

CLIMATE ACTION PLAN THE NEW SCHOOL

JANUARY 2011

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EXECUTIVE SUMMARY

This Climate Action Plan summarizes the efforts of The New School's Office for Sustainability to reduce the university's greenhouse gas emissions and determine a course of action for becoming a more sustainable university. This document will also serve as an educational tool and a vehicle for communicating these commitments within the campus community and beyond.

BACKGROUND

"Climate change is occurring, is caused largely by human activities, and poses significant risks for—and in many cases is already affecting—a broad range of human and natural systems."

—National Research Council, *Advancing the Science of Climate Change* (2010)

"Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level...."

"Many impacts can be reduced, delayed or avoided by mitigation. Mitigation efforts and investments over the next two to three decades will have a large impact on opportunities to achieve lower [emissions] stabilization levels. Delayed emission reductions significantly constrain the opportunities to achieve lower stabilization levels and increase the risk of more severe climate change impacts."

—*Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (2007)

The New School recognizes the importance of developing a mitigation plan to reduce its greenhouse gas emissions in light of strong scientific evidence that human activity, particularly fossil fuel use, is at the root of global climate disruption. In addition, the expense—both figuratively and literally—of the world's dependency on fossil fuels is evidenced in numerous disasters in 2010 alone, including the Deepwater Horizon oil rig spill which spewed nearly 200 million gallons of oil into the Gulf of Mexico.¹

SUSTAIN·A·BILITY

Sustainability means meeting the needs of the present without compromising the ability of future generations to meet their own needs.²

The New School's own dependency on finite natural resources is neither sustainable nor a proactive business strategy. Price volatility in energy markets and future federal, state, and local climate and energy legislation present an opportunity to

1. New York Times Online. "Times Topics, Gulf of Mexico Oil Spill." 24 November 2010. www.topics.nytimes.com/top/reference/timestopics/subjects/o/oil_spills/gulf_of_mexico_2010/index.html.

2. Report of the World Commission on Environment and Development: Our Common Future, 1987.

seek alternatives to fossil fuel use now. But there is good reason to address the use of other natural resources and, in particular, the part the university plays in local environmental quality issues, societal equity, and the eco-literacy of the campus. Taking a leadership role in these efforts will yield educational benefits, reduce financial and operational risk, and, in some areas, reduce cost.

With these objectives in mind, The New School has committed to the following initiatives:

- **The Talloires Declaration**³—*The first public commitment by leaders in higher education to become more sustainable, this 10-point plan incorporates sustainability and eco-literacy in teaching, research, operations, and communications on campuses. Since its development in 1990, over 400 university presidents and chancellors in over 40 countries have signed the declaration. The New School’s President Bob Kerrey signed this pledge in 2009.*
- **PlaNYC University Challenge**—*In 2007, New York City Mayor Michael Bloomberg challenged local colleges and universities to commit to reducing greenhouse gas emissions by 30 percent in 10 years—a more aggressive goal than the citywide goals proposed in the PlaNYC sustainability master plan. The New School was one of the original nine signatories of the PlaNYC University Challenge in 2007.*
- **American College and University Presidents Climate Commitment (ACUPCC)**⁴—*After a conference of the American Association for the Advancement of Sustainability in Higher Education (AASHE) in 2006, 12 college and university presidents founded the ACUPCC. As of the publication of this Climate Action Plan, there are 676 signatories to the commitment.*

On June 17, 2008, New School President Bob Kerrey signed the ACUPCC, binding The New School to the following:

 - *Within two months of signing, form institutional structures to lead the development and implementation of the plan.*
 - *Within a year of signing, complete a comprehensive inventory of all greenhouse gas emissions (including emissions from electricity, heating, commuting, and air travel) and update the inventory every other year.*
 - *Within two years of signing this document, develop an institutional action plan for carbon neutrality that also addresses how the institution intends to make sustainability and carbon neutrality a part of curriculum, research, and community outreach.*

3. Talloires Declaration: www.ulsf.org/programs_talloires.html.

4. American College and University Presidents Climate Commitment (ACUPCC): www.presidentsclimatecommitment.org.

– **Sustainability Tracking, Assessment, and Rating System (STARS®)**⁵—

The New School signed on to this new AASHE initiative in August 2010 as a Charter Participant, one of approximately 200 schools to sign on as early adopters. A rating system by universities for universities, STARS® is a framework for assessing a university's performance as a sustainable institution across the categories of Education and Research, Operations and Planning, Administration, and Engagement. The New School will submit for its first rating in August 2011.

The New School's Climate Action Plan addresses many of the commitments outlined above and serves as a roadmap for achieving them.

⁵ Sustainability Tracking, Assessment and Rating System (STARS®): www.stars.aashe.org.

SECTION 1: INTRODUCTION

In 1919, The New School for Social Research was founded in New York City by a group of progressive scholars. Today, the university's commitment to forward thinking is evidenced by its commitment to becoming a more sustainable university.

In 2005, the university renamed itself The New School: A University, comprising of The New School for General Studies, The New School for Social Research, Milano The New School for Management and Urban Policy, Parsons The New School for Design, Eugene Lang College The New School for Liberal Arts, Mannes College The New School for Music, The New School for Drama, and The New School for Jazz and Contemporary Music. Currently, there are eight schools and 91 degree/diploma programs and majors offered.

The New School remains unique among universities for the diversity of its schools, students, and academic programs as well as its distinctive location and campus, which makes for a unique carbon footprint for a university. Without the classic collegiate quadrangle, The New School has woven itself into the dense urban fabric of Manhattan's Greenwich Village and Garment District. University buildings are tightly clustered together and average 10 stories tall. Nearly 70 percent of The New School's owned buildings are over 50 years old, and the New York City Landmarks Preservation Commission has designated some of them as historic. And, due to expansion over recent years, The New School's portfolio has broadened to include more leased

The New School at a Glance

Undergraduates: 6,706

Graduate: 3,554

Online Students: 1,763

Faculty: 372 full-time, 1,713 part-time

Staff: 3,039

Number of States Represented: 50

Number of Countries Represented: 101

Dormitory Beds: 1,687

- The New School has seen applications rise 33 percent in the last five years.
- International students make up 22 percent of the student body.
- 17 percent of students live in campus housing.

Source: The New School Fact Book, Fall 2009

space; in the fiscal year 2010 (FY10), approximately 40 percent of the university's portfolio consisted of rented space.

There are minimal landscaped grounds, no athletic stadium, no gymnasium, no swimming pool, no extensive laboratories, and no freestanding library building, and the university has a small dining services footprint compared with that of most collegiate dining halls.

New York City also provides The New School with the benefit of having the country's most extensive public transit network. The university is

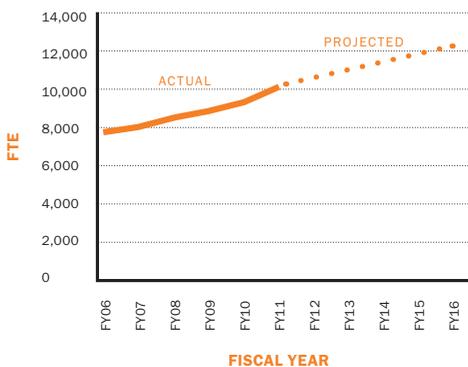
perfectly situated in the center of this web of public transportation options. Within a three-block radius of the Greenwich Village campus, there are 15 subway lines and six bus routes, plus an increasing number of demarcated street bike lanes. For this reason, The New School does not own and operate a campus bus fleet.

In addition, New York City Mayor Michael Bloomberg champions many of the objectives presented in this Climate Action Plan. The city's PlaNYC

is a comprehensive master plan for sustainability and greenhouse gas reductions. This public commitment to reducing New York City's environmental impacts provides momentum and support for The New School's commitment to do the same.

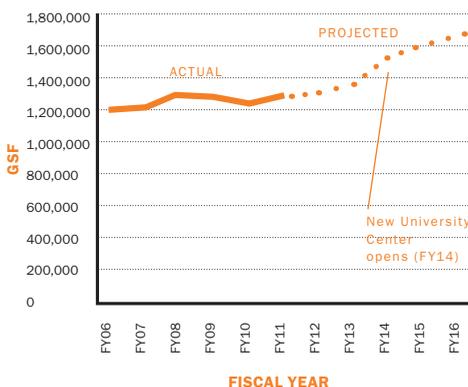
Full-Time Equivalent Growth

TABLE 1: The New School's derivation of full-time equivalent (FTE): number of students + total number of student credit hours of part-time students/15: Graduate-level number of full-time students + total number of student credit hours of part-time students/9.



Space Growth

TABLE 2: The New School's Space Growth (gross square footage [GSF])



New York City's "Green" Legislation

Greener Codes

In 2008, a Green Codes Task Force was convened by New York City Mayor Bloomberg and the City Council to review all laws and regulations pertaining to buildings. The result was 111 recommendations submitted for consideration that will greatly improve safety, health, and energy and water efficiency in all new construction and renovation projects. At the end of 2010, some of these proposals had already been enacted into law.

Greener, Greater Buildings Plan

In December 2009, Mayor Bloomberg and the City Council enacted the Greener, Greater Buildings Plan, the most comprehensive law to curb carbon emissions from buildings in the country. Buildings over 50,000 gross square feet in New York City will need to perform ongoing benchmarking, lighting upgrades, energy auditing, and retro-commissioning. The New School plans to be an early adopter of the legislation.

Cleaner Energy

The mayor signed into 194-A into law in August 2010. Among other requirements, this law mandates that all heating oil used after October 1, 2012, contain at least two percent biodiesel fuel. In complying with this new legislation, The New School expects to benefit from this less carbon intensive fuel mix in university buildings served by heating oil.

