



# SUSTAINABLE COLUMBIA

PLAN 2030 PROGRESS REPORT >>> APRIL 2026





The roof of 611 West 112th Street, Columbia's first all-electric residence hall. Photo by James Ewing.

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## Letter from David Greenberg



Dear Columbia community,

As we reflect on another year of progress, it is clear that the work of sustainability is defined by both innovation and agility. The path to reaching our long-term climate and sustainability goals is rarely straightforward, and this Progress Report reflects both real momentum toward our Plan 2030 goals, and a clear-eyed view of what it will take to get there.

I am pleased to report that our emissions are down 14% from our baseline year, and early indicators suggest we are on track to meet our 2025 interim target. Across our commitment areas — energy conservation and efficiency, sustainable transportation, resource and waste management, campus as a living lab, and fossil-fuel-free construction — our community has made meaningful, measurable progress.

This said, reaching our 2030 target will require accelerated progress over the next four years. We know our work is not immune to the changing landscape unique to this moment in time. The federal reprioritization of climate initiatives and the pace of New York state grid decarbonization have an enormous impact on Columbia, as well as our peers. Operational and financial calculations must be made in context of the research and academic priorities of the University. Strategic decarbonization decisions require careful, intentional analysis and discussion.

There are tradeoffs to consider, and in this moment, we must explore them all.

We are looking ahead to the next generation of technology that will help accelerate our progress with less disruption to our campus community and at a lower cost. We continue to construct and renovate buildings in preparation for an eventual greener grid. The next phase of our sustainability plan represents a critical window. We have built meaningful momentum and are focused on the best ways to leverage it to drive progress in the years ahead.

With this important context, I am pleased to recognize the work completed at this stage and reaffirm our commitment to advance in the ways available to us, guided by data, creativity, and the collective dedication of our community.

Sincerely,  
David M. Greenberg  
Executive Vice President, Columbia University  
Facilities and Operations

## PLAN 2030 PROGRESS

### Updates from the Office of Sustainability



Dear Columbia community,

This is an exciting moment in the University's journey to a net zero future. Plan 2030 is grounding our work toward our ambitious long-term goals, while inspiring action to meet near-term commitments.

The role of sustainability offices in institutions has evolved since we launched this plan in 2021. Today,

a successful sustainability agenda must prioritize environmental impact while also delivering key co-benefits such as mitigating legal and financial risk and strengthening economic efficiency. Over the past year, this has guided our approach to key initiatives across the University including emerging technology research, partnership development, data analytics, and the Campus as Lab program.

This year has brought significant advances in emerging real estate decarbonization technology, with new solutions that are more flexible, less disruptive, and more cost-effective. We have actively engaged industry leaders, manufacturers, and engineers to bring these innovations to Columbia stakeholders, supporting a broad effort to explore all options to reduce greenhouse gas emissions, while mitigating regulatory risk in a cost-conscious manner.

Concurrently, we have increased our focus on "Living Net Zero" initiatives — actions Columbia's schools, departments, and individuals can take today to reduce their environmental impact. Efforts like the Campus as Lab initiative, where students play an active role in addressing on-campus sustainability challenges through their coursework, are helping the University make meaningful progress on Scope 3 emissions while larger infrastructure projects continue through University Facilities and Operations.

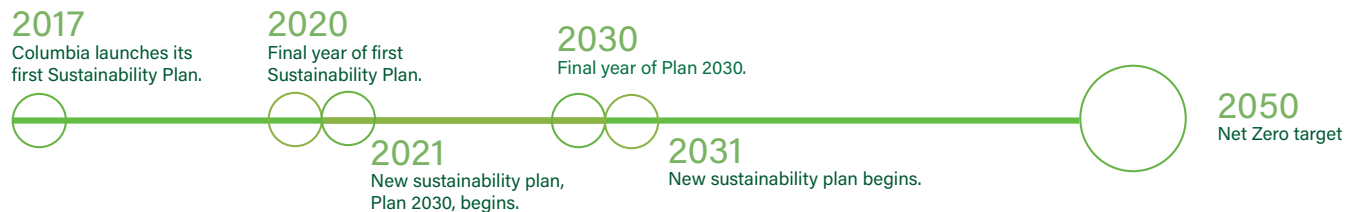
In partnership with the Central Procurement Office, we are also making strides in improving waste management data and sustainable purchasing practices that increase operational efficiency. The team is currently piloting a sustainable procurement framework with one of the University's top suppliers to identify changes to scale and deliver meaningful environmental and financial impact.

Sustainability work does not happen in isolation; success comes through partnership with many of you in the Columbia community. We are responsible stewards not only of the environment, but also of the University's broader mission, including ensuring that resources remain focused on education, research, and the student experience.

Thank you for the privilege of your partnership. We look forward to continuing this work together on the next chapter of Columbia's sustainability journey.

In appreciation,  
Jessica Prata Cianciara  
Assistant Vice President, Office of Sustainability

### Plan 2030 Timeline



## AT A GLANCE



19 lighting conversion projects to date

14%

decline in Campus Energy emissions from baseline year



20 LEED buildings

6000+

meters that will be centralized through new Utility Data Aggregator (UDA)

74

students engaged in Campus as Lab since launch of Plan 2030



7 years using electric buses on intercampus bus routes

18

Office of Sustainability interns since launch of Plan 2030



25.4% waste diversion rate

6%

decrease in emissions intensity from food purchasing through participation in the Plant-Powered Challenge

# 100%

zero emission electricity

### CLIMATE TARGETS: OVERVIEW

Setting and meeting climate and sustainability targets is central to Columbia's role as a climate leader. In 2019, the University committed to achieving net-zero emissions by 2050, aligning with global efforts to avoid the most severe impacts of climate change.

Over the past four years, Columbia has advanced work across the institution to identify and implement pathways to meet this goal. Achieving it will primarily require decarbonizing and electrifying the University's buildings and vehicle fleet.

As of Calendar Year 2024, Columbia has reduced Scope 1 and Scope 2 emissions by 14% from its 2019 baseline. These emissions include stationary combustion, purchased electricity, purchased heating and cooling, fugitive emissions from chillers, and Columbia-owned vehicles, consistent with the International Greenhouse Gas Protocol.

In 2024, all Columbia campuses — Morningside, Manhattanville, Nevis, the Baker Athletic Complex, Lamont-Doherty Earth Observatory, and Columbia University Irving Medical Center (CUIMC) — participated together for the first time in a unified, University-wide greenhouse gas inventory submission and third-party verification process. This milestone fulfills a key strategy under Plan 2030.

As part of the verification process, CUIMC completed an onsite survey of its plants and building infrastructure. The successful completion of this effort ensures the University remains aligned with standards set by The Climate Registry. Columbia's inventory passed verification, and the final data is available on our website.



## **CLIMATE TARGETS: GREENHOUSE GAS EMISSION PATHWAYS**

### **Columbia's Greenhouse Gas Inventory Tracks University Emissions and the Process is Verified Annually by The Climate Registry**

Columbia's greenhouse gas inventory follows the international industry-standard Greenhouse Gas Protocol, reporting all Scope 1 and Scope 2 emissions and an expanding set of Scope 3 emissions. At present, Scope 3 emissions are not included in the University's reduction targets.

Columbia continually improves the accuracy and quality of its inventory by strengthening energy data management practices, refining reporting boundaries, and applying industry best practices. For Calendar Year 2024, the University used the same dataset obtained directly from Con Edison that was submitted for Local Law 97, improving consistency and accuracy across reporting.

### **SCOPE 1**

Emissions include those directly generated by the University, such as the combustion of fossil fuels in stationary plant equipment, fuel used by fleet vehicles, and fugitive emissions from chiller refrigerants.

### **SCOPE 2**

Indirect emissions associated with purchased utilities like electricity, heating and cooling. In keeping with its commitment to 100% renewable electricity, each year since 2018 Columbia has offset all electricity emissions with an equivalent quantity of carbon instruments, such as Carbon Credits and Renewable Energy Credits. Other Scope 2 emissions come from purchased heating and cooling.

### **SCOPE 3**

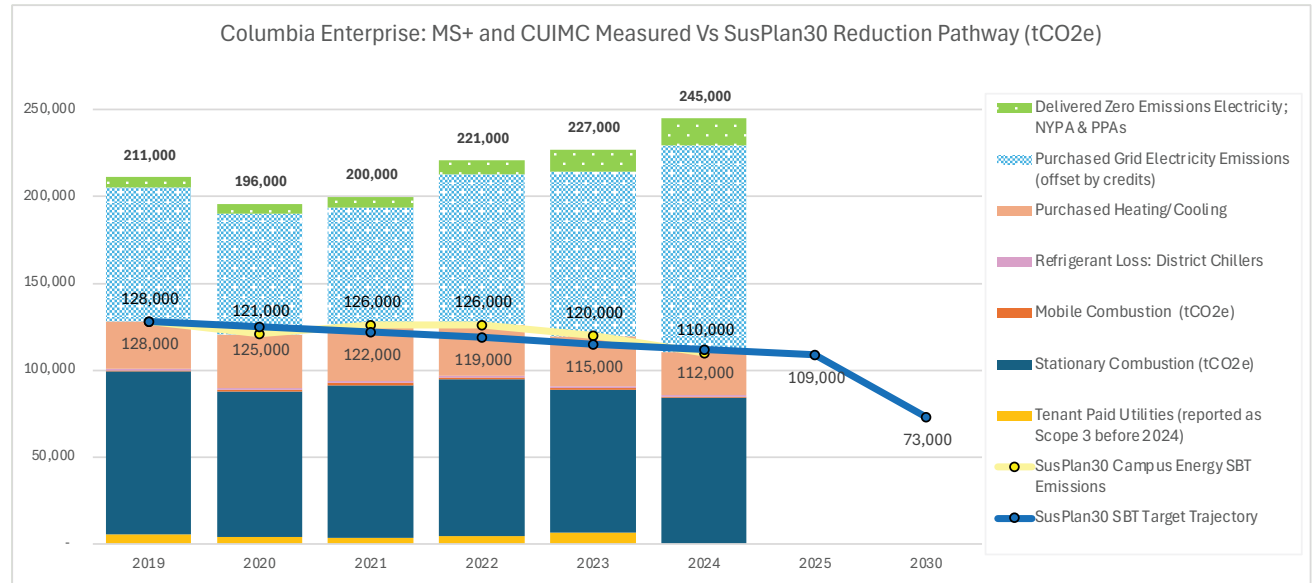
Indirect emissions associated with Columbia's supplier value chain for items such as travel, food, capital goods, and others.

