

NYC Context

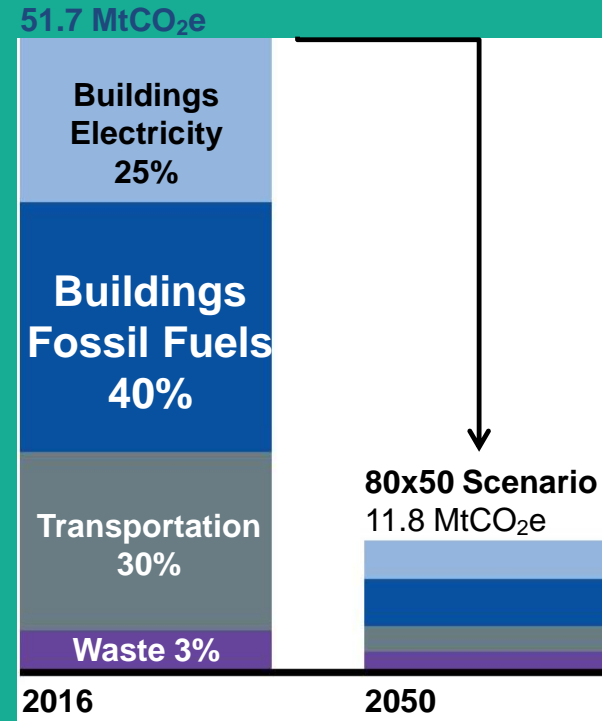
NYC's Roadmap to 80x50

- 70%** Of citywide emissions come from the energy used in buildings
- 40%** Of citywide emissions come from on-site fossil fuel use in buildings
- 80x50** Reduce citywide GHG emissions by 80% from 2005 levels by 2050
- 40x30** Reduce GHG emissions by 40% from 2005 levels by 2030
- 100%** Of buildings will need to complete a deep energy retrofit
- 50-60%** Of buildings must convert to high efficiency electric heat pumps
- 90%+** Of buildings must electrify hot water systems

NYC's Roadmap to 80x50



New York City's Sources of GHG Emissions



By 2050...

- All one million buildings must complete deep energy retrofits that reduce energy use by 40-60%
- 600,000+ buildings in NYC must install air source heat pumps
- 900,000+ must install heat pump water heaters

Programs Interviewed

- HeatSmart CoolSmart Somerville; Somerville MA
- HEAT Squad NeighborWorks of Western Vermont; VT
- Efficiency Works Neighborhood Pilot Program; Fort Collins, CO
- Efficiency Maine, ME
- HeatSmart Tompkins; Tompkins County, NY
- EcoWorks Detroit; Detroit, MI
- EmPOWER Maryland, MD DHCD; MD
- HVAC SAVE Program; IA
- Solar One Here Comes Solar Program; New York City, NY
- Bronx Healthy Buildings Program; New York City, NY



Marketing & Outreach

- Effective messaging varies tremendously across regions
- Generally cost + health are most effective, followed closely by comfort and then (sometimes) by environmental impact
- Neighbor-to-neighbor, word of mouth was always the most effective outreach method
 - Community meetings
 - Home tours
- City's seal added credibility
- Outreach can take longer than other efficiency technologies because of the awareness barrier

Contractor Engagement

- Proper technical training is crucial
 - Can be the biggest incentive to attract contractors to the program
- Helpful to leverage contractors already in a good relationship with utilities + cities
- Friendly competitions are highly effective at boosting performance and sales
- Biggest barrier is standardizing pricing
- Monitoring system for contractor performance helps both customer and contractor
- Contractors serve as the key salesperson for early retirement of heating systems

NYC Customer Market Research:

Promising ASHP Adopters

- Younger homeowners who have owned their home for about 3 years
- Planning renovations in the next two years with over \$6k in costs
- Other characteristics
 - Have energy star appliances
 - Believe climate change impacts future generations
 - Constantly seek out new experiences
 - Believe ASHP to be less expensive to operate

Unlikely ASHP Adopters

- Not interested in home renovations in near term
- Do not seek out new experiences

Thank You

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