

Evolving New Construction Incentives

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- New construction program overview
- Program baseline
 - User Defined Reference Home (UDRH)
- Residential low rise path
 - Current design and incentives
 - Blended Savings Approach (BSA)



Goal: To encourage the transformation of the residential new construction market

- Encompasses single family and multi-family new construction, residential and commercial meters, and delivered fuels
- One statewide lead vendor
- Participants include HERS Raters, builders, developers, and homeowners
- Complements new construction code, including stretch code policies

Current Program “Paths”



Low-Rise
≤ 3 stories
except Master-Metered

- Low-Rise SF = 1 unit
- Low-Rise MF = 2+ units
- Leverages HERS Raters

High-Rise
≥ 4 stories and
Master-Metered

- Launched March 2013 after 3 year pilot
- Utilizes Account Managers

Market Penetration & HERS Rating Company Growth



Year	HERS Rating Companies	Program Homes (all program units)	Housing Permits (all new housing units in MA)	Market Share
2006	1	3,318	19,580	17%
2007	2	1,616	15,358	11%
2008	9	1,369	9,883	14%
2009	16	2,194	7,941	28%
2010	20	2,622	9,075	29%
2011	40	2,576	7,725	33%
2012	45	3,259	11,111	29%
2013	46	3,719	14,569	26%
2014	54	4,942	14,237	35%
2015	59	3,693	17,424	21%
2016	62	6,712	15,407	44%

Table 3.1 HERS Rating Companies and Market Penetration for the Residential New Construction Program. NMR Group, Massachusetts Electric and Gas Program Administrators, *Stretch Code Market Effects Study*, March 28, 2017, Page 23.

Program Baseline: the UDRH



- Projects are compared to a User Defined Reference Home (UDRH) to screen for eligibility, savings and incentives
- Incentive are determined by the increment between UDRH and proposed equipment, insulation levels, and tested shell performance
- New UDRH finalized in December 2016

Significant Low Rise UDRH Changes:

	Old	New
Duct leakage to outside (per 100 sq. ft. @25Pa)	11.9CFM	3.8.CRF
Infiltration	4.49 ACH50	3.57 ACH50
Window U-value	0.34	0.30
Ceiling Insulation U-value	0.041	0.030
Heating efficiencies	AFUE 93.8 or equivalent, all heating systems	

Final UDRH Inputs found at: <http://ma-eeac.org/wordpress/wp-content/uploads/Single-Family-Code-Compliance-Baseline-Study-Volume-5-2.pdf>

2016 UDRH Impacts on Low Rise Savings



PAs can only claim approximately 57.4% of 2016 savings calculated with the previous UDRH

	Claimable savings difference between old & new UDRH
All units	57.4%
Single Family	52.6%
Multi-Family	64.4%

Sample size: 1,459 units completed in 2016 (approx. 20%)

UDRH changed retroactive to January 1, 2016

How do we continue to transform the residential new construction market?

- How can we continue to align with new building and stretch codes?
- How can we simplify the program design?
- How do we ensure we are capturing all available savings opportunities?
- How can we better align the Low Rise and High Rise paths?

Current Tiered Approach for Low Rise Path



3 tiers of
builder
incentives



No-cost
LEDs



Heating and
cooling
equipment
rebates

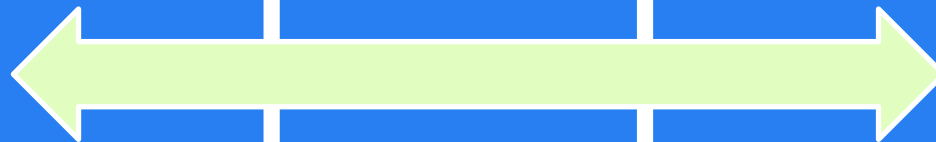


'Adder' for
ENERGY
STAR Home
certification



HERS Raters:

- Rating fee per SF or MF unit
- Bulb verification fees
- Technical support



Current Tiered Incentives for Low Rise Path



Low-Rise Performance Packages	Single-Family		Multifamily					
	1 unit		2-99 units		100-199 units		200+ units	
	Builder	Rater	Builder	Rater	Builder	Rater	Builder	Rater
Tier I ≤ 15%	\$750	\$500	\$650	\$250	\$500	\$150	\$350	\$50
Tier II ≤ 30%	\$1,250	\$1,000	\$1,150	\$550	\$850	\$450	\$550	\$350
Tier III ≤ 45%*	\$4,500	\$1,200	\$2,000	\$900	\$1,200	\$750	\$900	\$600

New Blended Savings Approach (BSA) for Low Rise Path



Streamlines program
for participants and
raters

Better aligns all
savings achieved to the
incentives awarded

Rater incentives
aligned with new code
requirement for third
party verifiers

Blended performance
approach:

- Payment for kWh and MMBtu savings
- Payment for “% savings” above a baseline

Low Rise Incentive Comparison Chart



Tiered Design	BSA Design
3 tiers of incentives for builders	Sliding scale incentives for builders
15% savings threshold	5% savings threshold
Heating & cooling rebated separately	Heating & cooling folded into BSA: one program payment
No Cost LEDs	No Cost LEDs
Rater incentives, bulb verification fees, and technical assistance	Rater incentives (but scaled down), bulb verification fees, and technical assistance
Maximum incentive \$4,500/unit	Maximum incentive \$10,000/unit
“Adder” for Energy Star	“Adder” for Energy Star
SF = 1 unit; MF = 2+ units	SF = 1-4 units; MF = 5+ units

BSA for Low Rise Path



Participant Incentive Equation:

$(A * \text{Electric Savings}) + (B * \text{Gas Savings}) + (C * \% \text{ Savings}) + D$ (Rater Incentive)

Variables		Single Family	Multi-Family
A	Electric Savings Incentive (kWh)	\$0.35	\$0.35
B	Gas Savings Incentive (MMBtu)	\$35.00	\$35.00
C	Percent Savings Incentive	\$3,000	\$2,000
D	Rater Incentive (per unit)	\$350	\$100

Example Single Family:

$$(\$ 0.35 * 300 \text{ kWh}) + (\$35.00 * 40 \text{ MMBtu}) + (\$3,000 * .075) + (\$350) = \$2,080$$

Looking Forward



- New UDRH will diminish savings opportunities and likely reduce participation
- Possible marketing challenges
 - Online BSA “Calculator” tool
- Timeline
 - New UDRH used by raters: July 1, 2017
 - BSA offered: July 1, 2017

Thank you

