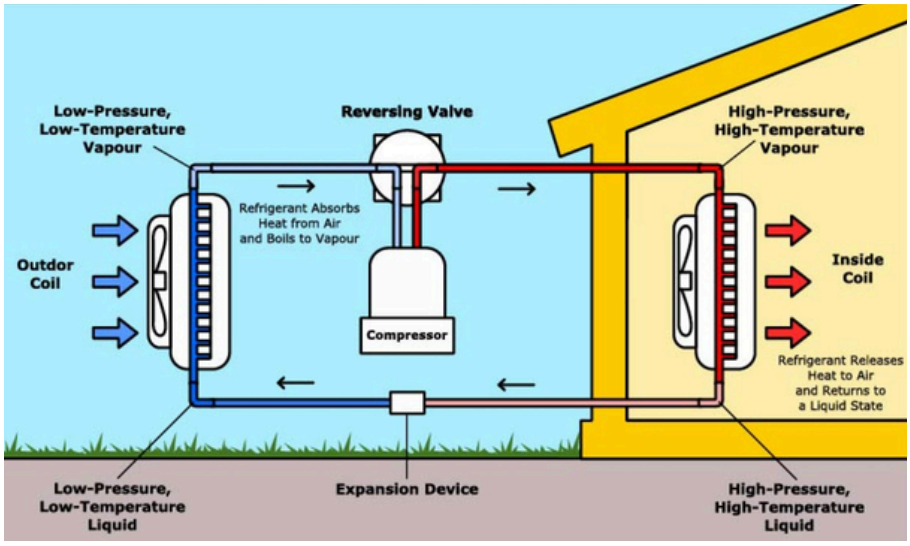
Heat Pump Information

Why get a heat pump?

When properly installed, an air-source heat pump can deliver two to four times more heat energy to a home than the electrical energy it consumes. This is because a heat pump transfers heat rather than converting it from a fuel, like combustion heating systems. Air-source heat pumps have been used for many years across the United States. Recent advancements in technology have made them a viable heating alternative even in regions with extended periods of freezing temperatures.

A heat pump's refrigeration system consists of a compressor and two coils (one indoors and one outdoors) with fins to aid heat transfer. In heating mode, heat energy is extracted from the outdoor air and brought into the house via a compressor circulating refrigerant. A reversing valve changes the direction of refrigerant flow for cooling and for the winter defrost cycle. In warmer months, heat is extracted from the home and rejected outdoors.

Today's air-source heat pumps are more efficient due to several technical advances:



Source: Department of Energy

Electronic and Thermostatic Expansion Valves: Provide more precise control of the refrigerant flow to the indoor coil.

Variable Speed Blowers: More efficient and reduce airflow during part-load conditions, compensating for restricted ducts, dirty filters, and dirty coils.

Improved Coil Design: Thicker coils yield better dehumidification.

Advanced Motor and Compressor Designs: Inverter-driven systems adjust infinitely between low and high speeds, providing exceptional energy savings and improved humidity control.

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Heat Pump Incentive Program

General program information

The City of Naperville Electric Utility is offering energy efficiency incentives of $1,000 - $1,600 for the purchase and installation of Air Source Heat Pumps in existing homes. All replacement Air Source Heat Pumps brands and models are eligible for this incentive program if they meet the AHRI Seasonal Energy Efficiency Ratio (SEER2) requirements below AND a minimum Heating Seasonal Performance Factor (HSPF2) of 8.1.

- **17.1 ≥ SEER2 ≥ 15.2 DUCTED ASHP = $1,200**
- **> 17.1 SEER2 DUCTED ASHP = $1,600 incentive**
- **Ductless and minisplit ASHP = $1,000 incentive**

What are the eligibility requirements?

Residential customers of the electric utility and the owners or renters of their residence are eligible for incentives. You will need to provide your utility account number when applying. 100% complete applications with required documentation must be received within 120 days of installation. New construction not eligible. One incentive per household.

