

Climate Change and Ecology Policy and Accountability Committee

Agenda

Tuesday 28 March 2023 at 7.00 pm

Main Hall (1st Floor) - 3 Shortlands, Hammersmith, W6 8DA

Watch the meeting live: youtube.com/hammersmithandfulham

MEMBERSHIP

Administration	Opposition
Councillor Nicole Trehy (Chair) Councillor Ross Melton Councillor Laura Janes Councillor Stala Antoniadou	Councillor Jose Afonso

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This meeting is open to the public and press. The building has disabled access.

Residents with an interest in any of the items on the agenda are encouraged to attend and participate in the discussion. If you would like to attend, please contact:
debbie.yau@lbhf.gov.uk. If you can't attend in person, you can join remotely.

Date Issued: 20 March 2023
Date Updated: 21 March 2023
Date updated: 27 March 2023

Climate Change and Ecology Policy and Accountability Committee

Agenda

28 March 2023

<u>Item</u>		<u>Pages</u>
1.	APOLOGIES FOR ABSENCE	
2.	DECLARATIONS OF INTEREST <p>If a Councillor has a disclosable pecuniary interest in a particular item, whether or not it is entered in the Authority's register of interests, or any other significant interest which they consider should be declared in the public interest, they should declare the existence and, unless it is a sensitive interest as defined in the Member Code of Conduct, the nature of the interest at the commencement of the consideration of that item or as soon as it becomes apparent.</p> <p>Where Members of the public are not allowed to be in attendance and speak, then the Councillor with a disclosable pecuniary interest should withdraw from the meeting whilst the matter is under consideration. Councillors who have declared other significant interests should also withdraw from the meeting if they consider their continued participation in the matter would not be reasonable in the circumstances and may give rise to a perception of a conflict of interest.</p> <p>Councillors are not obliged to withdraw from the meeting where a dispensation to that effect has been obtained from the Standards Committee.</p>	
3.	MINUTES <p>To approve the minutes of the meeting on 31 January and note any outstanding actions.</p>	4 - 11
4.	AIR QUALITY AND WOOD BURNING <p>This report welcomes a presentation by Dr Gary Fuller of Imperial College London on the effects of wood burning on air quality.</p>	12 - 46
5.	CLIMATE CHANGE COMMUNICATIONS <p>This report presents the Council's role in "Climate Action Together".</p>	47 - 66
6.	DATES OF FUTURE MEETINGS <p>To note the dates of future meetings:</p> <ul style="list-style-type: none">• 18 July 2023• 21 November 2023	

- 6 February 2024
- 23 April 2024

London Borough of Hammersmith & Fulham

Climate Change and Ecology Policy and Accountability Committee Minutes



Tuesday 31 January 2023

PRESENT

Committee members: Councillors Nicole Trehy (Chair, attended remotely), Ross Melton (Chair of the meeting), Laura Janes, Stala Antoniades and Jose Afonso

Other Councillors: Councillors Wesley Harcourt (Cabinet Member for Climate Change and Ecology) and Rowan Ree (Cabinet Member for Finance and Reform)

Officers:

Andre Mark (Head of Finance - Strategic Planning and Investment)

Bram Kainth (Strategic Director of Environment)

Kellie Gooch (Head of Finance – Environment)

Hinesh Mehta (Head of Climate Change)

Peter Haylock (Operational Director of Education and SEND)

Georgina Herry (Lead Adviser for School Improvement, Children's services)

Jan Parnell (School Improvement Consultant)

Clerk: Debbie Yau

1. ELECTION OF CHAIR OF THE MEETING

As the Chair of the Committee, Councillor Nicole Trehy, was not feeling well and attending remotely, the Committee elected Councillor Ross Melton as the Chair of the meeting.

2. APOLOGIES FOR ABSENCE

There were no apologies for absence.

3. DECLARATIONS OF INTEREST

There were no declarations of interest.

4. MINUTES

RESOLVED

The minutes of the meeting held on 3 January 2023 were agreed as an accurate record.

5. 2023 MEDIUM TERM FINANCIAL STRATEGY (MTFS)

Councillor Rowan Ree (Cabinet Member for Finance and Reform) expressed his appreciation for staff in the Finance team who had worked out the current Budget under the difficult circumstances of rising rates of inflation and bank interests and a tight timeframe. He also highlighted the contributions of Cabinet Members in the tough process. The Budget had based on realistic assumptions to achieve savings and efficiency. Councillor Ree said he was proud that despite a 56% cut in general government grant funding as compared to 2010/11, the London Borough of Hammersmith and Fulham (LBHF) was able to offer unique services such as providing free breakfasts to school children, abolishing home care charges, establishing a local Law Enforcement Team to keep the streets safe and clean and stopping the use of bailiffs to collect Council Tax debt. In view of the cost-of-living crisis which was affecting residents across the borough, the Council had included in the Budget new provisions of nearly £1 million (m) to help tackle the rising cost of living.

Corporate Budget

Andre Mark (Head of Finance - Strategic Planning and Investment) presented the item which covered the Budget 2023/24 and Mid Term Financial Strategy (MTFS) 2024/25+. He outlined the national and local strategic operating environment, proposed revenue budget strategy 2023/24 and the key principles, Council Tax considerations, major savings proposals and growth allocations, and a Reserve summary. Members noted the dates for the proposals to be presented to the relevant committees, the Cabinet and Full Council.

Councillors Laura Janes and Nicole Trehy expressed thanks for the hard jobs of drawing up the Budget at a tough time and appreciated the excellent presentation.

Questions from the floor:

Caroline Kelly remarked that as the military had confirmed they shall take control of the weather in 2025, she questioned the establishment of this Policy and Accountability Committee (PAC). Councillor Rowan Ree referred to the creation and monitoring of new policy development via the PACs, the Climate Change and Ecology PAC was established at the Annual Meeting of the Council in May 2022 to cover key areas of concern in addition to "Children and Education", "Health and Adult Social Care" and "Housing and Homelessness" etc. He added that the current meeting was looking at the departmental revenue budget related to the Environment. Members welcomed residents' submission of relevant information for their consideration.

Helen Dell (Climate Change Commissioner) asked about the increase in the net cost of borrowing. Andre Mark said that it referred to the cost of borrowing rather than the borrowing *per se*.

Departmental Budget

Bram Kainth (Strategic Director of Environment) presented the Revenue Budget 2023/24 of the Environment Services and outlined a wide range of universal services delivered to residents, the Environment recent achievements, the key budget changes relevant to this PAC.

In reply to Councillor Janes' questions, Bram Kainth clarified that the 301,000 books were issued for the library services. Regarding the roll-out of food waste collections, Bram noted that the new services of food waste collections formed part of the new waste collection and street cleansing contract, and discussions were ongoing with the new contractor as to when and how exactly this would be rolled out. He undertook to inform members about the implementation timetable once it was known.

ACTION: Bram Kainth

Councillor Jose Afonso noted that the total net budget for controlled parking account for 2023/24 was a projected surplus of £31,600 and asked how much of this is related to traffic fines. Bram Kainth agreed to provide this information.

ACTION: Bram Kainth

In response to Councillor Afonso's question, Kellie Gooch (Head of Finance – Environment) advised that under the portfolio of Leisure, Sport and Culture, the budget included all expenditure, including overheads and staffing, and confirmed that the contract for provision of the Council's leisure centres was a net-income generating contract, therefore provided at no cost to the Council, and it generated a return.

Councillor Afonso was concerned about the risk associated with the works on the Hammersmith Bridge. Bram Kainth explained that to ensure the bridge could be reopened to traffic at the earliest opportunity without any delay, the Council was progressing the works and incurring substantial expenditure at risk, until government funding was confirmed.

Councillor Ross Melton asked about the anticipated reduction in waste tonnages. Bram Kainth advised that the borough generally had low residual waste figures, with some changes during the pandemic, but the general projected trend over a longer period of time was for waste tonnages to improve. Waste disposal costs reduced by disposing of less overall and by moving residual waste to recycling.

Questions from the floor:

Responding to Wilf Macdonald Brown's questions, Bram Kainth pointed out that the breakdown of the parking account was published on the Council's website on an

annual basis. As regards bicycle hangers and cycle parking arrangements, they were funded through the capital budget, and investment on them would be made once resources were available. At Wilf's request, Bram agreed to send him the details of revenue raised by these facilities.

ACTION: Bram Kainth

Pat Tookey (Climate Change Commissioner) was concerned about the Council's measures put in place to decarbonize the borough and meet the target of net zero emission by 2030. She said that in addition to schemes such as Low Traffic Neighbourhoods, residents were keen to know the progress of other projects. For example, the roll-out of food waste collection services to the uncovered areas in the borough further to the pilot ran since 2020. Moreover, apart from retrofitting the public housing, the measures, if any, devised to support private homeowners to retrofit their properties. Pat expected to see the commitment of this Committee in informing residents regularly the borough's positions in the pathway to meet the 2030 target and the timeframe of the steps to be taken.

Councillor Ree explained that the current Committee meeting was examining the revenue budget for the day-to-day activities. The projects mentioned were related more to capital investment which was considered as part of a separate process, and a Climate Financial Strategy was being developed. He reckoned that 75% of the emissions originated from the housing stock and retrofitting the properties to become more energy efficient were taken care of under the Housing Revenue Account. Councillor Ree said that the Council was committed to hitting the 2030 target and highlighted the borough's green credentials including being accredited by an independent body for having the best climate emergency plan in London. The Council also had the highest concentrations of electric vehicle charging points in the country and air quality monitors. The Council was determined to make a difference to meet the expectations of the residents.

Pat Tookey appreciated the plans however she was concerned about their delivery, including the timeline and the estimated impact/extent of decarbonisation. Taking note of her concerns, Councillor Melton thanked the contributions of Pat as well as other residents for holding Committee members to account.

Caroline Kelly questioned investment on waste management as the contractors had made huge profits from the energy generated from waste. In response, Bram Kainth said that the LHBF had engaged contractors through tendering to collect waste from residents' doorsteps to waste depots. The LHBF was one of the four boroughs under the West Riverside Waste Authority (WRWA) which was responsible for waste disposals including managing the contractors. He noted that there were different ways of disposing wastes from depositing at landfills to burning them for energy.

Councillor Wesley Harcourt (Cabinet Member for Climate Change and Ecology) referred to the processes of waste disposal in which recyclable items, such as metals, plastics and paper, were separated from the general waste before disposal. The value of the recyclable items depended on the market conditions. On electricity from waste, Councillor Harcourt said the profit, if any, was subject to contract terms and market conditions, as well as the government's introduction of electricity

generating levers. He added that WRWA was a statutory, non-profit making body established under the Parliament.

Anna Maynard noted that schools could save about 6% from their food budget by going vegan. Bram Kainth remarked that the LBHF was always looking at every opportunity to decarbonise the footprint, and plant-based diet was one of them.

RESOLVED

That the Committee considered the budget proposals and made recommendations to Cabinet as appropriate.

6. CLIMATE EDUCATION IN HAMMERSMITH AND FULHAM 2023

Georgina Herry (Lead Adviser for School Improvement, Children's services) presented Climate Education in H&F 2023 which included:

- Climate Education – Primary
- Summer in the City 2021/22 – Climate and Ecology Workshops
- The Thames Music Makers
- Climate Education – Secondary
- Climate Education Guide launching Summer 2023 – online resources
- The Pier – Climate Education and Wellbeing Centre – launching Autumn 2023 and project timeline

Councillor Jose Afonso expressed support to the Climate Education in H&F and looked forward to seeing more activities.

Councillor Ross Melton noticed that 32 and 7 primary and secondary schools respectively had been engaged under the H&F Climate Education and sought the percentages they represented. Georgina Herry advised that it was more than 50% for secondary schools. While some 19% of primary schools had been involved, the figure might change after the uncovered primary schools gained a better understanding through the Guide of the activities that could be done under Climate Education. Peter Haylock (Operational Director of Education and SEND) added that additional resources had been earmarked under the MTFS on promoting the Council's manifesto and strategies linking to industries with a view to attracting more secondary schools. He noted that the secondary schools engaged, except one, were all academy which could have their own programmes running separately. In response to the concern of Councillor Stala Antonaides, Georgina said the H&F borough aimed at consolidating work with the state primary schools before extending to the wider sector of the non-state schools.

On barriers preventing more school engagement as raised by Councillor Melton, Georgina Herry said that the community was still recovering from the pandemic with supporting pupils returning to schools, which might have taken time away from the schools' leaders. The audit conducted among schools could give a better understanding what should be done next, like promoting championship was a good way to ensuring start and seeing the benefits. To facilitate more engagements, activities could be held through the Climate Education network and case studies

highlighting inspiring work that had been done. Peter Haylock added that climate education remained strong in the science curriculum. However, as there was a significant reduction in the provision for teaching assistants, this would reduce the chance of the children to get out of the schools to join the additional activities relevant to climate education.

As regards Councillor Laura Janes' concern about evaluating the impacts of the programmes, Georgina Herry noted the need to demonstrate measurable outcomes within the governance process. She assured members that they were gathering participants' feedback and evaluating impacts from schools' case studies and would report back to this Committee in due course.

ACTION: Georgina Herry

Councillor Melton asked for the details about the Pier. Jan Parnell (School Improvement Consultant) noted that the premises of the Climate Education and Wellbeing Centre at the Pier was owned by Riverstone Living which had sublet it to the Learning Partnership of the Council for 6 years at a nominal rent for the use of about 15% of it mainly during the daytime of the week. Intergeneration programme with eco/climate focus would be developed to enable older and younger residents to learn separately as well as together. Jan then gave a detailed account on the range of activities that could be lined up there. She expected the Pier, being the first of its kind in the country, would attract some national attention.

