

NYC COOLROOFS



Small Business
Services

Mayor's Office of
Sustainability

Mayor's Office of
Recovery & Resiliency

#ONENYC



PRESENTATION OVERVIEW

AGENDA

1. Framework and Guiding Principles
2. Program Models and Partners
3. Program Goals
4. Volunteer Engagement
5. Workforce Development
6. Sustainability
7. Resiliency
8. Benefits Overview
9. Marketing & Outreach Strategies
10. Questions



FRAMEWORK

In 2007, the City released the first PlaNYC, which outlined measures to address the city's aging infrastructure, support parks, improve the quality of life and health for New Yorkers, and for the first time ever, commit to a goal for reducing greenhouse gas emissions 30% by 2030.



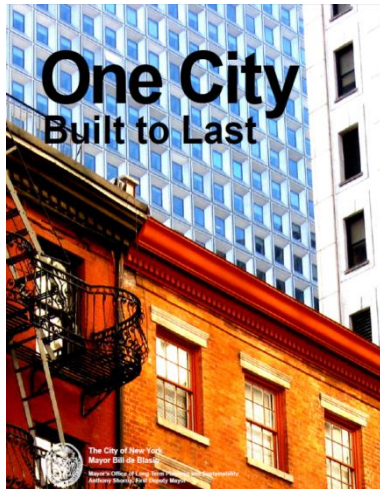
2007



2011

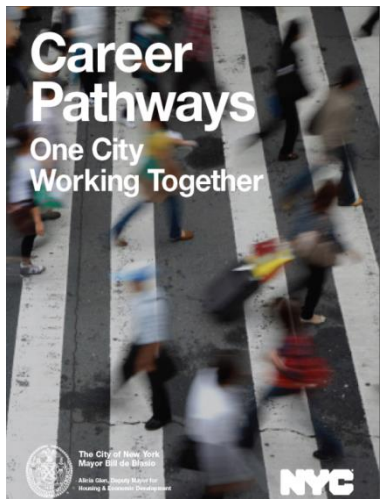


2013



SEPTEMBER 2014

The City's commitment to cut its greenhouse gas emissions expanded to 80 percent by 2050



NOVEMBER 2014

A plan to create a more comprehensive, integrated workforce development system and policy framework focused on skills building and job quality.

FOUR GUIDING PRINCIPLES

Growth

Population growth, real estate development, job creation, and the strength of industry sectors

Sustainability

Improving the lives of our residents and future generations by cutting greenhouse gas emissions, reducing waste, protecting air and water quality and conditions, cleaning brownfields, and enhancing public open spaces

April 2015



Equity

Fairness and equal access to assets, services, resources, and opportunities so that all New Yorkers can reach their full potential

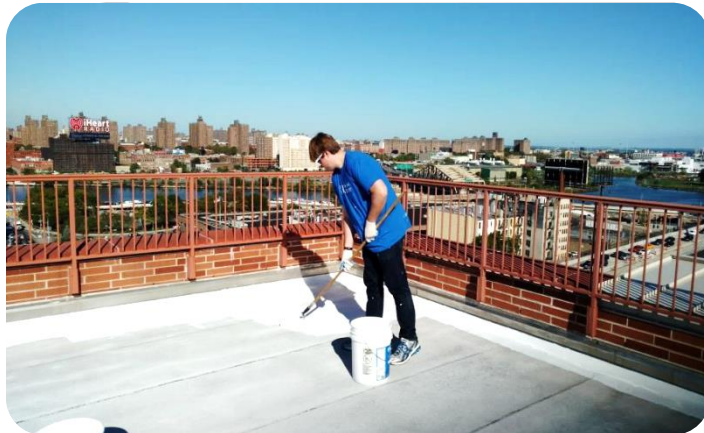
Resiliency

The capacity of the city to withstand disruptive events, whether physical, economic, or social

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PROGRAM MODELS

Program Years	Program Model	Funding Model	Administering Agency
2009-2014	Volunteer: Engage volunteers to coat rooftops with a white, reflective coating	City Investment + Corporate Sponsorships	NYC Department of Buildings
2015-Present	Workforce Development: support local jobseekers through a paid and transitional work-based learning experience to install cool roofs	Full City Investment	NYC Department of Small Business Services