## BUILDING NET ZERO

Greenhouse gas emissions associated with Plan 2030 declined 14% since 2019, while campus square footage increased approximately 21%

-14

+21



With limited exceptions (outlined in the Boundary Notes below), the above graphic illustrates all of Columbia University's Scope 1 and Scope 2 emissions from 2019 to 2024. Since submitting the Calendar Year 2024 inventory to The Climate Registry, the University has continued to improve the inventory accuracy and reporting quality. The numbers reflected here are adjusted as of this report's release.

As the largest contributor of Scope 1 emissions, stationary combustion for heating is highly dependent on weather and the fuel type used. Along with a milder winter in 2024 compared to 2019, Columbia burned far less fuel oil. With respect to emissions from Scope 2 Purchased Electricity, the staged closure of the Indian Point nuclear facility since 2019 increased grid carbon intensity and the associated location-based emissions. That increase translated into larger commitments to Carbon Credits or Renewable Energy Credits. Columbia's annual electricity consumption since 2019 measured in megawatt hours is relatively unchanged even though campus space increased approximately 21%.

*All campuses contribute to the Scope 1 and 2 emissions of the University.*

Columbia's Plan 2030 greenhouse gas emissions have declined 14% since 2019 in the midst of expanding campus space. The following tables show University-wide greenhouse gas accounting, including Scope 1 and Scope 2 emissions for each of Columbia's campuses.

**Notes on Inventory Boundary Refinement**

COLUMBIA UNIVERSITY	Total Scope 1 & Scope 2 Emissions	2019	2020	2021	2022	2023	2024
		211,434	195,868	199,544	220,999	227,136	245,325
	Scope 1	95,565	85,863	90,156	92,694	84,173	85,636
Scope 2	115,869	110,005	109,388	128,305	142,962	159,689	
(Mitigated S2 Electricity, PPAs and Credits)	(83,170)	(75,349)	(73,464)	(95,010)	(107,394)	(134,981)	
<b>Remaining Emissions</b>	<b>128,264</b>	<b>120,520</b>	<b>126,080</b>	<b>125,989</b>	<b>119,741</b>	<b>110,344</b>	
<b>Scope 1</b>	<b>95,565</b>	<b>124,733</b>	<b>129,300</b>	<b>148,862</b>	<b>146,706</b>	<b>167,053</b>	
Stationary Combustion of Fuel	93,868	121,887	126,070	145,922	144,143	165,735	
Mobile Combustion of Fuel	452	1,607	1,989	1,696	1,455	256	
Fugitive Chiller Refrigerants	1,115	1,115	1,115	1,109	1,109	1,062	
Tenant-paid Fuel	129	125	126	135	-	-	
<b>Scope 2</b>	<b>115,869</b>	<b>110,005</b>	<b>109,388</b>	<b>128,305</b>	<b>142,962</b>	<b>159,689</b>	
Purchased Electricity	83,170	75,349	73,464	95,010	107,394	134,981	
Purchased Heating & Cooling	27,534	30,744	32,312	29,155	28,925	24,708	
Tenant-Paid Electricity	5,165	3,912	3,611	4,139	6,642	-	

MORNINGSIDE +	Total Scope 1 & Scope 2 Emissions	145,027	128,274	132,540	152,629	152,976	166,681
	Scope 1	84,150	73,967	78,982	80,782	73,021	74,674
Stationary Combustion of Fuel	82,848	72,282	76,791	78,881	71,532	73,727	
Mobile Combustion of Fuel	429	817	1,322	1,029	753	256	
Fugitive Chiller Refrigerants	743	743	743	737	737	690	
Tenant Paid Fuel; reported in 2024 as S1	129	125	126	135	-	-	
Scope 2	60,877	54,306	53,557	71,847	79,955	92,008	
Purchased Electricity	54,923	49,604	49,279	67,040	72,611	92,008	
Purchased Heating & Cooling	790	790	667	667	702	-	
Tenant Paid Electricity; reported in 2024 as S2	5,165	3,912	3,611	4,139	6,642	-	

CUIMC	Total Scope 1 & Scope 2 Emissions	66,407	67,595	67,004	68,370	74,159	78,644
	Scope 1	11,416	11,896	11,174	11,912	11,152	10,963
Stationary Combustion of Fuel	11,020	11,495	10,781	11,515	10,760	10,575	
Mobile Combustion of Fuel	24	29	21	25	20	16	
Fugitive Chiller Refrigerants	372	372	372	372	372	372	
Scope 2	54,991	55,699	55,830	56,458	63,007	67,681	
Purchased Electricity	28,247	25,744	24,186	27,970	63,007	42,973	
Purchased Heating & Cooling	26,744	29,954	31,645	28,488	63,007	24,708	

Plan 2030 committed to establishing Science-Based Targets (SBTs) using reliable historical data available from 2019 onward. Further review of fugitive emissions from medical and research gases, as well as fleet vehicle refrigerants, indicates these sources require additional analysis before appropriate SBTs can be set. As a result, they are not currently included in SBTs, though they are reported annually to The Climate Registry when data is available.

Beginning in 2024, New York City requires building-level greenhouse gas reporting. Metered data has been collected for all covered buildings. Historically, utilities paid directly by residential and commercial tenants were reported as Scope 3 emissions. To align with updated reporting requirements, these emissions are now classified as Scope 1 or Scope 2 and have been applied retroactively to 2019 for consistency with Plan 2030 reporting.

Since 2019, fuel used by contracted third-party bus and shuttle services had been reported as Scope 1 Mobile Combustion emissions. To align with the Greenhouse Gas Protocol, these emissions have been reclassified as Scope 3 Downstream Transportation and are therefore excluded from Plan 2030 SBTs for Mobile Combustion.

# CLIMATE TARGETS: PROGRESS

**GOAL:** Achieve net zero emissions by 2050 or sooner.

**STRATEGY 1:** Reduce emissions according to science-based targets (SBTs). 2025 emissions reduction target: 15% below 2019 baseline. 2030 emissions reduction target: 42% below 2019 baseline. 2035 emissions reduction target: 63% below 2019 baseline.

## >>>PROGRESS 1:

Columbia has reduced its Scope 1 and Scope 2 emissions by 14% since 2019. Although 2024 was not a defined Science-Based Target (SBT) milestone year, its pro-rata share of the reduction target is 12.5%.

To strengthen progress tracking, Columbia has partnered with a firm to develop an online platform that will centralize utility meter data across campuses. The platform will provide a more real-time view of greenhouse gas emissions performance and support more effective monitoring of reduction goals. Launch is anticipated in 2026–2027.

**STRATEGY 2:** Seek to adapt The Climate Registry accounting process and tools to easily extract NYC reporting information/metrics.

## >>>PROGRESS 2:

The upcoming online platform launch will make it easier to report to multiple agencies in accordance with the required accounting and metrics required by The Climate Registry and New York City’s Local Laws.

**STRATEGY 3:** Migrate to one set of accounting books as Local Law 97 emissions limits become relevant over time.

## >>>PROGRESS 3:

Accomplished. For Calendar Year 2024, the University leveraged its new ability to obtain data directly from its New York City utility, using the same dataset for both Local Law 97 and The Climate Registry reporting for the first time.

The University successfully filed all of its Local Law 97 submissions for 2025. Given the size and variability of the University’s portfolio, the submission was likely among the most complex in the city.

The buildings served by the Morningside and Manhattanville campuses central energy plants were below their respective emissions limits and did not incur penalties.

Of the standalone properties (i.e. those not served by either the Morningside or Manhattanville central plant) with emission limits, all but four were submitted without potential penalties. Utility data for the four properties with potential penalties is currently under review with Con Edison. Once this review is complete, we will be able to determine whether these properties will incur penalties.

While the CUIMC campus did incur penalties, they are pursuing the “Good Faith Effort” and “Mediated Resolution” alternative pathways to achieve compliance while concurrently implementing building-level carbon reduction measures.

**STRATEGY 4:** Complete an inventory of all key Scope 3 sources by the end of 2022 and establish science-based targets for Scope 3 that are consistent with the principles applied to Scope 1 and Scope 2.

## >>>PROGRESS 4:

In 2022, the University completed a spend-based inventory of key Scope 3 emissions sources, including business travel, waste, and purchased goods and services. Efforts then shifted to establishing baselines using operational data from business units for each subcategory. Science-based targets have been set for select categories, and the process will continue as more reliable data becomes available.



The roof of 518 West 111th Street, a residential building renovated to be fully electric. Photo by Michael DiVito.

