

ATTACHMENT B: PRICING, COST ADDERS, AND EQUIPMENT FORM

We noted that part of the selection criteria is price competitiveness, for this reason we decided to offer two equipment options.

Attachment B. 2019 HeatSmart Mass: Pricing, Cost Adders, and Equipment Form - Air Source Heat Pumps					
Instructions: Air Source Heat Pump Installers should fill out Tab 3: ASHP Equipment and Pricing Proposal, and Tab 4: ASHP Cost Adders					
Section 1: Air Source Heat Pump Equipment & Installer Workmanship Warranty					
Warranty (Clarify standard installer Workmanship Warranty and the Equipment Warranty)	All parts & equipment are covered by a 12 year warranty from the manufacturer. New England Ductless covers our workmanship for 1 year from the date of installation.				
Section 2: Air Source Heat Pump Equipment Pricing					
Single-Head Ductless System					
Base System Equipment	<p>Please complete the tables below detailing your proposed discounted fixed-fee costs for standard installation of cold climate air source heat pumps. All products must be listed on NEEP's cold climate air-source heat pump specification (<a href="https://neep.org/initiatives/high-efficiency-products/emerging-technologies/ashp/cold-climate-air-source-heat-pump">https://neep.org/initiatives/high-efficiency-products/emerging-technologies/ashp/cold-climate-air-source-heat-pump</a>). The installed cost per unit should include all equipment and non-equipment costs associated with the typical installation scope of work (e.g. electrical work, permitting, etc.).</p> <p>For direct comparison of single-head system pricing between installers, please assume the following in pricing provided:</p> <ul style="list-style-type: none"> <li>-pan heater or equivalent included</li> <li>-up to 25 feet line set;</li> <li>-up to 20 feet Line Hide or similar (including one 90 degree ell, one wall inlet, one end fitting.);</li> <li>-electrical feed is no more than 40 feet from the outdoor unit to the electrical panel;</li> <li>-exterior units must be mounted on a stand above the level of snow drifts typically experienced at the location of the installation;</li> <li>-exterior unit installed adjacent to the same wall as the interior unit;</li> <li>-home construction to be wood frame with clapboard or shingle siding.</li> </ul> <p><i>Fees associated with additional material and labor for non-standard installations (adders) should be detailed in the ASHP Cost Adders tab. Any additional non-standard cost adders beyond those provided should also be included.</i></p>				
Manufacturer	Model Number	Installed cost per Unit	Deposit Required at Contracting (if applicable)	Heating Capacity at 5°F (btu/hr)	Cost per Ton of Heating Capacity at 5°F
LG Electronics	LG Red* LAU090-HYV1	\$4,424	50%	11,220	\$4,731.55
LG Electronics	LG Red* LAU120-HYV1	\$4,556	50%	13,720	\$3,984.84
LG Electronics	LG Red* LAU0150-HYV1	\$4,835	50%	18,940	\$3,063.36
LG Electronics	LG Red* LAU180-HYV1	\$5,241	50%	23,630	\$2,654.79
LG Electronics	LG Red* LAU240-HV1	\$5,362	50%	22,600	\$2,847.08
Mitsubishi Electric	MUZ-FH06NA	\$4,310	50%	8,700	\$5,944.95
Mitsubishi Electric	MUZ-FH09NA	\$4,456	50%	10,900	\$4,905.96
Mitsubishi Electric	MUZ-FH12NA	\$4,634	50%	13,600	\$4,088.60
Mitsubishi Electric	MUZ-FH15NA	\$4,816	50%	18,000	\$3,210.83
Mitsubishi Electric	MUZ-FH18NA2	\$5,246	50%	20,300	\$3,101.23

**Multi-Head Ductless System/Central Ducted System**

**Base System Equipment**

Please complete the tables below detailing your proposed discounted fixed-fee costs for installation of multi-head and/or central ducted cold climate air source heat pumps. All products must be listed on NEEEP's cold climate air-source heat pump specification (<https://neep.org/initiatives/high-efficiency-products/emerging-technologies/ashp/cold-climate-air-source-heat-pump>). These per-unit-installed compensation rates should include all equipment and non-equipment costs associated with the typical installation scope of work (e.g. labor, permitting, etc.).

For direct comparison of multi-head and centrally ducted system pricing between installers, please assume the following in pricing provided:

- pan heater or equivalent included;
- exterior units must be mounted on a stand above the level of snow drifts typically experienced at the location of the installation;
- exterior unit installed adjacent to the same wall as the interior unit;
- home construction to be wood frame with clapboard or shingle siding.

