SUNY CLIMATE AND SUSTAINABILITY ACTION PLAN

2025-2030

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Executive Summary

Climate change is already defining the 21st century through its effects on people, ecosystems, and economies worldwide. The State University of New York (SUNY) will make significant contributions to meeting this challenge by modeling how society can decarbonize, developing the next generation of environmental and justice leaders, discovering innovative technologies and approaches, and advancing equitable economic mobility and community health. SUNY developed this Climate and Sustainability Action Plan as a comprehensive approach that leverages its unique scale and core educational, research, workforce development, and operational expertise.

Thanks to Governor Hochul's leadership, SUNY is well-positioned to develop and implement evidence- and science-based strategies to meet decarbonization goals, empower students, faculty, and staff to create and continuously improve those strategies, and work with community and industry partners to scale up climate solutions. Through the lens of climate and sustainability solutions, campuses will improve education, research, workforce development, facilities, and operations, reinforcing that SUNY is the clear choice for students, faculty, and staff who want to make the world a better place.

To support these objectives and to meet the State's goals set out in the Climate Leadership and Community Protection Act (CLCPA) and Executive Order 22 (EO22), SUNY's Board requested $2.5 billion over the next five years in additional, dedicated State capital funds for implementing Clean Energy Master Plans. In addition, Governor Hochul announced in the 2025 State of the State executive agenda that SUNY can immediately invest $100 million in New York State Clean Air, Clean Water, and Green Jobs Bond Act funds to design and build innovative thermal energy networks, renewable solar power generation, and other clean energy. This plan will also leverage federal and private funding, and SUNY recently received a $15 million Federal grant to build electric vehicle charging stations.

These investments in SUNY's climate and sustainability programs will improve New York's ability to attract, retain, and grow the vital green sector of the Nation's economy and better prepare communities for adapting to extreme weather. SUNY already returns $8.67 for every $1 in state funding and has an annual economic impact of over $31 billion throughout New York State from its hospitals, research, commercialization, academic, construction, and other activities.[1] Investing in SUNY's climate and sustainability programs will similarly return many benefits to the State's economy, enabling New York workers and businesses to lead the renewable energy, circular waste management, agricultural technology, and other sectors of the growing green economy.

SUNY's actions on climate and sustainability will have a significant impact. The system represents 40 percent of State-owned buildings and 1.3 million students and presents an opportunity to demonstrate building and operational decarbonization at scale, to build a culture of sustainability that will carry through to communities, and to develop the climate leaders of tomorrow. Through actions that stretch back several decades, SUNY's state-operated campuses have reduced gross fuel and electricity (Scope 1 and 2) greenhouse gas emissions by over 35 percent since the baseline year of 1990, making substantial progress towards the CLCPA's goal of a 40 percent reduction in statewide emissions by 2030. SUNY campuses have reduced energy use by 13 percent since 2015, even while growing by over 12 million square feet to meet demand, which translates to a 33 percent decrease in energy per square foot. In addition, the SUNY Board of Trustees recently adopted a policy to phase out single-use plastics. SUNY's ambitious goals and actions will

be even more effective by aligning efforts across campuses and making a unified case for state and federal investments and policies.

This Climate and Sustainability Action Plan will accelerate those efforts. SUNY will start implementing over 150 recommendations and actions in this plan at the beginning of 2025 and will maintain that effort through the end of 2030. These commitments build on several decades of work at SUNY's 64 campuses of implementing energy efficiency measures, adopting sustainable practices to reduce waste, developing groundbreaking technology, and engaging students.

Summary of Climate and Sustainability Commitments in this Plan

Climate and Governance	• Achieve the State's CLCPA goals of at least a 40 percent reduction by 2030 compared to 1990 and at least an 85 percent reduction by 2050, to reach net zero SUNY-wide greenhouse gas emissions from fuel and electricity. • Reduce indirect SUNY-wide greenhouse gas emissions after determining the baseline emission and setting numeric reduction targets.
Education	• Create the next generation of change agents by expanding classroom and experiential learning so that students can develop a deep understanding of how climate change affects communities and presents opportunities for leadership, innovation, and economic mobility.
Research	• As part of Governor Hochul's charge to double SUNY research expenditures, double SUNY research in climate and sustainability with a focus on developing innovative technology and commercialization to scale solutions.
Workforce	• Facilitate New Yorkers' transition to well-paid careers in the climate and sustainability field, with a particular focus on environmental justice communities and displaced workers.
Facilities	• Convert an additional 20 percent of SUNY's building footprint to renewable energy and electrically powered systems by 2030. • Generate 66,000 megawatt hours (MWh) of renewable energy by 2030.
Operations	• Convert 75 percent of SUNY's light-duty fleet to zero-emission vehicles. • Use clean fuels in 100 percent of SUNY's medium- and heavy-duty fleet. • Buy low-carbon, sustainable products and reduce, reuse, and recycle materials. • Fully phase out single-use plastics, consistent with SUNY's adopted policy. • Increase the use of sustainable and plant-based foods. • Generate zero waste, with interim goals of increasing material diversion from landfills or incineration to 75 percent by 2030 and reducing all materials disposed of by 90 percent by 2030. • Increase biodiversity and habitat, prioritizing native plants and sustainable management practices.
Engagement and Justice	• Empower students, faculty, staff, and communities to achieve climate goals, develop professionally, improve their communities, and live sustainably. • Diversify the climate and sustainability fields.

Sustainability at SUNY: By the Numbers

Scale and Size

- **1,457,023** students enrolled in credit and registered in non-credit programs.[2]
- **60 percent** of students report Very Low, Low, or Moderate Income.
- **85,540** faculty and staff.
- **64** campuses comprised of research universities, comprehensive colleges, technical colleges, and community colleges.
- **2,833** buildings and **111** million square feet of owned or operated space.
- **40 percent** of state-owned buildings.
- **54,000+ acres** of land.
- **$31 billion** annual economic impact in New York State from hospitals, research, and commercialization, academic, construction, and other activities (data from the 2020-21 academic year), a $8.67 return on investment for every $1 in state funding.

Energy and Climate Actions

- **$1.7 billion** spent on 128 trillion British thermal units (TBtus) of energy over the past decade and $154 million spent on energy in FY 2023/2024. (state-operated campuses only)
- **56** renewable energy projects (53 solar and 3 wind) generating nearly 33,000 megawatt hours in 2024.
- **23** campuses use geothermal heating and cooling.
- Over **230** LEED Certified buildings at Silver, Gold, or Platinum levels.
- **12 percent** reduction in energy use in buildings from FY2015 (12.3 TBtu) to FY2024 (10.9 TBtu). (state-operated campuses only)
- **16.5 percent** decrease in Energy Use Intensity (EUI) (energy per square foot) from FY2015 to FY2024, after considering a 5 million square foot increase in conditioned space during that period. (From 2006, EUI has decreased by 22 percent). (state-operated campuses only)
- **35 percent** reduction in gross Scope 1 and 2 greenhouse gas emissions since the baseline year of 1990 (1,044,518 metric tons of carbon dioxide equivalent (MTCO2e) in 1990 compared to 675,925 MTCO2e in 2024) and an 18 percent reduction from 2015, when emissions represented 823,629 MTCO2e). (state-operated campuses only)

Other Sustainability Actions

- **49** schools with sustainability plans.
- Recognition includes **12** STARS Certified campuses, **9** "Bike Friendly" campuses, **6** "Bee Friendly" campuses, and **8** Tree Campus USA.
- **217 Zero Emission Vehicles** (ZEVs) (10 percent of the fleet) at state-operated campuses and over **15 ZEVs** at community colleges.
- **312** charging ports at 19 state-operated campuses and seven community colleges.

Introduction

Climate change is one of the most devastating and urgent perils to human societies and the planet's ecosystems. Human-caused carbon dioxide emissions and other greenhouse gases that trap heat continue to rise.[3] The year 2024 just concluded set a new record as the hottest year ever recorded, following closely on the heels of the previous record-holder, 2023, and extended a decade-long trend of devastating heat extremes.[4] As the air and seas heat up and carry more energy and water vapor in the atmosphere, communities across the world are suffering from sea level rise, more violent storms, flooding along coasts and rivers, record heat waves, drought, wildfires, unstable food production, invasive species, and even displacement.

New Yorkers feel the quickening pace of climate change on a personal level. Summers now bring urban heat waves and wildfire smoke, spring and fall bring intense cloudbursts and high floods, and winters are mild with only a few snowfalls followed by rain and even floods. In the dozen years since the fatal and devastating coastal flooding of Hurricane Sandy in New York City and Long Island, there have been emergency declarations in every county of the state, including extensive flooding along the Great Lakes and throughout upstate New York.[5] These events have a disproportionate impact on disadvantaged communities, which are more vulnerable to health, economic, and social disruption. New Yorkers' extended family members suffer through 120-degree heat in India, violent hurricanes in Puerto Rico, drought in Somalia, floods in Brazil, and sea level rise in the Marianas. Closer to home, family and friends in many American states cannot buy homeowners' insurance because climate-related damages are already too costly for insurers.[6] While insurance is still available in New York State, projected damages from climate change-related events are expected to cost $10 billion annually by 2050.[7] The changing climate also profoundly impacts the state's agricultural, silviculture, and recreational industries, which are affected by heat, drought, a lack of pest-killing winters, and shifting ranges for invasive species.[8]

These threats have catalyzed the development of clean, renewable energy industries that are creating economic opportunities. Worldwide installations of new solar capacity nearly doubled from 252 gigawatts (GW) of new installations in 2022 to 445 GW of new capacity in 2023, and are projected to increase by another one-third to 595 GW of new capacity installed in 2024, as prices for solar modules have fallen to a record low of about $0.10 per watt.[9] Worldwide, electric vehicles are also experiencing exponential growth, with 14 million sales in 2023 (nearly one in five cars sold), representing a 35% increase from 2022 and a 600% increase from 2018.[10] Nationally, in the first two years since the passage of the Inflation Reduction Act in 2022, business and consumer investments in clean energy and transportation increased by over 70 percent compared to the prior two years to over $493 billion for business and personal purchases of zero-emission vehicles (ZEVs), heat pumps, distributed renewable generation, fuel cells, storage systems, utility-scale solar and battery storage, industrial decarbonization, manufacturing clean energy and transportation manufacturing, and the development of climate technologies such as carbon management, clean hydrogen, and sustainable aviation fuels.[11]

Recognizing the strong societal need for change, many SUNY campuses have been committed to climate neutrality for several decades. This dedication springs from student, faculty, staff, and other stakeholder interest in improving the world and incorporating international and national initiatives expressed in the United Nations Sustainable Development Goals, Paris Climate Accords, Global Biodiversity Framework, and Inflation Reduction Act. New York State has also adopted aggressive mitigation goals set out in the Climate Leadership and Community Protection Act (2019) (CLCPA), Executive Order 22 (2022) (EO22), regulations requiring all new car sales by Zero Emission Vehicles (ZEVs) by

2035 (2022), and the All-Electrification Building Act (2023). An overwhelming majority of New Yorkers – 67 percent – voted to approve landmark funding for climate mitigation and adaptation programs in the Clean Air, Clean Water, and Green Jobs Bond Act (2022) (Bond Act).[12]

This Climate and Sustainability Action Plan consolidates and extends these commitments with the most up-to-date thinking from across the entire SUNY system. To develop this plan, Chancellor John B. King, Jr. convened a 53-person SUNY Sustainability Advisory Council from 29 campuses representing community colleges, technical colleges, comprehensive colleges, and research universities across the system. Co-chaired by President Joanie Mahoney of SUNY Environmental Science and Forestry and President Alberto Cardelle of SUNY Oneonta, the Council includes members of the SUNY Board of Trustees, campus faculty, administration, sustainability leaders, and students, alumni, and system administration staff. The Council met as a body of the whole and in working groups from Fall 2023 through Summer 2024 to develop recommendations. The draft plan was presented to the SUNY Trustees and then released for review by the larger SUNY community and stakeholders in Fall 2024. Over three months, SUNY's sustainability team held in-person meetings at 18 campuses across all sectors and geographies and four multi-campus constituencies, including the Student Assembly and Faculty Senate, and with three representative peer institutions. SUNY staff also solicited online responses through a detailed feedback form and received 69 responses from staff (24), faculty (18), students (12), administration (4), community partners (5), alumni (2), and other stakeholders (4). The final plan was presented to the SUNY Board of Trustees for approval at its January 28, 2025, meeting.

The planning group and the commenters identified strengths across SUNY's core education, research, and workforce development expertise that reinforce efforts to decarbonize buildings, fleet, and operations. The resulting plan is a whole-of-enterprise effort that will create synergies between operating units on and between campuses. For example, campuses use applied research to drive waste, decarbonization, and biodiversity projects such as anaerobic digestion for waste management, the development of solar renewable energy, and reforestation. The plan also seeks further cross-fertilization of ideas amongst the diverse system, with the different perspectives and needs of SUNY's university centers, comprehensive colleges, technical colleges, community colleges, and hospitals, creating a well-informed and strong effort. Finally, the plan seeks to embed sustainability efforts across the enterprise and recognizes that every functional group can advance climate action with appropriate strategies and training.

The structure of this Climate and Sustainability Action Plan follows the principles of building a durable institution. SUNY's statutory mission provides a solid foundation for this initiative, the overall objectives and values provide a roof to shelter current and future work, and the goals, success indicators, and actions stack together in supporting columns organized along functional strategic areas. In the spirit of an open door and transparent windows, the plan explains why SUNY is acting and the importance of its actions to society, provides real-world case studies demonstrating that progress is achievable, and commits to annual status reports to provide accountability for progress.

SUNY is deeply committed to advancing programs that will benefit those most vulnerable to climate change. SUNY's commitment to equity is demonstrated in our enrollment: 60 percent of students report very low, low, or moderate-income, and as of Fall 2024, over 43 percent of SUNY students receive federal Pell grants. Accordingly, this plan includes commitments to work with the disadvantaged communities adjacent to many SUNY campuses and comprehensive engagement with workers, businesses, and other stakeholders who are navigating the change to a green economy.

SUNY has the scale to make a significant difference in climate action and to model change for society. With the most significant building and energy footprint of any New York State agency, SUNY's aggressive and accelerated action is critical for the State to reach CLCPA and EO22 goals. As the nation's most extensive public educational and research system, SUNY is a laboratory for communities worldwide. If SUNY were a city, with over 1.5 million people (over 1.3 million students and over 85,000 faculty and staff), 2,833 buildings, 111 million square feet of space, and over 54,000 acres, it would be the second largest and most densely populated city in the State, only following New York City. The aggregated campus population would equal a top 50 city across the nation, more populous than Minneapolis, New Orleans, Cleveland, or Honolulu, and collectively would rank in the top 70 cities by density, making SUNY more walkable and bikeable than even Portland, St. Louis, Denver, or Ann Arbor. Despite this city-sized scale, SUNY campuses have unified ownership and management, making it easier to implement district heating and cooling systems than in cities where many land and building owners would negotiate access and use.

SUNY campuses have always been places to imagine a better world, test practical applications, and catalyze systematic change. The SUNY community of thinkers and doers is already catalyzing change across the economy through research, innovative design, and early adoption of clean energy technologies for heating and cooling buildings, circular solutions for food and other waste, and clean transportation infrastructure. SUNY's core education and research mission includes developing students to be climate leaders through tangible actions that counteract climate anxiety and span the full spectrum of roles in society, including researchers who are discovering clean energy and materials technologies, entrepreneurs who are building the green economy, governmental leaders who are shaping policy, farmers who are adapting to new growing conditions, workers who are designing, building, operating, and maintaining net zero buildings, and citizens who are adopting sustainable practices into their lives.

Investments in climate and sustainability efforts improve SUNY overall by providing many other benefits. Buildings redesigned to be energy-efficient also include more natural sunlight for inspiring and productive studies and research, comfortable thermal conditions, handicapped access, stairs, and pathways that encourage active movement, and more water stations for public health. Electric vehicles have better driving performance and less maintenance. Sustainable operations can help identify efficiencies and savings while providing additional engagement, empowerment, and experiential learning opportunities for students and show that action is an antidote for climate anxiety. Ongoing energy and sustainability projects also provide "campus as a living lab" opportunities for participatory research. Organic farms and outdoor recreation programs provide a connection to nature and its physical and mental health benefits.