Councillor Antonaides was pleased to note the building was re-used for a good purpose, and asked about resident engagement. Georgina Herry highlighted that the School Improvement team worked closely with the Climate Unit and sat on the Advisory Board of the Climate Alliance, both of which were already receiving input from residents. They had also engaged with school staff who had work-related or personal interest in a climate background. Jan Parnell referred to a number of workshops which focused on parents and carers. She also introduced the new green career pathways from apprenticeship, engineering to environmental study which were specifically developed to support young people engaged in the process.

On Councillor Nicole Trehy's question about ways to encourage schools to use the facilities at the Pier, Peter Haylock noted that different groups of children would be engaged through the free services provided at the Pier. Georgina Herry added that volunteer advisors with different expertises would give support on children's participation. Jan Parnell supplemented that some members of the Advisory Committee were pioneer leaders at primary and secondary schools. They had adopted a whole school approach to environmental education and become advocacy to their peers. It was hoped that the tangible benefits would help raise some funds for young people's education.

Regarding Councillor Trehy's concern about the resources dedicated to the Pier, Peter Haylock advised that the business case of the Pier was being worked out, which shall include basic cost elements like salary etc and it might not necessary incur expenditure of the Council. He undertook to provide more information in this regard after the meeting.

ACTION: Peter Haylock

In this connection, Councillor Melton asked whether the paid services would be targeted within or outside the borough. Peter Haylock advised that under the industrial strategy, key business partners and schools would be linked together to explore the climate education agenda. It was hoped that free services could be provided for the schools, to be cross-subsidised through the participation of the businesses. Location wise, the business case would have to be looked at in its entirety, covering both the south as well as the north of the borough.

On staffing, Georgina Herry said that in addition to knowledge about climate education, colleagues in the Improvement Team were experienced in running centres. The business case would focus on the programme implementation and marketing among the business partners. Jan Parnell added that the local school teachers and experts as well as national players were engaged to run some of the sessions with a view to raising funds through quality presentations.

Questions from the floor:

Helen Dell (Climate Change Commissioner) expressed concern that apart from the impressive climate education programmes, how did the schools meet the challenges of reducing carbon footprints under the whole school approach. For example, achieving carbon savings in the use of electricity and gas, and in the design of trips to schools by the wider community. Jan Parnell referred to the case studies carried out by head teachers for schools which had taken the matter seriously. They had replaced the contractors after looking at the recycling, set up student eco-council which held the senior leadership team accountable to purchasing decisions. Jan agreed that the whole school approach was a good way to strengthen climate education strategically, which might help incentivise cross-departmental collaborations, such as promoting energy efficiency among school buildings.

Helen Dell asked how the mentioned groundwork could support the Council in its 2030 objectives and motivate schools to the mindset of carbon reduction. Georgina Herry remarked that the work done so far on climate education provided the groundwork, a foundation and stable base upon which other wider issues could be addressed. This would be through a joint approach with other departments and a forward plan. She believed that some movements nationally would help strengthen their work in the same direction.

Caroline Kelly reiterated her concern about the military taking full control of the weather by 2025 and questioned the need for climate education. In response, Councillor Melton stressed that under any circumstances, there was no dispute to the values in educating the young people and the community in environmental policy. He said the borough was fortunate to be supported by qualified officers in respect of climate policy. He welcomed relevant information provided by members of the public. On Caroline's further question about the content of climate education, Peter Haylock highlighted the national curriculum which had covered different opinions and was adopted across the country. It also covered behavioural changes relating to positive living and reduction of carbon footprints.

Anna Maynard referred to the planning permission for a new pier near the Fulham Reach Boat Club, which together with the Pier under discussion, would bring massive environmental impacts aggravating the climate emergency. Jan Parnell said that the Pier building already existed. Councillor Trehy noted that planning permission was given to the new pier open by the Fulham Reach Boat Club and it had not impacted the river.

RESOLVED

That the Committee noted and commented on the attached presentation.

7. DATE OF THE NEXT MEETING

The Committee noted the date of the next meeting:

- 28 March 2023

Meeting started: 7.04 pm
Meeting ended: 8.46 pm

Chair

Contact officer: Debbie Yau
Committee Co-ordinator
Corporate Services
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E-mail: debbie.yau@lbhf.gov.uk

Agenda Item 4

LONDON BOROUGH OF HAMMERSMITH & FULHAM

Report to: Climate Change and Ecology Policy and Accountability Committee

Date: 28/03/2023

Subject: Air quality and wood burning

Report author: Jim Cunningham, Climate Policy & Strategy Lead

Responsible Director: Bram Kainth, Strategic Director of Environment

SUMMARY

This covering report welcomes a presentation by Dr Gary Fuller of Imperial College London on the effects of wood burning on air quality.

RECOMMENDATIONS

1. For the Committee to note and comment on the presentation.

Wards Affected: All

Our Values	Summary of how this report aligns to the H&F Values
Creating a compassionate council	Long-term exposure to poor air quality results in tens of thousands of deaths per year in the UK. Its impacts are felt unequally, with those particularly at risk including older people, children, people with cardiovascular and respiratory disease, pregnant women, communities in areas of poor air quality, and poorer communities.
Rising to the challenge of the climate and ecological emergency	The burning of solid fuels has negative impacts on biodiversity and climate change. An estimated 233 tons of carbon dioxide equivalent (CO ₂ e) was produced from burning coal in the borough in 2020. Although technically carbon neutral, burning wood also releases stored carbon dioxide, as well as producing 'black carbon', which has a short-lived but powerful global warming effect. Wood burning also

	places pressure on ecosystems from land use for commercial forestry, and unregulated felling sources.
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Background Papers Used in Preparing This Report

None.

DETAILED ANALYSIS

1. The committee is invited to welcome Dr Gary Fuller of Imperial College London, the UK Research and Innovation Clean Air Champion.
2. The burning of wood and solid fuels is a major source of particulate emissions (PM₁₀ and PM_{2.5}) in the borough. Data from the London Atmospheric Emissions Inventory suggests that wood burning accounts for 17% of particulate matter in London, a higher proportion than road transport or industrial combustion, and can account for as much as 60-70% of these emissions with a particularly high contribution during the evenings.
3. Poor air quality is the largest environmental risk to public health in the UK, according to Public Health England. It is responsible for tens of thousands of premature deaths, and results in a variety of health problems including cardiovascular disease and lung cancer.
4. This risk falls unequally on different people and communities. Poorer communities, and those in areas of particularly poor air quality, are at higher risk. Younger children, older adults, and those with various underlying health conditions are particularly badly affected.
5. Dr Fuller will give a presentation on the insights of research to date around the effects of wood burning on air quality and health. The committee is asked to note and comment on the presentation.

LIST OF APPENDICES

No appendices; presentation to follow during the committee meeting.

Keep the home fires burning?

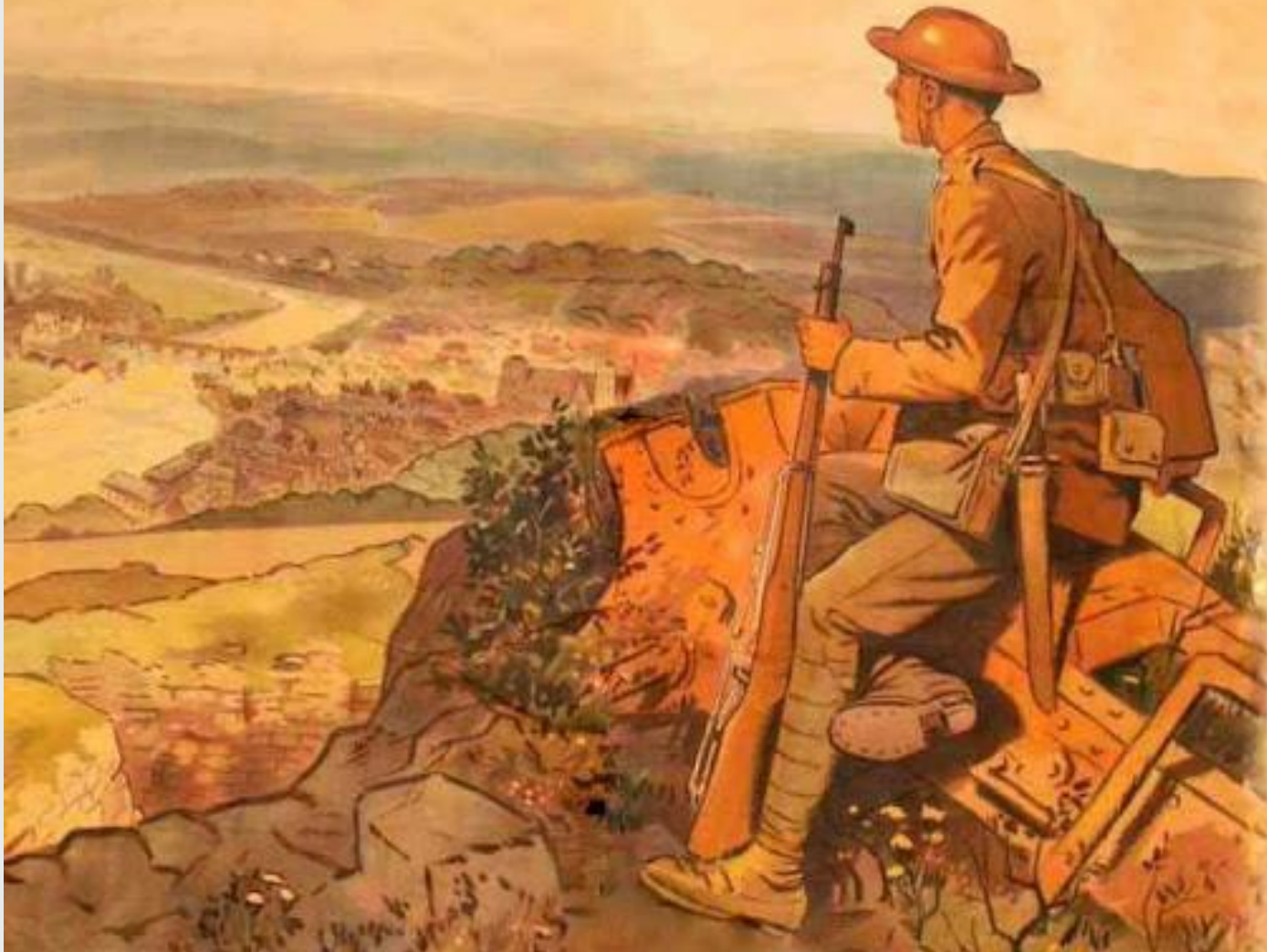
Wood burning and air pollution

Hammersmith & Fulham Council
Climate Change and Ecology Policy and Accountability Committee
28th March 2023

KEEP THE HOME FIRES BURNING

COMMEMORATING, IN MUSIC AND SONG, THE CENTENARY OF

THE GREAT WAR



Health impacts of air pollution in the UK (annual)

Estimates of annual deaths attributable to air pollution in the UK

- 40,000 (RcP 2016) (PM2.5 and NO2)
- 55,000 (EEA, 2017) (PM2.5, NO2 and O3)
- **29,000 -43,000 [Mitsakou et al 2022 – UKHASA] [PM2.5 and NO2]**
- 64,000 – Lelievel et al 2019 using new global air pollution impact analysis
- 99,000 from global estimates Vohri et al 2021

3,600 to 4,100 deaths
— estimated to be
attributable to human-
made PM_{2.5} & NO₂ in
London, annually

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Ella Kissi-Debrah — 1st
person in UK to have
air pollution listed as a
cause of death.

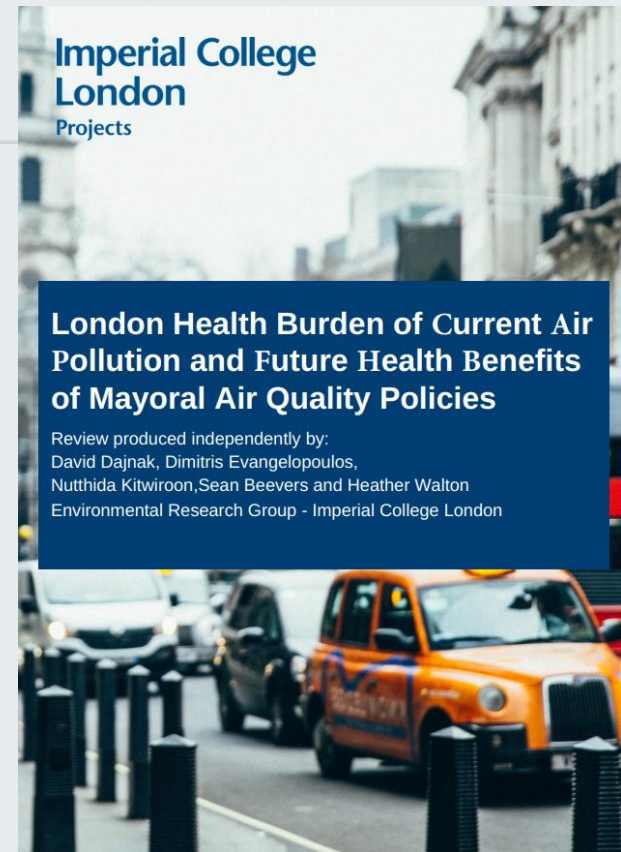
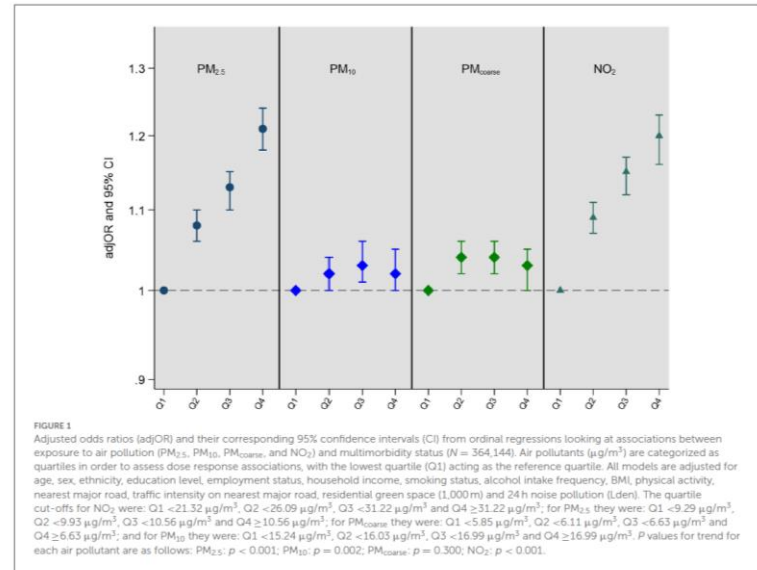