INSTITUTIONAL STRUCTURE

The New School's Climate Action Plan and sustainability agenda are guided by various entities at the university. At the time this document was drafted, the university experienced a transition at the highest level. President Bob Kerrey is departing and David Van Zandt will assume the role of the university's new president. In light of the issuance of this document during this time of transition, the Office for Sustainability will ask that the new president and the New School Board of Trustees adopt this Climate Plan at the start of FY12. At that time, a process will be agreed upon and put in place for approving future iterations of the Climate Action Plan.

SUSTAINABILITY STAKEHOLDERS

The following entities at the university are involved in sustainability policies and programs, including the Climate Action Plan.

President

Board of Trustees

Design, Construction, and Facilities Management

This division is responsible for the design, construction, operation, and maintenance of university buildings. The Office for Sustainability is perfectly situated in this department to support these efforts

by ensuring sustainability, particularly energy reduction, is incorporated wherever possible in projects and policies.

Sustainability Advisory Committee

After President Kerrey signed the ACUPCC, The New School formed a committee of faculty, staff, and students named the Sustainability Advisory Committee (SAC). The objective of the SAC is to steer the university towards becoming more sustainable and lead the development of the Climate Action Plan.

Today, SAC is a vital group of 20 people representing five of the eight schools and critical administrative departments such as the Registrar's Office, IT, Student Housing and Residence Life, Business Operations Services, and Human Resources, as well as an alumnus and members of student organizations such as ReNew School, the Urban Forestry Club, and Net Impact. Working groups were created within the committee to focus on specific areas of practice and encourage more collaboration among members between monthly meetings:

- *Energy Working Group*
- *Education and Research Working Group*
- *Purchasing Working Group*
- *Administration Working Group*
- *Communications Working Group—to be established in 2011*

DEVELOPING A CLIMATE ACTION PLAN

Establishing a goal of carbon neutrality is a critical exercise for The New School as it presents an educational opportunity, addresses risk management against the uncertainties in energy commodity markets, and considers the financial liabilities of inaction. The purpose of The New School Climate Action Plan is to create a blueprint for carbon neutrality for the university.

The variables that we must anticipate in the coming decades will include the increase of cleaner sources of energy in the electricity supplied to New York City; variations in energy markets that will affect the cost of “brown” energy as well as “green” energy; improvements in and the cost-effectiveness of technology; and federal climate change legislation.

In light of these unknowns, the Climate Action Plan must be a working document that will require revisions every other year as we gauge the progress and the feasibility of the carbon reduction targets. Setting interim goals is crucial to assessing if

Carbon Neutrality

Carbon neutrality is defined as producing no net greenhouse gas emissions through minimizing emissions to the lowest level possible and offsetting the remaining emissions.

strategies are working and we are on track to meet the carbon neutrality date.

This version of the Climate Action Plan places emphasis on direct carbon emissions from sources owned or controlled by the university. In the next five years, additional environmental goals will be included in future versions of this Climate Action Plan. The university acknowledges the impact of the following sources of carbon emissions and will seek to quantify and mitigate them:

- *Waste reduction*
- *Purchasing and food sourcing*
- *Potable water use reduction*
- *Stormwater management*
- *Climate-friendly investment*

This Climate Action Plan will also serve as an educational tool. In January 2011, the University Curriculum Committee, which advises the Office of the Provost on curriculum development and quality, will decide how the Climate Action Plan can best be utilized in existing curriculum and new courses.

The New School's Advisory Committee on Investor Responsibility

The Advisory Committee on Investor Responsibility (ACIR) was created in 2009 by the Board of Trustees to advise its Investment Committee on integrating consideration of social, environmental, and corporate governance (collectively, "SEG") issues into the management and investment of the university's endowment. The ACIR consists of a trustee, two faculty, two students, and two staff members.

The mission of the ACIR is to develop strategies for incorporating consideration of SEG issues into the management of The New School's investments. Issues under consideration include, but are not limited to, human rights, labor standards, environmental sustainability, equity, diversity, discrimination, and corporate governance and disclosure. A diverse and flexible array of strategies is currently being examined as the ACIR develops initial recommendations for the Investment Committee. To date, the ACIR has conducted research on the socially responsible investing (SRI) policies of peer institutions and of the fund managers with which the endowment is currently invested, as well as industry-leading practices of other fund managers and pension funds.

CAMPUS CARBON FOOTPRINT

The 1997 Kyoto Protocol to the United Nations Framework on Climate Change—an agreement that set binding targets for 37 industrialized countries and the European community for reducing greenhouse gas (GHG) emissions—defines GHG emissions as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆). These GHG sources are subject to the

protocol's reduction requirements. The ACUPCC instructs colleges and universities to focus on carbon dioxide: “since emissions of PFCs or SF₆ are unlikely to originate on campus, and emissions of CH₄, N₂O and HFCs are likely to represent only a small percentage of an institution's total emissions.”⁶

OPERATIONAL BOUNDARY

A majority of The New School's carbon emissions come from buildings. Heating, cooling, illuminating university spaces, and operating essential needs such as computer labs, data servers, design shop power tools, and audiovisual equipment require an enormous amount of energy throughout the year.

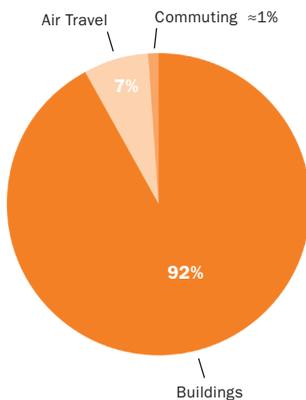
The New School has tracked metric tons of carbon dioxide equivalent (CO₂e) emissions associated with energy usage in buildings from FY06 (July 1–June 30) to the present. CO₂e is a common expression of all GHG in equivalent quantities of carbon that results in the same warming effect over a period of 100 years. Metric tons of carbon dioxide equivalent are also expressed as MTCE.

In addition to disclosing these emissions, The New School must report on emissions from commuting and air travel paid for by or through

⁶ ACUPCC Implementation Guide, Version 1.1, 2009.

CO₂ Emissions Sources

TABLE 3: The New School's FY10 CO₂e Emissions Sources by Operations



the institution per ACUPCC requirements. Therefore, The New School's emissions are broken down into three operational areas: buildings, air travel, and commuting.

EMISSION SCOPES

The New School's carbon footprint consists mainly of what is referred to as Scope I and II emissions. Scope I refers to direct emissions from sources that are owned or controlled by The New School, including combustion of fossil fuels, such as heating oil and natural gas. Scope II includes indirect emissions from electricity, which is transmitted through the electricity grid from generation plants, and purchased steam from Con Edison's steam network in Manhattan.

The fuel used to generate electricity determines the carbon intensity of the electrical grid. As a customer purchasing electricity from this complex network of generators, The New School is limited in its ability to source "greener" electricity. This is the nature of electricity generation in the United States: In some regions, coal is the prevalent fuel source for electricity generation, while in others there is more solar-powered generation. Table 5 illustrates New York City's electricity generation mix.

ORGANIZATIONAL BOUNDARY

The New School applied the *financial control approach* to determine the organizational boundary for its carbon inventory—what buildings or spaces to include. The university is held accountable with this method for activities in buildings under its control.

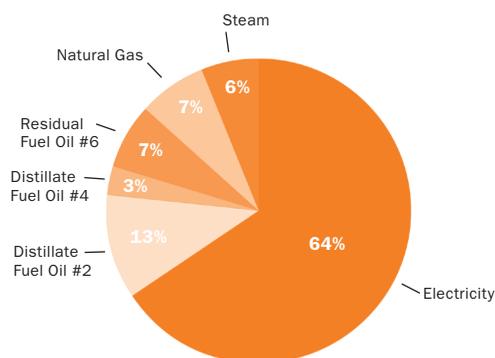
Accounting for Scope I and II required the Office for Sustainability to track utility accounts in both owned and leased buildings. Despite the challenges of accruing this data from various sources, The New School is reporting over 95 percent of its occupied gross square footage in the inventory. (For a detailed accounting of the carbon footprint buildings portfolio, see Appendix A: Carbon Footprint Methodology.)

Transportation

Without a campus bus fleet, The New School assumes the emissions associated with its transportation footprint are small. The university's proximity to New York City's subway, train, and bus network and street bike lanes, as well as the campus density (buildings clustered together and all but one dormitory within walking distance) have led the Office for Sustainability to conclude that emissions from any commuter transportation very likely amount to less than 5 percent of the university's emissions. Regardless, future iterations of the Climate Action Plan will better account for this source of emissions, as it is required by ACUPCC.

