

Cllr. Hannah Lawson  
Convener of Climate Change and Nature  
Scrutiny Performance Panel

(VIA EMAIL)

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*Please ask for:* Councillor David Hopkins

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*Our Ref:* DH/JG

*Your Ref:*

*Date:* 28 April 2023

Dear Cllr. Lawson,

**Re: Convener's letter to Cabinet Member David Hopkins - Climate Change and Nature Scrutiny Panel 8 March 2023**

Thank you for your questions following Climate Change and Nature Scrutiny Panel Meeting on 8 March 2023.

I respond as follows:

**Question**

- **Link to be provided for schools/governors to get support for school biodiversity activities and initiatives.**

**Response**

The recently created 'toolbox talk' on Ways to help Nature <https://www.swansea.gov.uk/article/19449/Ways-to-help-nature> has been designed for all council staff and has been circulated to all schools. It includes a link directing to the Nature Conservation Team for support on school biodiversity activities and initiatives.

**Question**

- **Annual Progress Report on Air Quality to be circulated to Panel once submitted to Welsh Government.**

**Response**

Officer Tom Price will be circulating the Annual Progress Report on Air Quality once this has been appraised by Welsh Government. The documents have been submitted.

**Question**

- **Professor Lewis' presentation to be provided to the Panel for information.**

**Response**

Please find the slides attached.

## Question

- **Welsh Government consultation on fireworks to be circulated to the Panel.**

## Response

I apologise for the confusion, as it wasn't actually a consultation with Welsh Government on Fireworks but a link to petitions received to the Senedd and UK Parliament calling for the public sale of 'quiet fireworks' only, tighter age restrictions and a complete ban on firework sales to the public. I have attached the link below:

<https://research.senedd.wales/research-articles/fireworks-regulation-in-wales-a-burning-issue/>

Within this article, reference is also made to Air Quality and 'spikes in airborne PM2.5 pollutants'.

There was also reference made within Welsh Government's 'The Clean Air Plan for Wales' to investigate the contribution domestic bonfires and fireworks make to levels of PM<sub>2.5</sub> emissions. I have attached the link below:

<https://www.gov.wales/sites/default/files/publications/2020-08/clean-air-plan-for-wales-healthy-air-healthy-wales.pdf>

I hope this answers your questions.

Yours sincerely



**Y Cynghorydd David Hopkins / Councillor David Hopkins**  
**Dirprwy Arweinydd / Aelod y Cabinet dros Wasanaethau a Pherfformiad**  
**Corfforaethol**  
**Deputy Leader / Cabinet Member for Corporate Services & Performance**

Enc.

# Domestic burning

Professor Paul Lewis

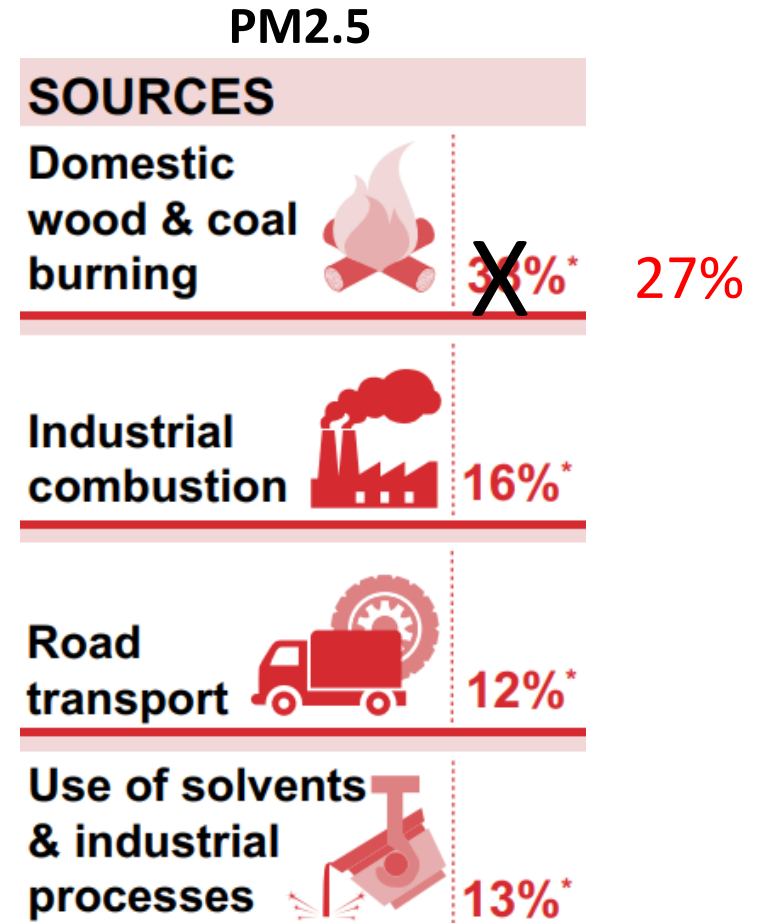
Clean Air Programme Regional Champion for Wales

