



THINK GREEN



EAT GREEN

COOKING WITH GAS OR INDUCTION?

Our *Think Green Eat Green* newsletter usually discusses how we can eat more sustainably, and how to make food decisions that do not exploit the earth's resources. Instead of food choices or impact-reducing agriculture methods, this newsletter will discuss different *ways to cook our food*.

There has been much recent news coverage debating the use of gas vs. electric stoves mainly supporting (or disputing) the unsafe effects of gas stoves. Electric induction stoves are being promoted as the appliance of the future - in terms of energy consumption, health and safety concerns, and carbon emissions.

For the purpose of our discussion, we will look at gas stoves and induction stoves.

First of all, how does induction cooking work?



An electric induction cooktop gets its power and precision from electromagnetic induction technology. This means it generates energy from an electromagnetic field (EMF) below the glass cooktop surface, which then transfers current directly to the cookware, causing it to heat up. The cooktop does not heat, but rather the heat is transferred by magnetic energy *to the pot, not the surface*.

Performance

This Consumer Reports (CR) [article](#) explains that induction cooktops and ranges generally outperform every other kind of range in CR tests. They are faster than any other cooking technology, as well as safer – a burner will not heat unless it is in contact with a pot.



Unlike gas, induction cooktops give no visual cues to the chef, so there is a learning curve. This type of cooking may also require new pots and pans. Cookware must be completely flat on the bottom and made of ferromagnetic metal (i.e., containing either iron or a layer of magnetic material). They will be labeled induction-compatible.



Concerns with gas stoves

A *Scientific American* [article](#) from January of this year reveals the health risks of gas stoves. Burning natural gas produces the global-warming greenhouse gases carbon dioxide and methane. Of more concern for human health is the generation of nitrogen dioxide (NO₂) which has many known harmful health effects, among them a greater risk of children developing respiratory illnesses such as asthma. This was first documented in 1992, and

numerous studies since have confirmed NO₂'s role in respiratory illness in both children and adults.

A September 2022 blog article from *Harvard Health Publishing* of Harvard Medical School discusses a recent Stanford University study of methane gas leaks. Researchers tested gas stoves in 53 homes and found that all of the stoves leaked methane gas, even when turned off. Emissions were not related to the age or the purchase cost of the gas stoves.

If we use a gas stove, what can we do?

VENT!

Energy scientists recommend using the overhead vent fan every time you turn on a gas burner. If the fan doesn't vent to the outside your house, it's a good idea to open a window while cooking.



Let's talk about the amount AND cost of energy used by both types of stoves.

Consumer Reports (CR) states that home chefs claim induction cooktops and ranges are the path of the future, offering a safer and more energy-efficient

way of cooking. CR laboratory testing claims that an induction stove is 5 to 10 percent more energy-efficient than conventional electric stoves and about three times more efficient than gas stoves.

However, most current sources attest that a gas stove is more energy efficient than an electric induction stove. This is mainly due to the cost and methods in which electricity is produced; as sustainably-produced electricity (i.e., wind, solar) becomes more available, the "carbon footprint" will decline, and the induction stove will become the more energy efficient cooking method. Natural gas can never be considered renewable, nor have a declining carbon footprint.



How safe is induction cooking?

There are also reports addressing the safety issue of cooking with a strong electromagnetic field (EMF). A [report](#) from Orgoneenergy.org explains the dangers of frequent contact with EMFs. The report also gives a clear explanation of how electromagnetic radiation (EMR) creates electricity.

Alternatively, a [report](#) by Physicians of Social Responsibility (PSR) of Greater Boston describes EMF cooking as not harmful to human as it is non-ionizing to cells. (Ionizing activity can alter molecules within the cells of our body, possibly causing harmful effects such as cancer.) This report does, however, address the possible negative effects of induction cooking for individuals with pacemakers (though admitting the results were mixed), and also states that studies on EMFs are continuing. The PSR link includes a video with professional chefs offering their opinions on induction cooking.

Making the switch?

Some communities are passing laws restricting installation of gas furnaces, stoves, and other appliances in future new construction: in Maryland, Montgomery County will restrict gas connections in new construction as of 2026, and New York recently became the first state to ban gas lines in new construction completely by 2030.

A small pilot [program](#) of replacing gas stoves with induction models has been implemented by **Civic Works**, a nonprofit organization dedicated to strengthening Baltimore communities through education, skills development, and community service. With the goal of expanding the program in coming months, Civic Works has provided induction stoves to 10 qualifying residents. Their approach is not to force change on homeowners, but to rather explain the benefits and incentivize the change.

While not suggesting that we relegate our functioning gas stoves to landfills, we can keep in mind this safer, healthier, more environmentally-friendly replacement for our traditional electric or gas stoves when replacement is needed. Electromagnetic induction cooking can be "food for thought," especially for those of us facing a new stove purchase. A [report](#) from MaketheSwitchNow.org explains the tax credits and rebates that may be available for "electrification of appliances." These incentives are part of the

Though many of us love cooking with gas, the switch to induction cooking is reportedly easy and impressive. A frequent comment from induction stove buyers is “I don’t miss my gas stove!”



FILM RECOMMENDATION



This is not a documentary film, but rather a look at the pros and cons of gas vs. electromagnetic induction cooktops. Much information on induction stoves is presented, and would be helpful for those considering a new stove purchase.

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