

# Beneficial Electrification

Beneficial electrification is the practice of using electricity to power appliances, devices and other technologies while saving users money, benefiting the environment, improving product quality or consumer quality of life, and/or strengthening the electric power grid.



Figure 1. U.S. Department of Energy

## Examples Around the Home: New Heat Pump Technologies

More and more household appliances are using the already popular and efficient refrigeration cycle. In addition to refrigerators, freezers and window air conditioners, ground-source and air-source heat pump variations, as well as heat pump water heaters, window units and dryers represent newer all-electric technologies that make life easier and cheaper at home.

| Appliance              | Features                                                                                     | Installation Details                                              | Average Lifespan                                          | Energy Savings                                       | Considerations                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Cold-Climate Heat Pump | Super-efficient at cold outdoor temperatures. Extended runtimes help improve indoor comfort. | Locally available. Higher purchase price than standard heat pump. | Similar to standard equipment. Approximately 8–13 years.  | Up to 25% savings compared to standard heat pump.    | Correctly size for optimal savings and comfort. Hire a contractor for installation and maintenance.                 |
| Heat Pump Water Heater | Super-efficient operation. Helps dehumidify and cool surrounding space.                      | Must have air circulation around unit; not good for closets.      | Similar to standard equipment. Approximately 10–15 years. | 3–4 times more efficient than standard water heater. | Available in 120V and 240V models. Multiple sizes available for different needs. One filter needs regular cleaning. |
| Heat Pump Window Unit  | Super-efficient, quiet, improved comfort.                                                    | DIY installation. Must be window and wall compatible.             | Similar to standard equipment. Approximately 6–12 years.  | Up to 2 times more efficient than standard unit.     | Plug into wall outlet.                                                                                              |
| Heat Pump Dryer        | Super-efficient, quiet.                                                                      | Locally available. Plug-and-play installation.                    | Similar to standard equipment. Approximately 10–13 years. | Up to 50% less energy usage than standard dryers.    | No dryer vent needed. Two filters to clean, one for the clothes and one for the heat pump.                          |

### Additional Resources

· [ENERGY STAR Products](#)

· [Advanced Energy Heat Pump Water Heater Installation Guide](#)

Want practical examples of beneficial electrification? See how electric lawn, garden, and farm equipment can deliver real benefits.



Scan or click the QR code to learn more.