

Clean Air

Policy pathway to
reduce air pollution by
phasing out domestic
burning by 2030



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December 2024

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Executive summary of the policy pathway to reduce air pollution by phasing out domestic burning by 2030

Wood burning in our homes is a key cause of air pollution and has significant impacts both on people's health and the environment. Stopping the burning of wood and solid fuels in stoves and open fires requires a range of policies and measures from central and local government and industry.

Local authorities are currently seen as the key agents of change, with theoretical powers to establish and enforce Smoke Control Areas (SCAs) and over air pollution in general (for an excellent outline of local authority statutory powers and duties on air pollution, see page 22 of IPPR, 2023¹). In practice, the current powers are very challenging to implement, do not go far enough, and require more investment in order to be an impactful mitigator.

This - coupled with the approval by central government of stoves and fuels for use inside SCAs, confusing public messaging, and advertising of wood burning stoves - has resulted in an expansion of stove installation and wood burning inside SCAs, the very geographies designated for smoke reduction.

Domestic wood burning is a clear equity issue and should be addressed urgently by the UK government. Domestic burning in the home is now the largest source of fine particulate matter (PM2.5) pollution in the UK, yet the proportion of people who burn is very small. Only 8% of the UK² population own a wood burner, and of these, only 8% burn out of necessity.³ This means 92% of people who burn have other forms of heating, further exacerbating health inequalities and disproportionately contributing to a shared problem for everyone.

Not only can PM2.5 cause cardiovascular conditions, respiratory diseases and lung cancer, but the increasing demand for wood fuel is damaging carbon sinks, contributing to climate change and biodiversity loss, and is costing most householders more money than alternative heat sources would.⁴ By focusing on increasing public awareness, implementing a phase out of domestic burning by 2030 is both aspirational and achievable.

Domestic burning is the largest source of PM2.5 pollution in the UK

Where this report refers to wood-burning stoves, it is referring to all open fires and stoves in the home that burn wood, coal and other solid fuels, such as coffee logs.

The problems

In this report, we outline five critical problems which currently act as barriers to developing effective policy measures to reduce air pollution by phasing out domestic burning:

1. **There is low public awareness of the harms of burning:** Most of the UK public do not yet understand domestic burning's contribution to air pollution, or the health, economic and environmental impacts it has.
2. **Defra approved and Ecodesign labels are leading to confusion around the contribution of domestic burning to air pollution:** With Defra supporting the use of particular types of fuels and stoves through approval schemes and the Burn Better campaign, while the Chief Medical Officer calls out the health harms of burning, the public are receiving mixed messaging about the harms of burning from the government.
3. **Local authorities lack real power and resource to control emissions from woodburning:** Local authorities have insufficient power and resource to enforce existing SCA rules and identify and penalise unlawful burning.
4. **The misclassification of wood burning as carbon neutral allows unchecked carbon emissions to accelerate:** Current UK and EU policies still class wood as a "renewable" fuel, discounting the carbon cost of harvesting, importing and burning wood from national carbon emissions.
5. **Existing and planned homes are currently not set up to disincentivise the installation of wood burning:** There is a missed opportunity to tackle the health harms of air pollution caused by domestic burning in planning decisions.

The solutions

Through desk research and structured interviews with expert stakeholders in the air pollution and heating sectors, we have developed a mix of policy recommendations that, implemented together, would phase out domestic burning across England and stem the growth of this issue. In our view, the latest this mix of approaches, policies and laws should take full effect is by 2030, though given the dire health effects of wood burning and the imperative to stop the build-up of newly installed stoves, it is not only possible but highly desirable to implement them sooner.

In addition to recommendations listed below, it is imperative that legislation covering PM2.5 is updated. At the time of writing, a review of the targets in the Environmental Improvement Plan has been announced.⁵ Furthermore, public health minister Andrew Gwynne announced at the 2024 party conference that Labour is working on a five-point health plan, which includes clean air as one of the key points.⁶ We would urge the government to use these opportunities to ensure PM2.5 targets are in line with World Health Organisation (WHO) guidelines as a minimum.

Our recommended mix of solutions to the five key problems includes:

1. To address the low awareness of harm of burning:

- Introduce public engagement campaigns at national and local levels communicating both the contribution of domestic burning to air pollution, and the health and planetary harms of burning wood and other fuels in our homes.
- Produce new, coherent public information on the harms of burning through health warning labels on stoves and fuel.

- Introduce alert systems with fines for burning on high air pollution days.
- Decrease the social norming of the cosiness of burning through stopping the advertising of stoves and fuel.
- Introduce a licencing scheme for retailers of solid fuels for domestic burning appliances.
- Provide investment and support for households (prioritising low-income households and those with no other source of heating), both to understand the health harms of burning and to replace their domestic burning stoves when tougher curbs are introduced.

2. To review and improve the current legal framework:

- Override existing legislation that allows Defra to approve stoves and fuel for use inside SCAs.
- Urgently tighten national targets for all forms of air pollution, including domestic burning, by committing to WHO targets.

3. To address a lack of power for Local Authorities using the English Devolution Bill:

- Reformulate SCAs by:
 - » Reframing SCAs around PM2.5, rather than smoke, given the impacts of PM2.5 are still harmful when no smoke is present.
 - » Bestowing new powers on councils to restrict stove installations inside SCAs.
- Expand the reformulated SCAs to cover all of England (with exemptions for dwellings with no alternative source of heating).
- Reframe SCAs around PM2.5, rather than smoke, given the impacts of PM2.5 are still harmful when no smoke is present.

- Ensure a national mandate for local authorities to monitor, report and take action on high particulate matter emissions.
- Award investment and additional powers from central government to fully monitor emissions, enforce domestic burning legislation and introduce tougher curbs on pollution.

4. To address misclassification of wood as carbon neutral:

- Consult on and change how burning wood is factored into carbon accounting in the UK and internationally – including stopping importing wood from abroad for domestic burning and ending subsidies for using wood as fuel.

5. To recognise that wood burning is not a green heating solution and should to be factored into home decarbonisation and protect human health using both recommendations from the Future Homes and Buildings Standards consultation, and the Planning and Infrastructure Bill:

- Stop the installation of wood/solid fuel burners in new builds. Remove Permitted Development rights for wood burning stoves.
- Invest in and incentivise the retrofit of homes with suitable insulation and clean energy solutions.
- Use the Great British Energy Bill to prioritise investment in green heating solutions for homes.
- Introduce a licencing scheme for owners of domestic burning appliances.
- Establish an EPC-like set of standards for indoor environmental quality.

To ensure that these changes are enacted in a fair and environmentally friendly manner, prioritising additional supportive policies that allow people to make cleaner energy choices will be key to this phase out. This would include incentives for installing renewable heat sources like air source heat pumps and insulation, linked to the scrapping of domestic burning stoves. Lower income or off gas grid homes should be prioritised.

Many of the proposed solutions could start immediately, with the right political will and support. For example, consultations on phasing out Defra approved stoves and fuels and changing how burning wood is shown in carbon accounting in the UK are processes that will require legislation and so must be started as soon as possible. Investment from central government would need to be secured in order to improve public awareness, monitoring and the enforcement of SCAs. The government's recent cut of £6m in funding for local authorities to address air pollution represents a huge step in the wrong direction and must be reinstated as a priority.

The policy pathway to phase out domestic burning in households with access to other forms of heating by 2030

In the below policy pathway diagram ([Figure 1](#)), we outline the range of different policies and measures that are needed to solve all five of the problems identified and eventually lead to a phase out of domestic burning by 2030. Different policy levers are needed to address the five problems in different ways. Ultimately, these policies would reduce levels of PM2.5 and as a result protect human health and the environment.

