

Baroness Sheehan
Chair of the Environment and Climate Change Committee
House of Lords

The Rt Hon Steve Reed MP
Secretary of State for Environment, Food and Rural Affairs

The Rt Hon Angela Rayner MP
Secretary of State for Housing, Communities and Local Government

The Rt Hon Wes Streeting MP
Secretary of State for Health and Social Care

15 July 2025

Dear Secretaries of State,

During our inquiry on nitrogen, we heard that there has been less focus on indoor air quality than outdoor air quality,¹ despite indoor sources of pollution posing a real threat to human health. Both gas cookers and gas boilers are a source of NOx.² Exposure to nitrogen dioxide (NO₂) is associated with increasing the risk of childhood asthma, impaired lung development, and adverse birth outcomes.³ Nitrogen oxides (NOx) also contribute to the formation of fine particulate matter (PM_{2.5}) which can penetrate deep into the lungs and increase the risk of asthma, cardiovascular disease and type 2 diabetes.⁴

Recent research suggests that gas cooking in the UK exposes people to concentrations of nitrogen dioxide (NO₂) above the World Health Organization 24-hour guideline limit and the UK legal one-hour limit.⁵ The Air Quality Expert Group,⁶ which provides independent scientific advice to Defra, noted in a 2024 report on exposure to air pollutants across communities that emissions of indoor NOx from boilers and cooking appliances may be more significant if

¹ Written evidence from Hackney Council ([NIT0057](#))

² [Q 35](#) (Prof Alastair Lewis), [Q 7](#) and [Q 9](#) (Prof Kevin Hicks)

³ Written evidence from Tom Parkes ([NIT0056](#)) and the Royal College of Paediatrics and Child Health ([NIT0024](#))

⁴ Written evidence from the Royal College of Paediatrics and Child Health ([NIT0024](#))

⁵ Written evidence from Tom Parkes ([NIT0056](#)), referencing Blair et al. 2023, *Exposing the Public Health Impacts of Cooking with Gas in the UK*, CLASP and European Public Health Alliance: <https://www.clasp.ngo/cook-cleaner-europe/> [accessed 11 July 2025]

⁶ Air Quality Expert Group: <https://www.gov.uk/government/groups/air-quality-expert-group> [accessed 11 July 2025]

appliances are poorly maintained.⁷ This could place lower-income households at greater risk of NO_x exposure. Risks of exposure are also related to ventilation and risks increase when unvented gas heaters and cookers are used.⁸ However, we heard that further research is required to clarify and isolate the specific impact of indoor gas heating and gas cooking on health.⁹

Some local authorities are starting to consider indoor air quality, though they are not required to monitor or evaluate indoor emissions. We heard that Hackney Council is including indoor air quality as a theme in its consultation on a new Air Quality Action Plan.¹⁰ The West Midlands Combined Authority also told us they have started to investigate indoor air quality, including key pollutant sources and mitigation options.¹¹

Health concerns around NO_x and PM_{2.5} emissions from gas heating and cooking could be addressed by replacing gas hobs with induction or electric hobs.¹² We note that the Government's decarbonisation plans for domestic settings focus on heating, and little attention has been given to the issue of cooking and air quality. In 2022, the Air Quality Expert Group's report on Indoor Air Quality looked at the contribution of nitrogen pollutants to indoor air quality, but there were no conclusive findings regarding the specific impacts of gas cookers on human health.¹³

We would be grateful for your responses to the following questions:

- What is the Government's assessment of the contribution of nitrogen pollutants to indoor air quality and their impact on human health?

⁷ Written evidence from Tom Parkes ([NIT0056](#)), referencing Air Quality Expert Group, *Differentials in air pollutant exposure across communities and regions in the UK* (2024), p.59: https://uk-air.defra.gov.uk/assets/documents/reports/cat05/2503251005_AQEG_Differentials_clean_280824.pdf [accessed 11 July 2025]

⁸ Written evidence from Prof Anna Hansell ([NIT0043](#))

⁹ Written evidence from Prof Anna Hansell ([NIT0043](#)), the Royal College of Paediatrics and Child Health ([NIT0024](#)), Tom Parkes ([NIT0056](#)) and Hackney Council ([NIT0057](#))

¹⁰ Written evidence from Hackney Council ([NIT0057](#))

¹¹ Written evidence from West Midlands Combined Authority ([NIT0052](#))

¹² Air Quality Expert Group, *Differentials in air pollutant exposure across communities and regions in the UK* (2024), p.14: https://uk-air.defra.gov.uk/assets/documents/reports/cat05/2503251005_AQEG_Differentials_clean_280824.pdf [accessed 11 July 2025]

¹³ Air Quality Expert Group, *Indoor Air Quality* (November 2022): https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2211011000_15062022_Indoor_Air_Quality_Report_Final.pdf [accessed 11 July 2025]



- What is the role of the Health and Safety Executive and local authorities in monitoring and reducing indoor air pollution, both in domestic and commercial environments?
- Has the Government commissioned or funded any recent research projects to assess the impact of gas cookers and/or gas boilers on human health? If so, what have the outcomes been?
- Are there plans for the revised Clean Air Strategy, due in mid-2028, to include mitigating actions to address NO_x pollutants from gas boilers and gas cookers?
- Given the cross-departmental nature of this issue, do you have plans to reinstate a cross-Whitehall working group on indoor air quality?¹⁴

Yours sincerely,

Baroness Sheehan, Chair of the Environment and Climate Change Committee

¹⁴ In our inquiry, Professor Anna Hansell of the University of Leicester told us that there used to be a cross-Whitehall working group on indoor air quality which should be reactivated.¹⁴