PROGRAM PARTNERS

Research Partners

Government Partners

Corporate Sponsors

Community Partners



ANNUAL PROGRAM GOALS



Coat 1,000,000 square feet of New York City rooftops

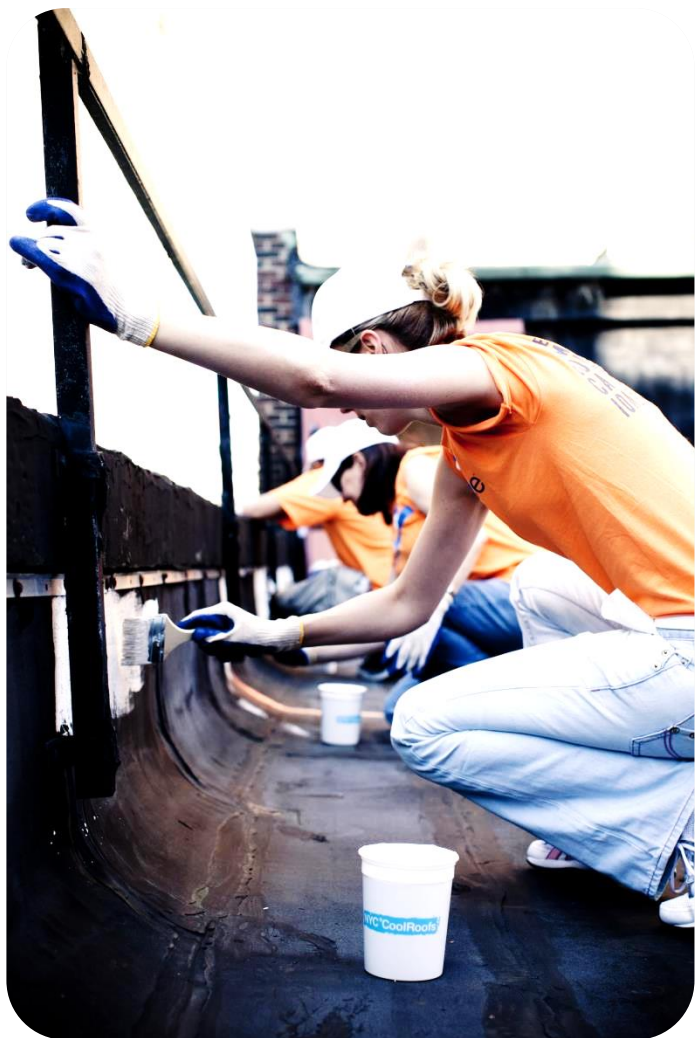
Train 70 workforce participants for 10 weeks

Host multiple “Community Coating Days” to provide opportunities for the public to volunteer



Photo Credit: Dana Ulman for UNHP

VOLUNTEER ENGAGEMENT



2009

224 volunteers

2010

1,596 volunteers

2011

1,239 volunteers

2012

1,417 volunteers

2013

1,138 volunteers

2014

238 volunteers

2015

10 volunteers

2016

72 volunteers

5,934
VOLUNTEERS
ENGAGED

WORKFORCE DEVELOPMENT



WORKFORCE DEVELOPMENT

300 hours of paid training installing energy saving reflective coating on NYC roofs

- ☐ Perform manual labor including but not limited to climbing multiple flight of stairs and lifting and carrying sixty pound buckets
- ☐ Follow safety guidelines and protocols
- ☐ Arrange and organize supplies
- ☐ Transport supplies to and from buildings and storage
- ☐ Provide support in completing operational tasks such as daily progress reports and supply inventories
- ☐ Stencil/grid rooftops and understand general layout of building
- ☐ Plan trips to different work sites in the five boroughs

WORKFORCE DEVELOPMENT

ORGANIZATIONAL SKILLS
RELATIONSHIP MANAGEMENT
QUALITY ASSURANCE
LEADERSHIP
TEAMWORK
COMMUNICATION
MULTITASKING
ADAPTATION
TIME MANAGEMENT



WORKFORCE DEVELOPMENT

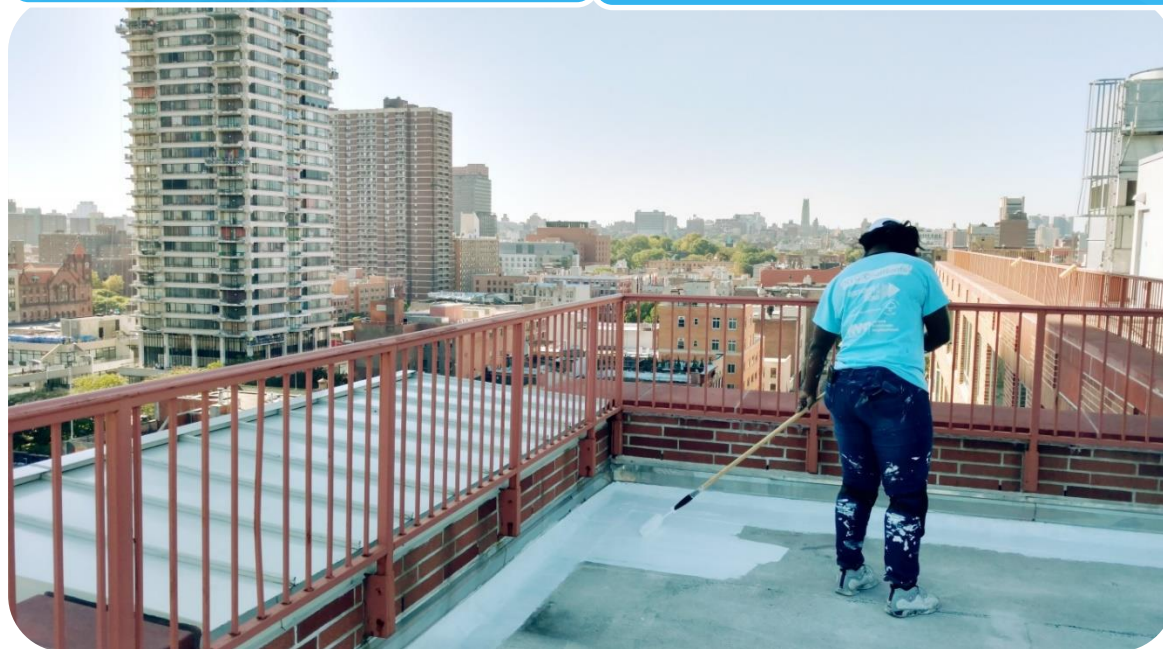
Over 20 hours of unpaid training to attain certifications and credentials in the construction sector

