



Expanding Your Efficiency Portfolio to Include Mid and High Rise Multifamily Buildings

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ENERGY STAR Residential Program



- Has guidelines that apply to:

- Single Family Homes (detached and attached)

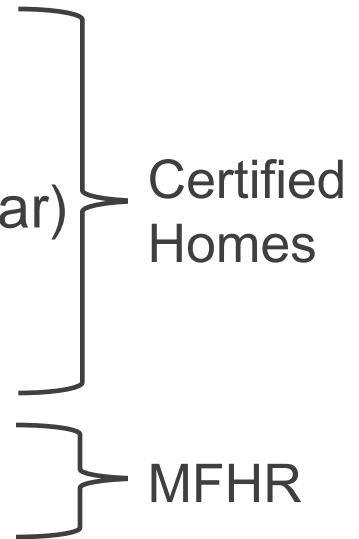
- Factory Built Homes (manufactured and modular)

- Low Rise Residential Buildings

- Mid and High Rise Residential Buildings*

- Covers buildings previously ineligible for ENERGY STAR certification

- Launched mid-2011



*Criteria defining Mid and High Rise available at www.energystar.gov/mfhr

Certified Homes Program

- ENERGY STAR Reference Design
 - Approximately 15% savings above 2009 IECC
- Prescriptive Path
- Performance Path
 - RESNET
 - HERS Index Target

MF High Rise Program

- 15% cost savings above ASHRAE 90.1-2007
- Prescriptive Path
- Performance Path
 - ASHRAE 90.1 Appendix G
 - ENERGY STAR Simulation Guidelines

Certified Homes Program

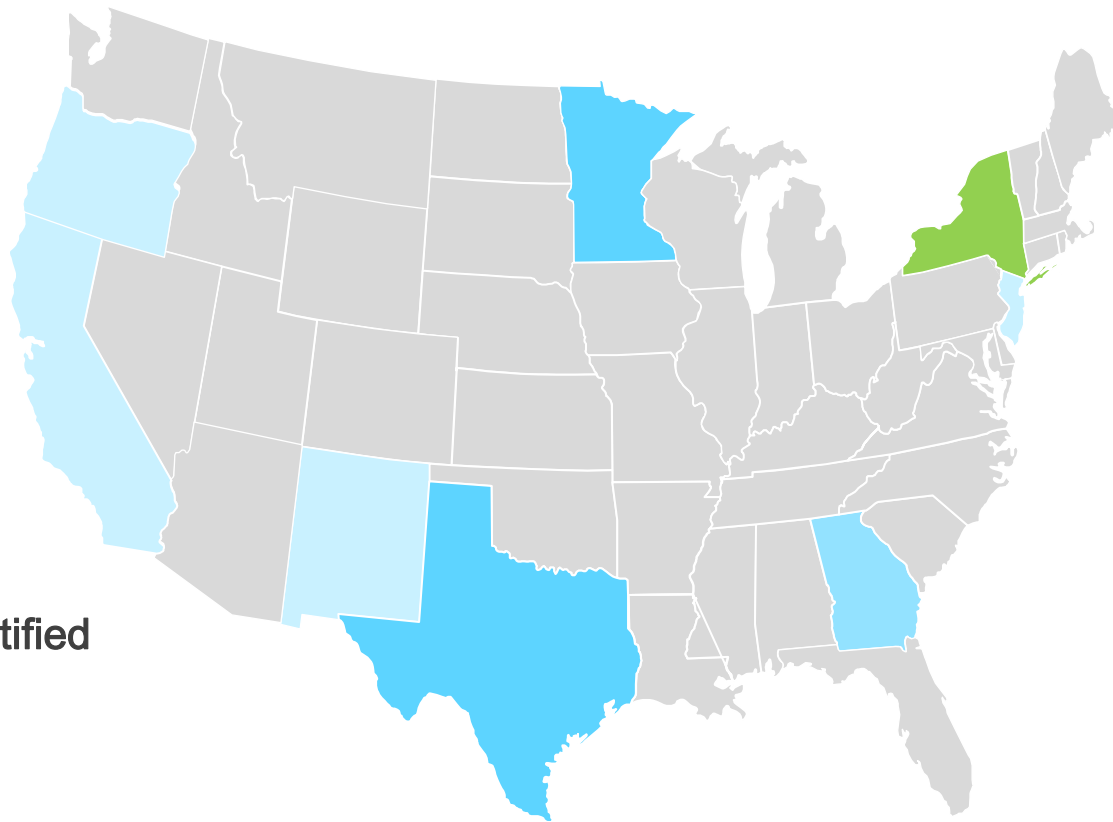
- ENERGY STAR Version 3 Inspection Checklists
 - Thermal Enclosure System
 - HVAC System (Contractor and Rater)
 - Water Management System
- Verification performed by certified HERS Rater

