climate-related investment risk (such as credit and market risks)

ORGANIZATIONAL STRUCTURE

A focus on operational efficiency

Senior leaders are accountable for driving climate-risk initiatives.

Legal, Risk and Compliance

- Approve and maintain policy with board governance requirements
- Develop second line of defense oversight and monitoring to identify, measure, monitor and report on climate risk
- Incorporate ESG and related climate requirements into global marketing and communications review process
- Execute compliance testing for portfolio selection criteria and methodology
- Coordinate and respond to regulatory inquiries
- Provide advice and guidance relating to regulatory requirements and developments
- Monitor adherence to climate commitments and related memberships

Risk Management

- Oversee portfolio return and risk metrics from investment decisions
- Oversee and advise on the design and execution of the Net Zero framework
- Develop centralized climate risk data infrastructure supporting analysis and reporting

TIAA General Account

- Set, manage and oversee execution and achievement of interim and Net Zero by 2050 targets for the TIAA General Account (TIAA GA)

Nuveen Responsible Investing and Investing Teams

- Advise, guide and coordinate the full spectrum of efforts to assist the TIAA GA organization with implementation of the its Net Zero target in investment portfolios

Corporate Operations

- Develop carbon-reduction pathways and interim targets to attain Net Zero by 2040 for TIAA's operational carbon emissions

CROSS-ENTERPRISE INTEGRATION

Responsible Investing team

The Nuveen Responsible Investing (RI) team administers the firm's responsible investing program under the leadership of the global head of RI, who reports directly to Nuveen's CEO. The centralized RI team, which has more than 30 employees, collaborates across Nuveen and TIAA to share knowledge, drive active ownership, develop ESG and impact tools, and promote best practices and consistency in the deployment of our RI policy.

In 2023, we established the Climate Center of Excellence, a new group within the Responsible Investing team charged with advancing the climate strategy at both Nuveen and TIAA. The group sets the firm-level vision and accelerates alignment of investment processes and products with the market's rising climate expectations for the financial sector. Further, the group partners with:

Investment and risk teams to build robust physical and transition risk-management processes

Stewardship to develop engagement programs focused on progressing climate policies in the United States and internationally

External institutions and NGOs to advance market and industry standards on climate

External vendors to ensure access to best-in-class climate data

TIAA ESG Council

The ESG Council includes senior leaders from the RI team, marketing, communications, client relationships, procurement, facilities and operations, diversity and inclusion, and government relations. The cross-functional working group meets regularly to review and approve initiatives and/or commitments, including those related to climate change. The ESG Council focuses on:

1. Setting the enterprise ESG strategy, driving alignment on key themes of relevance across the firm, and ensuring transparency about our performance against those themes
2. Evaluating and managing commitments and partnerships with external organizations to further that strategy
3. Driving brand and marketing strategy with respect to ESG issues

TIAA Sustainability Action Team

The TIAA Sustainability Action Team (SAT) is a global group of over 900 committed colleagues representing more than 65 offices dedicated to driving environmental change by promoting a culture of stewardship and social responsibility throughout TIAA and its subsidiaries. Our mission is to help TIAA achieve its goals by empowering associates and leadership to live and work sustainably. In support of our collective mission to build a better world for our associates and participants through positive environmental change, SAT strives to help deliver on key TIAA and Nuveen strategies:

- Working to help TIAA reach its Net Zero goal
- Minimizing our company's Carbon Footprint
- Working to improve Nuveen's ESG Scorecard
- Supporting Talent Attraction and Engagement
- Strengthening Community Partnerships

2 Strategy

TIAA's climate strategy is underpinned by our belief that climate risk is investment risk. Taking action to manage climate risks and invest strategically in climate opportunities is aligned with our fiduciary obligations as an asset owner.

Our obligation to TIAA retirement plan participants is long term, which means it's our responsibility to consider investment risks, including climate risks, over a similarly long horizon.

The Intergovernmental Panel on Climate Change (IPCC) has thus far provided the best source of scientific data on climate change. Its 2023 report states that human activities have "unequivocally caused global warming" and that "human-caused climate change is already affecting many weather and climate extremes in every region across the globe." The report says continued greenhouse gas (GHG) emissions will lead to increasing global warming and every increment of global warming will "intensify multiple and concurrent hazards." The IPCC report also states that "deep, rapid, and sustained reductions in GHG emissions would lead to a discernible slowdown in global warming within around two decades."

Our obligation to TIAA retirement plan participants is long term, which means it's our responsibility to consider investment risks, including climate risks, over a similarly long horizon. The scientific findings from the IPCC suggest that physical impact of unmitigated climate change will result in global economic damage over time, with damage increasing as warming increases. Therefore, we believe the transition to a low-carbon economy is an economic imperative. Furthermore, an orderly transition within the 2050 timeframe set out in the Paris Agreement is likely to deliver better economic and investment outcomes than a disorderly or delayed transition.

We've developed—and continue updating—four belief statements with this scientific and economic context in mind.

1

BELIEF STATEMENT

The world is transitioning to a low-carbon economy, although the pace is uncertain.

Risks

i. Transitioning to a low-carbon economy is seen as necessary by many governments and much of the private sector, and may bring a wide variety of policy, legal, regulatory, technological and market changes that influence investment fundamentals.

ii. The pace of the transition will vary significantly by region and sector (and requirements and expectations in different regions may contradict with each other), driven by the availability and cost of low-carbon technologies, the geopolitical environment, policy and regulatory actions, and consumer preferences.

iii. Transitioning to a low-carbon economy reduces long-term physical risks for investors, and an orderly transition creates less volatility than a disorderly transition.

Opportunities

i. Proactively planning for climate risk in business strategy may enable issuers and other operating companies to adapt to the changes—which may include costs, shifts in consumer demand and greater regulatory requirements—while avoiding stakeholder scrutiny or reputational or brand impairment.

ii. Businesses, real assets and projects across many sectors that actively accelerate the transition may experience increased demand for their products and services, support from governmental policies, and/or competitive advantages in attracting intellectual capital (and increasing financial productivity).

Strategic actions

i. TIAA is beginning to explore how potential risk and return dynamics across the many asset classes and sectors in which it invests will be impacted by various climate scenarios, ranging from slower to faster paced transitions and associated global temperature rise.

ii. Nuveen, TIAA's investment management arm, has developed low-carbon transition "signposts" that monitor the pace and magnitude of the low-carbon transition over time.[1] The signposts—which capture capital deployment, technology and policy developments—will help us determine our interim Net Zero targets by identifying potential accelerants and bottlenecks for the transition.

iii. Nuveen continues to offer its clients a variety of low-carbon and climate-focused products in public and private markets. Investment vehicles in private markets have been designed specifically to enable TIAA and Nuveen's third-party clients to finance the low-carbon transition.

1. https://www.nuveen.com/global/insights/equilibrium/the-energy-transition

2

BELIEF STATEMENT

How markets react to this transition will bring risks and opportunities that influence how the GA invests.

Risks

i. The low-carbon transition is expected to create transition risk for public and private investments, with exposure concentrated in fossil fuel and energy-intensive sectors. We expect that corporate sectors such as energy, utilities, materials, industrials, and transportation face relatively higher transition risks, which could impact revenues, expenditures, assets and liabilities, or access to capital. Further, we see business strategy and low-carbon transition planning within these sectors as critical levers for value creation and/or preservation.

ii. Government-related issuers with significant reliance on the fossil fuel industry may be relatively more exposed, which could impact tax revenues, gross domestic product, and access to capital. Notwithstanding, these sovereign dynamics will influence geopolitical priorities, such as instigating a race toward the development of clean energy supply chains supported by protectionist trade policies.

Opportunities

i. Green sectors and climate solutions may benefit significantly from a low-carbon transition, including renewable energy, green buildings, electric vehicles, sustainable forestry and agriculture, water management, battery storage, carbon capture and storage, energy efficiency, and electricity transmission and distribution.

ii. Sectors and regions with direct physical risk exposure would also benefit from a low-carbon transition scenario in the long term due to reduced physical impacts of climate change.

Strategic actions

i. TIAA continues to expand the implementation of Net Zero objectives across additional asset classes in the GA to heighten our focus on investment risks and opportunities stemming from the low-carbon transition. TIAA also continues to deepen the measurement and monitoring of physical climate risks, with a particular focus on place-based asset classes like farmland, timberland, real estate, infrastructure, and municipal bonds.

ii. Recently, TIAA has invested in four venture and late-stage growth equity funds that focus on companies and assets that can help accelerate the transition to a low-carbon economy. Further, TIAA has participated in a Series A funding round for a company driving innovation in physical climate risk modeling.

3

BELIEF STATEMENT

Decarbonizing the GA portfolio will allow us to properly manage transition risks and embrace investment opportunities.

Risks

i. Specific investment characteristics that influence transition risk include carbon intensity, expected holding period, liquidity and the strength of the climate policy regime in the places where we're investing.

ii. As climate data continue to evolve and mature, carbon emissions data is an imperfect but useful proxy for transition risks, given that it is a readily available to measure and monitor emissions in an investment portfolio. Increasingly, forward-looking estimates and forecasts of future carbon intensity based on asset-level data is becoming available, which will unlock further transparency to the GA's decarbonization journey.

iii. Disclosure of carbon emissions data is still voluntary in many jurisdictions, leading to lack of data coverage and lack of independent verification of accuracy. Some asset classes and types of securities have yet to develop robust or market-accepted GHG accounting practices, which limits the extent of GA portfolio financed emissions that can be measured and managed.

Opportunities

i. Adopting a Net Zero objective helps the GA uncover and pursue new investment opportunities, such as renewable energy infrastructure and U.S. commercial property assessed clean energy (C-PACE) programs, among others.

ii. New global sustainability disclosure standards are emerging, such as those put forth by the International Sustainability Standards Board (ISSB), which will improve the disclosure of high-quality, comparable carbon emissions data to inform the GA's investment process.

Strategic actions

i. TIAA is actively expanding measurement of our financed carbon footprint, alongside further build-out of transition risk assessments.

ii. We work with assets, portfolio companies and other stakeholders in carbon-intensive industries to encourage greater strategic focus on their low-carbon transition.

iii. Nuveen, TIAA's investment arm, expects a minimum level of climate disclosure for publicly listed corporates and systematically integrates the assessment of this reporting in its shareholder proxy voting policies and actions.

4

BELIEF STATEMENT

The rate of decarbonization the GA can achieve will depend on government policy and regulatory actions across various geographies and sectors.

Risks

i. Despite the increasing urgency surrounding climate change, current policies aren't sufficient to meet the goals of the Paris Agreement. According to Climate Action Tracker—an independent scientific project that tracks government climate action and measures it against the globally agreed Paris Agreement aim of "holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C"—current policies will result in global warming of 2.7°C -by 2100.[1]

ii. The real economy may therefore decarbonize more slowly than required by a science-based pathway to achieve the Paris Agreement goals. Investment portfolios that significantly diverge from the composition of the real economy could exhibit tracking error and perform materially differently than more diversified portfolios. Further, even during the long-term contraction and decline of the low-carbon transition, the financial performance of carbon-intensive assets may see ups and downs.

iii. Future policy changes would require a more aggressive approach that constituents may not be ready for.

iv. Experts believe that the longer emissions continue to rise, the more disorderly decarbonization may be.

Opportunities

i. Significant policy developments in the past year support the overall trend toward decarbonization. TIAA and our investment teams closely track these developments and the implications they may have on our investment portfolios.

ii. Investment portfolios that decarbonize proactively can get ahead of the expected market impact of government policies before climate risks and opportunities are fully priced in and investment values impaired.

Strategic actions

i. TIAA engages policymakers, including regulators and legislators, to promote the disclosure of consistent and reliable information to facilitate investment decisions related to climate-related risks and the low-carbon transition.

ii. TIAA will review its Net Zero commitment periodically to ensure it remains broadly aligned with the pace and nature of the low-carbon transition, with the primary goal of maximizing long-term, risk-adjusted financial returns for our participants.

1. Intergovernmental Panel on Climate Change

STEWARDSHIP

Elevating expectations for companies on climate

We maintain our belief that the world's climate and energy infrastructure is in transition, and transition risks create meaningful investment risks and opportunities that we must address to protect our portfolios and clients. In response to these risks, last year we launched our Climate Risk 2.0 program, in which we explicitly asked 100 portfolio companies that comprise most of our public markets financed emissions to disclose material climate-related information and to establish industry-leading strategies to manage climate risks. As the energy transition matures, so will our assessment of company progress—shifting from standard disclosure to robust planning to implementation.

Progress against a wide range of key performance indicators, summarized on the next page, is assessed biannually and informs our proxy voting and engagement decisions.

Since the launch of the initiative, we've had 306 engagements with the 100 companies included in Climate Risk 2.0. In these engagements and in proxy voting decisions, we've applied a systematic approach to our expectations of companies, focusing primarily on near-term emissions reductions that stem from abatable sources.

As such, we've developed detailed, industry-level expectations, produced by sector experts, that recognize the unique risks and opportunities facing each company. In the fossil fuel sector, for example, conversations between Nuveen and investee companies have covered topics such as management of methane emissions via equipment updates and advanced monitoring technology, as well as emerging opportunities from low-carbon fuels, enhanced geothermal energy and others. In the utilities sector, conversations have focused on new tax credits, financing options and grid modernization technologies that can simultaneously advance reliability, affordability and sustainability. In the industrial, machinery and autos sectors, conversations between Nuveen and investee companies have included topics like product efficiency and electrification, as well as engagement with materials suppliers to support the decarbonization of hard-to-abate sectors.

Transparency: basic disclosure items

Climate risk disclosure

TCFD reporting, including scenario analysis that captures significant physical and transition risk.

GHG emissions disclosure

Verified GHG emissions reporting, including material scope three categories.

Policy engagement

Company discloses climate-related lobbying activities.

Accountability: strategy/plans for risk management

Risk management

TCFD reporting discloses how business planning has been impacted by scenario analysis and how climate is incorporated into ERM.

Governance

Board has evidenced climate competence and a committee with climate oversight. Compensation incentivizes achievement of stated targets.

Policy management

Company reasonably aligns lobbying activities with stated priorities and seeks to address discrepancies.

Targets

Company has near and long-term targets for material emissions. Where feasible, targets and third-party verified.

