



Guide to All-Electric *Retrofits* of Single-Family Homes – Quick Facts

Download the full document at Redwood Energy's website: <https://redwoodenergy.net/research/>

The benefits of electrifying your home are numerous: improved health from reducing air pollution inside your home, increased comfort from using heat pump heating and cooling, and lowering your impact on climate and the environment by reducing emissions. The process of electrifying your home can start with a deep retrofit including insulation and energy efficiency upgrades, or by switching one appliance at a time; this guide provides strategies for all pathways. Below is a sample of what is included in the guide: Info on how to electrify on a tight budget, how to save money by avoiding electric service upgrades, case studies, and an extensive product guide.

Case Studies

The full guide features 25 all electric home retrofits from across the U.S., located in the coldest climates of the mid-west to temperate climates in California. All-electric designs are the desired choice for comfortable, efficient, and environmentally conscious homes.

Electrifying on a Tight Budget

Many low-cost options exist to electrify your home, whether you are a renter or are on a tight budget!

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| DrinkPod: True Induction | Instant Pot: 3 Quart | Oster: French Doors, XL Capacity Convection Oven | Toshiba Mobile Heat Pump | Rheem: 120 V Heat Pump Water Heater | Condensing Washer Dryer |
| \$140 | \$60 | \$160 | \$440 | \$1200 | \$900 |

Modern Electric Cooking *Countertop Single, Double and Multi-burner Induction, Induction Ranges, Vintage Ranges*

Induction cooking provides safer cooking, more precise temperature control and is preferred by professional and home chefs. In addition, it's healthier: burning gas in the home releases pollutants, such as nitrogen dioxide, cancer-causing formaldehyde and acetaldehyde, and ultra-fine particulates (Singer 2018) and has been linked to asthma in adults (Jarvis et. al. 1996) and children (Weiwei et. al. 2013).



Counter-top and Drop in Induction Cooktops
\$40 - \$4,000

Standard Induction Range and Vintage Ranges
\$1,000 - \$3,500

Resilience *Vehicle to Home Charging (left), Portable Home Electric Generators, Stationary Batteries (right)*

Resilience comes in many forms that can provide power when the main grid is down: vehicle to grid charging allows electric vehicle owners power their homes with their car’s batteries, lower cost strategies (Goal Zero) provide portable power with solar included for recharging, and stationary batteries built into your home’s electrical system.



Vehicle to Home Charger by Wallbox Goal Zero Battery and Solar Kit Tesla Power Wall Ford F-150 Lighting (2022)

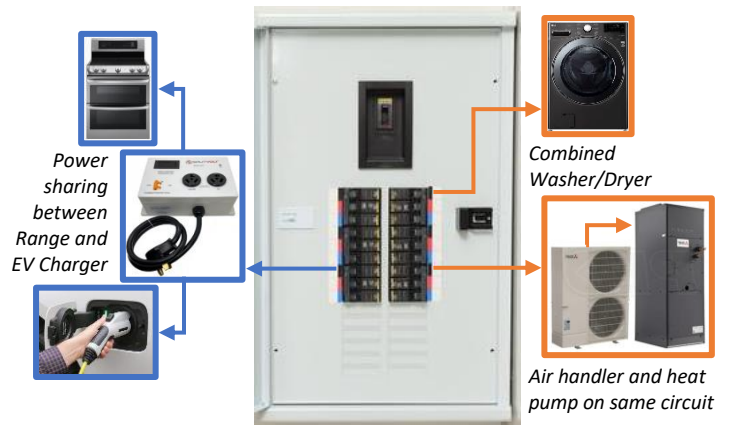
Heating and Cooling *There are many electric options for all climates: ducted, no ducts, portable, large and small systems*

There are a range of heat pumps that provide both heating and cooling to suit any home retrofit application, whether you are looking for a whole home solution with existing ducts or an apartment or small space solution.



The Watt Diet

Most people think electrical upgrades are needed if they add electric appliances, but this is rarely necessary with thoughtful selection of efficient products and the use of load sharing devices. Homes have a set amount of power access through the service wire from a nearby power pole. For example, a service wire may provide 24,000 Watts (100 Amps at 240V). Choosing more efficient appliances can help you avoid upgrading the utility service wire and your circuit breaker panel. Download the [Watt Diet Calculator](#) from Redwood Energy’s website to see options to reduce power for your home.



Power Sharing *Share a circuit between large appliances like: EV charger, dryers, water heaters, cooktops, and ranges.*

Power sharing between high power devices in your home can avoid an electrical service upgrade or even installing a new circuit. There are several power balancing adapters available today (NeoCharge, Dryer Buddy, SimpleSwitch, Splitvolt) that allow two devices to share a circuit (like a dryer, heat pump water heater, stovetop, and electric vehicle charger).

