



SAVE MONEY  
& ENERGY

**EXPERTS  
EXPLAIN HOW  
JAN. 18 @ 7PM**

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Below, please find some answers to many of the questions posed from the webinar.

**Q) How come the colder it is (from 32 to -6), the less money it costs?**

A) That slide is taking into account the total number of hours that we spend at each degree. It is important to look at a heat pump's performance at 40 degrees vs 4 degrees because we spend 100s of hours at 40, but only a couple of hours at 4. The total cost for the year is being shown for each temperature. Thus, there are fewer days at that temperature = lower cost.

**Q) What is the tax incentive for installing a heat pump?**

A) The federal tax credit for qualified heat pump installations is 30% of your cost, up to \$2,000. Don't forget that, once the state issues its IRA regulations, you will also be able to apply for the federal rebate, either from the HOMES or the HEERHA program, which could be another \$2,000-8,000, plus any available utility rebate, which is currently up to \$10,000.

**Q) how do I know if my electricity panel/supply is enough to switch a heat pump?**

A) If you have 200 AMP service and a somewhat normal size home with typical electrical loads, there are likely no issues. If you have less than that, then you may need to upgrade your electrical service. Most HVAC contractors are pretty good at setting the right expectations during their initial consultations.

**Q) I was told by a HVAC person that the heat pumps don't work well under 30 degrees, so I should keep my gas furnace as the backup. He said the cost to run just a heat pump below 30 degrees would be exorbitant.**

A) This is still a common response from HVAC contractors. To find more savvy contractors, take a look at the contractors participating in the [MLPs heat pump program](#). Newer technology has improved their performance a great deal.

**Q) What size generator would be required as a back-up to run the heat pump in winter?**

A) It depends on the heat load and existing electrical demand. However, there are generally no concerns with sizing a whole home generator to power a heat pump system(s).

**Q) What is the electrical power draw (range) for 4000 sq ft of the heat pump in sub freezing temperatures? Thinking of backup sizing.**

A) For the generator sizing, a lot depends on the load. Generally, it would need to provide 16,000 Watts and support 70-80AMPs for the heat pump system. If there was an extended power outage, one could just use half of the equipment and would need half the wattage and amperage. This would leave some spaces of the house warm, while others would be colder, etc.

**Q) What are the brands of cold weather heat pumps? How do we find out about them?**

A) We see many heat pumps from Fujitsu, Mitsubishi, LG, Daikin, GREE, and Haier get installed. The product category is called a cold climate heat pump without a

capacity drop, but most people call this type "hyper-heat". Here is the NortheastEnergy Partnership list of [cold climate heat pumps](#).

**Q) Are there incentives for service upgrades to prepare for the more power needed for heat pumps?**

- A) The federal tax credit for a panel upgrade is 30% of your costs, up to \$600. Federal rebates could be up to \$4,000, depending on your household income.

**Q) Could you point us to some good sources of information on heat pumps and hot water systems?**

- A) The [MassCEC has great info here](#) with guides for most clean heating technologies.

**Q) What does the 750 square ft requirement refer to?**

- A) 750 cubic feet is the volume of air that the system desires. More or less, don't stick it in a utility closet. The heat pump water heater can keep running in heat pump mode down to below freezing. The concern about it being too cold is more related to pipes and peace of mind.

**Q) I have both A/C in the attic and a gas boiler in the basement with baseboards through the house. If I replace the A/C unit with a heat pump system, does that only replace the cooling in my home? Would I also need a separate heat pump system to replace my gas boiler?**

- A) if you have a thermostat for heating on the 1st floor and the 2nd floor-- then the heat pump system would replace the need to run the 2nd floor zone. If the AC ducts drop down through closets and chases, and there is just one thermostat controlling the AC, then things get a little trickier with either pursuing zoning the ductwork or alternatively it could be adding a ductless unit or 2 for the 1st floor.

**Q) Heat pump installation seems very expensive. Can we get incentives for a self-install of a Mr. Slim multi zone mini split system?**

- A) Only if you are a licensed installer.

**Q) Is it possible to get a second HEAT loan, if you haven't hit the max of 25,000 (going up to 50,000?)**

A) Still being rolled out. Stay tuned.

**Q) We had 2 heat pumps installed, primarily for air conditioning. They are not the low temperature type. We are currently not using them for heating during the winter, but could they help reduce heating costs when used in tandem with the gas furnace?**

A) Most likely but it depends on the model. Since Wellesley Municipal Light Plant's rates are so low, it probably would make sense to pursue a dual fuel strategy based on an economic balance point.

**Q) For those of us who have forced hot water systems, has there been any investigation of using heat pumps as a heat source but retaining the forced hot water distribution system. eliminating the natural gas source?**

A. Air to water heat pumps and ground source heat pumps can, in some rare cases, be used with existing hot water distribution. Most hot water baseboard heat is designed to deliver enough heat to the room using water in the range of 160-180F. Current market-ready air and ground source heat pumps typically heat water in the 110-130 F range. This difference in temperature can prevent systems from providing enough heat to the zone during colder outdoor temperatures.

In the rare case it might work, we have seen a few people lower the temperature of the water their gas boiler provides to (110-120F) to test if it keeps the house warm during cold periods. If successful, it could potentially be engineered to work with equipment currently on the market. If you have radiant floor heating you could potentially switch without problem.

In many cases, it will require significant retrofitting to switch the existing hot water baseboard distribution to low temperature baseboard heat, panels, or radiators.

Consider adding an AC solution to the home. Just retrofitting the baseboard wouldn't provide AC, only heat. Air and ground source to water heat pumps can be fitted with ducted systems to provide AC (and heat).

**Q) Are there any incentives for adding a 220 circuit to switch to an electric dryer from gas?**

A) No individual incentives at this point.

**Q) I realize this is geared for homeowners. Are there any such programs for apartment buildings, businesses, condos etc.**

A) Yes! Due to time constraints, we only covered homes in this webinar but have information on multi-family apartments, etc. Email [info@sustainablewellesley.com](mailto:info@sustainablewellesley.com) for more information.

**Q) If we have just signed a contract in January for the replacement of an oil fired system with a heat pump installation to be done in April, will the Federal incentives be retroactive once they are defined?**

A) The 2023 tax credit would be applicable but we don't yet know the starting date of the federal rebates.

**Q) Are all the incentives and rebates for new purchases of 2022- any earlier? What is the general estimated cost for a heat pump?**

A) Cost can vary widely depending on the nature and scope of the work. One can typically expect installed costs prior to rebates to be within the range of \$5-8000 per ton. Sometimes a project can exceed the high-end cost per ton if they are more difficult in nature or include installing new ductwork.

Most of the new IRA tax credits start January 1, 2023. The rebates will start sometime this year and might be retroactive to January 1, 2023; we don't yet know.

**Q) When looking at the slide that shows the WMLP/MassSave incentives (not the IRA rebates), I am wondering if incentives are income dependent.**

- A) The WMLP/MassSave rebates are not income dependent, but MassSave does have enhanced incentives if you are income eligible. Some of the rebates at the federal level are income dependent.

**Comment:**

I am running an experiment right now. I replaced 1 (of 3) gas furnaces with a high efficiency Mitsubishi hyper heat pump which is rated to -15%. In the first (December) month my gas bill went down by 30% relative to December last year. My Electric bill went up slightly. In total I saved \$70 in the first month.

**Q) Are there Incentives for windows?**

- A) Mass Save offers \$75 per window for triple pane windows and there is a 30% federal tax credit under 25C.