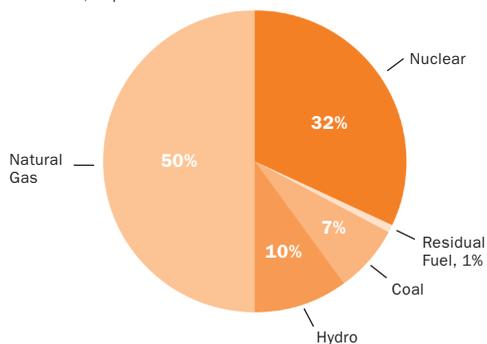
CO₂ Emissions from Buildings

TABLE 4: The New School's FY10 CO₂e Emissions



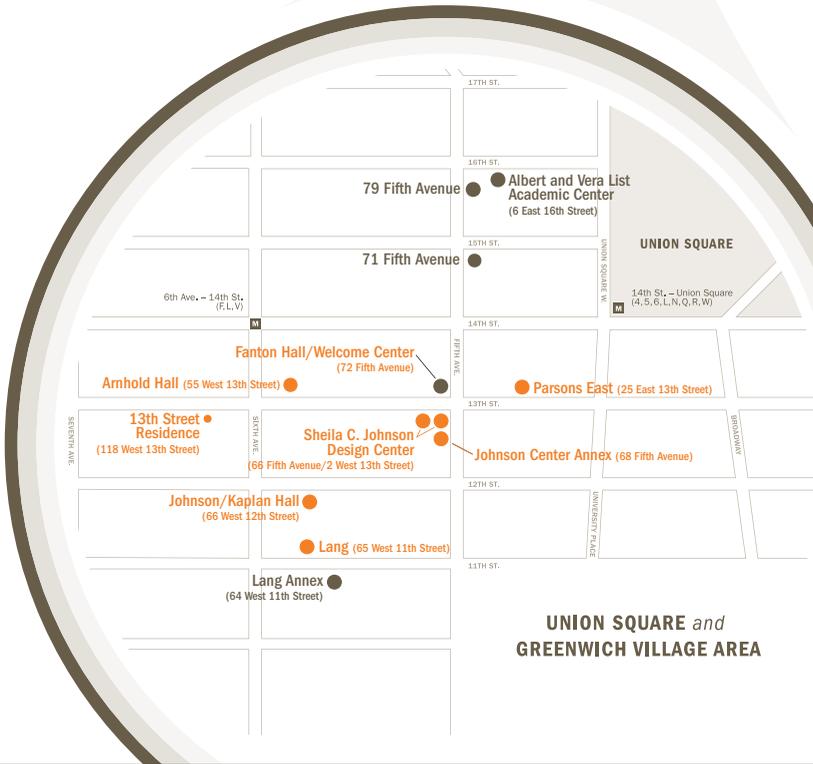
New York City's Electricity Generation Mix

TABLE 5: PlaNYC Inventory of New York City Greenhouse Gas Emissions, September 2010.



The New School's Carbon Inventory Organizational Boundary, FY10

Leased 
 Owned 



OTHER EMISSIONS

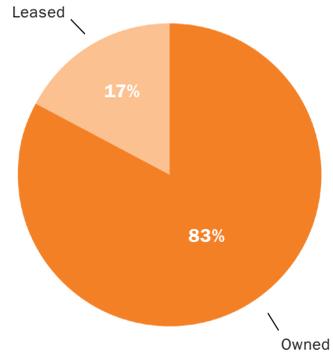
Scope III includes emissions that are a result of The New School's activities. Among them are air travel emissions, commuting, and waste disposal. Emissions from waste disposal have not yet been quantified. These additional sources will be addressed in future versions of this document.

DE MINIMIS EMISSIONS

Buildings or spaces outlying the carbon inventory are considered *de minimis* and amount to less than 5 percent of the university's emissions. Fugitive emissions—releases of HFCs from refrigeration and air conditioning equipment—are also considered to be *de minimis* by The New School and have not been included in the carbon inventory data. The two-car fleet owned by the university is also excluded from the inventory.

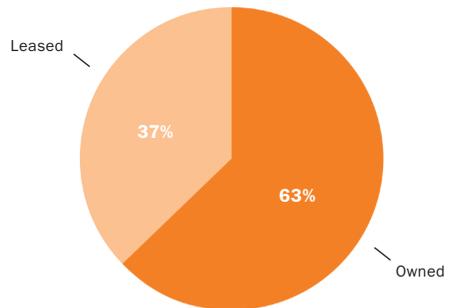
Building Portfolio in FY06

TABLE 6: The New School's Owned vs. Leased Property



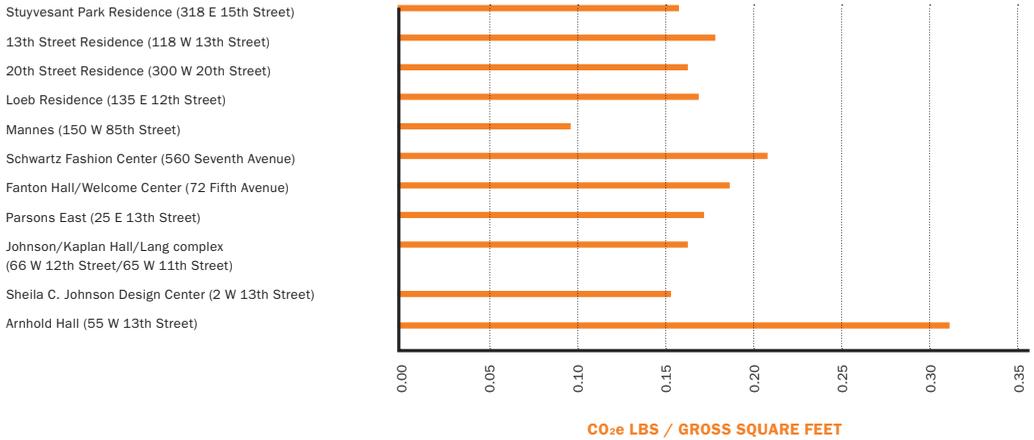
Building Portfolio in FY10

TABLE 7: The New School's Owned vs. Leased Property



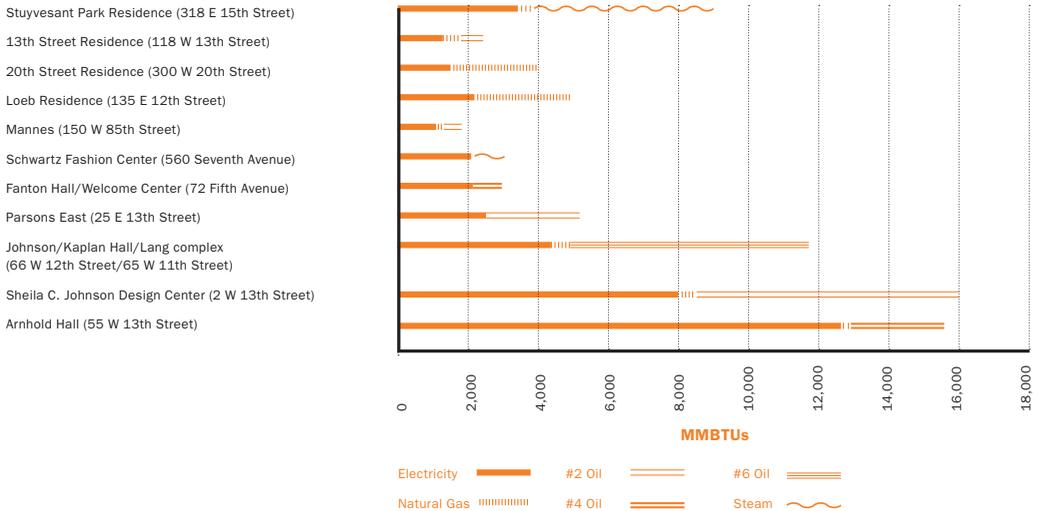
Most Carbon-Intensive Buildings

TABLE 8: The New School's FY10 Carbon Intensity by Building



Energy Usage by Building, by Fuel Type

TABLE 9: The New School's FY10 Building MMBTUs



NOTE: Entire portfolio is not included in these graphics. Only the most carbon intensive buildings are included.

MMBTU = 1 million BTUs (British Thermal Units). A BTU is a unit of energy that represents the heat that will raise the temperature of one pound of water by one degree Fahrenheit. It is approximately the amount of heat generated by burning one matchstick.

METHODOLOGY

As a participant in the PlaNYC University Challenge, The New School used a carbon inventory calculator with heating oil, steam, gas, and electricity carbon emissions coefficients provided by the New York City Mayor's Office of Long-Term Planning and Sustainability. The coefficients have been updated every year and are also used to determine the city's carbon footprint. Since 2005, New York City's electricity coefficient has dropped 25.7 percent and its steam coefficient dropped 13.6 percent. The benefits of the "greening" of New York City's energy supply are evidenced in reductions seen in many of the University Challenge Partners' carbon inventories (see Appendix A: PlaNYC University Challenge GHG Coefficient Change Summary).

The tool provided by the Mayor's Office does not analyze emissions for waste generation, air travel, commuting, or any procurement. Carbon emissions from air travel paid for by or through the institution were calculated using the university's air travel provider Sabre Holdings' carbon emissions calculations, which follows the guidelines and methodology set out by the Intergovernmental

Panel on Climate Change (IPCCC) and the International Civil Aviation Organization (ICAO).

The New School is currently analyzing what tools would be deemed most reliable for calculating additional emission sources.

For more details on the above-mentioned tools and other methodologies, see Appendix B: Carbon Footprint Methodology.

What is a carbon coefficient?

An emissions coefficient is a factor that translates the energy value of combusted fuel into the equivalent amount of greenhouse gases emitted.

SECTION 2: MITIGATION PLAN

Achieving carbon neutrality is an ambitious objective for any institution. And the ACUPCC intends for Climate Action Plans to serve as “aspirational statements of intent rather than binding commitments.” By signing the ACUPCC, The New School has publicly stated its intention to become a climate-neutral institution. Getting there will always be a work in progress.

Calculating its carbon footprint enables The New School to make quantifiable and meaningful reductions moving forward. With a benchmark, the university can proceed with mitigating its output of carbon dioxide with knowledge of its starting point. Forecasting is a critical component to this mitigation strategy, as the university has plans for student and space growth that will require resources—including energy. And as the university expands, the strategy for carbon emissions reductions will need to expand along with it and become more aggressive over time.

The New School commits to becoming a climate-neutral university by 2040.