Given the wider range of sizes and applications for multi-head systems, please indicate for each model the number and type of indoor units that are assumed for the base or standard pricing, as well as the length of line set and line hide that is assumed for the base pricing.

*Fees associated with additional material and labor for non-standard installations (adders) should be detailed in the ASHP Cost Adders tab. Any additional non-standard cost adders beyond those provided should also be included.*

Manufacturer	Model Number	Base number and type of indoor heads (indicate if ducted units will be installed)	Base length of line set and line hide (feet) - Per Indoor Unit	Installed cost for Base System	Deposit Required at Contracting (if applicable)	Heating Capacity at 5°F (btu/hr)	Cost per Ton of Heating Capacity at 5°F
LG Electronics	LG Red* LMU180-HHV	(2) LG LSN090HSV5 Art Cool Wall Mounted	25' of line set and 20' line hide	7422.36	50%	22,000	\$4,049
LG Electronics	LG Red* LMU240-HHV	(3) LG LSN090HSV5 Art Cool Wall Mounted	25' of line set and 20' line hide	8328.19	50%	26,000	\$3,844
LG Electronics	LG Red* LMU300-HHV	(3) LG LSN090HSV5 Art Cool Wall Mounted	25' of line set and 20' line hide	9891.28	50%	28,600	\$4,150
LG Electronics	LG Red* LMU360-HHV	(4) LG LSN090HSV5 Art Cool Wall Mounted	25' of line set and 20' line hide	13,324.04	50%	41,000	\$3,900
LG Electronics	LG Red* LMU420-HHV	(5) LG LSN090HSV5 Art Cool Wall Mounted	25' of line set and 20' line hide	15,308.09	50%	45,000	\$4,082
Trane HVAC	TruComfort: 4TWV0036 + TAM9A0C36	Hyperion Series Central ducted heat pump	50' lineset and 20' of line hide	12,039.79	50%	19,860	\$7,275
Mitsubishi Electric	MXZ-2C20NAHZ2	(2) MSZ-GL09 wall mounted units	25' of line set and 20' line hide	7,606.20	50%	22,000	\$4,149
Mitsubishi Electric	MXZ-3C24NAHZ2	(3) MSZ-GL09 wall mounted units	25' of line set and 20' line hide	9,082.51	50%	25,000	\$4,360
Mitsubishi Electric	MXZ-3C30NAHZ2	(3) MSZ-GL09 wall mounted units	25' of line set and 20' line hide	10,430.00	50%	28,600	\$4,376
Mitsubishi Electric	MXZ-4C36NAHZ2	(4) MSZ-GL09 wall mounted units	25' of line set and 20' line hide	14,047.29	50%	45,000	\$3,746
Mitsubishi Electric	MXZ-5C42NAHZ2	(5) MSZ-GL09 wall mounted units	25' of line set and 20' line hide	16,236.28	50%	48,000	\$4,059
Mitsubishi Electric	MXZ-8C48NAHZ2	(5) MSZ-GL09 wall mounted units	25' of line set and 20' line hide	20,116.47	50%	54,000	\$4,470
Mitsubishi Electric	MXZ-8C60NA	(8) MSZ-GL09 wall mounted units	25' of line set and 20' line hide	21,662.56	50%	42,000	\$6,189

**Attachment B. 2019 HeatSmart Mass:  
Pricing, Cost Adders, and Equipment Form - Air Source Heat Pumps**

**Instructions:**

Please provide costs for the adders below and indicate whether you expect it to be a high use adder. Costs for adders can be given as a range. If you do not plan to offer an adder for a project factor, you may keep it blank. Applicants can list other adders under the "Other" section heading. If selected, an installer may alter the list of approved cost adders during the course of the HeatSmart Mass program upon review and pre-approval by MassCEC's technical consultant.