Strategy

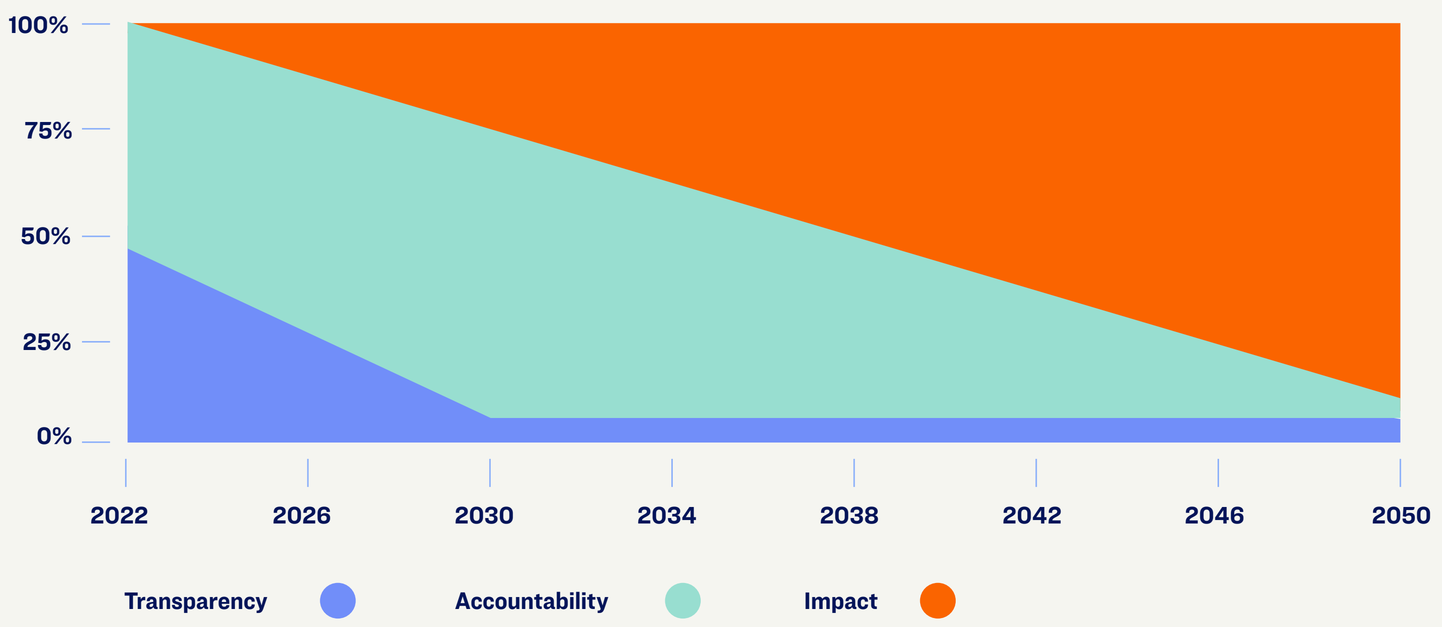
Company strategy aligns with industry-specific standards and capitalizes on emerging opportunities.

Impact: materialization of plans

Realized decarbonization

Company demonstrates progress toward targets year-over-year.

How TIAA assesses a company's approach to climate risk over time



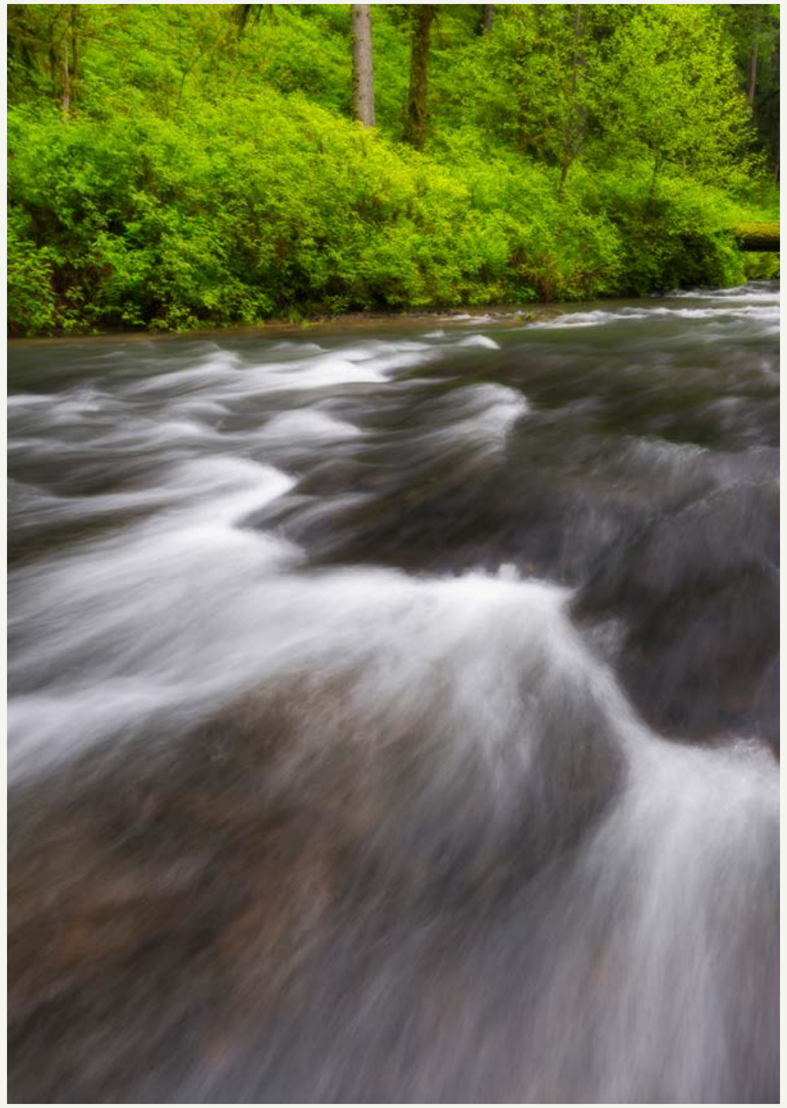
CASE STUDY

WEC Energy Group

COMPANY DESCRIPTION
American electric and natural gas utility serving 4.4 million customers across four states.

ENGAGEMENT TOPIC
The transition away from thermal coal for electricity generation is key to achieving global decarbonization goals, particularly in developed economies. In many instances, coal is both more carbon-intensive and more expensive than lower-carbon alternatives. As such, engaging portfolio companies on options to reduce coal generation and pursue ratepayer savings is a priority for TIAA and Nuveen's Global Clean Infrastructure Impact Fund.[1] We engaged WEC on this topic because the company's owned generation capacity is currently 35% coal.[2] WEC has goals in place to reduce coal generation—namely using coal as a backup fuel only by 2030 and eliminating coal generation entirely by 2035.[3] Nonetheless we continue to request that the company consider emerging options (e.g., advanced battery technologies, demand response programs and grid enhancing technologies) to accelerate coal phaseout.

OUTCOME
In October 2023, WEC announced it would be accelerating its coal phaseout target from 2035 to 2032.[4]



1. This fund is not available for purchase in the United States and is being shown to illustrate our capabilities only.
2. WEC Energy Group Corporate Responsibility Report, 8.
3. Group Generation Reshaping Plan
4. https://wisconsinagconnection.com/news/wisconsins-largest-utility-moves-up-plans-to-stop-using-coal-as-a-fuel-source

CASE STUDY

Chevron Corporation

COMPANY DESCRIPTION:

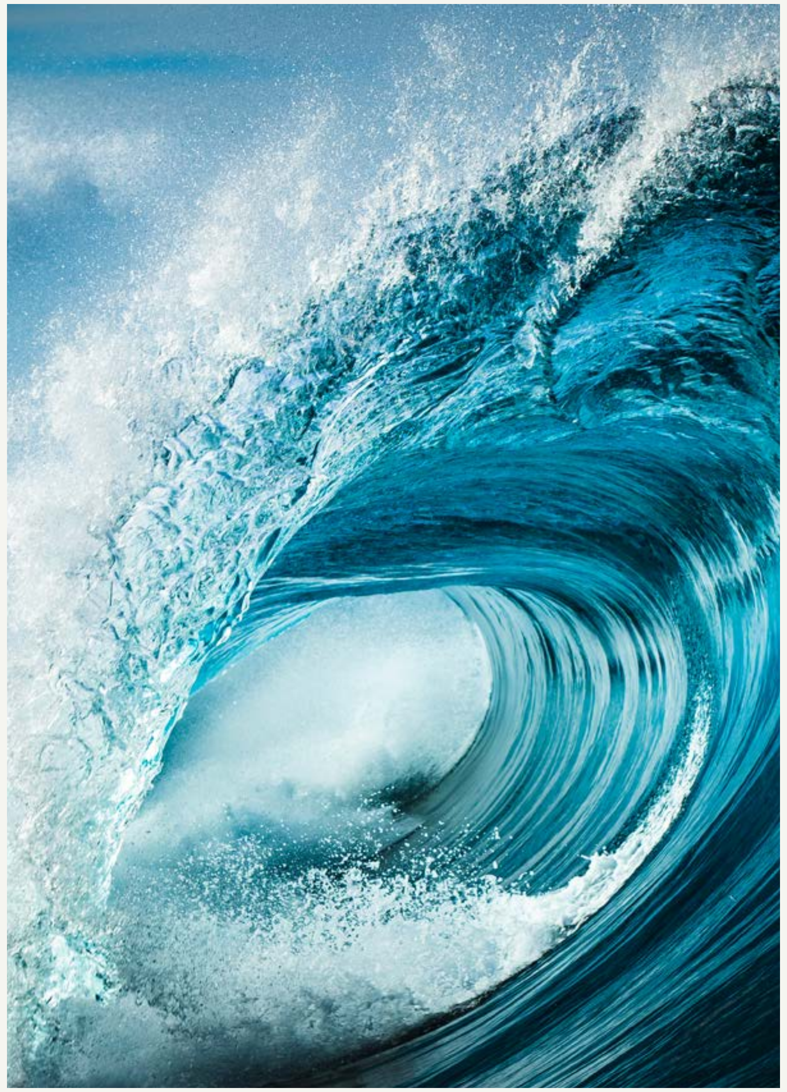
Multinational energy company involved in the exploration, production, refining and transportation of oil and gas.

ENGAGEMENT TOPIC:

Preeminent researchers and thought leaders have provided varying outlooks on future global energy needs. However, across all scenarios, it is evident that responsible methods of oil and gas production are critical for realizing an orderly energy transition. The International Energy Agency finds that reductions of operational emissions from the energy sector, particularly methane emissions, are critical to reaching international climate goals—and that many of these reductions can be pursued with existing technologies at low, or even negative, costs.[1] As such, we've extensively engaged the energy sector to pursue best practices for operational emissions—in particular, advocating for Chevron to participate in the United Nation's Oil and Gas Methane Partnership 2.0 (OGMP). OGMP is the only "comprehensive, measurement-based" reporting framework for oil and gas companies[2] and represents sector best practices. We've continuously engaged Chevron on its methane abatement strategies and supported OGMP membership.

OUTCOME:

Chevron joined OGMP in early 2024.[3]



1. https://www.iea.org/energy-system/fossil-fuels/methane-abatement
2. https://ogmpartnership.com
3. https://ogmpartnership.com/our-member-companies

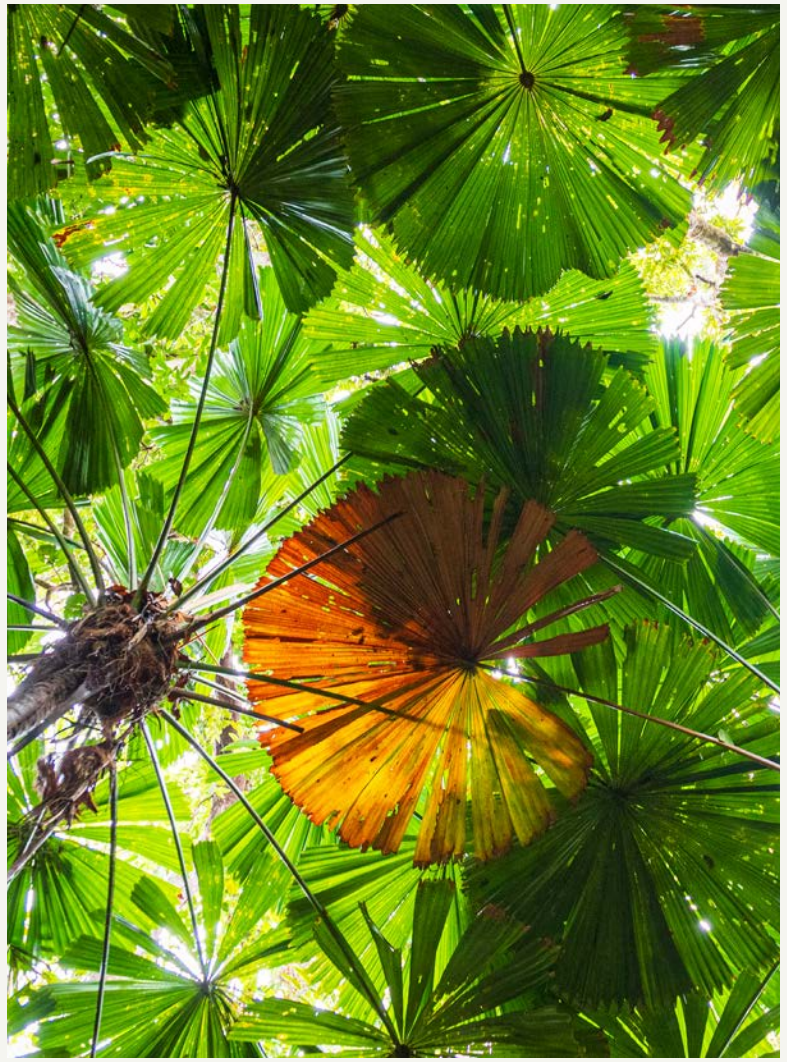
CASE STUDY

Carrier Global

COMPANY DESCRIPTION:
Multinational company providing building solutions, including HVAC, refrigeration, fire, security and automation technologies.

ENGAGEMENT TOPIC:
In the first year of our Climate Risk 2.0 initiative, we identified Carrier as a laggard among the target universe, and our Stewardship team engaged Carrier's management team. In particular, the company lacked certain emissions disclosures, targets and accountability measures. After expressing our concerns to the company, we elected to vote against a member of the Governance committee, which has formal oversight over climate issues. Additionally, as part of our ongoing initiative to engage in clarifying discussions after the U.S. proxy season, we sent a letter to the Carrier Board of Directors to explain our vote at the 2023 annual meeting.