## BUILDING NET ZERO

### CAMPUS ENERGY: OVERVIEW

The University's buildings and vehicles are the primary sources of its Scope 1 and Scope 2 greenhouse gas emissions. Decarbonizing these systems requires a comprehensive plan that is both cost-effective and achievable. Electrifying building systems and improving energy efficiency are key to reaching Columbia's net-zero goals, while also supporting improved air quality and healthier communities in New York City and beyond.

Over the past four years, Columbia has advanced several strategies to support progress in these areas. Since 2024, the University has accelerated upgrades to lighting and lighting controls across academic, administrative, and residential spaces. At the same time, new and upgraded meters are being installed across campuses to prepare for more rigorous Local Law 97 reporting requirements beginning in 2030.

In the coming year, the University plans to pilot emerging technologies that may offer faster, lower-cost, and less disruptive pathways to decarbonize its real estate portfolio. Columbia will also transition to an online platform that aggregates metering data, improving the accuracy and efficiency of tracking energy consumption, greenhouse gas emissions, and the impact of future decarbonization investments.

Coordinated action across all campuses will be critical to advancing this work and ensuring the University meets its science-based targets.

## CAMPUS ENERGY: PROGRESS

**GOAL:** Columbia commits to electrification and 100% renewable electricity.

**STRATEGY 1:** In the near- to mid-term, aggressively identify and implement opportunities to avoid and reduce emissions through traditional energy efficiency measures. This includes new building and retro-commissioning standards, space use optimization, and both electricity and fuel-related improvements in efficiency.

### >>>PROGRESS 1:

Columbia has continued to expand building efficiency efforts through large-scale lighting upgrades, advanced controls optimization, and improved energy data management. Since 2024, lighting and lighting controls projects completed across multiple academic, residential, and athletics facilities are delivering approximately 1,450 megawatt hours (MWh) of electricity savings annually, avoiding an estimated 580 metric tons of carbon emissions each year.

Facilities and Operations is also advancing building systems efficiency through air handling unit (AHU) control sequence optimization across the Morningside and Manhattanville campuses. Development work has been supported in part through a partnership with New York State Energy Research and Development Authority, while implementation is partially funded through energy efficiency incentives from Con Edison. Initial AHU upgrades are already producing measurable savings, and projects currently underway are expected to deliver approximately 29,000 million British Thermal Units (MMBtu) in annual energy savings and 1,600 metric tons in annual emissions reductions when complete.

To strengthen long-term performance tracking and reporting, the University is also developing a Utility Data Aggregator platform that will unify energy data from thousands of meters into a single dashboard. The platform already integrates roughly 300 submeters and includes historical data dating back to early 2023. Ongoing integration with utility data systems is expected to significantly expand coverage across the



A rendering of an apartment in 600 West 125th Street.

University's broader real estate portfolio. Once finalized and rolled out to University personnel later this year, the platform will enhance greenhouse gas reporting, enable near real-time energy monitoring, and improve the identification and verification of future energy conservation measures.

**STRATEGY 2:** Transition as rapidly as is practical from brown power paired with national renewable energy credits to zero-emission electricity sources on the New York grid that, where feasible, are Local Law 97-eligible or (ideally) are located on Columbia campuses.

### >>>PROGRESS 2:

The University continued its commitment to zero-emission electricity using a market-based approach. This past year, Columbia purchased carbon credits to offset these emissions.

**STRATEGY 3:** In the mid- to long-term, pair deep conservation with electrification to replace fossil fuels used for heating and cooling. As a first step, Columbia will undertake comprehensive engineering studies to determine the best strategic path for the electrification of its campuses.

**>>>PROGRESS 3:**

A series of studies evaluated pathways to electrify Columbia’s district energy systems and building infrastructure across the Morningside and Manhattanville campuses. Over the past two years, the decarbonization technology landscape has evolved rapidly, with new solutions emerging at multiple scales. Columbia is actively exploring — and in some cases piloting — these innovations to identify faster, less disruptive, and more cost-effective approaches to decarbonizing its real estate portfolio.

Decarbonization Portfolio	CY2019 Base Year Fuel Combustion Emissions*	CY2024 Emissions*	% Contribution to 2024 Emissions*	% Change 2019 to 2024
MS Central Loop	49,000	38,000	40%	-22%
CUIMC	39,000	35,000	32%	-10%
Residential	24,000	23,000	20%	-4%
MHVL	5,000	7,000	5%	40%
Other	6,000	6,000	3%	0%
<b>Total</b>	<b>123,000</b>	<b>109,000</b>	<b>100%</b>	<b>-11%</b>

\*Emissions above from combustion of natural gas & fuel oil represent 95% of SBT 2019 emissions total (128,00 mtCO2e). Does not include emissions from mobile combustion and refrigerant loss as on previous slide.

**BUILDING NET ZERO**

The courtyard of 611 West 112th Street, Columbia’s first all-electric residence hall. Photo by James Ewing.



## SPOTLIGHT

# Recent Building Electrification Milestones Advance Sustainable Design and Construction at Columbia

Columbia University aims to reduce its dependence on fossil fuels and transform campus energy systems through electrification, among other strategies. The University has committed to transitioning its operations toward zero-emission electricity wherever possible, including building renovations and new construction.

Building electrification has already produced tangible results in the University's residential portfolio. Facilities and Operations recently completed two projects that fully converted residential buildings to electric systems, eliminating onsite fossil fuel use and cutting carbon emissions.

At 611 W. 112th Street, Columbia opened its first all-electric undergraduate residence hall, which operates without fossil fuels and is estimated to cut carbon emissions by 43 % compared to a typical New York City residence hall. The building incorporates a suite of sustainable design features — including variable refrigerant flow heat pumps, high-performance windows, green roof trays, and advanced heating and cooling systems — and is currently tracking LEED® Gold certification, a first for an undergraduate residence hall at the University.

Meanwhile, a multi-year renovation at 518 W. 111th Street has transformed the structure into a fully electric facility with 32 newly modernized apartments. The project reflects Columbia's broader push to electrify existing buildings while upgrading infrastructure to support long-term sustainability goals.

New construction is also part of Columbia's sustainable building efforts. The 34-story residential tower at 600 W. 125th Street, which opened last fall for graduate students and faculty, integrates a high-performance façade, energy-efficient systems, vegetated roofs, and stormwater management elements. Limited gas usage and other carbon-reducing features helped the project pursue LEED® Gold status, and it earned a three-star Fitwel rating (Fitwel's highest standard) in recognition of design choices that promote both sustainability and occupant well-being.

These building projects are part of Columbia's broader Building Net Zero initiative, which emphasizes electrification of campus buildings, adoption of sustainable design and construction policies, and strategic planning to decarbonize energy systems. The University is also conducting campus-wide studies to identify optimal pathways for electrifying district energy systems, academic and residential buildings, and other facilities while ensuring compliance with local climate laws and maximizing emissions reductions.

As these electrification and energy-efficiency projects continue, Columbia positions itself as a leader in climate action, demonstrating how large, complex institutions can integrate sustainability into their physical, operational, and planning frameworks.

Photo above: The courtyard of 611 West 112th Street, photographed by James Ewing.



## **SUSTAINABLE TRANSPORTATION: OVERVIEW**

A forward-thinking transportation strategy is essential not only for reducing the University's direct and indirect greenhouse gas emissions, but also for improving air quality and supporting healthier communities in New York City and beyond.

In 2021, Columbia committed to a comprehensive set of strategies to reduce emissions associated with fleet operations, commuting, business travel, and freight. Over the past four years, the University has expanded and strengthened programs that encourage lower-emission travel, including walking, cycling, use of the shuttle network, and public transit. These efforts include expanded parking capacity for the Lamont Park and Ride and additional bike parking installations. This progress has occurred alongside significant shifts in commuting patterns driven by the widespread adoption of hybrid and remote work.

Across the United States, transportation accounts for approximately 28% of total greenhouse gas emissions. While Columbia's transportation footprint is relatively small due to its compact urban environment, the University recognizes the importance of continued action and contribution to broader emissions reductions.

Over the past year, Columbia has continued transitioning its fleet to hybrid and electric vehicles, achieving a 40% reduction in emissions from its owned fleet compared to the baseline year. The University is also actively evaluating opportunities to expand electric vehicle fast-charging infrastructure. Efforts to reduce emissions from business travel and freight operations remain ongoing priorities.



## SUSTAINABLE TRANSPORTATION: PROGRESS

**GOAL:** Reduce emissions from on-campus fleet vehicles, commuters, and business travel.

**STRATEGY 1:** Campus fleet: Zero-emission on-campus fleets by 2037 or sooner, aligning with NYC goals.

### >>>PROGRESS 1:

Plan 2030 requires that all retired departmental vehicles be replaced with hybrid or electric vehicles through 2027, and with fully electric vehicles after 2027, pending market availability and operational needs. While Columbia's fleet size has increased since the 2019 baseline year, the University has reduced emissions from owned vehicles by 40%.

In 2024, Columbia's fleet included 102 vehicles, of which 25 were hybrid and 17 were fully electric, representing 41% of the fleet. During the year, the University purchased two new electric vehicles and one new hybrid vehicle.

Emissions from Columbia's contracted fleet — including buses and vans used for intercampus routes, Athletics travel, the Evening Shuttle service, and the Arbor shuttle — decreased slightly compared to the previous year. However, emissions remain 11% higher than the baseline year, primarily due to expanded intercampus shuttle operations over the past several years. Electric buses, first adopted in 2018 and now used on many routes, continue to significantly reduce emissions from contracted bus and shuttle operations while improving local air quality and reducing negative health impacts.