While the benefits are many, the path to achieving sustainability is not an easy, inexpensive, or short-duration effort. Even as SUNY embraces its role as an early adopter and scaler of solutions, it operates in and depends upon a larger society designed around car-centric communities, a fossil-fuel-based economy, single-use supply chains, and pricing that excludes the hidden costs of pollution.[13] SUNY is becoming even more efficient in using energy, but the continuing need for new research and teaching space and the dramatic growth of artificial intelligence in the economy will increase the demand for more energy to operate buildings and run data centers.[14] Further, converting buildings to electricity-based heating will mean greater exposure to rising costs and grid capacity constraints. To overcome these obstacles, SUNY will need to sustain its focus on sustainability over the long term and will require the continued support of State policymakers in statewide decarbonization funding programs.

Planting a tree as part of SUNY Cobleskill's reforestation efforts

Mission

SUNY recognizes that advancing towards a thriving and just society – and enhancing the well-being of its students, operations, facilities, and communities – requires addressing the impacts of climate change. These considerations are directly relevant to SUNY's statutory mission from the people of New York State, which mandates that it take a leadership role in:

- Providing "education that reflects the opportunity for individual choice and the needs of society;"

- Conducting "basic and applied research for the purpose of the creation and dissemination of knowledge vital for continued human, scientific, technological and economic advancement;"

- Sharing expertise "with the business, agricultural, governmental, labor and nonprofit sectors [...]through a program of public service for the purpose of enhancing the well-being of the people of the state of New York and in protecting our environmental and marine resources;"

- Offering geographic and programmatic diversity with "appropriate program articulation between its state-operated institutions and its community colleges;" and

- Engaging through "regional networks, cooperative relationships, and other educational and cultural institutions for the purpose of better fulfilling its mission of education, research, and service."[15]

Objectives

In service to its mission and consistent with SUNY's four priority pillars – student success; research and scholarship; diversity, equity, and inclusion; and economic development and upward mobility – this climate and sustainability program will be structured to achieve the following overall, high-level objectives that apply to the entire SUNY system:

I. Advance the goals of the CLCPA by decarbonizing our facilities and operations as a model for communities in New York and around the world;

II. Advance community resiliency by adapting campus physical and social infrastructure to the longer-term projected impacts of climate change;

III. Advance the transition to a sustainable economy by discovering innovative and economical solutions for clean energy and materials, scaling up adoption through commercialization, and developing the green workforce;

IV. Create the leaders of the future through education and by modeling the behavioral changes needed for sustainable communities; and

V. Create opportunities for learning, engagement, and economic mobility in the climate and sustainability field for everyone, including members of disadvantaged communities.

Values

SUNY's work to achieve these objectives will be guided by the following cross-cutting values that align with and provide accountability to our broad societal mission, and inform how the entire SUNY system will develop and implement policies and actions:

- Collaboration to leverage the power of the size and diversity of the SUNY system and empower the student body, staff, and faculty to support and learn from each other;

- Use of evidence- and science-based approaches for the measurement, disclosure, and reduction of climate risks;

- Continuous improvement to try innovative approaches, evaluate results, and refine procedures, behavior, strategies, and technologies;

- A broad understanding of sustainability to include economic and social aspects that underpin the UN Sustainable Development Goals, and that support maximization of co-benefits such as public health from climate-related investments;

- Advancing environmental justice for an equitable transition to a more sustainable society; and

- Accountability through publishing information about success stories and shortcomings in annual progress reports, emission inventories, data dashboards, and websites.

Strategic Areas

SUNY will act in the following strategic areas.[16]

1. Climate and Governance

SUNY campuses have been working on sustainability for over twenty years[17] across a comprehensive range of initiatives on energy efficiency, waste reduction, and other measures and have shared best practices through a self-organized SUNY Sustainability Network of campus practitioners supported by SUNY's System Administration staff in the Office of Capital Facilities. Under this decentralized approach, SUNY has built solar, wind, and other renewable energy installations that generate nearly 33,000 MWh a year, reduced its energy use intensity by 33 percent, and installed 308 electric vehicle chargers. Before the disruption of the Covid pandemic, 19 campuses were part of the Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking Assessment & Rating System (STARS), 51 campuses had some form of sustainability plan, and 40 percent of waste was diverted from landfills. Currently, SUNY has 12 campuses certified through the STARS rating system: two at the highest Platinum level (Cornell and ESF), five at the Gold level (University at Albany, Binghamton University, University at Buffalo, New Paltz, and Oswego), and five at the Silver level (Brockport, Farmingdale, Morrisville, Oneonta, Purchase). SUNY will maintain its best practices and contribute to cutting-edge initiatives through internal peer-to-peer exchanges and participation in national sustainability organizations.

More recently, New York State set aggressive mitigation goals in the Climate and Community Protection Act (CLCPA) of 2019, which calls for economy-wide greenhouse gas emission reduction targets of 40 percent below 1990 levels by 2030 and an 85 percent reduction by 2050. The CLCPA also set up a Climate Action Council that released a Scoping Plan at the end of 2022, providing a framework for how New York will achieve net zero emissions and ensure that all communities equitably benefit from the clean energy transition, especially disadvantaged communities. This effort was accompanied by the passage of the Clean Air, Clean Water, and Green Jobs Bond Act in November 2022 by a vote of 67 percent of New Yorkers in favor of raising and spending $4.2 billion on climate mitigation and adaptation programs, also directing benefits to disadvantaged communities. In December 2022, the Governor created Executive Order 22 (EO22), which directs state agencies to lead by example and adopt sustainability and decarbonization programs to include, among other things, a sustainability lead in each agency, annual reporting, and numerous energy and operational goals.[18] EO22 is aligned with higher education sustainability initiatives and the latest Green NY state annual report on agency sustainability, covering FY22-23, cites SUNY examples of best practices over 24 times.[19] EO22 applies only to SUNY's state-operated campuses and does not directly apply to community colleges where the land and facilities are owned by host counties.

Nevertheless, all SUNY schools will work to advance the overall mission, objectives, and values in this plan. SUNY recognizes that a unified system-wide commitment to climate goals and governance draws upon the deep roots of campus sustainability programs and can better facilitate the broad changes necessary for the transition to a green economy. This commitment will clarify SUNY's overall strategic direction across all 64 campuses and facilitate the sharing of information and collaborative action within and among campuses while acknowledging different requirements for state-operated and community colleges.

At the campus level, a successful approach to sustainability hinges on clear leadership that leverages the integration of climate and sustainability considerations into existing structures. By appointing a designated point person on each campus to coordinate efforts

for work to be undertaken by appropriate functional units, accountability for sustainability initiatives is streamlined, ensuring that actions are undertaken by those who possess the necessary expertise and authority. This model avoids redundancy by embedding sustainability within the core functions of the campus, rather than solely with sustainability staff. This model also reflects a realistic allocation of operating funds, focusing resources where they are most effective and practical. Importantly, this approach models a society where sustainability is a core value, as central to decision-making as cost or quality. By distributing responsibility across departments and aligning efforts with existing structures, this governance approach will foster a culture where sustainability is not a separate priority, but a fundamental consideration woven into the fabric of everyday business.

Goals

1.1   Meet CLCPA and EO22 goals by achieving a 40 percent reduction in Scopes 1 and 2 greenhouse gases by 2030 compared to a 1990 baseline, with a pathway to an 85 percent reduction by 2050. (Advances Objective I)

1.2   Establish a baseline, reduction goals, and tracking mechanisms for Scope 3 emissions for categories within campus influence and control. (Objective I)

1.3   SUNY campuses have reduced exposure to climate risks within campus influence and control. (Objective II)

1.4   Ensure governance and support are in place to implement climate and sustainability goals and actions. (Objectives I, II, III, IV, V)

Success Indicators

1.1.1   Scope 1 and 2 greenhouse gas emissions are reduced compared to a 1990 baseline.

1.2.1   Scope 3 baseline established, emissions calculated, and strategies for reducing emissions adopted.

1.3.1   Number of campuses with resiliency plans that reduce exposure, vulnerability, and risks from climate change impacts, and that are incorporated and implemented in campus strategic, academic, research, capital, and facility plans.

1.3.2   Number of projects completed that promote adaptation or resiliency, including increased cooling in buildings, efforts to reduce impacts of extreme heat, mitigate flooding, or protect infrastructure and equipment.

1.4.1   Number of campuses with up-to-date climate and sustainability plans consistent with this action plan and referenced in campus strategic, academic, research, capital, and facility plans.

1.4.2   Number of SUNY campuses where the Presidents have made third-party commitments to sustainability or climate action (e.g., Second Nature commitments and certification under the AASHE STARS system).

1.4.3   Number of staff responsible for implementing this plan and associated climate and sustainability actions.

1.4.4   Amount of resources for this action plan, including grants, incentives, legislative, and other public and private funding for sustainability and climate initiatives.

Actions and Recommendations
Year 1

• Adopt this action plan with input from key stakeholders to ensure relevance and applicability to SUNY and campus business operations.

• Designate a Chief Sustainability Officer or the equivalent on each campus who will report to a cabinet member and be the designated internal champion for sustainability and carbon reduction programs. Presidents shall make this designation in time for campus representatives to attend the June 2025 SUNY sustainability conference.

• Maintain periodic virtual meetings, webinars, and at least one annual in-person meeting of the SUNY Sustainability Coalition comprised of campus sustainability leads and other stakeholders.

• Maintain membership in AASHE, Second Nature, and USGBC for all SUNY campuses.

• Maintain STARS membership for campuses that choose to file for STARS recognition.

• Maintain membership in the Sustainability Indicator Management and Analysis (SIMAP) platform for all campuses that choose to file greenhouse gas inventories there.

• Establish model job descriptions for dedicated sustainability positions.

• For other staff, develop and model position-appropriate sustainability actions and accountability measures to be incorporated into performance plans of existing campus and system employees, including Presidents, as well as job descriptions for new positions.

• Establish capacity within the SUNY Office of Sustainability to assist SUNY and individual campuses in advancing sustainability efforts, managing systemwide reporting, and securing external funding.

• Calculate and publish system-wide and campus Scope 1 and 2 greenhouse gas emission inventories annually.

• Work with NYSERDA and other stakeholders to fund on-site campus energy managers.

• Work with campus-affiliated foundations and their endowments and the Intentional Endowment Network to pilot environmental, social, and governance frameworks for investment decisions and evaluate whether they can be incorporated into published policies or the work of investor responsibility committees.

• Publish an initial report on the progress towards existing goals, indicating the status of outcomes and actions, and discussing the development of new or adjusted goals and actions.

• Provide publicly accessible information on SUNY's website and other platforms and media on programs, initiatives, projects, and results to demonstrate SUNY's climate change and sustainability actions.

Year 2

• Assess system-wide and as appropriate, campus-level exposure, vulnerabilities, and risks from climate impacts.

• Amend existing hazard analysis requirements under SUNY Policy 5606 to include consideration of the impacts of climate change and actions taken to prevent incidents or reduce damage from climate hazards.

- Create an ad hoc advisory committee to develop standard Scope 3 measurement methodologies for each category of Scope 3 emissions, agree on which categories must be tracked, and establish system-wide and campus baselines. When complete, publish emission inventories annually.

- Assess staffing at each campus and department for meeting CLCPA, EO22, and SUNY sustainability goals and reporting, and develop recommendations to fill gaps, including appropriate training programs.

- Simplify, streamline, and harmonize data collection for EO22 and other reporting and report relevant data on frequently updated dashboards.

Years 3, 4, and 5

- Amend campus strategic, academic, research, capital, and facility plans to reflect climate, sustainability, and resiliency goals and actions.

- As appropriate and needed, work with the SUNY Office of University-wide Human Resources and Civil Service to develop revised or new titles and responsibilities for sustainability and energy-related positions.

Case Studies

- Broome Community College, Cornell, ESF, Fredonia, Geneseo, Jamestown Community College, Jefferson Community College, New Paltz, Orange County Community College, Oswego, Stony Brook, University at Albany, and University at Buffalo have committed to the Second Nature carbon neutrality pledge, and eight of those schools are tracking their emissions on the SIMAP website.

- Stony Brook University Hospital's sustainability initiatives are coordinated by a Director of Healthcare Safety working through regular meetings of a Sustainability Steering Committee comprised of operating unit heads and chaired by the hospital's CEO, with all efforts verified under the Practice Greenhealth framework.

- The Fashion Institute of Technology's mission includes reducing the impact of the fashion industry on the global ecosystem. This institutional commitment has led to internal collaboration and external industry partnerships, two longstanding campuswide events, Sustainability Awareness Week (11th year) and the Annual Sustainable Business and Design Conference (19th year), minors in Sustainability and Ethics and Sustainable Materials and Technologies, specific courses such as Circular Economy for Sustainable Fashion Business taken by all business management students, living learning laboratories of the Natural Dye Garden and Green Roofs used in ecology and textile courses, and continuing education programs.

The Solar Strand at the University at Buffalo

2. Education

Just as the 1960s Space Race transformed the U.S. higher education system with unprecedented investments and a focus on measurable results, today's climate crisis and the ongoing transition to a green economy create opportunities for educational growth.[20] Society's ability to address climate challenges and to affect environmental justice rests on a thorough understanding of climate change, with broad applicability in science, math, humanities, technology, and associated studies like art education and fashion.

SUNY has a long tradition of educating future leaders. One-third of New Yorkers with college degrees are SUNY alums; nearly two million SUNY graduates work across the state. SUNY also has deep reach into primary and secondary education, training the most teachers in New York State and overseeing the New York State Master Teacher Program, a professional network of more than 1,400 outstanding public school K -12 STEM teachers dedicated to professional development and inspiring the next generation of STEM leaders. This network is crucial in successfully implementing New York City's commitment to climate education[21] and the New York State Science Learning Standards include climate change learning outcomes starting in middle school.[22] Over the past decade, numerous youth climate summits have been hosted at colleges and with participation by the Master Teacher Program, including a Central New York Climate Summit hosted at SUNY ESF in 2024.[23] These students can and do continue their studies of climate change at SUNY.

The global challenge of climate change also creates opportunities for SUNY students and faculty to collaborate with international partners and to bring a global perspective into the classroom. In the current version of SUNY's General Education Framework, "well-being and sustainability" is the second student learning objective in the World History and Global Awareness knowledge and skill area.[24] These terms are not centrally defined but instead are interpreted by campuses in the context of specific courses and alignment with SUNY's General Education framework.[25] In this framework, "sustainability" is not exclusively focused on climate or even the environment but rather can include the broad range of topics defined in the UN Sustainable Development Goals that incorporate education, economic vitality, and poverty. The flexible term "sustainability" can help reduce barriers to interdisciplinary education and research. The National Center for Education Statistics has recently adopted a Classification of Instructional Program (CIP) code for sustainability studies (30.3301) that considers it to be interdisciplinary instruction in sustainable development, environmental policies, ethics, ecology, landscape architecture, city and

regional planning, economics, natural resources, sociology, and anthropology. Informal usage of the term "sustainability" by students and employers often includes a strong connection to agriculture, environmental studies, natural resources, construction-related fields, and engineering programs with separate CIP codes.

Considering all courses under that umbrella, SUNY has approximately 200 separate academic degree-granting programs related to some aspect of climate and sustainability work. The interdisciplinary nature of sustainability means that transfer and credit pathways depend on better articulating the connection between learning outcomes and reducing the barriers to inter-campus sharing, as has been done for access to SUNY libraries and study abroad programs. For that and other purposes, SUNY faculty are self-organizing into cross-disciplinary communities of practice on specific campuses, such as SUNY New Paltz's Sustainability Faculty Learning Community, the multi-campus Clean Energy Community of Practice, and the New York Climate Solutions Community of Practice comprised of 40 faculty and five staff at 10 campuses.

SUNY faculty find that integrating climate and sustainability into educational programs can engage students more deeply in academic studies. Surveys show that incoming students are increasingly seeking to make a difference in the world,[26] and SUNY has adopted a new policy for all undergraduates to have applied learning experiences. The use of grounds, facilities, and operations for campus-level applied learning is well-documented at those schools that document the "campus as living laboratory" category in their AASHE STARS report. The living lab approach provides a significant opportunity for faculty to partner with facility and operations experts on campuses to highlight applications of classwork with better educational outcomes for students. In addition, new Empire State Service Corps and SUNY Climate Corps internship programs provide opportunities for undergraduate and graduate students to gain real-world experience on climate issues by working at state agencies on policy development and implementation while learning about data analysis, management, and other aspects of this work.

Goals

1.1   Every curricular degree program has incorporated appropriate climate and sustainability program learning outcomes (Objectives IV, V)

1.2   All SUNY students have the opportunity to participate in non-curricular, informal, or experiential activities that provide a broad understanding of sustainability and practice in implementing theory into action (Objectives IV, V)

Success Indicators

2.1.1   Percent of academic departments that have integrated climate and sustainabilty learning outcomes into their course offerings or other units of instruction

2.2.1   Number of students participating in climate or sustainability-related non-curricular, informal, or experiential activities, including internships, apprenticeships, and clubs with learning experiences

2.2.2   Percent of students demonstrating awareness and a basic understanding of climate and sustainability issues

Actions and recommendations
Year 1

- Conduct and publish an inventory of interdisciplinary sustainability, climate, and environmental course and degree offerings linked through cross-walked CIP coding.

