Domestic Burning In Wales

Spring 2025

Contents

Executive Summary

Domestic burning is one of the leading contributors to harmful air pollution across Wales. While some fuels are more harmful than others, all serve to release toxins into the air, which are detrimental to human health.

Despite increasing awareness of the dangers of air pollution, many people remain unaware of the risks posed by domestic burning, particularly to those living with lung conditions, and to the developing lungs of children. Unlike other forms of pollution, it seems here in Wales, local authorities, Welsh government and the public do not perceive it is a serious problem.

Across Wales, we hear regularly from people whose health and daily lives are being affected by smoke entering their properties and communities. These harms are not theoretical: they are real, immediate, and disproportionately felt by the most vulnerable members of our society.

Across the UK, $PM_{2.5}$ emissions from burning wood as a fuel have increased by 89% since 2010.[1] There is no safe level of air pollution to breathe. An air pollutant is any substance in the air that could harm people. Particulate matter (known as PM), and nitrogen dioxide (NO_2) are particularly damaging.

Even so-called "cleaner" appliances such as Eco-design stoves produce levels of PM2.5 that pose unacceptable risks, especially in urban and densely populated areas. Meanwhile, the increased use of wood as a fuel, which is often driven by aesthetic preference rather than necessity, is placing added strain on our health services and undermining climate action.

When people are exposed to high pollution levels, for example next to a busy road or during a high pollution episode, they breathe in these toxic materials. Many experience immediate symptoms such as irritated airways, breathlessness, and coughing. People with a lung condition suffer further with high levels of air pollution. Toxins can exacerbate symptoms, cause an asthma attack or a COPD flare-up.

Air pollution is the biggest environmental threat to public health, second only to smoking. At a cost £1bn per year to our NHS[2]., air pollution is draining our resources, straining our health system and cutting short around 2000 lives a year in Wales[3]. It is a public health crisis

Particulate matter is one of the most dangerous pollutants for human health. It exacerbates lung conditions like asthma and chronic obstructive pulmonary disease (COPD). It has also been linked to the increased likelihood of developing heart conditions, strokes, mental health issues and dementia.

Air pollution has been shown to cause cancers, with research showing that for every 10 μg/m³ of increased exposure to $PM_{2.5}$, the risk of dying from any cancer rose by 22%.[4] If your child breathes in high levels of air pollution over a long period of time, they might be at risk of their lungs not working as well, as they grow older, developing asthma during childhood or as an adult - and if they have asthma already, air pollution can make it worse with wheezing, coughs and lung cancer when they're older and

[1] Department for Environment, Food and Rural Affairs (Defra) (2023). Emissions of Air Pollutants in the UK. Available at: https://www.gov.uk/government/statistics/emissions-of-air-pollutants (accessed March 2025).

[2] Public Health Wales, Making a Difference (2016) phw.nhs.wales/services-and-teams/policy-and-international-health-who-collaborating-centre-on-investment-for-health-well-being/publications-and-resources-bucket/making-a-difference-investing-in-sustainable-health-and-well-being-for-th1/ (Accessed April 2025)

[3] BBC Wales, How can Wales tackle air pollution (2017) How can Wales tackle air pollution? - BBC News accessed April 2025

[4] Turner, M.C. et al. (2016). Cancer Mortality Risks from Long-term Exposure to Ambient Air Pollution: Results from the Canadian Census Health and Environment Cohort. Cancer Epidemiology, Biomarkers & Prevention, 25(5), pp.839–845. Available at: https://aacrjournals.org/cebp/article/25/5/839/71066 (accessed March 2025).

through infections like pneumonia.[5]

We hear about the impact of domestic burning on lung conditions almost every day, whether that's smoke from bonfires or fumes from neighbours' chimneys.