The responsibility for introducing different policy measures falls to:

- Central government – to create legislative and regulatory changes, measures, incentives and investments, and for public awareness raising.
- Local authorities – to use their existing powers fully and to benefit from further powers and support from central government, and for public awareness raising.

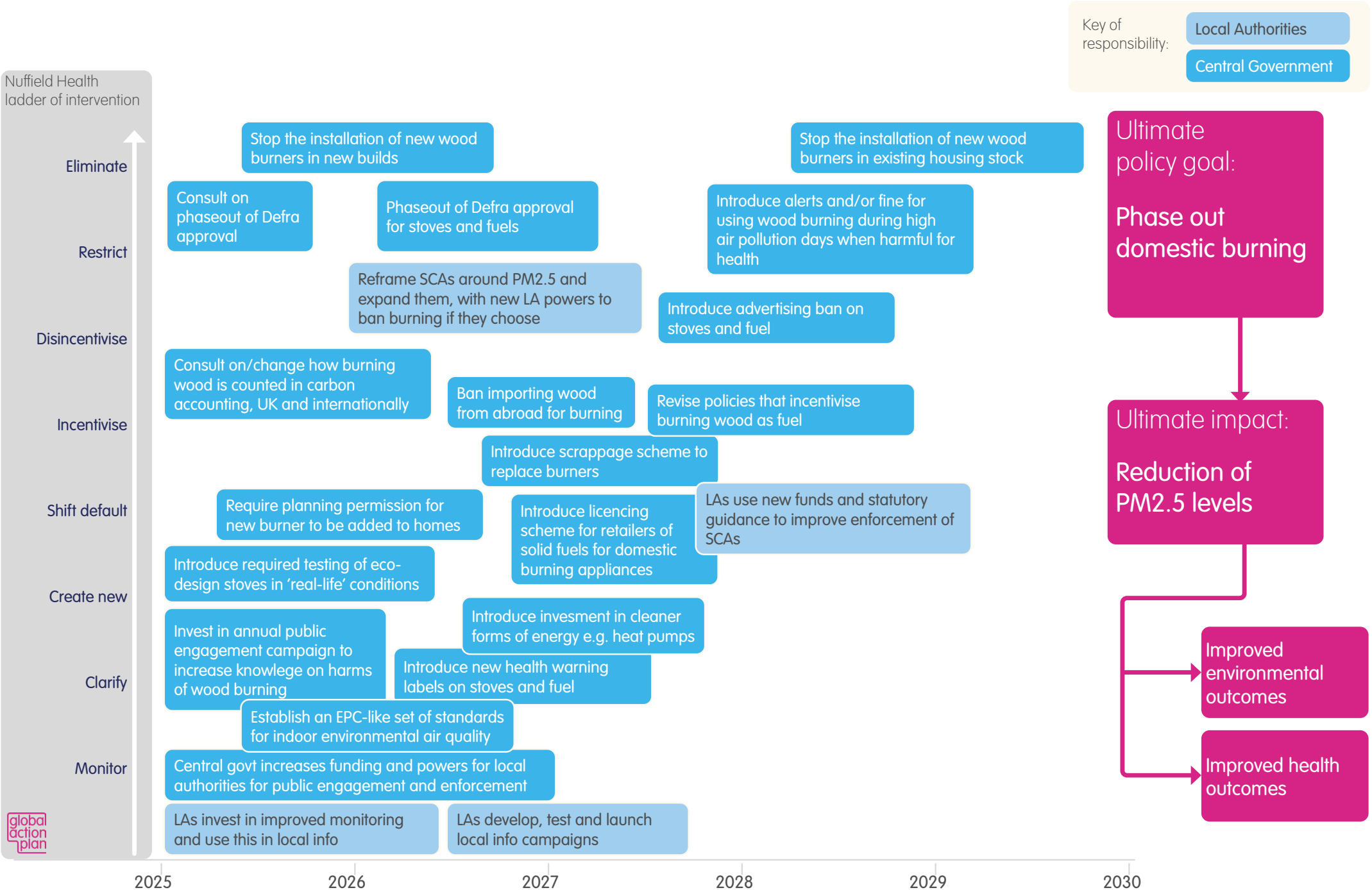
We have mapped the introduction of these different policy recommendations over the next six years. They are intended to be in a logical order, but this doesn't imply that you must finish one policy action to start on the next - any policy could be introduced at any time if the conditions are right.

We have also grouped the policy suggestions against the Nuffield Council on Bioethics' Ladder of Intervention.⁷ We have included this ladder as it is a helpful tool to show us how awareness raising is an essential part of this broader policy pathway. We know that bolder, more impactful policies must go hand in hand with understanding of the policy problem to solve. It is essential that we bring the public along with us as we suggest bolder policies over time: for this reason, public awareness raising is an important part of the policy pathway.

We also acknowledge that these policies are designed to have impact towards reducing pollution and health harm caused by wood burning at each stage, as well as alongside other policies being introduced over time. We might get to a certain point into the pathway where enough impact has been created (e.g. public awareness has increased so much that social norms start to shift, sales drop etc) that means measures further along the pathway become obsolete. We recommend building in review points along this pathway to assess impact of the different policies as they are introduced and assess whether the next phase of policies is needed, building this impact into public engagement.

Figure 1 - Policy pathway

Policy pathway to reduce air pollution by phasing out domestic burning by 2030



Background

Air pollution from the domestic burning of wood and other solid fuels for heating increased by 19% between 2011 and 2021, and now contributes around 29% of total PM_{2.5} and around 15% of total coarse particle PM₁₀ emissionsⁱ.⁸ This is a greater share of total PM_{2.5} emissions than any other UK source, including transport.⁹ Furthermore, a wood burning stove can significantly worsen indoor air pollution, increasing the presence of indoor fine and ultrafine particulate matter by up to 220%.¹⁰

PM_{2.5} is especially harmful to health - being linked to lung and cardiovascular disease, cancers and dementia - and can be found in every organ in the body and in the unborn foetus.¹¹ These health impacts are pervasive across society, not just for people with domestic burners. It is estimated that wood stoves cost the UK and EU €3bn annually in healthcare-related costs.¹²

Burning wood is also harmful to the environment. For the same amount of heat or energy, burning wood releases more carbon dioxide than oil or gas.¹³ Moreover, it takes decades to regrow trees that have been chopped down, in order to absorb the carbon emitted by burning, leading to a greater risk of irreversible planetary damage. Black carbon produced from biomass burning has also recently been found to have a significant warming effect,¹⁴ which contributes directly to climate change.

Some households living off the gas grid, or in locations where other forms of heating are unavailable, may currently have little choice but to burn solid fuels for heating. However, the increase in pollution from domestic burning is largely attributed to burning in urban areas, in households where more affordable and more efficient forms of heating are already available.

Only 1.5% of English and Welsh households have no central heating system at all.¹⁵ The majority who burn out of necessity live in rural areas¹⁶, yet the health impacts of domestic burning are shared much more evenly across the population, particularly in areas that are more densely packed. The leading motivator for using a wood burning stove is for aesthetic reasons (socialising and creating a homely atmosphere).¹⁷

In a recent nationally representative survey conducted by Global Action Plan after the Clean Air Night campaign¹⁸, more than half (56%) of people who used an open fire or wood burning stove, even if only occasionally, did so because they believed it made their home more pleasant and cosy. Twenty five percent said they burned wood because they believed it is cheaper than other forms of heating, and 20% because they believed it was more environmentally friendly than other options. Only 5% said they had no other way of heating their homes.

ⁱ It is important to note that while this report focuses on the emissions of fine particulate matter from domestic burning (ie particles with a diameter of less than 2.5µm - PM_{2.5}), there is growing concern around the rise of ultrafine particle emissions from wood burning (diameter of less than 0.1µm), which are even more harmful to human health as they can reach deeper into biological systems.