**OSHA 10-Hour
Construction**

4-Hour Scaffolding

First Aid & CPR

4-Hour Flagger





CAREER DEVELOPMENT SUPPORT

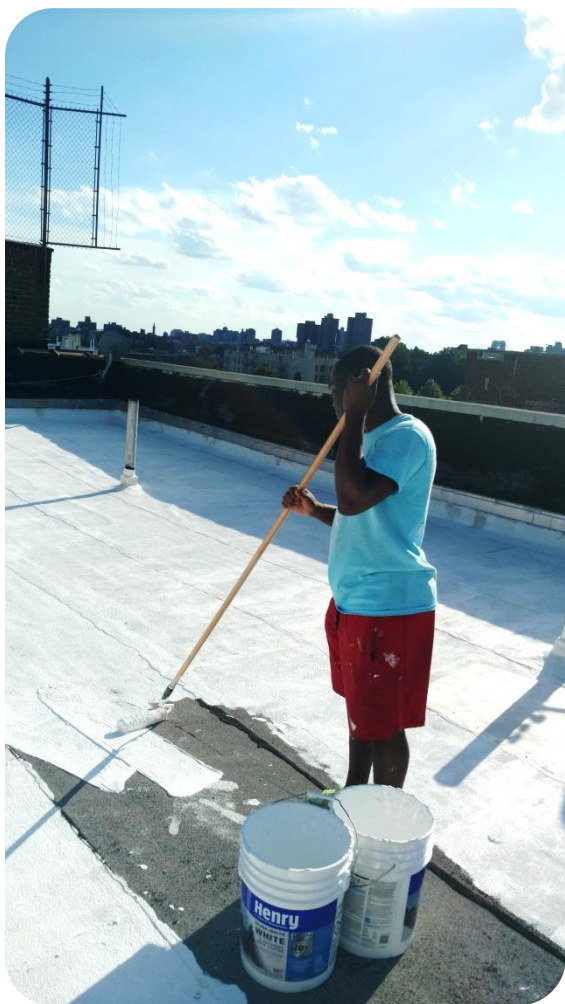
Develop job search skills

**Advance resume development and
interviewing skills**

**Connect jobseekers to employers with
open positions**

WORKFORCE **1**
INDUSTRIAL & TRANSPORTATION

WORKFORCE DEVELOPMENT



129

JOBSEEKERS
ENROLLED

119

COMPLETED
PROGRAM

SUSTAINABILITY



Buildings are responsible for roughly three-fourths of NYC's GHG emissions



By installing a cool roof, buildings can reduce air conditioning costs by 10% to 30% on hot summer days