We strongly recommend that Welsh Government do the following:

1. Deliver a national awareness raising campaign to set out clear health advice, including specific guidance to all homes with a wood burning stove or open fire, alongside general messaging on the health impacts of air pollution.
2. Phase out domestic wood burning in urban areas, assist rural residents to transition away from wood as a primary heating source, and support those in fuel poverty with fuel cost assistance.
3. Deliver a nation-wide scrappage scheme for the most inefficient wood burners.
4. Ban the installation of new stoves in homes except in special circumstances.
5. Set up $PM_{2.5}$ monitoring stations in every community for local authorities to accurately analyse the levels of $PM_{2.5}$ across different neighbourhoods, identify hotspots and implement more targeted interventions designed to reduce pollution levels.
6. Use data from increased monitoring to communicate health alerts to people living with lung conditions during periods of higher air pollution. This would better support hospitals and general practices to reduce emergency respiratory admissions, reduce hospitalisations and reduce waiting times.
7. Revise all regulations covering Smoke Control Areas to better support local authorities to implement and enforce SCAs. Along with better monitoring, local authorities would be able to better monitor and investigate and control air pollution caused by domestic burning as well as enabling stronger enforcement for repeat offenders.
8. Set targets for local authorities, regarding $PM_{2.5}$ emissions similar the those for recycling.
9. Be much more ambitious in its implementation of 'Healthy Air, Healthy Wales'
10. Roll out Smoke Control Areas (SCAs) nationwide with exemptions only for rural communities

[5] Asthma + Lung UK (n.d.). How Air Pollution Affects Children's Lungs. Available at: https://www.asthmaandlung.org.uk/how-your-lungs-work/risks-your-childs-lungs/air-pollution (accessed March 2025).

Background

Health impacts of domestic burning

During colder weather, there is often an increase in domestic burning across Wales, with people lighting fires and stoves to keep their homes warm in winter. Add to that the cost-of-living crisis of recent years and it is unsurprising that some are turning to alternative sources of heat. However people in Wales are largely unaware of the risks posed by burning solid fuel, which cost more, in the long term, than energy bills.

We repeatedly hear from people living with lung conditions that this has a significant impact on their lung health. This affects their ability to go outside, even into their gardens and to leave windows open for much needed ventilation, while a neighbour burns wood or any type of fuel.

The two most dangerous pollutants for human health are nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$). Air pollution has a major impact on public health, and it is linked to an estimated 2000 deaths per year in Wales[6] and around 43,000 deaths across the UK. A single fireplace operating for one hour and burning 10lbs of wood, is estimated to emit 4,300 times more carcinogenic polyaromatic hydrocarbons than 30 cigarettes.[7]

Poor air quality readily exacerbates asthma and COPD symptoms. This results in people feeling more anxious about their lung health. It also increases the likelihood of a hospital admission. Air pollution has also been linked to the increased risk of developing lung cancer, birth defects, heart conditions, strokes, poor mental health and dementia.

Fine particular matter - $PM_{2.5}$

What is it?
Tiny particles of solid and liquids in the air, such as dirt or dust. Referred to by their diameter in size, $PM_{2.5}$ has a diameter smaller than 2.5µm (microns) - 30 times smaller than the average human hair.

How bad is it?
Particulate matter can trigger asthma attacks and symptoms flare ups for people living with a lung conditions such as COPD. It can enter deep into the lungs and into the blood stream. It is incredibly damaging to human health.

An estimated 97% of people in the UK are breathing levels of $PM_{2.5}$ above what the World Health Organisation (WHO) guidelines recommend.

Where does it come from?
Concentrations of $PM_{2.5}$ are particularly bad in cities and large towns. The main sources of $PM_{2.5}$ pollution are industrial combustion, domestic combustion and road transport.

[6] Natural Resources Wales (n.d.). Improving Our Air Quality.
[7] Families for Clean Air (n.d.). Health Effects of Wood Smoke. Available at: https://www.familiesforcleanair.org/health/health4/ (accessed March 2025).

Contribution to air quality in Wales and the UK

In Wales, the health impact of burning wood is two-fold: it increases the levels of dangerous pollutants inside the home; and increases the levels of ambient $PM_{2.5}$ in the air outside, impacting both those choosing to burning wood and those who happen to live, work and play nearby.

While the use of solid fuel as a primary heat source is relatively low overall (accounting for just 1% of homes across Wales[8] and 4% in rural areas)[9], many households use solid fuel appliances to complement existing heating systems. Nonetheless, the emissions associated with domestic burning pose serious risks to public health and the environment[10].