It is estimated that around 2.5 million homes in the UK (8%) currently have a wood burning stove, and that this number is growing by around 200,000 stoves per year. According to the Stove Industry Alliance, sales of wood burning stoves increased by +40% between 2021 and 2022.¹⁹ This should be of profound concern to policy makers, as if this trend continues, we estimate that as many as one million wood burning stoves could be installed in UK homes over the course of the next Parliament.

While the latest generation of wood burners have significantly lower emissions than older models and are set to improve further,²⁰ the rise in total emissions from domestic combustion suggests that pollution from an increased number of people burning and/or installing new stoves is outstripping any improvements in efficiency of individual devices.²¹ Additionally, the reduction in emissions in new stoves may be dependent on the fuel type used.²²

The increase in PM2.5 emissions linked to the growth of wood burning stove use in urban areas, alongside relatively low levels of knowledge about the health harms and confusion over environmental impact, presents a significant challenge for policy makers. With evidence mounting about the health and environmental harms of burning wood and other solid fuels, we conclude that the aim of policy should be to end all domestic burning as soon as is practical and no later than 2030.

Currently, PM2.5 is covered by three pieces of legislation. The Clean Air Act – the most recent iteration of which came into force in 1993 – sets out the role of Smoke Control Areas (SCAs). The Deregulation Act of 2015 exempts certain types of fuel and stoves from being banned from SCAs, and the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 set targets for PM2.5 emissions that fall far short of WHO recommendations.ⁱ

In this briefing we explore and make recommendations for a pathway for national and local government to introduce a package of changes that would decrease the human health and planetary harms caused by domestic burning and enable the UK to be among leaders on air quality working towards meeting WHO guidelines. For example, Clean Air Fund research showed that pollution from wood burning would need to reduce by 75% in London to meet WHO limits.²³

Pollution from wood burning needs to reduce by 75% in London to meet WHO limits

In our view, such a pathway requires simultaneous legislation, regulation and policy incentives. These should be implemented alongside clearer and more significant efforts to inform and engage with households currently burning solid fuels for heating,²⁴ as well as a wider public audience who may do so in future.

i UK annual mean concentration targets are 10µg/m3 by 2040, with an interim target of 12µg/m3 by 2028. WHO guidelines (updated in 2021) state that the annual average concentrations of PM2.5 should not exceed 5 µg/m3.

In the context of a new government, many recommendations within this report can be couched within legislation that has already been confirmed as forthcoming. In addition to air quality, this would go hand in hand with climate ambitions, ensuring those who stop burning are able to transition to clean energy and reduce the use of fossil fuel emitting heat sources, as well as creating co-benefits for the economy and local community.²⁵

Only 1.5% of English and Welsh households have no central heating system at all

Scope of this report

Our research and policy recommendations focus on working towards an eventual phase out of domestic burning in households with access to other forms of heating by no later than 2030. The report considers all burning appliances in domestic settings that use all fuel types, including stoves and open fires, in residential, not commercial settings.

The majority of the suggested policies would impact people across the UK. However, the logical starting point for political action is with burning in urban areas, as not only does it contribute disproportionately to the health harms of burning, but most fixed homes in urban areas also have access to alternative forms of heating. Urban areas, as defined by the Office for National Statistics 2011 rural/urban classification,²⁶ which covers 82% of the population.

The focus of this report will be on homes that are connected to the gas grid and where alternatives to solid fuel burning exist. Homes that rely solely on wood burning for heating – whether they are houses in rural areas, boats in urban areas, or other living spaces – are not covered in this report, as phasing out wood burners in these contexts will be more challenging and will require additional measures. However, as efforts to decarbonise homes hopefully ramp up in the second half of this decade, many homes will install heat pumps, including those on and off the mains gas grid.

With such a small proportion of households with no other form of heating, the number of households in both urban and rural areas that need to burn solid fuels for heating should be reducing anyway. So, while the use of wood burning stoves is growing fastest in urban areas, by 2030 all residential areas in the UK should be able to move to reduce or end domestic burning.

The recommendations apply to UK central government or local government in England. Further research is required to create bespoke local plans for the devolved nations of Wales, Scotland and Northern Ireland, but many of the recommendations in this report are considered to be relevant and applicable.

Global Action Plan UK is an independent charity that mobilises people and organisations to take action on the systems that harm us and our planet. Global Action Plan has no links or affiliations to any commercial sector and complies with UK charity law in its campaigning and political advocacy work.²⁷ The reason we are working on decreasing the pollution caused by domestic burning is to protect public health, tackle health inequalities and the climate crisis. This report is independent of any energy industry influence and carries the support of the public health and medical community.

Who burns wood and why?

Kantar research commissioned by Defra gives us a picture of who is burning in their homes (either inside, outside, or both) and why. The research reveals that the majority (81%) of burners either own or are buying their own home and disproportionately belong to AB social grades (40%). 92% of burners are also white.

The primary motivator for burning was identified by Kantar as pleasure (46% of burners), with 28% burning for aesthetic reasons (to create a homely atmosphere and socialise, or as a lifestyle choice) and 18% because of tradition (family experience, nostalgia, identity and creating a homely atmosphere). These burners are more likely to be affluent and own their home, be based in England and London, and burn less frequently as a secondary heat source.

Other motivations for burning captured by the research include self-reliance (24%) and to supplement their main source of heating (23%), with just 8% of people burning out of necessity.

Further research commissioned by Global Action Plan in September 2024 reveals that 22% of the UK public now use an open fire and/or wood burning stove in their home. These burners are most likely to be between the ages of 18-34 (45%) and men (52%). Burning behaviour is not distributed evenly across the country, with 37% of Londoners surveyed stating that they use an open fire and/or a wood burning stove in their home.

Five policy problems around pollution from domestic burning and how to overcome them

There are five problems that stand in the way of the effective curbing of pollution from domestic burning. Each is detailed below with considerations for solutions and relevant policy recommendations.

1. There is low public awareness of the harms of burning.
2. Defra approved and Ecodesign labels are leading to confusion around the contribution of domestic burning to air pollution.
3. Local authorities lack real power and resource to control emissions from woodburning.
4. The misclassification of wood burning as carbon neutral allows unchecked carbon emissions to accelerate.
5. Existing and planned homes are currently not set up to disincentivise the installation of wood burners.

“People consistently underrate the impact of wood burning on PM2.5 air pollution compared to other sources”²⁸

1. There is low public awareness of the harms of burning

The problem

Public awareness of wood burning's contribution to air pollution appears to be low, as is awareness of the health, environmental and financial impacts of wood burning.²⁹

According to Global Action Plan's national poll of over 2,000 UK residents in 2024, more than half of households believe they are making a good environmental choice by installing a wood burning stove. Sixty-three percent of people do not believe that wood burning harms everyone's health or are unsure, and 77% either believe that wood burning is cheaper than other types of heating or are unsure.³⁰ These results suggest there is widespread misunderstanding around the harms of burning in our homes and that the public do not recognise wood burning as a problem yet.

Despite this, current evidence shines a light on the uncomfortable truth about domestic burning - that it:

- Harms your health: it is the largest source of harmful PM2.5 in the UK.³¹ The more harmful PM2.5 you are exposed to, the more likely you are to die from heart or lung disease or lung cancer.³²
- Harms the planet: it creates more harmful CO2 emissions compared to other forms of heating³³ and we cannot reproduce trees fast enough to offset the CO2 emitted by burning wood.
- Harms your wallet: wood burning is almost always more expensive than other forms of heating.³⁴

There are multiple reasons as to why this lack of awareness exists. First, research has shown the link between wood burning and air pollution is not strong in the public's mind.³⁵ People do not connect the health harms created by air pollution to domestic burning. The mixed commercial and governmental messaging ([see next section](#)) around burning in homes confuses the message that domestic burning creates pollution that harms our health.