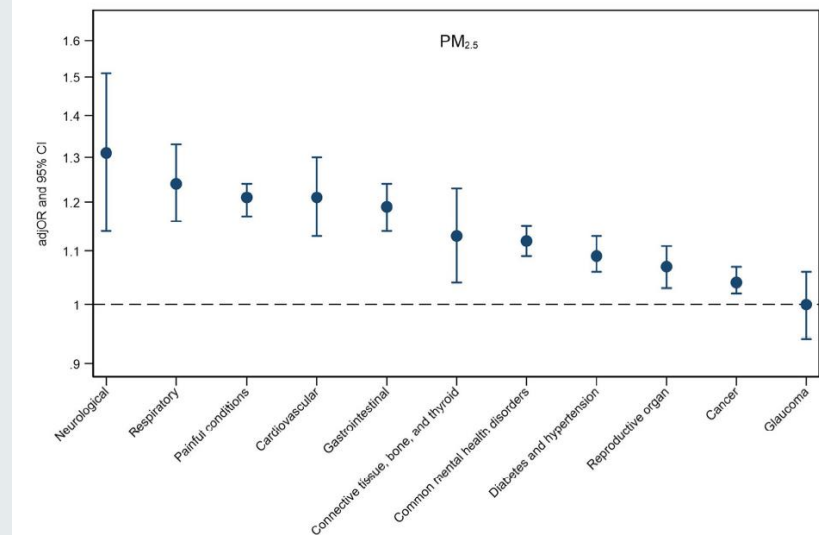
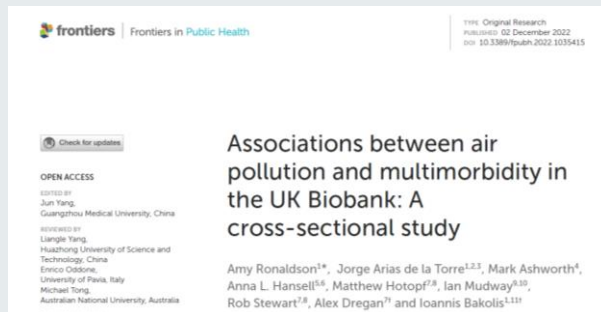
Photo Ella Roberta Family Foundation

Are the impacts of air pollution hiding in plain sight in the everyday ailments that affect the lives of so many?



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An extra 20% chance of multiple long-term illnesses for those living with particle pollution that is worse than the 2040 England target.



Impact of London's low emission zone on air quality and children's respiratory health: a sequential annual cross-sectional study

Ian S Mudway, Isobel Dundas, Helen E Wood, Nadine Marlin, Jeenath B Jamaludin, Stephen A Bremner, Louise Cross, Andrew Grieve, Alex Nanzer, Ben M Barratt, Sean Beevers, David Dajnak, Gary W Fuller, Anna Font, Grainne Colligan, Aziz Sheikh, Robert Walton, Jonathan Grigg, Frank J Kelly, Tak H Lee, Chris J Griffiths

Summary

Background Low emission zones (LEZ) are an increasingly common, but unevaluated, intervention aimed at improving urban air quality and public health. We investigated the impact of London's LEZ on air quality and children's respiratory health.



Lancet Public Health 2018
Published Online
November 14, 2018



“Within London’s LEZ, a smaller lung volume in children was associated with higher annual air pollutant exposures”
But better air – bigger children’s lungs.

(With all credit to Jim Gauderman et al for pioneering this type of study)

We are now learning that air pollution can have life-long impacts

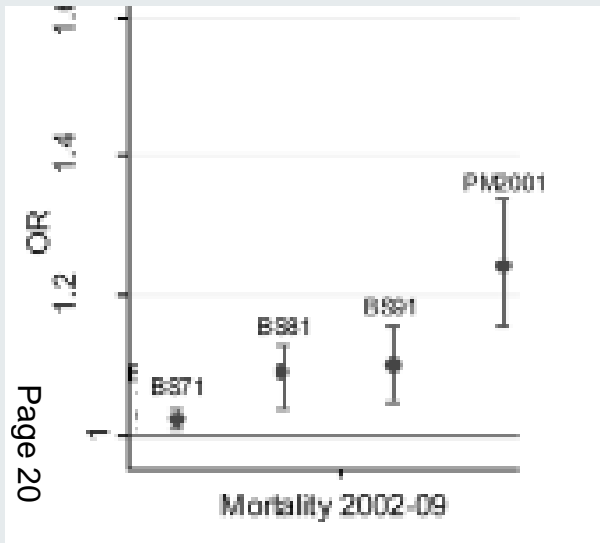


Figure 3 ORs (95% CI) per $10 \mu\text{g}/\text{m}^3$ for BS exposure in 1971, 1981 and 1991 and PM_{10} in 2001 and mortality in each subsequent decades. Adjusted for age and sex, social class of individual and area, population density and geographical region. Source: ONS Longitudinal Study (authors' own work). CV, BS, black smoke; cardiovascular disease; ONS, Office for National Statistics.



Downloaded from <http://thorax.bmj.com/> on February 9, 2016 - Published by group.bmj.com
 Thorax Online First, published on February 8, 2016 as 10.1136/thoraxjnl-2015-207111
 Environmental exposure

ORIGINAL ARTICLE

Historic air pollution exposure and long-term mortality risks in England and Wales: prospective longitudinal cohort study

Anna Hansell,^{1,2} Rebecca E Ghosh,¹ Marta Blangiardo,¹ Chloe Perkins,⁵ Danielle Vienneau,^{1,3,4} Kayoung Goffe,¹ David Briggs,⁵ John Gulliver¹

ORIGINAL ARTICLE

Early-Life Exposure to the Great Smog of 1952 and the Development of Asthma

Prashant Bharadwaj¹, Joshua Graff Zivin¹, Jamie T. Mullins², and Matthew Neidell³

¹Department of Economics, University of California San Diego, La Jolla, California; ²Department of Resource Economics, University of Massachusetts Amherst, Amherst, Massachusetts; and ³Mailman School of Public Health, Columbia University, New York, New York

ORCID ID: 0000-0002-6827-760X (J.T.M.).

This winter marks the 70th anniversary of London's Great Smog

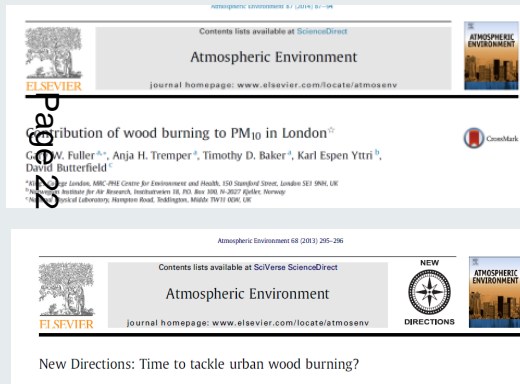
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Keep the home fires burning?

In 1950s 18 percent of UK coal was used to heat homes. This created 60 percent of winter time particle pollution

Today the 8 percent of homes that used solid fuel emit more particle pollution than the exhausts from all the vehicles on our roads.



Solid fuels on open fires are the most polluting way to heat your home.

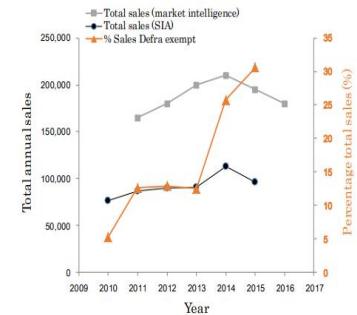


Figure 21. Total estimated wood stove sales, sales by the Stove Industry Alliance (SIA) and percentage of Defra Smoke Exempt Appliance in the United Kingdom. Conclusions



Kantar (2020) survey in 2018/2019 (~50 k homes)

27% of UK primary PM_{2.5} from solid fuel (3/4 is wood) nearly 2x that from transport exhausts (NAEI)

In London 17% primary PM_{2.5} from domestic wood burning (LAEI, 2019)

Just 8% of UK homes burn wood indoors (3% in London, 27% in NI, 38% in rural homes*)

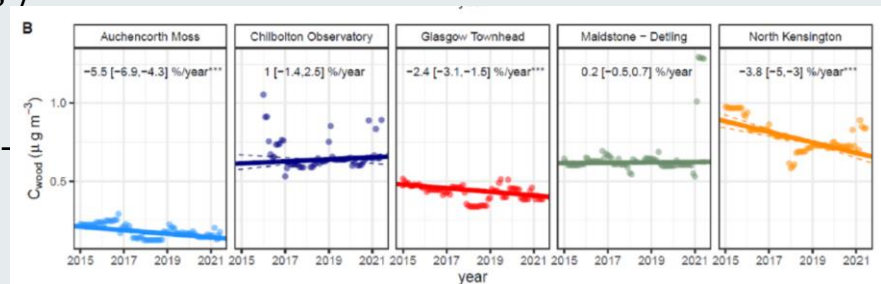
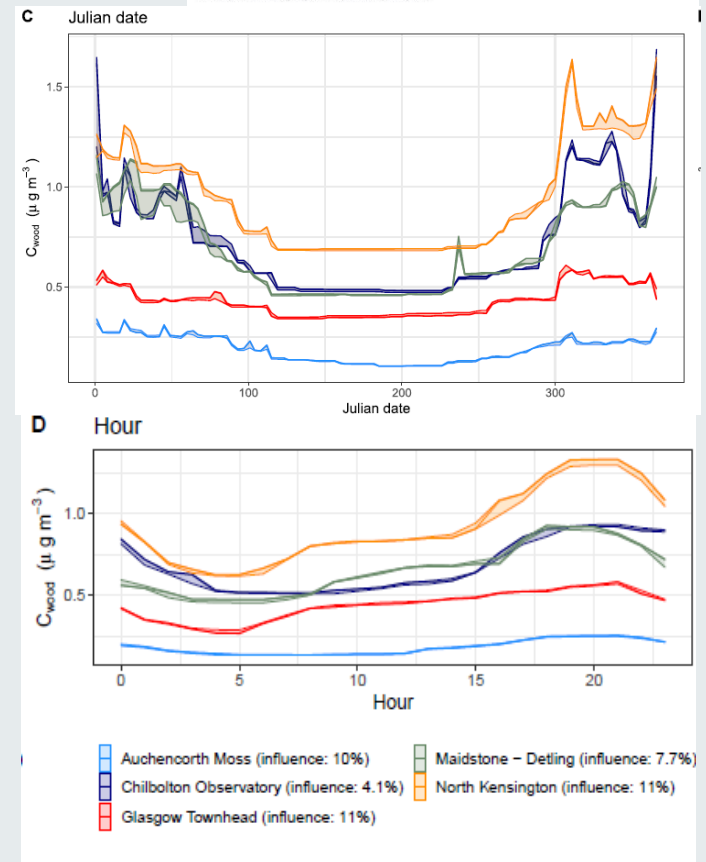
Only 4% wood burning homes rely on solid fuel for heating. Only 8% burnt wood for “necessity” 46% burnt for “tradition” or “aesthetics”

46% wood burners were in social grades AB

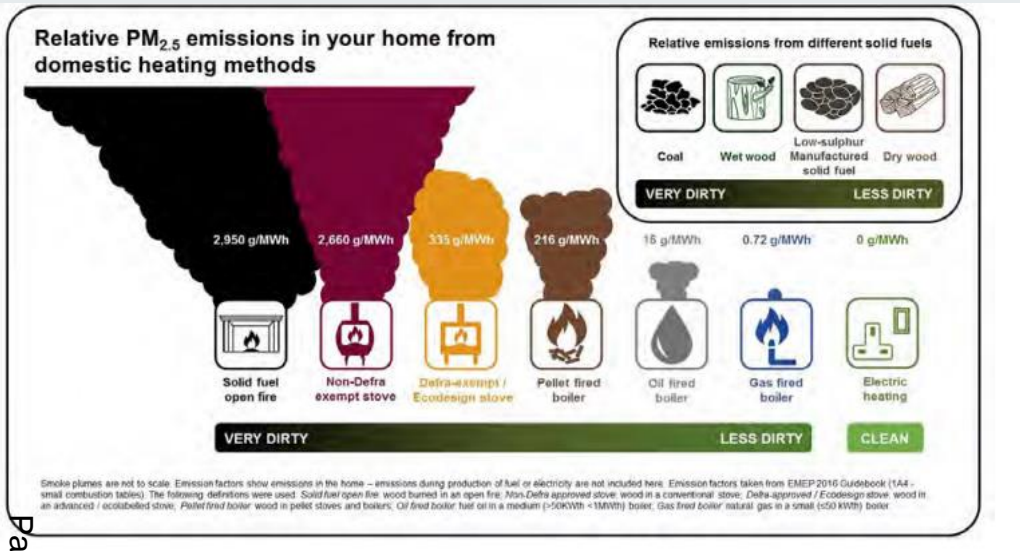
14% of homes burnt outdoors (mostly cooking)