One study found that wood burners can triple the number of harmful pollutants in the home[11]. Another has found that even Eco-design stoves emit 750 times more pollution than an HGV[12]. While the exact impacts of wood burning stoves are contested by the Stove Industry Alliance, it is clear that they emit a significant amount of $PM_{2.5}$, which we know can enter the lungs and then the blood stream which can severely damage human health.

In January 2022, European regulations came into force to ensure that all new wood burning stoves, multi-fuel stoves and fireplaces must meet strict new guidelines known as Eco-design. However, even if someone purchased and installed a stove prior to January 2022 that does not meet these new standards then they currently don't have to do anything with that stove, as long as they are burning approved fuels.

Even kiln-dried wood and smokeless coal, which are still legal to burn in the UK, emit high levels of $PM_{2.5}$. These levels are extremely dangerous for vulnerable groups such as young children, the elderly and those living with lung conditions. There is also some concern about other chemicals which can be released through the burning or kiln-dried wood as a result of the treatments it has undergone to dry out. While the academic research is ongoing as we learn more each year about the full impact, this remains a major cause for concern for public health. Therefore, anyone with a lung condition should avoid burning anything on an open fire or in a wood burning stove, regardless if it is an Eco-design stove or not.

Across the UK, domestic burning is a major source of particulate matter emissions, accounting for 16% of PM_{10} and 27% of $PM_{2.5}$[13]. For comparison, in the same year, road transport accounted for just 13%, the proportion of all emissions stemming from domestic burning and will become even more prominent.

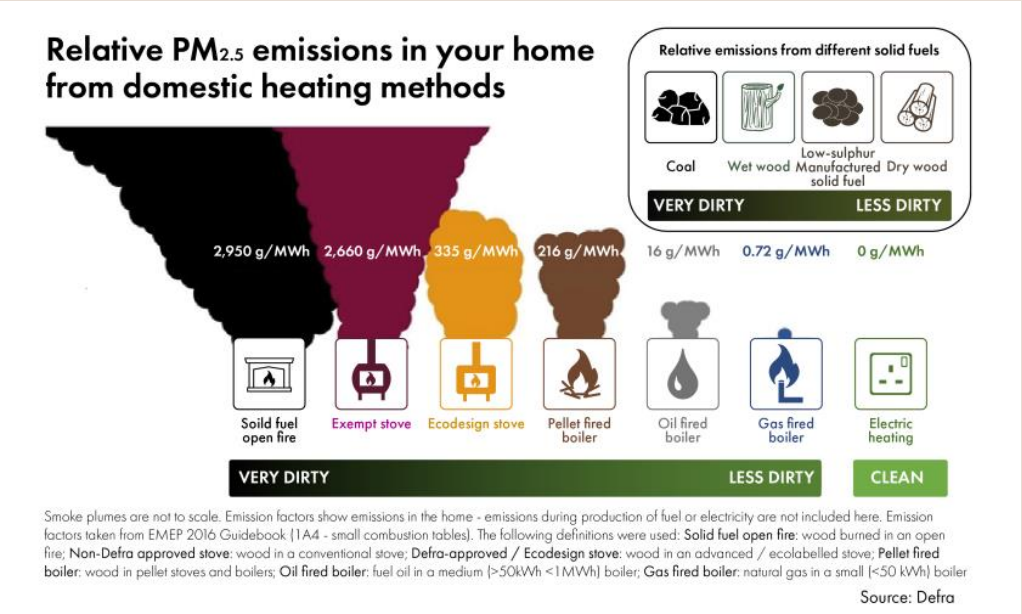
The use of wood stoves and open fires has been increasing year on year. As a result, levels of $PM_{2.5}$ from domestic wood burning have increased by 35% between 2010 and 2020[14]. This has been attributed to a growing trend towards wood burning as a luxury household appliance, rather than due to any reduction in traditional heating methods. There has, however, been a 20% increase in wood

