



Beneficial and Efficient Energy Program for New Construction

It's important to consider future electrical needs during a construction project and People's Energy Cooperative is happy to work with you from the start. We can offer suggestions for implementing the latest technology and ensure you are aware of various funding avenues or rebates available.

We can also offer suggestions that will save money and time in the future. For example, wiring for an electric vehicle charger costs significantly less when done before the structure is finished and landscaping is installed. Plus, homeowners can include the associated costs in their home mortgage instead of paying for it out-of-pocket later.

\$\$\$ - Indicates rebate/incentive is available.

Some rebates require enrollment in one of the Cooperative's energy management programs.

TECHNOLOGIES TO CONSIDER IN NEW CONSTRUCTION:

Heat Pump and Electric Heaters

Heat pumps offer a wide range of benefits and, according to the Department of Energy, they are a great alternative to furnaces and air conditioners because they are more efficient, less costly to run, and do not produce potentially harmful exhaust gases. They also offer both heating and cooling modes, through one source. According to the Department of Commerce, when properly installed, heat pumps can provide one and a half to three times more heat energy to a home than the electrical energy they consume. As technology has improved, heat pumps have the capability of supplying heating needs even in sub-zero degree temperatures.

\$\$\$ Ground source heat pumps (GSHPs): GSHPs are electrically powered systems that tap the constant temperature of the earth for heating and cooling benefits. They use a condenser and looped piping system which utilizes a combination of anti-freeze and a refrigerant to exchange heating or cooling properties with the ground, depending on the time of year. In the summer months, the ground temperature is cooler than the air, offering free cooling. In the winter months, the ground is warmer than the air, offering free heating. A back-up heating system is not required, unless enrolled in our *Dual Fuel Program*.

\$\$\$ Air source heat pumps (ASHPs): ASHPs and Cold Climate ASHPs are also good energy-efficient alternatives to a furnace and air conditioner, because, rather than generating heat, they transfer thermal energy from the outdoor air into your home. These units can deliver 150 to 300 percent more heat energy than the energy they consume and offer greater flexibility to manage overall heat loads in smaller homes. The smallest furnace on the market today is substantially larger than what most smaller homes require. In addition, ASHP technology has advanced to a level where most manufacturers can provide equipment that will operate and work in sub-zero conditions. For air conditioning benefits, heat pumps dehumidify air better than standard air conditioners, resulting in less energy usage and more cooling comfort in the summertime. Choose an ASHP

with a SEER rating higher than 14 to maximize energy savings and qualify for our incentives. Although not required, ASHP's work well when combined with a dual fuel system. Be sure to contact the Cooperative for special heating rates available.

Plenum heaters: Plenum heaters are an electric resistance heating device installed into the home's ductwork system and placed where the ductwork and furnace meet. The furnace fan moves air across a series of heating elements and then distributes the heat throughout the home. They are an excellent option for members that want a gas furnace, but still want to enjoy the benefits of electric heat. A plenum heater works well when combined with a dual fuel system. Be sure to contact the Cooperative for special heating rates available through our dual fuel and off-peak programs.

Electric boilers: Electric boilers are an excellent option to consider when installing in-floor heat. The heated water circulates through a tubing system installed in the floor or in baseboard heaters. These systems can be set up as zones in various rooms throughout the house. They do not require ducting and often produce a very comfortable and even heat. If a gas furnace is also installed, be sure to contact the Cooperative for special heating rates.

Electric water heaters – 50+ Gallons

\$\$\$ Electric Water Heaters: Electric Water Heaters offer a wide range of benefits. They do not require ductwork to exhaust the combustion gases, because they do not produce harmful exhaust. And, they don't require a make-up air unit, which alleviates the need for a 4 to 8-inch duct vented directly to the outdoors. This makes the home 'tighter', which lowers heating and cooling loads. New units are nearly 100 percent efficient and have a typical life expectancy of 10 to 15 years, making them a long-lasting option. Setting the temperature of the water heater at 120° F maximizes efficiency and removes the dangers of scalding hot water. For additional savings and conservation, members can pair their water heater with one of our energy management programs, which offer a reduced rate.

\$\$\$ Heat Pump Water Heaters: Like an air source heat pump, a heat pump water heater utilizes thermal energy in the air to heat water while at the same time dehumidifying and cooling the space that it is in. These systems can be two to three times as efficient as a standard water heater.

Level 2 Electric Vehicle Chargers

\$\$\$ Vehicle chargers: Very soon, it will be more common for a homeowner to own an electric vehicle. Pre-wiring or wiring a home for an electric vehicle charger during construction is more affordable than after the home is built. In addition, homeowners won't need to worry about tearing up their landscaping. The Cooperative offers special charging rates for electric vehicles. Contact the Cooperative for more information regarding electric vehicle charging, wiring specifications, and metering requirements.

Light Emitting Diodes (LEDs)

\$\$\$ LED Lighting: LEDs are up to 85 percent more efficient than traditional incandescent bulbs and have an average life up to 25 years. Be sure to consider the color temperature of the light to create the desired atmosphere.

ENERGY STAR Appliances

\$\$\$ Kitchen: According to the Minnesota Department of Commerce, after the air conditioner, refrigerators typically consume the most energy in homes. ENERGY STAR refrigerators are required to use 15 percent less energy than non-qualified units. Dishwashers can also be a large energy consumer. ENERGY STAR dishwashers are required to use 4.25 gallons of water or less per cycle, saving both water heating and wastewater costs.

\$\$\$ Laundry: ENERGY STAR clothes washers' clean clothes with 35 percent less water and 20 percent less energy than standard washers. ENERGY STAR clothes dryers use 20 percent less energy than conventional models. Consider a heat pump clothes dryer, which will save even more energy.

Smart, Wi-Fi, and Programmable Thermostats: The initial cost to purchase one of these thermostats is more expensive than purchasing a traditional thermostat, however, the energy savings a homeowner may gain by properly using a newer model will likely cover the cost difference within a year or two. These thermostats are ideal and convenient because they are programmable, and many can be adjusted remotely by a WI-FI connection. Some models can also control air exchangers, humidifiers, heat pumps, and other devices. Additionally, many 'smart' thermostats are capable of 'learning' the preferences of occupants and adjust temperatures according to whether anyone is at home or not.

Value-Added Programs

Heartland Security: People's Energy Cooperative is part-owner of Heartland Security and therefore, members can install security systems for their home or business at **special discounted rates**. Each Heartland Security system is uniquely designed to meet the owner's specific needs and may qualify the member for a discount on homeowner's insurance.

Stand-By Generator Program: From time to time, Mother Nature can wreak havoc on our electrical system, causing members to lose power. For this reason, People's Energy started a stand-by generator program. We will work directly with the member to establish a size that is appropriate for their household needs. The generator is tied directly into a natural gas or propane line and has an automatic transfer switch which senses the loss of grid power and starts the generator automatically, even when members are away from home. No more worries about the sump pump running while on vacation!