Cross Party Group on a Clean Air Act - 27<sup>th</sup> February 2023



# Domestic burning

- Domestic combustion is a major source of particulate matter emissions
- In 2021....
  - 27% of PM2.5 emissions
  - 16% of PM10 emissions
- Wood burning is a major contributor to particle pollution
- In 2021 the use of wood accounted for 75% of PM2.5 emissions
- 8% of homes have wood burners
- Other pollutants from domestic burning...
  - CO
  - NO<sub>x</sub>
  - heavy metals (i.e. Pb, Cu, Fe, Zn, and Hg, etc.)
  - polycyclic aromatic hydrocarbons (PAHs)
  - other toxic compounds



# Main sources of domestic burning

## Indoor

Wood burner stoves



Cooking



Barbecues

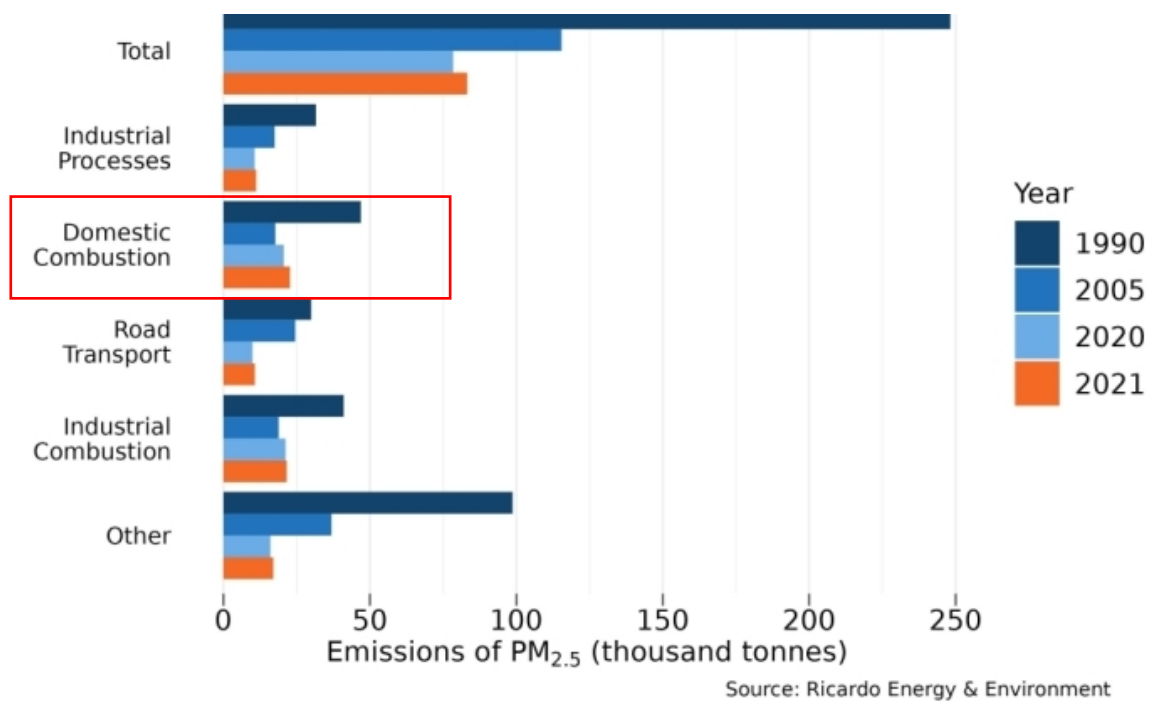


Bonfires

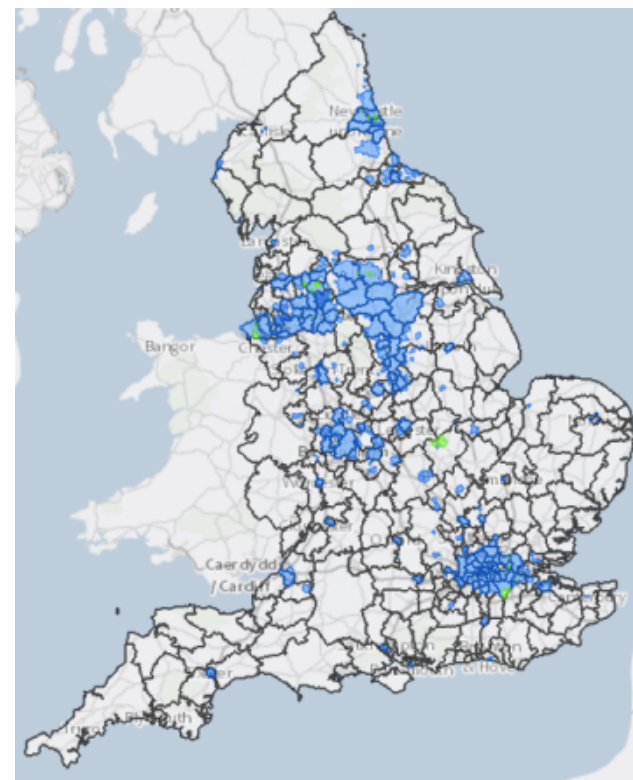


# Domestic burning

PM<sub>2.5</sub> emissions by sector