MF High Rise Program

- ENERGY STAR Testing & Verification Worksheets
 - Thermal Enclosure System
 - HVAC & DHW System
 - Lighting, Motors, Pumps, Etc
- Verification performed by an energy consultant(s) and validated by a licensed professional

Multifamily High Rise Activity

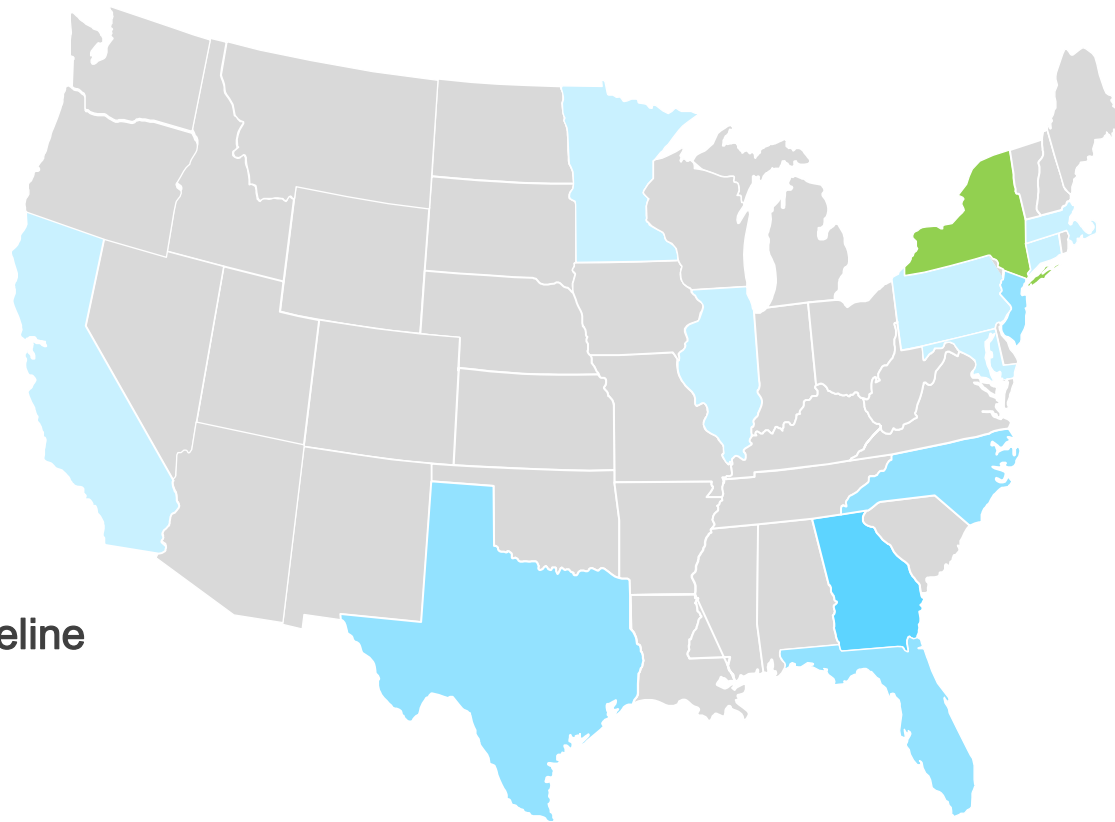
Total \approx 3,800 (Since 2006)