Expanding the electric bus fleet continues to face constraints related to cost and operational challenges. These include the limited range of electric buses compared to diesel vehicles, as well as the complexity and cost of installing fast-charging infrastructure. Additionally, the University



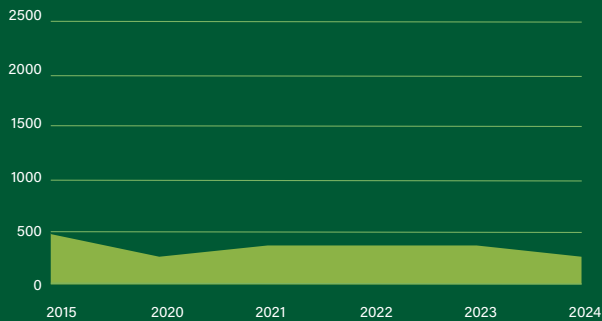
has experienced battery degradation issues with existing electric buses, reducing range between charges more quickly than expected and requiring buses to be temporarily removed from service for battery replacement.

The University continues to evaluate opportunities to secure fast-charging infrastructure near campus to support University fleet charging needs, bus operations, and potentially provide charging access for Columbia affiliates who commute by car.

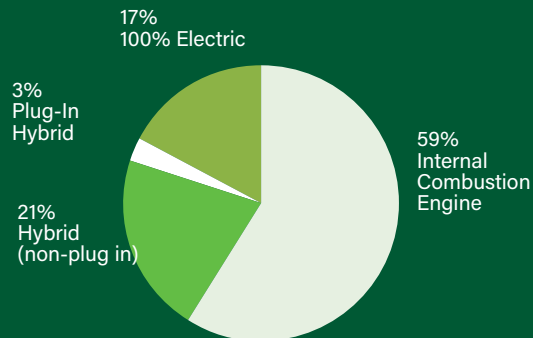
To support this evaluation, in Fall 2025, through the Campus as Lab initiative, Columbia Transportation partnered with the School of Professional Studies student club, the Electric Vehicle Organization, to assess charging infrastructure options to support an expanding electric vehicle fleet. The partnership also explored alternative low- or zero-emission vehicle technologies, including hydrogen fuel cell vehicles.

In 2025, the University received responses to a request for proposals to establish fast-charging infrastructure in the Engineering Terrace parking garage on the Morningside campus. These proposals will be evaluated

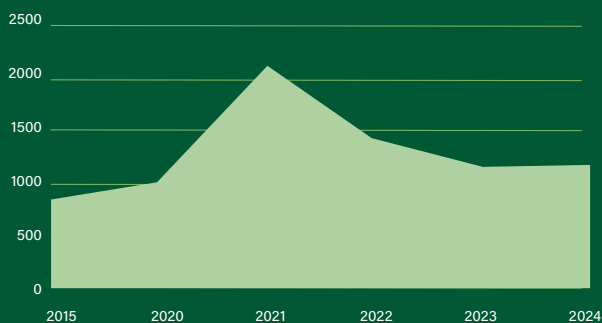
### Emissions from Columbia owned diesel and gas vehicles



### Fleet transition to electric



### Emissions from contracted fleet



alongside other options, including potential partnerships with third-party electric vehicle fast-charging station operators.

The Office of Sustainability and Columbia Transportation, in partnership with the University’s bus contractor, are also evaluating the potential use of renewable diesel in existing diesel bus operations. Renewable diesel could provide near-term emissions reductions with fewer operational changes and lower costs, while serving as a transition toward zero-emission technologies such as electric buses.

The University is also pursuing operational efficiency improvements. Columbia Transportation, which oversees the Facilities and Operations fleet (the largest at the University), continues to implement new telematics software to improve fleet management and provide data to identify and implement efficiency improvements.

Additionally, emissions from the Evening Shuttle service decreased due to operational efficiency improvements and the use of more fuel-efficient vehicles. In 2024, Evening Shuttle ridership increased by 10%, while fuel use decreased by 5%, despite vehicles driving 22% more miles.

**STRATEGY 2:** Commute: Reduce the percentage of Columbia affiliates choosing a drive-alone commute to below 8% employees and .5% students by 2030, and to zero by 2040.

### >>>PROGRESS 2:

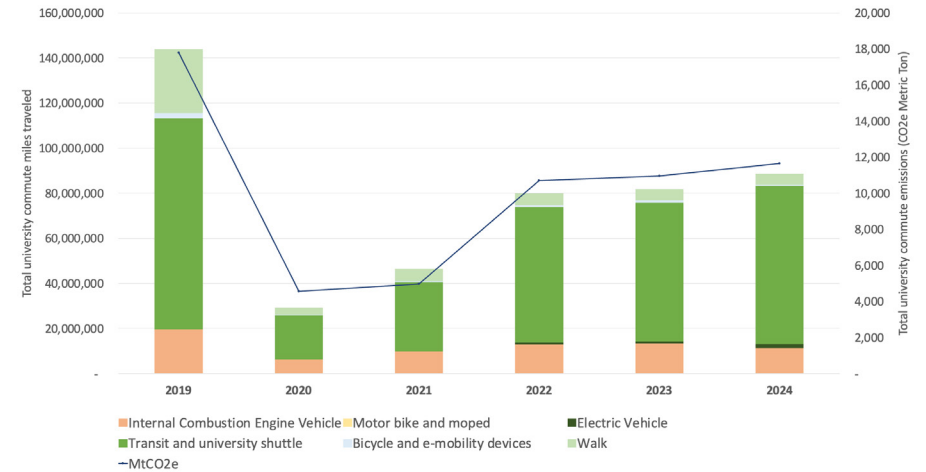
Since the pandemic, Columbia’s total commute travel miles and associated emissions have gradually increased. However, there has been a positive shift: the University is seeing a slight decline in miles traveled using personal vehicles. This includes both personal car and taxi travel, with an even greater decline in the use of fossil fuel-powered internal combustion engine (ICE) vehicles, as more affiliates transition to electric vehicles for commuting.

The increase in overall annual commute travel miles and emissions is largely driven by more affiliates choosing to commute via

public transit and the University shuttle system. This shift supports the University's goals of reducing parking demand, lowering emissions, and easing traffic congestion. As the New York electric grid continues to decarbonize, emissions associated with subway travel are also expected to decline.

The University continues to support its Flexible Working Arrangement policy, which helps reduce commute travel and peak-period transportation demand. Individual schools and departments determine which positions are eligible for hybrid work arrangements. These arrangements continue to significantly reduce vehicle traffic, associated emissions, and congestion.

Columbia also continues to implement transportation demand management strategies focused on providing convenient, reliable intercampus and commuter travel options that reduce emissions and congestion. The University maintains a comprehensive, free shuttle network designed to connect campuses, major transit hubs, and areas with limited transit access, including Bergen and Rockland counties. Columbia also operates a Park and Ride service at Lamont-Doherty Earth Observatory in Rockland County. The Columbia Transportation website provides comprehensive commuting resources, including carpool matching, carpool incentives, bicycle parking information, and access to the University's bicycle interest group newsletter.



Columbia commute survey data is used to calculate total annual miles by commute mode choice, and ultimately emissions. The data shows that travel and emissions have reduced as a result of the COVID-19 pandemic and the subsequent adoption of hybrid work schedules, as well as slight downward trend in person vehicle miles traveled and the rise of electric vehicles use.

Parking policies and pricing at the Morningside and Medical Center campuses have not yet been fully evaluated against the University's sustainability objectives. At Manhattanville, however, parking rates are monitored and adjusted to align with market rates and are billed on a daily basis. This approach reflects transportation demand management best practices by encouraging commuters to make daily travel decisions.



**STRATEGY 3:** Business Travel: Provide campus resources that allow affiliates to avoid travel if possible; offset emissions from University-sponsored business travel.

**>>>PROGRESS 3:**

Business travel is essential to the mission of Columbia University. While the COVID-19 pandemic accelerated the adoption of video conferencing as an alternative to travel and in-person meetings, business travel has steadily increased since 2021. In 2024, emissions from Columbia-sponsored air travel reported through SAP Concur Travel and World Travel Inc., the University's travel booking platforms, totaled 19,781 metric tons of greenhouse gas emissions — a 36% increase from the previous year.

Columbia has historically tracked and reported business travel emissions primarily through air travel data. At the launch of Plan 2030, emissions were estimated using survey data. In 2020, the University transitioned to reporting emissions using data collected through its online travel booking tool SAP Concur Travel and World Travel Inc. While this approach does not capture all travel activity, it is considered more accurate and consistent.

In Spring 2024, the Office of Sustainability hosted Think Tank workshops with representatives from schools and departments across Columbia's campuses. One key focus area was business travel, with participants identifying barriers and opportunities to reduce emissions, particularly from flying. Air travel represents the largest share of the University's business travel emissions, and there are currently no carbon-free aviation options available. Columbia encourages affiliates to choose rail travel over flying for shorter regional trips to destinations such as Boston, though broader emissions reductions will require continued technological advancement across the aviation sector.

Columbia partners with Amtrak and works with airlines that are investing in sustainability innovation. The University's preferred airlines — Delta Air Lines, American Airlines, and United Airlines — continue to invest in research and emissions-reduction strategies. These include deploying more fuel-efficient aircraft and expanding the use of sustainable aviation fuel (SAF), which is produced from non-petroleum feedstocks and can help reduce lifecycle air pollution compared to conventional jet fuel.

Through its travel booking platforms, Columbia provides tools that help affiliates make more sustainable travel choices. Travelers can view and sort airline and hotel options based on emissions impact before booking.

While business travel remains critical to the University's mission, it is one of the most difficult sectors to decarbonize. Columbia continues to monitor developments in this space and explore innovative strategies to reduce travel-related emissions over time.