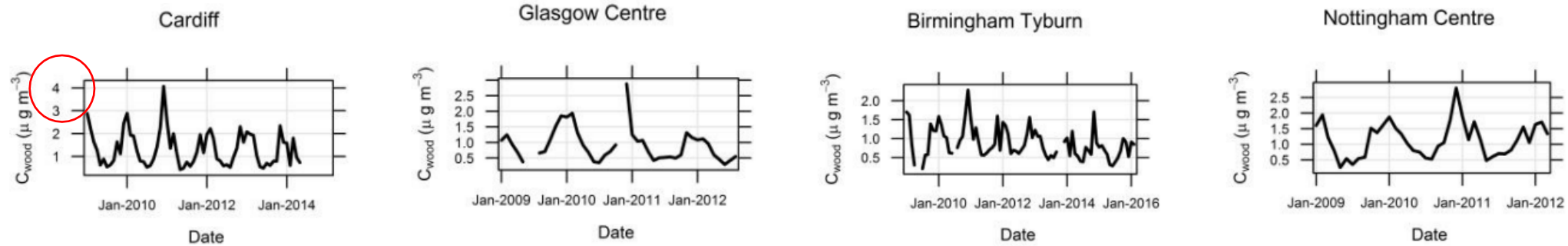


Smoke control areas - England



# How much PM2.5 comes from wood burning?

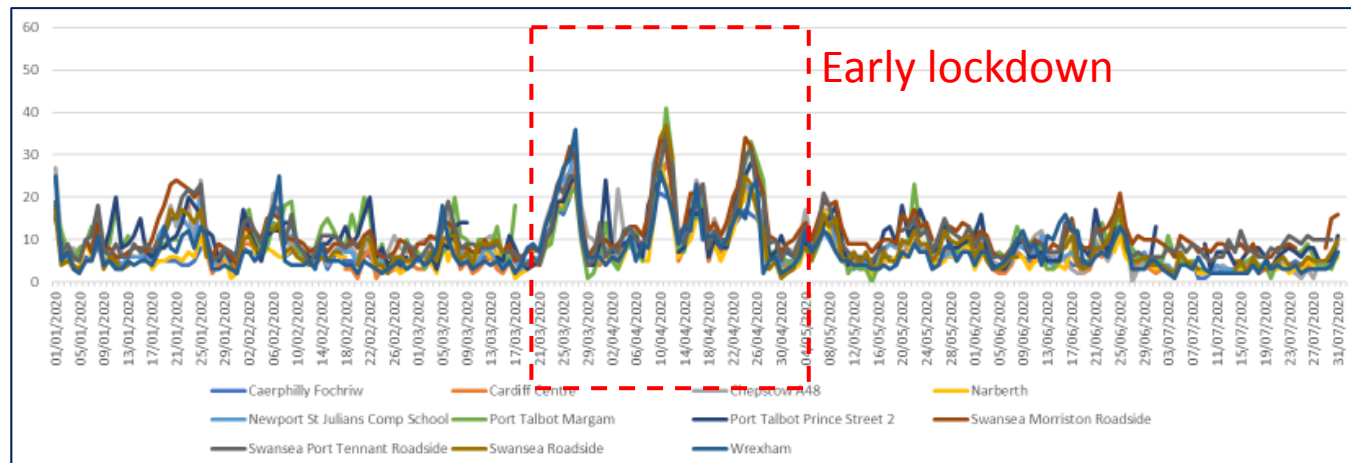
## Monthly mean wood contribution for urban background sites



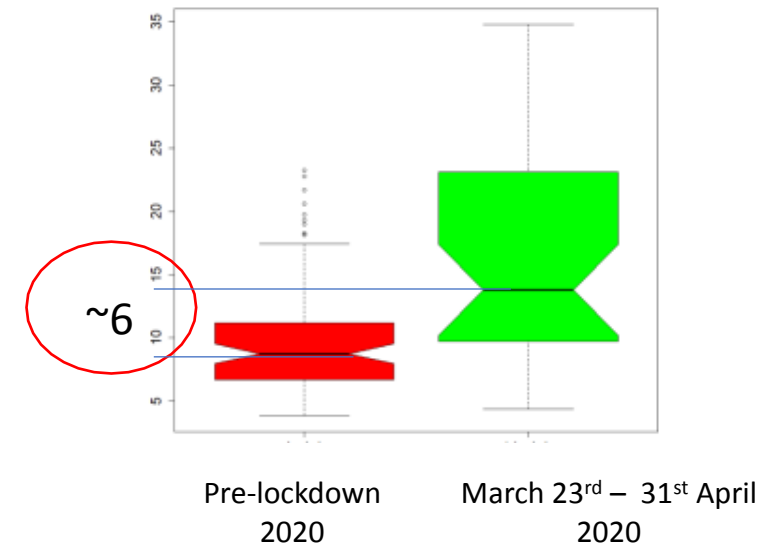
[https://uk-air.defra.gov.uk/library/reports.php?report\\_id=1005](https://uk-air.defra.gov.uk/library/reports.php?report_id=1005)