On the environmental impact, there is a false narrative that wood is infinitely replaceable through forest re-growth, that wood burning is carbon neutral ([see section 4 below](#)).

Domestic burning creates more harmful CO2 emissions compared to other forms of heating

From a cost perspective, the public have been sold the misperception that burning wood in particular is a more cost-effective way of heating your home.³⁶ This has been exacerbated by the energy price rises over the last few years, which have contributed to a cost-of-living crisis and created a greater focus on alternative heating sources. This is leading to damaging health harms: for example, people burning waste wood (including wood treated with chemicals) in London last winter led to researchers at Imperial College London finding arsenic in London's air.³⁷ Data from Defra's Burning in Homes and Gardens report states that a quarter of the population 'burn to save money/deal with waste' and that this segment is less affluent.³⁸

Confusing messaging

Confusion over environmental and health impacts and cost is not surprising when the public is receiving contradictory information about the health, environmental and financial impact of burning.

Messaging from government simultaneously warns people of the health harms of burning wet wood in inefficient ways (via Burn Better campaign) and promotes certain types of fuel and stoves as acceptable through DEFRA approved stoves and “Ready to Burn” wood (see next section for more information). Furthermore, wood burners have been heavily promoted by the stove industry, especially since the spike in gas prices in 2022, as a way of reducing utility bills when used alongside gas central heating. Stove manufacturers and the broader industry reinforce misconceptions about wood burning through marketing efforts – that it is environmentally friendly, low carbon and cheaper than using existing central heating. The media, and property and interior design companies, also promote wood burning as a luxury, aspirational, and a ‘must have’ for increased cosiness, despite not being needed for heating.

Stove manufacturers and the broader industry reinforce misconceptions about wood burning through marketing efforts– that it is environmentally friendly, low carbon and cheaper than using existing central heating. The media, and property and interior design companies, also promote wood burning as a luxury, aspirational, and a ‘must have’ for increased cosiness.

There is also currently poor air quality data presentation and visualisation which contributes to confusion.^{39,40} Usually daily or annual average levels of air pollution are used in messaging, which does not capture the spikes in emissions that represent wood burning pollution during the hours when it is happening (typically 6pm – 10pm in the autumn/winter months⁴¹). Presenting this data as annual averages masks the acute impact of the problem when it is happening. We need clearer data to create strong messages for public awareness and empowerment.

The ‘cosy’ factor

Wood burners frequently take centre stage in lifestyle and home makeover programmes, often depicted as essential components of desirable, well-appointed, and higher value homes. Industry marketing perpetuates this association, fostering the perception and social norm that owning a burner is associated with an aspirational lifestyle. This perception was reflected by a recent poll by Global Action Plan and Opinium where 56% of respondents said that they burned because it made their home more pleasant or cosy.ⁱ

The solution

We can look to other public health success stories like smoking cessation for inspiration on what types of policy and legislative changes can support increased public knowledge of the health harms of domestic burning and how we can accelerate the pace of change.

Interventions such as health labels on domestic burning products (both fuel and stoves) and public information campaigns could have similar social norming impacts for domestic burning. “De-normalising” wood burning as opposed to demonising or shaming burners has been evidenced as the best framing for the issue at present.⁴²

Campaigns that raise awareness of the harms of wood burning have been shown to shift public perception. Research by Kantar Public and Impact on Urban Health found that when presented with a fact based campaign, participants were 37% more likely to say they are concerned about wood burning than a control group.⁴³

Regulating the advertising of both wood burning stoves and fuel, as per restrictions on marketing tobacco products, would further contribute to denormalisation. Transport for London (TfL) banning the advertising of junk food is one example of this happening successfully.⁴⁴ This might start with challenging manufacturers who are greenwashing and ensuring adverts are aligned with public health messaging and ultimately lead to phasing out of advertising altogether.

A licencing scheme for retailers of solid fuels for domestic burning should be introduced as the next step in the evolution of the Woodsure Ready To Burn scheme.⁴⁵ The scheme could also be used to track the provenance of the fuel being sold in the UK ([see Section 4 for more information](#)), help local authorities to keep track of what and how much wood/solid fuel is being sold and create an additional barrier to the sale of this fuel.

Another approach used with success in other countries is to harness high air pollution days as moments to signal the health risks through an alert system. Alerts could be accompanied with requests not to burn while pollution levels are high and introducing fines for burning on those days.

Belgium’s alert system is supported by 90% of the population and asks people not to burn on days of high air pollution. While an air pollution evaluation has not been undertaken, “50% of wood burners say that they had adjusted their behaviour: 20% reported that they had stopped burning and 30% stated that they burned less than before.”⁴⁶

Similarly, a pilot has recently been carried out in the UK, sending air pollution alerts to a selected group of people, along with information about air pollution and recommended actions. The study has had promising results: 74% of participants reduced the burning frequency or duration, preventing at least 178 hours of burning.⁴⁷ Funding has since been awarded to expand this alert system for testing across the city of Swansea.

Case study:

The UK’s first ‘burn alert system’ was piloted in 2023 across 18 counties, providing participants who used stoves and fireplaces as a secondary heat source with amber and/or red alerts notifying them of high air pollution levels and information on actions they could take over a two-week period.⁸⁵

The pilot found that voluntary burn alert systems have the potential to discourage domestic burning and reduce air pollution, with 74% of participants reducing their burning frequency or duration.

However, the researchers found that a lack of confidence in the data acted as a barrier to behaviour change. They suggested that modifying national air quality monitoring systems to better capture local data could address this, in line with this report’s recommendation to increase local authority funding for air quality monitoring.

The participants’ belief that gas or electric heating would be more expensive than domestic burning also hindered action, underlining the need for greater awareness of the financial impacts of burning and a move away from fossil fuel-based heating.

California's Spare the Air Alert takes these systems one step further by issuing fines for non-compliance.⁴⁸ However, no research has yet been conducted to evaluate the efficacy of these fines.

Support people on low incomes to access affordable green energy

People on low incomes need to have heating systems that are affordable and not harmful to themselves, their friends and family, or the environment. Focus group research conducted by Global Action Plan (January 2024) revealed that people are interested in installing green heating, such as heat pumps, but these systems are financially inaccessible at present.

To reduce domestic burning across the country, support must be provided to those who cannot afford to replace their stoves or pay for energy. Incentives, such as vouchers, could be provided to replace wood burning stoves with green solutions such as air-source heat pumps. Similarly, scrappage schemes have been used in many countries to support people financially to transition from domestic burning to other forms of heating, including Stuttgart in Germany, Libby Mondana in the United States, and Tasmania.⁴⁹

It is important that any incentives or replacement schemes introduced for domestic burning be linked into the Great British Energy Bill, in line with other renewable energy grants to be implemented under this legislation.

"Confronted by some of the worst air pollution of any Australian city, Launceston in Tasmania combined a scrappage scheme with an education programme to reduce the wood burning that lay at the heart of its pollution problem. Between 2011 and 2007, winter PM10 fell by nearly 40%, respiratory deaths by 28% and heart issue-related deaths fell by 20%"⁵⁰

Policy recommendations - low public awareness of the harms of burning

Public awareness and engagement at both national and local government level

- Run a national public information campaign on air pollution in the next Parliament, including how domestic burning harms our health and the planet.
- Support local authorities to develop localised campaigns, based on the national messaging, to reach all residents and especially those in areas with high numbers of wood burning stoves/open fires.
- Introduce public health materials on the health risks of domestic burning into training for health professionals, recognising their role as trusted messengers to the public, especially those most at risk from the pollution.
- Stop the advertisement of wood/solid fuel burning stoves and fireplaces and associated fuels, to remove the social norming and lifestyle influencing effect. This could start in the public realm (e.g. Highways England, transport provider advertising spaces) and then include print and digital media, and a requirement for broadcasters not to glamorise or promote wood burners/open fires.
- Present the facts about the negative impacts of wood burning clearly and unambiguously in government communications about domestic burning, including:
 - » Ideally, phase out Defra's approved and authorised stoves and fuels list (see below), and in the meantime, reframe, rewrite and restructure the information on the government website about what burners and fuels are permissible where, so that permissive terms such as 'authorised fuel' and 'Defra approved' are reframed and getting rid of government 'badge of approval' endorsement of products.
 - » Transition government's existing Burn Better campaign with a full picture fact-based public information campaign.