OUTCOME:
In the spring of 2023, Carrier announced a significant portfolio transformation via the acquisition of a leading heat pump producer, and further committed to become a "global leader in intelligent climate and energy solutions."[1] Additionally, in 2024, the company received validation from the Science-Based Targets Initiative for setting Paris Agreement–aligned near- and long-term emissions goals.[2]



1. https://ir.carrier.com/news-releases/news-release-details/carrier-announces-portfolio-transformation-create-global-leader
2. https://ir.carrier.com/news-releases/news-release-details/carriers-ambitious-climate-and-net-zero-targets-validated

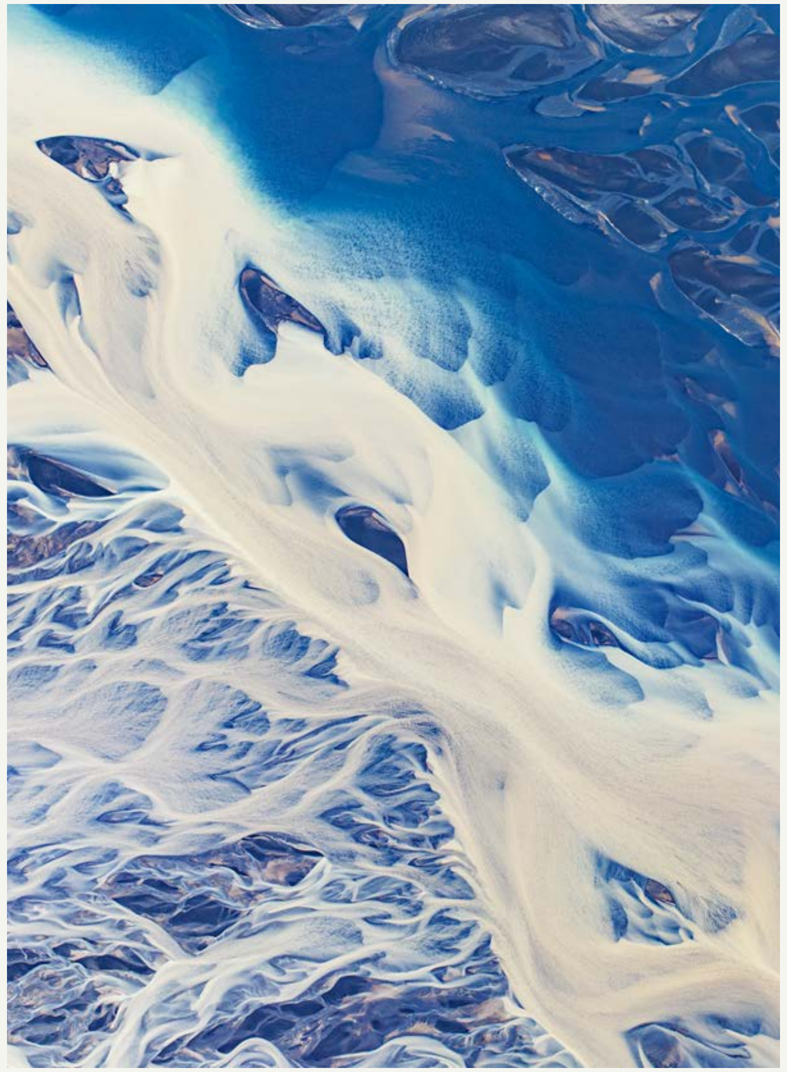
CASE STUDY

Nestlé

COMPANY DESCRIPTION:
Global food and beverage company.

ENGAGEMENT TOPIC:
Our Stewardship team believes that for companies for which climate change is a material risk, such as those within the scope of our Climate Risk 2.0 initiative, management should be properly incentivized to pursue and achieve emissions reductions. Moreover, we generally believe emissions goals are appropriate inclusion as a long-term components of compensation programs, given the long-term nature of the climate crisis and the related goal of maximizing risk-adjusted investment returns over time. We engaged Nestlé on this topic, encouraging the company to include robust emissions goals in its long-term incentive program.

OUTCOME:
In 2023, Nestle had its near- and long-term emissions goals validated by the Science-Based Targets Initiative[1] and added GHG reductions as a criterion for its long-term incentive program.[2]



1. www.nestle.com/media/news/greenhouse-gas-emissions-reduction-2023-net-zero
2. Nestle Corporate Governance Report 2023, 47.

Policy and engagement

As stewards of our clients' investments, one of our most important focuses is advocating for legislative and regulatory policies that will result in enhanced disclosure of consistent, reliable climate-risk data from our portfolio companies. Access to comparable, quality climate and other ESG data from issuers allows us to maximize outcomes through our own ESG investment strategies.

A key policy focus is ensuring consistency in disclosure frameworks across international jurisdictions. We're engaging with regulators and lawmakers to develop a robust and efficient ESG disclosure regime.

In 2023, TIAA continued to work with policymakers both in the U.S. and abroad on key climate topics. From an international perspective, we submitted our feedback to the U.K. Financial Conduct Authority's consultation on Sustainability Disclosure Requirements (SDR) and investment labels, sharing our perspective on the importance of regulatory harmonization and the need for greater flexibility in certain elements of the SDR regime. We also responded to a consultation by the European Commission Directorate-General for Energy regarding electricity market design reforms that are being considered. At the end of 2023, we responded to a consultation issued by the European Commission on its Sustainable Finance Disclosure Regime (SFDR) in which we provided feedback on the existing regime and proposed future revisions.

In the summer of 2024, Nuveen attended the U.S. Department of the Treasury's Transition Finance Dialogue with representatives from a range of financial institutions, civil society organizations and other stakeholders to discuss how financial institutions can support or enable the Net Zero transition. This enabled policymakers to understand the perspective and views of the private sector. Secretary of the Treasury Janet L. Yellen and Ethan Zindler, Climate Counselor to the Secretary, highlighted Treasury's recent work to encourage financial institutions and other market participants to realize the opportunities created by the transition to clean energy.

Treasury officials then engaged participants about overcoming challenges in defining, measuring and scaling transition finance, as well as opportunities for mobilizing private finance for the clean-energy transition through the Inflation Reduction Act. The discussion was part of Treasury's ongoing engagement with financial sector stakeholders committed to supporting and expediting the transition to a low-carbon economy.

Our engagement efforts in 2023 have included the following:

State and local C-PACE policy

- Advocated successfully for adoption of C-PACE in New Mexico and for C-PACE legislation to be introduced in Arizona, North Carolina, South Carolina and Georgia
- Advocated successfully for the expansion of C-PACE to cover climate resiliency and environmental hazard mitigation in Michigan
- Advocated successfully for the adoption of C-PACE in more than 100 municipalities, including major urban areas in Nevada, Tennessee and Virginia
- Advocated for the adoption of state-enabling language in Georgia, Idaho and North Carolina
- Successfully advocated for amendments to expand the usage of the program in Florida, Hawaii and Minnesota

ESG in commercial real estate and finance

- Participation in Structured Finance Association's ESG and Structured Finance Task Force
- Participation as commercial member of Mortgage Bankers Association (MBA); featured speaker with MBA's CREF Climate Risk and ESG Roundtable
- Participation on the executive committee of the C-PACE Alliance

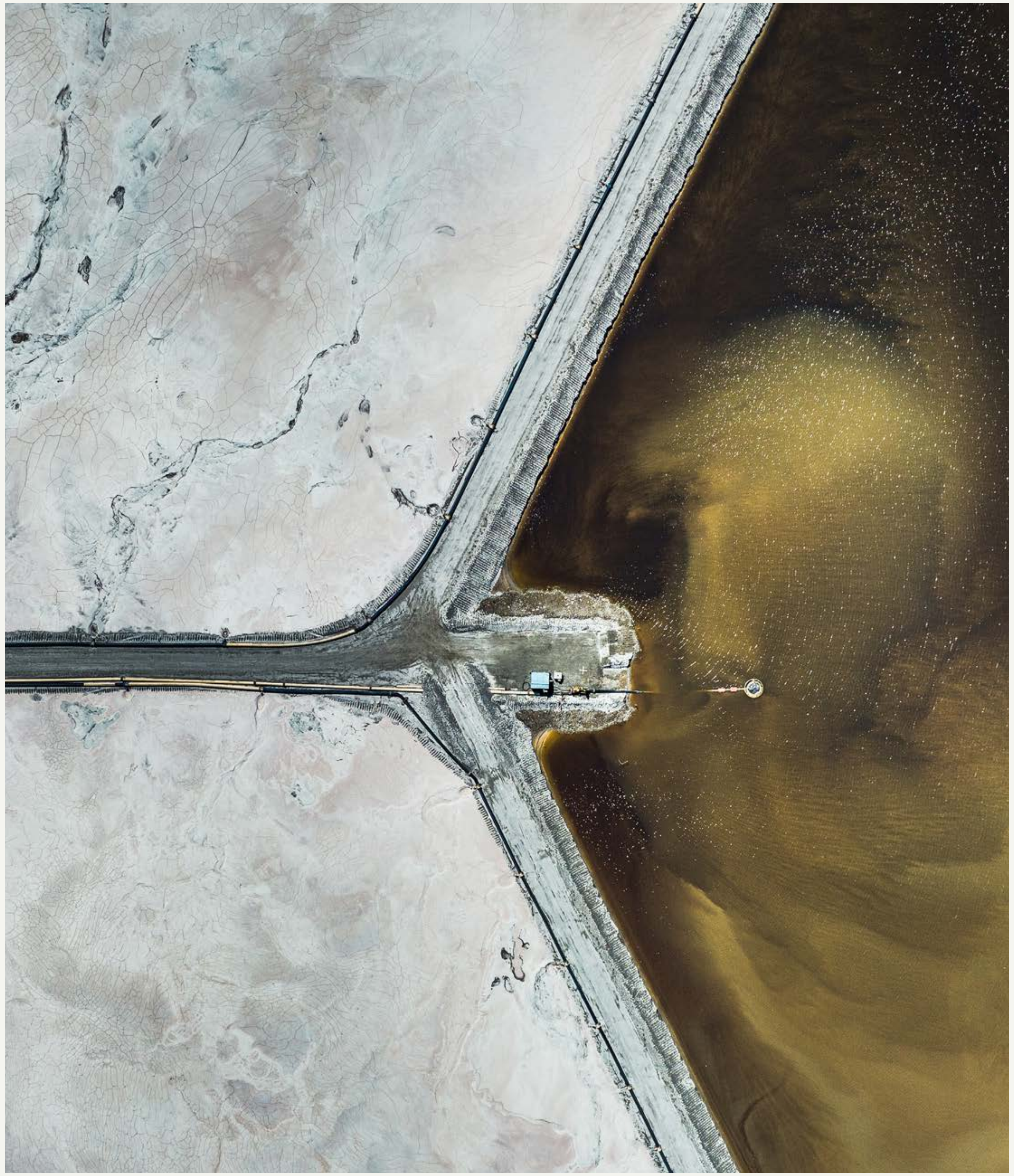
Climate-aligned investment products and platforms

TIAA, through its investment management arm, Nuveen, has proudly offered its clients a variety of socially responsible and low-carbon products for over three decades. As our clients' perspectives, investment appetites and preferences shift, we continue to expand our suite of offerings.

Nuveen's RI products and platform included about $90 billion in assets under management as of September 30, 2024. As a subset of this platform, we offer strategies and products across numerous asset classes that aim to meet various climate objectives, including:

- Avoid exposure to carbon-intensive assets
- Reduce carbon emissions of assets
- Scale climate solutions

Each product category considers climate in distinct ways. Some screen out high-emitting companies and industries, some align with planned decarbonization over time at a rate aligned with the Paris Agreement, and others actively invest in the technology and tools necessary to help mitigate climate change.



Nuveen's climate-aligned investment products and platforms

Client objectives	Product features	Nuveen products and platforms	Asset class
Avoid exposure to carbon-intensive assets in portfolio	• Lower carbon footprint than the benchmark • Limited exposure to fossil fuel reserves	Social Choice Low Carbon Equity	Public equity
		Nuveen ESG ETF Suite	Public equity
		Low Carbon Value ESG Equity SMA	Public equity
		Large Cap Responsible Equity Fund	Public equity
		International Responsible Equity Fund	Public equity
Reduce carbon emissions of assets	• Decarbonize over time at a Paris Agreement–aligned rate • Targeted company engagement program to reduce emissions (Scope 1, 2 and 3)	Nuveen Real Estate[1]	Real estate
		Global Real Estate Carbon Reduction Fund	Public equity
		Global Clean Infrastructure Impact Fund	Public equity
Scale climate solutions	• Support projects that support climate change mitigation and adaption • Capitalize on opportunities in the low-carbon transition • Balance emissions exposures with lower or net-negative carbon offerings • Low carbon intensity, with potential to generate verified carbon credits	Green Bond Fund	Fixed income
		Core Impact Bond Fund[2]	Fixed income
		Short Duration Impact Bond Fund[2]	Fixed income
		Global Core Impact Bond Fund[2]	Fixed income
		Emerging Markets Impact Bond Fund[2]	Fixed income
		Nuveen Global Impact Fund	Private capital
		Nuveen Green Capital[1] (C-PACE)	Private capital
		Nuveen Natural Capital[1]	Real assets
		Nuveen Clear Infrastructure[2]	Real assets

1. Denotes Nuveen investment specialists with overarching sustainability programs that align with the corresponding client climate objectives. Each specialist offers multiple investment strategies; for details, please see http://www.nuveen.com/about-us/investment-specialists.
2. This fund is not available for purchase in the United States and is being shown to illustrate our capabilities only.
3. Please note that climate-related investments make up less than 50% of the assets under management in the Core Impact Bond, Short Duration Impact Bond, Global Core Impact Bond, and Emerging Markets Impact Bond funds. These funds all employ Nuveen's Global Fixed Income impact framework and ESG Leaders investment criteria, of which climate objectives are part of a broader responsible investing mandate.

