IN THE MARKET FOR A NEW STOVE? CONSIDER INDUCTION.
A consumer guide to cleaner, more efficient cooking

WELCOME TO THE FUTURE. Already popular in Europe and Australia, induction cooking is steadily winning over Americans as the latest and greatest in cooking technology. Efficient, precise and safe, cooking on induction stoves provides numerous benefits not just for passionate chefs and food lovers, but for the overall health and wellbeing of American families.

What is induction?
Induction cooktops use magnetism to heat metal cookware. When you turn an induction stove or cooktop on, electric currents underneath the smooth cooking surface create a magnetic current within the cookware being used. This direct transfer of energy results in instant, efficient heating; in fact, induction cooktops heat up faster than both gas and traditional electric coil cooktops, with some models boiling a pot of water in just 2 minutes. Induction also results in unbeatable and precise control and consistent levels of heat, as the appliance responds immediately to changes in temperature by adjusting the strength of the electric currents. Induction is great for homes in hot places, as only heating the pan means that lost heat energy won’t contribute to warming up your kitchen. It’s also safer, since there’s no open flames or hot surfaces involved, and the smooth cooking surface makes cleaning up a breeze.
Induction cooking works for all types of cuisines – whether you’re cooking with a wok, making cooktop breads like tortillas or naan, or whether you need to steam, char, sear or boil. Induction can do it all.

**Improved indoor air quality**

In addition to providing superior performance, induction does not emit pollutants into your kitchen air like a gas burner. Gas stoves, powered by combusting methane gas, release a host of toxic gasses including nitrogen dioxide, carbon monoxide and formaldehyde, entirely separate from the usual steam and smoke released by cooking food. And while cooking food on any type of stove emits fine particulate matter, gas stoves can emit nearly double the amount as electric. Studies have found that indoor air pollution from gas stoves can reach levels that exceed outdoor air quality standards. These air pollutants may lead to inflamed airways, worsened symptoms of pre-existing respiratory illnesses, and can lead to a significantly higher risk of being diagnosed with asthma to develop, with one analysis finding that children living in homes with gas stoves increases the risk of experiencing asthma symptoms by 42%.

For more information on the benefits of induction cooktops and how they work, you can watch a video from the Sacramento Municipal Utility District in California [here](#).

**A more sustainable option**

Because induction stoves are powered by electricity, they present a more sustainable alternative than gas. Electric-powered appliances have the potential to run cleaner and greener as America’s energy system is progressively powered by more renewable energy sources than ever before.
Switching to induction also means homes can transition away from planet-warming methane gas as a fuel source, a necessary step in electrifying buildings and reducing emissions to mitigate the impacts of climate change.

Induction cooktops are also three times as energy efficient as gas stoves and nearly 5-10% more efficient than electric resistance. Due to the electromagnetic technology used in induction, the vast majority of the electricity consumed by an induction stove goes directly towards cooking the food. In contrast, gas stoves allow significant amounts of heat energy to escape into the atmosphere.

If every cooktop sold in the U.S. in 2021 used induction technology, American consumers would save $125 million and 1,000 gigawatt hours of electricity.

As a result, induction cooktops won the ENERGY STAR Emerging Technology Award for 2021-2022, because they meet “rigorous performance criteria to reduce energy use and lower greenhouse gas emissions.”

Things to keep in mind

Pan compatibility

Induction cooktops use magnetism to heat pans directly. This requires cookware with a certain amount of iron inside. Many popular materials including stainless, blue, and carbon steel, cast iron, enamel or ceramic-coated iron work in this case. Some cookware will have the induction logo (see picture) signifying that it is compatible. You can test your cookware by placing a magnet on the bottom of it. If it sticks, it works.

Different options and average costs

Induction stoves and cooktops have traditionally been more expensive than gas and electric competitors; however, as the technology’s popularity has increased, costs have gone down.

There are a few different options for induction depending on your needs and your budget:

1. Induction range

A range is the “full model” which consists of a stove top with multiple burners on top of an oven. A budget induction range can cost around $1,000, whereas more premium options are closer to $3,000. These prices are either comparable or slightly more expensive than the cost of an equivalent gas stove.

2. Induction cooktop

If you don’t need the full range and would just like to purchase a cooktop, you can find induction cooktops available for as little as $400. Depending on what you’re looking for, there are also high-end options available for closer to $850 and over $2,000.

In terms of installation and labor costs, replacing a gas or electric stovetop with induction will typically cost between $225 and $400 on top of the price of the actual appliance. If you are installing an induc-
tion appliance where there was already a high-powered electric one before, installation can be quite simple. If you are installing induction where a gas stove was previously, you will likely need to run a 40 amp circuit to the area of install from your service panel. Depending on the electrical capacity of your service panel, it may need to be upgraded to accommodate the additional electrical load. Consult with a contractor or electrician to determine what is right for your home.

3. Portable plug-in induction hob
A great, low-cost alternative for those who want to test induction is a plug-in countertop hob. This is also a great option for renters who don’t have the ability to swap out their existing stoves. These portable, single hobs can cost as little as $40, with several highly rated models falling under $100. Plug-in hobs are great for people who want to try induction out before committing to replacing their range, allow for cooking outside or on the go, provide extra capacity for making big meals and entertaining large parties, and can reduce exposure to health-harming emissions for those with gas stoves.

Well known manufacturers such as Bosch, General Electric, Electrolux, Frigidaire, KitchenAid, Miele, Thermador, Whirlpool and Samsung produce extremely popular, well-rated induction ranges and cooktops that can be purchased from major retailers like Home Depot, Lowe’s and Best Buy.

If you want to try induction before committing to a purchase, several non-profit organizations, tool libraries, and traditional libraries have lending programs for induction plug-in cooktops. For example, there is an extensive list of induction lending options available in California.
Professional chefs use induction

Many world-renown professional chefs now use induction for a multitude of reasons. Not only is induction more environmentally friendly, but it allows for more control, is easier to clean, and overall more efficient and effective.

Induction stoves are “far easier to clean down after use, which is one of the main reasons we chose induction over gas ...It’s much faster to cook with induction: you can increase or drop the temperature far more quickly, which is a more efficient use of energy. Cutting energy use, when you don’t need it, makes a huge difference…”

-On why induction: “For me, as a chef, the number one reason is cooking power, control, and flexibility. ... Secondly, safety, comfort, and air quality. ... I could list a dozen more reasons, but let’s just finish with cleanup ...”

-Chef Rachelle Boucher (via CleanTechnica)

Induction “isn’t just a great way to cook, but it is also good for your health and the environment.”

-Chef Jon Kung (via YouTube)

“I’m a huge fan of induction cooking... When you turn on the switch—just like when you turn on a lightbulb and it goes on—that’s how fast induction burners heat up.”

-Chef Ming Tasi, author and host of Simply Ming (via Reviewed/YouTube)

With induction, “you can bring a pot of water to boil in just a couple of minutes.”

-Chef Rick Bayless, owner of Frontera Grill (via Reviewed/YouTube)