

Gas Cooking in the UK

IN NUMBERS

15.2 million households in the UK cook with gas

500,000 children with asthma symptoms linked to gas cooking

£ 1.4 billion annual societal cost of gas cooking

In the United Kingdom (UK), tens of millions of people sit down to meals cooked with gas, unaware of the invisible air pollution coming from their gas hobs and ovens.

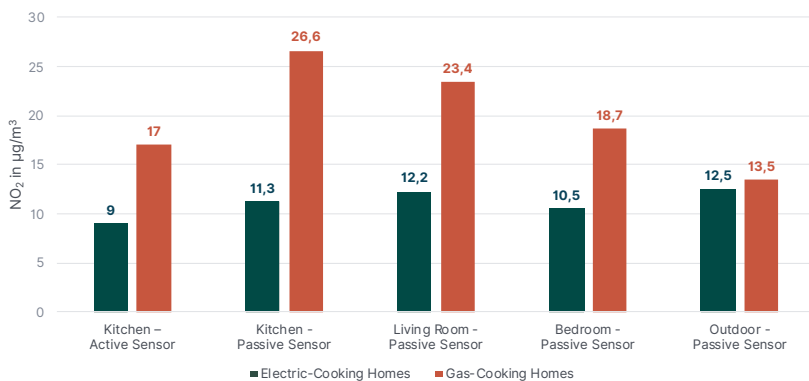
The UK Government has the opportunity and responsibility to protect public health and the environment by facilitating and accelerating the transition to cleaner, electric cooking.

Gas-Cooking Homes in the UK Exceed Air Pollution Limits

CLASP conducted a study across seven countries in Europe, including the UK, comparing indoor air pollution in homes cooking with gas and electric hobs and ovens.

The study found that households cooking on gas have significantly higher concentrations of NO₂ compared to those equipped with electric appliances. Only gas-cooking households exceeded the WHO daily and hourly guideline limits for NO₂ as well as the EU's hourly NO₂ limits. No households using electric cooking appliances exceeded these limits. Outdoor air pollution levels were typically higher than the indoor levels of emissions found in electric-cooking homes, whereas gas-cooking homes experienced on average higher levels of pollution indoors.

AVERAGE NO₂ CONCENTRATIONS IN THE UK



NO₂ EXCEEDANCES FROM GAS- AND ELECTRIC-COOKING HOMES IN THE UK

NO ₂ Standards	Exceedances for Gas-Cooking Homes	Exceedances for Electric-Cooking homes
WHO daily guidelines	55%	0%
WHO hourly guidelines	25%	0%
UK/EU hourly limits	25%*	0%

*Extrapolation of 13 days of measurement data to yearly exceedance

ENERGY

The UK's net-zero and energy security strategies set decarbonisation targets, with limited financial grants to support the switch to heat pumps. Cooking is not included. Ecodesign and energy labelling policies can accelerate the electrification of cooking.

ENVIRONMENT

The UK set a goal to reach net zero by 2050 and reduce greenhouse gas emissions by 68% by 2030. Reliance on fossil gas, including for domestic cooking, undermines these goals. Phasing out gas cooking in the UK between 2027 and 2030 could result in 11Mt of CO₂e reductions by 2050.

HEALTH

No UK policies or regulations directly target indoor air quality. Switching to electric cooking can improve air quality and minimise exposure to pollutants that cause and aggravate cardiovascular and respiratory diseases.

CONSUMER ATTITUDES & TRENDS

In October 2022, CLASP commissioned a comprehensive survey of 2,000 demographically diverse adults in the UK. The survey explored participants' cooking habits, preferences and openness to adopting alternative cooking methods. The findings demonstrate that there are common misconceptions about both gas and electric cooking, coupled with a lack of awareness of the health impacts of gas cooking.

61%
of respondents would consider getting rid of a gas cooker if they knew there were health implications, but only **41%** identified a link between gas appliance use and health issues.



Familiarity with the cooking method is a main driver of consumer preference.



Consumers cite knowledge of health risks as a potential driver to transition to gas-free cooking methods.