- Introduce alert systems for burning on high air pollution days, with requests not to burn and fines for non-compliance.
- Introduce a licencing scheme for retailers of solid fuels for domestic burning.

Improve labelling on fuel and stoves at national government level

- Introduce mandatory health warning labels on stoves and fuel at the point of sale to inform the consumer about the health risks of domestic burning both inside and outside the home.
- Swap 'Ready to Burn' labelling with labels that convey the health risks of domestic burning even when the fuel is dry.
- Standardise and mandate labels so as to be verifiable, and therefore enforced, by Trading Standards.

Support people on low incomes to access affordable green energy at national government level

- Use the Great British Energy Bill to:
 - » Introduce investment in cleaner forms of energy like air source heat pumps (via vouchers / incentives) to those who need the financial support.
 - » Introduce replacement schemes - not old burner for ecoburner, but alternative forms of heating.
 - » Implement a stove scrappage scheme to incentivise lower income households to opt for low carbon heat or better insulation. For instance, scrapping a stove could be rewarded with home energy efficiency or heat pump vouchers.
 - » Take levies off electricity to make cleaner alternatives to gas heating e.g. heat pumps, more affordable.

2. Defra approved and Ecodesign labels are leading to confusion around the contribution of domestic burning to air pollution

The problem

Defra is still sanctioning the future growth of burning by approving stoves and fuels

Despite its publicly-stated growing concern about the volume of particulate emissions for which domestic combustion of solid fuel is responsible and the Chief Medical Officer calling out the health harms of burning,⁵¹ Defra's list of approved wood burning stoves and fuels for SCAs continues to grow.⁵² Yet while the latest generation of stoves emit much less pollution than older models, they still emit 500 times more PM2.5 than a modern gas boiler, according to the Chief Medical Officer's 2022 report on air pollution: see Figure 2.⁵³

Being able to use a "Defra approved" stove in SCAs provides a loophole that has opened the door and the market to more domestic burning. The lists of permitted stoves and fuels send a strong signal to the public that it is acceptable to burn wood/solid fuels in the home. Indeed, the annual number of stove approvals (i.e. number of new models to win approval) increased very significantly after the six-monthly statutory inventory brought in under the Clean Air Act of 1993 was amended by the Deregulation Act of 2015 and replaced by Defra Secretary of State monthly updates.⁵⁴

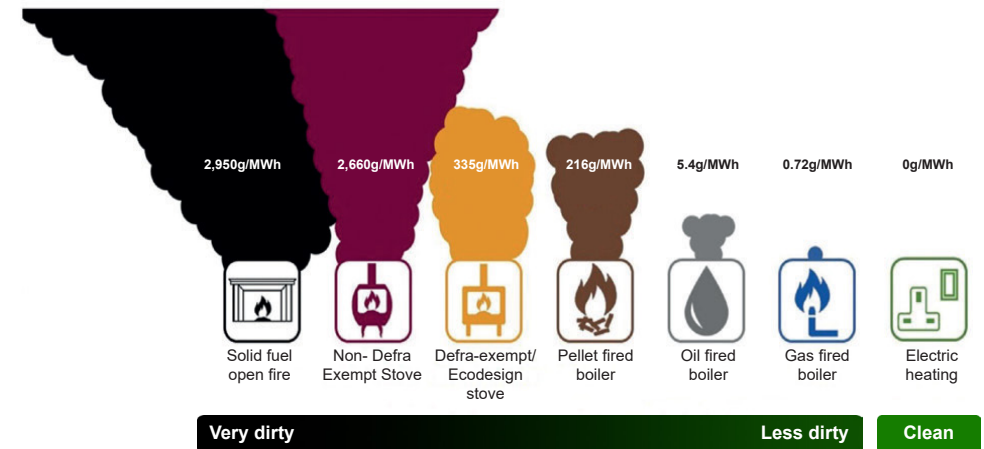


Figure 2: Defra-exempt Ecodesign stoves are one of the worst polluting forms of heating, according to the Chief Medical Officer's report 2022.⁵⁵

The observed increase in PM2.5 emissions from wood burning within SCAs is probably because aggregate pollution from the volume of new stoves is outpacing the efficiency of individual appliances.⁵⁶

The solution

Defra's list of approved Ecodesign stoves and fuels should be phased out. Improved clean air legislation could reverse fuel and stove exemptions allowed through the Deregulation Act of 2015. This would mean that wood burning would no longer be permitted in any stove using any fuel in a Smoke Control Area, thus fulfilling the function they were originally designed to do. Product standards should set Ecodesign as the minimum standard.

i Note: The air pollution emissions will also depend on the age of the appliance, how it is maintained and used and the fuel burned (for example, dry or wet wood). See the Chief Medical Officer's report for definitions and data sources.

Testing of Ecodesign stoves, which has been carried out only on stoves installed after 2022^{i,57}, does not include measuring indoor air pollution, even though it has been shown that using Ecodesign stoves can increase the incidence of PM2.5 indoors by almost 200%, with significant health impacts.⁵⁸ Furthermore, testing is carried out by industry-affiliated HETAS (the Heating Equipment Testing and Approval Scheme). It is a recommendation of this report that testing of Ecodesign stoves must be carried out by an independent body and must include monitoring indoor PM emissions

As car owners understand that their vehicles will not forever be compliant with emission standards, as standards become more stringent and technology changes, so owners of wood burning apparatus can also become aware that the same can be said of burning appliances. A fixed date for the withdrawal of the Defra-approved label could be set well in advance and advertised to consumers via retailers and manufacturers.

Policy Recommendations - Defra approved and Ecodesign labelling of stoves and fuels are leading to confusion around the contribution of domestic burning to air pollution

Legal framework

- Ensure future clean air legislation reverses the measures of the Deregulation Act 2015 that allow for fuel and stove exemptions/approvals.

Defra's sanctioning the future growth of burning by approving stoves and fuels

- Consult on a phaseout of Defra approved lists of exempt/approved appliances and permitted fuels.
- Legislate to close the exempted appliances and permitted fuels list. The consultation and the closure date for these lists should be communicated to industry and the public as early as possible, to send the strong message to the public that the government does not endorse domestic burning, especially in Smoke Control Areas.

Stove testing

- Require introduction of independent testing of stoves and fuels in real life conditions rather than in test conditions.

ⁱ As part of the Ecodesign regulations adopted by the UK post-Brexit in January 2022, all new woodburning stoves must be tested to demonstrate they meet the Ecodesign standards set out by the EU.

3. Local authorities lack real power and resource to control emissions from woodburning

The problem

Power in theory, but not in reality

The principle legal instrument by which government and local authorities have sought to reduce smoke from solid fuel combustion is by designating Smoke Control Areas (SCAs), in which only prescribed types of burning devices and fuels can be used.⁵⁹ Local authorities can expand these without central government permission, but central government can compel local authorities to put an SCA in place if they are slow to do so.