[8] Welsh Government (2018). Welsh Housing Conditions Survey 2017–18: Headline Report (Updated).
[9] Ibid.
[10] Welsh Government (2020). The Clean Air Plan for Wales: Healthy Air, Healthy Wales.
[11] Laville, S. (2020). Wood Burners Triple Harmful Indoor Air Pollution, Study Finds. The Guardian, 18 December. Available at: https://www.theguardian.com/environment/2020/dec/18/wood-burners-triple-harmful-indoor-air-pollution-study-finds (accessed March 2025).
[12] Air Quality News (2023). Why We Need Transparency in the Wood-Burning Industry. Available at: https://airqualitynews.com/news/fuels-news/feature-why-we-need-transparency-in-the-wood-burning-industry/ (accessed March 2025).
[13] Department for Environment, Food and Rural Affairs (Defra) (2023). Emissions of PM10 and PM2.5 in the UK. Available at: https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-particulate-matter-pm10-and-pm25 (accessed March 2025).
[14] IBID

burning stove sales as a result of increased gas prices across the UK[15].

During the winter months there is likely to be an increase in use of wood stoves and fires most likely as a result of the cost-of-living crisis and soaring gas and electric costs.

The UK Government's Department for Environment, Food and Rural Affairs research (shown in image below) found Eco-design stoves produce 450 times more PM2.5 emissions than gas boilers[16]. For older stoves, now banned from sale, emissions are 3,700 time greater than a gas boiler.



Burning trends in Wales

Despite its major contributions to levels of air pollution in the UK, just 8% of homes are burning combustible fuel - including wood, coal and biomass[17]. In Wales that figure stands at 12%, which is higher than the UK average and nearly twice as a high as Scotland.[18]

Generally, wood burning tends to be most prevalent across towns and cities, with 68% of those burning wood living in urban areas of the UK[19]. With mains gas being accessible in urban environments, it is clear most people who burn are doing so for an additional source of heat.

Domestic burning is a social issue

Wood burners are increasingly more appealing to the more affluent especially in urban areas. In these

[15] Reynolds, M. (2022). Stove Sales Soar as Gas Bills Rocket – but Experts Fear Pollution Will Rise. Daily Mail, 17 February. Available at: https://www.dailymail.co.uk/news/article-10509439/Stove-sales-soar-gas-bills-rocket-experts-fearincrease-add-pollution-levels.htm (accessed March 2025).
[16] Laville, S. (2022). Eco Wood Burners Produce 450 Times More Pollution than Gas Heating, Report Finds. The Guardian, 8 December. Available at: https://www.theguardian.com/environment/2022/dec/08/eco-wood-burners-produce-450-times-more-pollution-than-gas-heating-report (accessed March 2025).
[17] Department for Environment, Food and Rural Affairs (Defra) (2023). Domestic Combustion Emissions – Research Project AQ0828. Available at: https://randd.defra.gov.uk/ProjectDetails?ProjectID=20159 (accessed March 2025).
[18] IBID
[19] IBID

areas, a minuscule fraction use wood burning stoves and open fires as their primary source of heat. It is clear that for the vast majority using such heating methods in urban areas, it is for aesthetic purposes.

In light of soaring gas and electric prices so far this decade, less affluent households in Wales are less likely to have the means to retrofit fireplaces or purchase newer and more efficient wood burners. These household are more likely to have greater exposure to poor air quality. We know that it is the most densely populated areas across our towns and cities that have much higher levels of $PM_{2.5}$. These are also areas where we find the most deprived communities. Therefore, it is clear that this is an area where more affluent households could directly affect the health and quality of life of their less wealthy neighbours.

Burning wood is not environmentally friendly

Wood burning stoves are being increasingly marketed as clean, green forms of domestic heating, particularly when compared to gas or oil burning heaters. This is because wood burning stoves do not rely on fossil fuels to operate and can be classed as carbon neutral forms of heating.

Carbon neutral means that carbon dioxide (CO_2) released from the wood when burnt is balanced out by the CO_2 that the wood absorbed during its life. Wood burning is also seen as renewable because new trees can be planted after they have been cut down. However, despite these things both being true, it is not the case that wood burning is an environmentally friendly form of heating. There are a number of considerations that are often overlooked when making the case for wood being a renewable, carbon neutral fuel.