Adder	Adder Cost (can be a range)	Adder units (if applicable)	High use adder? Please indicate if over 50% of systems will require this adder (Y/N)	Notes on Cost Adder
<b>Electrical</b>				
Electrical subpanel upgrade	\$500-\$1000	per subpanel	N	Required if main panel cannot be used due to congestion or insufficient power
Outdoor GFCI outlet	\$200	per outlet	N	Most often we can suffice with an extension cord. Only mandatory if inspector would require it to be installed. Electrical code does call for receptacle within 25' of equipment but this is often not enforced in residential applications.
Electrical feed longer than 40' from the outdoor unit to the	\$300-\$1000	per instance	N	This is an uncommon occurrence in residential applications.
Other electrical work	\$100-\$500	N/A	N	projects.
<b>Indoor Upgrades</b>				
Integrated controls compliant with Mass Save requirements	\$1,500	per control package	NA	Program is still new, too soon to say if it will be high use, but we expect so. It should be noted that while this appears as an "adder" it will almost always result in a cost savings because the client will receive a much larger rebate when using Integrated Controls
Remote/smart thermostat	\$150-\$650	per thermostat	N	Most remote thermostats remove some functionality from the ASHP system so they are not recommended unless customer has strong preference.
More expensive indoor units (e.g. floor mounted)(per indoor unit)	\$250-\$5000	per indoor unit	N	Single zone has less opportunity to change units to different models so this is a less common occurrence.
Additional indoor units for multi-head systems (per indoor unit)	\$250-\$5000	per indoor unit	Y	It is often the case that clients will "mix" up the units with different styles of indoor units, more indoor units or different sizes. All changes would incur some cost, up to high cost for things like adding in a ducted air handler, for example.
Existing central ductwork requires upgrades or repairs	\$500-\$1000	per modification	Y	Specifically for ducted systems, it is not uncommon to require duct modifications as new systems are often larger than old systems. Each project would be priced up at the point of sale as needed.

Outdoor Upgrades				
Line set beyond base (per foot price)	\$40	per foot of additional line set	Y	Most systems seem to fall closer to 50' of piping, but sometimes we get a few short zones which can balance things out.
Line hide beyond base (per foot price)	Included above	per foot of additional line hide	Y	Almost anytime we run line set, we'll be using line hide. We have figured the pricing together.
Outdoor unit on different wall than indoor unit or otherwise difficult to connect (i.e., penetrations across basements, masonry wall,	\$500-\$1000	per instance	Y	It is common to use the basement (sometimes the attic) as a pathway to run lines from here to there. This will increase the cost above the base and will be communicated at the time we quote our project.
Outdoor units mounted on an exterior wall with brackets with vibration dampening features	(\$50)	per outdoor unit	N	This equipment runs around the same as using a pad/stand combination (which is recommended) but will often mean drilling lag bolts into brick/concrete or otherwise, which negates any real cost savings by not using a pad/stand. We strictly recommend the use of a pad/stand over a wall-bracket for noise transmission concerns.
Projects involving installations on three or more stories (per project)	\$500-\$3500	per instance	N	We do not expect this to be common. Working at elevation sometimes requires scaffolding/lift rentals or cherry-pickers, all which cost more if needed.
General				
Discount for projects that install multiple systems (per system)	5%	per instance	Y	Jobs must be installed at the same time and provide an opportunity for us to do "bulk work" in order to offer this sort of discount. An example would be a 2-family home doing 2 systems back to back in the same week.
Extended Warranty	\$500-\$2950	Per system	N	N/A
Annual maintenance & servicing: Single-head ductless heat pump	\$149	per system	Y	All systems need maintenance, it is a recommended service
Annual maintenance & servicing: Multi-head ductless heat pump	\$99	per additional	Y	All systems need maintenance, it is a recommended service
Annual maintenance & servicing: Central Ducted Heat Pump	\$249	per system	Y	All systems need maintenance, it is a recommended service
Additional permitting costs	Varies	per town	N	We have called all inspectors and the permit structure is covered in our cost. Only things like requiring additional receptacles or indoor switches would cost extra, priced as needed. Additional permit fees are not anticipated.
Other				
Centrally-ducted adder: Mitsubishi M-Series Air Handler	\$7,475.00	Per System	N	If a customer wants to replace a standard indoor unit (the MXZ-4C36NAHZ2 unit) with a 2-ton ducted air handler in order to upgrade the system to be ducted, the customer will incur a fee of \$7,747 on top of the MXZ-4C36NAHZ2 base price.
Exchange air handler for gas fired furnace. If you are selecting a Trane TruComfort XV20i heat pump but need a gas-fired furnace instead of an air handler, this is the extra cost	\$892.50	Per System	N	If a customer selects the Trane TruComfort centrally ducted heat pump system and wishes to connect it to a modulating gas furnace, then the customer would incur an additional fee.