Wood burning is not climate neutral over decades / ~ century

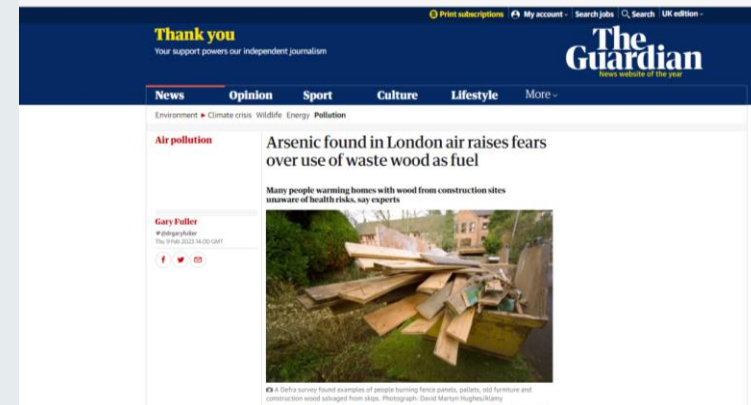
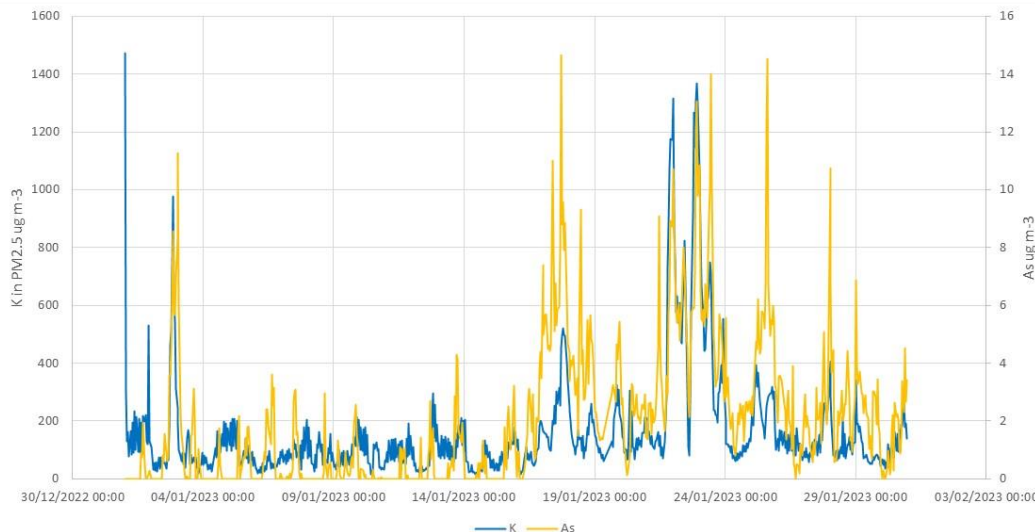
* What will be the impacts of rising energy prices - gas, heating oil etc.?



What you burn and how you burn it matters



Buystove owners burn nearly twice as long as those with open fires – Kantar, 2020.



Impacts on indoor air pollution?



Article

Indoor Air Pollution from Residential Stoves: Examining the Flooding of Particulate Matter into Homes during Real-World Use

Rohit Chakraborty ^{1,*}, James Heydon ², Martin Mayfield ¹ and Lyudmila Mihaylova ³

¹ Department of Civil and Structural Engineering, The University of Sheffield, Sheffield S1 3JD, UK; martin.mayfield@sheffield.ac.uk

² School of Sociology and Social Policy, The University of Nottingham, Nottingham NG7 2RD, UK; james.heydon@nottingham.ac.uk

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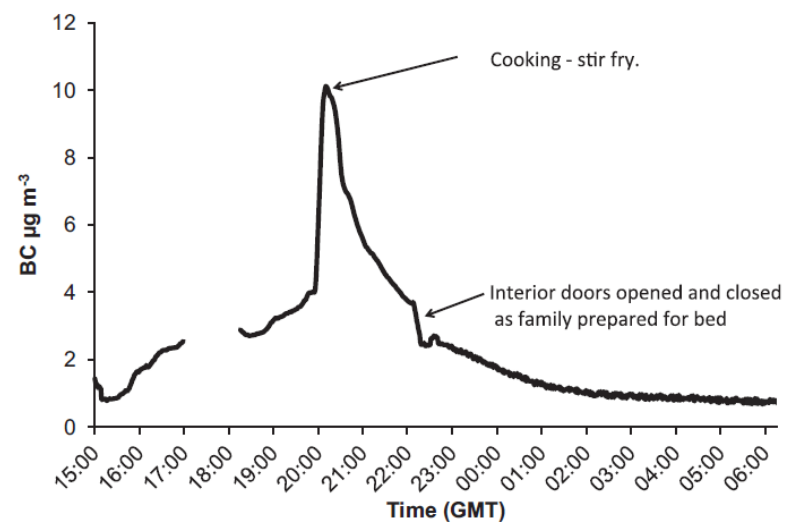
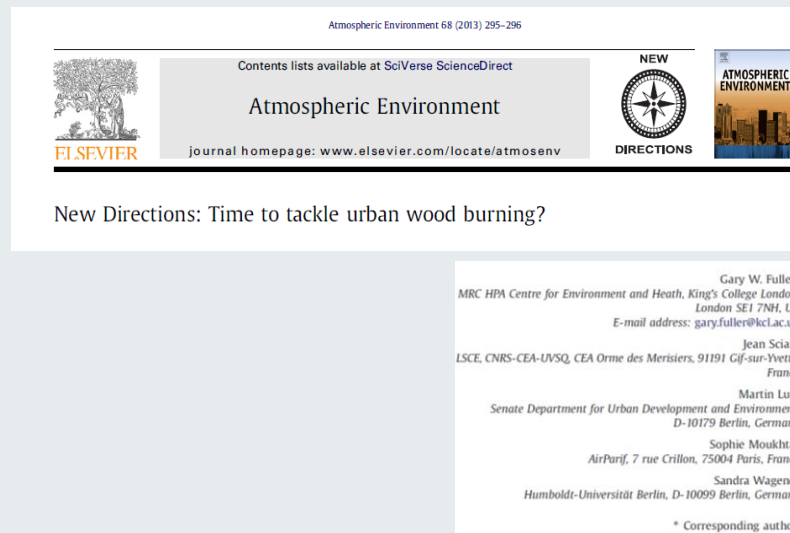
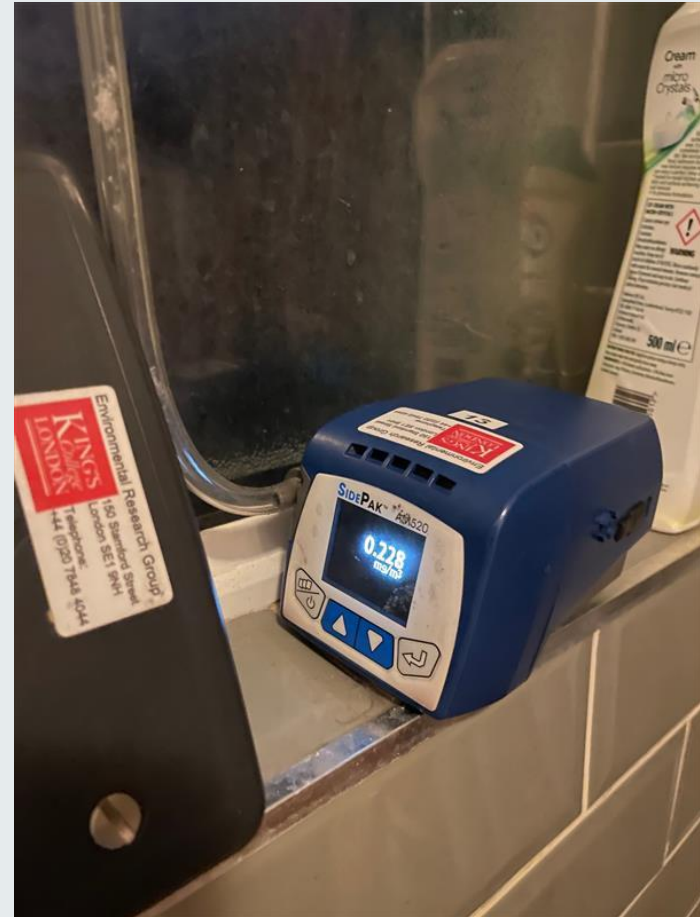


Fig. 2. Indoor black carbon concentrations (10 min mean), Sunday 14th February 2010.

Mapping new types of air pollution hotspots

Page 26



Anecdotal evidence from social media, complaints and our own measurements suggest that wood burning hotspots might exist

Mapping new types of air pollution hotspots

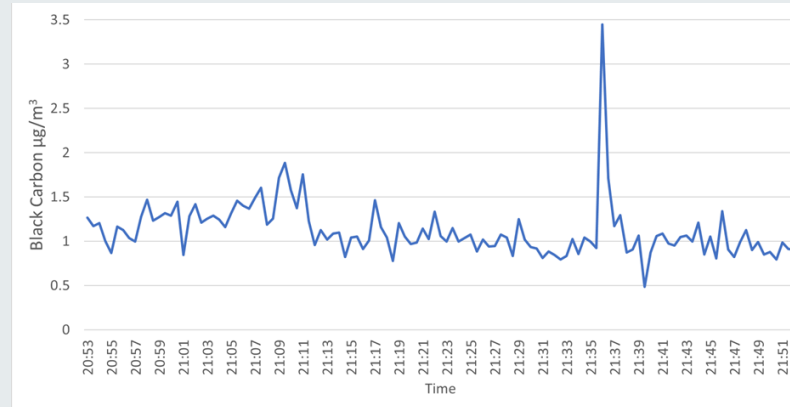
– pilot portable measurement studies for the London boroughs



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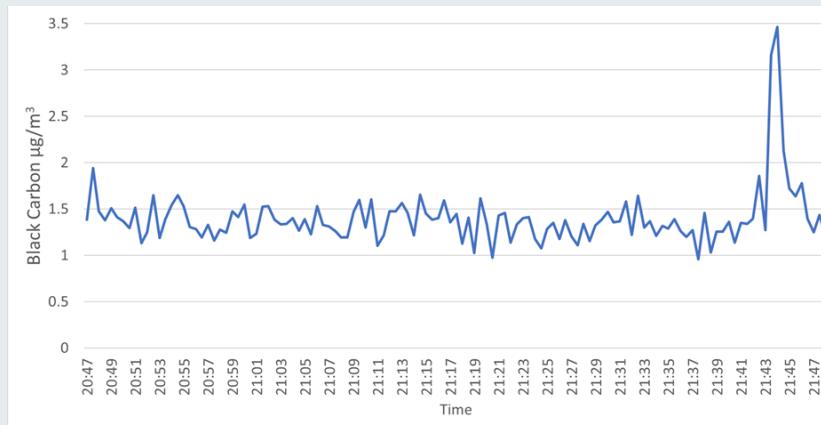
Islington



Rule of thumb: (Fuller et al 2014)

Black carbon is about 10% of total ambient PM from wood burning.

⇒ Max PM_{2,5} ~ 30 – 40 $\mu\text{g m}^{-3}$

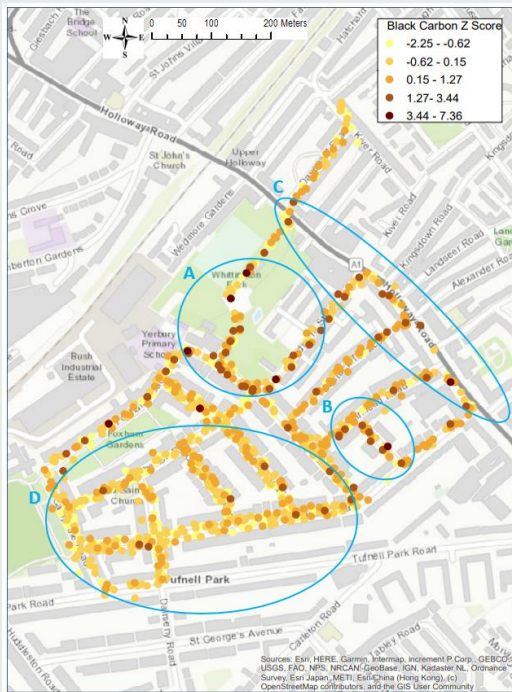


Islington - winter 2020

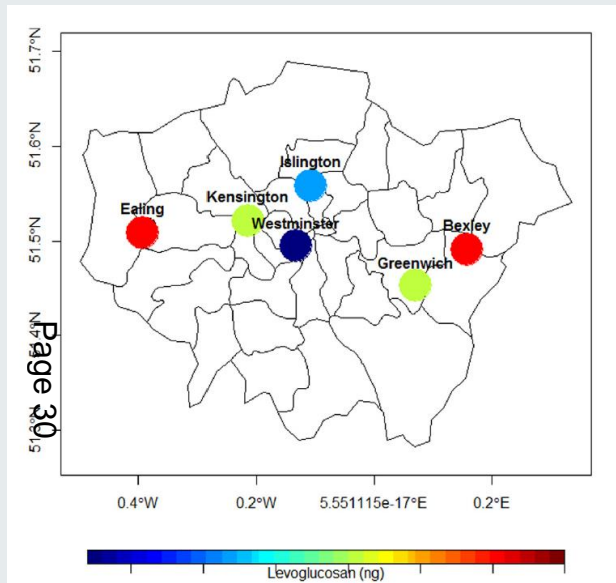
Incredibly challenging experiment given the difficulties of operating in “deep” lockdown.

Measurements of black carbon only.

Page 29



Hotspots – are spikes transient and concentrations diffuse?