In addition, as established in the Environment Act 1995, local authorities have a statutory duty to monitor air quality and establish an Air Quality Management Area in any neighbourhoods or districts that are likely not to comply with air quality targets. After the addition of national PM2.5 targets in the Environment Act of 2022, guidance was issued to local authorities stating they should take action, including to 'Identify new priority measures to tackle PM2.5'.⁶⁰

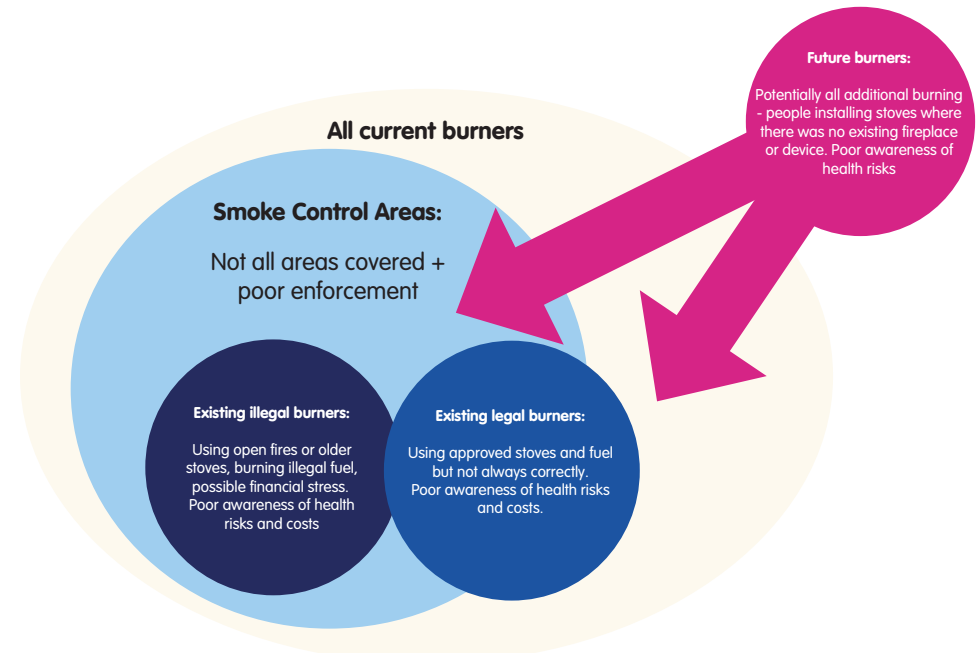


Figure 3. With new burners being added at a rate of up to 200,000 per year – many inside SCAs – poor detection and enforcement and low public awareness of illegal burning, PM2.5 from wood burning are on the rise in the places where they should be falling.

However, the same 2022 guidance does not offer local authorities any additional insight into how to reduce PM2.5 from the increased use of stoves, nor does it require them to come up with plans for reduction.⁶¹ While local authorities have the power to investigate complaints of smoke in their area, and can now enforce smoke control as a statutory nuisance, there is no legal obligation for them to act. Nor do local authorities have a legal obligation to regularly monitor PM2.5 levels or report to Defra or put action plans in place to reduce PM2.5 levels in their areas.

Without such actions mandated at a national level (and with statutory national targets for particulate matter too lax), national funding will not be allocated, stretched local budgets will not prioritise areas where legal requirements do not exist, differing opinions and interests within a local authority can lead to inaction, and local data collection will be inconsistent across the country. Even where there is an interest to act, local authority action can also be hampered by national government: there are some local authorities that would eliminate the use of woodburning stoves within their areas if they had the powers to do so.

Defra's Air Quality Strategy 2023 states that "all local authorities should support the delivery of national PM2.5 targets by taking action to reduce emissions from sources within their control" and "these targets will help drive reductions in the worst PM2.5 hotspots across the country, whilst ensuring nationwide action to improve air quality for everyone."ⁱ It is unclear how these hotspots will be identified or reduction will be ensured if monitoring is not mandated and consistent.

Smoke Control Areas are not fit for purpose

One of the issues with SCAs is that visible smoke is not necessarily the most harmful emission from domestic burning. Burning wood emits invisible PM2.5, the harms of which have already been explained, whether or not visible smoke is present. So removing smoke from the equation does not inherently remove the harms.

Furthermore, for those living outside an SCA, the rules for burning outside of SCAs permit the use of open fires and a wide range of fuel sources that are banned inside SCAs. With no obligations to take action for areas not covered by an SCA, local authorities can exempt themselves from the responsibility of reducing PM2.5 emissions from domestic burning.

Finally, the sporadic national coverage of SCAs does not lead to effective outcomes. Most large urban areas are covered by SCAs, but many areas outside of large cities or some parts of second and third tier cities, are not.⁶²

PM2.5 does not disappear when it reaches the edge of an SCA: it is a transboundary issue. The government's 2023 Air Quality Strategy states "as a regional pollutant, PM2.5 also travels long distances and increases background levels across a wide area."⁶³ Designating an area a SCA due to high emissions might be misplaced if the emissions are coming from a different part of town. Furthermore, in denser, more populated areas, one household's emissions will significantly affect many other people: if you are located just inside the border of an SCA, with harmful emissions coming from a burner outside the SCA, to whom do you turn?

"as a regional pollutant, PM2.5 also travels long distances and increases background levels across a wide area"

ⁱ The two new targets are an annual mean concentration of 10 micrograms per metres cubed ($\mu\text{g}/\text{m}^3$) or below and a reduction in average population exposure by 35% by 2040, compared to a 2018 baseline. [Air quality strategy: framework for local authority delivery.](#)

Local authorities do not have capacity to enforce Smoke Control Areas

The ability to monitor and enforce rules on permitted appliances and fuels for burning within Smoke Control Areas is directly linked to funding allocated by national government. The continued lack of funding has resulted in local authorities' inability to invest in capacity, expertise and equipment for these purposes.

In order to be able to enforce SCAs, local authorities need to be able to identify the provenance of emissions. For this, efficient and effective monitoring is needed, which in turn requires capacity, expertise and appropriate equipment within the local authority.

Many air quality teams have just one person to monitor all types of air quality across the local authority. Inevitably, their role ends up focusing on aspects of air pollution where monitoring, reporting and improvements are legally required – i.e. not domestic burning and PM2.5 levels. Often a local authority's understanding of domestic burning is reliant on people reporting their neighbours, which is risky when awareness of the harms of domestic burning is so low. With complicated reporting systems, even if complaints do come in, local authorities often do not have capacity to deal with them. Research by Mums for Lungs revealed that even though in the six years prior to 2020, English councils received more than 18,000 complaints about wood burning, only seven councils have issued any fines at all; a total of just 19 fines.⁶⁴

Monitoring air quality can be time-consuming and inaccurate without the appropriate equipment. Ecodesign stoves often appear smoke-free (provided the correct fuel is used and burned in the correct way), but they still emit invisible PM2.5. Furthermore, the equipment often used by local authorities shows averages across the area, rather than specific hotspots, which would enable local authorities to identify where illegal wood burning is occurring. The equipment needed to detect PM2.5 effectively is expensive and, while some local authorities have made the investment, many deprioritise it in the face of tight budgets.

If a local authority is not able to monitor and enforce effectively, its income from fees and fines will be greatly reduced. Fees and fines for monitoring are set by national government, which means that they may not be appropriate for each geographic area. The result is that for many local authorities, the revenue from fines may not cover the cost of detection and prosecution.⁶⁵ Combined with Defra's Air Quality grants scheme for local authorities recently being rescinded,⁶⁶ local authorities' ability to implement effective procedures to monitor domestic burning emissions is limited.

The solution

SCAs are an important legal instrument to enforce burning efficiency, but at the moment they are not working. To improve the country's ability to tackle PM2.5 emissions from wood burning, the infrastructure of SCAs must be strengthened.

- SCAs must cover all populated areas across the whole country, rather than disparate areas – which would include an exemption to the rules for burning for households with no other source of heating, prioritising these same households for transfer to green energy and heating sources, as per [section 1](#).