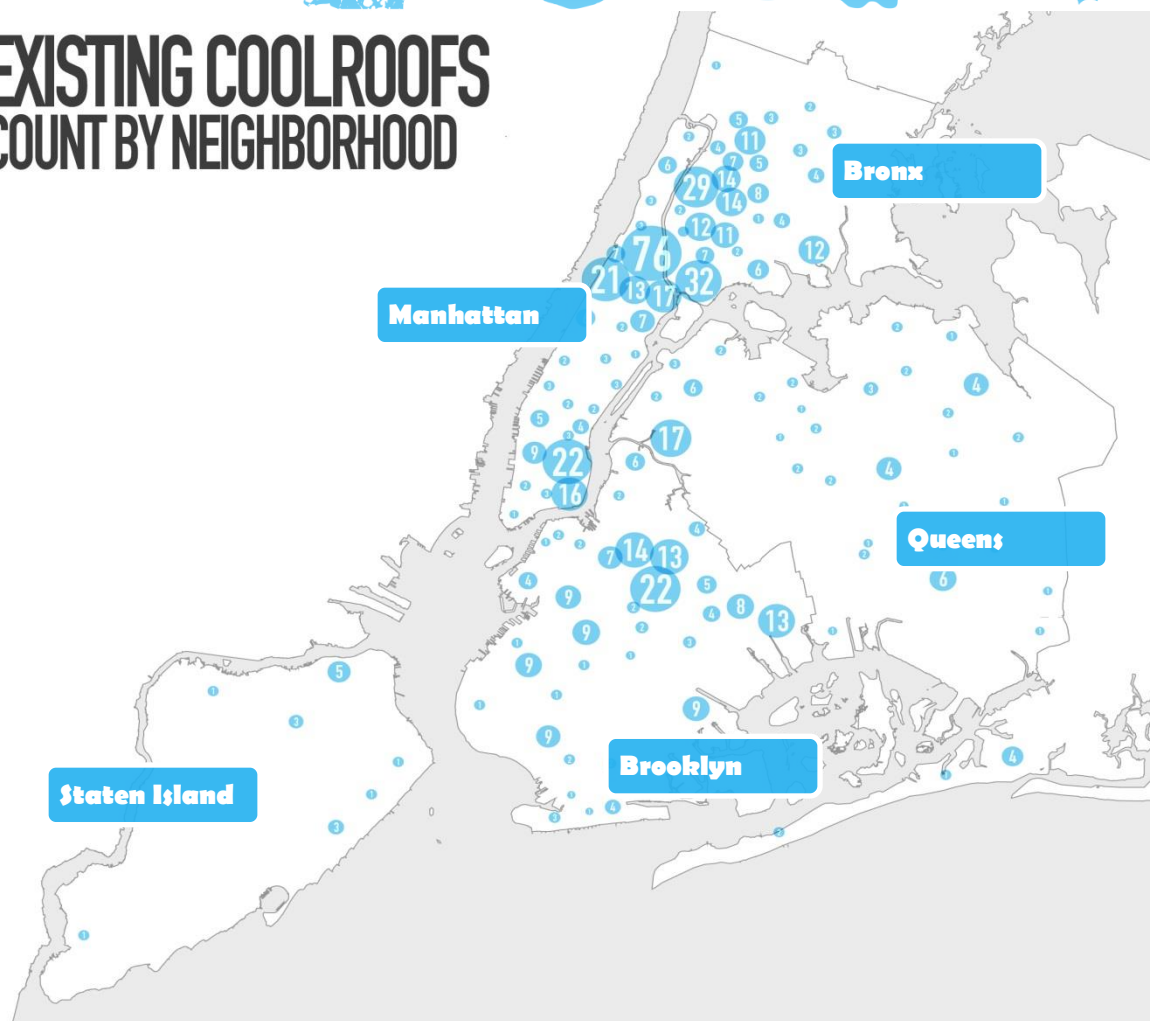


This can reduce energy consumption and GHG emissions from NYC's building sector

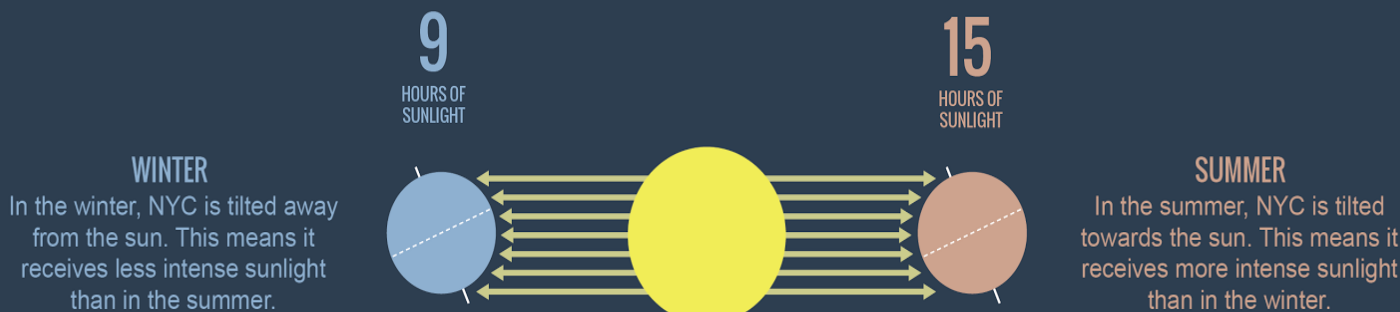


Contribute to goal of reducing NYC GHG emissions 80% by 2050

EXISTING COOLROOFS COUNT BY NEIGHBORHOOD



MINIMIZING THE WINTER HEAT PENALTY



WHAT DOES THIS MEAN FOR A COOL ROOF?

On a roof, this difference in angle results in the same amount of energy being distributed over a larger area in the winter. Because a white Cool Roof coating works by reflecting sunlight, the cooling effect is minimized during the winter.

SUSTAINABILITY



2009

100,000 sq. ft.

2010

1,073,369 sq. ft.

2011

1,298,818 sq. ft.

2012

1,195,090 sq. ft.

2013

2,077,537 sq. ft.

2014

250,417 sq. ft.

2015

100,276 sq. ft.

2016

634,792 sq. ft.

