

Invested nearly \$500 million to improve energy efficiency in public and private buildings

New York City has over 1 million buildings that make up more than 5 billion square feet of built area. More than 90 percent of those buildings will still be here in 2050. The energy used in the city's building stock is the largest contributor of greenhouse gas emissions. However, GHG emissions from energy use in buildings continues to decrease, even as the city's built area has increased. To realize the full extent of potential GHG reductions, buildings must transition away from fossil fuels for certain systems, maximize on-site renewable energy, improve operations and maintenance, and empower residents to reduce energy use. Many of the initiatives to reduce GHG emissions from buildings launched to date aim to do just that.

The City has focused its own investment in municipal-owned buildings on high-value energy efficiency projects by allocating competitive funding and implementing deep retrofits in key facilities. Today, the City benchmarks the annual energy performance of all City buildings of at least 10,000 square feet. This helps target future energy efficiency investments, tracks progress, and ensures compliance with Local Law 84 of 2009—the City's benchmarking law. In 2016, the average Energy Star score for eligible City buildings was 70.8, a 21 percent improvement over the average Energy Star score of 58.6 for 2010, the first year that City buildings were benchmarked. To date, DCAS Energy Management (DEM) has awarded over \$480 million to City agencies for energy efficiency projects through the Accelerate Conservation and Efficiency program (ACE) and the Expenses for Conservation and Efficiency Leadership program. Upon completion, these projects are expected to yield more than \$67 million in avoided annual energy costs and approximately 176,000 metric tons of avoided GHG emissions, equivalent to almost 38,000 vehicles removed from the road.

The City is also committed to helping building owners and decision-makers pursue energy efficiency and clean energy projects through multiple City-funded programs. The NYC Retrofit Accelerator and Community Retrofit NYC programs are currently assisting building owners and decision-makers in over 5,000 buildings identify energy and water saving retrofit opportunities and connect to financial and technical resources to complete the projects. This year, the NYC Retrofit Accelerator launched a new High Performance Retrofit Track to assist buildings in developing and implementing long-term capital plans that will phase



Aerial view of some of New York City's more than 1 million buildings. Photo Credit: Michael Appleton/Mayoral Photography Office.

in high performance retrofits over the next 10 to 15 years, which are expected to achieve a 40 to 60 percent reduction in GHG emissions. To date, the City has contributed approximately \$16 million for energy efficiency projects in private buildings. These projects are expected to reduce the city's greenhouse gas emissions by over 95,000 metric tons of carbon dioxide equivalent.

The NYC Carbon Challenge is the City's long-standing voluntary leadership program that is working with more than 100 companies and organizations that have committed to 30 to 50 percent reductions in GHG emissions. The program celebrated its tenth anniversary last year and now represents more than 500 million square feet—or close to 10 percent of built space in NYC. To date, Carbon Challenge participants have cut their emissions by close to 600,000 metric tons of carbon dioxide equivalent and are collectively saving nearly \$190 million annually in lower energy costs. By the end of the program, current participants are projected to reduce citywide emissions by nearly 1.5 million metric tons of carbon dioxide equivalent—the equivalent of taking more than 300,000 cars off the road—and result in an estimated \$700 million in energy cost savings.

Provided green job training to support New York City's green economy

The City is providing green job training in partnership with Solar One both through educational programs at K-12 public schools and through training programs at Rikers Island. The City's climate education program in public schools has provided professional development to 670 teachers to date. In 2017, the City also launched programming in solar energy installation basics for vocational high school students focused on the fundamentals of solar photovoltaic (PV) installations to simultaneously educate and help build our future renewable energy workforce. In addition, the City is investing in traditionally hard-to-employ populations through its Rikers Island solar basics training program. Fifty-one inmates have taken a two-day in situ training course and thirteen have completed a five-day post-incarceration training program. The City is working with the Fortune Society, Small Business Services, project developers, and unions to connect these trainees with jobs. In addition, DCAS continues to work with the City University of New York (CUNY) to train both City staff and CUNY students in energy efficiency best practices. To date, more than 3,200 City workers have been trained across more than 24 distinct course offerings, including Building Operator Certification, trades-specific energy courses, and a renewable energy training class. Sixty-five graduate and undergraduate students have also received valuable energy efficiency experience through their work in City buildings during internships with CUNY's Building Performance Lab.

To further bolster an emerging green economy, Mayor de Blasio and the Building Construction Trades Council (BCTC) announced an agreement in 2017 to launch the first class of pre-apprenticeships available through the NYC Green Jobs Corps. The NYC Green Jobs Corps, first announced by the mayor during his 2017 State of the City address, is a partnership with industry and labor aimed at training 3,000 workers over the next three years with new skills needed for the emerging green economy. In the year since the agreement was signed, training providers have already launched new classes and have started connecting graduates to employment opportunities.

Students building solar powered cars on the roof of their school, Global Learning Collaborative High School in Manhattan, which has a solar installation.

Continued to lead the fight against climate change, becoming the first city to align its actions with the Paris Climate Agreement

On June 1, 2017, President Trump abdicated American leadership on climate change when he announced his intention to withdraw the U.S. from the Paris Climate Agreement (Paris Agreement). New York City knew that it couldn't turn its back on one of the most significant challenges facing humanity. The next day, Mayor de Blasio signed Executive Order 26, committing the most populous city in the U.S. to the principles of the Paris Agreement and to developing a pathway to advance its goal of limiting global temperature rise to 1.5 degrees Celsius. Hundreds of other U.S. cities and institutions followed suit by reiterating their commitment to reduce GHG emissions—sending a profound signal to the world that the majority of Americans will not retreat from this existential fight.

Meeting the global carbon budget to keep global temperature rise to 1.5 degrees Celsius requires that the City implement a priority subset of its 80x50 strategies by 2020 in order to accelerate GHG reductions. This plan clearly lays out the pace, scale, and impact of actions across the city that are necessary to bring NYC's actions in line with the Paris Agreement's 1.5 degree Celsius outcome and commits the City to lead in the development of a global protocol for carbon neutrality.

