

One City Built to Last

Transforming New York City's Buildings
for a Low-Carbon Future



The City of New York
Mayor Bill de Blasio

**Municipal Building Energy Efficiency Strategies
Successes & Challenges
November 3, 2016**

City of New York - Government Overview

- **NYC Department of Citywide Administrative Services (DCAS)** provides City agencies with critical resources and back office support
- **DCAS Energy Management (DEM)** manages energy accounts & programs

\$700 million in
annual utility energy
costs

- * Peak Demand of ~1000 MW
- * 4.3 million kWh of electricity
- * 125 million therms of natural gas
- * 2.2 million mlbs of steam

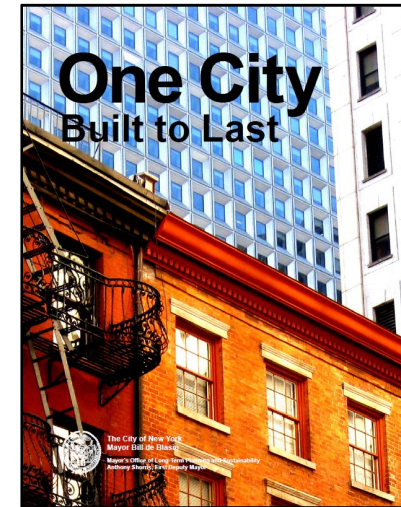
3.14 million tons of
CO₂e

- * 4,000 city-owned buildings
- * 250,000 Streetlights
- * 1,200 of 4,000 buildings are schools

One City: Built to Last

Framework for NYC's GHG buildings reduction plan

- Commits to **80% reduction in greenhouse gas emissions by 2050** (Local Law 66 of 2014)
- Sets interim goal of **35% by 2025 for public buildings**
- NYC Government will **lead by example** to:
 - Reduce emissions
 - Maximize energy cost savings
 - Support resilient operations
 - Optimize building operation and develop an energy-savvy workforce



Sept 2014



April 2015

Establish a shared sense of responsibility

Foster Agency-Driven Energy Management Practices:

- **Fund Agency Energy staff**
- **Preventative Maintenance (PM) Staff & Planning**
- **Competitively-Awarded Funding programs – ACE & ExCEL)**
- **Energy Management Institute & Customized Training**
- **Energy Smart Competition**

Success: QPL Energy Smart Competition

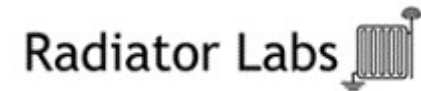


Adopt Emerging Technologies

Energy Technology Demonstrations

- Test new and emerging technologies in City facilities
- Goals:
 - Demonstrate clean tech solutions
 - Address facility operational needs
 - Integrate proven technologies into energy retrofits
 - Drive market transformation & job creation

IDEA Phase	Topic of Focus
Phase I	Building Controls
Phase II	Energy Storage
Phase III	HVAC Optimization
Phase IV	Renewable Energy



Expanding Use of Renewable Energy

Goal to install 100 MW of solar on City properties by 2025:

Current Installations:

- 8.8 MW installed

Future Solar Projects:

- 15 MW Solar PPA w/88 locations
- Future capital projects (DDC, SCA, DOE)
- DPR in house staff
- Partner w/Global Green
- Partner w/GOSR
- Parking lot canopy projects
- Planning for ground-mounted systems
- Resilient solar installations paired with energy storage