**6,730,299
sq. ft.
coated**

**Estimated
2,680 metric
tons CO₂e
emissions
reduced**

STRATEGIC RESILIENCY PLAN 2017 – 2018

Prioritize cool roof installations in heat vulnerable neighborhoods

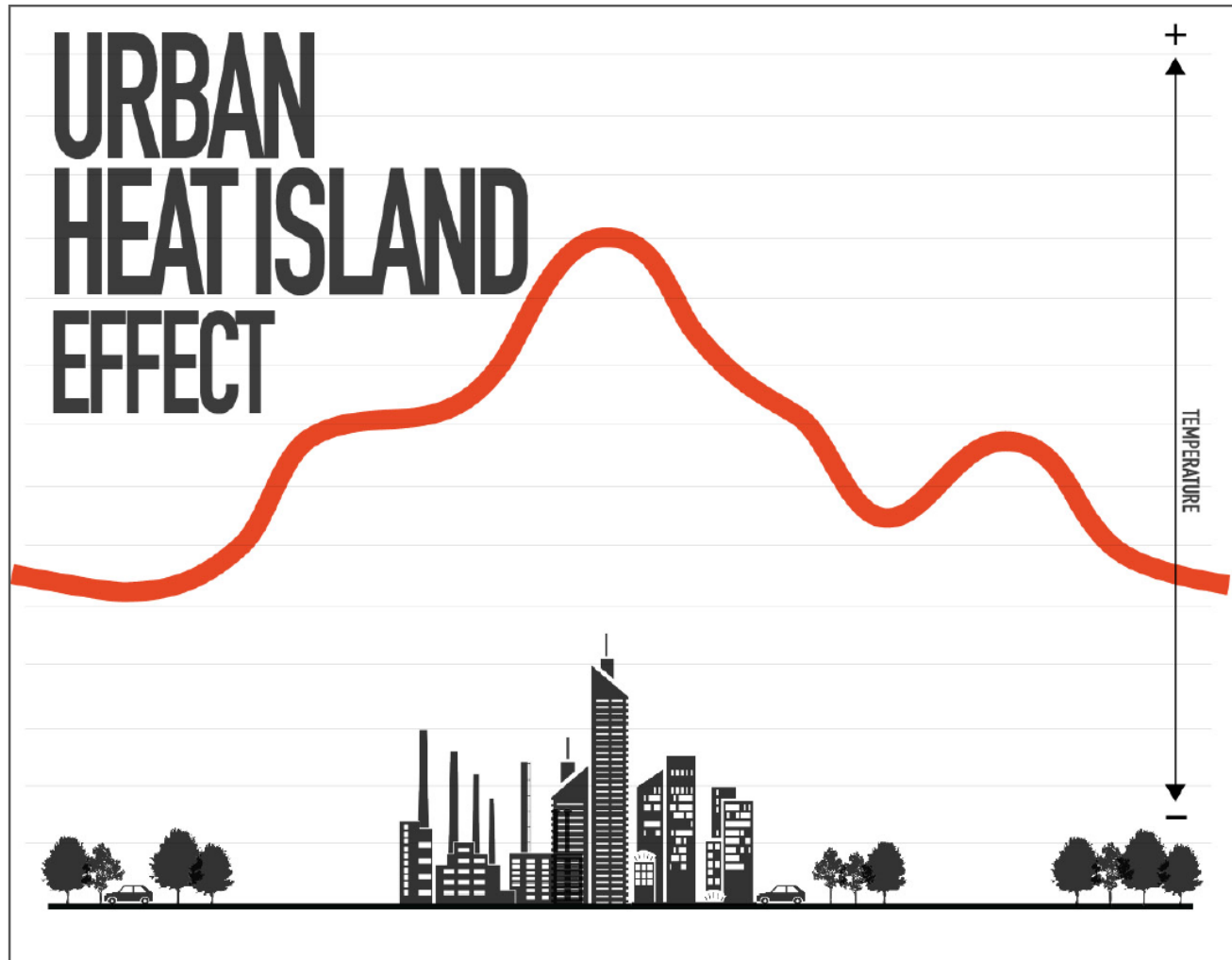
Reduce internal building temperatures by up to 30%

Help New Yorkers become resilient during periods of extreme heat

Decrease summertime peak energy demand and reduce likelihood of city- or neighborhood wide power outages