THE FIRST TWO YEARS: FY08–10

Upon signing of the ACPUCC in 2008, The New School set out to complete its carbon inventory and has spent the past two years analyzing the data, developing tracking tools for collection of the data, and beginning to reduce its emissions.

MITIGATION STRATEGIES TO DATE

Green Power Purchasing

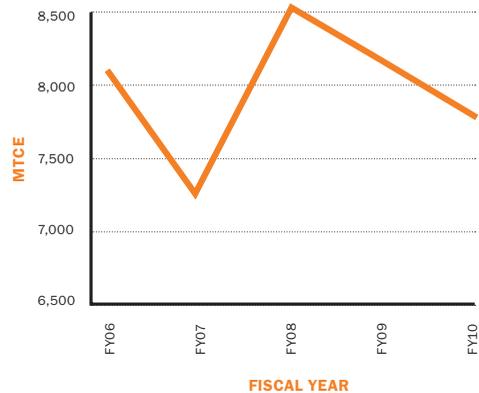
The New School committed to purchasing Renewable Energy Certificates (RECs) or “green electricity” in FY09. A REC represents one megawatt-hour (MWh) of electricity from renewable sources, specifically wind, solar, biomass, low-impact hydropower, geothermal, and fuel cells. According to the U.S. Environmental Protection Agency, supplanting one kilowatt-hour (kWh) of traditional power with renewable power prevents more than one pound of carbon dioxide; and RECs represent a claim to the environmental attributes associated with renewable energy generation. The advantage of purchasing RECs is that they are cost-effective alternatives to renewable energy generation and a purchaser is not restricted to the local electricity’s “green” supply; RECs can be purchased from national sources.

In FY09, The New School purchased 100 percent wind Green-e certified RECs (13,266,000 kWh), which reflected 100 percent of the estimated electrical consumption for that year, equal to 18,577,346 pounds of carbon avoided.⁷ In FY10, the purchase of 100 percent wind Green-e certified RECs, which reflected 80 percent of the estimated electrical consumption that year or 10,920,500 kWh, equivalent to

7. FY09–10 RECs carbon data provided by Constellation New Energy.

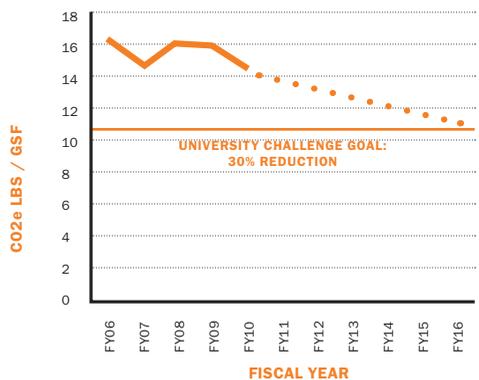
CO₂ Emissions Reductions

TABLE 10: The New School’s CO₂e emissions to date.
Note: Includes all operational sources—buildings, air travel, and commuting (estimated)



Progress Toward PlaNYC University Challenge Goal

TABLE 11: The New School’s Carbon Intensity (CO₂e lbs/gross square feet). Note: Includes emissions from buildings only



12,218,465 pounds of carbon diverted. For FY11–12, The New School bought RECs in the equivalent of 26,302,000 kWh (equivalent to 29,428,256 pounds of carbon diverted) or 100 percent of the predicted electricity consumption for those two years.⁸

The American College and University Presidents Climate Commitment publication *Investing in Carbon Offsets: Guideline for ACUPCC Institutions* (November 2008) states a preference for investment or development of offset projects instead of purchasing RECs through a third party. Issues of transparency, double counting, and verification of RECs require further scrutiny of the commodity. RECs also do not represent the actual delivery of the “green” electrons to The New School’s buildings.

The New School has determined that while RECs can be a critical financial instrument in renewable energy markets today, as they do drive some “greening” of electricity generation, they do not actually offset the university’s direct emissions. Therefore, RECs and their carbon mitigating attributes are not factored in The New School’s carbon inventory.

Lighting Upgrades

Phasing out the use of T12 and incandescent lighting has been an ongoing initiative over the past two years and focused on 45 percent of the entire building portfolio (equivalent to 563,503 gross square feet, which represents nearly 72 percent of The New School’s owned buildings). In FY10, the Office for Sustainability began to install campus-wide (in all spaces where The New School has operational control) occupancy sensors in bathrooms, office kitchenettes, and conference rooms.

Boiler Replacement

The New School replaced two steam boilers, which were approximately 50 years old. Located in Johnson/Kaplan Hall, the university’s founding building, constructed in 1930, this boiler plant burned #6 heating oil, the dirtiest and most carbon-intensive heating oil. In the summer of 2010, Design, Construction, and Facilities Management upgraded the plant to house two new steam dual-fuel boilers with a thermal efficiency of 86 percent and the option to burn #2 heating oil or, eventually, natural gas, which according to the

U.S. Department of Energy produces less carbon dioxide and nitrogen oxides than other fossil fuels and almost no sulfur dioxide and particulates.⁹ It is estimated that this new plant will result in 273 metric tons of carbon dioxide avoided, assuming #2 heating oil is burned. This retrofit project also marks the phasing out of #6 heating oil on campus.

Roof Replacement

In the summer of 2010, Design, Construction, and Facilities Management also replaced the roof at Johnson/Kaplan Hall with a white Thermoplastic Polyolefin (TPO) thermally bonded membrane with superior durability and an ENERGY STAR rating for its high reflectance. Insulation was also added to the roof. The new roof drastically reduces heat absorption in the summer months and also better insulates the building in the winter, resulting in lower cooling and heating loads and costs.

Adaptive Reuse

Adaptive reuse is simply defined as “the process of adapting old structures for new purposes.” Integrated into its New York City neighborhood, The New School must pursue creative adaptive reuse opportunities in lieu of new construction, as few opportunities exist in downtown Manhattan for ground-up construction. And to meet the needs of its growing student body and curriculum, The New School must exhaust all opportunities it can with adapting existing structures both owned and leased. Out of necessity, the university abides by the saying “The greenest building is the one already built.”

Examples of recent adaptive reuse projects include a new student center in a former bank that will provide a much-needed central location for student activity; the center opens spring 2011. In addition, the new Student Health Center is housed in an office building, and a former technical college in midtown has been repurposed and renovated to meet the space and program needs of Parsons’ School of Fashion. However, the project that best exemplifies The New School’s adaptive reuse methods is the Sheila C. Johnson Design Center (SJDC), the renovation of a pre-war office building for the

8. FY11–12 RECs carbon data provided by GDF Suez Energy Resources NA.

9. Natural Gas Fundamental, U.S. Department of Energy, Office of Fossil Energy, June 2003.

Parson School of Design. In 2009, SJDC won the Society for College and University Planning's Excellence in Architecture Renovation/Adaptive Reuse.

Planning at the university is not without consideration of space optimization, which permits The New School to maintain a rarely found space density for a university. Design, Construction, and Facilities Management applies "net assignable square feet" (NASF) to calculate the academic square feet per full-time equivalent or FTE. (For a definition of the university's FTE, see Table 1). Currently, The New School's NASF is 62. Compare this to New York University, which has approximately 160 academic square feet per student as of 2010; Columbia University's 326; Harvard's 673; or Yale's 866.¹⁰ While the metrics are likely not exactly uniform across the universities, The New School still retains a unique campus density, which translates to a more efficient use of space and energy.

¹⁰. Pogrebin, Robin. "N.Y.U. Plans to Expand Campuses by 40 Percent" The New York Times Online. 22 March 2010.

THE NEXT FIVE YEARS: FY11-16

The New School's priorities during these years will be driven primarily by the PlaNYC University Challenge goal of reducing carbon emissions 30 percent in 10 years, by FY16. The focus of this effort is mitigating emissions from buildings.

The New School estimated the avoided emissions from energy-saving strategies to guide capital planning and policies in these years. Interim goals have been established to ensure momentum and monitor progress.

The university also assumes that the fuel mix of the electricity generated from the grid will increasingly include more clean energy. This will benefit The New School's carbon footprint and has been conservatively factored into this reduction plan.

LIGHTING RETROFITS

The New School is committed to phasing out the use of T12 and incandescent lighting throughout the rest of its portfolio. The university will also continue to apply its standard, which requires occupancy sensors in bathrooms, office kitchenettes, and conference rooms. The New School also intends to launch LED lighting demonstration projects in large special-use areas, such as auditoriums.