- SCAs must no longer be defined around the problem of ‘smoke’, but of the harmful PM2.5 that all burning appliances emit. This would require a strengthened air quality monitoring and data system in order to track PM2.5 emissions for regulation, which in turn would link into any alert system that might be put in place ([see section 1](#)).⁶⁷

National government should implement legally-binding obligations on all local authorities to give equal importance to PM2.5 as other air pollutants. These obligations would include monitoring PM2.5 to ensure a nationwide baseline level of monitoring, reporting to national government and taking action where high emission levels are present. Obligatory monitoring and reporting must include dense network of monitors, as well as increased citizen monitoring to enhance awareness and availability of data on indoor pollution and outdoor pollution, and the visualisation of emission data showing hourly and seasonal peaks and troughs.

In addition to requiring basic action from all local authorities, it is also important to permit local authorities the autonomy to set stronger restrictions and measures, should they feel appropriate for their jurisdiction. The incoming English Devolution Bill would be the logical home for this policy.

Finally, local authorities must have the capacity to implement the above changes for them to be effective. It is therefore vital that these requirements are implemented alongside appropriate funding and support from national government, in order for local authorities to invest in the requisite people, expertise, training, equipment and technology.

Policy recommendations - Local authorities lack real power and resource to control emissions from woodburning

- Mandate that all populated areas in England should be covered by a Smoke Control Area (exemptions must be included for dwellings with no alternative source of heating).
- Reframe SCAs around harmful PM2.5 emissions, rather than smoke.
- Mandate monitoring and reporting of PM2.5 levels, as well as the creation and implementation of action plans to reduce PM2.5 levels, as a legal requirement of all SCAs.
- Use the incoming English Devolution Bill to allow local authorities to take action on wood burning as they see fit, including allowing them to stop wood burning altogether.
- Apply absolute limits to emissions of PM2.5, and increase the fines on people burning outside of restrictions and measures set.
- Award councils sufficient funding from national government to improve monitoring, detection, data gathering, enforcement and prosecution of illegal burning. For example, investment in improved monitoring technology for more accurate detection.

4. The misclassification of wood burning as carbon neutral allows unchecked carbon emissions to accelerate

The problem

Burning wood and solid fuels also releases carbon dioxide (CO₂), a greenhouse gas, contributing to climate change. It can take decades for trees to regrow and reabsorb the carbon emitted by burning wood.⁶⁸ It is also an inefficient source of heat - for the same amount of heat or energy, burning wood releases more carbon dioxide than oil or gas.⁶⁹ Furthermore, cutting down trees for fuel destroys forests, damages ecosystems and leads to biodiversity loss.⁷⁰

Wood therefore cannot be considered a carbon neutral or zero emission fuel.⁷¹ However, even though burning wood emits carbon faster than trees regrow it is still considered internationally as a renewable energy source, with the 2009 EU Renewable Energy Directive classifying the combustion of wood as zero carbon emissions, and as such is not counted in the UK national emissions inventory. But this classification of burning wood as a zero emission and renewable energy source is misleading.⁷² Forestry for wood fuel is an inefficient way of utilising this valuable carbon sequestering resource.

In an attempt to avoid double-counting, the IPCC Guidelines on National Greenhouse Gas Inventories⁷³ accounts for biomass (including wood) in the land use category, rather than energy, which many country governments have interpreted as meaning burning both home-grown and imported biomass/wood is a zero-emission energy source. And very few governments – especially ones with a legally binding carbon reduction target such as the UK – will want to change this classification to what it actually means in practice, for that would add carbon to the emissions account and make meeting carbon reduction targets more difficult.

While the total volume of wood/biomass burnt in UK homes for heat seems unknown (the authors of this paper could not find a figure), we do know that just one biomass power station (Drax) emits 12 million tonnes of carbon dioxide a year,⁷⁴ that are reported as zero tonnes of carbon dioxide towards UK carbon targets.⁷⁵ The carbon emissions from the growing number of domestic burning appliances are not being adequately accounted for or addressed and are not appropriately acknowledged in the Biomass Strategy.⁷⁶

One biomass power station emits 12 million tonnes of carbon dioxide a year, that are reported as zero tonnes of carbon dioxide towards UK carbon targets

This carbon reporting misnomer has led to disingenuous policy instruments such as the Renewable Heat Incentive and other biomass subsidies, which have perversely led to an increase in carbon emissions and accelerated climate change.⁷⁷ The marketing of wood as a renewable energy source has also led to many people installing a wood burner, thinking it is 'the right thing to do' for climate change.

The solution

Many consider the interpretation of the IPCC inventory accounting convention of counting biomass/wood burning emissions as zero as wrong, and suggest instead that all lifecycle greenhouse gas emissions associated with growing, harvesting, producing, transporting, and burning the biomass, along with projections about how regrowth over the requisite time may offset some of these emissions, should be counted and compared to the alternative scenario of leaving the trees/wood fuel/carbon sinks in place.⁷⁸

With proper and accurate accounting for carbon from biomass/wood burning in place, UK policies and incentives that promote and encourage the use of wood as a fuel, e.g. the Renewable Heat Incentive, should be revisited and revised.

Burning of the most carbon intensive wood fuels, e.g. logs imported from abroad, should be restricted by, for example, a ban on the importing of wood logs for burning in UK homes. The UK's own supply of wood fuel from sustainably managed forestry is likely to be sufficient to supply those off grid homes with no current alternative heat source, as measures are put in place to help these households transition to cleaner fuel sources as referenced above.

The UK government could also resume its international leadership position on tackling climate change by championing accurate national reporting of greenhouse gas emissions from the burning of wood (i.e. not just classifying them as zero emissions), acknowledging and accounting for wood burning and international forestry's contribution to climate change. For example, the UK Government could work with others to call for forest biomass (wood cut from forests) to be taken out of the Renewable Energy Directive.

The framing and communication of burning wood as being 'zero emission' or 'renewable' also needs to change across society and requires leadership from the top to change this common misperception. UK leaders should publicly stop calling wood a renewable energy source and should start talking about its relative carbon emissions and contribution to climate change as the data suggests. As part of the public information campaign recommended above, messages about wood not being a renewable energy source (especially imported wood) should be included. In turn this will help contribute to the reversal in the trend for wood burning stoves.

Policy recommendations - The misclassification of wood burning as carbon neutral allows unchecked carbon emissions to accelerate.

- Publish data on the amount of wood (both UK grown and imported) being burnt in UK homes and where it comes from, and account for the carbon emissions from this source.
- Use the National Atmospheric Emissions Inventory to account for the full lifecycle of greenhouse gas emissions associated with growing, manufacturing, transporting and burning wood for fuel, at both the industrial and domestic level, so that burning wood is not treated as 'zero emissions'.
- Revisit and revise UK policies and incentives that promote and encourage the use of wood as a fuel, e.g. the Renewable Heat Incentive.
- Restrict burning of the most carbon intensive wood fuels, such as logs imported from abroad, by, for example, a ban on the importing of wood logs for burning in UK homes.
- Champion international leadership on accurate national reporting of greenhouse gas emissions from the burning of wood (i.e. not classifying them as zero emissions), and treatment of wood as a renewable energy source (e.g. calling for forest biomass to be taken out of the Renewable Energy Directive).
- Demonstrate and support public communications that burning wood is not a renewable or zero emission energy source through the public information campaign on domestic burning.

5. Existing and planned homes are currently not set up to disincentivise the installation of wood burning

The problem

In the UK, around 22% of the country's carbon emissions come from our homes – including heating, lighting and appliances⁷⁹ – but this does not include the carbon emissions from domestic burning. There is an evidence gap in understanding how much wood is burnt in UK homes and what the carbon emissions are (as some is from UK sources and other wood imported).