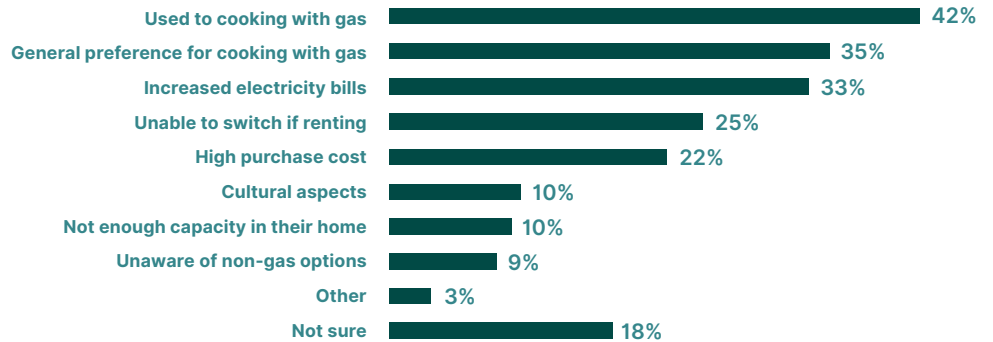


The foremost concerns preventing consumers from making the switch to electric hobs are driven by cost.



would be motivated to switch if there were a financial incentive

BARRIERS THAT POTENTIALLY STOP CONSUMERS FROM SWITCHING TO ELECTRIC

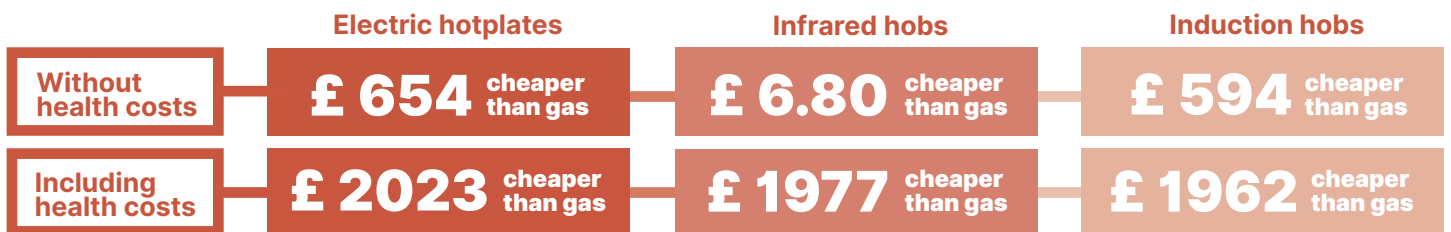


COST OVERVIEW

While often perceived as cost-effective, gas cooking carries significant societal and individual costs. According to CLASP estimates, indoor air pollution from gas cooking amounts to at least £1.4 billion annually in societal costs, such as doctor visits, medication, and the loss of productivity caused by absenteeism, for example.

Although households cite the upfront cost of purchasing a new electric cooker as a barrier to switch, studies show that electric cookers can be purchased at similar or lower costs to gas cooking appliances, depending on technology and their functionalities.

TOTAL COST OF OWNERSHIP *



*The total cost of ownership includes the cost over the lifetime of hobs for 15 years. It considers the full picture of energy costs, taking assumed inflation into account, as well as purchase price, installation, and repair costs.

CHALLENGES



There is a lack of awareness of the health risks of gas cooking.



Gas and electric cooking stoves and ovens are tested differently, preventing consumers from comparing their efficiency and emitted pollutants.



Investments in untested domestic applications for hydrogen distract from investments in existing electric technologies.

OPPORTUNITIES



The UK's existing goal of reaching net zero emissions and reducing greenhouse gas emissions provides an ideal opportunity to phase out gas cooking appliances.



The boiler upgrade scheme offers a convenient pathway to simultaneously transition to electric heating and cooking.



The UK has committed to reforming energy markets so that electricity becomes more affordable than gas, making the switch to electric cheaper to operate.

POLICY RECOMMENDATIONS TO ELECTRIFY COOKING IN THE UK

£ INCENTIVES

The Government should **subsidise the transition to electric cooking**, providing access to cleaner and healthier alternatives to all.

- Provide holistic support, and **couple incentives** for heating and home upgrades with incentives for electric hobs and ovens.
- Act on existing commitments to **reduce electricity tariffs** and **encourage the uptake of electric appliances**, and reform electricity market pricing.
- Priority should be given to low-income or council housing, to **ensure an equitable transition** for all.



REGULATIONS

Through the 2010 Regulations, the UK Government targets outdoor air quality, setting binding limits for major pollutants. However, these standards are unsuitable for monitoring and controlling indoor air pollution, and **there are no dedicated regulations for improving indoor air quality**. To address this, the UK Government should

- Adopt a test method that, for the first time, **directly compares the efficiency of gas and electric cooking appliances**, requiring manufacturers to measure and report on the emissions of their appliances.
- Set **limits on pollutant emissions** from gas cooking appliances.
- Establish the **same efficiency requirements** for gas and electric hobs and ovens, and **require cooker hoods to efficiently capture pollutants**.
- Provide a **new energy label** to enable consumers to **directly compare emissions and the efficiency** of hobs.