

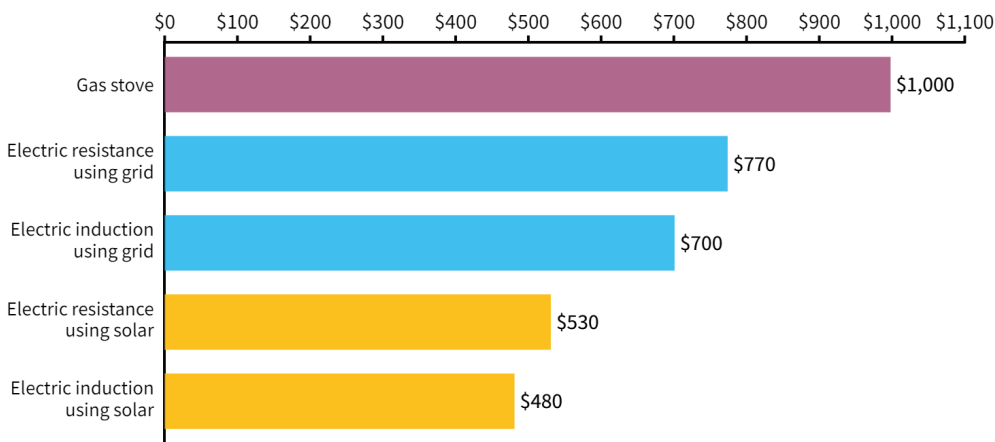


# CHAPTER TWO: Cooking

## INTRODUCTION

Cooking is an essential aspect of daily life, and households rely on a range of appliances to prepare their meals. Traditionally, cooking appliances have been powered by gas, which is a fossil fuel and contributes to greenhouse gas emissions. However, households can now electrify their cooking appliances by using renewable energy sources like solar power and heat pumps. This chapter will provide information on how households can electrify their cooking appliances, estimate the costs and savings, and provide real-life examples of households that have made the switch.

### Stovetop cooking | Lifetime running costs



Based on average Australian stovetop cooking energy use of 200 kWh per year. Solar capacity factor of 17.14%, \$838 /kW. Gas price \$0.15 /kWh. Grid price \$0.27 /kWh. Induction COP 0.785. Resistance COP 0.711. Gas COP 0.304. Solar use 35%. 10 year appliance lifetime.



## ELECTRIFYING COOKING APPLIANCES

There are several ways households can electrify their cooking appliances, including ovens, cooktops, and BBQs. The following are some of the most popular options:

- **Electric Ovens:** Electric ovens are a popular choice for households looking to electrify their cooking appliances. Electric ovens use electricity to generate heat, which is then used to cook food. Electric ovens are available in a range of sizes and styles, including freestanding, wall-mounted, and built-in.
- **Induction Cooktops:** Induction cooktops use electricity to generate a magnetic field, which then heats up the cookware. Induction cooktops are more energy-efficient than traditional gas or electric cooktops, as they only heat up the cookware and not the surrounding air. Induction cooktops are also safer, as they do not produce an open flame.
- **Electric BBQs:** Electric BBQs are a popular choice for households looking to electrify their outdoor cooking appliances. Electric BBQs use electricity to generate heat, which is then used to cook food. Electric BBQs are available in a range of sizes and styles, including portable and built-in models.

## COSTS AND SAVINGS

The costs and savings of electrifying cooking appliances will vary depending on the type of appliance and the household's energy consumption. The following are some estimated costs and savings for electrifying cooking appliances:

- **Electric Ovens:** The cost of an electric oven can range from \$500 to \$2,000, depending on the size and style. The installation costs will also vary depending on whether the oven is freestanding or built-in. However, households can save money on their energy bills by using an electric oven, as they are more energy-efficient than gas ovens. On average, households can save up to \$100 per year by using an electric oven.
- **Induction Cooktops:** The cost of an induction cooktop can range from \$500 to \$2,000, depending on the size and style. The installation costs will also vary depending on whether the cooktop is freestanding or built-in. However, households can save money on their energy bills by using an induction cooktop, as they are more energy-efficient than gas or electric cooktops. On average, households can save up to \$150 per year by using an induction cooktop.
- **Electric BBQs:** The cost of an electric BBQ can range from \$200 to \$1,000, depending on the size and style. The installation costs will also vary depending on whether the BBQ is portable or built-in. However, households can save money on their energy bills by using an electric BBQ, as they are more energy-efficient than

gas BBQs. On average, households can save up to \$50 per year by using an electric BBQ.

## REAL-LIFE EXAMPLES

The following are some real-life examples of households that have electrified their cooking appliances:

- **The Smith Family:** The Smith family decided to electrify their cooking appliances by installing an electric oven and induction cooktop. The cost of the appliances and installation was \$1,500. However, the Smith family has already seen a significant reduction in their energy bills, with savings of up to \$200 per year.
- **The Jones Family:** The Jones family decided to electrify their outdoor cooking appliances by installing an electric BBQ. The cost of the BBQ and installation was \$500. The Jones family has also seen a reduction in their energy bills, with savings of up to \$50 per year.

## CONCLUSION

Electrifying cooking appliances is an effective way for households to reduce their carbon footprint and save money on their energy bills. By using renewable energy sources like solar power and heat pumps, households can generate their electricity and reduce their reliance on grid power. Additionally, by using energy-efficient appliances like electric ovens, induction cooktops, and electric BBQs, households can further reduce their energy consumption and save money on their energy bills.

The costs and savings of electrifying cooking appliances will vary depending on the type of appliance and the household's energy consumption. However, households can expect to save up to \$150 per year by using an induction cooktop, up to \$100 per year by using an electric oven, and up to \$50 per year by using an electric BBQ.

Real-life examples of households that have electrified their cooking appliances show that the initial costs of installation can be recouped quickly through energy savings. The Smith family and the Jones family have both seen significant reductions in their energy bills and are contributing to a cleaner, greener future by using renewable energy sources.