Induction Cooking Factsheet

Use an induction stove to cook faster and safer with better control and easier cleanup, while fighting climate change and providing better indoor air quality. Find out why many chefs have made the switch, including Julia Child, Wolfgang Puck of Spago, and Thomas Keller of The French Laundry.

Gas stoves are unhealthy for your family and the planet

- - Bad for your lungs: Gas stoves emit toxic gases into your house that can cause asthma and other respiratory problems, including nitrogen dioxide, carbon monoxide, and formaldehyde.

- - Bad for our climate Gas stoves emit carbon dioxide into the atmosphere which contributes to global warming.

Induction stoves are a great answer

++ Healthier: Induction stoves do not emit any toxic gases into your house.

++ Climate friendly: Induction stoves use electricity. California's electricity is getting cleaner every year with more wind & solar. Most Bay Area residents can already choose 100% renewable electricity through their local community choice energy provider.

Advantages of induction cooking

Faster: An induction stove can send more energy rapidly into a pan than a gas or traditional coil or radiant electric stove, boiling water far faster.

Immediate response: With all energy going directly into the pan, and no grate, coil or radiant burner to heat up, the temperature can be raised or lowered virtually instantly.

Accurate control: Digital controls allow setting temperature precisely without having to judge a variable flickering flame.

Wider temperature range: Induction cooktops offer higher boil and lower simmer temperatures than gas - and hold them steady.

Even cooking: An induction stove heats up the entire pan simultaneously and more evenly than a gas flame or electric radiant coil, which only heat the part of the pan they touch.

Safer: Only the pan gets hot - the cooktop is only warm under the pan. with no flame and little residual heat after you remove the pan, induction cooking reduces accidental burns. There will never be a gas leak since there is no pilot to blow out, no igniter to fail and no gas line to break in an earthquake. Finally, there is no open flame to start a grease fire or ignite a potholder or towel.

Easy to clean: Induction stoves have a smooth, easy to wipe clean ceramic glass surface with no hot burner grate to bake food on to, and no nooks and crannies where grease and food bits accumulate.

Energy efficient: Just the pan is heated. No energy is wasted heating the air around the pan.

Cooler kitchen: Since virtually all the energy is going in to the pan rather than the air, the kitchen stays cool.

How does induction cooking work?

An induction stove heats up the pan by magnetism. Instead of burning gas, the stove reverses a magnetic field back and forth very rapidly. This sends alternating magnetic energy into the metal pan, heating it up.

How do I get an induction cooker?

Induction cooktops can be found at any appliance or home improvement store and prices are coming down. They are sold in three different configurations:

Range: These are four to six element cooktops usually paired with an electric convection oven. They require a 240 volt outlet. Prices in 2019 range from under $900 to over $3000.

Cooktops: These four to five element cooktops drop into a countertop installation independently from a standalone oven of any variety. They require a 240 volt outlet or may be hardwired into the electrical system. Prices range from $500 to over $2000.

Portables: These one and two element units can be set on a countertop anywhere and plugged in to a standard 120 volt outlet. These generally don't have the power boost option to heat up as fast as the 240 volt models but are still rapid. Prices range from $50 to over $500 for some commercial grade portables.

Tips for converting to induction cooking

The right cookware: All iron pans work - cast iron skillets and all other iron including enamel or ceramic coated iron. Most stainless steel works, as does blue steel. Aluminum, copper, and glass work only if the manufacturer has added an iron or steel plate to the bottom. Check your pans by holding a magnet to the bottom. If a magnet sticks, the pan will work. Look for a cooktop that allows bridging two burners together to cook on a cast iron griddle.

The right power: One- or two-burner portable induction cooktops can be plugged into a regular 110 volt wall outlet. A full size four or five burner stovetop with power boost for fastest boil requires a dedicated grounded 240 volt outlet with a 40- or 50-amp breaker. Check with a licensed electrician to ensure your wiring is ready to handle the load.

Safety: Look for a cooktop with a sensor that automatically shuts off if it does not sense a pan. This is a common safety feature in most induction stoves. If you have a pacemaker or similar device, consult with your doctor.

Resources

Cindy Bailen and Tyler Wells, "**Induction cooking—here's why you should make the switch,"** 10 May 2019, USA Today Reviewed.com <https://www.reviewed.com/ovens/features/induction-101-better-cooking-through-science>

Paul Hope, "**Best Induction Cooktops From Consumer Reports' Tests,**" 06 March 2019, Consumer Reports <https://www.consumerreports.org/electric-cooktops/the-best-induction-cooktops>

Nicholas Gerbis "**How Induction Cooktops Work,"** 9 December 2009, HowStuffWorks.com. <https://home.howstuffworks.com/induction-cooktops.htm>

Lloyd Alter, "**Piles of peer reviewed research show how bad cooking with gas is for your health,"** 10 August 2018, Treehugger.com <https://www.treehugger.com/green-architecture/piles-peer-reviewed-research-show-how-bad-cooking-gas-your-health.html>

Justin Gillis and Bruce Niles, "**Your Gas Stove Is Bad for You and the Planet**," 01 May 2019, New York Times, https://www.nytimes.com/2019/05/01/opinion/climate-change-gas-electricity.htm

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