Our approach to C-PACE engagement

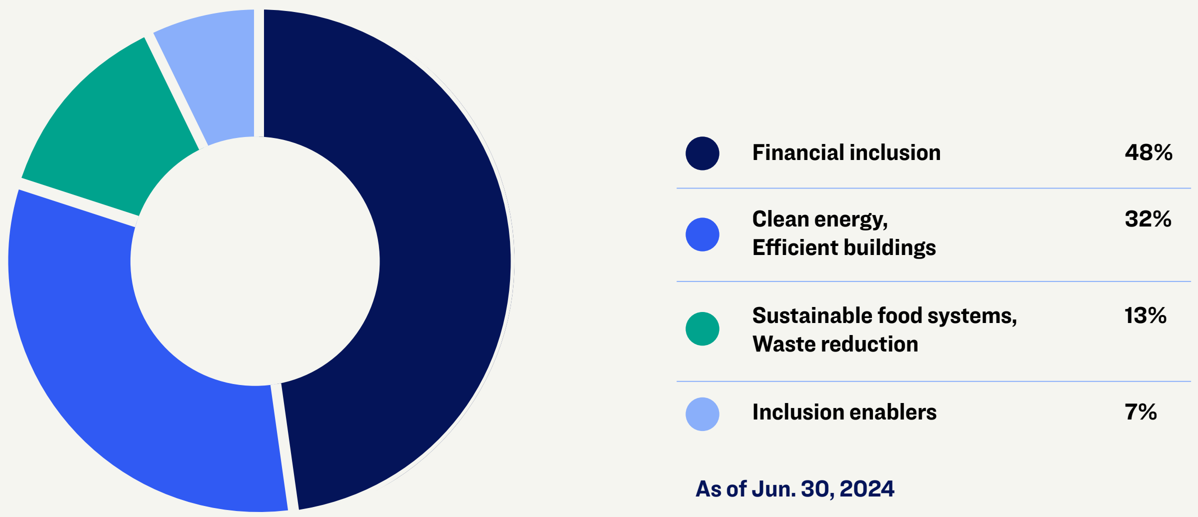
C-PACE is a state policy–enabled financing mechanism that allows building owners and developers to access the capital they need to make energy-related deferred maintenance upgrades in their existing buildings, support new construction costs, and make renewable energy accessible and cost-effective. As the pioneers of C-PACE policy and capital markets over the past 10 years, we believe it's crucial to use our voice to lead the industry and advocate for best practices with key policymakers and market players. Ensuring the legislative adoption of C-PACE across the United States is a key priority. That would accelerate C-PACE-funded improvements aimed at reducing energy and water use, and increase improvements in energy-related building design beyond the minimum mandates. Additionally, we advocate for the expansion of C-PACE to include new categories of building technologies that are becoming front and center in a changing climate and energy transition—such as electric vehicle charging, low-emission building materials, and climate and environmentally resilient infrastructure. Finally, we work with key partners across banking, capital markets and real estate to enable C-PACE programs to have significant impact.

PRODUCT SPOTLIGHT

Nuveen Global Impact Fund[1]

The Nuveen Global Impact Fund is a growth equity strategy focused on two critical global challenge—climate change and inequality—while seeking competitive risk-adjusted private equity returns. The fund is diversified across developed and emerging markets, with all investments driving measurable social or environmental impact (or both). Notably, its portfolio has key allocations to businesses whose core service mitigates GHG emissions, as well as businesses that provide affordable financial services to underserved populations. This fund incorporates an active engagement model focused on post-investment value creation, including taking leadership roles among shareholder groups and working closely with management teams to reach the next level of scale.

Sector diversification (%)



As of Jun. 30, 2024

Nuveen's private equity impact strategy is a founding signatory of the Operating Principles for Impact Management, with independently verified "top decile" impact Nuveen's private equity impact measurement and management practices.[2]
In 2023 alone, the Nuveen Global Impact Fund's portfolio companies contributed to a total of 938,000 greenhouse gas emissions avoided and 49 million pounds of waste diverted from landfills.

[1]This is for illustrative purposes only. The Nuveen Global Impact Fund is closed to new investors and is no longer fundraising.

[2]Every two years, Nuveen's private equity impact strategy engages BlueMark, an independent provider of impact verification services. In 2024, we received an 'Advanced' rating across all Operating Principles for Impact Management, re-securing our place on the BlueMark Practice Leaderboard globally. To earn a spot on the Leaderboard, verified investors must have ratings that score in the top quartile or above for each practice area in that year's edition of the Practice Benchmark. In order for a verification to be eligible for inclusion, clients must have been practice verified within two years of the Making the Mark sample deadline to ensure that their systems are assessed against the present state of the market. In this edition of the Leaderboard, there was one change to the criteria for inclusion — the top quartile rating for the Impact Monitoring practice area shifted from a High to an Advanced, which means verified investors must now receive an Advanced rating on four practice areas (Impact Objectives, Impact Due Diligence, ESG Risk Management, and Impact Monitoring) and a rating of High or above on the remaining four (Portfolio-level Impact Management, Investor Contribution, Impact at Exit, and Impact Review).

CASE STUDY

Decarbonizing agriculture in global growth markets

Founded in 2010, a startup called Ecozen had a vision to address two challenges in a sector that was also the largest employer in India. First, the founders wanted to help farmers generate more value out of their land by bringing a clean and sustainable solution to irrigation and energy. At the time, only half the country's arable land was irrigated while the remainder depended largely on rainfed irrigation. Many farms had no access to reliable energy. Second, in helping farmers increase their production, the business had to address how to reduce spoilage, which had been estimated at about 16% of total agricultural production every year and which was attributed largely to India's nascent cold chain infrastructure.

Following a decade of commercialization and market traction, in 2022, the Nuveen Global Impact Fund led an investment in Ecozen to fuel its next stage of growth. Today, the business serves 120,000+ rural smallholder farmers in developing markets with solar-powered irrigation and cold storage equipment. The company's flagship product, Ecotron, is an Internet of Things–enabled controller for solar-powered irrigation pumps. Ecozen also offers a solar-powered cold storage unit, Ecofrost, that similarly helps farmers reduce GHG emissions, reduce food waste, and improve market timing—thereby increasing farmer incomes. Both solutions are experiencing strong demand, with Nuveen's private equity impact team continuing to help the company advance key strategic initiatives, such as geographic expansion and further financings.

GHG reduction (2023)	
Emissions reduced or avoided via replacement with Ecotron solar water pumps	**570,701** tons
Emissions reduced or avoided via replacement with Ecofrost cold storage units	**8,448** tons
Methane reductions from prevention of food waste	**1,455** tons
Farmer livelihoods and satisfaction (2023)[1]	
Proportion of customers who are making more money due to Ecotron	**91%** of farmers
Average decrease in irrigation expenses per acre	**INR 2,184**
Net promoter score for Ecotron solar water pumps	**70**
Proportion of customers who report enhanced quality of life due to Ecotron	**94%** of farmers

1. Researchers from 60 Decibels, an independent impact measurement company, conducted phone interviews with 290 farmers in Chhattisgarh and Maharashtra who purchased the Ecotron product from Ecozen.

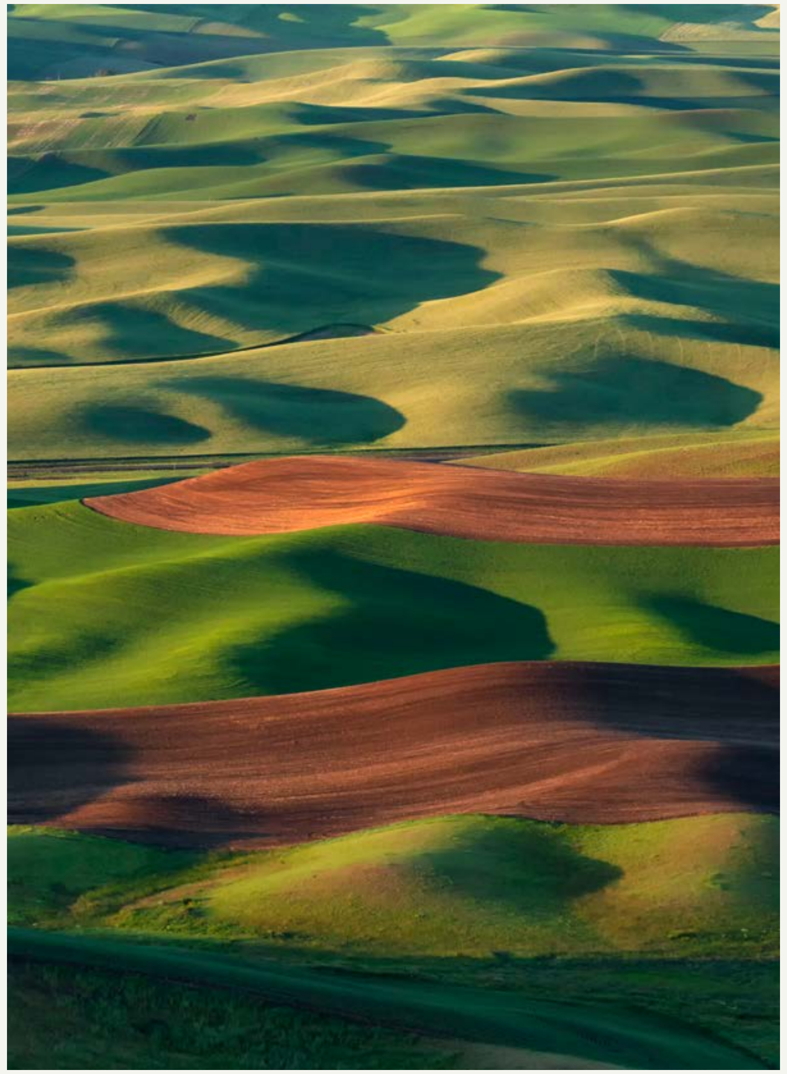
CASE STUDY

Environmental planting on Nuveen Natural Capital's farmland asset aims to sequester carbon and boost biodiversity.

Nuveen Natural Capital's team in Western Australia has launched a project designed to deliver environmental and biodiversity co-benefits. The project is establishing forest cover of permanent plantings—using at least 15 species of mixed native trees and shrubs—across 300 acres of land that in recent years has has been used mainly for sheep and crop production. Projects such as this, which use the reforestation by environmental or mallee plantings FullCAM method, can earn Australian carbon credit units (ACCUs).

Planting commenced in July 2023. Project reporting began in July 2024, and geospatial technology will provide estimates of carbon abatement. The team's next steps include pest control, infill planting and enhancement of the corridor connectivity. Over the life of the project, 9,000 mt CO_2e is expected to be sequestered while also expanding and protecting habitat for native fauna and flora species.

The project required strong collaboration across stakeholders, including the tenant, neighbors, the local community, contractors and multiple government agencies. Regulatory requirements included applying for and receiving approval for the development from federal and local government, as well as registering the project under the Clean Energy Regulator's Emissions Reduction Fund.



3 Risk management

TIAA's climate risk management framework

TIAA's climate risk management framework

Climate risks must be identified and monitored through different lenses across the organization. In 2022, TIAA began a phased buildout of our enhanced climate risk management framework—a map of processes that will help us take a consistent approach to how we invest, adhere to existing and evolving regulations, operate our business efficiently, and represent ourselves in the fast-changing world.

TIAA leverages existing risk management frameworks to identify and assess climate risks across comprehensive risk categories, with any significant risks presented to the board and management committees. TIAA, through its enterprise risk management framework (ERM), leverages the Three Lines of Defense as a standard risk governance operating model that defines risk management roles and accountabilities for management and staff across the company. The ERM team reports to the TIAA Board and is expected to include the material climate risks considered, including transmission channels, impact on existing risk factors and overall risk appetite.

TIAA's climate risk management framework:

1. Oversight: responsibility of the TIAA board and the boards of our affiliates to understand relevant climate risks and oversee their management within the overall business strategy and risk appetite.

2. Risk assessment: development of processes to report material climate risks, their transmission channels and their potential impact on existing risk factors and overall risk appetite.

3. Monitoring: incorporation of assessments, including time horizons, that allow us to appropriately inform TIAA's business activities and decision-making.

4. Scenario analysis: use of scenario analyses to understand how climate risks may materialize and measure potential impacts.

TIAA's climate risk management framework is overseen by a centralized TIAA/Nuveen Climate Risk Oversight team embedded within Risk and Compliance. The Climate Risk Oversight team is responsible for the monitoring and reporting aspects of climate-related risks, establishing the climate change risk management framework, setting the standards for assessment and management, and designing and establishing the climate risk assessment process to be used as part of investment risk oversight.

How we use climate data

Our Climate Risk Management Framework will help us take appropriate actions and develop strategies for mitigating and managing the effects of climate change on behalf of our clients. Climate change is creating investment risks and opportunities, but assessing its impact on financial markets is inherently complex. Many variables—including economic, geopolitical and societal forces—will affect the speed of decarbonization. What follows are snapshots of the ways TIAA and Nuveen teams are adopting tools and datasets into their processes.

Scenario analysis is key to integrating climate risks. TIAA Risk Management chose the Network for the Greening the Financial System (NGFS) scenarios to guide scenario analysis design across TIAA and Nuveen.

NGFS used integrated assessment models to examine the global energy system under different potential trajectories of temperature and emissions—i.e., models that assume orderly transition, disorderly transition and transition under current policies.

Scenario analysis has been completed at both the enterprise level for the GA, as well as the Investment team level for all assets under management.

Physical risks and opportunities

- Numerous teams have explored Moody's climate-risk adjusted credit risk models to analyze the potential impacts of physical risks to TIAA's investments in debt instruments. The tool simulates probability of defaults and losses in high physical-risk scenarios. Significant progress has been made in integrating the models into commercial mortgage loans, CMBS, and corporate debt.
- We've developed a screening tool using Verisk Maplecroft to assess the concentration of private real asset investments in high physical-risk locations.
- In private real estate, investment teams leverage climate hazard data from Munich Re and First Street to trigger additional due diligence and down-side modeling.
- In farmland, the investment team uses climate scenarios from ClimateAi to assess potential impacts to crop yields in high-temperature environments. This work can inform the team's assessment of water risk, as well as selection of crop varietals and locations.
- The timberland investment team uses the Climate Projection Analysis Tool (CPAT) from NCASI to assess how climate change may impact the range of timber species under multiple scenarios of future conditions developed by the IPCC.
- Private infrastructure investment teams use Verisk Maplecroft to assess physical climate risk to potential assets prior to purchase, and to annually review physical climate risks at a portfolio level.
- The municipal bond team uses risQ to assess physical climate risks.

Significant progress has been made in integrating climate risk models into commercial mortgage loans, CMBS, and corporate debt.

Transition risks and opportunities

- Our Risk teams regularly produce reports that capture and monitor concentrations of carbon intensities by sectors and industries, and have developed methodologies and data architectures to make portfolio-level carbon intensity estimates.
- The GA team integrates carbon intensities into its investment process, seeking to manage long-term and tail risks, and find opportunities stemming from the energy transition.
- Several Nuveen investment teams participated in a Climate Research Group comprised of portfolio managers and research analysts from public and private asset classes. The research group has piloted deep-dive assessments into electric utilities, oil and gas, and metals and mining sectors, and may consider expanding into additional energy-intensive sectors.
- The GA team is in the process of onboarding a climate-risk scenario tool from Ortec to assess physical and transition risks and opportunities in the short, medium, and long term.

