

Details for Follow-Up Activities: Heat Pump Unit Recommendation

Implementation Schedules

Heat pump replacement and installation can usually cover a period of 1-3 workdays, depending on the size of the system and ductwork. This estimation does **not** include the time required to meet permit requirements. It should be noted that this installation process may disrupt the normal workflow of the company, as machine downtime is likely.

Maintenance Costs

Heat pump systems require regular maintenance and cleaning to ensure that the system works efficiently and for the entirety of its 15 year life span. Some common maintenance and cleaning can be done by yourselves. For example, cleaning the heat pump and replacing the system filter. Some other maintenance items further in the life of a heat pump are listed below:

Common HVAC Repair Issues			
Annual Regular Maintenance	\$75 - \$200		
Thermostat Replacement	\$90 - \$120		
Clearing Clogged Condenser Line	\$150		
Add Refrigerant	\$199 for 3lbs of R410A		
Install New Circuit Board	\$120 - \$400		
New Condenser Fan	\$400 - \$500		

Energy Savings

In WRP's assessment, replacing the heat pump in your facility will save the company 1,009 kWh.

Department of Energy Recommendations [1]

When selecting the heat pump that best meets the needs of the user's facility, the following should be considered:

- Availability
 - The fuel type or energy source that is used for heat pumps will not only affect the annual operation costs but also its size and energy efficiency. Click and navigate <u>here</u> to the heading "Heat Pumps" for more information on selecting heat pumps.
- Size and Location

- Fans and compressors make noise. Locate the outdoor unit away from windows and adjacent buildings and select a heat pump with an outdoor sound rating of 7.6 bels or lower. You can also reduce this noise by mounting the unit on a noise-absorbing base. The location of the outdoor unit may affect its efficiency. Outdoor units should be protected from high winds, which can cause defrosting problems. You can strategically place a bush or a fence upwind of the coils to block the unit from high winds.
- Energy Efficiency
 - Most heat pumps come with a SEER rating, which is based on the energy efficiency of the system. Generally, the higher the SEER, the higher the cost of the system. With a higher SEER however, the lowered cost of energy use will return the investment multiple times throughout the heat pump's life span.
- Cost
 - Before purchasing a heat pump, it is recommended to estimate the annual operating costs and compare those costs with other less or more energy-efficient models.

Suppliers

These prices include installation of the heat pump system into your facility

The Center of Sustainable Energy and Environmental Engineering has no affiliation with the following vendors. The following suggestions are simply a recommendation

Manufacturer	Price	Website
Goodman	\$4,500.00-\$6,500.00	Here
Trane	\$4,400.00-\$10,000.00	<u>Here</u>
Carrier	\$7,580.00-\$10,000.00	Here
Heil	\$4,100.00-\$6,115.00	Here

Technicians

Technician Name	Location	Website	Phone
D&R Heating and Plumbing	Newport, NC		252-725-4767
Plisko Services & Solutions	Newport, NC	<u>Here</u>	252-223-3551
Seaside Heating & Cooling	Newport, NC	Here	252-223-5477

References

"Heat Pump Systems," *Energy.gov.* [Online]. Available: https://www.energy.gov/energysaver/heat-and-cool/heat-pump-systems. [Accessed: 05-Mar-2021].