



## Building Electrification FAQs

### ***Q. Why is building electrification (BE) an essential undertaking?***

<https://rmi.org/eight-benefits-of-building-electrification-for-households-communities-and-climate/>

- **Improves health:** Gas appliances, and the entire natural gas infrastructure - from extraction to storage to distribution - emit harmful pollutants. Gas stoves emit toxic pollutants inside our homes, which may cause asthma and lung damage. (see below).
- **Cools climate:** Buildings account for around one-third of US greenhouse gas emissions. In California, this is mainly due to the use of natural gas (a.k.a “fossil gas” or “methane gas”) for various types of heating (space, water, etc.). This gas is mostly methane - an extremely potent greenhouse gas. Unfortunately, serious amounts of methane leak throughout the gas system, from extraction to storage facilities to pipelines. We can’t fight climate change without cutting this source.
- **Saves money:** Replacing old gas furnaces and water heaters with new electric heat pump space and water heating equipment will save on utility bills. Building all-electric homes is less expensive than building homes that use gas.
- **Fosters equity:** Natural gas prices are going up, and low-income communities have the highest energy cost burden to begin with. BE brings the benefits of clean energy buildings—reduced health risks and lower, more stable energy bills — to lower-income residents.
- **Adds green jobs:** A report by UCLA found that BE in California will boost employment in the construction, energy, and manufacturing industries, supporting more than [100,000 jobs](#)—eight times as many jobs as would be lost in the gas sector as it is phased out.
- **Is a better investment than gas:**
  - \* Gas infrastructure costs are soaring; even PG&E wants to transition away from gas.
  - \* Building new pipelines will just make the transition more expensive.
  - \* It’s wiser to invest in expanding the electricity grid and scaling up renewable energy sources.

### ***Q. So what exactly is home electrification?***

It means changing equipment that burns gas to electrically-operated heating equipment of various types, as listed below:

- Replacing gas furnaces with heat pump space conditioning (which provides cooling as well as heating).
- Replacing gas water heaters with heat pump water heaters.
- Replacing gas cooktops (a.k.a. stovetops) and ovens with electric models. An option is “induction” type cooktops, which heat food more quickly, and with less energy, than standard electric cooktops.

- Replacing gas clothes dryers with electric clothes dryers. An option is heat pump clothes dryers, which are more energy-efficient than standard electric clothes dryers.
- Replacing gas pool or hot tub water heaters with heat pump water heaters.

**Q. I'm all for electric vehicles, but I don't see why I should give up my gas range.**

<https://rmi.org/gas-stoves-health-climate-asthma-risk/>

<https://rmi.org/all-electric-homes-a-health-professionals-guide/>

No one is requiring homeowners to give up their gas stove. But there are very good reasons to do so, as well as to stop putting gas stoves in new homes:

- Research shows that gas stoves emit toxic pollutants like nitrous oxide, carbon monoxide and [benzene](#) .
- Children living in a home with a gas stove have a [42 percent increased risk](#) of asthma symptoms•

**Q. What's an induction cooktop? What's so great about them?**

<https://pirg.org/edfund/media-center/new-consumer-guide-highlights-clean-air-and-cooking-benefits-induction-cooktops/>

- They're [three times as energy efficient as gas stoves](#) and around 15 percent more efficient than traditional electric stoves.
- Other [big advantages](#): they heat up faster, are safer, and allow more precise temperature control.

**Q. If we "electrify everything," won't that create too much demand and crash the grid?**

<https://www.rewiringamerica.org/circuit-breakers/the-grid>

- Growing renewable power generation and power storage, and strengthening the grid, is key *and* doable - and it is happening! .
- New "smart grid" technologies deliver more electricity through the same infrastructure.
- New "smart electrical panels" may enable whole-home electrification without upgrading upstream infrastructure.

**Q. What about renewable natural gas (RNG)?**

<https://www.rewiringamerica.org/circuit-breakers/renewable-gas>

"Renewable natural gas" usually refers to biomethane created from sources such as wastewater, landfill methane, or agricultural waste and then pumped into the existing gas grid. Research shows that when methane leaks are accounted for, RNG emits just as much greenhouse gasses as natural gas. And RNG contains the same harmful pollutants as natural gas.

**Q. What about hydrogen? Is this a "clean" alternative?**

<https://www.sierraclub.org/articles/2022/01/hydrogen-future-clean-energy-or-false-solution>

Hydrogen is extremely energy intensive to create. Most hydrogen is created by burning fossil fuels! Studies show that less pollution is caused by burning fossil fuels directly, rather than creating and using hydrogen. Clean renewable energy can be used to make hydrogen. But hydrogen creation is so

energy-intensive that it is many times more efficient to use the electricity generated by renewable energy directly - in such things as building systems and vehicles.

***Q. Where can I learn about incentive programs that help pay for replacing gas appliances with electric versions? Here are some helpful organizations' websites:***

- BayREN: <https://www.bayren.org/>
- The Switch is On: <https://switchison.org/>