Summary of climate data and uses

Types of data	Sources	How it is used
Carbon emissions	**Public markets:** MSCI and internal estimates **Private markets:** Persefoni, Watershed, investee disclosures, modeled estimates and internally gathered data	**Enterprise:** Both public and private data is housed in TIAA's enterprise risk data platform for enterprise disclosure reporting. **Nuveen Equities & Fixed Income:** Data is housed in Nuveen's RI data platform for client reporting. **Nuveen Real Assets:** Data is housed in databases managed by the investment teams and used for client reporting and regulatory disclosures.
Physical risk	**Public markets:** risQ for municipal bonds, Moody's for public corporates **Private markets:** Verisk Maplecroft, Munich Re, First Street Risk Factor, ClimateAi and The Climate Service	**Enterprise:** Physical risk exposures are used to identify areas that require climate risk controls. Scenario analysis is performed to assess potential financial impacts to TIAA. **Nuveen:** Physical risk exposures and/or scenario analysis are incorporated into investment processes. Integration is actively being explored for other asset classes.
Transition risk	**Public markets:** MSCI Implied Temperature Rise and Climate Value at Risk, SBTI-verified company targets, government climate targets **Private markets:** Investee disclosures, industry/sector Net Zero pathways, and qualitative risk assessments	Data is being evaluated for risk assessments and Net Zero implementation for the TIAA GA and other clients.

Enterprise Climate Risk Assessment

A cross-functional group of business-area leaders, climate subject-matter experts, and risk managers at TIAA conduct enterprise-level assessments of climate risk. The assessments focus on risk categories across financial, strategic, legal & regulatory, reputational, and operational risk where subject-matter experts expect climate risks to have potential for significant impact. Results provide input into annual climate-risk reporting to management and board committees. The 2023 assessments focused on near-term climate risks' potential impacts to high priority risk categories, such as Financial, Strategic, Reputational and Regulatory risks. For these risk areas, cross-functional forums were set up to develop and implement controls to effectively manage the risks as needed.

SPOTLIGHT

Nuveen Real Estate risk management

The physical impacts of climate change affect real estate values, and the Nuveen Real Estate team continues to advance its understanding of how, where, and when such impacts will become financially material to our investments' financial performance.

The Nuveen Real Estate team developed and implemented its own sustainability risk management framework to better identify factors that could be material to real estate investment performance. Investment teams already factor physical and transition risks into investment decision-making by running downside scenarios and evaluating potential future costs.

Relatedly, the team has a separate environmental management framework that encourages and supports continued responsible management practices. The focus is on improvements to energy, water, and waste management, performance, and reviews of physical climate risks and asset mitigation plans. Portfolio and investment review risk exposure annually as part of hold/sell analyses and identify opportunities for mitigation measures.

4 Metrics and targets

TIAA is committed to reducing carbon emissions and we've set Net Zero goals for our own operations (2040), assets managed by Nuveen Real Estate (2040), and assets managed in the GA (2050).

OPERATIONAL EMISSIONS

Tracking progress: Net Zero by 2040

In line with our commitment to transparency and continuous improvement in environmental, social, and governance (ESG) reporting, we're using Envizi for our ESG data management platform. The decision to use Envizi was driven by the need for a robust, scalable, and comprehensive solution that can handle the increasing complexity and volume of our sustainability data.

Envizi provides us with an advanced, integrated platform for capturing, analyzing, and reporting on ESG data across all our operations. With its real-time data visualization and enhanced analytics capabilities, we can now gain deeper insights into our environmental impact and identify opportunities for further improvements. The platform's customizable dashboards and automated reporting features also streamline our data management process, enabling more efficient and accurate disclosures in alignment with global reporting frameworks.

By leveraging Envizi's capabilities, we're better equipped to track our progress toward our climate goals, improve our decision-making, and engage stakeholders with clear, data-driven insights. This upgrade marks a significant step forward in our sustainability journey, reinforcing our commitment to responsible business practices and long-term value creation.

TIAA Global Corporate Services reports on Scope 1, 2 and a portion of Scope 3 emissions. Our Scope 3 emissions include business travel, employee commuting, fuel- and energy-related activities not included in Scope 1 or Scope 2, as well as waste and water-related emissions.[1]

Our total 2023 emissions of 72,353 mt CO_2e emissions are a 2% decrease from 2022 emissions of 73,868 mt CO_2e and are 28.7% lower than our 2019 base year emissions of 101,449 mt CO_2e. Further, our Scope 1 and Scope 2 emissions are 28.0% lower than similar base year emissions and are on track to meet our 2030 interim goal of a 46% reduction in Scopes 1 and 2 carbon emissions as we continue to increase energy efficiencies, electrify our properties, and expand our renewable energy strategies for both onsite and offsite procurement solutions.

Two general factors contributed to our 2023 emissions data compared to 2022. Office consolidations to improve business efficiencies as well as our divestiture of TIAA Bank, now known as EverBank, reduced our overall operational footprint and led to a decrease in emissions. Business travel emissions were higher YoY as the pandemic still impacted travel during the first half of 2022. While domestic travel began recovering noticeably at that time, international travel remained restricted in many regions. By mid-year 2022, business travel resumed normal operations. Therefore full-year 2022 business travel was artificially low when compared to our full-year 2023 operations.

[1] We'll look to report Scope 3 emissions from investment activity in future reports as data quality and availability improves.

RISK MANAGEMENT

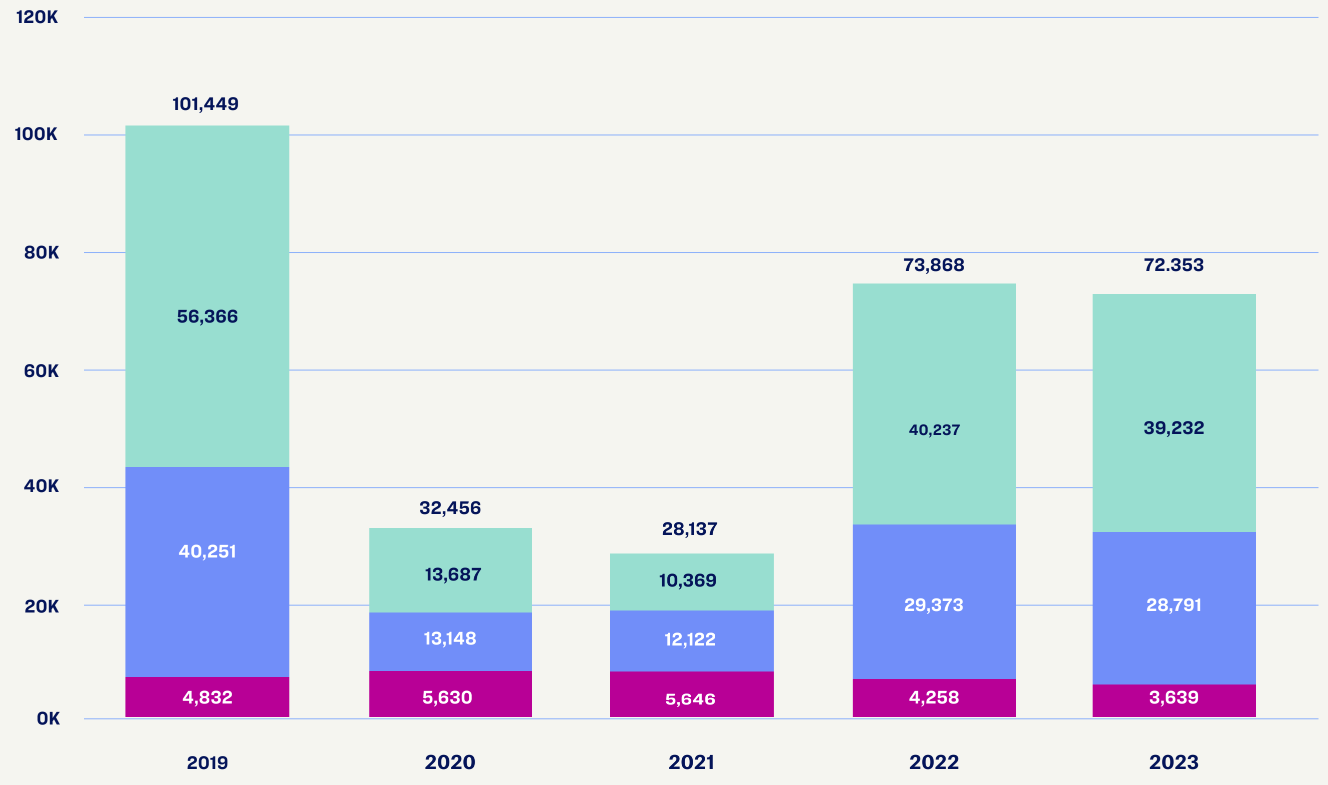
Operational emissions reduction measures

We continue to follow our Net Zero 2040 operational road map, implementing strategies and measures to reduce energy use and emissions. Accomplishments and planned activities include:

- Switched electricity supply at our TIAA India Mumbai office from fossil-fuel generated power to 100% renewable energy generated electricity.
- Achieved LEED Platinum certifications for commercial interiors at our new Mumbai, India, office.
- Our new Frisco, Texas, corporate center will be Net Zero energy as the all-electric property will be supplied by onsite and offsite renewable energy-generated electricity.
- Targeting LEED Platinum (Interior Design & Construction), LEED Gold (Core & Shell), and Fitwel certifications at the new Frisco corporate center.
- Targeting LEED Gold and Fitwel certifications for our Chicago Corporate Center modernization project.
- Awarded an Energy Star certification for our datacenter in Broomfield, Colorado.
- Piloting elimination of single-use containers at test locations and rolling out successful programs throughout all sites.

TIAA's operational emissions impact

Total GHG emissions (mt CO_2e)



Scope 1
Natural gas and propane stationary combustion, generators and fugitive emissions

Scope 2
Electricity and district heating usage

Scope 3
Water usage, fuel-and energy-related activities, waste, business travel and employee commuting