**STRATEGY 4:** Freight: Reduce impacts of freight deliveries such as traffic and parking congestion, particularly during peak road demand periods. Reduce negative impacts of double parking by delivery vehicles. Begin 2025 or sooner.

**>>>PROGRESS 4:**

Freight transportation to Columbia University has impacts across multiple areas. In addition to higher emissions associated with diesel trucks, freight activity contributes to traffic congestion in New York City and in neighborhoods surrounding the University's campuses.

The University plans to build on insights gathered from previous student capstone research and continue leveraging Campus as Lab partnerships, as well as relevant New York City initiatives, to identify effective strategies for reducing freight-related impacts and improving emissions tracking and reporting methods.

There are no new freight-related updates to report for 2024 or 2025, as the University has prioritized efforts in other areas where greater emissions reductions and operational impacts can be achieved.

## RESPONSIBLE DESIGN AND CONSTRUCTION: OVERVIEW

As a leading New York City institution, Columbia continues to expand, renew, and refresh its infrastructure and buildings. It is critical to ensure that its design and construction practices support the rigorous climate and sustainability goals set forth in Plan 2030 through a clear set of standards that applies to projects large and small.

In 2021, the University committed to the development of such standards that would apply to all project sizes and types across the University.

This past year, all campuses participated in a process to create new sustainable design and construction standards covering the impact areas of energy, water, waste, healthy materials, and more. Over the course of the coming year, the University is poised to reveal and implement these standards across all campuses. The process to fully embed the standards into practice will take approximately one year and will be a critical step to ensure that every design- and construction-related decision ensures full support of the University's climate and sustainability goals.

Aerial view of 611 West 112th Street,  
Columbia's first all-electric residence hall.  
Photo by James Ewing.

## RESPONSIBLE DESIGN AND CONSTRUCTION: PROGRESS

**GOAL:** Ensure the design, construction, and refresh processes at all campuses support the University's long-term goal to both decarbonize and achieve zero waste.

**STRATEGY 1:** Ensure the design, construction, and refresh processes at all campuses support the University's long-term goal to both decarbonize and achieve zero waste.

### >>>PROGRESS 1:

Developing robust design and construction standards is central to aligning University projects with Plan 2030 and maintaining Columbia's leadership in climate action. To support this effort, the University engaged a consulting firm in 2024 to help develop University-wide Sustainable Design and Construction Standards. Working with a broad group of stakeholders, the firm helped draft requirements that move Columbia beyond general guidelines.

These standards are already being applied to projects, including the ongoing Hartley Hall renovation. The next phase will focus on broader implementation and training to support adoption across the University.

**STRATEGY 2:** Develop action plans that provide tactical guidelines to make sustainability a part of Columbia's design and construction culture.

### >>>PROGRESS 2:

Action plans for the rollout of this program stem from the above effort.



## **RESPONSIBLE MATERIALS MANAGEMENT: OVERVIEW**

Rethinking procurement of goods, management of waste, purchase of new materials and disposal of the old — often referred to as circularity — are important to ensure our daily behaviors and practices support the University's sustainability goals. Materials management is a complicated web, and Columbia is committed to finding new efficiencies to manage the flow of goods through its campuses.

In 2021, Columbia committed to expand waste diversion opportunities, encourage zero waste events, work with tenants on campus to align with University sustainability practices, and pursue more aggressive procurement practices that reduce Scope 3 emissions.

This past year, the University made significant progress in addressing Scope 3 emissions through a collaborative partnership with the Office of Sustainability and Central Procurement. Together, the teams are advancing efforts to improve waste data, increase operational efficiency, and pilot a new sustainable procurement framework with one of the University's top suppliers.

In the coming year, the goal is to expand and scale these initiatives to deliver both financial savings and environmental benefits across the University.



Operations Manager Helen Bielak gives a tour of the Grove, where Columbia's waste is sorted, to an undergraduate Sustainable Development capstone class.

# RESPONSIBLE MATERIALS MANAGEMENT: PROGRESS

**GOAL:** Columbia commits to align with New York City's zero waste goal through enhanced waste diversion programming, strategic procurement partnerships, and a robust sustainable events policy.

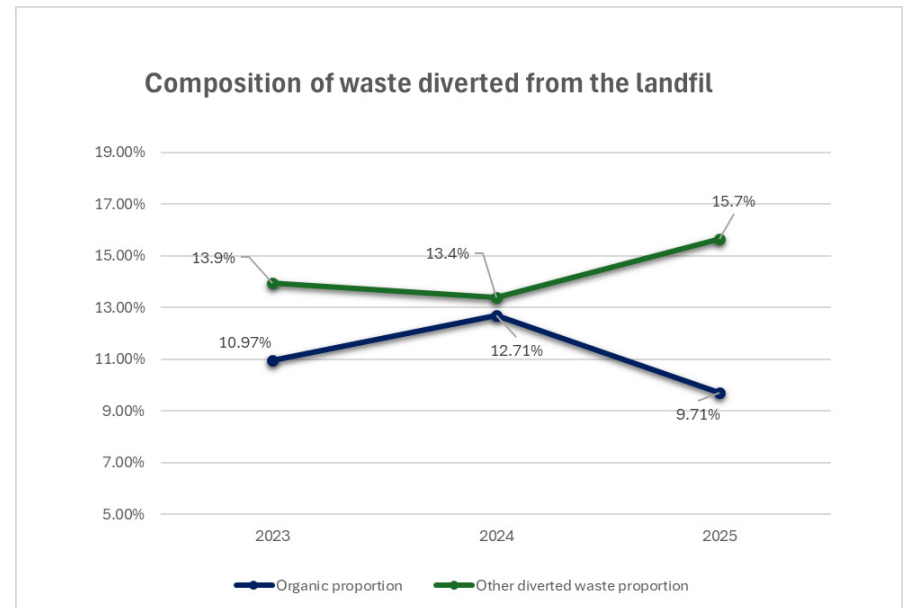
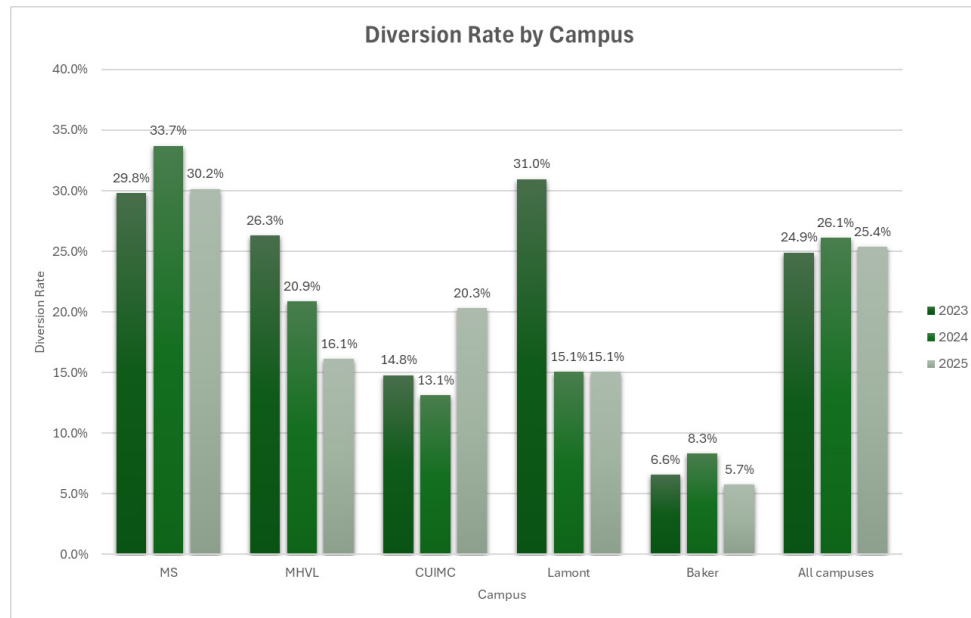
**STRATEGY 1:** Expand current waste diversion programs including organics, evolve Scope 3 emissions baseline data and tracking, create a steering committee to evaluate measurement of waste minimization.

## >>>PROGRESS 1.1: IMPROVED WASTE DATA

With the collaboration of its high-volume waste vendors, Columbia has accelerated efforts to capture and analyze waste data across its campuses — a critical step toward achieving the Zero Waste goal outlined

in Plan 2030. Collecting waste data across multiple campuses and vendors is complex and has historically made it difficult to calculate a comprehensive diversion rate. Through these partnerships, the University was able to establish 2023 as a baseline year and calculate an overall waste diversion rate of 25.4%, with the Morningside campus reporting the highest performance.

Columbia continues to improve data access and tracking to better baseline and increase diversion and organic waste management. These efforts involve collaboration with operations teams, vendors, students, and affiliates. Initiatives include promoting the procurement of more recyclable products and increasing awareness of proper waste sorting to reduce contamination. In addition, the New York City Department of Sanitation (DSNY) continues its curbside residential organics collection program, and separation of organic waste is required in faculty, graduate, and undergraduate housing to comply with city waste and recycling laws. The University's administrative furniture reuse website also remains active, supporting circularity and reducing waste sent to landfill.



\*Please note for Lamont due to operational challenges 2025 data couldn't be updated; 2024 data is reused to fill that gap.

## >>>PROGRESS 1.2: WASTE CENTRALIZATION

In Fall 2025, Procurement Services and the Office of Sustainability partnered to prepare a request for proposals (RFP) from waste management vendors to provide waste and recycling carting services across all campuses of Columbia University.