- Share best practices in incorporating climate and sustainability in curricula -- including to meet the sustainable learning outcome provided in the General Education Framework, World History and Global Awareness skills area – by creating and supporting existing faculty sustainability fellowships and communities of practice, seeking fundings for extension of programs to more campuses, and creating incentives for academic staff to participate in those efforts.

- Work with campuses to have at least one sustainability-focused, undergraduate-level major degree program, minor, or concentration, and offer at least one immersive, sustainability-focused educational study program.

- Work with campuses to develop more opportunities for students to satisfy applied learning requirements through climate and sustainability-related work on or off campus.

- Extend long-term funding and support for the SUNY Climate Corps internship program at state agencies and develop an educational and sharing component within the program and with students participating in climate-related initiatives under the Empire State Service Corps community service program.

- Support faculty engagement in operating and capital climate and sustainability initiatives and programs and encourage educators to draw upon these enriching experiences as a pedagogical resource, infusing the classroom instruction with insights, case studies, and applications that advance sustainability learning.

- Develop awards and other recognition for student-applied learning projects on climate and sustainability matters.

Year 2

- Develop curricula and other pedagogical tools to integrate climate and environmental justice throughout degree programs and within applied learning requirements.

- Collect and publish best practices from within and outside the SUNY system for using campus grounds, infrastructure, and operations as a living laboratory for applied learning.

- Develop and apply SUNY-wide assessment instruments related to climate, climate justice, and sustainability learning outcomes based on evolving social, scientific, and market developments.

- Enhance transfer pathways between programs, intra-campus, and inter-campus registrations, and clarify the interrelationships between courses, majors, and degrees that incorporate terms like "environment," "climate," "climate justice," "sustainability," and related concepts and educational outcomes.

- Incorporate climate and sustainability into training in SUNY's Master Teacher program.

Years 3, 4, and 5

- Strengthen K-12 climate education by providing additional materials and topical discussions through the Master Teacher Program.

- Encourage SUNY campuses to host youth climate summits.

Case studies

- SUNY New Paltz has integrated sustainability into its educational program through a Sustainability Faculty Learning Community that has a year-long professional development program for Sustainability Faculty Fellows, a Sustainability Course Designation Program that allows students to easily identify courses with sustainability content, and a student Sustainability Ambassador program that includes applied learning opportunities centered on the UN Sustainable Development Goals.

- Binghamton University's Gold STARS rating was based in part on receiving the top score possible for leveraging sustainability investments to make the campus a "living laboratory" for students to gain applied learning experiences.

- In 2023 and 2024, new degree programs in climate science, climate studies, sustainability, environmental geosciences, environmental studies, natural resources, outdoor recreation, science communications, sustainable resource management, environmental planning, green building construction, and HVAC technology were launched at SUNY Brockport, Cayuga County Community College, Columbia-Greene Community College, Cornell Agricultural and Life Sciences, Cortland, Dutchess County Community College, Hudson Valley Community College, Niagara County Community College, Onondaga Community College, Plattsburgh, Stony Brook, University at Albany, and University at Buffalo.

"The interdisciplinary sustainability education I received at SUNY New Paltz gave me hands-on experience in applying my unique set of knowledge, interests, and experiences to both my work as a student and as a driver of positive change on campus. As a result of my sustainability education, I landed a well-paying, full-time job as an Assistant Recycling Specialist in the community that I grew up in just 3 months after graduating with a BS in Visual Arts."

-*Wren Kingsley, 2024 New Paltz Graduate*

Students at SUNY New Paltz

3. Research

Solutions to climate change will require scientific advancements in renewable energy, energy storage, materials science, remote detection and monitoring, and other fields, and then commercialization at scale for a broad reach throughout the economy. Many of the United States' most dynamic urban areas have developed through a strong relationship with area universities that generate ideas for start-up businesses, including the Research Triangle region in North Carolina, San Francisco Bay Area, and Greater Boston. So, too, are areas developing in New York State where state and federal investments in basic and applied research are generating economic hubs centered around advanced manufacturing, computer chips, nanotechnology, batteries, and artificial intelligence. Governor Hochul has set an ambitious goal to double SUNY research, and SUNY has launched task forces to enhance our leadership in artificial intelligence, semiconductor packaging, biotechnology, and quantum computing.

Climate and sustainability research will help keep New York economically competitive. For example, research at Binghamton University on batteries – led by faculty member and Nobel-prize winner Dr. Stan Whittingham – has provided the foundation for the New Energy New York Tech Hub and National Science Foundation Innovation Engine that has received federal and state investments for creating domestic battery manufacturing across the Southern Tier. Applied research centers like the Center for Sustainable Materials Management at SUNY ESF convene experts and engage in research that challenges the concept of "waste" and reimagines how our society procures, produces, consumes, manages, and markets materials, and guides New York businesses in the implementation of the circular economy. The Upstate 2.0 partnership between Cornell and SUNY ESF received a National Science Foundation Regional Innovation Engines grant to develop an innovative bioeconomy with food systems, forestry, robotics, and fossil fuel replacement opportunities. Finally, The New York Climate Exchange, a consortium led by Stony Brook University, will be the first-of-its-kind international center for convening global experts to develop and deploy policy and management solutions to the worldwide climate crisis while also acting as a hub for New Yorkers to benefit from the new green economy.[27] To raise awareness and develop practical climate-ready policies, SUNY research must extend beyond science and technology to the art, law, political science, economics, management, literature, communications, and other disciplines that affect human behavior.

SUNY's research is well poised to meet the challenge of climate change, with prestigious research programs in climate science and a diverse array of schools, programs, and complementary capabilities. Further synergies will be developed by facilitating research collaboration and information exchange among the 64 campuses with diverse approaches and unique capabilities. This requires a shift from a zero-sum mindset of competition for specific, narrow research funding opportunities to a growth mindset seeking more extensive, interdisciplinary grant opportunities through collaboration. SUNY has established a new Grants for Research Opportunity and Workforce (GROW) team to pursue large, multi-campus grants and contracts from federal, state, local, and other sources to support research and scholarship, with a specific focus on activities that will expand economic mobility and create workforce opportunity for New Yorkers.[28]

There is great enthusiasm for climate and sustainability research among SUNY faculty and students at the undergraduate and graduate levels. In the 2023-24 academic year, there were climate-related symposia at research universities like the University at Buffalo and SUNY Environmental Science and Forestry (ESF), university colleges like SUNY Fredonia, which hosted the NASA Globe International Meeting with a focus on climate and carbon, attended by hundreds of attendees from over 47 countries, and at FIT. Of note is the

widespread water research occurring at numerous schools, including by undergraduates.

Consistent with its mission, SUNY can also play a strong role in professionalizing the "citizen science" movement and providing even more credibility to its findings. For example, the University of Buffalo administers a National Science Foundation Research Traineeship grant to train scientists to work with Indigenous Nations and communities.

Goals

3.1   Double SUNY research dollars compared to a baseline to be developed for 2025 on climate and sustainability issues, focusing on developing innovative technology and insights for climate solutions. (Objective III)

3.2   Launch at least 50 innovative and 10 market-ready (i.e., ready for commercial deployment and widescale adoption) products or technologies related to climate and sustainability by 2030. (Objective III)

3.3   SUNY is recognized as a place for undergraduate and graduate students and post-docs to undertake research to address climate and sustainability challenges. (Objective V)

Success Indicators

3.1.1   Number of SUNY research dollars compared to FY24/25 in climate and sustainability, focusing on developing innovative technology and insights for climate solutions.

3.1.2   Number of research papers published annually related to climate and sustainability.

3.2.1   Number of businesses launched and patents secured related to SUNY climate and sustainability research commercialization.

3.2.2   Number of industry partnerships and collaborations supporting SUNY climate and sustainability research commercialization

3.3.1   Number of students, research assistants, or teaching assistants paid to work on climate and sustainability research, including undergraduate, master's, PhD, and post-doc programs.

Actions and recommendations
Year 1

- Convene a system-wide task force on climate and sustainability research, comprised of faculty and industry experts tasked with identifying current capabilities and gaps in research, devising a strategy for investment that leverages state, federal, and private funding and partnership opportunities, and fostering commercialization to meet the demands of the transition to a green economy.

- Facilitate and support cross-campus research networks around climate and sustainability.

- Seek additional funding for climate and sustainability research from federal, state, and private sources.

- Work with the DEC-supported and ESF-housed Center for Sustainable Materials Management to undertake and commercialize research into the circular economy, including the reuse, recycling, and remanufacturing of batteries, solar panels, wind turbines, textiles, and other goods.

- Leverage student research under the Chancellor's Summer Research Excellence Fund and student experiences through the SUNY Climate Corps Internship Program and Empire State Service Corps to identify research needs that could be addressed through student or faculty research.

- Develop internal and external communications about planned, ongoing, and completed research on climate and sustainability issues.

Year 2

- Publish an annual inventory of SUNY sustainability research and researchers.

- Implement a seed grant program to build capacity for research and education at campuses from different sectors (e.g., comprehensive university, university center, technical college, and community college) and encourage collaborative applications for climate and sustainability grant applications.

- Hold a climate and sustainability ventures fair for emerging climate tech and other sustainability start-ups to showcase their concepts in front of funders.

Years 3, 4, and 5

- Hold an annual SUNY research symposium on climate, sustainability, and related fields and promote responsible research and innovation.

- Create at least one new center or innovation hub to foster agricultural technology, clean energy, resilient food systems, or other sustainability-related businesses and develop outreach to companies that seek to commercialize SUNY environmental and sustainability research in partnership with state and local energy and economic development agencies.

Case Studies

- The New York State College of Ceramics at Alfred University is developing new high-performance materials, low-cost feedstock alternatives, and energy-efficient manufacturing processes at The Center for Glass Innovation, which will reduce the glass manufacturing industry's carbon footprint.

- Similarly, research at SUNY Canton on glass fiber reinforced polymer as a substitute for steel rebar in concrete is informing the State's efforts to reduce the carbon footprint of buildings.

- Water quality research is ongoing at many SUNY school field offices, including at Buffalo State's Great Lakes Center with a focus on the ecology and ecosystems of the Great Lakes and their tributaries.

- Undergraduates at SUNY Geneseo published findings of human impacts on deep-sea habitats, documenting more than 100 instances of trash in the deep sea.

- Binghamton University's research on innovative battery storage technology anchors a National Science Foundation Grant for regional manufacturing and associated tech start-ups.

- Stony Brook University's Advanced Energy Research and Technology Center connects academic research on efficiency, conservation, renewable energy and nanotechnology applications for new and novel sources of energy with industry, incubating many startups in those fields.

4. Workforce

The green economy -- renewable energy, green buildings, clean transportation, water management, waste management, and land management – will grow jobs and businesses in New York State, along with healthcare and technology. Green jobs[29] encompass occupations needed during and after the transition to the clean economy, a shift that is occurring worldwide.[30] There will be increased demand for existing trades to apply skills in new ways, such as electricians to convert buildings from fossil fuels to electric heating and cooling equipment, HVAC technicians to work with new heat pump technology, and solar and wind energy installers and technicians for renewable energy sources. Most green jobs are predicted to result from enhanced skill needs and increased demand for new technologies. These jobs are expected to have higher wages than other employment sectors,[31] enhancing the potential for economic mobility, especially for women and people of color who have traditionally been underrepresented across the infrastructure space and in many green jobs.[32] In addition to new and upskilled green trade jobs, an increasing number of service and management jobs will incorporate climate and sustainability elements. SUNY meets this need by providing students with appropriate skills and knowledge for entry-level and higher policy, administrative, and management positions.

Already more than 178,000 New Yorkers held clean energy jobs through the end of 2023, with a faster post-Covid rebound in the number of jobs in the renewable electric power generation, alternative transportation, renewable fuels, grid modernization, and energy storage sectors than in other employment sectors.[33] Other recent studies project that the green economy will generate a net growth of 211,000 new jobs from 2019 to 2030.[34] For example, the New York State Climate Action Council estimates the energy sector will see the solar, offshore wind, onshore wind, hydropower, hydrogen, biomass, distribution, transmission, and storage subsectors add approximately 94,000 jobs by 2050. This growth balances the projected loss of approximately 12,000 jobs in the natural gas, other fossil fuel generation, and nuclear subsectors. High growth is also projected for the energy distribution subsector (over 80,000 jobs by 2050), commercial HVAC (64,000), commercial building envelope (51,000), residential HVAC (109,000), residential envelope (84,000) subsectors, and charging and hydrogen fuel stations (26,000).

The need for workers to meet this growth is corroborated by SUNY's own experience in constructing and operating clean energy buildings, which encounter a shortage of electricians, HVAC technicians, energy managers, and other skilled trades. One barrier to filling this need is civil service titles that were created long before modern building equipment and monitoring systems.

The green economy is intertwined with the larger infrastructure sector in which 17 million workers are projected to retire or transfer over the next decade. The "silver tsunami" is particularly strong in older infrastructure sectors like water and wastewater utilities. These jobs run the gamut from construction to operations of roads, rails, pipes, power plants, and other critical facilities and are often unionized or otherwise well-paying. SUNY Morrisville's Environmental Training Center, Buffalo State, Jamestown Community College, Ulster Community College provide training for approximately 800 water and wastewater operators to receive New York State recognized certifications to work in those critical industries. By focusing on opportunities in the green economy, which, with healthcare and technology, comprise the expected growth sectors in New York, SUNY can help employers meet their needs and provide a career ladder for workers.

SUNY helps other employers meet their needs and provides a career ladder for workers with many entry points into the green economy, from Pathways in Technology Early

College High School (P-TECH) programs for high school students to degree programs for undergraduates and graduate students, to microcredentials and training programs for adult learners, with clear pathways from school to college to careers. SUNY's community colleges teach over 160,000 enrolled students yearly, and SUNY's workforce training programs reach an additional one million registrants annually. SUNY's agricultural and technical campuses also provide career-oriented academic programs, many of which are connected to sustainability. Everyone can access a SUNY school specializing in personal interest areas with degree bearing, micro-credential, certificate, and non-credit learning opportunities.

However, students and even adult learners typically have only a limited awareness of green career opportunities because there are few family or other role models working in these new industries. To raise awareness and build an educational pipeline around technical careers generally, New York was the first state to launch and replicate P-TECH, an integrated Grades 9 to 14 model where high school students seamlessly earn associate's degrees in high-demand STEM disciplines at no cost to them and are first in line for job opportunities with partner employers. There are 42 P-Tech partnerships across the State with 27 SUNY colleges and 500 regional, state, national, and international employers. SUNY also promotes career tracks in skilled trades, vocational programs, and career training opportunities to adult and other non-traditional learners[35] and has expanded credits available through Prior Learning Assessments, including military service. Additional promotion of these programs and the value of the green economy is needed. One potential conduit of information about green careers is SUNY's Master Counselor program, which organizes high school career and college counselors in a professional development community of practice.

Potential trainees are also constrained by their need for continued income, support services, and limited time. SUNY is the first university system in the country to meet these needs with a comprehensive microcredential program that was developed with industry, so students are trained while earning a salary, and those credentials are durable and stackable, meaning they can be accumulated into an associate's or even a bachelor's degree. SUNY has over 500 microcredentials, with approximately 50 green job microcredentials that need to be updated and expanded to meet the needs of a fast-changing workplace.

New York recognizes that workforce development is essential to build the green economy envisioned by CLCPA. The New York State Energy Research and Development Authority (NYSERDA) has dedicated over $170 million to support clean energy workforce development and training. The New York Power Authority (NYPA) has committed $25 million annually to work with the New York Department of Labor (DOL) and its new Office of Just Energy Transition on green workforce development, especially for members of New York's disadvantaged communities and for workers displaced from fossil-fuel industries. SUNY will partner with NYPA, DOL, and NYSERDA to develop microcredential and other green workforce programs to accelerate economic mobility for SUNY's students. This investment in resources will be repaid through a vibrant economy.

Goals

4.1 Facilitate New Yorkers' transition to green jobs or occupations related to climate and sustainability, focusing on low-income residents of frontline environmental justice communities and former workers in carbon-intensive industries. (Objectives III, V).

4.2 Create economic and workforce development partnerships with state agencies, labor organizations, industry, and economic development entities. (Objectives III, V).