MFHR Units Certified

- None Reported
- 1 – 250
- 251 – 500
- 501- 750
- 751 to 1,000
- 1,000 – 1,250
- Over 1,251

Multifamily High Rise Pipeline (Total \approx 18,000)



MFHR Units Pipeline

- None Reported
- 1 - 250
- 251- 500
- 501- 750
- 751 - 1,000
- 1,000 - 1,250
- \geq 15,000



MULTIFAMILY PERFORMANCE PROGRAM

Introduction to NYSERDA



New York State Energy R&D Authority

- Established in 1975
 - administering energy efficiency since the 90s
- Commercial, Industrial, and Residential
- Statewide Funding
 - primarily funded by ratepayers
- Diverse Offering of Multifamily Programs
 - comprehensive efficiency, financing, sub-metering, and others

NYSERDA Funding



- Regulated by the NYS Public Service Commission
- Energy Efficiency Portfolio Standard (EEPS)
- MPP current budget of ~\$100M for incentives (2012-2015) from EEPS
- MPP to serve ~200,000 units (2012-2015)
- Additional funding streams
 - RGGI
 - OAG

ENERGY STAR Pilot



- NYSERDA has 115 projects (~8,300 units) in pilot pipeline
 - 57 in design/under construction
 - 14 construction complete without fuel releases
 - 44 completed
- 30 of the 44 were certified as ENERGY STAR (~1920 units)
- 98 projects (~7,800 units) pursuing ENERGY STAR MFHR (non-pilot)

ENERGY STAR Pilot



- NYSERDA was active in the EPA Working Group
- NYSERDA further developed documents and requirements
 - Simulation Guidelines
 - Prerequisites

Multifamily Performance Program



Multifamily Performance Program

Benchmarking Component

Existing Buildings Component

New Construction Component

Multifamily Performance Program



New Construction Component

Provides financial support and technical assistance to developers of new construction and gut rehab buildings with 5 or more units to reduce their whole building source energy usage by at least 15%.

Modified Prescriptive Path

Prescriptive Path with ENERGY STAR

Performance Path with ENERGY STAR

Additional Requirements



- NYSERDA has additional requirements above and beyond ENERGY STAR MFHR
 - Funding-related (e.g., TRC tests)
 - Energy-related (e.g., ENERGY STAR heating & cooling equipment)
 - Code-related (e.g., in-unit lighting)

Partner Network



- All Projects Require an Approved Program Partner
- Currently 82 Approved Partners
- Partners contract directly with clients to provide services under MPP-NC
- Partners promote program to grow their business
- Program drives demand to the Partners
- Partner communications
 - Monthly webinars
 - Email blasts
 - Regular training opportunities
 - One-on-one technical assistance
 - Annual conference

Quality Control



- Program performs QC of every project
 - Design/Energy Model
 - Verify prerequisites are met
 - Verify projects are in line with historical pipeline
 - Verify general quality of model
 - Verify ASHRAE and Simulation Guidelines were followed
 - Verify realistic savings and costs
 - Construction
 - Verify prerequisites are met
 - Verify installed scope of work matches design

Current Maximum Incentives



Affordable Performance (per unit)	Affordable Prescriptive (per unit)	Market Rate Performance (per unit)	Market Rate Prescriptive (per unit)
\$1,200	\$900	\$900	\$675

- Incentives differ between affordable and market-rate
- Incentives differ between performance (model) and prescriptive (no model)
- Incentives are capped at the total incremental cost of the cost-effective measures

Incentive Payment Schedule



Stage 1 - Upon approval of the project's model and projected savings

Project Size	Affordable Performance (per unit)	Affordable Prescriptive (per unit)	Market Performance (per unit)	Market Prescriptive (per unit)
5-49 units	\$300	N/A	\$225	N/A
50 units & up	\$200	N/A	\$150	N/A