This initiative would mark the first time the University's waste management operations are centralized under a single vendor. Centralizing services is expected to modernize operations, reduce costs and risk, and establish a comprehensive baseline of waste data across the institution.

The primary goals of the RFP are to identify cost savings, improve operational efficiency, and strengthen the University's ability to track waste generation and landfill diversion. New, standardized reporting requirements for vendors across all campuses will improve data consistency and quality. Improved data collection will support progress toward the University's Zero Waste goal.

Procurement Services and the Office of Sustainability convened key campus stakeholders whose operations influence waste generation, ensuring their diverse operational needs were incorporated into the RFP. Stakeholders included Environmental Health & Safety, Housing, Grounds, Facilities, the Office of Sustainability, Columbia University Irving Medical Center, Lamont-Doherty Earth Observatory, and Manhattanville. These groups will continue to provide input on this major initiative.

Student learning opportunities were also incorporated through the Campus as Lab initiative. An Office of Sustainability intern and a student from the School of Professional Studies Sustainability Management program supported the process through research, preparation of communications materials, and presentation development.

**STRATEGY 2:** Host only zero waste events.

### >>>PROGRESS 2:

In 2021, Columbia University published its Sustainable Events Guidelines. Since then, campus teams have used these guidelines as an important tool to help reduce waste generated at events.



Student intern touring a Columbia supply chain warehouse in the Bronx, as part of a sustainable procurement Campus as Lab project.

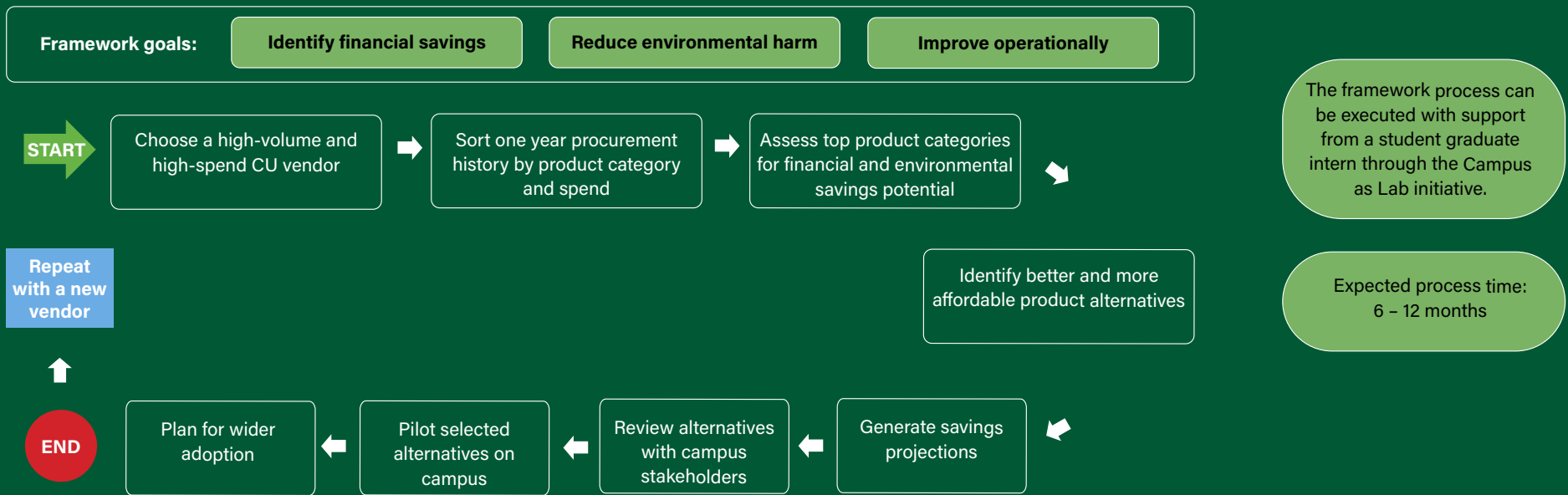
Looking ahead, the University will continue working to expand awareness and adoption of sustainable event practices across campuses.

**STRATEGY 3:** Align retail tenant operations with University sustainability standards.

### >>>PROGRESS 3:

Columbia has focused on strategically communicating with commercial tenants around sustainability. New language has been drafted for inclusion in upcoming new contracts regarding, among other things, alignment with waste-hauling practices as required by Department of Sanitation laws and awareness of implications of Local Law 97. Over the next year this work will expand in partnership with the Real Estate leadership team.

Campus as Lab: A new framework for advancing sustainable procurement and financial savings



**STRATEGY 4:** Set procurement specifications to quantify emissions from procured goods and services.

**>>>PROGRESS 4.1: SUSTAINABLE PROCUREMENT**

In Summer 2025, through the Campus as Lab initiative, the Office of Sustainability partnered with Procurement Services at Columbia University to hire an intern from Columbia Business School. The intern was tasked with developing and piloting a new sustainable procurement framework designed to identify opportunities for both cost savings and sustainability improvements across high-volume supply purchases from key University vendors.

The initial pilot focused on Fastenal, a national supplier that provides hardware and custodial supplies to the University and represents a significant share of consumable purchasing and annual spend. High-priority items under evaluation include bathroom paper products (such as

toilet paper and paper towels), hand soaps and cleaners, bin liners, and gloves, among others.

Alternative products for these high-use supply categories will be evaluated in 2026 through engagement with key campus stakeholders and with support from a second intern who will continue advancing this work. The project is ongoing, and the framework is expected to be expanded over time to additional vendors that supply large volumes of goods to the University.

These upstream supply chain efforts complement downstream waste diversion initiatives, including the partnership between Procurement Services and the Office of Sustainability on the University-wide Waste RFP. Together, these efforts support a more comprehensive approach to materials management, improving how materials are sourced, used, and ultimately managed as waste across campus.

## >>>PROGRESS 4.2: PLANT-POWERED CARBON CHALLENGE

In 2023, the University took a major step toward aligning dining operations with its broader sustainability commitments under Plan 2030 by joining the challenge. Through this initiative, the University committed to reducing food-related carbon emissions by expanding plant-based menu offerings.

This work was informed by a student capstone project that revealed the outsized climate impact of beef. Although beef represented only 3% of menu offerings at John Jay Dining Hall, it accounted for more than 70% of the location's food-related carbon emissions. This finding prompted a reevaluation of menu strategy and accelerated implementation of lower-carbon food options.

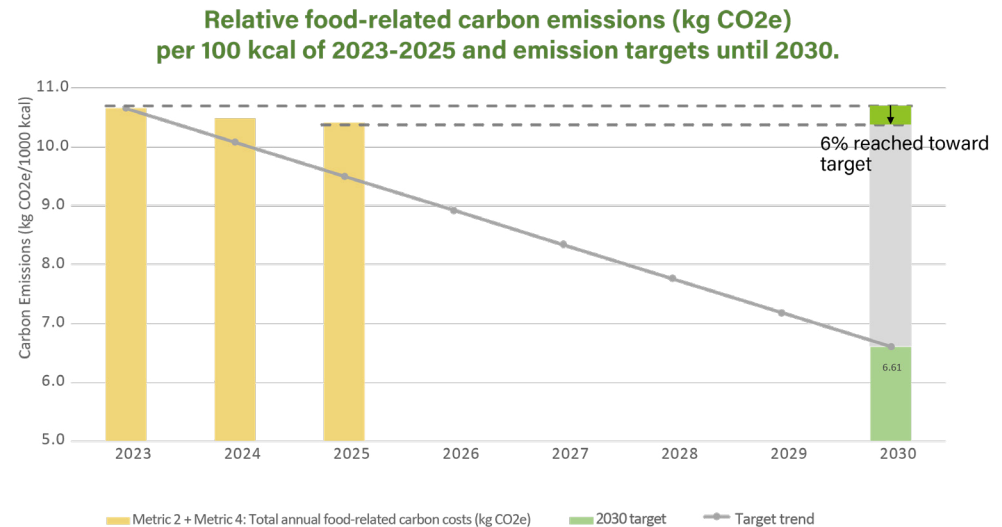
Led by Columbia Dining and supported by the Office of Sustainability, the University is working toward a 25% reduction in total food-related emissions by 2030 under the Challenge. Progress is tracked using an emissions intensity metric — kilograms of CO<sub>2</sub> equivalent per 1,000 kilocalories (kg CO<sub>2</sub>e/1,000 kcal). Unlike absolute emissions, this relative metric measures environmental impact per unit of food energy served, allowing the University to track sustainability progress even as dining demand changes.

By targeting a 38% reduction in emissions intensity by 2030, Columbia aims to reduce the carbon footprint of meals served while maintaining high-quality dining services and supporting campus growth.

While total food-related emissions increased alongside higher dining demand, a key success has emerged: the University is decoupling meal volume from carbon intensity. The carbon footprint of a standard meal has declined over recent years. In 2025, campus-wide emissions intensity decreased to 10.42 kg CO<sub>2</sub>e/1,000 kcal, down from 10.49 in 2024. The University remains on track toward its 2030 emissions intensity reduction target. Between 2023 and 2025, emissions intensity had a cumulative decrease by 0.24 kg CO<sub>2</sub>e/1,000 kcal. Against the overall 38% reduction target—which requires a cumulative carbon intensity reduction of 4.05 kg CO<sub>2</sub>e/1,000 kcal from 2023 by 2030—this represents approximately 6% progress toward that goal. Strategic initiatives including expanded plant-based menu options and the “oat milk default” continue to lower the overall carbon footprint of food served across campus.