Success Indicators

4.1.1 Increase in credit and non-credit workforce training programs developed with NYPA and other stakeholder support to address the evolving workforce needs for green jobs, including internships and PTECH programs.

4.1.2 Increase in enrollment, retention, and completion of green workforce development programs for green jobs, including internships and P-TECH programs.

4.1.3 Increase in green jobs pathways and placements in climate and sustainability-related industries.

4.2.1 Number of industry advisory board members.

Actions and Recommendations
Year 1

• Seek and obtain NYPA, NYSERDA, and other funding for SUNY's green workforce training programs, including developing new academic and training programs.

• Evaluate workforce training programs for climate and sustainability-related industries and carbon-intensive industries undergoing transitions and develop up-to-date microcredentials and other needed training programs.

• Create an industry advisory board on green jobs at the system level and hold periodic discussions with green industry groups and companies to understand workforce gaps and training needs and monitor analyses undertaken by the NYC Economic Development Corporation, the New York State Department of Labor, Empire State Development, NYSERDA, the Office of the State Comptroller, the Cornell Climate Jobs Initiative, the Interstate Renewable Energy Council, and other organizations.

Year 2

• Develop information about green jobs and connections to climate and sustainability initiatives and provide it to students, faculty, and staff who work in career counseling, including the Master Counselor Program.

Years 3, 4, and 5

• Leverage investments in SUNY's facilities and operations to understand market needs and provide learning opportunities for government, industry, environmental, and labor organizations, including educational delegations to worksites.

• Strengthen the campus-level network of offices and staff who work on career counseling for green jobs and other jobs.

"Orsted is thankful to SUNY Stony Brook for their expertise and efforts to bring education about local clean energy solutions to New Yorkers. As we celebrate the completion of New York's first offshore wind farm, South Fork Wind, and the continuing construction of New York's largest offshore wind project, Sunrise Wind, we are confident that alumni of Stony Brook's programs will make a difference as New York works toward a more sustainable future."

-Erik Antokal, Workforce Development Director, Orsted Americas

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Case studies

• The Offshore Wind Training Institute, jointly managed by Stony Brook University and Farmingdale State College, has funded workforce development and certificate programs at 11 SUNY schools for trades, startup businesses, manufacturers, technicians, and engineers applications in the growing renewable energy field.

• Alfred State's School of Applied Technology campus in Wellsville features a Zero Energy Demonstration Home built by students in its construction program and is an open laboratory for education in green building techniques in energy efficiency and renewable energy.

• SUNY Cobleskill has a strong partnership with the New York State Department of Transportation (NYS DOT) and the NYS Thruway Authority to train workers in heavy equipment repair and is working incorporating electric vehicle technology into curricula of the one-year Agricultural Mechanics certificate, the Diesel Technology AAS, the Agricultural Engineering Technology: Agricultural Power Machinery AAS, and the Agricultural Equipment Technology BT academic programs, and also to develop electric vehicle microcredentials and a minor.

• Similarly, SUNY Delhi has an electric vehicle track within the Automotive Technology/ Mechanics degree, complementing its Sustainability Major (BS), a Renewable Energy Integration Major (AAS), Environmental Studies Major (AS), and a Sustainability Minor.

• SUNY Morrisville has been an early innovator in renewable energy education with a strong foundation in both theory and in a hands-on environment, housed in its new Agricultural and Clean Energy Technology Center.

• The Cornell Climate Jobs Institute undertakes applied research and public education that supports policies for a transition to an equitable and resilient clean energy.
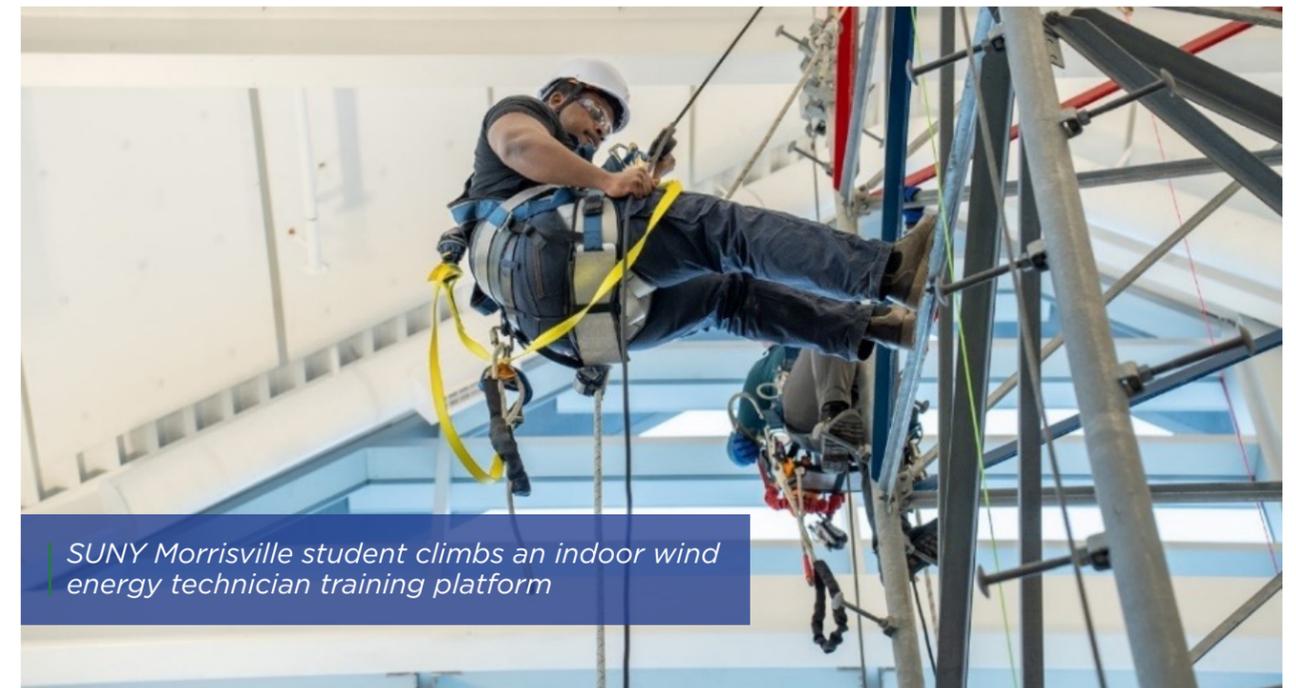

SUNY Morrisville student climbs an indoor wind energy technician training platform

5. Energy and Buildings

SUNY's extensive facilities – 2,833 buildings and 111 million square feet of owned or operated space – generate most of the system's Scope 1 and 2 greenhouse gas emissions. The state-owned facilities at SUNY campuses account for approximately 40 percent of all state-owned and managed buildings that need to be decarbonized to meet CLCPA and EO22 goals. This will require transitioning buildings' heating, cooling, lighting, and power systems from fossil fuels to clean electricity. In addition, full decarbonization that considers Scope 3 emissions will reduce emissions used to create construction materials (embodied carbon) and emissions in the demolition and disposal of buildings after their useful life.

GREEN NY COUNCIL, ENERGY USE BY EO22 AFFECTED ENTITIES (2023)
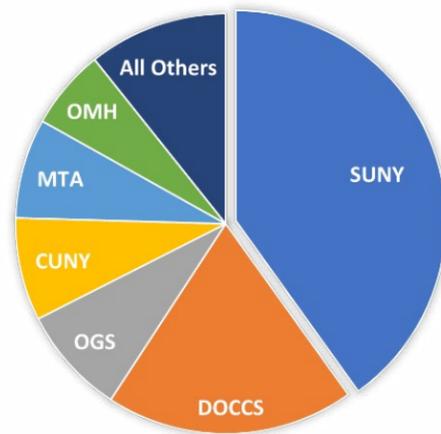
The average age of SUNY buildings is 50 years old, more than 72 percent of the inventory is more than 40 years old, and the facilities have an unmet repair need of nearly $9 billion. These conditions present the opportunity for decarbonization by making existing buildings more efficient during renovations. Existing SUNY facilities have become cleaner and more efficient after successive waves of energy efficiency, building control, lighting, and other projects to meet Executive Order 111 (2004), Executive Order 88 (2012), and State University Construction Fund's Directive 1B-2, which requires all SUNY projects to meet the NY Stretch Energy Code (2020), all significant renovations to meet goals for deep energy retrofits and meet energy use intensity (EUI) targets, that all new or replacement systems and equipment be electrically powered and fossil fuel and biofuels allowed only for backup power and emergency heat or exceptional cases.[36] SUNY reduced energy use intensity by approximately 21 percent between 2005 and 2024, even as it expanded its total footprint. This progress was made through energy efficiency, building control, lighting, and other retrofits with short paybacks. In addition, campuses switched out their dirtiest fuels like oil and coal. Binghamton University, for example, converted its central plant boilers from coal to natural gas and biomass. This progress is continuing under EO22. For example, under New York Power Authority's BuildSmart 2025 program, SUNY aims to reduce energy use by an additional 4.4 trillion BTUs by 2025.

SUNY has also adopted standards for new buildings. In 2007, the SUNY Board of Trustees required that all new buildings meet at least a LEED Silver standard. Directive 1B-2 has built on that effort and requires all new construction at SUNY to be designed to achieve net

zero carbon and be electricity-ready. EO22 bars fossil fuel in new buildings after 2024 "to the fullest extent feasible" and requires the use 100 percent carbon-free electricity by 2030 "subject to available supply."

Through renovations and new construction that meet strict standards, since 2015 SUNY has decreased energy use in buildings by 12 percent, even as it expanded its total footprint by five million square feet to meet new academic and research needs, leading to a reduction in EUI by 16.5 percent. As a result, SUNY has reduced gross Scope 1 and 2 greenhouse gas emissions by over 35 percent compared to 1990 levels, on a trajectory to meet the CLCPA's interim goal of a 40 percent reduction by 2030.

Future deep decarbonization will require maintenance of that building-by-building progress as well as a new approach to developing campus-wide heating and cooling infrastructure. In early 2024, SUNY completed 28 Clean Energy Master Plans for state-operated campuses with four more in progress. These Clean Energy Master Plans, funded by NYSERDA and other sources, set a pathway to dramatically decarbonize facilities to net zero emissions by implementing geothermal heat pumps, district thermal energy systems, and full electrification of building heating and cooling systems. Around the same time, the Governor's Decarbonization Leadership Program was announced, under which NYPA will develop action plans for 15 of the top state emitters, which includes seven SUNY campuses. SUNY is working with NYPA to ensure that the program builds on the prior plans and advances projects for early completion.

To support these clean energy and building approaches, SUNY's Board requested $2.5 billion over the next five years in additional, dedicated State capital funds for implementing Clean Energy Master Plans. In addition, Governor Hochul announced in the 2025 State of the State executive agenda that SUNY can immediately invest $100 million in New York State Clean Air, Clean Water, and Green Jobs Bond Act funds to design and build innovative thermal energy networks, renewable solar power generation, and other clean energy. In addition, SUNY is exploring opportunities to develop energy performance contracts and public-private partnerships with private capital supporting decarbonization investments.

A significant barrier to future decarbonization is uncertainty about when the electrical grid will be clean and reliable. The CLCPA requires the grid to be carbon-free by 2040, and EO22 requires that state agencies purchase 100 percent of their electricity from carbon-free sources by 2030 if it is available. More recently, New York passed the All-Electric Buildings Act, which requires most new buildings in the state to use electric appliances and heat instead of fossil fuels, starting in 2026.[37] However, for geothermal heat pumps and district thermal energy systems to effectively reduce greenhouse gas emissions, the grid supplying power to campuses must be carbon-free. The current grid does not have enough renewable power to meet existing clean energy demands let alone the dramatic growth in electricity demand if buildings are fully electrified. The grid also lacks the reliability needed if electricity is the sole source for heating and cooling buildings and running elevators and other building systems, and to accept distributed renewable energy generated by campuses. The actions of and investments by NYSERDA, the Department of Public Service, NYPA, and private utilities and renewable developers will determine the cleanliness and reliability of the grid.

Informed by these structural barriers in the electricity sector, SUNY's multi-pronged approach is to use critical maintenance funding to improve energy efficiency in older buildings with critical maintenance funding and make new buildings electrical-ready and use any dedicated decarbonization funding to start on the campus-wide geothermal and thermal energy networks. With dedicated funding for implementing clean energy master

plans, SUNY can invest in heat pumps, thermal energy networks, renewable energy generation and storage. These projects will dramatically reduce energy use and, where the grid is clean, greenhouse gas emissions. On a portfolio basis, progress will be gradual as fossil fuels are phased out and buildings are electrified. SUNY's approach prioritizes investing in capital projects rather than buying renewable energy credits.

In the meantime, ongoing energy efficiency measures will improve lighting, sound buffering, and air quality, providing immediate benefits for students and other building users. Spaces are more inspiring and lead to greater enjoyment and productivity with daylighting by natural sunlight, more comfortable thermal conditions, and stairways that encourage movement.

SUNY will seek to stretch investments further by addressing the high cost and slow pace of construction, driven by limited procurement options, new procurement requirements, the lack of electricians and other skilled labor, and extensive review and approval process for design and construction contracts. Reform of the procurement and capital construction process is a longstanding state goal that requires the cooperation of many agencies.

Finally, SUNY will address the considerable amounts of embodied carbon in buildings, the lack of reuse opportunities for construction and demolition debris, and the mismatch between current and future requirements for operating and maintaining a new fleet of smart buildings. To address embodied carbon in construction, Directive IB-2 was recently amended to incentive the use of low-carbon concrete, asphalt, steel, and glass on projects over $1 million and the calculation of project-level energy savings. In addition, related Directives 1B-6 and 1B-7 require diversifying construction and demolition debris from landfills and modeling energy.

Goals

5.1   Maintain efforts to reduce energy use in SUNY buildings (Objective I)

5.2   Prioritize the electrification of baseload energy needs and convert an additional 20 percent of SUNY's building footprint to electrically powered heat pumps, geothermal systems, and/or thermal energy networks by 2030. (Objective I)

5.3   Generate 66,000 megawatt hours (MWh) per year of on or off-site renewable electricity by 2030. (Objective I)

5.4   Use lower carbon construction materials in all new construction and renovations, when available. (Objective I)

5.5   Reduce GHG emissions from refrigerants. (Objective I)

5.6   Reduce potable water use in buildings. (Objective II)

5.7   Increase stormwater capture. (Objective II)

Success Indicators

5.1.1   Decline in energy use compared to 2015 levels.

5.1.2   Decline in EUI for each category of buildings.

5.2.1   Increase the square footage of SUNY-owned buildings heated and cooled by electricity.

5.3.1   Renewable electricity generated by SUNY.

5.3.2   Amount of electricity storage capacity at SUNY.

5.4.1   Tons of low GWP concrete compared to overall tonnage, used annually, under New York State Buy Clean Concrete and EO22 definitions.

5.5.1   Pounds of refrigerant used a year compared to FY24/25 baseline.

5.5.2   Annual percentage of refrigerants used a year that are considered low GWP by DEC and EO22 definitions.

5.6.1   Amount of potable water used in buildings.

5.7.1   Number of stormwater mitigation projects completed.

Actions and recommendations
Planning and tracking
Year 1

• Begin implementing the Clean Energy Master Plans, promote net zero-ready construction and retrofits, and prioritize electrification of building heating and cooling systems and thermal energy networks.

• Implement other innovative clean energy technologies when feasible, actively share best practices across campus, and identify opportunities to replicate successful clean energy projects at multiple campuses through centralized contracts, streamlined procurement, and other strategies that leverage SUNY's buying power, using SustainChain and other platforms.

• Develop guidelines for assessing the need for new buildings versus adaptive reuse of existing ones to meet evolving student levels and program needs, with consideration for space utilization studies, embodied carbon, waste generation, costs, physical constraints for reuse, and resiliency.

• Pursue cost-effective renewable energy and energy storage projects on campuses, using all applicable federal, state, local, utility, and other grants, as well as private-public partnership financing, and work with the major utilities in the state to advance grid reliability and hosting capacity.

• Track construction and demolition waste and analyze data to assist in programs to increase diversion rate.

Year 2

• Encourage campuses to undertake space utilization studies.

• In major capital investment decisions over $10 million include a life-cycle analysis of carbon emissions (from embodied carbon in construction through emissions in operations to end-of-life use or disposal) and the social cost of carbon per DEC's Value of Carbon Guidance.

• Develop selection and design criteria for environmentally preferable building materials that reduce embodied carbon in construction materials for new facilities, adaptive reuse projects, and significant renovations.

• Set design standards for tracking all energy efficiency projects and quantify savings.