Atmospheric Environment 87 (2014) 87–94

Contents lists available at ScienceDirect

Atmospheric Environment

journal homepage: www.elsevier.com/locate/atmosenv

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ATMOSPHERIC ENVIRONMENT

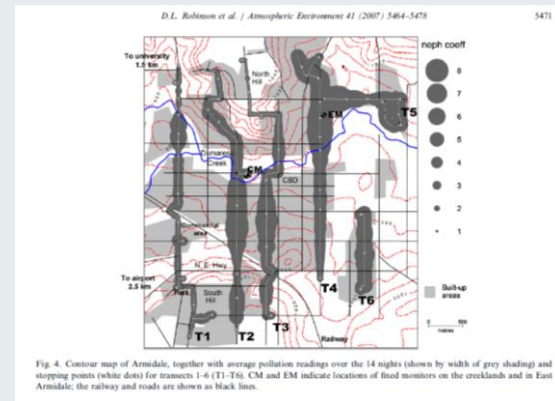
Contribution of wood burning to PM₁₀ in London[☆]

Gary W. Fuller^{a,*}, Anja H. Tremper^a, Timothy D. Baker^a, Karl Espen Yttri^b, David Butterfield^c

^a King's College London, MRC-PHE Centre for Environment and Health, 150 Stamford Street, London SE1 8NL, UK

^b Norwegian Institute for Air Research, Instituttveien 18, P.O. Box 100, N-2007 Kjeller, Norway

^c National Physical Laboratory, Hampton Road, Teddington, Middlesex TW20 0NW, UK



Available online at www.sciencedirect.com

ScienceDirect

Atmospheric Environment 41 (2007) 5464–5478

ATMOSPHERIC ENVIRONMENT

www.elsevier.com/locate/atmosenv

Spatial variability and population exposure to PM_{2.5} pollution from woodsmoke in a New South Wales country town

D.L. Robinson^a, J.M. Monro, E.A. Campbell

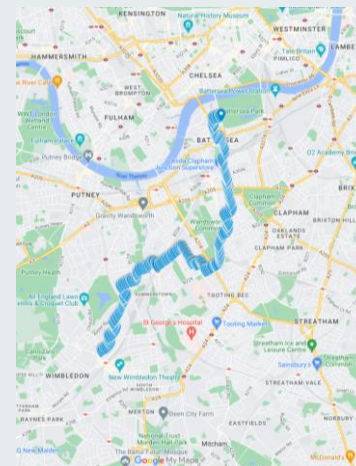
UNE Air Quality Research Group, Armidale, NSW 2351, Australia

Received 16 June 2006; received in revised form 15 January 2007; accepted 18 January 2007

Need to investigate via multiple fixed measurement sites in an urban area or walking routes along straight line transect?

Transect walking winter 2022/23

This winter's experiments for a group of 19 London Boroughs – work in progress by John Casey et al.



Despite smoke control, Londoners use open fires more than any other region except NI (2 x the GB mean)

Table 3.9: Appliance type and age by region (% of indoor burners) (CAS)

	Country				Region of England								
	England	Scotland	Wales	Northern Ireland	North East	North West	Yorks & Humber	East Midlands	West Midlands	East of England	London	South East	South West
Unwtd base	848	103	130	137	49*	134	105	104	75*	90*	34*	156	101
An open fire	27%	28%	21%	73%	24%	28%	32%	19%	14%	28%	56%	28%	28%
Stove installed before 2000	6%	3%	7%	1%	5%	9%	6%	4%	10%	8%	7%	5%	3%
Stove installed between 2000 and 2009	11%	13%	8%	1%	6%	9%	9%	11%	9%	13%	4%	13%	17%
Stove installed after 2009	39%	47%	38%	19%	47%	37%	38%	58%	49%	38%	10%	32%	39%
Stove unsure of installation date	5%	4%	8%	2%	7%	5%	5%	5%	12%	4%	2%	5%	4%
A biomass boiler	0%	0%	1%	1%	1%	0%	2%	0%	0%	0%	0%	0%	2%
Other (for example, range cooker, pellet stove)	7%	4%	12%	3%	6%	6%	4%	3%	3%	6%	10%	14%	5%
Don't know	4%	1%	6%	1%	3%	6%	6%	0%	3%	3%	12%	4%	3%

* Treat findings for these subgroups with caution due to the low base sizes.

Walters (2015 - DECC) survey found 68% solid fuel burners in London used an open fire vs England average of 40% in 2014

Solutions - what's been tried and what works...

Scheme	Success?
Clean Air Act – smoke control areas	75% ↓ PM due to smokeless coal in 1950s London Relied on simple supply chain Widely ignored today – 27% open fires in SCAs, 56% in London.
Smokey coal bans	75% ↓ PM London 1950s 70% ↓ PM Dublin 1990 Not widely used fuel Now in England
Wet wood standard	Not tired before Sold wet wood is only 20% of total wood burned
Stove standards – Defra approved, Ecodesign, Clearskies, Nordic Swan	More emissions in real-world vs test – can be 3-16x greater! Turnover is slow ~60% > 10 years old England, 90% in London. Having invested, stove users use their appliance 1.9 x more than those with open fires.

Solutions - what's been tried and what works...

Scheme	Success?
Subsidies for new stoves	Eg Libby Montana almost all stoves upgraded ↓ winter PM by 27%. <u>Less wheeze in children</u> . Similar results from Rhone Valley.
Subsidies to replace stoves and fireplaces with other heating	Eg Launceston, Aus – wood burning homes dropped from 66% to 30%, PM ↓ 40%, <u>death rates ↓ by 11% vs places with no scheme</u>
Burn bans – banning wood burning on polluted days.	Eg across the US, esp western states. Requires publicity and enforcement PM ↓ 20-30% raises public awareness of wood burning harm too. <u>Reductions in hosp admissions in CA</u>
Behavioural change campaigns (not just telling people the law!)	Several councils requested no bonfires or no burning in lockdown. Best campaign is / was run by Environment Canterbury (South Island. NZ)

Solutions - what's been tried and what works...



Warmer Cheaper




Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha




Smoke-free burning means a cosy nest...

Low pollution days and nights require everyone with fires to burn smoke-free. You'll get a warmer home, use less firewood AND help improve Canterbury's air quality.



Kindling Cracker







If you can't wait to get your hands on this great NZ invention, then click here to buy your very own one right now. kindlingcracker.com




Warmer Cheaper

Good Burning Technique

Checklist:

-  **Newspaper**
some knotted sheets help
-  **Lots of kindling**
might be more than you use now
-  **Small logs**
actually small, about triple the size of kindling
-  **Big logs**
with a good fire base you will use less of these to keep cosy for the night
-  **Coat**
to keep warm when popping outside to check your chimney for soot
-  **Step 1**
Setting the fire






Let us squark you through it.




Dave's Firewood Tips on the Best Firewood

Smoke-free fire master, Dave Pullen from the New Zealand Home Heating Association shares his top picks for the best firewood to burn a warmer, cheaper, smoke-free fire.

Plantation Pine, Douglas Fir and Blue Gum are widely available from Canterbury's Good Wood merchants and are the best woods to use and mix to get your fire just right.

Firewood name and description	Description when split	Recommended
1. Plantation Pine  <p>Best for cooking One of the most common firewoods, used throughout New Zealand as it comes from pine plantations and burns very cleanly. Thin compact bark.</p>	Smooth grained wood, mostly free of knots, light coloured. Drying time (ready to burn) 1 to 2 years. Moisture content - 15 - 20%.	✓
2. Douglas Fir/Oregon  <p>Best for kindling Has distinctive orange centre with white ring towards the bark. Ideal for splitting to make kindling. Very few knots & light in weight. Normally taken from plantations when 20-30 years old. Light smooth bark.</p>	Has distinctive orange centre with white ring towards the bark. Ideal for splitting to make kindling. Very few knots & light in weight. Drying time (ready to burn) 1 to 2 years. Moisture content 15 - 20%.	✓
3. Blue Gum  <p>Best for Long Burn In the hardwood category, light coloured smooth bark. When split shows radial cracking, which indicates low moisture. Heavier than pine.</p>	Light to dark in colour. Normally smooth grained wood with no knots. Drying time (ready to burn) 5 to 6 years. Moisture content 15 - 20%.	✓
4. Old Man Pine  <p>Normally cut from fern shelter belts - 40 to 50 years old, very thick heavy bark. Tends to smoke a lot when lighting & re-lighting.</p>	Medium colour, lots of knots and gum. Drying time (ready to burn) 2 to 3 years. Moisture content 15 - 20%.	✗ If you have any Old Man Pine, we recommend you burn this to kindling to limit the amount of smoke.
5. Macrocarpa  <p>Usually cut from fern shelter belts. Similar to old man pine but with thin bark.</p>	Brownish dark colour with knots showing and little gum. Heavier than pine. Drying time (ready to burn) 3 to 5 years. Moisture content 15 - 20%.	✓



Warmer Cheaper

Smoke-Free Fire Demonstrations

Videos

Wood burning is not carbon neutral

Compare

- 1) Chopping down a tree and burning it instead of using a fossil fuel
- 2) Leaving the tree in the forest and burning a fossil fuel instead

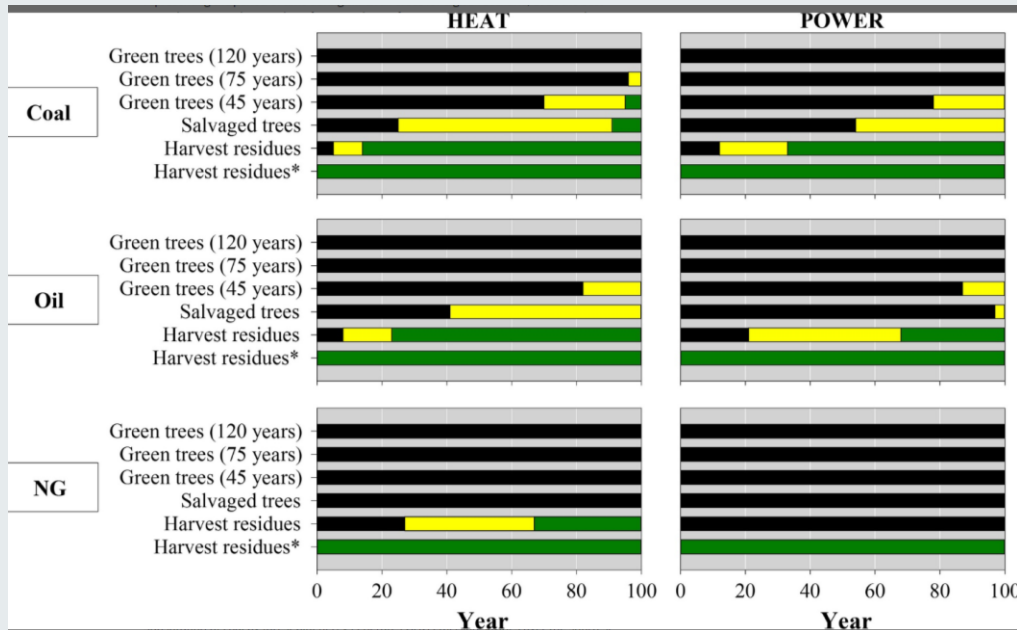
For the same unit of heat, burning wood emits more CO₂ than fossil gas, oil or coal.

So, more CO₂ in the air after an evening in front of the wood fire than fossil fuel

Carbon neutrality relies on forest regrowth to reabsorb the carbon – how long?

Impacts on biodiversity?

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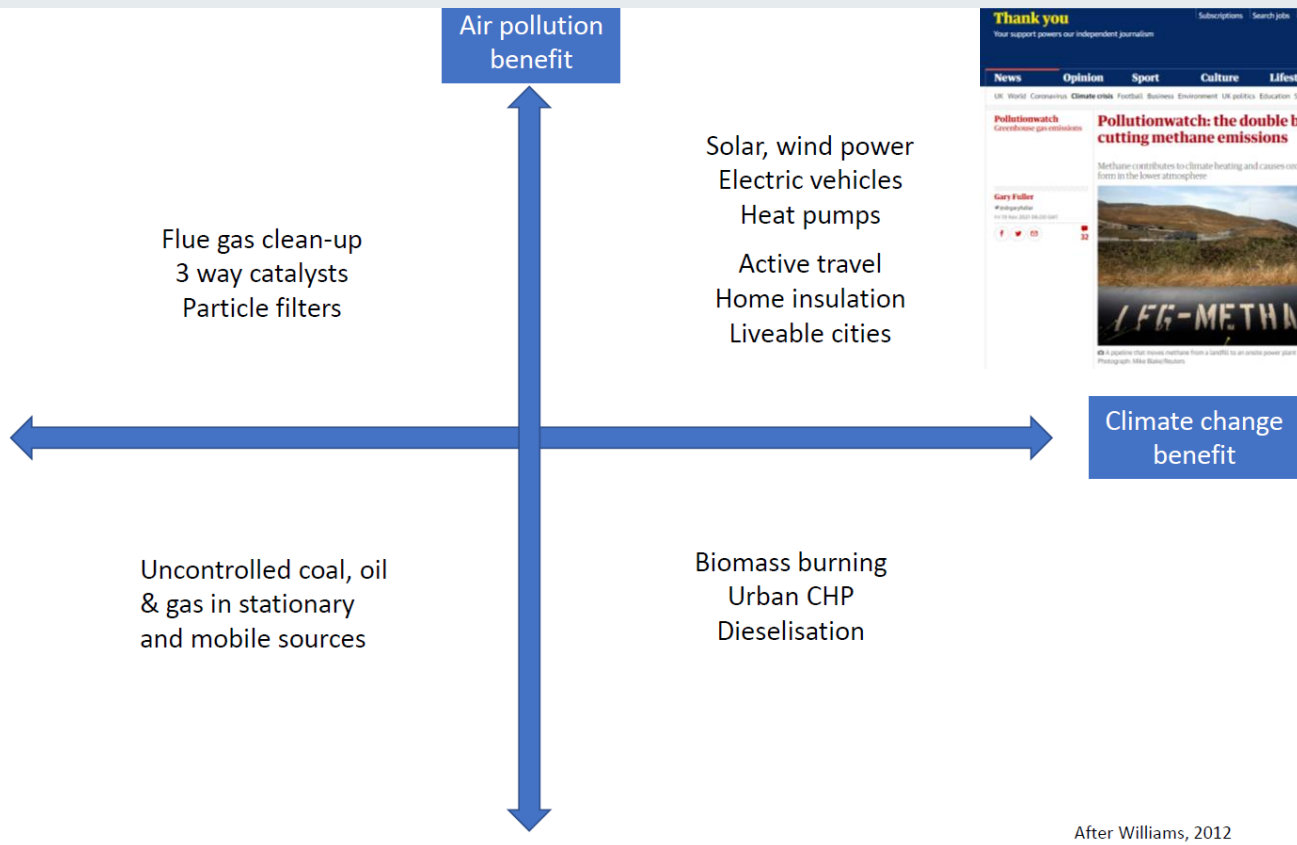
* Harvest residues that would have been burned during harvesting. Black C deficit, yellow = uncertainty range, green = C benefit for wood burning