Help NYC jobseekers become financially resilient

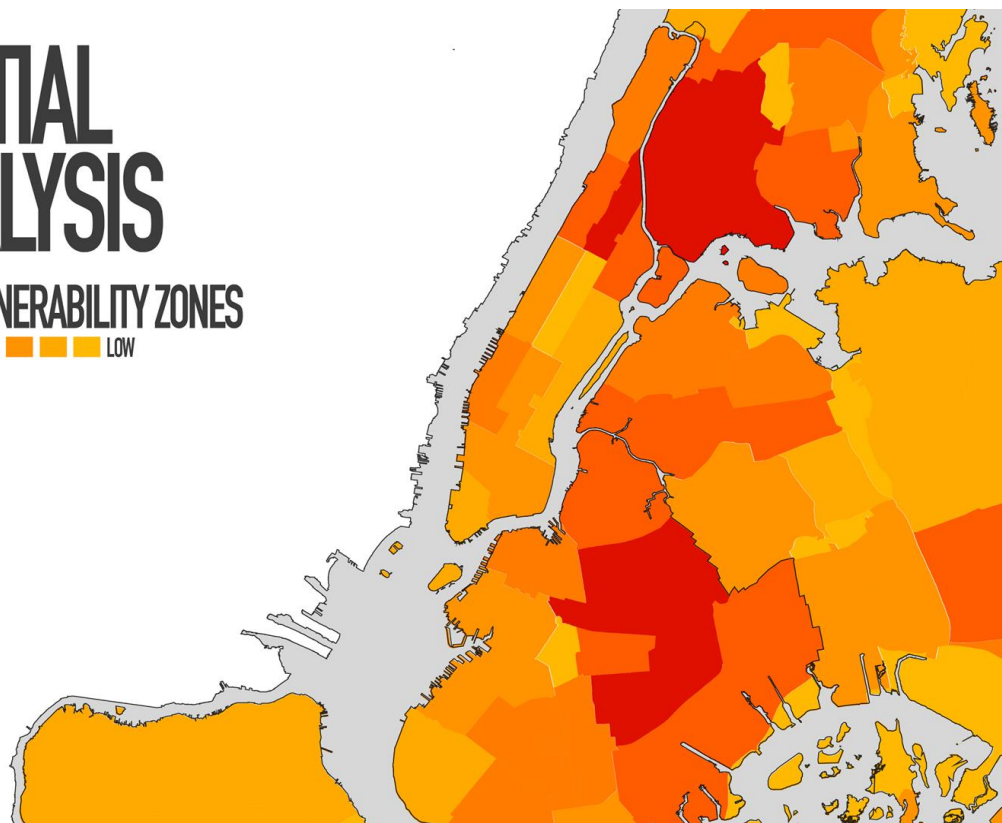




SPATIAL ANALYSIS

HEAT VULNERABILITY ZONES

HIGH  LOW



Heat Vulnerability Factors

Age

Socio-economic status

Local surface temperature

Tree cover

Household health

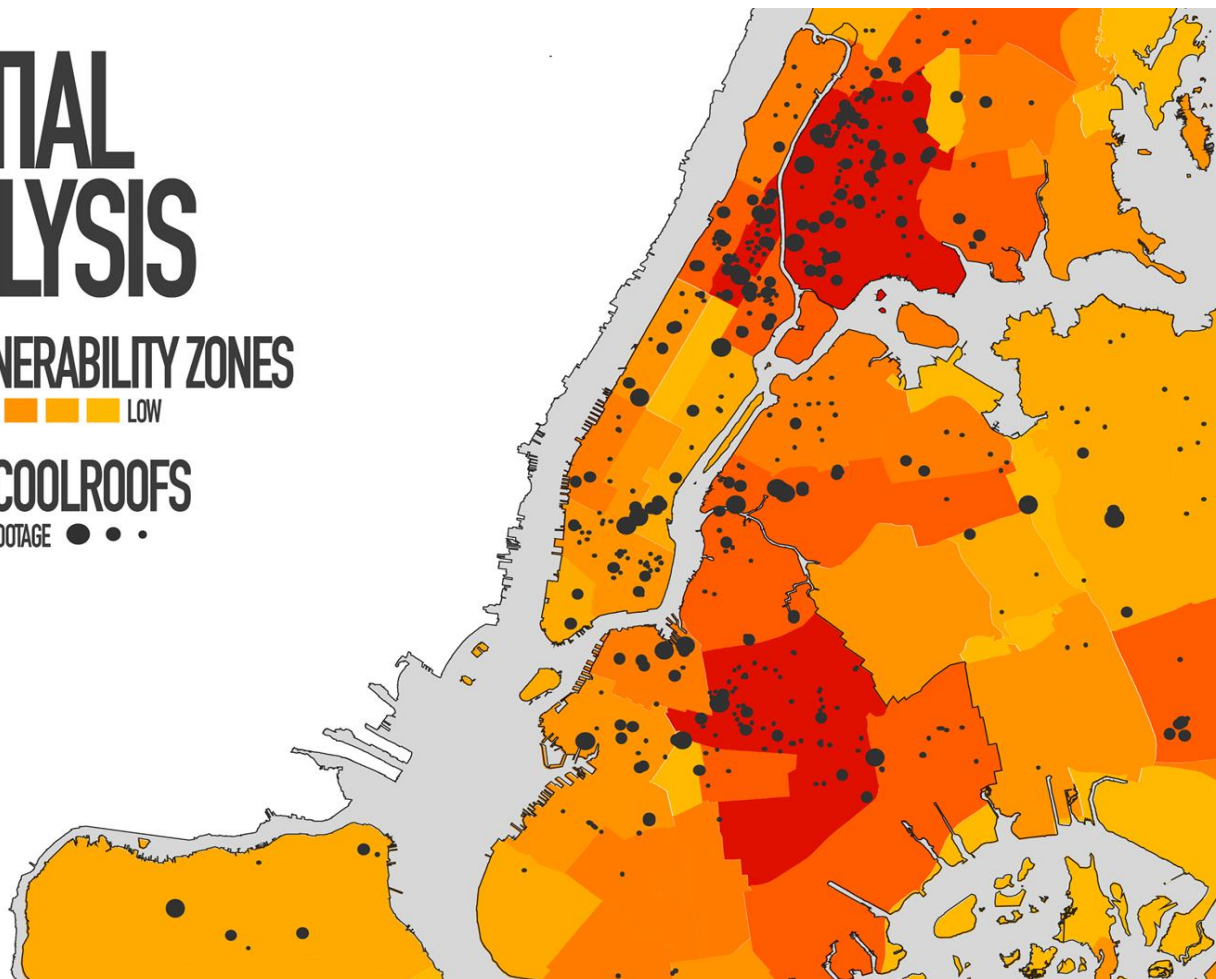
SPATIAL ANALYSIS

HEAT VULNERABILITY ZONES

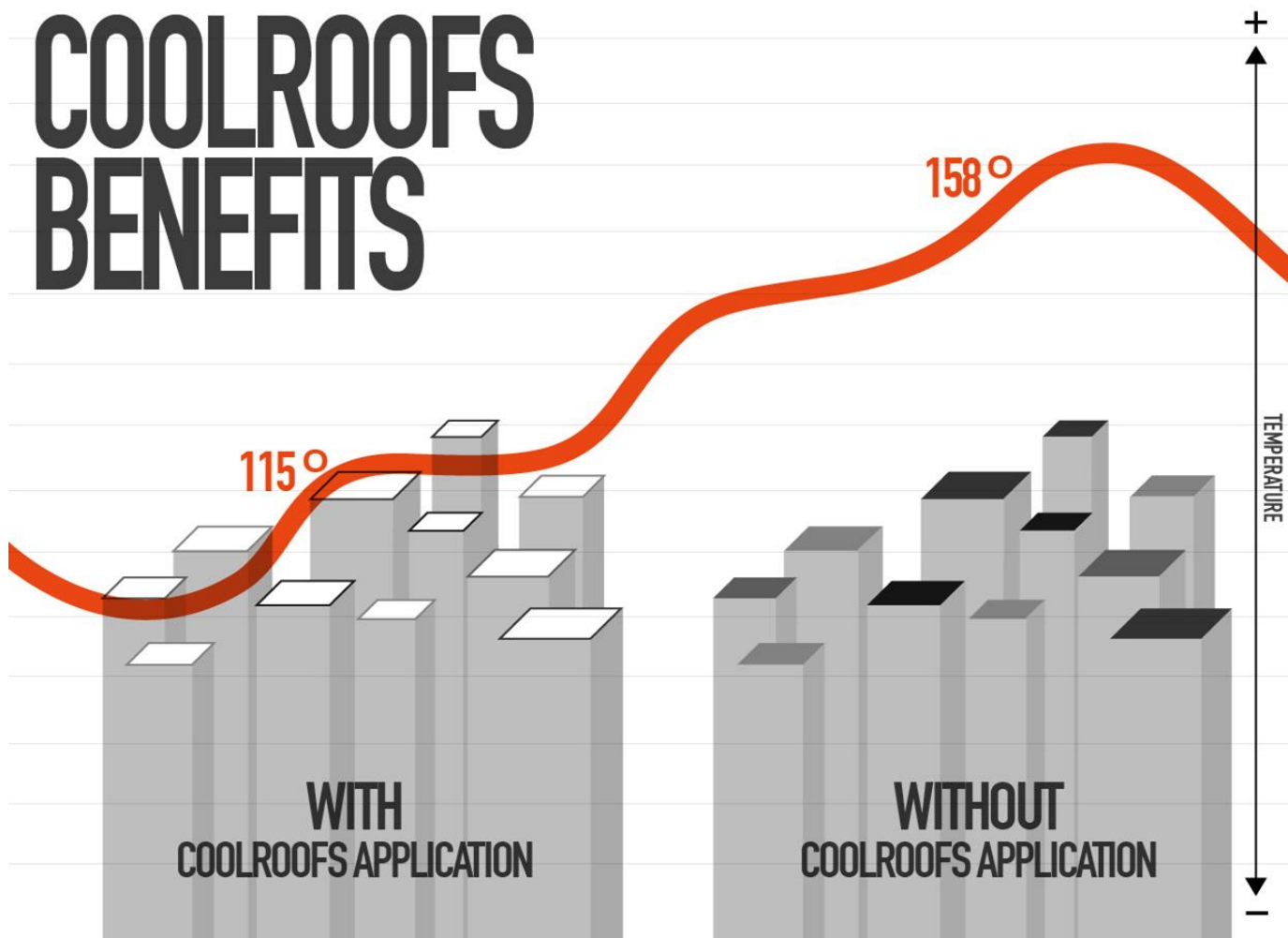
HIGH  LOW

EXISTING COOLROOFS

RANKED BY SQUARE FOOTAGE 



COOLROOFS BENEFITS



BENEFITS

1

BUILDING BENEFIT
REDUCE ENERGY NEEDS & SAVE MONEY

2

NEIGHBORHOOD BENEFIT
LOWER AMBIENT AIR TEMPERATURES

3

ENVIRONMENTAL BENEFIT
CONTRIBUTE TO GHG REDUCTION GOALS

4

SOCIAL BENEFIT
PROVIDE WAGES AND JOB TRAINING

THE COOLROOFS PROGRAM

NATIONAL & GLOBAL IMPACTS



**Support of cool roofs
projects in the United States**

**Cool Roofs Initiative Launch
in Hyderabad, India**

MARKETING & OUTREACH STRATEGIES



IMPLEMENT MARKETING CAMPAIGN

Represent program at trade shows and conferences

Utilize website and social media channels to promote program

Distribute flyers and postcards to spread the word



DEVELOP & LEVERAGE PARTNERSHIPS

Highlight no and low-cost installation options available to building owners

Provide guidelines for building owners installing cool roofs on their own

Cross promote other opportunities offered by New York City

Save up to

30%

on cooling costs
for your building by