In 2023, the government undertook The Future Homes and Buildings Standards consultation on changes to Part 6, Part L (conservation of fuel and power) and Part F (ventilation) of the Building Regulations for dwellings and non-domestic buildings and seeking evidence on previous changes to Part O (overheating). The new regulations and associated guidance, published in 2024 with the standards coming into force from 2025, will amend key sections of the current Building Regulations. The Standards aim to have all new homes 'zero carbon ready', meaning that they will be zero carbon once the electricity grid has been decarbonised. They are also "unlikely to allow the installation of biofuel systems, including wood and manufactured solid fuels."⁸⁰

These changes necessarily only apply to new buildings; householders in existing homes can still install wood burners as long as the appliances and fuels comply with what is required in their area (i.e. inside or outside and SCA). Currently, wood burning stoves have permitted development rights, meaning planning permission is not required, provided local authorities are informed and the new installations are registered. However, these registers are not as accurate as they should be, meaning local authorities are unaware of how many biomass installations exist in their area. Indeed, HETAS notes that "this notification, or lack of to some degree, is being recognised as an area of concern which needs legislation and enforcing".⁸¹

Retrofitting existing housing to ensure it is energy efficient, in terms of its structure and energy sources is an excellent solution for both phasing out wood burning and broader climate and green energy goals. However, it is out of financial reach for most people, and not a priority for others.

Similarly, ensuring appropriate alternative energy sources to wood burning are available is vital, but it is currently unclear if the supply of Air Source Heat Pumps and other suitable alternatives is sufficient to cope with the inevitable demand as wood burners phase out.

The solution

The Future Homes and Buildings Standards must ensure that installation of wood burners and other biofuel systems are not allowed in new builds moving forward.^{82,83}

Multiple additional solutions to this problem could be housed under the incoming Planning and Infrastructure Bill. For existing buildings, planning permission should be used as a tool to limit the installation of new wood burning stoves, which would require the removal of permitted development rights. This would help local authorities better understand how many and which households in their area have a stove, which would facilitate monitoring. Requiring planning permission would also make it more difficult for householders to install a wood burning stoves – especially, for instance if an alternative source of heating were available.

It is imperative to increase investment to ensure new homes and extensions are well insulated and energy efficient, as well as investment and incentives to retrofit old homes, to reduce heating needs. The last government's Boiler Upgrade Scheme awarded grants to replace fossil-fuel-based heating systems in homes with either heatpumps or biomass boilers.⁸⁴ Continuing this funding for heatpumps, removing the option of a biomass boiler, would be an easy first step.

A new licencing scheme for owners of domestic burning appliances should replace the current registration system. Annually-issued licences could be granted based on conditions that ensure best practices are adopted (such as regular chimney sweeping), with exemptions for people with no alternative forms of heating. Licences would enable local authorities to better understand the number, location and types of burning appliance in their areas, and fees would provide additional resources to maintain local air quality. This could be modelled on licencing schemes already in existence, such as for certain dog breeds, septic tanks, television licences, and others.

The introduction of a mandatory EPC-like set of standards for indoor environmental quality that are clear and disclosable, would ensure good internal air quality, including air pollution caused by wood burning, amongst other things. While these standards would be beneficial for all people, they would be of particular benefit for renters, and landlords as they maintain the standards of their properties. Should the Planning and Infrastructure Bill not be appropriate for this policy, the incoming Renters Rights Bill provides an alternative legislative framework.

It is imperative to increase investment to ensure new and old homes are well insulated and energy efficient

Policy recommendations - Existing and planned homes are currently not set up to disincentivise the installation of wood burning

- Ensure building regulations are amended so that wood burners are not allowed in new builds and extensions, as per the Future Homes and Buildings Standards.
- Ensure continued funding for the Boiler Upgrade Scheme, but remove biomass boilers as an option.
- Investigate removing permitted development rights for wood burners so that if people want to put in a new burner, they have to apply to the council for planning permission, giving local authorities the power to approve or reject each application. If feasible, add to the incoming Planning and Infrastructure Bill.
- Use the incoming Planning and Infrastructure Bill to:
 - » Ensure local authorities have the necessary funding and resources to implement the above changes.
 - » Invest in and incentivise energy efficiency and heating retrofits of existing domestic buildings, in line with targets and plans for green energy and better homes.
 - » Prioritise investment in green heating solutions for homes, so that as wood burning is phased out, a clean energy alternative is available and affordable.
 - » Introduce a licencing scheme for owners of domestic burning appliances.
 - » Establish an EPC-like set of standards for indoor environmental quality.

Conclusion

To address the health, environmental and injustice issues of domestic wood/solid fuel burning we need committed action from central government. This includes:

- **Current legislation:** use upcoming legislative instruments, such as the Future Homes and Buildings Standards, Planning and Infrastructure Bill, Great British Energy Bill and review of environmental targets, as well as the clean air component of the five-point health plan, to provide more robust legal frameworks within which to reduce air pollution from domestic burning.
- **Policy consistency:** Increasing the impact of existing campaigns and messaging (e.g. Burn Better) with a shift to more impactful and accurate information about the health and environmental risks associated with wood burning.
- **Regulatory frameworks:** Consultation on and implementation of clear regulations, potentially including a phaseout of government approved product schemes, bans on advertising, and stronger enforcement mechanisms, including greater enforcement powers at the local authority level.
- **Resource allocation:** Allocating sufficient funding and resources to support local authorities in enforcing regulations, implementing public information campaigns, and monitoring air quality.
- **Transition support:** Providing incentives and support for households – especially lower income households - to transition to cleaner heating alternatives, such as heat pumps, and scrapping incentives that promote wood burning.
- **Carbon accounting:** Revisiting policies and incentives related to wood burning to accurately account for its full greenhouse gas emissions.
- **Evidence:** improved data on wood burning in England and the health, climate and ecosystem impacts at a national level.
- **Integration into decarbonisation strategies:** Integrating wood burning policies into broader decarbonisation strategies, such as building regulations and planning guidance.

The policies suggested in this report as mapped onto the pathway set out in [figure 1](#) would pave the way for a phase out of domestic burning in homes with alternative sources of heating by 2030.

We want to continue to work to help turn these policy suggestions into action. If you would like to get in touch and help support this work, please contact cleanerair@globalactionplan.org.uk.

Acknowledgements

Global Action Plan would like to thank the following expert advisors who contributed to the development of this report. Opinions expressed are those of the individual contributors and do not necessarily express the views or opinions of their employers.

- Hazel Agombar, volunteer at Mums for Lungs
- Dr Stuart Aldridge, Principal Environmental Public Health Scientist, Air Quality and Public Health, UKHSA
- Dr Donal Brown, Director of UK Programmes, Ashden Climate Solutions in Action
- Matthew Clark, Programme Manager - Air Quality, Hertfordshire County Council
- Tim Dexter, Senior Policy & Project Manager (AQ), Asthma and Lung UK
- Livi Elsmore, Campaign Manager – Healthy Air Coalition, Asthma and Lung UK
- Dr Gary Fuller, UKRI Clean Air Champion & Senior Lecturer in Air Quality Measurement, Imperial College London
- Jemima Hartshorn, Founder and Director, Mums for Lungs
- Dr James Heydon, Assistant Professor in Criminology, University of Nottingham
- Andrea Lee, Campaigns and Policy Manager, ClientEarth
- Emma Owen, Energy and Climate Consultant
- Tom Parkes, Air Quality Programme Manager, London Borough of Camden
- Melissa Parnell, Environmental Officer and Air Quality Lead, Lancaster City Council
- Dr Anandita Pattnaik, Policy Officer, UK Health Alliance on Climate Change
- Dr William Prescott, Senior Researcher, Bright Blue
- Dr Maya Singer Hobbs, Senior Research Fellow, IPPR (Institute for Public Policy Research)

A special thank you to Impact on Urban Health for the funding and support for this important piece of research.

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