Reducing sources (looking beyond traffic and industry)



Tackling air quality and climate change together

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After Williams, 2012

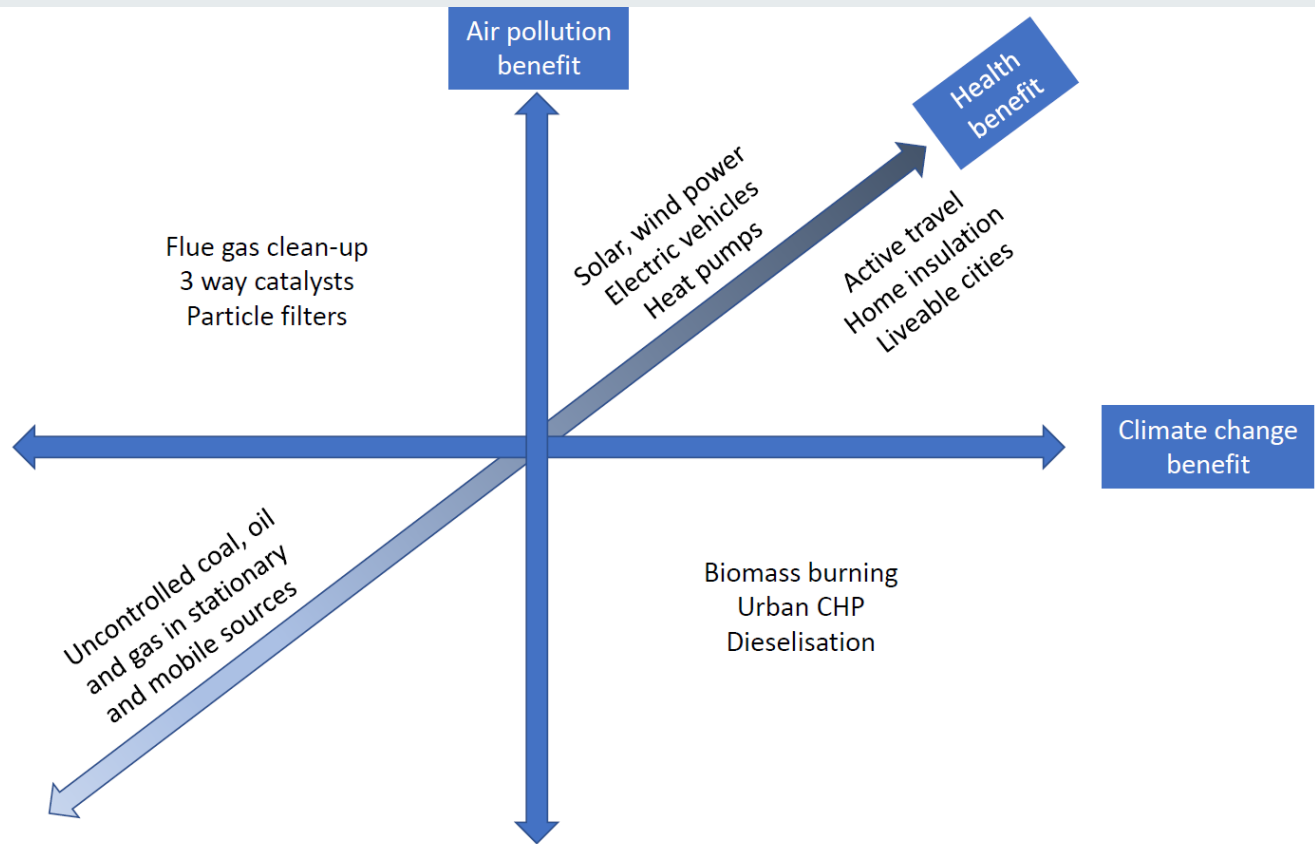
Tackling climate change: what is the impact on air pollution?

Carbon Management (2012) 3(5), xxx-xxx

Martin Williams*



Tackling air quality and climate change together



Tackling air quality and climate change together

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Low carbon, smog free, socially inclusive, bio-diverse, healthy cities....



**Imperial College
London**

Dr Gary Fuller

gary.fuller@imperial.ac.uk

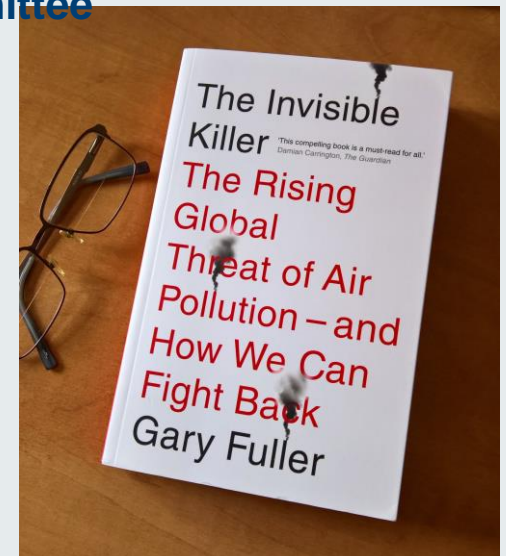
@drgaryFuller

www.londonair.org.uk

Keep the home fires burning? Wood burning and air pollution

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**Hammersmith & Fulham Council
Climate Change and Ecology Policy and Accountability Committee
28th March 2023**



 **Clean Air
Programme**
www.ukcleanair.org/

Three important studies on air pollution and health

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Almost 60,000 peer reviewed papers since 1932

Half of these published in the last decade.

London 1952

- it took a disaster for air pollution and health to be finally connected

Page 44

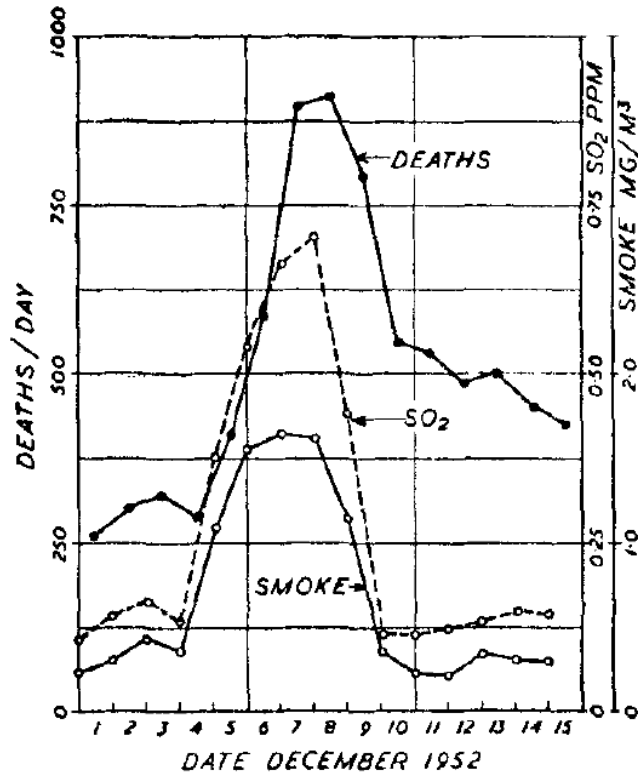


Figure 1. Daily air pollution and deaths.

Air pollution aspects of the London fog of December 1952

By E. T. WILKINS
D.S.I.R., Fuel Research Station, Greenwich

MoH report (1954) – 4,000 deaths
Bell et al 2001 - 12,000 deaths

They have no memorial except in the 1956
Clean Air Act and a book (last slide)



Then in 1993 - the six cities study

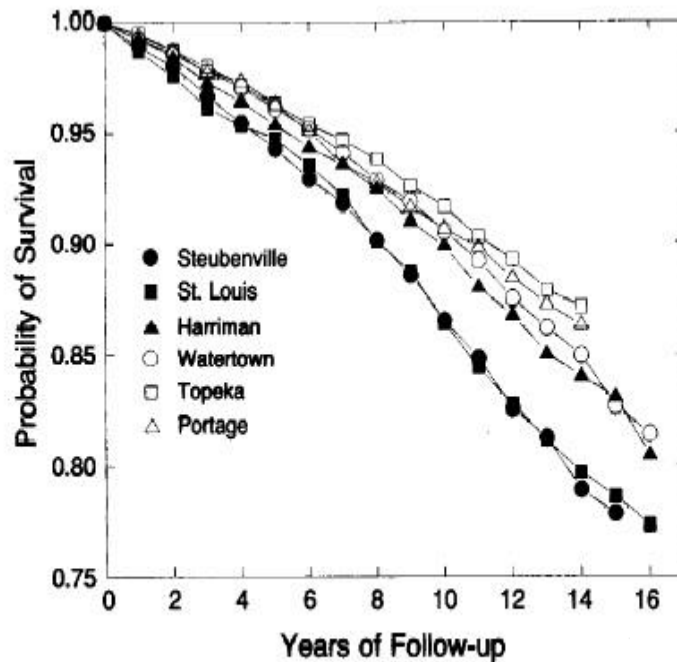


Figure 2. Crude Probability of Survival in the Six Cities, Acc to Years of Follow-up.

The New England
Journal of Medicine

©Copyright, 1993, by the Massachusetts Medical Society

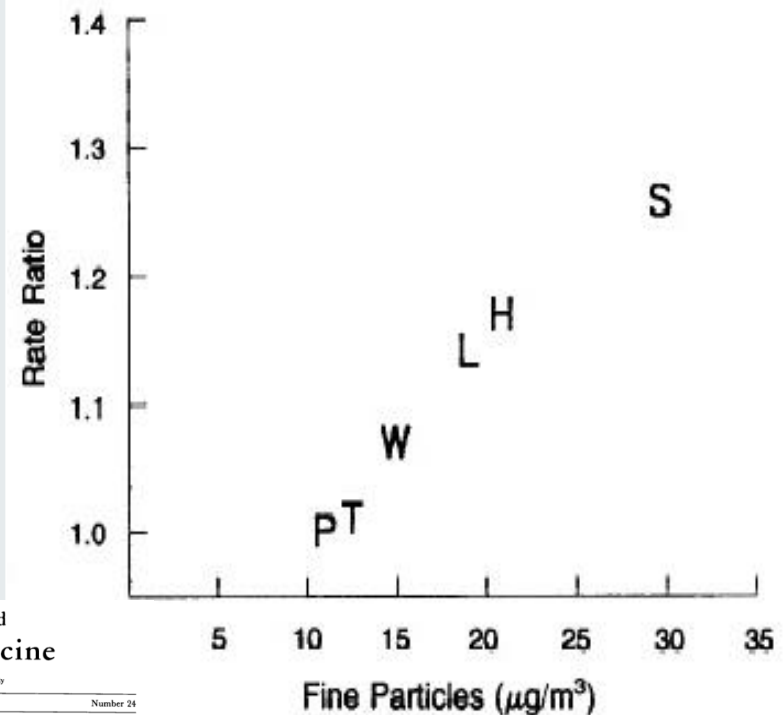
Volume 329

DECEMBER 9, 1993

Number 24

AN ASSOCIATION BETWEEN AIR POLLUTION AND MORTALITY IN SIX U.S. CITIES

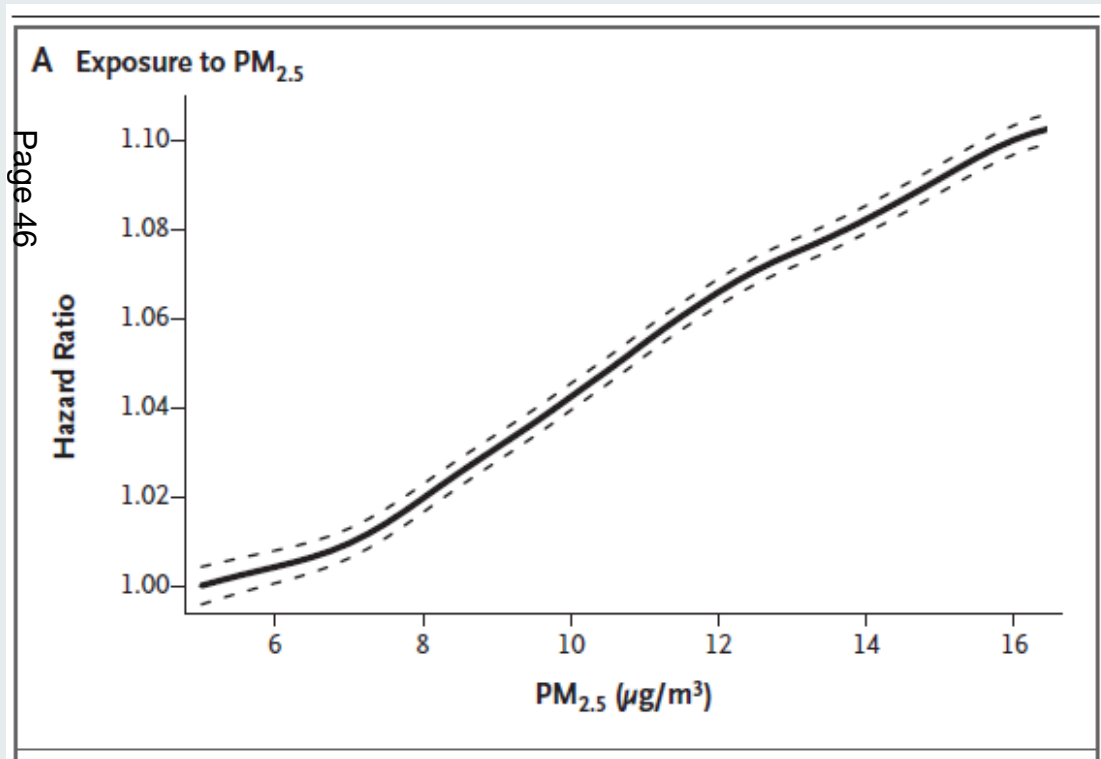
DOUGLAS W. DOCKERY, Sc.D., C. ARDEN POPE III, Ph.D., XIPING XU, M.D., Ph.D.,
JOHN D. SPENGLER, Ph.D., JAMES H. WARE, Ph.D., MARTHA E. FAY, M.P.H.,
RODOLPH G. FERRIS, Jr., M.D., and FRANK E. SPEIZER, M.D.



