

Simon Birkett
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By email

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Climate Change Committee
1 Victoria Street,
Westminster, London,
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Dear Simon,

Thank you very much for your letter of 4th May on the sale and use of solid fuel burners in cities and towns, following our prior exchange on Twitter.

You helpfully summarise the evidence on the health impacts of particulate matter (in particular, PM_{2.5}), the PM_{2.5} emissions due to domestic wood burning, the legal requirements under air quality legislation and the expected direction of the imminent update to the WHO's guidelines.

My Committee takes these matters seriously – we recognise the importance of tackling air quality issues as part of the transition to Net Zero greenhouse gas emissions. Any outcome that removes greenhouse gas emissions at the expense of air quality would be unacceptable.

CCC position on wood burners

Our longstanding position on wood burners is that they should not be counted towards either low-carbon heat targets or renewables targets. Since 2013, we have not included any energy produced by wood burners as part of the low-carbon heat uptake, which we report on annually in our Progress Report to Parliament. We make clear that wood burners are not a desirable policy outcome, based on their inefficient heat generation, air quality impacts and the suboptimal use of finite bioenergy resources.

Our position on the use of biomass in buildings is set out in the 2018 *Biomass in a low-carbon economy*. In the report, our recommendation is to limit support for bioenergy use in buildings to biomethane produced from anaerobic digestion and other niche uses, including hybrid heat pumps systems in 'hard to treat' off-gas homes, local combined heat and power systems and small-scale district heat networks. This is also reflected in the latest Sixth Carbon Budget scenarios, where we only include biomethane-to-grid and bioliquids used in hybrid heat pumps. Similarly, we no longer include a role for biomass used in low-carbon heat networks. These scenarios are not intended as prescriptive, but they are a good illustration of our views.

We also clarify our position in the Executive Summary of the 2018 report:

‘Our advice to Government is to not support any biomass for heat in urban areas because of the air quality impacts, including PM2.5 (fine particulate matter with a diameter below 2.5 microns):

- Burning wood on open fires is highly inefficient (both for energy production, and on an air quality basis, with PM2.5 emissions of around 2950 g/MWh). It should not be counted towards renewable energy targets.
- Wood-burning stoves range from PM2.5 emissions of around 2660 g/MWh for conventional stoves to 335 g/MWh for a Defra-exempt Ecodesign Stove. The Government's proposed ban on the sale of inefficient stoves and associated proposals in the 2018 draft Clean Air Strategy 2018 are a positive development. Biomass boilers perform better still (with PM2.5 emissions around 216 g/MWh) and can play a role in certain niches (for example, hard-to-insulate rural properties where heat pumps are not viable).’

CCC-commissioned research on air quality

We have considered air quality in other pieces of research published alongside the *Fourth Carbon Budget Review*, this included [*Analysis of the air quality impacts of potential CCC scenarios*](#) (by Imperial) and [*Review of the impacts of carbon budget measures on human health and the environment*](#) (by Ricardo AEA). And more recently, we convened a UK Health Expert Advisory Group for the Sixth Carbon budget, who produced a [*summary report*](#). We are also part of a 3-year modelling study led by Imperial College London, to model the air quality implications of the pathways to Net Zero set out in the advice on the Sixth Carbon Budget.

Next steps

If you would like to discuss this further with the team – in particular our recommendations around wood burners – could I recommend that you get in touch with our Head of Buildings, Jenny Hill (jenny.hill@theccc.org.uk). Jenny has a background in air quality having previously advised the European Commission on the design and implementation of the Industrial Emissions directive and Defra on compliance with National Emissions Ceiling directive. I know she would be pleased to discuss it with you further.

Yours sincerely,



Chris Stark
Chief Executive, Climate Change Committee