Stage 2 - Upon approval of the open-wall inspection

Project Size	Affordable Performance (per unit)	Affordable Prescriptive (per unit)	Market Performance (per unit)	Market Prescriptive (per unit)
5-49 units	\$300	\$450	\$225	\$300
50 units & up	\$400	\$450	\$300	\$300

Stage 3 - Upon approval of 100% inspection & receipt of fuel bill releases

Project Size	Affordable Performance (per unit)	Affordable Prescriptive (per unit)	Market Performance (per unit)	Market Prescriptive (per unit)
5-49 units	\$600	\$450	\$450	\$375
50 units & up	\$600	\$450	\$450	\$375

LESSONS LEARNED

Partnership Opportunities



- Identify other MF organizations/programs
 - Dovetail with their programs
 - Convince them to include ENERGY STAR requirements
- Align with other energy-efficiency programs
 - LEED for Homes Mid-rise
 - Enterprise Green Communities

Affordable Housing Partnerships



- Low income housing tax credits
 - *Major* driver for MPP-NC participation
- Program gives state and local LIHTC-allocating agencies \$8 billion in annual budget authority to issue tax credits for new construction of low-income rental housing
- Sell: Develop truly affordable housing

Market-rate Projects



- Have proven elusive in NYS: less than 10% of MPP-NC projects
- Reasons?
 - Served elsewhere by NYSERDA
 - 80/20 buildings

Market-rate Projects



- What do we know?
 - Buildings are not fundamentally different
 - More concerned about potential delays
 - More likely to be risk-averse
 - Motivated more by the label than the incentives
 - Motivated by reduced turnover

Incentives



- NYSERDA has revised their incentive structure over the years
 - Tiered incentives based on performance target
 - Design incentives (1 or 2)
 - Connect to major milestones (e.g., open-wall inspection)

Incentives



- Design assistance is attractive
- Milestones not connected to a payment are cumbersome
- Do not base incentives on project-specific costs
 - Requires excessive time chasing paperwork
 - Results in very high admin costs

Incentives



- Funding concerns:
 - Long timelines – MPP-NC averages 4 yrs from application to completion
 - Delays in design and construction are common
- Incentives are small % of construction cost

Incentives in Perspective



Brooklyn, NY

of Units: 150
Total Construction Cost: \$26,400,000
Total Incentives: \$338,450 (1.3%)
Total Upgrade Cost: \$520,902 (2.0%)
% Upgrades covered by incentives: 65%



NYC, NY

of Units: 89
Total Construction Cost: \$42,300,000
Total Incentives: \$256,510 (0.6%)
Total Upgrade Cost: \$515,437 (1.2%)
% Upgrades covered by incentives: 50%



Brooklyn, NY

of Units: 197
Total Construction Cost: \$66,925,845
Total Incentives: \$104,593 (0.2%)
Total Upgrade Cost: \$240,991 (0.4%)
% Upgrades covered by incentives: 44%



Quality Control



- Important (and difficult) to find balance
 - Want good buildings
 - Want accurate savings to report
 - Need reasonable turnaround
 - Need reasonable admin costs
 - Easy to get caught in the minutia
- Beware of tiered incentives based on performance
 - Results in increased QC

Miscellaneous



- Partner network
 - Seek a variety of company types
 - Ease of training and distribution of information
- Non-ENERGY STAR path
 - Provides entry-level access
- Fuel-neutral programs
- Actual savings!!!
 - 24% lower SEUI in small study

Discussion



ENERGY STAR for Multifamily High Rise

Main: www.energystar.gov/mfhr

Questions: mfhr@energystar.gov

Benchmarking/Management: <http://www.energystar.gov/multifamilyhousing>

NYSERDA's Multifamily Performance Program

Main: <http://www.nyserra.ny.gov/Multifamily-Performance-Program/Multifamily-Performance-Program.aspx>

Questions: 1-866-NYSERDA

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