Today, health evidence does not support a threshold

Health effects found to the lowest levels measured and well below current EU & UK Limits 20-25 $\mu\text{g m}^{-3}$, US limits of 12 $\mu\text{g m}^{-3}$ and the Env Act target of 10 $\mu\text{g m}^{-3}$ for 2040!

WHO set new Guideline of 5 $\mu\text{g m}^{-3}$ in 2021.



Climate Policy and Accountability Committee

Communications & Engagement

Introduction



Climate Action Together video

Hammersmith & Fulham Council

[Climate Action Together video - YouTube](#)

Eliminate our emissions from:



How we construct, heat and power our built environment



How we move around

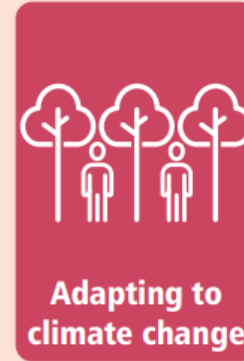


What we buy, use and dispose of; our lifestyles

Protect people and nature by:

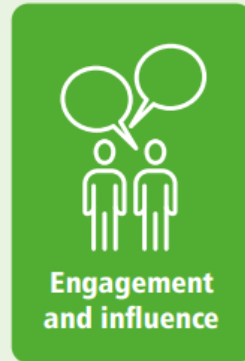


Making space for nature

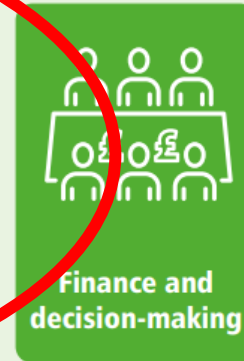


Making ourselves resilient to the changes underway

Enable this by:



Galvanising our communities and helping them to act

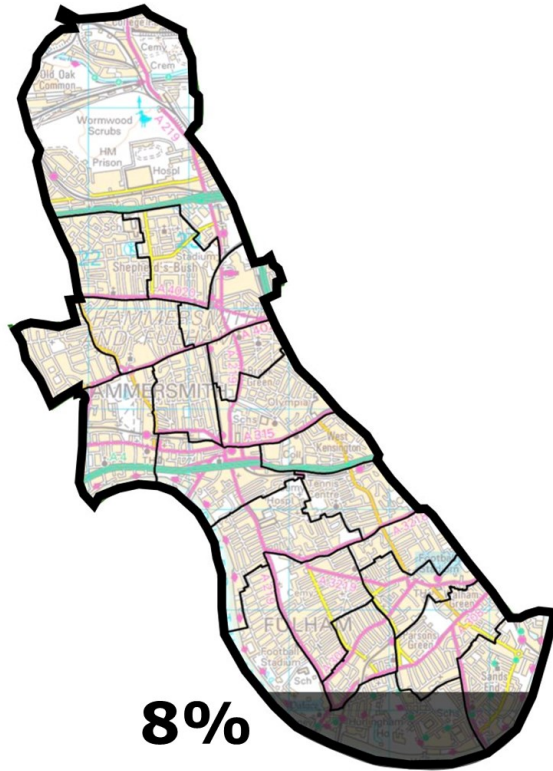


Making every decision support net zero



Delivering green skills and jobs for residents

Emissions in the borough



8%

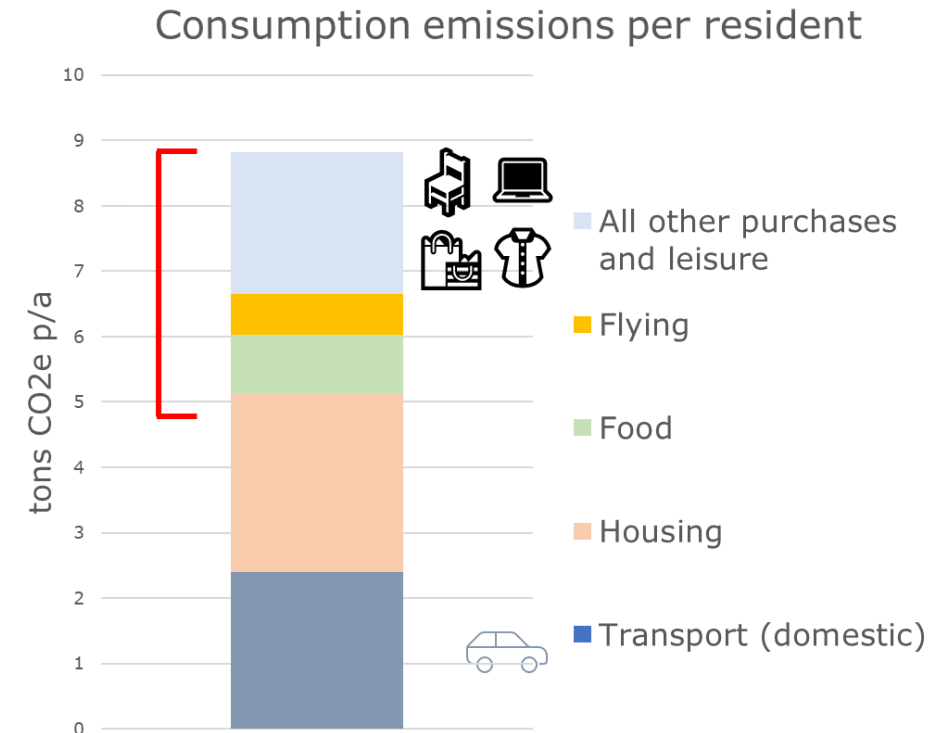
Direct H&F control

+ an additional 28% influence

through policies on new
developments, procurement,
road use etc.

Emissions pattern in the borough

- Housing (gas boilers) the main source
- Transport second main source
- Consumption accounts for about a third
- These are **averages**



Emissions pattern in the borough

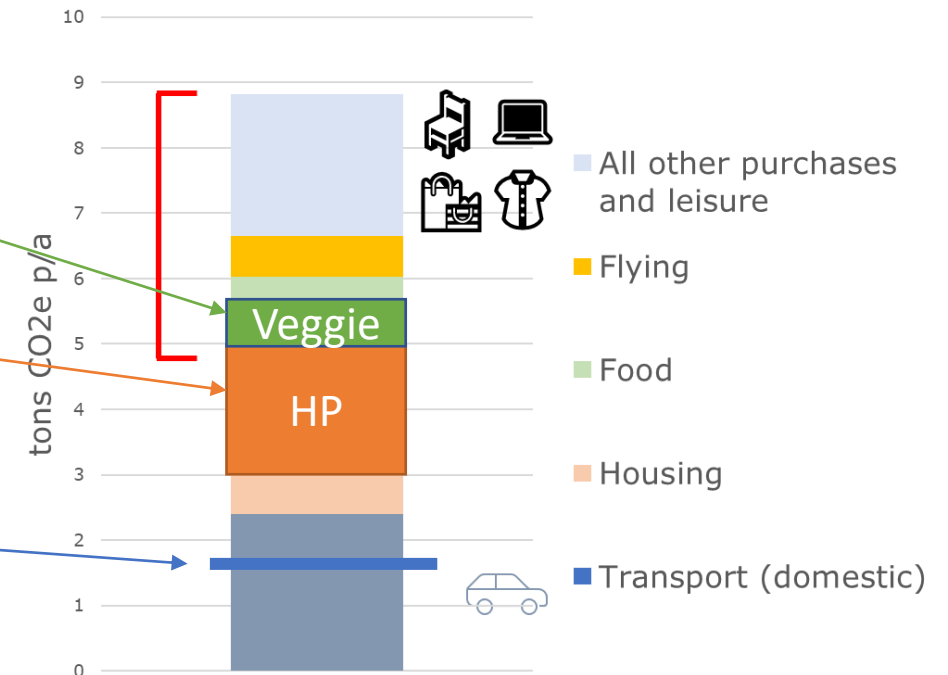
- For context, certain behaviours and technologies will reduce an individual's footprint (see boxes)

Veggie diet reduces by ~this amount

Heat pump reduces by ~this amount

Limit for 2°C warming
(1.6 tonnes pp)

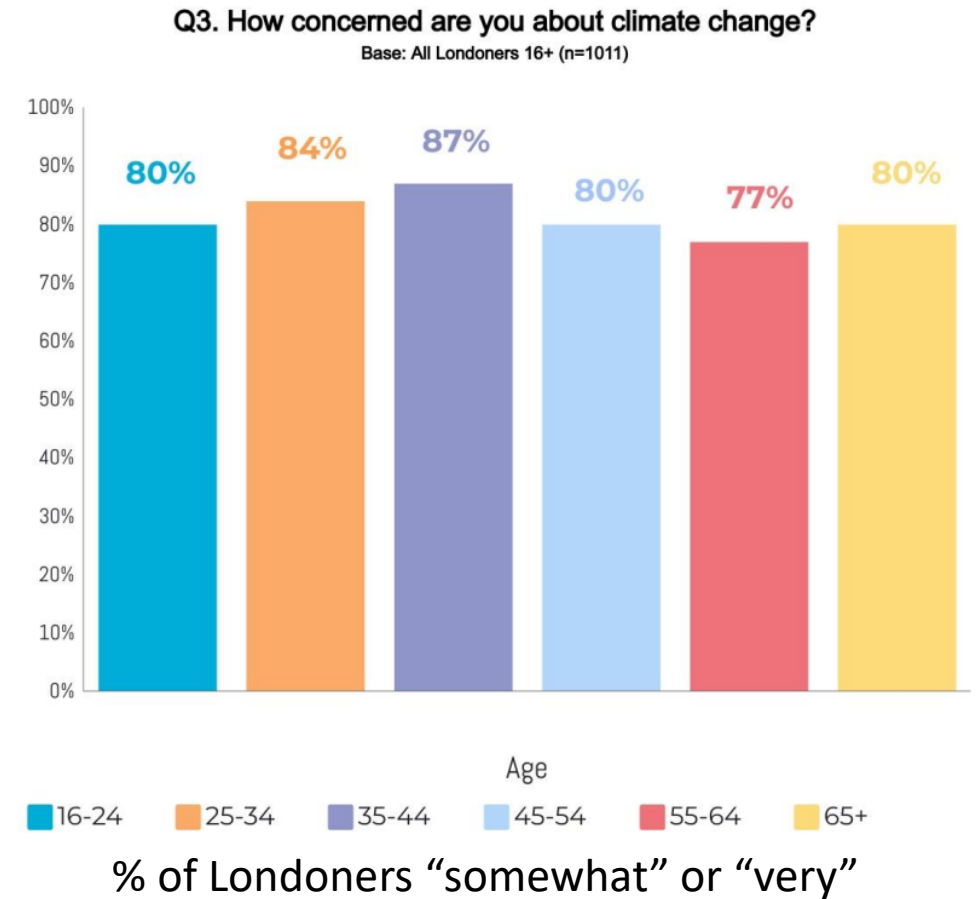
Consumption emissions per resident



- These are **averages**

Perceptions towards climate

- Attitudes are rarely the issue

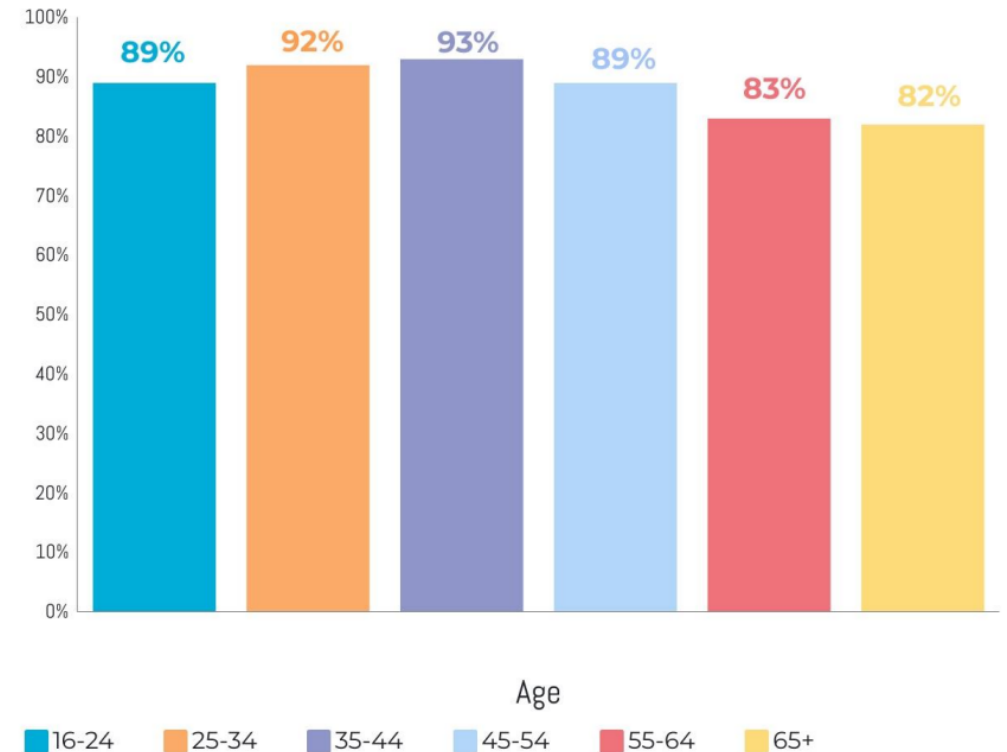


Perceptions towards climate

- Attitudes are rarely the issue
- Stated motivation is rarely the problem

Q5. How motivated are you to help prevent climate change?