## RELATIVE EMISSION—TARGET AND ACTUAL TOTAL FOOD-RELATED CARBON EMISSION, 2023-2025

Year	Actual Relative Emissions (kgCO <sub>2</sub> e/1000 kcal)	Cumulative Reduction from Base Year (kgCO <sub>2</sub> e/1000 kcal)	Percentage of Cumulative Reduction from Base Year vs. Target
2023 (base year)	10.66	0	0%
2024	10.49	0.17	4%
2025	10.42	0.24	6%
2030	6.61 (target)	4.05 (target)	100%



## SPOTLIGHT

# Launching a New Sustainable Procurement Framework at Columbia

*By integrating sustainability metrics with business risk indicators to inform strategic procurement decisions, the Office of Sustainability's first Columbia Business School intern, Ting-Ting Chou, set the University on a path to reduce costs and lower its supply chain's environmental footprint.*

As part of Columbia's robust [Campus as Lab \(CAL\)](#) initiative, the Office of Sustainability hired Chou — pursuing an MBA at Columbia Business School with a focus on strategic management and sustainability — to explore how procurement decisions can align more closely with the University's environmental and financial goals. Chou's internship was sponsored by the Business School through a new partnership with the Office of Sustainability that aims to offer Business School students more access to real-world sustainability work.

Sustainable procurement is increasingly recognized as a key opportunity for institutions to reduce emissions, enhance efficiency, and strengthen resilience. Supply chains often represent a significant portion of an organization's environmental impact, and Columbia is no exception. A University-wide spend base analysis conducted in 2018 revealed that supply chain activities account for a high percentage of Columbia's total emissions.

Working with Columbia's Procurement Services and the vendor Fastenal, which provides custodial supplies to the University, Chou applied a sustainability framework to analyze purchasing trends and identify opportunities for improvement. The analysis focused on high-spend, high-volume consumables such as paper products, hand towels, toilet paper, cleaning products, bin liners, gloves, and ice melt.

Through the project, Columbia identified opportunities to reduce costs, consolidate product choices, and introduce more sustainable alternatives, while maintaining operational efficiency. The effort also engaged the vendor to explore new ways of improving supply chain sustainability and transparency.

"This project demonstrates how sustainability and business strategy intersect," said Professor of Professional Practice Bruce Usher (Elizabeth B. Strickler '86 and Mark T. Gallogly '86 Faculty Co-Director of the Tamer Institute for Social Enterprise and Climate Change) of Columbia Business School. "By embedding environmental data into procurement decisions, we can make progress toward institutional goals while also driving innovation."

"Our partnership with the Office of Sustainability provides fresh insights and analytical rigor to our day-to-day operations," added Jeff Csoka, Director of Construction Sourcing within Columbia's Procurement Services department. "The framework Ting-Ting developed through this project will inform future vendor engagements across campus."

The project delivered several key outcomes:

- An engaged vendor committed to sustainability improvements
- Summarized data sets and visuals identifying high-impact opportunities
- A scalable framework to guide sustainable procurement across additional University vendors

This initiative contributes to [Columbia's Plan 2030 goals](#), particularly within the [Responsible Materials Management](#) section. By leveraging the expertise of students like Chou, Columbia continues to integrate sustainability into the core of its campus operations, turning learning into measurable impact.

The Office of Sustainability and Procurement Services will look to build on this project with additional CAL roles in the semesters to follow.



## CULTURE CHANGE AND CAMPUS AS A LIVING LAB: OVERVIEW

Empowering students at Columbia University to develop solutions through the Campus as Lab approach is critical to advancing the University's sustainability targets. This model also supports Columbia's broader mission to educate future generations, generate knowledge that advances society, and invest in communities locally and globally.

Over the past decade, students have helped shape the University's sustainability efforts in many ways, including through faculty-led capstone projects, thesis research, student club initiatives, and working groups that contributed to the development of both University sustainability plans.

In Fall 2024, the Office of Sustainability launched new efforts to expand the Campus as Lab initiative, increasing opportunities for students to gain real-world experience working on climate and sustainability projects that both support their education and advance campus sustainability priorities. As a result, the initiative has grown significantly. Over an 18-month period, student participation increased by more than 400%, from an average of approximately 10 students per year to more than 40 students annually. During the same period, project collaborations increased from roughly one or two per year to 11 in the most recent academic year.

Through a variety of collaboration formats — including course-based projects and capstones, internships with the Office of Sustainability, and partnerships with student sustainability clubs — students are able to engage as real-world problem solvers. These experiences allow students to build practical skill sets, contribute to meaningful sustainability outcomes, and gain hands-on experience they can highlight in résumés and job interviews.

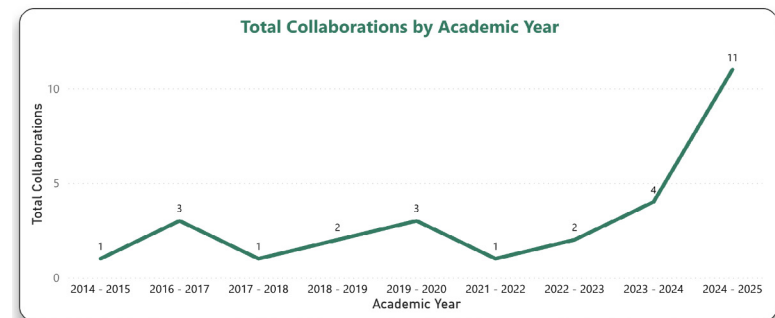
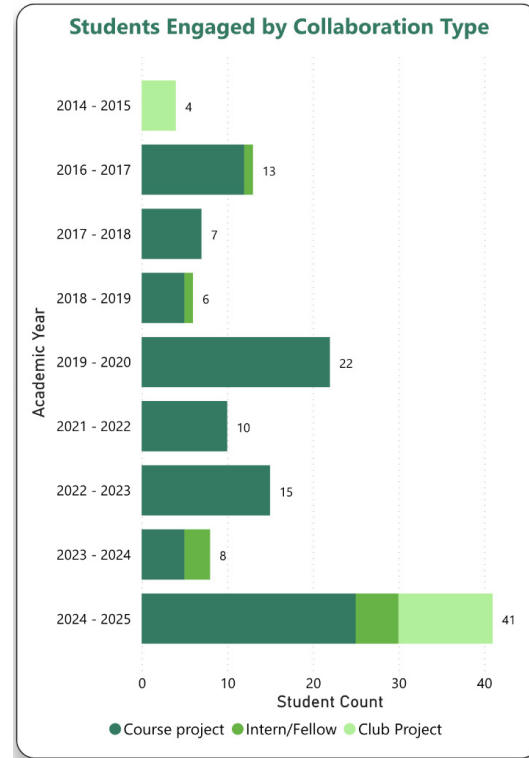
## CAMPUS AS LAB PROGRAM IMPACT

**28**

Campus as Lab Collaborations Since 2014

**126**

Students Engaged in Campus as Lab Since 2014



# CULTURE CHANGE AND CAMPUS AS A LIVING LAB: PROGRESS

**GOAL:** Columbia commits to enhance student education and access to the campus as a living lab.

**STRATEGY 1:** Enhance the sustainability literacy of the University community.

## >>>PROGRESS 1:

In 2024, a Think Tank series brought together more than 40 administrators, school representatives, and students from across 15 schools and departments at Columbia University to explore ways to better integrate sustainability into school-level operations. Stakeholder feedback emphasized that, for sustainable procurement and waste initiatives to be widely adopted, they should be centrally vetted, provide financial as well as environmental benefits, and be packaged as low-effort, ready-to-implement toolkits.

Over the past year, the Office of Sustainability collaborated with the Undergraduate Sustainable Development Capstone Workshop to develop a compact program called SOAR (Sustainable Office Advancement Roadmap).

The campaign initially focuses on reducing single-use bottled water, copy paper, and printer toner. These items are among the University's highest-spend consumables and frequently enter the waste stream, making them priority targets for campus engagement and reduction efforts. The SOAR initiative also aims to improve waste sorting by supporting a transition to centralized waste collection in office spaces — a key strategy for advancing both City and University Zero Waste commitments.

In Fall 2025, the Office of Sustainability reconvened Think Tank participants to share how their feedback was incorporated, introduce formalized engagement pathways with the Office, and present the SOAR campaign framework. The Office of Sustainability is currently seeking a small number of schools or departments to pilot SOAR. These pilots

will help refine the program and measure its impact, supporting broader adoption across the University.

**STRATEGY 2:** Empower students to identify and implement mechanisms to change the culture on campus.

## >>>PROGRESS 2:

The Campus as Lab (CAL) program is the primary pathway for advancing this strategy at Columbia University. The Office of Sustainability launched a new, more comprehensive CAL landing page to better promote the program, highlight key metrics, and connect with the broader CAL Community of Practice, a network of North American universities collaborating to strengthen Campus as Lab programs.

The Office also established a dedicated CAL internship position to help identify campus operational challenges and translate them into project opportunities aligned with student capacity and academic programs. To strengthen the pipeline of project work, the Office of Sustainability has expanded partnerships with several schools to create more formalized pathways for students to participate in campus sustainability projects, including the Climate School, School of Professional Studies, Columbia Business School, and the Engineering School.

The Office has also expanded collaboration with key operational departments — including Procurement Services, Dining, and Transportation — using CAL projects to support research and analysis that drive both financial and sustainability benefits.

Key collaborations over the past 18 months include:

- Launch of the first CAL internship focused on expanding and formalizing the CAL program.
- Internships supporting Columbia Dining efforts to reduce food-related emissions and advance Plant Power Challenge commitments.
- Research on Level 3 EV charging technology, government incentives, and alternative technologies such as hydrogen fuel cells.

