**STEPS TO A "ZERO ENERGY READY HOME"**
How Habitat for Humanity of Summit and Wasatch Counties is building homes of the future today!

**STEP #3: HEAT AND COOL**

1. **CHOOSE CAREFULLY**
The choices you make for heating a cooling will make or break your ability to achieve Zero Energy Ready. Plus, heating and cooling are generally what cost the most in utility bills, so choosing an energy efficient heating and cooling system also pays back in a big way.

2. **AIR-SOURCE HEAT PUMPS**
An air source heat pump transfers heat from outside to inside a building, or vice versa, and are by far the most energy efficient option out there. These work to bring warm air in even when temperatures drop, and bring cool air in when its hot.

3. **GO DUCTLESS**
Go a step further with the use of air-source ductless heat pumps (DHPs) (sometimes referred to as mini-splits). These units require no ducts or water pipes, making them ultra-energy efficient. It is important to size DHPs accurately for energy needs of smaller, energy efficient homes.

4. **USING MINI-SPLITS**
DHPs deliver heat and/or cold to an inside unit that usually hangs on a wall. For smaller homes, only one or two mini-splits may be needed to heat or cool the house. Two-story homes are more of a challenge because warm air rises and cool air falls. Consider using a two-head system, which allows one unit to be installed upstairs and one downstairs to cover both heating and cooling needs more effectively.

5. **WARM AND COLD CONSIDERATIONS**
For homes in colder climates, be sure to select a "cold climate" rated heat pump. When sized properly, they work seamlessly even when the temperatures are -10°F. On the flip side, high SEER mini-splits cool much more efficiently and are more quiet than standard air conditioners.

6. **DON’T OVERSIZE**
The energy model in step 1 will suggest the appropriate size of DHP based on the lowest expected temperature, also called the "design heat load". Oversizing your heating and cooling system is a common mistake that should be avoided as oversized systems turn on and off much too frequently. It’s better to match the DHP size to the expected design heat load and then in case of extreme weather, install small electric heaters in case of emergency.