Renewable Energy Planning



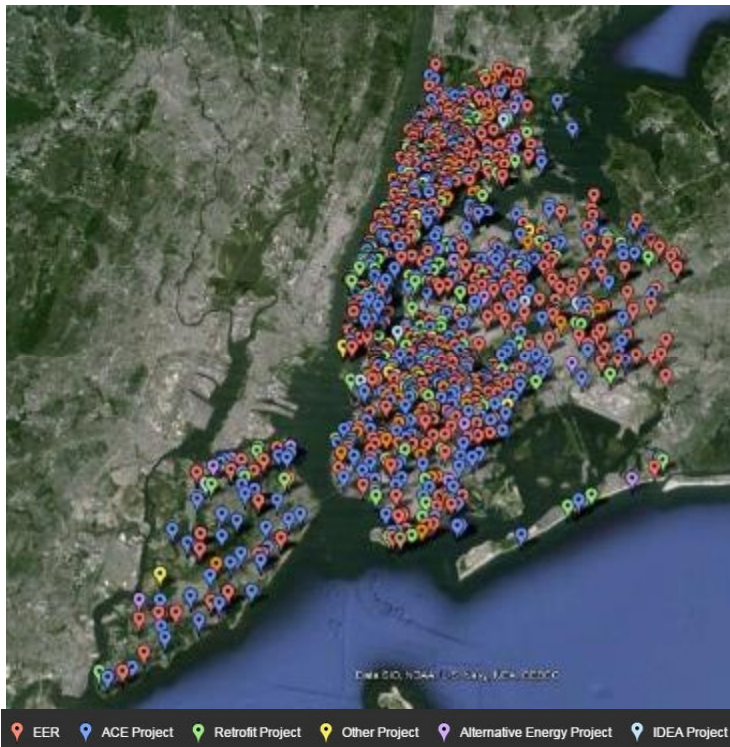
Measuring Success: M&V Strategies

Establish M&V protocols upfront

- ACE Program Templates & Requirements
- IDEA Program contract language (“Evaluation report” vs IPMVP Standards)
- CUNY Building Performance Lab – Whole building modeling
- M&V courses for staff

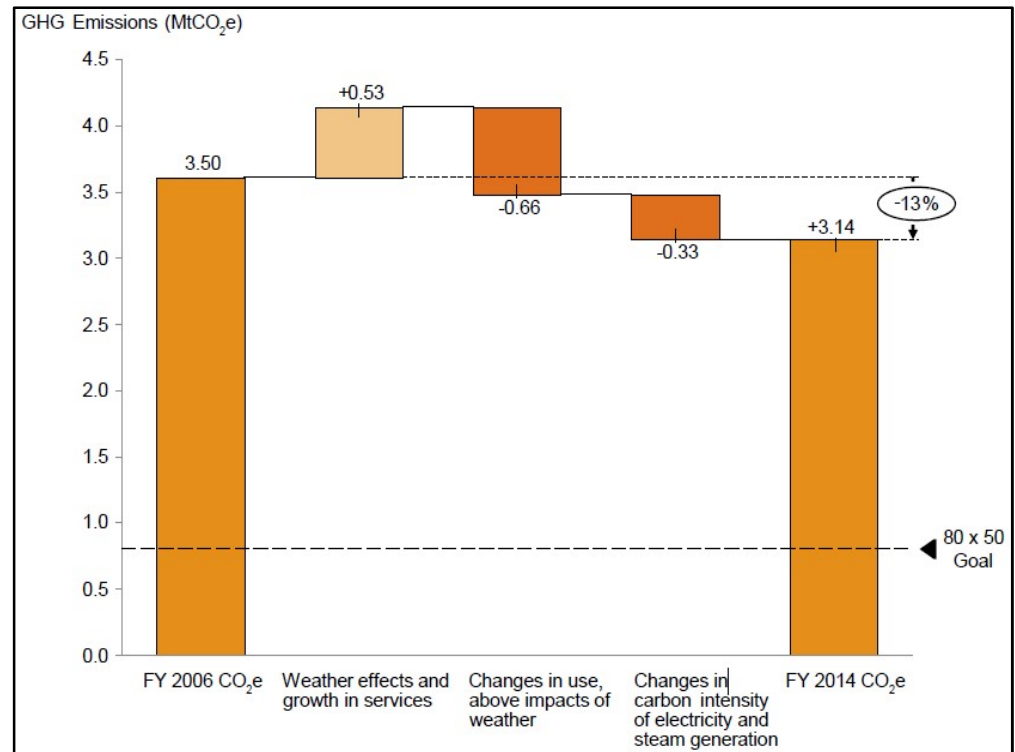
Progress to Date

We're doing a lot . . .



Installations completed or underway in over 1000+ buildings

But more needs to be done.



According to annual NYC Greenhouse Gas Emissions Inventory, NYC Govt has reduced emissions **13%** below 2006 levels.

How to embed energy prudence in each agency's mission?

- Realizing the limits of centralized energy efficiency
- Expand contract availability and capacity
- Plan to offset growth of government services and buildings
- Align capital replacements and new construction with energy & carbon reduction goals
- Hold agencies accountable for energy reductions

“And for heaven’s sake, turn off the lights!”

-- Secretary-General Ban Ki-moon

Columbia University Commencement, 18 May 2016

Ellen Zielinski
Director of Clean Energy & Innovative Technologies
DCAS Energy Management
ezielinski@dcas.nyc.gov - Email

