



## Ground Source Heat Pump Pricing Summary



HeatSmart Carlisle-Concord-Lincoln (CCL) has worked with its selected ground source heat pump (GSHP) installer, **Achieve Renewable Energy, LLC** ('Achieve'), to establish transparent, discounted pricing for residents of Carlisle, Concord, and Lincoln.

The pricing provided on Page 3 reflects **base price ranges** that Achieve is offering for a GSHP installation. This reflects an approximate 15% **discount** Achieve is offering below their typical prices.

However, most aspects of a GSHP installation are customized so it is hard to provide a standard price until Achieve has visited your home. The homes in Carlisle, Concord, and Lincoln are often pretty old and can be very different from each other (as well as the ground they're built on!). Also, some homes have useful infrastructure like existing ductwork or an available well that can make an installation more straightforward. So it is likely that the quote you receive may be higher or lower than the base pricing to account for those factors. Even if you and your neighbor had exactly the same home and yard, your personal home comfort needs (e.g. for heating/cooling, equipment, optional add-ons) could significantly change the quote you receive for the same equipment.

As such, the pricing provided in this guide are ranges for what costs you could expect to see if you have a typical home. See Page 2 for more information on what is assumed in the base pricing provided and what factors could drive up the cost of your system.

All of the models will be eligible for rebates offered by the Massachusetts Clean Energy Center (MassCEC) or Concord Municipal Light Plant (CMLP) and will be eligible to receive Alternative Energy Certificates (AECs). Recently, the Federal Tax Credit was reenacted for GSHP which will reduce the cost of the system by another 30%. Regardless of the options recommended, Achieve will work to make sure you fully understand the cost of the system and the incentives available to you.

If you have further questions about the pricing and equipment offered, we encourage you to attend a HeatSmart workshop to learn more and ask Achieve in person about their pricing—or reach out to the HeatSmart Coach for your community (**Carlisle:** Bob Zogg at [HeatSmartCarlisle@lowcarboncarlisle.org](mailto:HeatSmartCarlisle@lowcarboncarlisle.org) | **Concord:** Brad Hubbard-Nelson at [HeatSmartConcord@concordma.gov](mailto:HeatSmartConcord@concordma.gov) | **Lincoln:** John Snell and Belinda Gingrich at [HeatSmartLincoln@gmail.com](mailto:HeatSmartLincoln@gmail.com))

## What is included in the base price?

The base price for the systems described in the table on the previous page includes:

- ⦿ **A Ground Heat Exchanger** consisting of **two, 300-foot boreholes** with 50 feet of casing and one u-bend per borehole for vertical closed loop systems, **600-foot, 4-pipe trenches** for horizontal closed loop systems, and a **400-foot well** with bleed for a standing column well system.
- ⦿ **A retrofit of an existing home**, with existing ductwork/hydronic distribution system.
- ⦿ **Symphony Web-enabled Comfort/Monitoring System**, which will allow you to monitor the performance of your system and allow Achieve to perform some maintenance remotely.

## What factors could increase or decrease the cost of my system?

A lot of factors related to your home and personal preferences could increase the cost of your system. The most common cost adders include:<sup>1</sup>

- ⦿ **Additional drilling or excavation required** to ensure that boreholes, trenches, or wells are properly sized to meet your home's heating and cooling load and/or where soil and site conditions make drilling or excavation more difficult will increase the cost of your system. Additional piping, casing, and other materials needed for underground components, as well as site restoration can also increase costs.
- ⦿ **Re-purposing of an existing water well** can reduce the cost of the installation and the amount of drilling required.
- ⦿ **Larger or smaller systems** from the assumptions below could cause the total cost of the system to increase or decrease significantly, as the heat pump unit costs, pumping requirements, and drilling/excavation requirements will change.
- ⦿ **Additional electrical work**, such as an added electrical subpanel to meet the increased electricity demand a GSHP will require could add several hundred dollars to your system, depending on the state of your home's electrical service.
- ⦿ **Ductwork upgrades or repairs** will likely be necessary, as a lot of existing ductwork may not be adequately sized for a GSHP system. This could add anywhere from a few hundred to several thousand dollars or more depending on the degree of upgrades needed. If you don't have ductwork and/or require an air handler, your system costs will be higher.
- ⦿ **Other building or site conditions** can make installing a GSHP system more challenging and labor-intensive and may make your system more expensive.
- ⦿ **Permitting fees** vary from town to town and are not included in the base price. In particular, Conservation Commission Permitting for wetlands will add even more costs and time to your installation.
- ⦿ **Additional optional upgrades** that can improve the performance of your system, including upgrading to a variable-speed 7 Series model, adding zoning control to your home, higher-conductivity grout for boreholes for higher performance, variable speed circulator pumps, variable frequency drive controllers, and extended warranty (for up to 55-years on your ground loop!) will add to the cost of the system.