• Employ energy managers who will save campuses money based on SUNY's current experience.

Years 3, 4, and 5

• Invest in building management systems to monitor energy and water use and actively manage equipment to achieve reduction of use and flattening or shifting demand to reduce emissions.

Building standards
Year 1

- Maintain the standard that all new buildings and significant renovations meet or exceed the EUI target in Directive 1B-2.

- Consider ways to update the SUNY Board of Trustees' 2007 resolution requiring all buildings to meet LEED Silver standards.

- Implement dynamic temperature setpoint strategies that account for real-time building occupancy and outdoor air temperature, with a rational dynamic range for occupant comfort adjustment while maintaining sufficient control to maximize energy savings.

Year 2

- Encourage community colleges to develop energy use and greenhouse gas goals, adopt construction guidelines like Directive 1B-2, and implement a system of record for energy use and greenhouse gas emissions.

Years 3, 4, and 5

- Develop ideas and pathways for state-operated campuses to meet the EO22 goal for state agency use of 100 percent renewable electricity by 2030, if feasible, based on availability in the market and affordability under current REC rules.

Funding
Year 1

- Implement $100 million in Bond Act funding for clean energy dedicated in Governor Hochul's 2025 State of the State executive agenda.

- Create a SUNY Green Building revolving fund for campuses to implement smaller-scale efficiency and clean energy projects.

- Seek additional funding from State entities (e.g., NYSERDA and DEC), the Federal Government (e.g., the Inflation Reduction Act, DOE, and EPA), local utilities, and private organizations to support the implementation of Clean Energy Master Plans.

Year 2

- Advocate strongly for regulatory flexibility to form public-private partnerships and innovate solutions that other public higher education systems are leveraging to drive decarbonization.

- Assess the applicability and benefit of leveraging private funding and expertise through energy performance contracts and similar public-private partnerships that commit to energy and greenhouse savings and cost reductions or control.

Other Policies
Year 1

- Advocate for the removal of procurement and regulatory obstacles to decarbonize facilities, such as greater use of design-build, expansion to construction manager build, and updating of civil service titles and exams to support green buildings with modern control systems and other needs.

Year 2

- Develop training programs for facilities staff on efficiency and sustainability goals and practices.

Years 3, 4, and 5

- Participate in the Department of Public Service's comprehensive planning around grid expansions and upgrades and the State's Energy Planning Board.

Case studies

- Net zero buildings at SUNY include the University at Albany's Emergency Technology and Entrepreneurship Complex, a hub for its atmospheric sciences, emergency preparedness, and related disciplines, and Suffolk County Community College's Renewable Energy/STEM Center, which houses The National Grid Center for Workforce and Energy Innovation and HVAC educational and training programs.

- SUNY Oneonta received a grant from the US Department of Energy's large-scale battery storage demonstration program to test fire-safe energy storage systems that do not use rare earth elements and can deliver 300 KW of electricity for 12 or more hours. The installation will be combined with solar photo-voltaic panels that generate renewable energy.

- The University at Buffalo's 750 KW Solar Strand of solar photo-voltaic panels generates 750kw of renewable energy and the embedded GRoW Clean Energy Center provides a focus for educating the public about sustainable energy, with a greenhouse and space for community group meetings.

- SUNY Sullivan has been running clean energy infrastructure for over 20 years, including an on-campus 2MW+ solar farm that produces more than 75 percent of the campus electricity through a power purchase agreement, a 500-ton geothermal system that provides heating and cooling for over 86 percent of the college's buildings, and energy reduction measures such as LED lighting, energy-efficient windows, continuous weatherization (chalk and air sealing), upgraded energy recovery ventilators, campus-wide HVAC building automation, new energy-efficient boilers, and new geothermal heat pumps and controllers.

"As the owner of 40% of State-owned assets, SUNY has both the responsibility and an incredible opportunity to lead by example in building decarbonization. From simple behavioral changes to strategic energy management and use of innovative technologies, SUNY has a bold plan to significantly reduce fossil fuel combustion on our campuses and transition to renewable energy sources to keep our buildings lit, heated, and cooled."

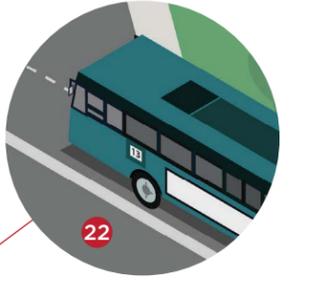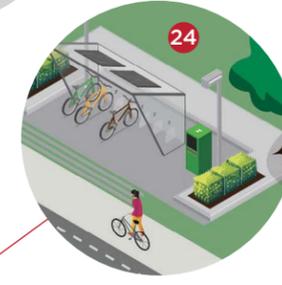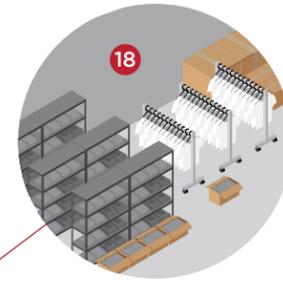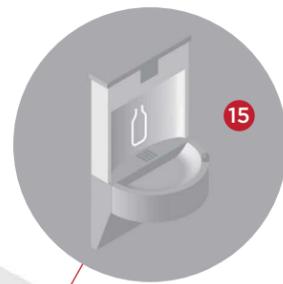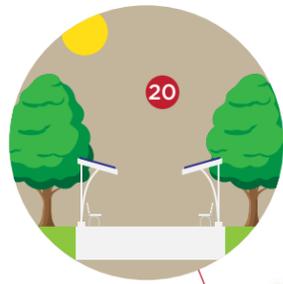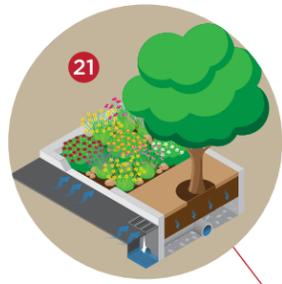*-Indu Lnu, Director of Energy at University of Albany*

The ETEC building at University at Albany uses daylight for efficient and inspiring lighting and is a hub for research and commercial development.

Rooftop Solar Panels at Erie Community College

Mass timber structure under construction at SUNY Maritime's all-electric Seamanship Center.

A Sustainable SUNY Campus

Clean Energy Buildings
1 Daylighting
2 Efficient/bird safe windows
3 Insulation
4 Low carbon concrete
5 Passive solar design
6 Natural light
7 PV panels
8 Parking lot with EV chargers/ geothermal systems
9 Heat pump/thermal energy network
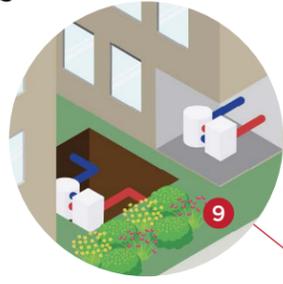
Food Services
10 Plant forward menu
11 Locally sourced sustainable food
12 Reusable food containers
13 Recycling bins/compost
14 Compostable/reusable utensils

Residence Halls
15 Refillable water station
16 Interior/exterior bicycle storage
17 Recycling bins
18 Clothing swap room
19 Move out/furniture swap room
20 Cool corridors with permeable pavement and shade trees
21 Green stormwater infrastructure/ Pollinator gardens

Outdoors & Transportation
22 Electric bus
23 Multi-modal hub
24 Bike share station
25 Bike path
26 Unmowed field green space
27 Green roof
28 Community garden
29 Composter
30 Sports field with stormwater infiltration/storage below
31 Forest with walking trails
32 Organically managed landscape
33 Lot with solar PV canopies
34 Solar panels
35 Surplus storage warehouse
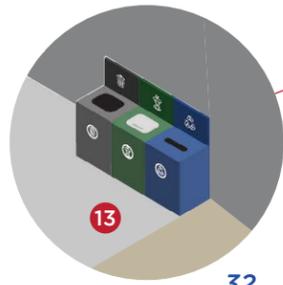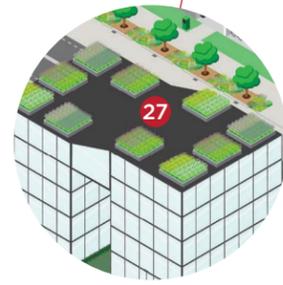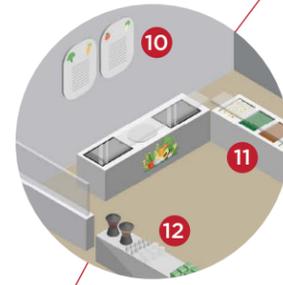
6. Sustainable Operations

The operation of SUNY institutions involves the complex coordination of many functions, including transportation, procurement, food service, materials management, cleaning, routine and preventative maintenance, event management, and grounds maintenance. These activities are performed by thousands of staff every day and involve interactions with hundreds of thousands of students, staff, and the public. Operations represent some of the most visible sustainability work at SUNY, and the broad range of these activities mirrors the workings of the larger economy and allows SUNY to model sustainable actions that can be implemented across the larger society.

There are many holistic measures of progress on operations, many of which roll up into Scope 3 inventories of greenhouse emissions that emissions in the upstream and downstream value chain of what SUNY buys, uses, or disposes of (these emissions include embodied carbon in construction materials, which is addressed in the facilities section due to the connection to buildings).

OVERVIEW OF EMISSIONS SCOPES FROM THE GREENHOUSE GAS PROTOCOL.

The illustration explains each scope (from the Carbon Disclosure Project GHG Protocol Scope 3 Standard, p. 5).
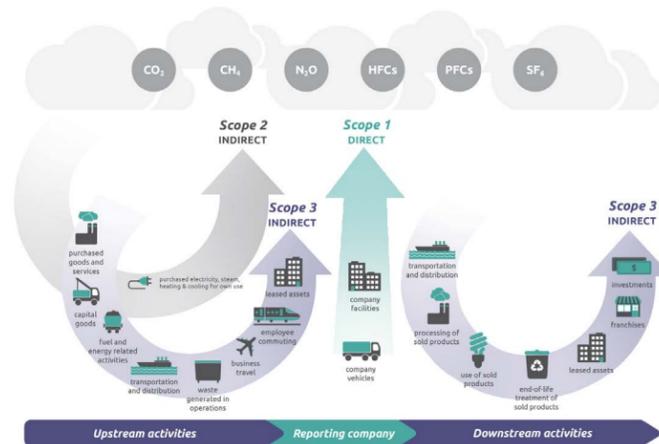
While difficult to measure, Scope 3 emissions can be quite significant and must be addressed in decarbonization plans. For example, a study of 537 universities in the UK found the majority of emissions (60 percent) are from Scope 3 travel and supply chain activities,[38] and similar figures have been reported in other studies.[39] The Carbon Disclosure Project has found that Scope 3 emissions represent an average of 75 percent of total emissions.[40]

Due to the complexity of operational activities and the difficulty in assuring consistent, high-quality data, EO22 does not yet have a Scope 3 greenhouse gas baseline or reduction target comparable to the Scope 1 and 2 targets. However, the higher education sector has published Scope 3 inventories for almost two decades under the well-established SIMAP protocol, which mandates calculations of greenhouse gases from campus-financed air travel (Scope 3, Category 6) and faculty, staff, and student commuting (Scope 3, Category 7).[41]

Several SUNY schools have published their inventories and have included additional, optional Scope 3 categories covering purchased goods and services, including paper and food (Category 1), upstream fuel and energy-related services not covered under Scopes 1 and 2 (Category 3), upstream and downstream transportation and distribution (Categories 4 and 9), solid waste and wastewater (Category 5), and study abroad air travel and other directly financed travel (Category 6).[42] As a research institution, SUNY will seek to develop internal Scope 3 goals after a thorough analysis of available data and data management systems, starting with certain purchases, waste operations, and faculty and staff business travel and commuting using non-SUNY vehicles (the burning of fuel in SUNY's owned

fleet is captured in Scope 1 emissions). If successful, a system-wide inventory could be expanded to a wide range of Scope 3 greenhouse gas emissions categories that can be influenced directly or indirectly by SUNY.

In the meantime, operational sustainability can be advanced under well-established goals and metrics in the comprehensive AASHE STARS system that many SUNY schools follow. In addition, for state-operated campuses, EO22 has targets for conversion of the light duty fleet to Zero Emission Vehicles (ZEVs) by 2035 and the medium and heavy fleet by 2040, a 75 percent diversion of waste from disposal, the tracking of embodied carbon in concrete, asphalt, steel, and glass in construction contracts, procurement requirements for green purchasing that considers life cycle analysis, and goals for habitat, biodiversity, low impact development, toxic substance and pollution reduction, water conservation, bottled water, and climate assessment.[43] The recent Executive Order 32 mandates the purchase of New York State Food Products whenever feasible with a target of 30 percent by 2027,[44] which may result in lower emissions in transporting food.

Many practices can reduce emissions from transportation. The CLCPA and EO22 strategy for reducing transportation emissions focuses on shifting fleets and personal vehicles to ZEVs, and SUNY recently received a $15 million Federal grant to build a network of 350 dual-port electric vehicle charging stations across the system. For medium- and heavy-duty vehicles in SUNY's fleet, switching from fossil-fuel derived diesel to lower-carbon fuels like plant-based renewable diesel or green hydrogen will reduce carbon emissions, and renewable diesel has been proven to work in New York City's much larger diesel fleet. In addition, SUNY will develop policies that will get students, staff, and faculty to shift travel modes from single-occupancy cars to transit, cycling, walking, and carpooling. Already, SUNY has been working with regional public transportation providers to improve the frequency of bus service and the proximity of stops at five campuses.

In waste, the current linear economic model of "take, use once, and waste" presents an opportunity for reducing emissions in a sustainable circular economy that keeps products and materials in continuous circulation. This can be achieved through processes such as maintenance, reuse, refurbishment, remanufacturing, recycling, and composting. In an integrated approach across operations, campuses will buy fewer goods overall and if a purchase is necessary will consider sustainable products first, will work with vendors to buy local, sustainable food, will work with student groups on initiatives to reuse clothing and furniture, will amend waste contracts to require composting of solid waste, will avoid widespread, indiscriminate use of fertilizers and pesticides, and will restore natural systems.

The barriers to achieving these goals involve the lack of sustainable goods, transit, and composting in surrounding communities and the broader economy. To overcome these barriers, SUNY will use its purchasing power with other state agencies to influence the supply chain toward sustainability. As directed by the Governor's EO22, SUNY's Board of Trustees recently adopted a policy to phase out single-use plastics. Campuses will work together with SUNY's Office of Sustainability to implement the plastics phase-out policy with the active participation of auxiliary food services, procurement, and materials management operations in a test case of leveraging existing staff adopting sustainable standards. This collaborative approach to developing policies and implementation plans must consider the experience of operational units and their advice about what will work to achieve sustainable goals. That is why SUNY is working with SustainChain to create an in-house online network that will cross operational units and campuses; on that platform, a food service operator at one campus can post an issue and receive advice from a waste operator at another.

Transportation
Goals

6.1   Convert 75 percent of SUNY's light-duty fleet vehicles to zero-emission vehicles by 2030, with a pathway to 100% conversion of the light-duty fleet by 2035. (Objective I, IV)

6.2   Reduce Scope 1 emissions attributable to SUNY fleet operations. (Objective I)

6.3   Support alternative means of commuting to campuses so students and employees have safe options other than single occupancy vehicles.

6.4   Reduce Scope 3 travel emissions for official travel. (Objective I, IV)

Success Indicators

6.1.1   Percent of light, medium and heavy-duty campus fleets that are zero emission vehicles as defined by EO22.

6.1.2   Number of electric vehicle chargers on campuses by type and accessibility.

6.2.1   Gallons of gasoline, regular diesel, renewable diesel, hydrogen, or other cleaner fuels purchased.

6.3.1   Number of campuses with frequent bus or other public transit stops on campus.

6.3.2   Number of campuses with incentives to encourage students and employees to reduce travel emissions from commuting including bike share, carpooling, hybrid work policies, or mass transit subsidy programs.

6.3.3   Number of campus or connected community projects completed to increase safe and convenient active mobility.

6.3.4   Number of campuses with a third-party certification indicating beneficial active mobility infrastructure.

6.4.1   Number of campuses with policies for reducing emissions attributable to official travel.

Actions and recommendations
Year 1

- Maintain implementation of ZEV transition plans submitted in December 2023 for EO22.
- Ensure that every SUNY state-operated campus has charging stations for electric vehicles.
- Pursue funding for installing EV charging stations, including in applicable building construction and renovation projects.
- Work with state and federal agencies and other partners to plan, fund, and install EV charging stations on or near facilities.
- Pilot the use of renewable diesel, hydrogen, or other non-fossil fuels in heavy-duty fleets and implement programs if they are beneficial.
- Develop a model survey of staff and student commuting patterns and transportation modes and encourage campuses to implement the survey.
- Expand SUNY's pilot work with local transportation agencies to increase access and frequency of transit service.