- Columbia Business School internships to develop and test a sustainable procurement framework that aligns financial and sustainability savings.
- Engineering student analysis of Evening Shuttle trip data to develop routing and service optimization recommendations for Transportation and Via.
- SPS Sustainability Management capstone: risk analysis exploring how evolving social, political, and climate risks could impact University operations.
- Undergraduate Sustainable Development capstone development of the SOAR campus engagement framework.
- Two SPS Circular Economy Club projects: implementation of Green Lab framework case studies with Environmental Health & Safety across multiple lab types, and research to expand the University's ReUse program.
- Hiring of a second intern to continue advancing the sustainable procurement framework in partnership with Procurement Services and Fastenal.
- A Climate School intern supporting Office of Sustainability special projects during Fall 2025 and Spring 2026.



A student capstone team from the School of Professional Studies Sustainability Management program worked on a Campus as Lab project to complete a Climate and Sustainability Risk Review for Columbia.

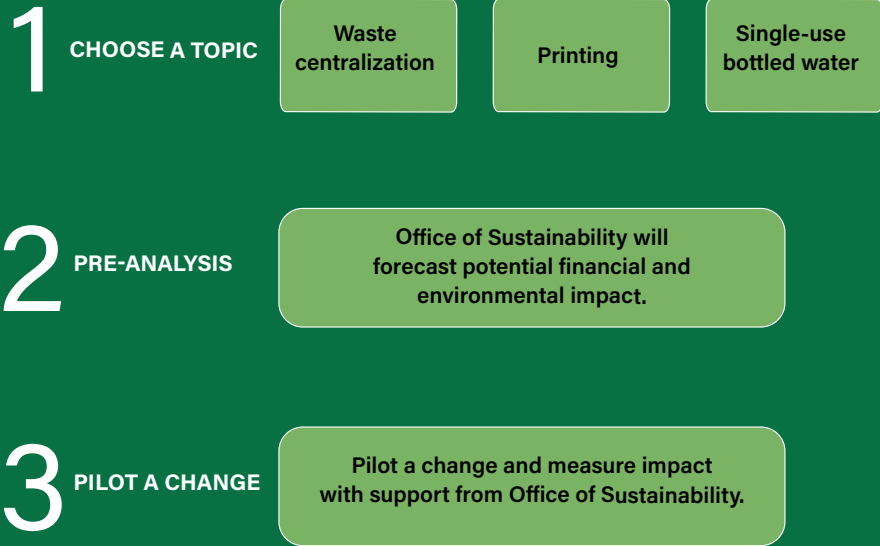
**Impact where it matters most:**

Central Procurement data ranks print supplies and bottled water among top university spend categories.

**A product of Campus as Lab:**

This framework was produced by an undergrad Sustainable Development capstone class, Fall 2025, led by Professor Jenna Lawrence.

**SUSTAINABLE OFFICE ADVANCEMENT ROADMAP (SOAR)**



**Waste centralization**

**Zero desk-side bins**

**Deskside bin removal**

Remove desk-side bins that don't encourage recycling. Replace with personal caddy for special situations

**Centralize waste collection**

Install waste stations in central locations with recycling and trash receptacles, using consistent labels and bin types.

**Improve waste sorting**

Increase recycling accuracy by 77%

**Printing**

**Zero desk-side printers**

**Printer audit**

Conduct office-wide printer audit

**Printer reduction**

Reduce procurement and maintenance costs by right-sizing and consolidating to multi-function printers and removing desk-side printers.

**Paper and tonner use reduction**

Reduce overall paper use by shifting to digital first workflows

**Single-use bottled water**

**Zero single-use plastics**

**Bottled water use and water station audit**

An audit of single-use plastic bottle use cases. Audit and feasibility study for new hydration station locations

**Install hydration stations**

Leverage University contracts with water station providers with support from the Office of Sustainability.

**Provide information**

Encourage affiliates to rely on tap water and reusable personal bottles.

## Campus as Lab Expands Hands-On Opportunities for Student Sustainability Impact

Over the past year, the Office of Sustainability's Campus as Lab (CAL) initiative has significantly expanded, offering students more opportunities to engage directly with sustainability challenges on campus through real-world projects, internships, and collaborations with operations staff and departments. Aligned with Plan 2030, these CAL experiences bridge classroom learning with practical impact while contributing to Columbia's long-term climate and sustainability goals.

This academic year's CAL highlights include student-driven research, tools, and partnerships that advanced strategic planning, operational sustainability, data-driven decision-making, and real-world campus impact.

A School of Professional Studies capstone team completed a [Climate and Sustainability Risk Review](#), helping Columbia better understand how emerging environmental, regulatory, and social risks intersect with institutional operations and planning. Their deliverables, including risk frameworks and benchmarking, will inform future decision-making across campus.

An undergraduate capstone translated Plan 2030 strategy into an [action-based engagement program](#) called S.O.A.R. (Sustainable Office Advancement Roadmap). By auditing waste, print, and water bottle purchasing in campus buildings and engaging stakeholders, the team developed a program toolkit to support cost-effective operational change at the departmental level.

In addition to course-based projects, CAL has expanded through internship roles. In addition to Columbia Business School student Ting-Ting Chou, whose work on developing a sustainable procurement framework is detailed in the Procurement Framework Spotlight on page 32, the Office of Sustainability [hosted Julia Widmann](#), an intern whose contributions spanned greenhouse gas accounting, commute emissions analysis, sustainable transportation proposals, and support for waste-management RFP development. Her analytical work has strengthened the accuracy and depth of Columbia's sustainability data systems and operational planning.

Student-led clubs and organizations are also making meaningful contributions to CAL. The Electric Vehicles Organization (EVO), an officially recognized student club, [completed Phase 1 of a charging plan consulting project](#). Working with Columbia Transportation and the Office of Sustainability, EVO assessed EV infrastructure needs and developed a phased plan to support Columbia's electrifying fleet. Their work provides data-driven insights into charger capacity and policy incentives, helping guide future fleet planning.

Since 2014, there have been 28 CAL collaborations including 126 students engaged in sustainability work. A list of all past projects can be found on the [Sustainable Columbia website](#).

## WATER CONSERVATION AND CAPTURE: OVERVIEW

Water management and conservation are key tenets of Plan 2030. Ongoing challenges in New York City, including sewage overflows and flooding, underscore the importance of identifying innovative solutions to reduce water impacts and strengthen resilience.

Water stewardship emerged as a top priority during the visioning workshop for Columbia's campus expansion at Manhattanville, and has been identified as a key focus area for upcoming construction projects at the University.

The project team leading the effort will establish clear water conservation goals, including reducing potable water demand, expanding opportunities for capture and reuse, and increasing campus awareness. Proposed strategies may include piloting small-scale or modular water systems that can be integrated into building design and monitored over time to evaluate performance and scalability.

In the coming years, the University will also prioritize improved data synthesis and analysis to better understand water use across all campuses and identify opportunities to further reduce consumption. These efforts will support the exploration of new strategies for water conservation, efficiency, and stormwater capture.

## WATER CONSERVATION AND CAPTURE: PROGRESS

**GOAL:** Columbia commits to water conservation, capture, and awareness.

**STRATEGY 1:** Expand awareness of water usage.

**>>>PROGRESS 1:**

The University maintains centralized water consumption data in conjunction with the billing it receives from the Department of Environmental Protection. In continuing to broaden awareness related to water usage the University will employ data analytics to confirm these baseline numbers across its campuses so it can take further steps to advance this strategy.

**STRATEGY 2:** Explore ways to support equitable water distribution and protection of the watershed that provides NYC water.

**>>>PROGRESS 2:**

Columbia has continued to increase the installation of water filling stations in buildings across its campuses to support equitable water distribution. While Columbia researchers are actively engaged in work related to the protection of the watershed, the University will this year determine if there are other viable opportunities to support this work through an operational lens.

**STRATEGY 3:** Seek opportunities to capture rainwater and divert it from contributing to sewage overflow.

**>>>PROGRESS 3:**

Columbia is committed to taking action that helps mitigate its contribution to water related issues in New York City. Over the past number of years three holding tanks have been installed at the Morningside campus to prevent overflow during major storms. Further opportunities will be explored and executed as appropriate in the coming years at other campuses, including capturing rainwater for possible reuse in some capacity.

## GET INVOLVED



Join a student-led climate and sustainability group: There are many sustainability-related student groups on campus, spanning a diverse set of topics. Visit our website to see a list of [current student groups](#).



Visit us at office hours: The Office of Sustainability offers office hours every Tuesday. If you have an idea or want to learn about a campus sustainability topic in more detail, visit our website and [submit the form to request a meeting time](#).



Participate in a Campus as Lab project: If you are a faculty member who wishes to bring campus sustainability into your classroom or an administrator with a project you'd like to submit to the Campus as Lab program, visit our website for details on how to [submit your idea](#). If you are a student interested in how this program is evolving and what new opportunities may become available for internships and fellowships, please follow our social media channels and stay tuned for updates.



Send us your ideas: Send your ideas to [environment@columbia.edu](mailto:environment@columbia.edu).

## THANK YOU

—to Columbia students for your passion and commitment around the University's sustainability progress.

—to the many administrative partners across our campuses that are taking the lead to successfully embed sustainability into your operations.

—to our faculty partners, critical to key research and involvement in Campus as Lab efforts.

—to Columbia's many consultants who engage with us offering fresh perspective, technical solutions, strategic guidance, and so much more.

—to our community partners who are critical stakeholders to shape and benefit from the outcomes of Plan 2030.



**SUSTAINABLE**  
**COLUMBIA**

[sustainable.columbia.edu](https://sustainable.columbia.edu)