Base: All Londoners 16+ (n=1011)

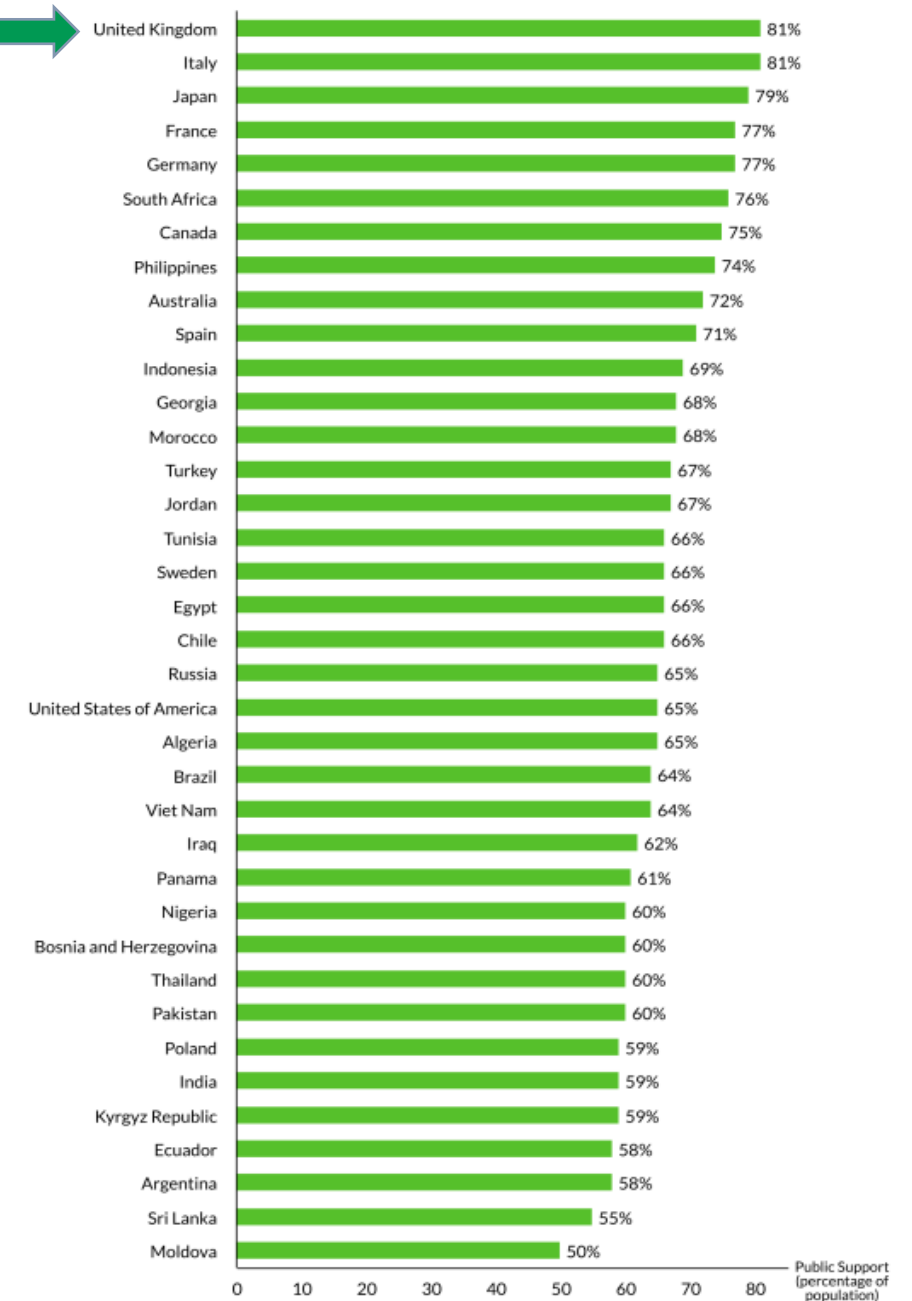


% of Londoners "somewhat" or "very"

Perceptions towards climate

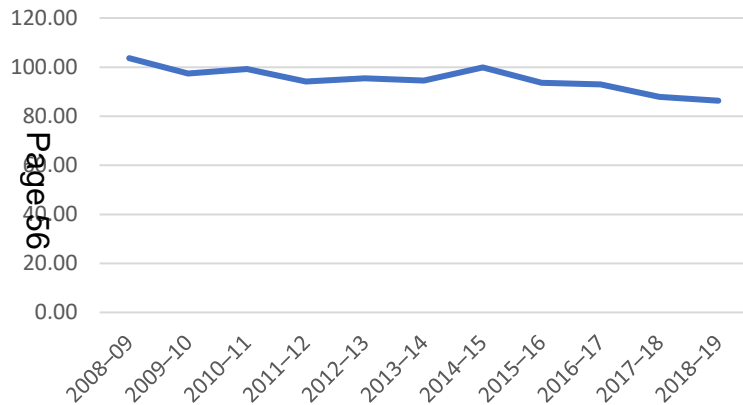
- Attitudes are rarely the issue
- Stated motivation is rarely the problem
- **Almost uniquely advantageous environment internationally**

Figure 3. Public Belief in the Climate Emergency, by Country



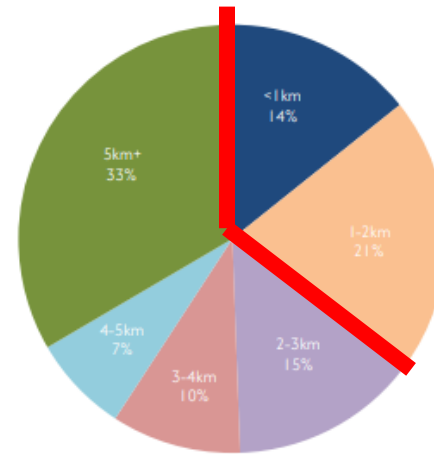
But trends not aligned with net zero

Meat: Total grams per day

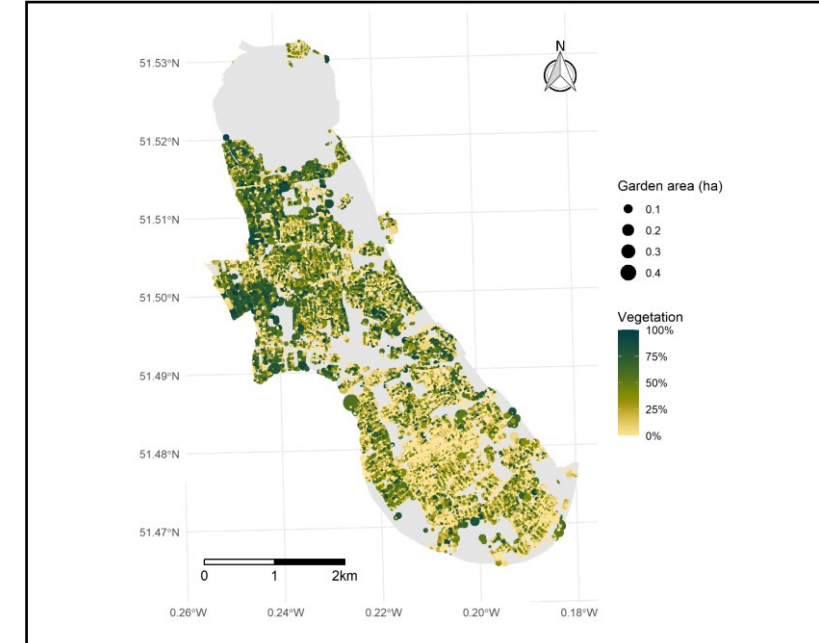


Meat consumption declining slowly vs reduction needed^[1]

Car trips by trip distance, London residents.



Over a third of car trips in London are less than 2km^[2]



31 % of H&F gardens are paved over /no vegetation^[3]

What is H&F Council's role?



Enabling climate-friendly behaviours

Our approach:

- Inspire climate action, & remove barriers
- Listen to under-represented voices
- Collaborate with partners
- Communicate clearly & inform



Monthly repair workshop @Livat

Inspiring community climate action

- Sharing stories, revealing possibility
- Nourishing networks, connecting people
- Climate Action Microgrants



Composting food waste in White City



Fighting fast fashion in Shep's Bush



Planting one of H&F's 3 tiny forests



Collaboration with business

- H&F Climate Alliance has members across the borough committed to taking climate action.
- Member forums, lunch&learns
- H&F Climate Action Hub: opportunities to support local climate action
- 300+ SMEs individually engaged in cost-of-doing-business /energy exercise



H&F Climate Alliance Members



Apothecary Natural Health Centre



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Travis Perkins



Listening to under-represented voices

- Sustainability champions pilot over one year
- Ensuring engagement is around real concerns: working with academics and Somali groups
- In-depth engagement on Fuel Poverty Strategy
- Attention on the cost of living crisis



Communicating, informing

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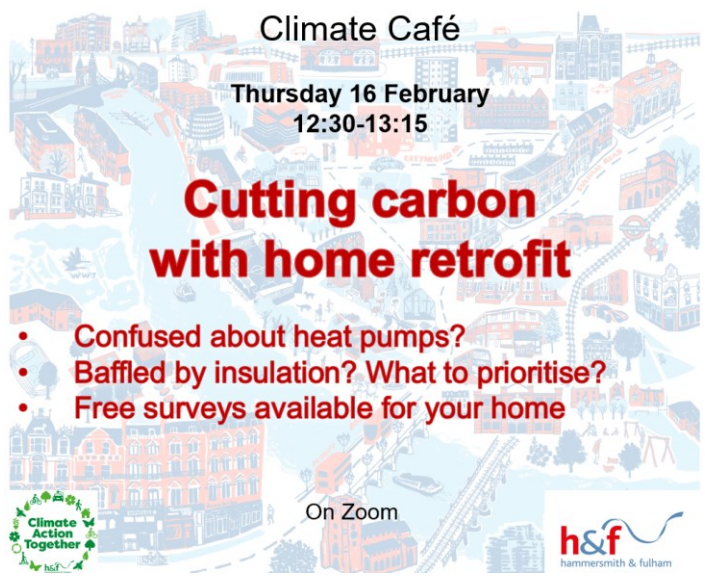
Climate Café
Thursday 16 February
12:30-13:15

**Cutting carbon
with home retrofit**

- Confused about heat pumps?
- Baffled by insulation? What to prioritise?
- Free surveys available for your home

On Zoom

h&f
hammersmith & fulham



Climate Cafés

fully public & recorded

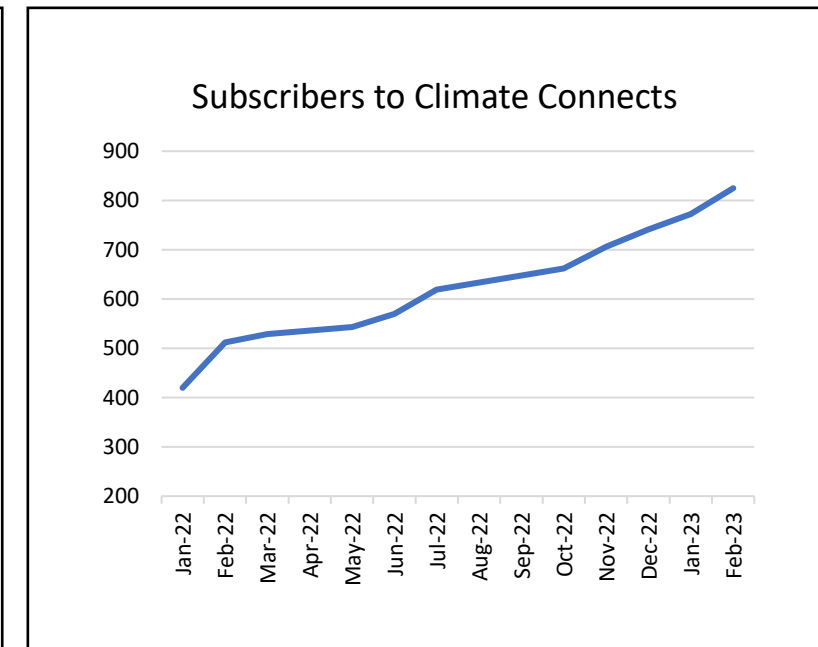
**Climate
Literacy**

h&f
hammersmith & fulham



Climate Literacy training

internal & external



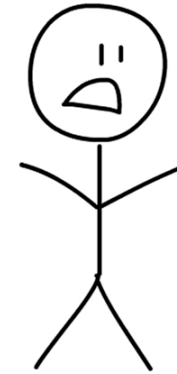
Climate Connects

↑subscribers, open rate

How to communicate?



cars create pollution...
polar bears
are dying...
we're heating the planet...



whatever.
you're wrong!



shield of
safety

**Some people are motivated
to action by the stark reality**

But more people are switched off

[4-min clip on the topic](#)

Inspire with the vision,
mobilise by removing barriers.

A world where we are tackling
climate change and the ecological
emergency is a better world
anyway.



Contact

Climate-emergency@lbhf.gov.uk

