

Living Off-Grid

What type of energy is more efficient and affordable?

Bottled gas or electricity?

If you are considering converting your gas appliances to electricity, and you are off the grid, there are a number of things to consider.



Off grid options

Electric appliances are typically more energy efficient than gas appliances, but that might not be the case for off grid households. Limited use of gas in off grid homes might mean that converting to electricity is not the best option. If you currently use battery, solar, or wood as your household energy, it may be your best option to stay with your current energy source.

Benefits of Electric Appliances

- Higher energy efficiency than gas appliances
- Lower life cycle costs than gas appliances

Considerations for Electric Appliances

- You may need to upgrade your solar system
- Not an exact replacement for wood heating and cooking appliances
- Bottled gas can be stored for long period of time without use while electricity needs more complex storage

Available Off-Grid Energy Source

Wood: Not environmentally friendly, but a decent option for an off grid home.

- Very inexpensive
- Good heating qualities
- No winter use restrictions

Bottled Gas: A relatively clean energy source for most areas.

- Can be stored until needed
- Easy to transport and use
- No winter use restrictions
- Reliable

Solar Energy: Electricity generated by the sun that has been collected for household use.

- Sustainable
- Low cost
- Variable power capacities
- Require complex storage

Reasons not to consider electric appliances

The energy efficiency of electric appliances is better than gas appliances. However, electric appliances have a high initial cost and winter energy demand. In the winter, your solar system will not function at its best. At the same time, the energy demand of your heating systems will be high. As a result, you will need to upgrade your battery storage and solar panels to have the most savings.

Your energy bill

Space heating, water heating and cooking take up the following amounts of your energy bill. These needs can be replaced by alternate forms of energy:

- Space heating (more than 50%)
- Water heating (around 25%)
- Cooking (around 2-4%)

As shown by these statistics, relying on solar energy to heat your living space or water would use a lot of solar energy. However cooktop stoves may have less yearly gas consumption.

Possibility for Cooktops

Since cooktops only account for a small amount of energy, replacing your gas equivalent with an induction cooktop may save you money. The benefits of induction cooktops for off grid homes are:

- Reduced gas consumption
- Lower life cycle than comparable gas units
- Ease of installation
- Faster cooking time

Considerations for converting to induction cooktops

- More energy from your home solar system
- High initial cost
- Possible new circuit or wiring required
- Need to use regularly to save money

Installation of an induction cooktop can reduce the amount of gas you consume each year using solar systems. For more information on these cooktops, please refer to “Considering Induction Cooktops.”

Conclusions

- Hot water heat pumps and split system air conditioners are not cost effective alternatives to gas or wood energy sources
- Induction cooktops may be a viable way to reduce annual gas consumption
- Exploring other sources such as wood may provide a cost affective solution to heating needs.

