

# Blue Horizons Project

Setting the course for clean energy

## Variable Speed Heat Pump Technology Presentation



# Variable Speed Heat Pump Intro

Many homes are heated using single speed heat pumps, which heat inefficiently during winter months. Particularly during cold weather, these heat pumps rely on electric heat strips, which are costly and inefficient to operate. Variable speed (VS) heat pumps replace the old setup, saving approximately 3X the energy and lowering your utility bill. Residential heating is the largest contributor to peak energy usage in Asheville and Buncombe County, so changing to variable speed heat pumps will make a big impact.



# How Do VS Heat Pumps Work?

Variable speed heat pumps operate more efficiently when it's cold outdoors, so they use less energy from backup electric strip heating, and in some cases can operate without it. Their multiple speeds adapt to different temperatures seasonally, allowing for much higher efficiencies and better comfort. This is gradually becoming the standard for homes and businesses.



# VS Heat Pump Financial Cost

Depending on the size of your home, a variable speed heat pumps may add between \$1,000 - \$4,000 in cost over a single speed heat pump. However, the savings on your electricity bill can make up the cost in a few years. Heat pumps typically last over 15 years, giving you long-term savings.



# Benefits of VS Heat Pumps

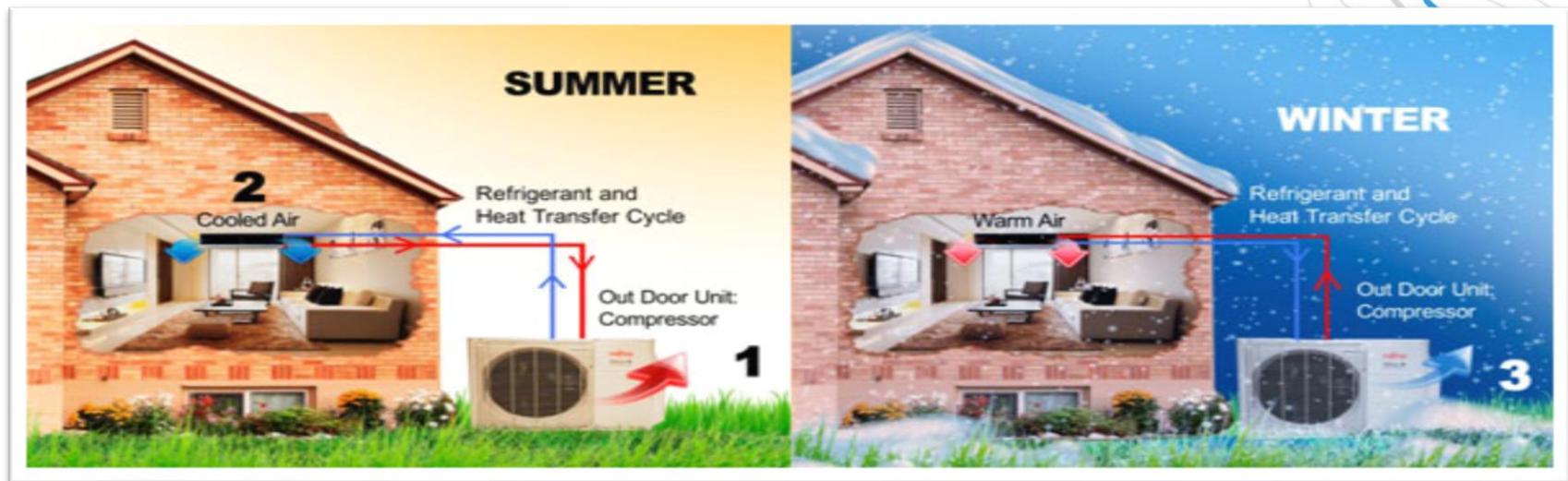
- Installing a VS Heat Pump will greatly lower your monthly electricity bills, especially during the coldest winter months.
- Improved household comfort, including a quieter heating system, better dehumidification in summer, and faster heating response time in winter.
- Combined with weatherizing your home, energy reduction in our community reduces need for another power plant.



# VS Heat Pumps Help Energy Efficiency

Our Community in Asheville and Buncombe County is committed to creating a cleaner, smarter and more affordable energy future.

The VS heat pump makes your home or business more energy efficient, especially during the peak winter heating months. Lowering our community's peak power usage is a primary factor for reducing the need for a new power plant.



# Want to Know More?

## Frequently Asked Questions

### **1. Why do homes with heat pumps have very high bills during the coldest months, and how can VS heat pumps help with this problem?**

Traditional single speed heat pumps can't generate as much heat when it gets very cold outside. Because of this, they rely on backup electric heat strips, which are very inefficient. So, just when you need the most heating, you are using an inefficient method for heating your home. VS heat pumps work more effectively when it's very cold outside, so they can continue to operate efficiently with less of a spike in your utility bill.

# Want to Know More?

## **2. Do VS heat pumps require more maintenance than one speed heat pumps?**

VS heat pumps are slightly more complex, but have warranties that make installing one a low-risk proposition for homeowners who are concerned about maintenance.

## **3. Where can I get information about having a VS heat pump installed?**

VS heat pumps are available from most local installers of heat pumps. Since they are quickly gaining popularity, prices vary among installers, so it's best to get several quotes. Using an installer who has experience with VS heat pumps and good references is always a good idea.