- Work with facility managers to increase the availability of any existing showers in common areas to facilitate bike commuting by students, staff, and faculty.

Year 2

- Develop policies to ban the purchase of internal combustion engine light-duty vehicles, with narrow exceptions.
- Work with OGS to require rental companies to offer ZEVs.
- Work with OGS to offer increased procurement options for ZEVs.
- Revise SUNY travel policies and vendor contracts to promote sustainable travel options (e.g., use of ZEVs and trains) informed by the social cost of carbon.
- Expand the use of renewable diesel, hydrogen, or other non-fossil fuels in heavy-duty fleets and implement programs if they are beneficial.
- Develop a plan at each campus for EV chargers' most beneficial installation sites, considering the electrical infrastructure, parking accessibility, the campus residential community, and other campus-specific factors.
- Develop carpooling options with public and community partners.
- Develop bikeshare and micromobility programs with private and public partners.
- Improve bike storage options at campuses, prioritizing covered or indoor parking where feasible.

Years 3, 4, and 5

- Pursue funding or transit agency policies to provide free public transportation passes to all students.
- Explore leasing of fleets rather than ownership to increase ZEVs and other private partnerships that provide fleet decarbonization as a service business model.
- Build out a network of electric vehicle charging stations at SUNY campuses.
- Enhance active mobility by increasing pedestrian/cycling infrastructure on campuses and, in collaboration with local communities, to and from student, faculty, and staff housing, shopping, and social destinations.
- Study the development of a carbon charge for business travel air transportation, with the proceeds to be used for carbon mitigation efforts at the campus.
- Work with campus planners to incorporate showers into new buildings where feasible to facilitate bike commuting by students, staff, and faculty.

Case Studies

- SUNY New Paltz and its partners in Campus Auxiliary Services own and operate 26 electric vehicle charging stations for students, employees, and the public. In 2023, over 400 unique electric vehicle users plugged their vehicles into the campus EV charging network. SUNY New Paltz also purchased three new Ford F-150 electric trucks for its campus fleet in 2024.
- The University at Albany introduced a new electric trolley to increase its zero-emission fleet. Additionally, the University at Albany introduced a new electric trolley to their campus. With a maximum highway speed of 65 miles per hour, a 105-mile range, and 30-seat capacity, this new ZEV is helping to displace 25,000 gallons of diesel fuel over the next decade. This means that more than 500,000 pounds of CO2 emissions will be reduced, resulting in a cleaner environment.

- Farmingdale State College has taken steps to shift travel from cars to other modes of travel, including working with the local transit agency to expand bus service to on its campus, hosting an annual Car Free Day Long Island rally to educate the public about car emissions and alternative, sustainable travel modes, hosting an annual symposium to highlight available electric vehicles for test drives, and implementing a bike-share program with PedalShare, a local bike share company, whose end-of-year report shows that the college was the second most used station across the Long Island region.

- The League of American Bicyclists has recognized nine SUNY campuses -- University at Albany, SUNY Brockport, University at Buffalo, SUNY Cortland, SUNY College of Environmental Science & Forestry, Farmingdale State College, Monroe Community College, SUNY New Paltz, and Stony Brook University -- as Bicycle Friendly Universities for their efforts to make biking safe and convenient for students, faculty, and staff with designated bike lanes, bike racks, repair stations, and safety rules. Additionally, 14 SUNY campuses have implemented bike-share programs.

Bikeshare program at Farmingdale State College

All-electric trolley at University at Albany

Procurement
Goals

6.5   75 percent of spending on goods and services is sustainable as defined by EO22 specifications, for goods that have an applicable, approved GreenNY specification. (Objectives I, III, IV)

6.6   No purchases of single-use plastics, except as allowed by SUNY's policy for emergency and medical exceptions (Objectives I, III, IV) (applies to community colleges as well as state-operated campuses)

6.7   Track Scope 3 procurement emissions for SUNY operations. (Objective l)

Success Indicators

6.5.1 Percentage of dollars spent on sustainable products compared to total spending in categories for which there is an approved GreenNY specification.

6.6.1   Annual purchase of single-use plastic items, compared to baseline year.

6.7.1 Total procurement of goods is decreased compared to baseline year.

6.7.2 Tracking systems are in place for Scope 3 procurement emissions.

Actions and recommendations
Year 1

- Enhance tracking of green purchasing by adopting GreenNY-specific sub-object codes and developing ongoing training for all staff with purchasing power.

- Track SUNY's purchase and use of single-use plastics.

- Begin implementation of the complete phaseout of single-use plastics per SUNY's 2024 policy, which applies to both state-operated and community colleges.

Year 2

- Educate campus purchasing officers about procurement goals, State procurement guidelines that allow sustainability considerations for products to be part of the "form, function, and utility" elements, and sub-object codes for tracking.

- Work with state agencies and internal partners to require preferred sources and vendors on state contracts to self-identify products that meet GreenNY specifications and create audit mechanisms to ensure the accuracy of claims to increase the number of "all green" OGS and SUNY contracts.

- Develop a universal green purchasing training requirement for procurement card holders and authorized purchasers on each campus.

- Make sustainability part of a new SUNY Procurement Center of Excellence.

- Encourage campuses to include language in procurement RFPs that would allow other campuses to piggyback on contracts.

Case studies

- ESF's Office of Sustainability created a Green Purchasing Guide to aid campus purchasers in meeting Executive Order 22 green procurement goals. It also developed a Case Study documenting how the Guide was created in hopes that other institutions and organizations would be able to replicate this tool for their own use.

- The most sustainable, secure, efficient, and cost-effective page is the one never printed, and a printing policy by the SUNY Procurement Office has reduced paper from 625 million pages per year to 266 million pages, printers from 197,000 devices to 47,000 devices, and has reduced operating costs by $20 million in maintenance and supplies, while also providing additional features at larger centralized printers such as networking capability and tracking. When all campuses centralize printing, and connect all printers to the network, SUNY will conserve 35 million gallons of water, reducing carbon dioxide emissions by nearly 5,000 tons, and saving 43,000 trees annually.

**Food
Goals**

6.8   Increase the availability of food that meets sustainability guidelines as defined in the AASHE STARS system. (Objectives I, III, IV, V)

6.9   30 percent of food purchased is produced in New York State. (Objectives I, III, IV, V)

Success Indicators

6.8.1   Percentage of spending on food purchases that meet sustainability criteria as defined in the AASHE STARS system, compared to food overall. (Objectives I, III, IV, V)

6.8.2   Number of third-party certifications in different sustainable food categories.

6.9.1   Spending on NYS-produced food as defined by EO32.

**Actions and Recommendations
Year 1**

- Track and assess food purchasing on at least an annual basis to inform ongoing improvements.

- Encourage food service vendors to develop seasonal menus and recipes that highlight plant-based, minimally processed foods, to develop halal and kosher options to meet student demand, and to highlight such options in signage.

- Encourage food service vendors to prioritize the preferential purchase of sustainable and New York products in cost-competitive categories.

Year 2

- Model innovative food procurement, menu development, food education, and waste practices with educational and research initiatives, particularly at SUNY's agricultural-technology campuses.

Case studies

- Binghamton has worked with its auxiliary dining services, who have hired a sustainability manager who also supports the vendor's teams at Monroe Community College, SUNY Oneonta, and University at Albany. Working through this point person, a Binghamton student calculated the carbon footprint of every menu item at one eatery, and the menu was labeled with climate-friendly choices. Binghamton University has also been Food Recovery Verified and has a chapter of the Food Recovery Network. Last year, it recovered over 11,000 pounds of food with frozen complete meals provided in the campus food pantry to address food insecurity.

- SUNY Geneseo has a student-run garden and composting program that provides fresh produce to diverse communities at farmers' markets in Geneseo and Rochester. The sustainability team also works with its campus auxiliary services and vendors to buy fruit and vegetables from over a dozen regional farms, all milk and most other dairy products from a local dairy co-op of over 300 New-York-based, family-owned, and other food from a local that has a short commute for deliveries and works with over 90 NYS-based companies and sources of products, employing 675 people in the region.

Student washes crops to prepare for sale in the Dairy and Specialty Crops Incubator at SUNY Morrisville

Waste

Goals

6.10 Divert 75 percent of waste by 2030 in accordance with EO22 scope, which includes recycling, composting and reuse. (Objectives I, III, IV, V)

6.11 Increase diversion of construction and demolition materials by reuse or recycling. (Objectives I, III, IV, V)

6.12 Reduce the overall weight of all materials disposed of in landfills or incinerated by 90 percent by 2030. (Objectives I, III, IV, V)

Success Indicators

6.10.1 Total waste diversion rate and tonnage of each category diverted (including food waste, electronics, and other specialty items) and destination (compost, donation, beneficial use, recycling, compared to 2018 baseline.

6.11.1 Diversion rate of construction and demolition, including resale, donated, reused, recycled, or otherwise beneficially used materials.

6.12.1 Weight of materials disposed of in landfills and incinerators.

Actions and recommendations
Year 1

- Implement SUNY's policy of phasing out single-use plastics, keeping the stated preference for durable and reusable materials at the forefront of planning efforts.

- Maintain and begin implementation of waste reduction plans for each state-operated campus that were compiled and submitted as one SUNY submission in July 2024.

- Conduct annual trash and recycling audits, track waste (including food waste), and continuously improve education, separation, collection, and diversion practices.

- Facilitate the use of surplus food on campus through creative engagement tools, such as the Free Food Alert applications used at some campuses already.

- Facilitate the donation of surplus food in partnership with community-based organizations.

- Develop and expand on-site and off-site compost programs, with an initial focus on pre-consumer food waste.

- Include a requirement in all construction contracts that all construction and demolition debris beneficial and other use will be tracked, to better implement SUNY Construction Fund Directive 1B-7's requirement of diversion.

- Work with applicable state agencies and internal partners to ensure that centralized OGS or SUNY hauling and moving contracts used by campuses include reuse and do not solely focus on recycling and disposal. To the greatest extent possible, awarded contractors shall provide actual material weights rather than merely volume or weight estimates.

- Work with surrounding municipalities and communities to develop more options for reuse, recycling, and composting facilities.

- Implement the SUNY system's printer and paper reduction plan, provide electronic data management training, and share best practices.

- Encourage campuses to reduce post-consumer waste by limiting unnecessary packaging and using reusable containers wherever possible.

- Amend waste contracts to include pre-consumer (back of house) and post-consumer (front of house) food waste diversion from landfills and incinerators.

- Work with communities to develop more composting facilities, including on SUNY land, where appropriate.

- Improve the entirety of the current surplus property process, including exploring options to transition the current email-based means of offering surplus property within and between campuses to a web-based platform, exploring how to increase the speed, efficiency, and effectiveness of the OGS public auction platform, and working to formalize a process to allow for the transfer of materials to pre-approved non-profit organizations after other options have been exhausted.

- Establish battery collection systems on campuses, ensuring they are segregated from other types of hazardous waste to make it easier to feed collection, reprocessing, and remanufacturing operations.

- Seek funding to install bottle filling stations and provide refillable bottles at student, faculty, and staff orientations.

- Establish recycling programs for additional recyclables, including film plastic, e-waste, and compact fluorescent light bulbs.

- Support and guide campus efforts to reuse or otherwise divert furniture, clothes, and other materials from landfills and incineration during student move-out and encourage every campus to offer such programs.

- Develop, publish, and implement sustainable events guidelines.

Years 3, 4, and 5

- Seek opportunities to pilot the deconstruction of a building and assess the results.

Case studies

- To implement SUNY's new policy to phase out single-use plastics, over the past year SUNY Brockport eliminated single-use plastic straws, grocery bags, and balloons, reduced some single-use plastic take-out containers and replaced them with paper, reduced zip-lock style bags and replaced with paper bags, reduced portion-controlled packets with bulk salad dressings services. Next year, the school will reintroduce a reusable mug program, replace plastic portion cups and lids with paper portion cups, eliminate plastic cold cups in catering and replace them with paper cold cups, and will work with vendors to replace products in single-use plastic containers with alternatives and reduce portion-controlled packets of cream cheese, butter, margarine, and jelly with bulk options.

- SUNY Oswego dramatically reduced its use of plastic trash bags by consolidating collection into centralized locations. Across campus, this initiative also saved 20 hours a day in custodial time that was then deployed to other tasks, netting $100,000 in annual savings.

- ESF became the nation's first higher education institution to be awarded Total Resource Use and Efficiency precertification for zero-waste operations at its Syracuse campus.

- SUNY schools use reusable to-go containers for takeout in dining halls, including at SUNY Brockport, Binghamton, Canton, Cortland, Cobleskill, New Paltz, and ESF.

- SUNY Oneonta's award-winning Student Move-In Program collects cardboard, polystyrene, and plastic film for recycling, and last year diverted 4.6 tons of cardboard, over 250 pounds of polystyrene and 1 full bale of plastic film from landfills. The initiative is a collaboration between the SUNY Oneonta Office of Sustainability and custodial staff, using paid student Recycling Ambassadors to communicate about waste reduction and recycling with new students and their families and to support the custodial staff.

- On the other end of the school year, Binghamton University partners with community and environmental groups on the Move Out Project to collect and store unwanted items for donation to the community. Last year 140 volunteers collected over 20,000 pounds from on- and off-campus student housing, using Google forms to identify items and pick up times and hosting shopping days for over 40 local non-profits. An application is being developed to streamline the process, and volunteer swap days with other universities help spread the practice.

- Fulton-Montgomery Community College opened a new no-cost, on camps thrift store for students, faculty, and staff, leveraging Empire State Corps student interns. This effort reduces waste and the emissions related to making new clothing, and also advances social equity.

- SUNY Potsdam students did a waste audit then started a composting program last year as part of their Environmental Studies classwork. Students were stationed at the student union during mealtimes to educate students, faculty, and staff about the new composting procedures.

- At SUNY Fredonia, most unserved food is diverted from the landfill by partnering with a community organization to provide meals for those in need.
SUNY Plattsburgh College Auxiliary Services partnered with food and waste vendors to offer pre- and post-consumer composting of organic waste and zero-sort recycling in all dining facilities on campus, supported by a training and education campaign.

- SUNY Oneonta installed a Grind2Energy system to turn food scraps into clean water and renewable energy.

Farmingdale State College Students trade gently used clothing to reduce waste, reuse resources, and save money

Ecosystems
Goals

6.13   All campus areas, except for buildings and athletic fields, are protected, restored, or otherwise managed ecologically (as defined by AASHE STARS 3.0) to increase biodiversity and ecosystem services. (Objectives I, III, IV, V)

Success Indicators

6.13.1 Number of campuses with no mow areas, pollinator gardens, food and regenerative farms, food forests, and forested or other natural areas.

6.13.2 Number of acres managed ecologically compared to a baseline developed for 2025.

6.13.3 Number of trees planted.

6.13.4 Number of campuses with third-party ecosystem function certifications (e.g., Audubon, Tree Campus USA, Bee Campus USA, Pollinator friendly).

6.13.5 Number of campuses with Integrated Pest Management protocols for all campus areas.

Actions and recommendations
Year 1

- Complete campus-level recommendations for areas that can be left unmowed, converted to native habitat, planted with native trees and plants, or converted to pollinator, rain, food farms, or food forests.

- Conduct outreach and sharing of best practices to facilitate a culture shift that redefines the general perception of acceptably managed grounds to sustainable practices.

- Develop relationships with the Indigenous Nations that historically inhabited campus lands for consultation about incorporating traditional ecological knowledge into operations and curricula and, where feasible, co-management of lands (e.g., in managing deer populations, developing food forests and traditional gardens, conducting appropriate land-based ceremonies and rituals, and other cultural connections to historic Indigenous lands).

- Participate in the DEC Reforestation Plan and plant trees on campuses.

Year 2

- Adopt Integrated Pest Management plans at all campuses to reduce the use of toxic substances for weed and pest controls and reflect those plans in all grounds management contracts.

- Train ground crews in ecological land management methods and increase the number of employees with a commercial pesticide license so more grounds management can be done in-house under campus-specific management plans.

- Develop early detection rapid response plans to monitor and manage invasive species that may threaten healthy ecosystems.

- Adopt native species seeding and planting guides.

- Encourage students and educational programs to improve habitat and nesting boxes or platforms for native species.

- Develop and adopt outdoor lighting standards that preserve safety lighting while

minimizing undirected, ambient light pollution.