SPOTLIGHT

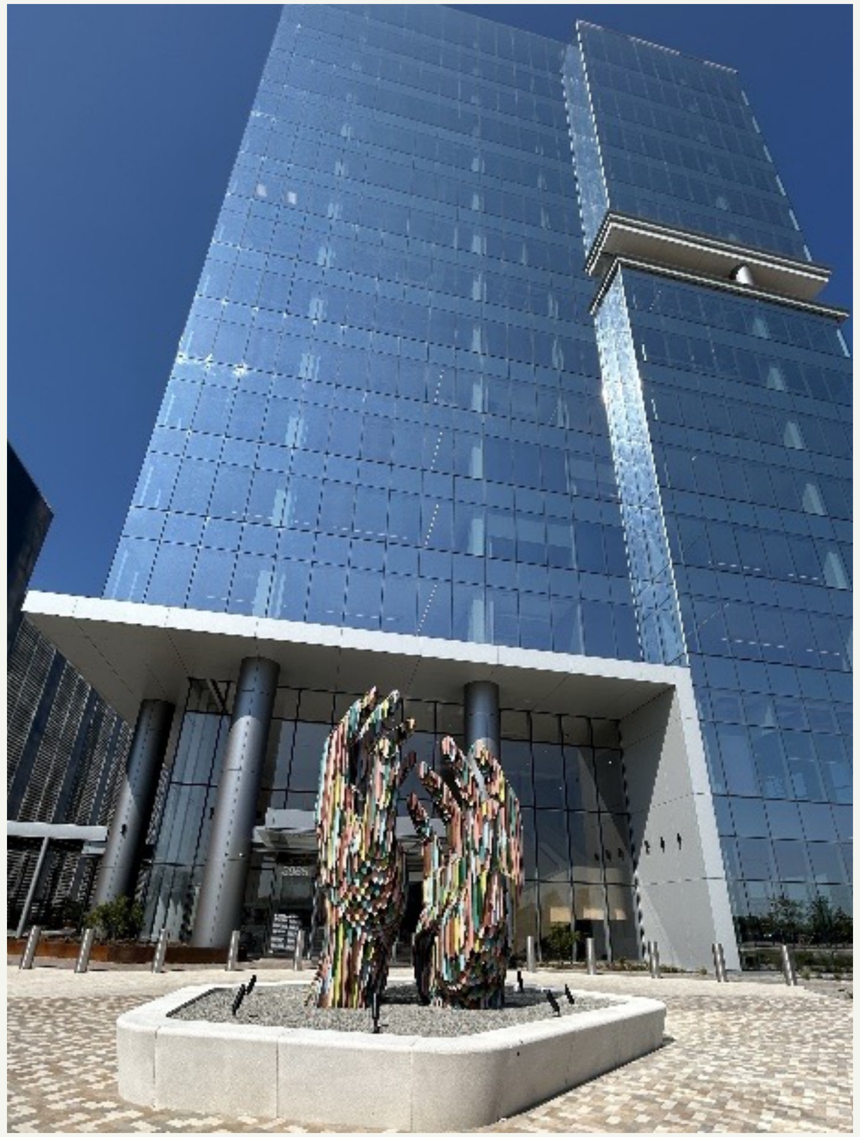
Our new Frisco, Texas, Corporate Center

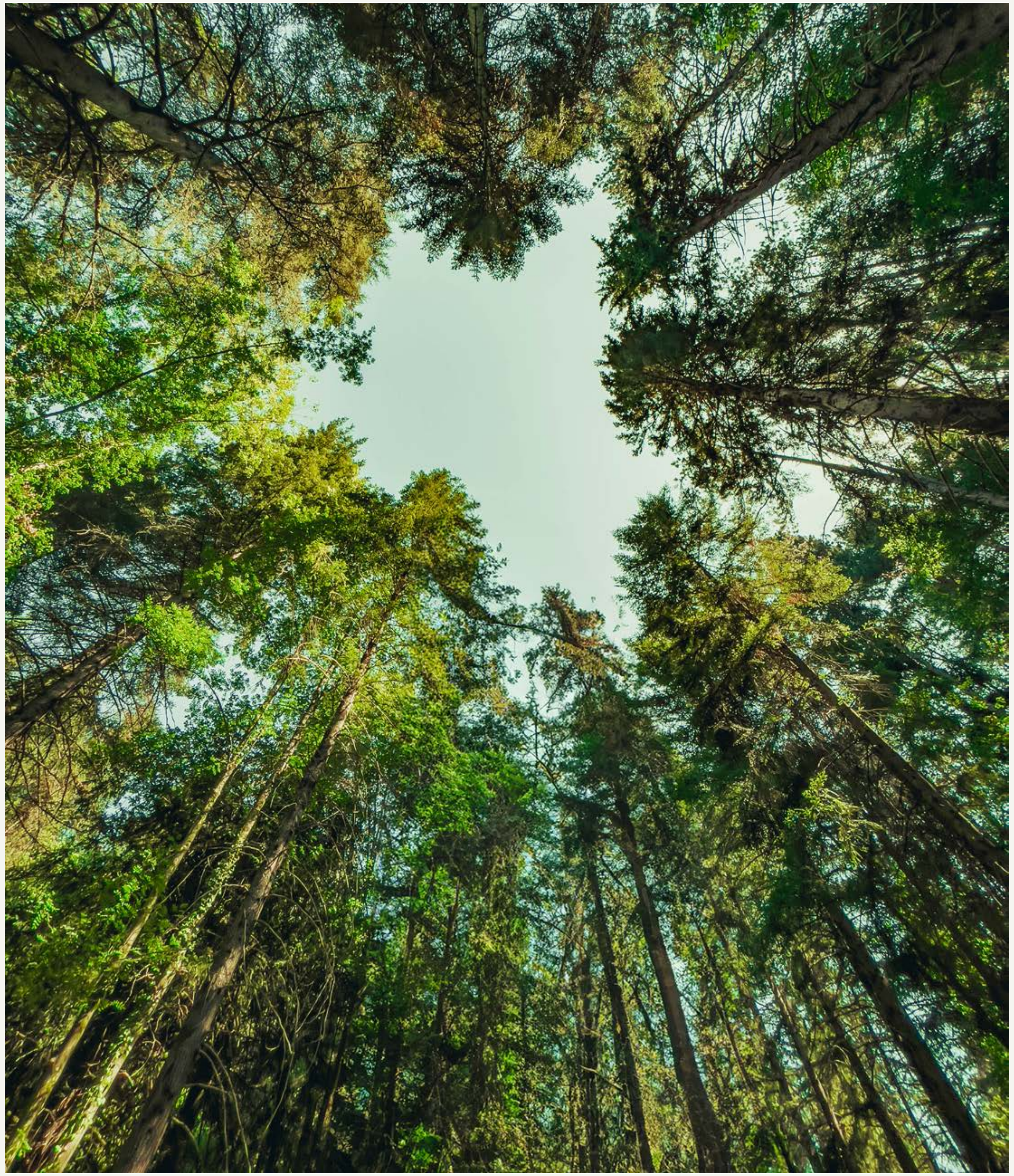
TIAA's innovative new office building cements its commitment to a sustainable future.

Breaking ground in 2023 and planned for completion in early 2025, our new Frisco Corporate Center (FCC) will consolidate several local offices and business lines into a new state-of-the-art facility designed to reflect our commitment to environmental responsibility. Constructed as an all-electric facility, the FCC will have an 853-kW solar PV array atop the parking garage that will supply approximately 20% of the site's energy needs. The remainder of the site's electricity requirements will be met through long-term renewable power procurement agreements from Green-e Energy Certified generation sources.

Additional sustainability features at the new FCC include:

- The building is designed to use 32% less energy than a similar building under ASHRAE Standard 90.1-2016.
- Plumbing fixtures provide a 45% reduction in water use over the LEED baseline requirements.
- Installed LED lighting is less than 50% of energy use allowed by code.
- Water bottle fillers throughout the building encourage reduction of single-use plastic containers.
- New flatware reduces single-use items. Dishwashers are located on each floor.
- The 110 no-fee EV charging stations promote sustainable commuting.
- Robust recycling and composting programs are offered across the campus.
- We're targeting the following certifications:
  - LEED Platinum for Interior Design & Construction: Commercial Interiors
  - LEED Gold for Building Design & Construction: Core & Shell
  - Fitwel





Other emission-reduction strategies

While TIAA will explore all avenues for reducing its operational emissions directly, some residual emissions from heating and other Scope 1 sources can't be reduced through operational changes due to supply chain or technological delays. When this occurs, TIAA will neutralize the remaining emissions through carbon sequestration by purchasing verified carbon offsets from approved voluntary carbon offset registries. We'll continue to evaluate and adopt new emission-reduction strategies and technologies as they become available to stay ahead of our 2040 deadline.

FINANCED EMISSIONS

Climate Solutions Investments

As noted earlier in the discussion of the beliefs, we continue to expect opportunities for investments in climate solutions to emerge as the low-carbon transition gathers momentum. Nuveen has partnered with the Global Impact Investing Network (GIIN) and sponsored a Climate Solutions Initiative to develop a climate solutions investing framework to:

- Allow investors to assess investment strategies against the objective of reducing global GHG emissions
- Direct more capital into the most effective climate solutions portfolio(s)
- Compare the relative sufficiency in, or impact on, accelerating a transition to a Net Zero economy.

We anticipate this effort to result in further clarity and definition in the characterization of investing in climate solutions. As this work continues, TIAA has calculated its climate solutions exposure within the two asset classes that are currently subject to interim decarbonization targets, Real Estate and Taxable Fixed Income (TFI). While we expect the methodology and parameters of this type of disclosure to evolve and improve over time, the following illustrates the importance of these solutions and technologies to the low-carbon transition and reiterates our belief toward gaining increasing exposure to these opportunities.

GA Climate Solutions Exposure	
Corporate Green Bonds*	2.6%
Real Estate**	14%

PCAF Scoring

The Partnership for Carbon Accounting Financials (PCAF) is a global partnership of financial institutions that work together to develop and implement a harmonized approach to assess and disclose the greenhouse gas (GHG) emissions associated with loans and investments. Building on the Greenhouse Gas Protocol, the guidance developed by PCAF helps inform TIAA as it looks to expand interim targets to additional asset classes where carbon data coverage is still ramping up.

Beyond the GHG accounting methodologies for various investment and loan asset classes, PCAF maintains an approach to assessing the data quality of emissions data through a scoring system that helps financial institutions gauge the level of confidence and accuracy of financed emissions data. TIAA intends to use this data to help determine what asset classes are in scope for internal and/or external reporting, and to provide further transparency to its stakeholders in our disclosures.

PCAF's data quality scorecard is unique to each asset class but contains common principles that apply throughout. In a 1–5 scoring spectrum, the conceptual hierarchy of quality is as follows:

- **Score 1:** The highest-quality data comes from verified or assured emissions directly disclosed by the emitting entity.
- **Score 2:** Disclosed from the emitting entity but unverified or estimated from primary physical activity data including energy consumption.
- **Score 3:** Estimated from physical activity and/or production data.
- **Score 4:** Estimated from revenue or turnover.
- **Score 5:** Estimated from sector asset intensity or revenue intensity (revenue unknown) and/or sector asset turnover ratios.

As the GA looks to expand coverage of its baseline carbon footprint scope in additional asset classes over time, the PCAF data quality scoring system will help as a tool to measure progress, as we would expect improvements in disclosure and general data availability to be reflected in the overall (PCAF scoring) assessment of the GA portfolio. In the Metrics and Targets section that follows we disclose emissions across various asset classes of the GA and provide the associated PCAF data quality score.

*Source: Bloomberg. Holdings as of YE 2023.
**Climate solution exposure in real estate represents the number of properties with superior energy performance relative to all properties that the GA is invested in. The identified buildings have either ENERGY STAR certifications, NABERS certification, or EPC ratings of A or B. ENERGY STAR, refers to commercial buildings that earn a 1–100 ENERGY STAR score of 75 or higher—indicating that they operate more efficiently than at least 75% of similar buildings nationwide. NABERS (National Australian Built Environment Rating System) is a rating from one to six stars for buildings efficiency across energy, water, waste, and the indoor environment. EPC Ratings: Energy Performance Certificates are a rating scheme to summarize the energy efficiency of buildings. The building is given a rating between A (Very efficient) and G (Inefficient). Data shown as of EOY 2022.

Spotlight on decarbonization measures

The Nuveen Real Estate team implements a variety of decarbonization measures in its portfolios to stay on track with the goals of the Paris Agreement, under which signatories agreed to limit global warming to well below 2°C above pre-industrial levels, and ideally 1.5°C.

These measures, paired with similar actions by other teams, have resulted in improvements in energy intensity across its global real estate portfolios when compared with the previous year.

265

buildings with high-energy performance demonstrated by ENERGY STAR certification, NABERS certification, or EPC ratings of A or B as of December 2023.

Tracking the Real Economy

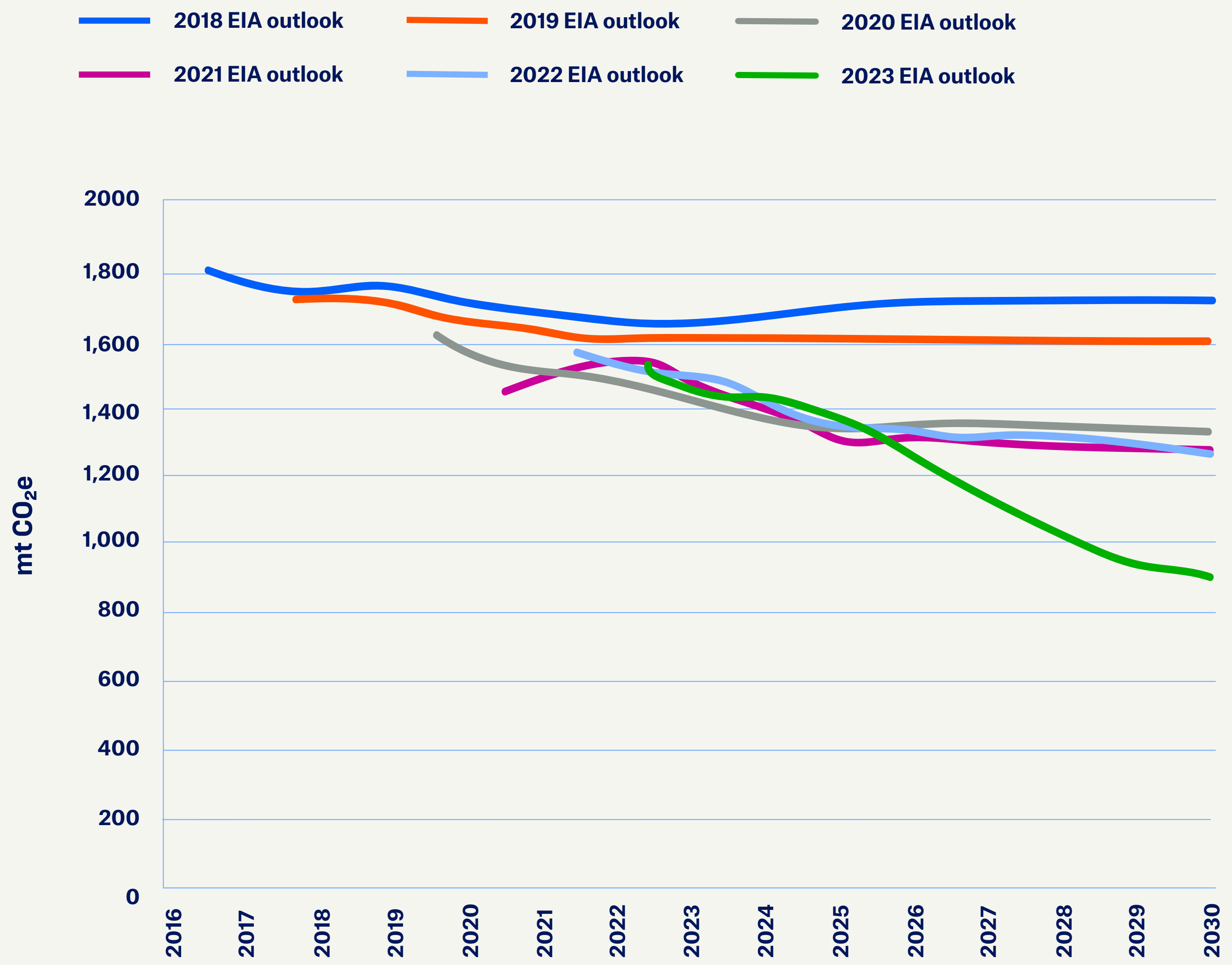
The GA's investments in Taxable Fixed Income (TFI) and real estate have significant U.S. exposure. The carbon intensities of our real estate properties are highly influenced by the composition of the local electricity grid. Within TFI, there are significant exposures to utilities, and the sector is the largest contributor to the GA's financed emissions within that asset class. Consequently, the pace of decarbonization in the grid—the electric power sector in the U.S.—will be a material factor in achieving carbon reduction targets.

With respect to this area of the real economy, the market consensus and perception of the future has materially changed in the last five years. In 2018, the U.S. Energy Information Administration (EIA) forecasted power generation-related carbon dioxide emissions to increase by 5% from 2022 through 2030. By 2023, the EIA forecasted a drop of 48% in the same metric by 2030. The evolution of the EIA's forecasts has been driven by both new incentives and regulation, including the Inflation Reduction Act and new EPA regulations on power plants.

As part of our interim target-setting process, we consider the pace of the real economy's progress on the low-carbon transition by tracking 10 forward-looking indicators across policy, technology, and capital deployment (The Energy Transition: 10 Essential Indicators for Institutional Investors). These provide "signposts" that we'll consider as we extend our interim targets to 2030 and expand the interim targets' scope across new asset classes.

> "The U.S. power sector will play a pivotal role in helping the General Account achieve its targets across taxable fixed income and real estate. The expectations for carbon reduction in this market has improved materially over the last five years, underscoring how quickly the pace of the low-carbon transition can change."

U.S. electric power C02 emission forecast evolution



Source: U.S. Energy Information Administration (EIA)

FINANCED EMISSIONS

Nuveen Real Estate emissions—Net Zero Carbon by 2040

As one of the largest asset managers in real estate with $146 billion in assets under management as of March 31, 2024, Nuveen is uniquely positioned to align with its clients' views on climate risks and managing residential and commercial buildings across the globe to be resilient to future regulatory trends and market expectations.