installing a cool roof



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NYC °COOL ROOFS

No-cost and low-cost reflective
rooftop installations for NYC buildings

Building Benefits

- ▶ Lower air conditioning costs by **10% to 30%**
- ▶ Up to **30%** reduction in internal building temperatures during the summer
- ▶ Increased longevity of roof and building cooling equipment

ROOFTOP ELIGIBILITY REQUIREMENTS

- Flat and in good condition with minimal cracking
- Easily accessible (no hatch, window, or ladder access)
- Free of dangerous machinery or equipment that could impede work or put workers at risk
- Surrounded with appropriate 3'8" parapet
- Covered with one of the following roof types: granulated cap sheet, asphalt, bitumen, or modified bitumen

TRAINED NEW YORKERS ARE AVAILABLE TO APPLY COOL ROOFS AT NO-COST* TO:

Non-profits | Affordable housing | Select cooperatively-owned housing
| Select organizations providing public, cultural, and/or community services

*Technical assistance and low-cost installation options are available for other privately owned buildings

#ONENYC

This initiative supports NYC's goal to reduce greenhouse gas emissions 80% by 2050, as outlined in Mayor de Blasio's *One New York: The Plan for a Strong and Just City*.

Call 311 or visit

nyc.gov/coolroofs

to learn more or tell us about your existing cool roof

What can you achieve by painting your roof white?