Opportunities for daylight harvesting demonstration projects will also be explored. Sunlit lobbies and large multi-use spaces with adequate glazing would be considered the best candidates for such opportunities. *Emissions Source Mitigated: Source II (electricity)*

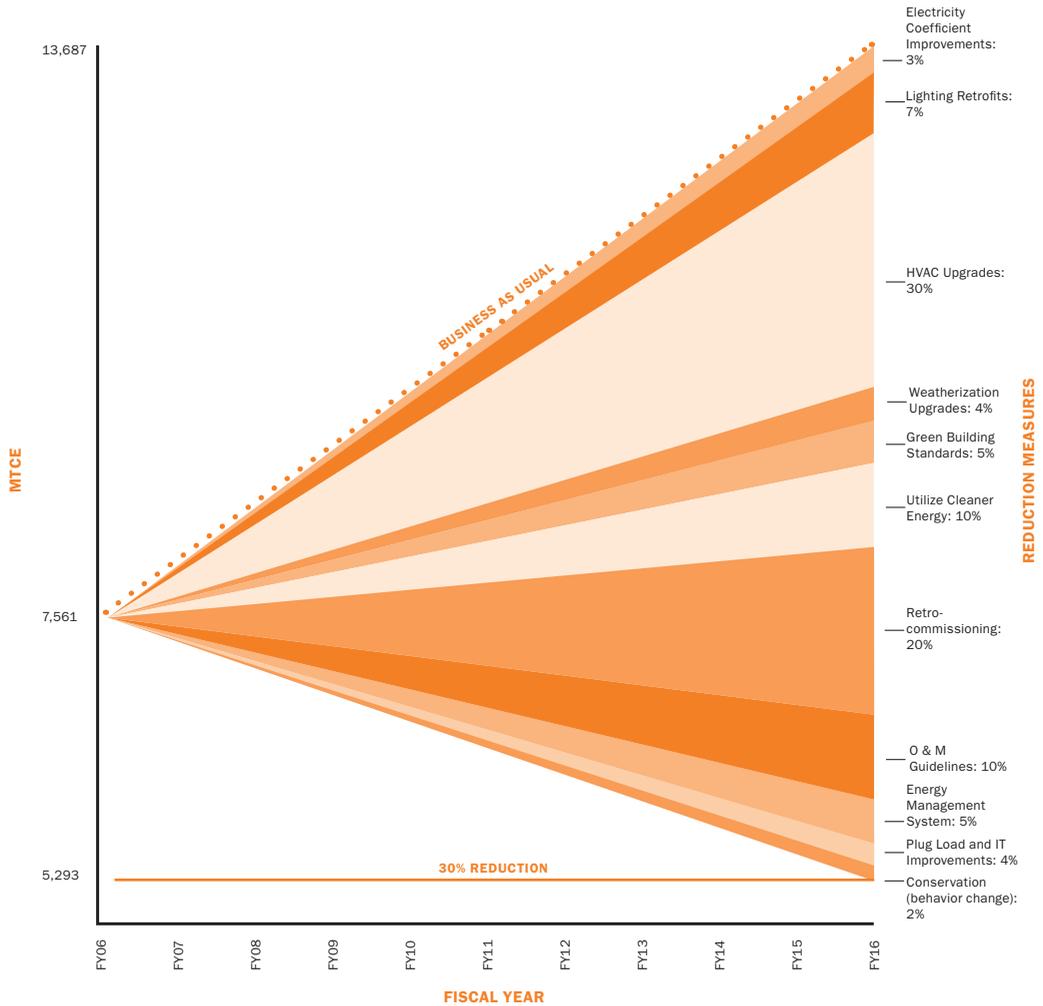
Interim Goal FY11-12: Phase out T12s and incandescent lighting in all university-owned buildings by the end of FY12. Install occupancy sensors in all appropriate bathrooms, office kitchenettes, and conference rooms. Retrofit Theresa Lang Center in Arnhold Hall with LED lamps, which would serve as the university's first solid-state lighting demonstration project.

HVAC AND WEATHERIZATION UPGRADES

The New School is dedicated to addressing system and weatherization (or envelope) upgrades needed throughout the campus. Considering the vintage of much of the portfolio, the university has already identified opportunities for weatherization—improving glazing and insulation while reducing air infiltration—and mechanical systems in its most energy-intensive buildings. In addition to upgrading major infrastructure systems such as boilers and chillers, there are lower-cost opportunities for

CO₂ Emissions Trajectory to FY16

TABLE 12: The New School's Emissions Projections in Metric Tons of CO₂ (MTCE). Note: Buildings only.



improvement, such as high-efficiency motors and variable-frequency drives to regulate motors.

In fall 2010, The New School hired an energy engineering firm to conduct energy audits of the most energy-intensive owned academic buildings on campus, amounting to 563,000 gross square feet. By the spring, the result of this process will be identification of low- or no-cost opportunities to improve building performance. Results from the audits will also help the university develop a phased capital plan that will detail the implementation and

financial strategy to replace major systems and address envelope issues in the coming years. *Emissions Source Mitigated: Primary—Scope I (fuel combustion), Secondary—Scope II (electricity)*

Interim goals FY11: Complete the first round of investments in building upgrades in five of the most energy-intensive buildings by the end of FY12. Evaluate energy-consuming systems in all owned residences by FY12 and consider opportunities to improve operations and upgrade equipment.

GREEN BUILDING

While future new construction opportunities will be rare for the university, Design, Construction, and Facilities Management and the Board of Trustees are committed to constructing a green building with the new University Center, a from-the-ground-up 365,000 gross-square-foot multiuse building designed to the U.S. Green Building Council's LEED® (Leadership in Energy and Environmental Design) for New Construction version 3 standard. This project, set to open fall 2013, marked the university's commitment to adopting at least a LEED® Silver standard on all new construction projects moving forward.

Recognizing the benefits (among them energy efficiency, indoor air quality, occupant satisfaction, and educational opportunities) of pursuing a LEED® certification for all appropriate projects in existing buildings as well, Design, Construction, and Facilities Management is currently considering an appropriate upcoming renovation project for a LEED® for Commercial Interiors pilot.

The New School's adaptive reuse practices require major renovations to accommodate student growth and the demands of evolving curriculum. And to formally address sustainability in its building standards, Design, Construction, and Facilities Management will also be issuing a new design standard for all major renovations projects that will mandate, among other best practices, performance criteria for energy- and water-consuming systems, materials that contain recycled content and are sourced locally (when feasible), and contractors to meet diversion rates for recycling construction and demolition waste.

Design, Construction, and Facilities Management intends to adopt new design standards with more aggressive performance goals every two years.

Emissions Source Mitigated: Scope I (fuel combustion) and Scope II (electricity)

Interim goals FY11–12: Issue the revised design standards by FY12 and identify a LEED® for Commercial Interiors pilot project.

CLEANER ENERGY

The New School recognizes an opportunity to burn cleaner fuel in the short term with existing boilers that have dual-fuel capabilities. Three boilers on campus that serve approximately 386,000 gross square feet and currently burn #2 and #4 heating oil can be switched to burn natural gas provided by Con Edison.

The new University Center will also feature cogeneration that will generate 17 percent of the electrical load of the building from natural gas. Cogeneration or Combined Heat and Power (CHP) is best illustrated as a clean energy power plant as it does not require electricity from the grid. (However, the electrical grid will provide the remaining electrical load of the building.) When this high-performance building comes online in 2013, it is expected to be a less energy-intensive building than other buildings in the university's portfolio; therefore, it may contribute positively to the school's carbon footprint. Analysis of its design is ongoing.

But natural gas is still a fossil fuel that emits greenhouse gases. And The New School recognizes that biofuel offers a low- or no-carbon fuel alternative. Biofuel is now sourced from vegetable, grease, biomass (incineration of wood or waste), and algae. As more research becomes available on the use of biofuel and availability improves, the university can better assess opportunities for biofuel usage on campus. One positive sign is the opening of the largest biofuels processing plant in North America in 2011, in Brooklyn, New York. And with a current local law (see "New York City's Green Legislation" on page 7) mandating biofuel content in heating oil starting in 2012, The New School anticipates a better understanding of how much biofuel is possible and feasible to use in existing boilers within these next five years. Other realistic opportunities to use biofuel to generate electricity may begin to present themselves during this period in the Climate Action Plan as well. *Emissions Source Mitigated: Primary—Scope I (fuel combustion); Secondary—Scope II (electricity)*

Interim goals FY11–12: Investigate the financial investment required to convert to district natural gas in Johnson/Kaplan Hall, Sheila C. Johnson Design Center, and Arnhold Hall and install natural gas lines, where feasible, by the end of FY12.

RETRO-COMMISSIONING

Retro-commissioning or existing building commissioning is a systematic re-tuning of energy-consuming equipment, including mechanical equipment, lighting, and controls. A retro-commissioning agent, through monitoring and testing of these systems, identifies low-cost improvements that will bring these systems back to operations as needed by the facilities as well as to their as-designed performance. The outcome is reduced energy and operating costs. In addition to drafting a final report of the above-mentioned activities, the retro-commissioning agent can also develop an operations and maintenance handbook for a building owner for optimal and ongoing operations practices. Furthermore, many states and universities have committed to retro-commissioning in three- to five-year cycles to maintain the best performance from systems.

A study of 44 retro-commissioning projects found energy savings of five to 15 percent, resulting in simple paybacks, based on energy savings alone that rarely exceeded two years.¹¹ The energy engineering firm The New School hired in the fall of 2010 is also tasked with overseeing the retro-commissioning process in 563,000 gross square feet. The consultant will identify cost-effective opportunities for retro-commissioning existing equipment where appropriate. The New School will then develop a plan for retro-commissioning in all other university-owned buildings after FY12. *Emissions Source Mitigated: Source I (fuel combustion) and Source II (electricity)*

Interim goals FY11–12: Complete retro-commissioning in its most energy-intensive buildings by summer 2011.

OPERATIONS AND MAINTENANCE

In recent years, Design, Construction, and Facilities Management has focused on improving the operations and maintenance protocols and

staffing. In-house HVAC and electrical staff were hired to meet the demands of maintaining buildings systems. And by the end of FY11, all building supers, both in academic buildings and residences, will have completed the 40-hour Green Supers Training Program offered by their union SEIU Local 32BJ and received certification from the Buildings Performance Institute (BPI).

Opportunity for building upon these efforts is found in the addition of an assistant director of Operations as well as the development of a formal operations and maintenance handbook to be utilized by New School Facilities Management staff. The New School has taken steps towards fulfilling both of these needs.