Nuveen's journey to decarbonize our real estate holdings began over a decade ago when we committed to improve the energy efficiency in our portfolio with the Better Buildings Challenge. Since then, we've been enhancing our transition risk assessment capabilities and integrating those into individual investments. To support clients' mandates on climate risk management, Nuveen Real Estate aims to align portfolio management strategies with a 1.5°C climate scenario through the following activities:

- Setting a 2040 Net Zero target that focuses first on energy efficiency.
- Targeting a 30% reduction in the energy intensity of landlord-controlled energy use by 2025.
- Providing transparency to our stakeholders through disclosure of carbon emissions.
- Keeping abreast of market shifts and preferences for low carbon buildings from occupiers and investors in the coming years.
- Monitoring exposure to and complying with building regulations setting energy and carbon standards or limits.
- Continuing to drive energy efficiency across our assets through technology and operational best practices.
- Achieving 4 or 5 stars (top two tiers) for 17 strategies in the 2024 GRESB results (based on 2023 performance)

Nuveen real estate commitment to sustainability

2007

TIAA, Nuveen Real Estate's parent company first recognized as Energy Star Partner of the Year in 2007—and recognized with this award every year subsequently, achieving the Sustained Excellence recognition 14 years in a row.

2010

Nuveen Real Estate commits through the U.S. Department of Energy Better buildings Challenge to improve energy and efficiency by 2% per year for 10 years over 20 million sq ft of equity portfolio investments and in 2020 Nuveen Real Estate was recognized as a Gold achiever.

2011

Nuveen Real Estate joins as a GRESB Member and participates in each year's annual estate ESG assessment. In the most recent assessment, 15 funds achieved a 4+ star rating.

2012

UN PRI Signatory since 2012 with an A+ rating in 2020. In December 2018, Nuveen, LLC became a signatory; Nuveen Real Estate now falls under Nuveen's PRI signatory status and reporting

2017

Energy efficiency target introduced to reduce landlord-controlled energy use by 30% by 2025 from a 2015 baseline.

Nuveen Real Estate, a market leader in sustainability, launched its global resilient series of real estate strategies, using a proprietary filtering system to identify tomorrow's world cities.

2018

TIAA commits to implementing the Taskforce for Climate Related Disclosures (TCFD) recommendations. Climate-risk working groups across the enterprise continue to focus on climate-risk integration and disclosure of climate related risks

2019

Nuveen Real Estate signs Better Building Partnership (BBP) Climate Change Commitment and publishes pathway to achieve Net Zero carbon (NZC) by 2040.

2020–2023

Nuveen Real Estate joins ULI Greenprint NZC commitment, along with several U.S. real estate companies.

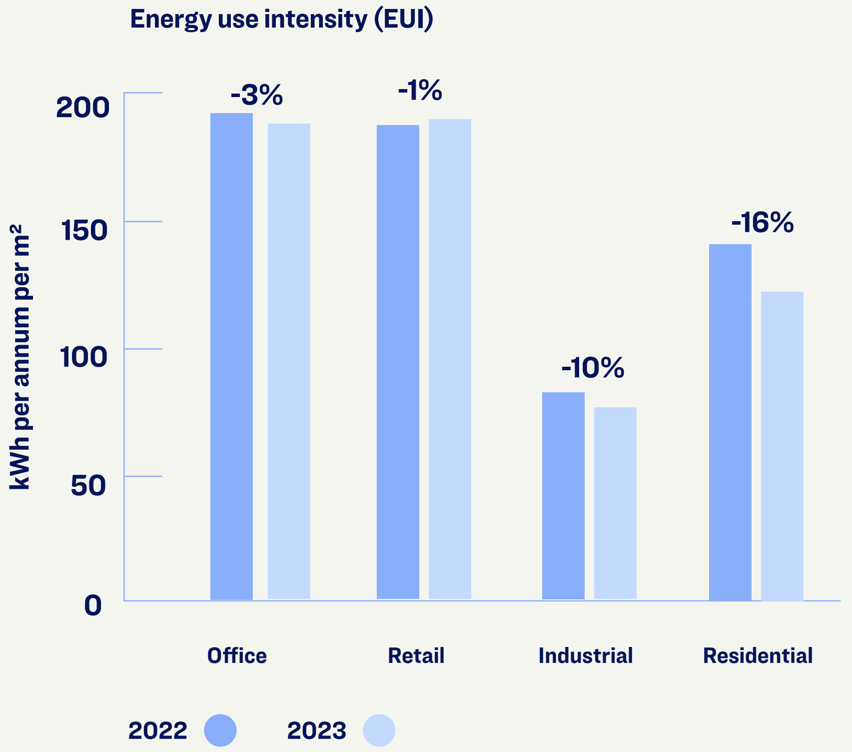
Nuveen Real Estate and TIAA together become Fitwel Champions, focusing on implementing health and wellness and viral safety in real estate.

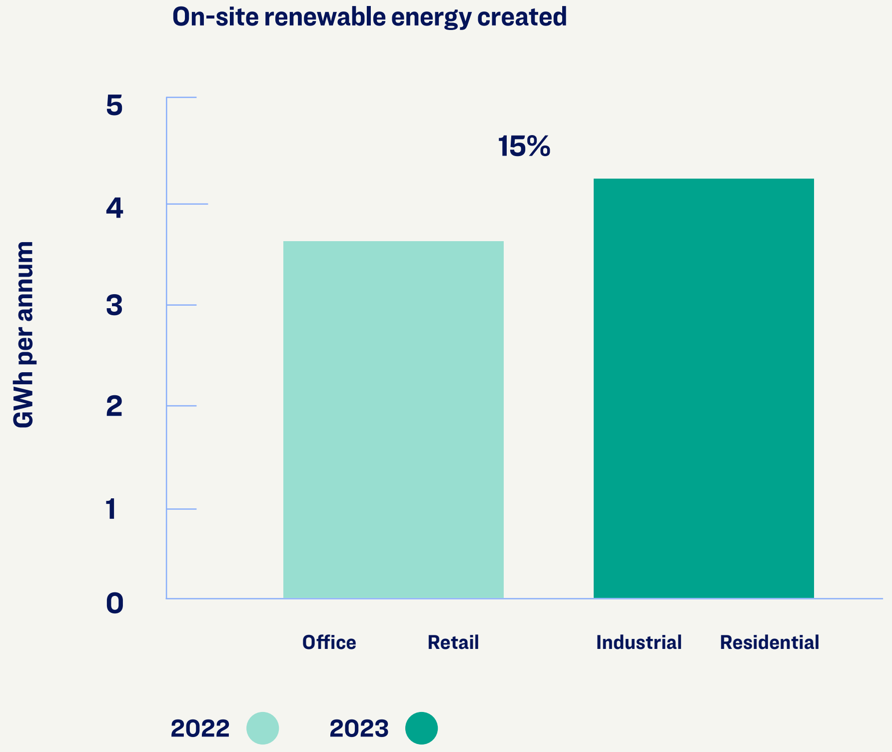
Nuveen Real Estate becomes a sponsor and participant of the CRREM Pathways of North America Working Group— an effort led by CRREM, ULI, and Berkeley Lab.

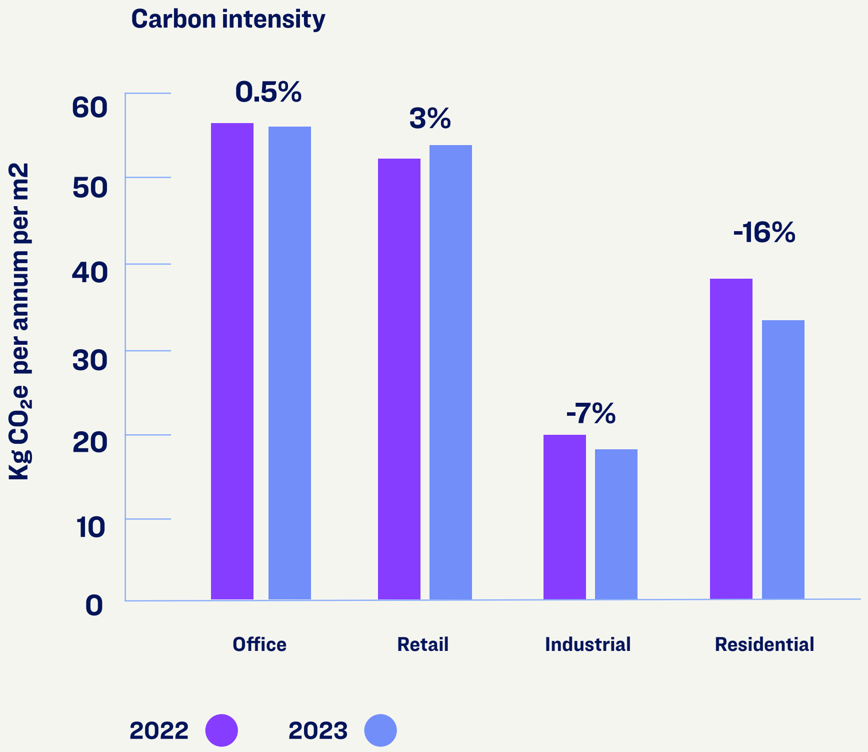
Nuveen Real Estate environmental performance highlights

Expanding reporting coverage. Improving energy efficiency.
Growing renewable energy.

	Emissions	2023 mt CO_2e	Year over year
Direct	Scope 1	199,529	-2%
Indirect	Scope 2	732,775	+2%
Indirect	Scope 3	722,531	+17%







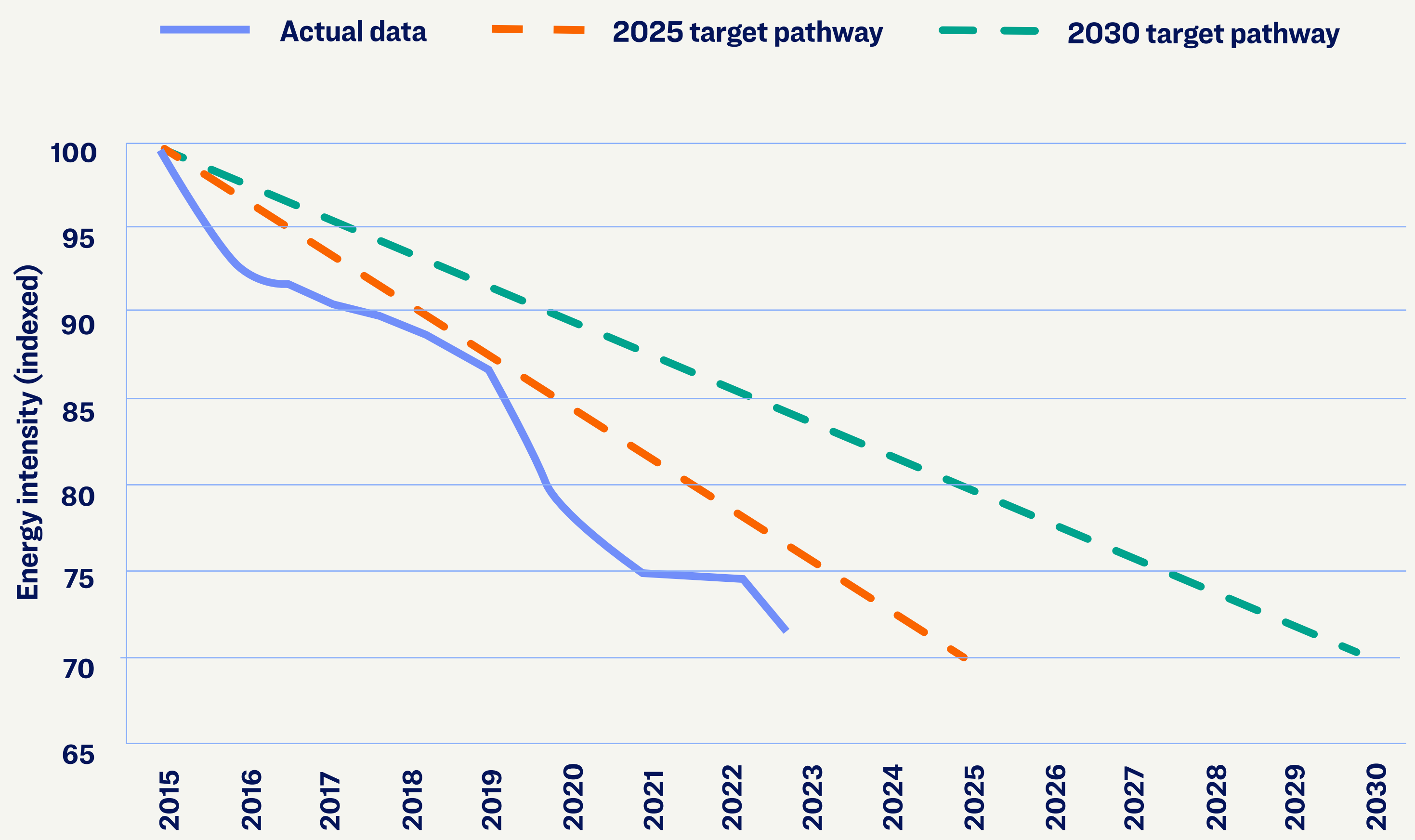
Source: Nuveen Real Estate, Dec 2023. Scope 1 covers direct emissions from landlord-obtained natural gas. Scope 2 covers emissions from actual landlord-obtained electricity, calculated using the location-based method, and district thermals. Scope 3 refers to those emissions associated with actual energy obtained by the landlord but used by the tenant, if submeter data is available; and energy obtained by the tenant directly from the utility supplier. Data estimations have been used where data is not available, thus providing a total operational carbon footprint. Estimations methodology is in line with industry best practice. Carbon emission factors from DEFRA and IEA have been used. Carbon Intensity refers to emissions intensity, using whole building operational carbon (Scope 1, 2 & 3), divided by total floor area (GIA). Only properties with at least some actual data are included in the calculation. On-site renewable generation includes energy generated and consumed on-site by the landlord, renewable energy generated on-site and exported by the landlord, and renewable energy generated and consumed on-site by the tenant. Only actual data is included.

Nuveen Real Estate: Steps to achieve Net Zero by 2040

2015	2020	2025	2030	2040
Nuveen Real Estate sets 30% energy industry reduction by 2030	We sign Better Building Partnership (BBP) Climate Change Commitment in 2019	Our target of 30% reduction in energy intensity by 2030 brought forward to 2025 due to successful energy efficiency strategies	We reduce our portfolio's carbon intensity by 50%	All buildings are operationally Net Zero carbon
• Commit Nuveen Real Estate to setting a pathway by 2020 and achieving Net Zero carbon (NZC) by 2050 at the latest		• Develop costed business plans for NZC for all relevant buildings • Achieve 50% whole building energy data coverage • Assess NZC potential for debt portfolio	• Meet or exceed local industry standards for portfolio average carbon efficiency in Europe for the path to Net Zero carbon • Continue mass removal of fuel • Get in place, where feasible, renewable energy power purchase agreements (PPAs)	• Track below local market Net Zero carbon operational pathways for global portfolio average carbon performance • Achieve significant reductions in embodied carbon and tenant emissions

Nuveen Real Estate - Progress against 2025 target

We've now brought our target achievement date forward to 2025 and made this goal one of the first milestones on our pathway to Net Zero carbon.