SAVE MONEY

Cool roofs can reduce air conditioning costs by 10% to 30% on hot summer days when air conditioning accounts for up to 40% of daily electricity use. Cool roofs can reduce internal building temperatures as much as 30%.

REDUCE ENERGY

By decreasing summertime peak energy demand, cool roofs reduces utility grid stress and thus the likelihood of power outages. Cool roofs also reduces carbon emissions in New York City at a rate of 0.5 lbs. per square foot of rooftop coated.

IMPROVE ROOF DURABILITY

Because cool roofs don't reach such high temperatures, the thermal shock stress associated with large temperature changes is reduced, thereby prolonging the life of cooling equipment and limiting a roof's expansion and contraction that results from those temperature changes.

IMPROVE NEIGHBORHOODS - COMBAT THE URBAN HEAT ISLAND EFFECT

Because cities like New York Have greater amounts of dark surfaces, city temperatures are five to seven degrees warmer than surrounding areas on an average summer day. Coating all eligible dark rooftops in New York City could result in up to a 1 degree reduction of ambient air temperature.

NYC COOLROOFS

NOTE FOR QUALIFYING BUILDINGS:
Building roofs must be flat, non-ballasted and free of any major obstructions such as AC or HVAC units and must have a parapet of at least 3 ft.

www.nyc.gov/coolroofs

What can you achieve by painting your roof white?

SAVE MONEY

REDUCE ENERGY

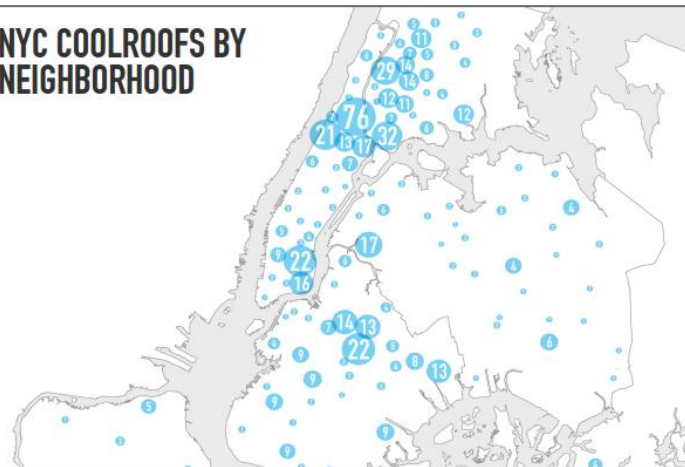
IMPROVE ROOF DURABILITY

COMBAT URBAN HEAT ISLAND

NYC COOLROOFS

www.nyc.gov/coolroofs

NYC COOLROOFS BY NEIGHBORHOOD



OUTREACH WITH COATING VENDORS

Solicitation Requirements

Coating Demos

Coating Discounts



COOL IT YOURSELF KIT

°COOL IT YOURSELF

Saving energy and reducing costs are a key part of the NYC °CoolRoofs initiative. Dark-colored roofs absorb heat and increase cooling costs while °cool roofs° reflect heat and keep buildings cooler and more comfortable. Cool Roof coatings also:

- Increase the efficiency of roof-mounted air conditioning equipment
- Protect roofs against thermal expansion and UV radiation, making them more durable and longer-lasting, and
- Decrease the risk of brownouts and blackouts during the warmer months by reducing peak energy use



STEP 1: Identify your Roof's Eligibility

The cool roof coating can be applied to a flat roof covered with smooth asphalt, EDPM Rubber, or smooth aluminum.

STEP 2: Check your Roof's Warranty

Before you coat, check current roof warranty to make sure that coating the roof will not void the warranty.

STEP 3: Follow the Forecast

You will need three days (72 hours) of rain-free weather to properly coat your roof. The temperature should be over 50°F for the coating to dry properly.

STEP 4: Plan for Safety

Safety is of utmost importance. Familiarize yourself with the building's roof. Be aware of any tripping hazards and always stay alert.



STEP 5: Inspect and Repair your Roof

Your roof must be free of any blisters, cracks, or peeling paint before you can begin to coat. It is also a good idea to check for loose screws, poor drainage, and any other issues that may need to be addressed before beginning the coating process.

STEP 6: Measure your Roof

The amount of coating needed is determined by the square footage of your roof. Use this number to calculate the amount of coating you need based on the manufacturer's directions.



STEP 7: Clean your Roof

Before you can begin coating your roof, you should clean and wash the surface using brooms and pressure washers. When washing the roof, pay attention to drainage and make sure there is no puddling.

STEP 8: Grid your Roof

Grid your rooftop into square sections to ensure the coating is applied evenly. Most coating products suggest gridding your roof into 100 square foot sections. Read the manufacturer's directions to determine how much area one container of coating material will cover.



STEP 9: Coat your Roof

Start coating the furthest away from the roof entrance and work backward. Be sure not to paint yourself into a corner. The first coat must dry overnight before applying a second.

STEP 10: Clean your Roof Annually

To sustain your roofs coating, clean it once a year. This is also a good time to look for leaks, puddling, or other issues that could damage your roof if left unaddressed.

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www.nyc.gov/coolroofs

CROSS PROMOTE OTHER NYC INITIATIVES

NYC BUILDING OPERATOR TRAINING

No-Cost Energy Efficiency Training for
Multifamily Operations & Maintenance



NYC°CoolRoofs



QUESTIONS?

www.nyc.gov/coolroofs

coolroofs@nyc.gov