Building operations and maintenance (O&M) programs are best practices building owners can adopt to improve the operating efficiency of energy-consuming equipment. The program is meant to be an ongoing effort that includes tune-ups, staff training, optimizing controls, and tracking performance. It has been estimated that O&M programs targeting energy efficiency can save five to 20 percent on energy bills without a significant capital investment.¹²

An O&M program will be drafted in the next year. One of the outcomes of the energy engineering firm's retro-commissioning activities will be to assist in developing an O&M handbook for The New School. *Emissions Source Mitigated: Scope I (fuel combustion) and Scope II (electricity)*

Interim goals FY11–12: Hire an assistant director for operations by the end of FY11 and develop and deploy an O&M handbook in FY12.

ENERGY MANAGEMENT SYSTEM

An Energy Management System for much of the building portfolio (primarily focused on owned properties) would enable the university to monitor utility consumption in near real time via a desktop computer, which in turn would help the university

¹¹ Gregerson, J. "Cost Effectiveness of Commissioning 44 Existing Buildings," in Proceedings of the National Conference on Building Commissioning. Huntington Beach, CA. 28–30 April 1997.

¹² Operations and Maintenance Assessments. Portland Energy Conservation, Inc. Published by U.S. Environmental Protection Agency and U.S. Department of Energy, Washington, D.C.

to more effectively manage energy reduction strategies, locate anomalies that may indicate equipment malfunction, and take advantage of peak shaving (or peak demand reduction) opportunities. *Emissions Source Mitigated: Scope I (fuel combustion) and Scope II (electricity)*

Interim goals FY11–12: Evaluate applications available and select system to be implemented in FY12.

PLUG LOAD MANAGEMENT

With the proliferation of electronic devices and computing, The New School acknowledges the importance of addressing the management of these plug loads—primarily desktop computers, printers, fax machines, appliances, and other devices that consume electricity via electrical outlets. A single desktop computer can consume 120 watts per year; multiply that by thousands of computers used on campus and that amounts a sizable annual sum of electricity costs as well as metric tons of CO₂e.

The New School’s procurement practices give preference to products that carry the ENERGY STAR rating and require an Electronic Product Environmental Assessment Tool (EPEAT) Gold rating for all desktops and laptops, which are required to meet energy performance criteria. But there is a critical need to develop a policy that controls the proliferation of this equipment and additionally requires a campus-wide “Power Down” protocol. Power management strategies that shut down computers after hours either manually or via software programs are low-cost and effective opportunities to reduce electricity consumption.

The university also intends to address the performance of its data servers—the world’s fastest-growing plug load. In addition to the electricity needed to operate these servers 24/7, there is a significant air-conditioning load associated with their operations. Currently, the most energy-intensive building owned by The New School, Arnhold Hall, is home to the most server rooms at the university. The New School believes that effective energy management of server rooms will yield substantial energy reductions. The university will address consolidating server rooms and utilizing virtualization and cloud computing as potential energy reduction strategies.

Emissions Source Mitigated: Scope II (electricity)

Interim goals FY11–12: Develop and enforce a “Power Down” policy for the entire university and identify appropriate energy reduction strategies for IT operations by the end of FY12.

CONSERVATION STRATEGIES

By adopting conservation habits on campus, all members of The New School community can participate in one of the lowest-cost strategies outlined in this document, which can add up to substantial carbon savings. To that end, in spring 2010, the New School Green Fund was launched as part of an annual initiative to increase community involvement in the sustainability efforts of the university and promote research around environmental issues. Every year, as much as \$50,000 will be available for student-, faculty-, and staff-led projects and research. And in the fall of 2010, the Office for Sustainability launched the Sustainability Pledge, a voluntary commitment for students, staff, and faculty to take self-selected actions to reduce their environmental impact. A goal was set of 1,000 signatories by Earth Day 2011. And these are just small steps by the Office for Sustainability to utilize outreach and education to mobilize behavior change.

Building upon these initiatives, the Office for Sustainability is developing peer-to-peer education programs. Influencing behavior change and engaging students will be a program modeled after the successful Eco-Reps programs at other universities. Students are trained to promote environmentally responsible behavior in students living in university residences. Faculty and staff will be served by a complementary program that addresses best practices for campus offices and encourages a “green office” certification for those in compliance.

In conjunction with these programs, a comprehensive interpretive sign campaign throughout campus buildings will be created to educate The New School community. These signs will be placed at points of use—sinks, thermostats, light switches—to continue to encourage conservation.

The New School also looks to the results of research studies that have proven the effectiveness of direct feedback in learning how to control one’s

use of energy in the long term. As a result, data in the form of direct feedback displays or smart meters are under consideration. And the new University Center will be designed with this concept of feedback in mind. When it opens its doors in 2013, the building will serve as a laboratory for behavior change; educational features of the building will be incorporated into the design and building systems and real-time energy monitoring will be accessible to occupants. *Emissions Source Mitigated: Primary—Scope II (electricity) and Secondary—Scope I (fuel combustion)*

Interim goals FY11–12: Launch a power management initiative and peer-to-peer training programs by FY12.

OTHER STRATEGIES

Air Travel Emissions

The New School will continue to track these indirect emissions and determine what the investment would be for purchasing offsets. The university will then consider a policy of purchasing offsets for these emissions and investigate ways to promote less carbon-intensive travel options. *Emissions Source Mitigated: Scope III (air travel)*

Interim goals FY11–12: Request estimates from third parties like Carbon Fund and TerraPass on the price of offsets for annual air travel by the end of FY11.

THE NEXT 23 YEARS: FY17-40

In this stage of The New School’s implementation schedule, technologies will have advanced, the electricity grid will be “greener,” and state, local, and federal legislation will be driving energy markets and innovation to reduce carbon emissions. This is, at least, the hope. In these years, The New School’s efforts will be directed toward further reducing the university’s energy intensity to the lowest level feasible and practical—one that does not compromise critical operations or hinder growth.

Combined with greater efficiency and conservation strategies, cleaner sources of energy will need to be pursued and renewable energy demonstration projects considered. The remaining carbon emissions—from operations and activities that cannot be further reduced—will need to be offset.

ENERGY EFFICIENCY

The New School will continue to pursue aggressive energy efficiency and conservation projects in these years. The university’s design standards for new construction and renovations will need to include more stringent energy performance standards. The university will need to undertake planning and implementation of strategies that require larger investments during these years. These might include constructing a central plant that burns

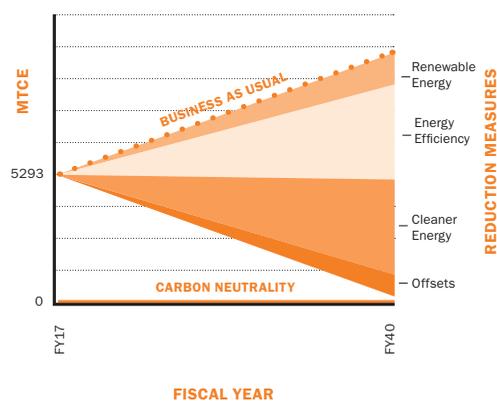
cleaner energy for buildings clustered together, upgrading entire facades, or investing in the latest energy management technologies. *Emissions Source Mitigated: Source I (fuel combustion) and Source II (electricity)*

CLEANER ENERGY

In the years after 2017, as The New School reduces its electricity consumption from the grid, the grid

CO₂ Emissions Trajectory FY17-40

TABLE 13: The New School’s Emissions Projections in Metric Tons of CO₂e (MTCE).



electricity the university does depend on will likely be derived from “greener” sources. The university will also investigate cleaner on-site electricity generation opportunities such as cogeneration and fuel cells. And as an alternative to heating oil, natural gas will be the cleaner fuel alternative in the short term. But natural gas is still a fossil fuel that contributes to carbon emissions.

Therefore, The New School will need to pursue wide-scale use of non-fossil fuel (or biofuel) options. The cost and availability of biofuels as well as research on their use will have evolved by this stage in the Climate Action Plan, hopefully offering real clean energy solutions. *Emissions Source Mitigated: Primary—Scope I (fuel combustion). Secondary—Scope II (electricity)*

RENEWABLE ENERGY

In the early stages of this period in the Climate Action Plan, The New School will investigate opportunities to feasibly install renewable energy generation projects to reduce its dependency on fossil fuels. Among the likely technologies to employ would be solar photovoltaic (PV) for electricity, solar thermal for hot water, and building-mounted wind micro-turbines for electricity.

Manhattan lacks what most solar energy projects tend to require: expansive horizontal space. Shading from other buildings and roofs filled with mechanical equipment make renewable energy opportunities a challenge. Wind patterns in New York City are not consistent or strong enough to justify the use of present-day wind turbines on buildings. And the current high first costs and long payback of investment in these technologies make renewable energy an unlikely silver bullet. The New School will continue to monitor progress in the renewable energy technology sector and seek outside funding opportunities for implementing these projects. The anticipation is that first costs will come down and renewable energy systems will become more powerful and flexible in terms of their space needs and building integration. *Emissions Source Mitigated: Primary: Source II (electricity) and Source I (fuel combustion)*

What is a carbon offset?

According to the ACUPCC: “A carbon offset is a reduction or removal of carbon dioxide equivalent (CO₂e) greenhouse gas (GHG) emissions that is used to counterbalance or compensate for (‘offset’) emissions from other activities; offset projects reducing GHG emissions outside of an entity’s boundary generate credits that can be purchased by that entity to meet its own targets for reducing GHG emissions within its boundary. Generally, offsets fall into two categories: 1) emissions reductions or avoidance, such as replacing a diesel generator with solar panels, and 2) sequestration, or removing GHGs from the atmosphere, such as planting trees that will absorb CO₂ as they grow.”

Source: ACUPCC Voluntary Carbon Offset Protocol, November 2008.