Source: Nuveen Real Estate, December 2023

Included in target scope

Workplace/office

Retail & mixed-use

Industrial/logistics

Housing

Nuveen Real Estate is currently on track to reach its 30% energy intensity target before 2025, largely due to improving the energy efficiency of existing buildings in our portfolio, while also developing and acquiring buildings that are performing ahead of industry benchmarks on energy efficiency.

THE GENERAL ACCOUNT:

Net Zero by 2050

TIAA announced its Net Zero by 2050 commitment for the General Account (GA) in 2021, driven by the belief that climate risk is investment risk.

The initial phase of our journey to Net Zero by 2050 prioritized assets for which data is readily available and reasonably accurate; therefore, our interim targets are set for the public corporate bond portfolio and directly owned commercial real estate—these together account for roughly 27% of the GA's assets.[3] Over the last year, the GA has worked with internal partners and external vendors to develop sound methodologies for estimating financed emissions (PCAF score 3–5) in asset classes where disclosure is not yet a market norm. To date, the GA has been able to measure carbon intensity for an additional 12% of assets with a goal of adding to this coverage each year moving forward. The GA will also work with Nuveen to identify asset classes where interim reduction targets can be set to work in conjunction with investment strategy.

Our 2025 interim targets for each asset class, set against a 2019 baseline year, are as follows:

Asset class	Carbon intensity metric[1]	2025 target reduction range[3]
Public corporate debt	Tons CO2e/million USD sales	15%—25%
Direct commercial real estate	Tons CO2e/square meter	15%—20%

Public Corporate Debt

The 2025 interim target for the public corporate bond portfolio is measured against our 2019 baseline weighted average carbon intensity (Scope 1 and 2 emissions) measured in metric tons of CO_2e/$M sales.

Progress toward the 2025 target has been driven by:

- Integration of climate-related guidelines in the selection of new investments
- Roll-off of existing investments as bonds mature
- Reductions in issuers' carbon intensity over time

As of year-end 2023, the 31% decline in weighted average carbon intensity (WACI) is exceeding the General Account's 2025 target for the public corporate debt portfolio. The selection of new investments did serve to reduce WACI, but much of the overall decline can be attributed to the change in carbon intensity of bonds the GA held throughout the period. This change is measured by the interaction of the numerator (issuer emissions) and the denominator (corporate revenue).

Issuer emissions are evolving in line with expectations, while the growth of corporate revenue post-pandemic has been a tailwind for WACI reduction that may not be replicable moving forward.

The sector breakdown of the portfolio shifted since 2019 with financials increasing from a weight of 19% to 26% and energy decreasing from 9% to 5%. Exposure to utilities remained relatively stable during the period at 20%. Utilities sector WACI of 1,930 mt CO_2e/million USD sales is over 3.7x higher than the next highest sector (Energy) and 83% of the overall public corporate debt carbon intensity can be attributed to the companies that provide electricity to the global economy. The high credit quality, predictable cash flows, and ability to issue long-duration bonds make this sector an important component of insurance investment portfolios. The WACI of GA Utilities positions decreased 29% since 2019 and, given its influence on portfolio WACI, the ability of these issuers to continue the decarbonizing of power generation assets will be watched closely.

Annual change in public corporate fixed-income weighted-average carbon intensity and financed emissions

	2019	2020	2021	2022	2023	2019–2023
Weighted Average Carbon Intensity (tons CO_2e/million revenue)	663	592	533	460	456	
Year-on-year % change	-	-11%	-7%	-17%	-1%	-31%
Financed emissions (tons CO_2e)	12,251,425	11,673,426	11,050,946	7,035,993	4,588,915	
Year-on-year % change	-	-5%	-5%	-36%	-35%	-64%

Note: Weighted average carbon intensity reflected above is measured as carbon emissions per dollar of revenue. Financed emissions were calculated using an EVIC-based attribution factor as recommended by the Partnership on Carbon Accounting Financials (PCAF). Measures were also calculated using carbon emissions per dollar of Enterprise Value Including Cash (EVIC) for informational purposes, although this metric was not used as a direct measure of progress in the portfolio. Carbon intensity metrics for each issuer were sourced primarily from MSCI, with any remaining data gaps filled first using any prior year data from MSCI and second using TIAA internally developed estimates. TIAA estimates were formed by mapping an issuer to a peer group by industry, region, and company size, then estimating its carbon intensity as the 60th percentile carbon intensity of that peer group.

Direct Real Estate (Equity)

Direct Commercial Real Estate Equity and Funds will target a reduction of area normalized (per square meter) total building operating emissions, which includes both landlord-controlled energy use (Scopes 1 and 2) and tenant-controlled energy use (Scope 3) from a 2019 baseline. The Direct Real Estate operational carbon footprint will include buildings wholly owned by the GA, co-investments with JV partners, and assets held in NRE funds where the GA is an investor. The carbon footprint will include a combination of actual property energy use data and estimates for different property types across different regions based on publicly available data. The GA will target a 15–20% reduction in carbon emissions per square meter by 2025, which is expected to be primarily driven by the following factors:

- Allocation shifts across geographic regions (country) and sectors (office, retail, housing, industrial)
- Building energy efficiency (kwh/m^2) improvements
- Electric grid carbon intensity (CO_2/kwh) improvements

Results from an assessment of the 2022 carbon intensity of the direct real estate portfolio has shown a reduction of 21%, from 0.0624 mt CO_2e/m^2 to 0.0492 mt CO_2e/m^2 was achieved between 2019 and 2022.

TIAA GA Carbon Intensity in 2022 versus baseline per sector (mt CO_2e)

Property type	2019 Emissions Intensity	2022 Emissions Intensity	△ 2019-2022 Emissions Intensity
Industrial	0.0389	0.0310	-20%
Residential	0.0962	0.0762	-21%
Office	0.0760	0.0492	-35%
Retail	0.0857	0.0734	-14%
Total	0.0624	0.0492	-21%

These reduction efforts have led to estimated financed emissions of 333,842 as of YE 2022. Not all of these emissions are directly under GA control, and looking forward, we expect the three levers listed below to all play an important role in reduction:

- Grid decarbonization
- Portfolio turnover—sale of inefficient buildings/acquisition of efficient buildings
- Energy efficiency improvements

Infrastructure

The Nuveen Infrastructure Sustainability team engaged with a vendor to assist in the top-down calculation of carbon emissions for the portfolio. As a result of these efforts, the estimated financed emissions are 806,957 mt CO_2e as of year-end 2022 for the direct infrastructure diversified portfolio. The sector makeup of the top WACI contributors are transportation, natural gas extraction, and fossil fuel electric power generation.

Employing a top-down methodology is particularly useful to identify hot spots, but depending on the vendor, these estimates are, at times, orders of magnitude different due to the reliance on broad categories of economic activities. One way to achieve a more precise emissions calculation is to employ a bottoms-up approach, which consists of collecting data directly from companies. This data can be challenging to collect for certain assets and funds where we've limited influence and control.

For diversified infrastructure funds, work is underway to develop estimation methodologies for areas where we can't obtain necessary data (e.g., revenue reporting for certain funds). By the end of 2024, the estimated baseline will include all assets within the portfolio, including funds. The baseline is subject to revision, as new, holding-level data potentially becomes available and replaces estimates.

Regarding Nuveen Infrastructure's clean energy platform, financed emissions are reported in the 2023 clean energy sustainability report.

Nuveen Natural Capital

Nuveen Natural Capital is Nuveen's land-focused investment manager. The farmland and timberland assets under our management represent approximately 3 million acres across more than 600 properties in 10 countries.*

On an annual basis, Nuveen Natural Capital seeks to measure and report its greenhouse gas (GHG) footprint from the activities that occur within these assets' physical boundaries by using the GHG Protocol and the IPCC Guidelines for National Greenhouse Gas Inventories.

For farmland assets, the main sources of emissions are agricultural machinery and equipment, fertilizer use, and electricity consumption. For timberland assets, emissions primarily originate from machinery and equipment use.

Nuveen Natural Capital also recognizes the potential of these farmland and timberland assets to contribute to carbon sequestration and storage in trees and soils, which can be enhanced through management, conservation, or restoration activities. More information can be found in the Annual Sustainability Report.

*Nuveen internal sources as of December 31, 2023

Churchill Asset Management

Churchill, Nuveen's dedicated U.S. private capital manager, utilizes a carbon accounting vendor to model emissions across its senior lending, junior capital, and equity co-investment platforms. As of year-end 2023, the GA's allocation to these strategies carries an estimated 92 mt CO_2e/$mm revenue. Churchill remains committed to engaging with private equity sponsors to increase the number of portfolio companies reporting true emissions, but will continue to model emissions to fill gaps as needed.

Using the carbon accountant's sector analysis, we can see that Churchill benefits from a focus on asset-light industries, such as professional services, healthcare, administrative support, and educational services, which make up over 42% of our NAV but just under 18% of attributed emissions. This sector analysis has helped formulate engagement planning at our portfolio companies, particularly in the manufacturing sector, which makes up 21% of NAV, while contributing ~44% of the emissions across our portfolio. Engagement planning can range from providing free resources to our portfolio companies to begin calculating true Scope 1 and 2 emissions to targeting ways our borrowers can reduce emission across key parts of their business.

Looking ahead to next steps in carbon accounting and reporting capabilities, Churchill is working on a solution to model emissions across our PE Fund program, the only remaining asset class that doesn't yet have estimated data.

TIAA's fossil fuel exposure

Fossil fuels currently make up over 80% of the world's primary energy supply and are likely to meet a significant portion of global energy needs for decades to come. TIAA and Nuveen's exposure to fossil fuel-related investments reflects their widespread past and current role in the real economy. Increasingly, the low-carbon transition is likely to bring major shifts in the energy system. We'll continue to monitor these shifts as they unfold, seeking to maximize risk-adjusted investment returns and meeting our clients' investment objectives.

As a matter of policy, we don't completely divest from major sectors of the economy, including the energy sector. Divestment is a blunt tool that does little to reduce real-world GHG emissions and removes our ability to engage with companies and assets over time. We've a long history of stewardship and engagement, with a particular focus on the theme of climate change. Our engagement approach is informed by the growing recognition that portfolio-level climate targets are most impactful when they're achieved via real-world emissions reductions, not simply by reweighting our portfolio holdings.[1]

However, this doesn't mean we'll blindly hold an investment without regard for changing market conditions. Our investment process is both dynamic and climate aware, reflecting our investment teams' careful balance of risk and return as well as climate-related data and training curated by the Responsible Investing and Risk teams.

Transparency is a key part of our commitment to responsible investing. To that end, we're disclosing our fossil fuel exposure in this report for the second year. Over time, our overall fossil fuel investment exposure may rise or fall based on various dynamics. From 2022 to 2023, our exposure declined by 1%, driven primarily by reductions in public investments for third-party clients. Within the GA, fossil fuel exposure rose, although investment teams continue to favor shorter, over longer duration exposure due to uncertainty around long-term fossil fuel demand. See the corresponding table for TIAA, Nuveen, and all affiliates' exposure to fossil fuels (in millions of dollars) as of year-end 2023.

Fossil fuel exposure, year-end 2023 (million USD)

$MM	Publics	Private		Total	% Change vs. Prior Year
		Direct	Funds		
GA	4,548	2,328	375	7,251	+4%
3rd party	27,556	0	0	27,556	-3%
Total	32,104	2,703		34,807	-1%

Methodology: TIAA's fossil fuel exposure includes our public and private investments in any type of securities issued by 1) fossil fuel reserve owners, 2) companies directly operating in the production of oil, coal, and natural gas, or 3) companies involved in the fossil fuel value chain, such as exploration, refining, pipelines, and equipment. Some LP positions were excluded as look-through analysis on the underlying investments is not always available. Third-party client fossil fuel exposure was calculated using security identifiers from FactSet's security matching algorithm, matched to MSCI ESG data fields within the MSCI Data Manager platform. Unmatched securities were evaluated against other security identifiers on a "best-efforts" basis to generate a match against MSCI ESG data fields. Securities that MSCI was unable to match weren't included in the analysis. Third-party client exposure was estimated using market value. GA fossil fuel exposure was calculated by utilizing ICB sub-sector filters across all asset classes (including direct/co-investments, indirect energy funds, and indirect PE funds). GA exposure was estimated using statement value.

5 Conclusion

Recognizing climate risks and opportunities

Over a century of experience helping our clients achieve a financially secure retirement has required our organization to navigate unexpected challenges, including economic hardships, global turmoil and catastrophes, and positive market runs, as we face some of the world's most pressing challenges. Over that time, we've also transformed our business, our investment offerings, and our interactions with clients to deliver on the promises we've made to generations past, present, and future. What has stayed consistent throughout is our focus on delivering transparency to our clients.

We continue to enhance our business through additions like the Climate Center of Excellence, and collaboration with the Responsible Investing Team and Sustainability Action Team. We believe our relationships across investments and operations will increasingly enhance our business from both functions.

Our climate risk management, scenario analysis, and reporting are bolstered year over year as new data sources, methodologies, and engagement with public companies allow us to improve our efficiencies and maintain progress on our targets on Net Zero for our GA and real estate.

We continue to hold to the belief that transparency and disclosure are pivotal to the success of the low-carbon transition and are an essential part of our efforts to maximize our clients' risk-adjusted returns and also reduce our own carbon footprint in the face of a changing climate. Our disclosure of our own fossil fuel exposure since our report in 2023 reflects that leadership and belief. Taken together, the actions and strategies outlined here seek to demonstrate that we're facing the climate challenge as a steward for our clients' investments.

We continue to enhance our business through additions like the Climate Center of Excellence, and collaboration with the Responsible Investing Team and Sustainability Action Team.

TIAA

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ESG integration is the consideration of financially material ESG factors in support of portfolio management for actively managed strategies. Financial materiality of ESG factors varies by asset class and investment strategy. Applicability of ESG factors may differ across investment strategies. ESG factors are among many factors considered in evaluating an investment decision, and unless otherwise stated in the relevant offering memorandum or prospectus, do not alter the investment guidelines, strategy or objectives.

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