Firstly, suggesting wood burning is carbon neutral does not take into account the timeframe needed for trees to grow back when cut down for heating - wood burning only achieves carbon neutrality as a source of heating in the long term. It can take several decades and even centuries for forests to regrow[20].

Secondly, replanted trees do not have the same carbon capturing capability as forests that are native to Wales and the UK. Research has shown that native forests store more carbon dioxide than planted forests, one study concluded that it would take 40 to 100 years for a managed forest to capture the same amount of carbon as a natural forest[21]. Trees planted for wood pellets are often cut down within 20 years which is not enough time to absorb the same quantity of carbon than they emit.

Thirdly, most people in the UK are not able to source their wood from local, renewable sources. The UK is the second largest importer of wood products in the world[22] and imports of wood pellets, primarily used for burning, have increased year on year since 2019[23]. Imported wood cannot be carbon neutral, as it creates additional carbon emissions from transportation, with around 80% coming from North America to the UK.

Cutting down wood for fuel has broader environmental impacts beyond CO_2 emitted into the atmosphere and should, as a result, be reduced as much as possible. Forest ecosystems are vital for our planet and health. Deforestation and cutting down trees have disastrous consequences for biodiversity. An increase in the demand of wood or wood pellets will drive the harvest of biologically diverse old-forest growth, often in countries that have low environmental regulation. Evidence has also shown a host of negative consequences for health linked with deforestation.

[20] ScienceDaily (2018). Air Pollution Linked to Increased Risk of All Cancers. Available at: https://www.sciencedaily.com/releases/2018/03/180322140915.htm (accessed March 2025).
[21] IBID
[22] Forest Research (2021). Forestry Statistics 2021. Available at: https://www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics/ (accessed March 2025).
[23] IBID

Furthermore, carbon neutrality should not be seen as the goal in and of itself. Welsh Government has set the goal of at least 100% reduction in net zero greenhouse gas emissions by 2050[24] . Whilst under certain circumstances wood burners could be seen as carbon neutral, they are not "net zero" as this refers to not emitting CO_2 emissions from the start. Therefore, an increase in wood burning will undermine our attempts to reach net zero emissions by 2050, or indeed the interim targets of an at least 48% reduction in net emissions by 2030.

Finally, particulate matter pollution (both $PM_{2.5}$ and PM_{10}) is itself helping to speed up climate breakdown. Particulate matter can be circulated around the globe, ending up in the most remote places, including the polar regions. When PM lands of ice and snow it darkens them slightly, leading to less sunlight being reflected into space, and contributing to global warming[25].

We are concerned that Welsh Government may seek to rely on wood burning as part of its Net Zero targets. However, this would be short sighted and in conflict with its statutory responsibility to consider the well-being of future generations in its decision making.[26]

Policy context

Wood burning is a health and environmental issue, resulting in increasing levels of ambient $PM_{2.5}$. There is a duty to reduce levels of wood burning not just to protect those in their homes, but their neighbours and wider communities as well.

The Welsh Government has previously recognised that burning solid fuels is not compatible with long-term climate and clean air objectives[27]. In 2021, the Welsh Government consulted on proposals to reduce emissions from domestic burning, including phasing out the sale of bituminous (house) coal and wet wood[28].

We must therefore take a far more ambitious approach for public health based on all available evidence, in line with World Health Organisation's advice for protection from environmental hazards

In order to do this, there needs to be a policy framework that protects public health first. In Wales we welcomed 2024's passing of the Environment (Air Quality and Soundscapes) (Wales) Act 2024; however we are disappointed by the slow pace at delivering the necessary regulations and guidance, which have not been as ambitious as we had expected.

Asthma + Lung UK Cymru are willing partners in the drive for policy change, chairing Healthy Air Cymru and providing secretariat for the Senedd's Cross Party Group on Clean Air. We are eager to continue to work the Welsh Government to develop the ambitious and effective strategies the people of Wales need to breathe cleaner air.