OFFSETS

The ACUPCC indicates that notwithstanding the primary efforts of colleges and universities to directly reduce their GHG emissions by planning, funding and initiating avoidance, reduction, and replacement programs, it is nevertheless important to internalize the cost of carbon emissions, and it is unlikely that colleges and universities will in the near future be able to directly achieve GHG neutrality without the supplemental investment in carbon offsets

—ACUPCC Voluntary Carbon Offset Protocol,
November 2008

Whatever sources of GHG emissions remain after reduction efforts on campus are exhausted will need to be offset. The ACUPCC specifies 10 criteria for investment in carbon offsets: real and tangible, additional, transparent, measurable, permanent, verified, synchronous, registered, and retired. Examples of legitimate carbon offsets include investing in the development of a wind farm, a small-scale hydro-power project, or a project that captures methane produced at landfills or wastewater treatment plants.

Today, it would require a sizable investment in a carbon offset project for The New School to be able to offset its carbon emissions. Only when the university has aggressively reduced its carbon footprint through other means (energy efficiency and cleaner energy projects) does offsetting the remaining carbon emissions make financial sense.

There are other benefits to investing in high-quality offsets than just reducing the university's carbon footprint. The educational value of involving faculty and students in a local offset project—from planning to implementation—would offer a rare real world, hands-on experience. Similarly, by focusing on local offset opportunities, The New School would help to support local economies with “green jobs” and contribute to the “greening” of local fuel sources.

SECTION 3: SUSTAINABILITY IN EDUCATION AND RESEARCH

CURRICULAR ACTIVITIES

The New School is well positioned to achieve the ACUPCC's commitment to incorporating sustainability in curriculum and research. The university currently offers several programs related to sustainability across multiple disciplines. These include an undergraduate program in Environmental Studies through The New School for General Studies' Tishman Environment and Design Center, which includes the Tishman Environmental Merit Scholars program. The summer internship program engages students with research, environmental education, grassroots campaigns to advance pro-environment policies, and sustainable development. A new Master of Science in Environmental Policy and Sustainability Management at Milano The New School for Management and Urban Policy is designed to prepare leaders to understand the importance of ecological, financial, and social sustainability. Milano also offers a certificate program in Sustainability Management. Parsons The New School for Design offers several programs related to sustainability: a Bachelor of Fine Arts (BFA) degree in Product Design that integrates a materials and sustainability curriculum; a BFA in Integrated Design that incorporates innovation into economic and environmental equity; a Bachelor of Science in Urban Design that explores urban ecosystems; a Master of Fine Arts (MFA) degree in Fashion Design and Society that includes an ecological dimension; and a MFA in Transdisciplinary Design that addresses pressing social issues and sustainable design.

Using the Sustainability Tracking, Assessment, and Rating System (STARS®), the university has a clear course of action to improve upon these

existing curricular activities related to sustainability and carbon neutrality. At present, The New School's Office for Sustainability and the Sustainability Advisory Committee are compiling current educational offerings and activities, so that eventually courses will be tagged as sustainability-related in course registration information. This will push sustainability to the forefront in academics and attract prospective students committed to sustainability. The resulting strategy for building on the current curricular offering will become fully integrated into the planning of the Office of the Provost. Concurrently, the University Curriculum Committee will determine how the Climate Action Plan will be integrated into this planning.

Interim goals FY11–12: Complete inventory of all academic sustainability offerings university-wide by the end of FY11 and make data publicly available. Consider how ecological literacy can be gauged university-wide. Encourage the University Curriculum Committee to evaluate a degree requirement that includes sustainability as a learning outcome for all students.

EXTRACURRICULAR ACTIVITIES

Hands-on educational experiences around issues of sustainability include at present a cross-school team of students who are among 20 finalists in the U.S. Department of Energy Solar Decathlon 2011 competition; Environmental Studies internships in several areas including sustainable fashion, solar power, food production, community farming, and river ecology; and an undergraduate outdoors program in the Eugene Lang College The New School for Liberal Arts that introduces students to the urban environment. This program combines physical activity with political, cultural, and environmental contexts, through boat building, discovery walks in urban parks, and exploration of the over 200 miles of bicycle paths in New York City. The New School Green Fund also serves as an extracurricular outlet for students with its financial support for projects and research that address sustainability issues. Events on campus have also focused on sustainability. The New School hosted the *Economics of Climate Change: An International Conference* in spring 2010, which hosted academics, government officials, and policy analysts from around the world, who examined the economic issues associated with carbon emissions, climate change, and emission regulation. The Office for Sustainability's first Campus Sustainability Week in October 2010 addressed environmental issues on campus during five days of events. And in the fall of 2010, Living Concrete/Carrot City, a two-month-long exhibit and dialogue about urban agriculture, was a well-attended event that reached beyond the university community.

Building upon these existing extracurricular activities, the Office for Sustainability and the

Sustainability Advisory Committee, with the aid of STARS®, is considering ways to offer more hands-on and community-based experiences around issues of climate change and sustainability. Student involvement in Facilities Management projects, communication campaigns, and institutional decisions pertaining to this commitment to carbon neutrality will be expanded. Event programming will continue to address sustainability issues. Plans for spring 2011 include two intensive Yes Labs (an initiative by the activist duo the Yes Men) in which students, NGOs, and activists will convene to brainstorm about political actions around food production issues. A student peer-to-peer program to be offered as an independent study or studio course has the potential to engage a large portion of the student body. A companion program is also being considered that will extend this training to staff and faculty members as well. And the university's Campus Sustainability Week will continue to grow and serve a broader audience on campus every year.

Interim goals FY11–12: Launch peer-to-peer programs by the end of FY11.

RESEARCH

The New School is an institution with a dedicated community of academics pursuing research in a diverse range of interdisciplinary activities. The university is committed to supporting faculty who work across disciplinary boundaries and seeks to promote and facilitate interdisciplinary activities through presentations, discussions, and debate, both at open forums and through joint appointments and interdisciplinary research institutes. The Design for Social Innovation and Sustainability (DESIS) Lab at Parsons The New School for Design received a two-year grant from the Rockefeller New York Cultural Innovation Fund for Amplifying Creative Communities, a research project on grassroots innovations promoting sustainable lifestyles. Parsons' School of Design Strategies hosts faculty research that advances innovative approaches to design and business education in the evolving context of cities, services, and ecosystems. The New School for Social Research has collaborated with other universities about research on climate policies and structural change related to sustainable growth models. And Milano's Center for New York City Affairs has brought together key stakeholders for dialogue about green jobs.

The Office of the Provost provides New School faculty with funding for research, academic events,

and curricular innovation. Sustainability, as an inherently multidisciplinary field, is well-integrated into these funding opportunities. In addition, faculty research supported by the New School Green Fund must be tied to sustainability. Recent seed grants have been provided to fund the investigation of low-toxicity and nontoxic printmaking methods at Parsons, biomimicry and product design, and development of a protocol for measuring current lighting systems at Parsons' School of Constructed Environments.

STARS[®] also addresses sustainability research; conducting an inventory of all research activities by faculty is the initial step the university has taken to earn these STARS[®] credits. And recommendations to foster more sustainability research on campus will be presented to the Office of the Provost.

Interim goals FY11–12: Complete inventory of all sustainability research by university faculty by the end of FY11 and make the data publicly available. Work with the Office of the Provost to draft a policy that includes interdisciplinary research related to sustainability and climate change in tenure and promotion.

SECTION 4: CIVIC ENGAGEMENT

The New School is devoted to dialogue and action for the public good that is rooted in a concern for social justice. This dedication is found throughout campus: Eugene Lang College’s Civic Engagement Office conducts qualitative assessments of the university’s activities with community partners; Parsons’ Pre-College Scholars Program provides art and design education to low-income New York City public high school students while they prepare for college transition; and the university’s Institute for Urban Education provides disadvantaged New York City high school students with access to college courses, mentoring, and support in making the transition to college.

There are also several sustainability-related civic engagement activities currently on campus. Among them is an annual Habitat for Humanity volunteer trip for university members to weatherize homes. The Urban Forestry Club, a newly formed student group, cares for street trees around campus and educates local residents about tree care and the urban canopy. The New School’s Design for Social Innovation and Sustainability Lab seeks to advance the practice of design-enabled social innovation toward more sustainable cities by conducting research about how design can enhance community-led initiatives to develop more sustainable ways of living and working. Parsons collaborated with New York City’s Department of Education on their Trayless Tuesdays program, which aims to reduce the use of styrofoam trays in city public schools and replace them with biodegradable containers to reduce landfill waste. And national student organizations

on campus, such as Ashoka Changemakers, work to broaden civic engagement opportunities for students. Complementing these community outreach efforts is a certificate program in Public Engagement offered through Parsons Continuing Education.

The Office for Sustainability plans to support more opportunities for civic engagement. In the short term, the Office for Sustainability will seek ways to engage students in local environmental activism as well as reach out to our neighbors in Greenwich Village about issues of sustainability. A longer-term goal is the development of a local carbon emissions offset program that students and faculty could develop as well as work on.

Interim goals FY11–12: Complete an inventory of student involvement and courses with a community service component—especially those related to climate change and sustainability—by the end of FY11 and make the data publicly available.

SECTION 5: FINANCING AND TRACKING EMISSION REDUCTIONS

FINANCING CARBON REDUCTIONS

This Climate Action Plan will be integrated into The New School's long-term master planning. And a cost-benefit analysis of all of the carbon emissions reduction strategies included in this plan will guide the university in making sound decisions. The university will utilize both capital and operating funds to implement projects that present adequate return on investment or sizable environmental benefits. Over time, as the low-hanging fruit is addressed, the university will enter the years where significant capital funding will be required for both advanced technologies as well as offsets.