Regardless of what additional factors may increase the cost of your system, Achieve will clearly explain to you the factors that are causing your quote to deviate from the base pricing provided above. For more information on the components of a ground source heat pump system, come to one of our events to meet the folks from Achieve, sign up for a free site visit, or visit our website at [www.heatsmartccl.org](http://www.heatsmartccl.org) to learn more.

---

<sup>1</sup> A full list of cost adders is provided on the HeatSmart CCL website at [www.heatsmartccl.org](http://www.heatsmartccl.org).

## Ground Source Heat Pump Pricing Ranges<sup>2</sup>

### Carlisle and Lincoln

Manufacturer/Model	Loop Configuration	MassCEC Rebate (Carlisle/Lincoln only) <sup>3</sup>	AECs <sup>4</sup>	Federal Tax Credit <sup>5</sup>	HeatSmart CCL Price (Achieve)	
					Base price range	Base price range after rebates/tax credits (Carlisle/Lincoln)
WaterFurnace 3, 5, and 7 Series	Vertical Closed Loop	\$8,000	~\$6,000-9,000	-30% of installed cost	\$40,000-48,500	<b>\$13,700-20,000</b>
WaterFurnace 3, 5, and 7 Series	Horizontal Closed Loop	\$8,000	~\$6,000-9,000	-30% of installed cost	\$42,500-50,000	<b>\$15,900-21,500</b>
WaterFurnace 3, 5, and 7 Series	Open Loop Standing Column Well	\$8,000	~\$6,000-9,000	-30% of installed cost	\$38,500-44,000	<b>\$13,200-17,200</b>

### Concord

Manufacturer/Model	Loop Configuration	CMLP Rebate (Concord only)	AECs	Federal Tax Credit	HeatSmart CCL Price (Achieve)	
					Base price range	Base price range after rebates/tax credits (Concord)
WaterFurnace 3, 5, and 7 Series	Vertical Closed Loop	\$2,500	~\$6,000-9,000	-30% of installed cost	\$39,500-48,000	<b>\$19,200-\$25,500</b>
WaterFurnace 3, 5, and 7 Series	Horizontal Closed Loop	\$2,500	~\$6,000-9,000	-30% of installed cost	\$42,500-50,000	<b>\$21,400-\$27,000</b>
WaterFurnace 3, 5, and 7 Series	Open Loop Standing Column Well	\$2,500	~\$6,000-9,000	-30% of installed cost	\$38,500-44,000	<b>\$18,700-\$22,700</b>

*Revised July 16, 2018 to reflect price increases for all contracts signed after July 31, 2018. These increased equipment costs affect base prices by no more than 2% and select adders by 3-5%.*

Achieve offers a 1-year workmanship warranty on all installations, covering all aspects of the installation by Achieve and its subcontractors. WaterFurnace offers a 10-year warranty on the indoor geothermal heat pump unit and 5-year labor allowance to offset labor for replacement of defective components. Additionally, a 55-year “no leak” warranty for the ground loop components in your system can be purchased for \$1,950.

<sup>2</sup> These pricing ranges and incentive estimates assume a home with a heating design load of 48,000 Btu/hr. Your home may require a larger or smaller system once Achieve conducts a site visit, which could change the quote you receive.

<sup>3</sup> The rebates listed here were revised March 25, 2018 in response to MassCEC reducing its incentive from \$3,500/ton of capacity to \$2,000 per ton of capacity.

<sup>4</sup> AEC value range based on 2,000-3,000 square foot home with AEC prices of \$16-20/MWh. The number of AECs you receive will be based on the square footage of your home, and their value may be lower based on market fluctuations and depending on the fee from the aggregator you work with. Ask Achieve during your free site visit about the potential value of AECs for your home.

<sup>5</sup> The cost of ductwork modifications that may be necessary is not eligible for the federal tax credit.