## PM2.5 during first Covid lockdown

### PM2.5 concentrations at AURN stations in Wales Jan 2020 – July 2020



## Swansea – Port Tennant





# White Paper on a Clean Air (Wales) Bill

## Proposals on smoke control for inclusion in the Bill:

- Include Smoke Control legislation, consolidating legislation from the Clean Air Act 1993, Part 3
- Change the offence regime from criminal to civil
- Mandate the application of Smoke Control Orders in all urban areas which meet specific criteria
- Require Local Authorities to review Smoke Control Areas on a regular basis
- Include outdoor combustion within Smoke Control Areas, to include bonfires
- Introduce an online list of authorised fuels for use in outdoor appliances

## Considerations to tackle air pollution from domestic burning:

- Prohibit sale of wet wood and traditional/bituminous house coal
- Test standards for new manufactured solid fuels entering the market by 2024 to ensure they are compliant with regulations
- Options to support households to prevent fuel poverty after ban on fuels or appliances, or extension to the use of SCAs
- Regulatory powers to ensure only the most efficient appliances are available for purchase and installation by 2022
- Regulatory powers to require the annual maintenance of domestic burning appliances by a certified professional
- Enhance existing powers for smoke control from domestic burning (PM2.5)



# Wood burning stoves – meeting new standards

## Standards for wood burning stoves

- Since January 2022 all new wood burning stoves have to meet new EcoDesign standards.
- European Environment Bureau report (2021) showed that Euro-certified 'Eco-stoves' produce 750 times more PM<sub>2.5</sub> per unit of energy produced than a modern HGV
- Burning just 1 kg of wood will pollute 500,000 m<sup>3</sup> of completely clean air up to 10 µg/m<sup>3</sup>

[https://eeb.org/wp-content/uploads/2021/09/Where-theres-fire-theres-smoke\\_domestic-heating-study\\_2021.pdf](https://eeb.org/wp-content/uploads/2021/09/Where-theres-fire-theres-smoke_domestic-heating-study_2021.pdf)

## Indoor air pollution from stoves

- Sheffield study showed that PM<sub>2.5</sub> was higher by 196.23% in houses with frequent use compared to infrequent users.
- PM 'floods' into indoor areas when stove door opens.

**“With regulatory encouragement stove designs can be modified in a way that limits flooding”**

**“Also recommended that new residential stoves be accompanied by a health warning at the point of sale”**

# Public knowledge, attitudes, behaviours and motivations

## General

- 19.4% of UK adults burned solid fuels in their home and/or garden in year prior to being surveyed
- Those who burned both indoor and outdoor more likely to have income > £50,000 / yr

## Indoor burners

- 68% of indoor burners live in urban areas
- 58% said that stoves were the main appliance and only 31% burned on open fires
- People burning solid fuel systems for their heating (11%) more commonly located in rural areas
- Burning of household waste indoors is infrequent

**KANTAR**

**Burning in UK Homes  
and Gardens**

Research Report



Prepared for the:

  
Department  
for Environment  
Food & Rural Affairs

December 2020, Version 1.0, Project ID (Discussion number): AQ1017  
26 43473692

## Outdoor burners

- 82% live in urban areas and more likely to rent their property
- Major driver for outdoor burning was cooking - more common among urban affluent younger families
  - 46% burned charcoal
  - 15% burned waste wood
  - 14% burned household waste
  - 12% said they burned garden waste
- Burning waste by bonfires more common in rural areas and amongst retired households
- 2% said they burned plastics

# Public knowledge, attitudes, behaviours and motivations

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## Are burners aware?

- 46% of indoor burners agreed that burning in homes and gardens is a significant source of air pollution
- 42% of outdoor burners agreed that burning in homes and gardens is a significant source of air pollution
- 53% of non-burners agreed that burning in homes and gardens was a significant source of air pollution
- 32% of indoor burners in urban areas did not know whether they were living in SCA
- 29% of indoor burners who thought they did live in an urban SCA didn't!

## Do they care?

- Only 27% of indoor burners expressed concern about the impact on their health and those around them
- Only 32% of outdoor burners expressed concern about the impact on their health and those around them