- Develop and adopt bird-friendly glass standards to reduce bird strikes.

Case Studies

- SUNY Cobleskill has started a decade-long reforestation project to plant 10,000 new trees along a creek that runs through the campus. The restoration of native upland and lowland forests will increase water-holding capacity, control erosion, filter pollutants, enhance biodiversity, and increase corridor connectivity for species that have declined due to habitat loss.

- SUNY Oswego's Rice Creek Field Station supports academic instruction, research, and public service in the natural sciences and environmental education. The Canal Forest Restoration Project involves faculty, students, and volunteers in collecting seeds and growing native white oak, swamp white oak, burr oak, and white pine seedlings for distribution to the community to restore native forests cleared along the historic Erie Canal network. The Field Station staff also worked with the SUNY Oswego sustainability team and students to adopt bird-safe standards, protecting birds during migrations along the Lake Ontario shoreline.

- Farmingdale State College is working with a community partner and environmental non-provide to convert a grass area in the middle of campus into a native plant garden to beautify the campus, help pollinators, and highlight the importance of sustainability. The school is receiving a grant of professional consulting on garden design and installation, plants, irrigation equipment, signage, and advice about maintenance and engagement.

- Westchester County Community College's Native Plant Center maintains demonstration gardens to showcase native plants and is open to the public free of charge to educate and inspire people to incorporate native plants in their own landscapes.

- SUNY New Paltz has twelve green infrastructure sites demonstrating seven different types of technologies, including two permeable pavement parking lots, a vegetated swale, rain gardens/bioretention areas, a green roof, two rainwater cisterns for irrigation, and one rainwater cistern for flushing toilets.

"Our campus grounds reflect our principles at ESF, demonstrating our commitment to practice what we teach and inspire others to be good nature stewards. Being a Bee Campus not only means using ecological landscaping to create biodiverse urban habitat - it also means recognizing the value of our grounds to benefit students through hands-on education and the chance to have a voice in bringing about tangible change to improve our world."

-Molly Jacobson, Native Plant Ecologist

Community garden at Farmingdale State College

7. Inclusive Engagement and Climate Justice

SUNY's mission of implementing "a program of public service to enhance the well-being of the people of the state of New York and in protecting our environmental and marine resources" will be advanced by helping create the next generation of leaders in all aspects of society and to develop pathways so that SUNY's clean buildings and sustainable operations are models for and benefit Disadvantaged Communities as designated under the CLCPA and Bond Act.[45] This plan is therefore developed with a view toward testing and modeling actions that can be scaled up through the influence of graduates pursuing careers in sustainability and through commercialization and other adoption of SUNY research. In addition, technical work on facilities and operations will be enhanced through an intentional approach to engaging the community within SUNY and the communities around the campuses and making sustainability accessible to all groups.

To advance climate justice and honor the values of equality, education, and leadership, SUNY's engagement will intentionally focus on marginalized communities that bear the most significant impacts from climate change but are all too often excluded from decision-making. A particular debt is due to Indigenous Nations who were and continue to be displaced and destroyed by the same economic and social forces that are causing climate change.

Goals

7.1   All SUNY students can participate in activities related to climate, sustainability, nature, or outdoor recreation, with a focus on engaging low-income or minority students. (Objectives IV, V)

7.2   All campuses have at least one climate or sustainability-focused event annually open to the community, non-academic staff, and students, with a focus on engaging low-income or minority students and disadvantaged communities. (Objectives II, IV, V)

7.3   All campuses have at least one community partnership that explicitly supports underrepresented groups and/or vulnerable populations to address climate, sustainability, or resiliency challenges identified by the community. (Objectives II, IV, V)

7.4   All campuses have programs providing an opportunity for students, staff, and faculty to participate annually in community service, other civic engagement programs, or a community of practice and learning that focuses on reaching disadvantaged communities. (Objectives II, IV, V)

Success indicators

7.1.1   Number of Empire State Service Corps internships focused on climate and sustainability.

7.1.2   Number of campuses with sustainability clubs or student organizations.

7.1.3   Number of students who participate in sustainability, nature, or outdoor recreation organizations on campus.

7.1.4   Percentage of participating students who identify as low-income or from historically underrepresented groups or from designated Disadvantaged Communities.

7.1.5   Percentage of students aware of climate and sustainability issues as reflected in the bi-annual student life survey.

7.2.1   Number of campuses with annual sustainability-related events open to the public.

7.3.1   Number of campuses that have at least one community partnership that explicitly supports underrepresented groups, designated Disadvantaged Communities, and/or vulnerable populations in addressing the sustainability or resiliency challenges that they have identified.

7.4.1   Number of campuses that have programs providing an opportunity for students, staff, and faculty to participate annually in community service, other civic engagement programs, or a community of practice and learning.

Actions and recommendations
Year 1

- Integrate sustainability into new student, staff, and faculty orientations and include position-specific information in onboarding documents.

- Work with Indigenous Nations and disadvantaged communities to address sustainability and climate change and to add to a broad-based climate and sustainability movement that includes marginalized groups.

- Encourage student outdoor, environmental, and sustainability clubs, including those with peer-to-peer education programs.

- Seek funding for flexible eco-rep, eco-ambassador, and other peer-to-peer programs.

- Develop deeper connections between sustainability and DEI offices on campuses through regularly scheduled meetings, joint events, and programs and exchanges of ideas.

- Maintain and expand paid Empire State Service Corps opportunities for SUNY students to work with communities on climate action.

- Maintain and expand SUNY participation in the UNFCCC Conference of Parties (COP) and other high-level convenings on climate and sustainability issues.

Year 2

- Conduct periodic surveys – including in the biennial Student Satisfaction Survey to be implemented in Spring 2026 -- to measure SUNY student, faculty, and staff awareness of energy efficiency, waste reduction, low-carbon commuting practices, and other measures of engagement with sustainability issues.

- Build mutually beneficial and reciprocal community partnerships through outreach campaigns around environmental issues open to faculty, staff, and students (e.g., citizen science efforts, students helping with community clean energy or weatherization, resiliency plans, pollution tracking and mapping, community composting, transit).

- Offer periodic tours and signage of SUNY facilities and ongoing projects to help the public better understand the sustainability efforts and how SUNY invests public funds for a better future.

- Actively participate in "blue-green" labor and environmental coalitions that seek to advance climate investments' social and economic benefits, building on such efforts as Cornell's Climate Jobs Initiative.

- Create public-facing climate education materials.

- Sponsor regular sustainability events, from speakers to tree plantings, open to the campus and larger community.

Case studies

- 40 Empire State Service Corps student interns from 13 campuses – Binghamton University, Cayuga Community College, Cobleskill, Finger Lakes Community College, Geneseo, New Paltz, Old Westbury, Oneonta, Oswego, Plattsburgh, Potsdam, University at Albany, and University at Buffalo – are working on climate and sustainability issues in the surrounding communities and on campus, including on village and tough Climate Smart Community task forces.

- SUNY Cortland worked with a member of the Akwesasne Mohawk Nation to plan and dedicate a Three Sisters Garden of corn, beans and squash, an agricultural tradition of the Haudenosaunee that uses the unique qualities of each plant to aid growth. Corn draws water in for all the plants and provides protection from the wind, squash has prickly leaves that keep pests away and moisture from evaporating, and beans provide nutrients to the soil. The bean and squash seeds for the garden were gifted from members of the Onondaga Nation, which lies 34 miles north of campus. Cortland is also developing a food forest using native plants.

- SUNY ESF's Center for Native Peoples and the Environment develops connections between traditional ecological knowledge and Western scientific approaches and its Timbuctoo Climate Science and Careers Summer Institute seeks to diversify the environmental movement by providing fully-funded summer programs for high school sophomores and juniors from systemically marginalized communities to experience nature through field trips, learn about social and food justice and climate impacts on wildlife, and forestry and forest management, and explore sustainable careers and college programs.

- Binghamton's Kaschak Institute promotes gender equality and supports the development and implementation of country-level Climate Change Gender Action Plans required by the UN climate change framework conventions. Under its leadership, students and faculty actively participate in the annual UN Conferences of Parties on climate change.

- SUNY Potsdam's Center for Diversity assists all students, with an emphasis on students of color and diverse backgrounds, in their educational and personal transition and development, including opportunities for students to explore the vast Adirondack State Park that is just a short drive from campus for adventures ranging from whitewater rafting and ziplining to snow tubing and visiting Saranac Lake's Ice Palace. The program has developed connections with the Adirondack Diversity Initiative and was recently recognized by Sports Illustrated profile.

- SUNY Cortland's Big Event is a student-run, community-wide civic engagement project that solicits community requests for help and connects students with community improvement projects like picking up trash, raking leaves, and painting a mix of private residences and businesses.

"Outdoor education and recreation are powerful tools for creating belonging and transforming the college experience. Research shows that engaging with nature improves mental and physical health, reduces stress, and fosters social connections, key elements of a supportive campus environment. … When students step outside, they're stepping into a space where they can thrive, connect, and discover their full potential."

-Clifton Harcum, Creator of the LIVE NOW program and Geneseo Director of Multicultural Affairs

SUNY Geneseo students explore Stony Brook State Park

Definitions

AASHE: The Association for the Advancement of Sustainability in Higher Education is a nonprofit organization that provides resources, professional development, and recognition for sustainability efforts in higher education.

Bond Act: Generally, refers to legislation that authorizes the issuance of bonds to fund public projects, such as infrastructure or environmental initiatives, and in this document refers to New York's Clean Air, Clean Water, and Green Jobs Bond Act of 2022.

BTU: British Thermal Unit is a unit of energy used to measure the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit. It is commonly used in the context of energy and heating.
CEMPs: In this document, the acronym stands for Climate Energy Master Plans at SUNY campuses.

CIP: The Classification of Instructional Program is a taxonomy of academic programs that organize fields of study based on the nature of the subject matter, used primarily for statistical and policy purposes.

CLCPA: The Climate Leadership and Community Protection Act of 2019 is New York State's ambitious climate law that sets goals to reduce greenhouse gas emissions by 40 percent by 2030 compared to a 1990 baseline and 85 percent by 2050.

Climate: The long-term patterns of temperature, humidity, wind, precipitation, and other atmospheric conditions that prevail over extended periods (decades to millennia).

CUNY: The City University of New York is the largest urban university system in the United States, receives funding from the State of New York, and is subject to EO22.
DACs: Disadvantaged Communities that experience a higher-than-average burden from environmental hazards, such as pollution, or lack access to critical resources, including healthcare, education, and economic opportunities and in this document refers to the designations under the CLCPA that are mapped at www.nyserda.gov/ny/disadvantaged-communities.

DEC: The Department of Environmental Conservation is New York State's agency responsible for managing and protecting natural resources, environmental quality, and wildlife.
DOCCS: The Department of Corrections and Community Supervision is New York State's agency response for managing the prison and parole system, including 52 correctional facilities.

DOL: The Department of Labor is New York State's agency responsible for promoting the welfare of workers.
Ecologically managed grounds: The term used in this document incorporates the meaning used in STARS 3.0 for sustainable landscape management that integrates ecological and social, cultural, and economic considerations to meet human needs and maintain healthy ecosystems.

EO22: Executive Order 22 is an executive order issued by New York State that addresses environmental policies and goals, including sustainability and clean energy initiatives.

EUI: Energy Use Intensity is a measure of a building's energy efficiency, expressed as the energy consumed per unit of area, typically in kilo (thousand) British Thermal Units per square foot.
GHGs: Greenhouse gases trap heat in the Earth's atmosphere, contributing to global warming and climate change. Key examples include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases (e.g., hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride that are sometimes used as substitutes for stratospheric ozone-depleting substances such as chlorofluorocarbons, hydrochlorofluorocarbons, and halons).

Green jobs: Employment opportunities that focus on environmental sustainability and contribute to reducing environmental impacts, such as renewable energy, waste management, and environmental conservation.

GWP: Global Warming Potentials developed by the IPCC allow comparisons of the global warming impacts of different gases by measuring how much energy the emission of one ton of a gas will absorb over a given period, relative to the emission of one ton of carbon dioxide (CO_2). The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that period. The international standard for GWP is 100 years or GWP100, but under the CLCPA, New York State uses a GWP over 20 years or GWP20 to prioritize gases with shorter lifetimes such as methane. CO_2 has a GWP100 and GWP20 of 1, methane has a GWP100 of 27-30 and a GWP20 of 81-83, nitrous oxide has a GWP100 and GWP20 of 273, and fluorinated gases have GWPs in the thousands or tens of thousands.

HVAC: Heating, Ventilation, and Air Conditioning refers to systems that regulate indoor temperature, humidity, and air quality in buildings.

IPCC: The Intergovernmental Panel on Climate Change, sponsored jointly by the World Meteorological Organization and the United Nations Environmental Program.
Learning outcomes: Specific statements that define what students are expected to know, understand, or be able to do after completing a course or program.

LEED: Leadership in Energy and Environmental Design is a globally recognized certification system for green building design, construction, operation, and maintenance that focuses on environmental performance developed by the US Green Building Council.
MMBTU: Million British Thermal Units are units of energy equal to one million BTUs, used to measure large quantities of energy, particularly in natural gas or heating systems.

MTA: The Metropolitan Transportation Authority is a public benefit corporation chartered by the New York State Legislature that is responsible for public transportation in the New York City metropolitan area.

MTCO2e: Metric Tons of Carbon Dioxide Equivalent is a unit used to express the impact of various greenhouse gases in terms of the amount of carbon dioxide that would have the same GWP or global warming potential.

MW: A megawatt is one million watts and is commonly used in the power business when describing generation or load consumption.

MWh: Megawatt Hours are units of energy representing the consumption or production of one megawatt of power over one hour, commonly used to measure electricity generation or usage.

NOAA: The National Oceanic and Atmospheric Administration is a U.S. government agency focused on weather, oceanography, and atmospheric research, including climate science, and protecting marine ecosystems.

NYPA: The New York Power Authority is the largest state public power organization in the U.S., generating and distributing renewable energy, primarily hydroelectric power, to public entities in New York. NYPA provides energy planning and project management services for SUNY and other agencies.

NYSERDA: The New York State Energy Research and Development Authority is a state agency that promotes energy efficiency and the development of renewable energy in New York through funding, programs, and research.

OGS: The Office of General Services is New York State's agency responsible for providing centralized services such as procurement, facilities management, and real estate services for the New York State government.

OMH: The Office of Mental Health is New York State's agency responsible for regulating and overseeing mental health services provided by local governments and non-profit agencies.

PPAs: Power Purchase Agreements are contracts between energy producers (renewable energy providers) and energy buyers (corporations or governments) to purchase energy at agreed-upon terms.

P-TECH: Pathways in Technology Early College High School is a public education program combining high school, college, and industry experiences to help students earn both a high school diploma and a college degree, focusing on STEM fields.

Scopes 1, 2, 3: Terms used in greenhouse gas accounting to categorize emissions. Scope 1 refers to direct emissions from owned or controlled sources (e.g., the gasoline and diesel used in SUNY vehicles and the natural gas used to heat SUNY buildings), Scope 2 refers to indirect emissions from purchased electricity, steam, heating, and cooling, and Scope 3 refers to indirect emissions from the supply chain, such as commuting and business travel, product purchases, and waste disposal.

RECs: Renewable Energy Certificates are tradable certificates that represent the environmental benefits of generating renewable energy and are used to track renewable energy production and compliance with renewable energy standards.

SIMAP: The Sustainability Indicator Management and Analysis Platform is a tool used by institutions to track and report on sustainability performance, particularly in higher education.

STARS: Sustainability Tracking, Assessment & Rating System is a framework developed by AASHE for use by higher education institutions to measure and improve their sustainability performance in various areas, from energy to curriculum.

SUNY: The State University of New York is a public university system in New York State with a network of 64 colleges and universities.

SUNY ESF: The State University of New York College of Environmental Science and Forestry is a college within the SUNY system that specializes in environmental science, forestry, and sustainability programs.

SUNY Policy 5606: A SUNY policy that requires every campus to develop and maintain an Emergency Response Plan with certain required contents. In the event of an emergency, the top priorities of SUNY are to protect life, protect critical facilities, and restore campus operations.

Sustainability: The practice of meeting present needs without compromising the ability of future generations to meet their own needs, often focusing on environmental stewardship, social equity, and economic viability. One widely used definition is the Seventh-Generation principle developed by the Haudenosaunee Confederacy, which encourages consideration that the decisions made today should result in a sustainable world for the next seven generations. Another widely used definition was developed in 1987 by the United Nationals Brundtland Commission for "meeting the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainable foods: Foods produced with environmentally friendly methods that promote ecological balance, reduce waste, and support local economies, often organic or regenerative farming practices. This plan incorporates the definition under STARS 3.0 of sustainable food systems and low-carbon dining through purchasing that prioritizes sustainably and ethically produced products, plant-based foods, and social impact suppliers.