House coal and wet wood

All new stoves for sale in Wales and the UK must meet Eco-design standards, as set out in European regulations in January 2022[29], however these only account for less than 10% of all wood burning stoves

[24] Climate Change Policies - Climate Action Wales
[25] United Nations Environment Programme (2022). Air Pollution and Climate Change: Two Sides of the Same Coin. Available at: https://www.unep.org/news-and-stories/story/air-pollution-and-climate-change-two-sides-same-coin (accessed March 2025).
[26] Future Generations Commissioner for Wales (2015). Well-being of Future Generations Act 2015.
[27] *Reduction of emissions from domestic burning of solid fuels – Summary of responses (Welsh Government, 2021)*
[28] *Reduction of emissions from domestic burning of solid fuels – Summary of responses* (Welsh Government, 2021)
[29] Clean Air London (2022). Implementation of Ecodesign Regulations from 1 January 2022. Available at:

currently in use in the UK and there are no plans to retrofit existing stoves[30]. Improvements in wood burners and technological change are not enough. There must also be behavioural change across the country to move away from coal and wet wood.

In a Welsh Government consultation in 2023, respondents argued that allowing only the sale of 'seasoned' or dried wood leads to further emissions[31]. However, this disregards entirely the public health impact of burning wet wood.

There was, however, broad agreement that restricting the sale of wet wood could have a significant impact on reducing domestic combustion emissions[32]. Many respondents highlighted the importance of seasoning and proper storage and called for a certification scheme to ensure the quality of wood sold to households. There was also strong support for an awareness campaign to educate both retailers and consumers on best practices for storing and burning wood[33].

The majority of respondents to the consultation supported the phasing out of house coal, citing the high levels of fine particulate matter emitted and the associated health harms. In response, the Welsh Government has committed to introducing regulations to ban the sale of bituminous house coal, supporting cleaner air particularly in urban areas[34]. However, respondents also expressed concern about affordability, unintended consequences such as increased wood burning, and the need to consider the specific needs of rural and fuel-poor households[35].

While these measures are likely to reduce levels of $PM_{2.5}$, they risk being ineffective without efficient enforcement. House coal releases just under 5 times more $PM_{2.5}$ than smokeless coal, and wet wood releases 4 times more $PM_{2.5}$ than dried wood. Regardless of any interventions to limit $PM_{2.5}$ emissions, it must be remembered that domestic combustion in all forms is incredibly dangerous to human health, as there is no safe level of air pollution to breathe. It is clear than exposure to any level of $PM_{2.5}$ from wood burning is likely to cause damage to people's health, whether that wood has been kiln-dried or not.

There is a risk that allowing some types of wood to be burnt in specific Eco-design stoves will promote the idea that these are safe ways to burn fuel in the home. This is not the case. We know that there is no safe level of air pollution, and such policies could undermine attempts by governments to communicate the importance of reducing air pollution for public health and environmental reasons.

Smoke Control Areas

First introduced as part of Clean Air Act 1993[36] smoke control areas make it illegal to emit smoke from chimneys unless exempt of using authorised fuels. In Wales just four out of 22 local authorities contain smoke control zones. All of these zones are in urban areas, with most covering exceedingly small areas of towns and cities. They can be found in Flintshire, Newport, Swansea and Wrexham only.

In contrast, Smoke Control Areas in England are far more widespread, with the whole of Manchester designated as an SCA nice 1985, while the vast majority of London boroughs, Birmingham, Bath,

https://cleanair.london/policy/implementation-of-ecodesign-regulations-from-1-january-2022-is-an-important-step-on-the-path-to-banning-wood-burning (accessed March 2025).

[30] Department for Environment, Food and Rural Affairs (Defra) (2023). Domestic Combustion Emissions – Research Project AQ0828. Available at: https://randd.defra.gov.uk/ProjectDetails?ProjectID=20159 (accessed March 2025).

[31] Reduction of emissions from domestic burning of solid fuels – Summary of responses (Welsh Government, 2021)

[32] *IBID*

[33] *IBID*

[34] *IBID*

[35] *IBID*

[36] Welsh Government (n.d.). Smoke Control Guidance.

Bristol, Liverpool, Hull and Oxford are also SCAs in their entirety.

Through Freedom of Information requests, Asthma + Lung UK Cymru has found that between 2020 and 2024, no complaints have been made about violations of these restrictions and resultantly no action has been taken. This is unsurprising given the small size of these areas, the lack of publicity and the degree of permissiveness in the restrictions.