The New School will also seek outside funding to enhance financing of projects. The New York State Energy Research and Development Authority (NYSERDA) provides incentives for New York

State building owners who reduce energy consumption. NYSERDA's Research and Development department occasionally funds renewable and clean energy demonstration projects. The New York City Economic Development Corporation also supports innovative projects that bring jobs to New York City, among them energy-related projects.

And as energy markets evolve, new financing opportunities may emerge as viable options for the university. An example is clean and renewable energy generation projects financed and operated by a third party, a model referred to as a Power Purchasing Agreement. An outside entity finances, installs, and operates the system (solar panels or a cogeneration plant) on campus, and the university pays it for use of the renewable or cleaner electricity or heat as they would to a utility.

TRACKING AND MEASUREMENT OF CARBON EMISSIONS

Monitoring the university's progress through the years will be critical to meeting emission reduction targets and for future planning. Currently, there are two reporting tools used. The first is a customized building energy consumption tracking system that could be built upon to include waste, air travel, water usage, and transportation. The second reporting method was developed for the university's participation in STARS®. The Office for Sustainability devised a credit-by-credit STARS® Tracker to monitor performance across all categories and credits, which include eco-literacy, educational opportunities in sustainability, and civic engagement, in addition to environmental impacts.

Within the next year, efforts to select and launch an energy management system to track and monitor all utility usage in buildings on campus will provide an alternative to manual data entry of our energy usage into the customized tool the Office for Sustainability currently uses. This system will provide real-time data and, eventually, historic data of our emissions. It will also provide a clearer picture of what mitigation strategies are working.

CLIMATE ACTION PLAN SCHEDULE

The New School commits to a biennial reporting and modification schedule for this Climate Action Plan. However, owing to new leadership in the coming months, the Office for Sustainability commits to a reissuance of the plan next year if any modifications are necessary pending the Board of Trustees' and the new president's approval.

APPENDIX A: PLANYC UNIVERSITY CHALLENGE GHG COEFFICIENT CHANGE SUMMARY

MAYORAL CHALLENGE—GHG COEFFICIENT CHANGE SUMMARY

The U.S. EPA published revised fuel emissions coefficients as part of the Mandatory GHG Reporting Program and published new, separate emissions coefficients for #2 and #4 fuel oil (in previous years #2 and #4 fuel oil emissions were calculated using a single coefficient). Previous years' steam and electricity coefficients (2005–2010) were recalculated using this revised EPA fuel coefficient data. The University Challenge reporting tool reflects these revisions.

The 2009 electricity coefficient is 10.6 percent below the 2008 coefficient, primarily because of market fluctuations in energy fuel prices, which changed power plant generation patterns throughout New York State. In general, the drop in natural gas prices relative to coal and oil prices, coupled with a significant drop in demand, caused fuel switching to natural gas throughout the state. Almost half of the city's electricity coefficient drop was due to decreased coal-fired generation in upstate New York, and the remainder was due to fuel switching (oil to natural gas) for electricity generation in New York City.

Below is a summary of all coefficient changes from 2008 to 2009.

Energy Source	Unit	2008 Coefficient (lbs CO ₂ e/unit)	Revised coefficient	% change in coefficient
Natural Gas	therm	11.73	11.700373	-0.1%
#2 Distillate Fuel Oil	gallon	22.49	22.628304	0.6%
#4 Distillate Fuel Oil	gallon	22.49	24.287715	0.6%
#6 Residual Fuel Oil	gallon	26.08	24.972973	-4.2%
Propane	gallon	12.74	12.413804	-2.6%
Kerosene	gallon	21.65	22.505438	4.0%
Electricity	MWh	774.72	692.24661	-10.6%
Steam	Mlb	158.38	165.86899	4.7%

Since 2005, New York City's electricity coefficient has dropped by 25.7 percent and its steam coefficient has dropped 13.6 percent. These changes are the product of power plant re-powerings in New York City and throughout the state, improved generation efficiency, fuel switching to cleaner fuels, and other factors. This "cleaning" of the city's electrical and steam coefficients benefits University Challenge participants by moving them closer to their 30 percent reduction goals. *Distributed by the New York City Mayor's Office for Long Term Planning and Sustainability on October 26, 2010*

APPENDIX B: CARBON FOOTPRINT METHODOLOGY

ORGANIZATIONAL BOUNDARY METHODOLOGY

The organizational boundary of the GHG inventory was based on the *financial control approach*, which means the university takes full ownership of all emissions that it can directly influence and reduce. All owned buildings were included in the carbon inventory.

However, as a tenant in many buildings, The New School does not always pay utilities directly. In some leased spaces, the university pays a single utility directly (mostly electricity). In others, submetered electricity consumption data comes from landlords. Including this data from leased spaces suggests that The New School is committed to addressing emissions reductions even in spaces it does not own. By reporting the utilities it pays for, the school is taking responsibility for the associated emissions.

Below is a breakdown of leased spaces where the university either pays directly for a single utility or receives electricity consumption statements from a landlord.

As of FY10, The New School reports only a single utility in the following leased spaces:

- *Mannes Goldmark Practice Center, 37 W 65th Street (electricity only)*
- *79 Fifth Avenue (gas only)*
- *Parsons School of Fashion, 566 Seventh Ave (electricity only)*
- *The New School for Drama, 151 Bank (electricity only)*

As of FY10, The New School receives submetered electricity consumption data from landlords for the following spaces/buildings:

- *79 Fifth Avenue/6 E 16th Street (multiple floors)*
- *71 Fifth Avenue, 9th Floor*
- *80 Fifth Avenue (multiple floors)*
- *Parsons School of Fashion, 232 W 40th Street (multiple floors)*
- *William Street Residences*

The apartments at the following addresses are considered *de minimis* (less than 5 percent of the university's emissions) and excluded from the inventory:

- *1 Irving Place*
- *23rd Street Apartments*

65 Fifth Avenue was not included in the carbon inventory in FY10, as it was a demolition site.

QUANTIFYING GHG EMISSIONS FROM BUILDINGS

The New School collected and analyzed FY06–10 data from over 40 electricity accounts, 17 natural gas accounts, three steam accounts, and tracked heating oil usage in seven buildings. Over the years, this data was then inputted into a tracking system and quality controlled by various entities at the university.

The New School utilized the calculator distributed by the Mayor’s Office for Long Term Planning and Sustainability to University Challenge participants. The New York City carbon coefficients, published by U.S. Environmental Protection Agency as part of the Mandatory GHG Reporting Program, are included in this tool. The University Challenge reporting tool reflects all updates to coefficients the city issued based on revised EPA fuel coefficient data.

When reporting only the consumption of a single utility such as electricity (see “Organizational Boundary Methodology,” above), the Mayor’s Office for Long Term Planning and Sustainability advises University Challenge institutions to take 50 percent of the gross square footage of these leased spaces to better represent the energy intensity of that space. Otherwise, the data would be skewed as it would appear to be an all-electric (or all-natural gas) building or space when other fuel sources are being utilized but just not paid for directly by the university.

In some cases, historic utility data was incomplete. Rather than indicated zero consumption for a period of time, which would grossly misrepresent our use of energy in those buildings, the Office for Sustainability estimated consumption. Missing values for electricity, natural gas, and steam in a few buildings were imputed by regressing the linear trend for subsequent years on the missing data points or they were imputed by series mean.

The New School’s carbon inventory data is not normalized for weather. In other words, the energy and carbon data does not account for variations in weather or the number of “heating degree days” or “cooling degree days” in each reported year.

QUANTIFYING AIR TRAVEL CARBON EMISSIONS

The New School arrived at its air travel emissions using the carbon calculations provided by its air travel provider, Sabre Airline Solutions. The university began utilizing this service in FY10. Therefore, there is no data for FY06–09. The Office for Sustainability used the MTCE (metric tons of carbon dioxide equivalent) associated with air travel in FY10 for all years prior to FY06 in the carbon inventory. This way the travel that did occur those years is represented (rather than excluded), and The New School is not assuming any reductions have occurred.

OVERVIEW OF METHODOLOGY

The required inputs used in the Sabre methodology are based on passenger scheduled flight information:

- *Origin—destination*
- *Specific equipment type*

The model computes the distance between origin and destination as a required input to determine fuel consumption for the aircraft type.

The estimated fuel consumption for a flight uses distance-based formulas for each specific aircraft type that is in scheduled service. Sabre's model uses fuel consumption by airline equipment type.

Total carbon dioxide emissions for a flight are estimated by multiplying the estimated fuel consumed (in kilograms) by a factor, 3.1517. This is the value to compute the weight of carbon dioxide in metric tons resulting from burning jet fuel and is recommended and used by International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA).

To derive carbon dioxide related to passengers, Sabre removes an estimate of the cargo from the aircraft payload. This is necessary since passengers are not responsible for the carbon dioxide generated from the payload carried by the airline for its cargo customers.

After removing cargo, the estimated carbon dioxide emissions by seat is computed by dividing the remaining total carbon dioxide (after removing the payload figure for cargo) by the number of seats the airline offers on the specific aircraft.

During an initial review of work on this topic, The New School noted that some emissions calculators apply an adjustment for load factor. By doing so, these calculators increase the carbon dioxide emissions per passenger.

Sabre's emissions model does not apply load factor because an individual passenger purchases one seat on a specific flight. Whether the airline is able to sell the remaining seats is not a concern for the passenger. Therefore, the passenger is interested only in the emissions for the seat they purchase.

Excerpt from Sabre Holdings, Carbon Emissions Models (December 16, 2008)