TBTU: one trillion BTUs, often used for larger-scale energy measurements and specifically under NYPA's BuildSmart 2025 program.

UNSDGs: The United Nations Sustainable Development Goals are 17 global goals established to address issues like poverty, inequality, climate change, environmental degradation, and peace by 2030.

USGBC: The U.S. Green Building Council is a nonprofit organization that promotes sustainable building practices and is known for developing the LEED certification program.

ZEV: A Zero Emissions Vehicle is a vehicle that produces no direct emissions from its operation, such as electric vehicles or hydrogen fuel cell vehicles. For purposes of EO22 and this plan, electric vehicles included in SUNY's inventory are any plated vehicle that replaces a car with an internal combustion engine, ZEVs include Battery Electric Vehicles (BEV) and Plug-in Hybrid Electric Vehicles (PHEV), and light-duty vehicles are equal to or less than 10,000 pounds.

Endnotes

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[2] SUNY Fast Facts (as of Fall 2023), https://www.suny.edu/about/fast-facts/.

[3] The best-available data is summarized in the National Oceanic and Atmospheric Agency's (NOAA's) Annual Greenhouse Gas Index at https://gml.noaa.gov/aggi/aggi.html. In 2022 atmospheric levels of carbon dioxide, the most impactful greenhouse gas, reached 421 parts per million or more than 50 percent higher than pre-industrial revolution levels of 280 parts per million, and are now comparable to a period over four million years ago when sea levels were five to 25 meters higher than today and when temperatures were seven degrees Fahrenheit higher. NOAA blog, Carbon dioxide now more than 50 percent higher than pre-industrial levels (June 2, 2022), https://www.noaa.gov/news-release/carbon-dioxide-now-more-than-50-higher-than-pre-industrial-levels.

[4] "2024 to become the hottest year on record," United Nations press release (December 30, 2024), https://news.un.org/en/story/2024/12/1158621#:~:text=The%20year%202024%20is%20set,World%20Meteorological%20Organization%20(WMO); National Oceanic and Atmospheric Agency Global Surface Temperature Dataset, https://www.ncei.noaa.gov/news/noaa-updates-its-global-surface-temperature-dataset. See Global-mean monthly, seasonal, and annual means, 1880-present, updated through most recent month.

[5] Rebuild by Design, Atlas of Disaster (2024), New York State Chapter, https://rebuildbydesign.org/atlas-of-disaster/3/.

[6] As Insurers Around the U.S. Bleed Cash From Climate Shocks, Homeowners Lose, New York Times (May 13, 2024), https://www.nytimes.com/interactive/2024/05/13/climate/insurance-homes-climate-change-weather.html.

[7] Robin Leichenko, et al., ClimAID Annex III, An Economic Analysis of Climate Change Impacts and Adaptations in New York State, 2014, Annex III, p3, at https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/Research/Environmental/EMEP/climaid/ClimAID-Annex-III.pdf; see also Office of the State Comptroller, New York's Local Governments Adaption to Climate Change: Challenges, Solutions, and Costs (April 2023), https://www.osc.state.ny.us/files/local-government/publications/pdf/climate-change-2023.pdf.

[8] See generally, New York Department of Environmental Conservation, Climate Change Effects and Impacts, https://dec.ny.gov/environmental-protection/climate-change/effects-impact.

[9] Global Solar Installations on Track for Another Record Year, Bloomberg News (September 18, 2024), https://www.bloomberg.com/news/articles/2024-09-18/global-solar-installations-on-track-for-another-record-year.

[10] International Energy Agency, Global EV Outlook 2024, Trends in Electric Cars, https://www.iea.org/reports/global-ev-outlook-2024/trends-in-electric-cars.

[11] Rhodium Group and MIT Center for Energy and Environmental Policy Research, Clean Investment Monitor: Tallying the Two-Year Impact of the Inflation Reduction Act (August 7, 2024), https://rhg.com/wp-content/uploads/2024/08/Clean-Investment-Monitor_Tallying-the-Two-Year-Impact-of-the-Inflation-Reduction-Act-1.pdf.

[12] New York Proposal 1 Election Results: Issue Climate Change Bonds, New York Times, (November 18, 2022), https://www.nytimes.com/interactive/2022/11/08/us/elections/results-new-york-proposal-1-issue-climate-change-bonds.html.

[13] Societal costs that are not reflected in market prices are referred to as externalities. This concept is credited to A.C. Pigou, The Economics of Welfare (4th Ed. 1920) and later developed by Nobel prize winner Ronald Coase in The Problem of Social Cost (1960). Externalities are regarded as a market failure when costs or benefits are not accounted for in prices, meaning that the costs are borne elsewhere. In this context, when the emitters of greenhouse gases do not bear all the costs of global warming.

[14] Ed Conway, The Paradox Holding Back the Clean Energy Revolution, New York Times, February 22, 2024, https://www.nytimes.com/2024/02/22/opinion/vegas-sphere-energy-efficiency.html.

[15] NYS Education Law, Section 351. The full SUNY Mission Statement may be found at https://www.suny.edu/about/mission/. See also "The distinctive mission of the University is to serve society as a center of higher learning, providing long-term societal benefits through transmitting advanced knowledge, discovering new knowledge, and functioning as an active working repository of organized knowledge." Mission Statement from the University of California Academic Plan, 1974-1978; "Higher education institutions are essential actors in the promotion of lifelong learning. They have a unique capacity to develop skills and foster knowledge, and the potential to mobilize educational resources and provide learning opportunities for diverse populations." UNESCO Institute for Lifelong Learning; Steven Mintz, Becoming a Mission-Driven University, Inside Higher Ed, https://www.insidehighered.com/blogs/higher-ed-gamma/becoming-mission-driven-university; Daniela Olo et al, higher Education Institutions and Development: Missions, Models, and Challenges, JSSER, https://files.eric.ed.gov/fulltext/EJ1307049.pdf.

[16] Unless otherwise noted, State-operated campuses will be expected to fulfill the recommendations and actions, and community colleges will be encouraged to do so.

[17] SUNY participated in the first Earth Day in 1970, part of 2,000 universities that held events that day. The University at Buffalo anchors their sustainability efforts to that event over 54 years ago. See https://www.buffalo.edu/sustainability/about-us/timeline.html.

[18] Executive Order 22 (2022), https://www.governor.ny.gov/executive-order/no-22-leading-example-directing-state-agencies-adopt-sustainability-and.

[19] FY22-23 Greening New York State Report, https://ogs.ny.gov/system/files/documents/2024/09/greenny-annual-report-fy22-23.pdf. SUNY is cited in numerous areas including for its policies and practices on waste, plastics reduction, Integrated Pest Management, the generation of on-site renewable energy, green infrastructure, native plant gardens, and water efficiency.

[20] Climate change is also a chance to transform education in America — again, https://thehill.com/opinion/energy-environment/4603740-climate-change-is-also-a-chance-to-transform-education-in-america-again/

[21] The Mayor's PlaNYC states that "[New York City] DOE will lead the integration of climate education and action across all subjects and grade levels through new educator training. A new teacher leadership team comprising up to 50 teacher-leaders across different schools will provide up to 1,000 educators with professional development through climate education trainings, workshops, and programs. DOE will also establish a school certification program for climate education, supporting up to 25 schools per year in achieving climate credentials. Additionally, DOE will launch [an] inaugural Climate Action Day in all public schools in the 2023-2024 school year, showcasing the importance of climate education and sustainability practices. By 2024, DOE will [also] launch new Career-Connected Learning Programs to prepare public school students for careers in the

green economy." PlaNYC: Getting Sustainability Done, https://climate.cityofnewyork.us/wp-content/uploads/2023/06/PlaNYC-2023-Full-Report.pdf, p. 118 (2023) See also North American Association for Environmental Education, PlaNYC: Getting Sustainability Done, https://cdn.naaee.org/sites/default/files/2023-07/CCEP%20CS.PlaNYC-%20Getting%20Sustainability%20Done.NYC_.pdf.

[22] See https://www.nysed.gov/sites/default/files/programs/standards-instruction/p-12-science-learning-standards.pdf. The state is considering strengthening climate education at the K-12 level. See Bill S278A/A1559A, introduced by Senator Andrew Gounardes (D-N.Y.) and Assembly member JoAnne Simon (D-N.Y.), which would ensure students in the state receive comprehensive education that equips them with the understanding and skills to navigate the complex challenges of climate change in their communities and state.

[23] The CNY Youth Climate Summit was held at SUNY College of Environmental Science and Forestry (ESF) Saturday, Feb. 10. https://www.esf.edu/news/2024/youth_climate_summit.php.

[24] The SUNY General Education Framework was developed under SUNY Board of Trustees' Resolution 2021-48. https://system.suny.edu/academic-affairs/acaproplan/general-education/suny-ge/.

[25] SUNY's general education webpage (https://system.suny.edu/academic-affairs/acaproplan/general-education/suny-ge/) states that the terms "well-being" and "sustainability" are not centrally defined. Instead, campuses are to interpret these terms within the context of the course(s) being considered for approvability for this category. Sustainability, for example, is meant to be interpreted broadly as in the sustainability of a culture, civilization, etc. (e.g., see the UN Sustainable Development Goals, which include access to education, economic vitality, etc.). Although the environment may quickly come to mind when thinking about sustainability, it is quite possible for courses across a variety of disciplines to have a focus on sustainability (e.g., an investment and finance course might be designed to explore the impact of the World Bank on sustaining economies and reducing poverty).

[26] For example, the 2023 Princeton Review College Hopes & Worries Survey of 8,800 college applicants found that 69 percent of prospects say that a college's environmental commitment would affect their decision (https://www.princetonreview.com/press/green-guide/press-release-2024) and a December 2022 Inside Higher Ed/College Pulse survey of 2,164 students at 114 universities found that 45 percent of prospects consider environmental sustainability in their college enrollment decision and 12 percent said it was decisive (https://www.insidehighered.com/news/students/academics/2023/01/02/sustainability-actions-students-take-and-want-their-colleges).

[27] See The Climate Exchange at https://www.stonybrook.edu/commcms/the-exchange/. 28 See SUNY research and innovation programs at https://www.suny.edu/impact/research/programs/.

[29] There is no consensus around the definition of "green jobs." The most comprehensive inventory started by the U.S. Bureau of Labor Statistics but not finalized before the effort died because of the federal shut down in 2012. While much has changed in this fast-evolving industry, most jobs will be captured in BLS's broad definition of "green jobs" as those in industries that produce goods and services that benefit the environment or conserve natural resources. See U.S. Bureau of Labor Statistics, "Green Goods and Services Occupations,", available at https://ww.bls.gov/ggs/. The Occupational Information Network (O*NET)

project of the U.S. Department of Labor Employment and Training Administration refined the definition of green jobs to be "the economy activity related to reducing the use of fossil fuels, decreasing pollution and greenhouse gas emissions, increasing the efficiency of energy usage, recycling materials, and developing and adopting renewable sources of energy." Erich Dierdorff, et al, Greening of the World of Work: Revising Occupational Consequences, National Center for O*NET Development, December 9, 2011. This definition is much broader than renewable energy, the focus on many job reports from the NY Department of Labor and NYSERDA as well as many efforts at SUNY but does not capture many sustainability and environmental jobs such as those in the biodiversity and natural resources fields.

New and Emerging	Enhanced Skill	Increased Demand
Solar PV/thermal installers workers	Property managers	Construction
Wind energy technicians	Architects	Construction trades
Recycling	Engineers	Transit operators
Water/wastewater engineers	Urban/regional planners	Foresters
Energy Brokers	HVAC (new) technicians	Agricultural inspectors
Biomass plant technicians	CHP technicians	Electricians
EV auto technicians	EV auto technicians(?)	Carpenters
Environmental planners	Operations managers	Mechanics
Environmental economists	Building maintenance software developers	Software

[30] "A combination of major policy investments in the United States, the European Union, and China along with energy price increases triggered by Russia's invasion of Ukraine have sped up the global economy's transition to renewable energy. Some independent estimates expect that the United States' recent clean energy policy changes alone will create nearly 9 million jobs from public and private investments over the next decade. However, across a wide range of clean energy sectors, the transition will require many more trained workers in fields, including electrical work, heat pumps, clean energy construction, advanced manufacturing, and STEM. Beyond these specific areas of training, numerous other fields will need to adjust to a changing climate, including business, architecture, supply chain management, and more. Yet, LinkedIn's Global Green Skills report estimates that the supply of workers with green skills will increasingly fall short of labor market needs in just a few years." This is Planet Ed, Powering Climate Action on Campus, p. 12 (footnotes omitted), https://www.thisisplaneted.org/img/K12-PoweringClimateAction-Screen.pdf.

[31] A 2022 report from the New York State Comptroller assessed job market changes in New York from 2015 to 2019 and found that green jobs grew 13 percent, from 1.5 million jobs to 1.7 million jobs, or twice the rate of overall job growth. See generally, Office of the New York State Comptroller, Green and Growing: Employment Opportunities in New York's Sustainable Economy (Feb. 2022), available at https://www.osc.state.ny.us/files/reports/pdf/green-jobs-in-new-york.pdf. Within the green sector, new and emerging jobs only comprised 10 percent of the jobs in 2015 (141,767) while 51 percent (748,234) were enhanced skills jobs and 39 percent (567,990) were increased demand jobs. This ratio roughly held in 2019, when the new and emerging category comprised 16 percent (258,746) of green jobs, compared to 47 percent (772,891) enhanced skill jobs and 37 percent (618,980) increased demand jobs. The Comptroller's office also found that in 2018, average wages for occupations comprising each category of green jobs exceeded the New York State average hourly wage of $30.76, with increased demand jobs average $32.63, enhanced skills at $40.53, and new and emerging at $46.82.

[32] Under 20 percent of workers in clean energy production and energy efficiency are women, according to the Brookings Institute, while Black workers fill less than 10 percent of these jobs. See https://www.brookings.edu/articles/why-green-jobs-plans-matter-and-where-u-s-cities-stand-in-implementing-them.

[33] NYSERDA, New York Clean Energy Report (2024), available at https://www.nyserda.ny.gov/About/Publications/New-York-Clean-Energy-Industry-Reporthttps://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/Clean-energy-industry/2022-CEI-Gen-Report.pdf.

[34] Climate Action Council, Just Transition Working Group Jobs Report (2021), available at https://www.nyserda.ny.gov/-/media/Project/Climate2022/Files/JTWG-Jobs-Report.pdf.
[35] See Learn a Trade, https://www.suny.edu/trades/.

[36] SUCF Directive 1B-2, https://sucf.suny.edu/sites/default/files/docs/1B-2.pdf.

[37] The law was passed as part of the 2023-2024 budget. See Senate Bill 2021-S6843C. It takes effect in 2026 for new buildings that are seven stories or shorter, and in 2029 for taller residential buildings and smaller commercial buildings.

[38] Accelerating the UK Tertiary Education Sector Towards Net Zero, https://www.queensanniversaryprizes.org.uk/wp-content/uploads/2023/01/Accelerating-towards-Net-Zero.pdf (2023) (data is from 2020 to 2021).

[39] Decarbonization in Higher Education Institutions as a Way to Achieve a Green Campus: A Literature Review, Sustainability 2023, 15(5), 4043; https://doi.org/10.3390/su15054043.

[40] Carbon Disclosure Project Technical Note: Relevance of Scope 3 Categories by Sector, https://cdn.cdp.net/cdp-production/cms/guidance_docs/pdfs/000/003/504/original/CDP-technical-note-scope-3-relevance-by-sector.pdf.

[41] The SIMAP platform was created and is maintained by the University of New Hampshire. SIMAP's Scope 3 categories are at https://unhsimap.org/cmap/resources/scope3-mapping.

[42] See, e.g., University at Albany's emissions inventory at https://unhsimap.org/public/institution/500 and University at Buffalo's emissions inventory at https://unhsimap.org/public/institution/764.

[43] Executive Order 22 (2022), https://www.governor.ny.gov/executive-order/no-22-leading-example-directing-state-agencies-adopt-sustainability-and.

[44] See Executive Order 32, https://www.governor.ny.gov/executive-order/no-32-establishing-state-agency-food-purchasing-goals-new-york-state-agricultural.

[45] See Disadvantaged Communities map developed for the CLCPA by the Climate Justice Working Group, at https://www.nyserda.ny.gov/ny/Disadvantaged-Communities.

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