What do I need to do?

Purchase and install a air source heat pump. All replacement makes and models meeting the AHRI Certified SEER and HSPF ratings are included in the incentive.

Fill out the incentive application via the GOVQA portal. If you run into issues with the portal or require an alternative, please contact the program administrator.

Once an application has been submitted and the incentive application is fully processed, customers will receive a one-time credit on their utility bill in approximately two billing cycles.

Required Documentation

- A copy of your dated, itemized, paid purchase receipt
- Proof of Indoor Coil and Furnace model numbers that heat pump is installed with (.jpg or .pdf photo of labels, warranty registration, or indicated on invoice)
- AHRI certificate that corresponds with equipment model numbers

Be prepared to provide the following information:

- Homeowner name and address
- Utility account number
- Installation date and contractor
- Model and serial numbers

Application Portal

https://napervilleil.mycusthelp.com/webapp/_rs/requestopen.aspx?rqst=121

Program Administrator
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Heat Pump Incentive: FAQ

What is an AHRI certificate?

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) is the trade association representing manufacturers of heating, ventilation, air conditioning, commercial refrigeration (HVACR), and water heating equipment.

The AHRI Product Performance Certification Program is a voluntary program, administered and governed by AHRI, which ensures that various types of heating, ventilation, air conditioning, refrigeration, and water heating products perform according to manufacturers' published claims. Products that are certified through the AHRI Product Performance Certification Program are continuously tested, at the direction of AHRI, by an independent third–party laboratory, contracted by AHRI, to determine the product's ability to conform to one or more product rating standards or specifications.

With today's high energy prices and the need to reduce peak electrical demand, the certification of air conditioning, heating, commercial refrigeration, and water heating equipment performance is critical. It instills consumer confidence that manufacturers' performance claims are accurate.

What are SEER and EER ratings?

EER = Energy Efficiency Ratio SEER = Seasonal Energy Efficiency Ratio

According to the Department of Energy, "SEER equals the cooling output of a system divided by its overall power consumption during the cooling season (i.e., the warm part of the year). EER is similar except it measures the "instantaneous" efficiency rather than over an entire season. Window units use EER, while central air conditioning systems use both SEER and EER. The higher the SEER and EER ratings, the more energy-efficient the system." The DOE suggests, when replacing a central air conditioning unit, to look for at least a SEER of 15 or SEER2 14.3.

SEER2 and EER2 rate the same factors but under harsher testing conditions.

Heat Pump Incentive: FAQ

What is a HSPF rating?

Heat Seasonal Performance Factor (HSPF), measures your heat pump system's energy efficiency during the heating season by calculating the ratio of heat output (measured in BTUs) over the heating season to electricity used (measured in watt-hours). The higher the HSPF, the greater the energy efficiency of your heat pump heating system. The Department of Energy suggests, when purchasing a heat pump unit, to look for a HSPF of at least 8.5.

Why do I need to provide so many model numbers?

AHRI certifies combinations of equipment that make up an HVAC system. This would include the condenser (either central AC or a heat pump), indoor coil, and (if applicable) furnace.

The City's incentives are based on the ratings assigned by AHRI certificates. Because AHRI certificates are based on the combination of equipment, the City requires the model numbers of the condenser, coil, and furnace (if applicable) are provided. These model numbers can often be found on the invoice, product registration, equipment literature, or on the equipment itself.

The ratings assigned by the AHRI certificate may differ from product literature, as multiple pieces of equipment are considered for overall system efficiency.

My contractor did not provide an AHRI certificate. What should I do?

You can locate the AHRI certificate that corresponds with your equipment by visiting ahridirectory.org and searching the equipment model numbers. Hint: "Outdoor Unit Model Number" is the condenser (AC or heat pump) and "Indoor Unit Model Number" is the coil.

Alternatively, the City staff member reviewing your application should be able to locate your AHRI certificate using the model numbers provided on the application.

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