Smoke control areas are not fit for purpose in Wales. They cover such limited areas and allow a long list of authorised fuels, all of which are extremely harmful to public health.

At the end of 2024, Welsh Government published a consultation into its new smoke control guidance[37]. However, the new guidance does not serve to encourage councils to establish any further smoke control zones and does nothing to emphasise the dangers of wood burning, particularly as a secondary, unnecessary heat source.

Given the worrying upward trend in this type of wood burning we are disappointed with Welsh Government's lack of action to protect Wales's lungs.

Public awareness of the dangers

Asthma + Lung UK Cymru has been calling for greater education around the dangers associated with air pollution, as well as the specific dangers that domestic burning can cause to people with asthma and other lung conditions.

In Wales there is a marked lack of awareness of the dangers of air pollution. In a recent survey, while over 60% of our supporters were concerned about air their families respiratory health, and over half were concerned about air quality in their local area, less than half of them were concerned about the increase in the use of wood burning stoves. [38]

Regulation is only one part of the solution. Behavioural change initiatives are seen as essential in reducing reliance on domestic solid fuel burning. Education campaigns should focus on the impacts of air pollution on health—particularly indoor air quality—and promote the adoption of less polluting fuels and appliances. There is also scope to explore financial incentives to support households to transition away from solid fuel use, particularly in areas affected by fuel poverty[39].

When it comes to domestic burning, there is simply not enough knowledge of the potential dangers both to the individuals burning wood inside and also to others nearby.

[37] IBID
[38] Asthma + Lung UK Cymru, Opinion Matters Survey 2024
[39] Natural Resources Wales consultation response, cited in *Domestic Solid Fuel Consultation Summary*, 2021

Policy recommendations

1. Deliver a national awareness raising campaign to set out clear health advice, including specific guidance to all homes with a wood burning stove or open fire, alongside general messaging on the health impacts of air pollution.

2. Implement a ban on the sale of the most polluting fuels such as house coal and wet wood.

3. Introduce a ban on wood burning stoves in new build homes.

4. Deliver a nation-wide scrappage scheme for the most inefficient wood burners.

5. Legislate for annual MOT-style checks on existing wood burners and stoves,

6. Set up $PM_{2.5}$ monitoring stations in every community for local authorities to accurately analyse the levels of $PM_{2.5}$ across different neighbourhoods, identify hotspots and implement more targeted interventions designed to reduce pollution levels.

7. Use data from increased monitoring to communicate health alerts to people living with lung conditions during periods of higher air pollution. This would better support hospitals and general practices to reduce emergency respiratory admissions, reduce hospitalisations and reduce waiting times.

8. Set targets for local authorities, regarding $PM_{2.5}$ emissions similar the those for recycling.

9. Be much more ambitious in its implementation of Healthy Air, Healthy Wales.

10. Roll out Smoke Control Areas (SCAs) nationwide with exemptions only for rural communities

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1. Department for Environment, Food and Rural Affairs (Defra) (2023). *Emissions of Air Pollutants in the UK*. Available at: https://www.gov.uk/government/statistics/emissions-of-air-pollutants (accessed March 2025).
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9. Ibid.
10. Welsh Government (2020). *The Clean Air Plan for Wales: Healthy Air, Healthy Wales*.
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12. Air Quality News (2023). *Why We Need Transparency in the Wood-Burning Industry*. Available at: https://airqualitynews.com/news/fuels-news/feature-why-we-need-transparency-in-the-wood-burning-industry/ (accessed March 2025).
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14. Ibid.
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18. Ibid.
19. Ibid.

20. ScienceDaily (2018). *Air Pollution Linked to Increased Risk of All Cancers*. Available at: https://www.sciencedaily.com/releases/2018/03/180322140915.htm (accessed March 2025).
21. Ibid.
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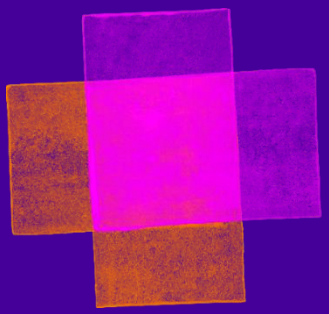

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