

OFFICIAL PARLIAMENTARY BRIEFING: ENERGY & AIR QUALITY

TO: Olivia Bailey MP, Member of Parliament for Reading West and Mid Berkshire

FROM: Marc Barlow, Bonfire (Constituent at RG7 6NH)

DATE: March 20, 2026

SUBJECT: DISCOURAGING THE USE OF ECODESIGN STOVES WILL INCREASE PM 2.5 LEVELS

1. EXECUTIVE SUMMARY: THE "REVERSION RISK"

The **Environmental Improvement Plan 2025 (EIP25)** identifies air quality as a national priority. However, current regulatory trends risk a **"regulatory chill."** If homeowners are discouraged from upgrading to modern **Ecodesign** technology, they will inevitably continue to operate inefficient open fires and legacy appliances.

Because a traditional open fire produces **10 times more particulates** than a modern stove, any policy that stalls this technological transition will result in a net **increase** in national $PM_{2.5}$ levels, directly contradicting the core goals of EIP25.

2. DATA BREAKDOWN: $PM_{2.5}$ EMISSIONS BY SOURCE

Latest figures from **Defra** and the **NAEI (2026)** demonstrate that modern stoves are a negligible part of the air quality problem compared to "uncontrolled" burning.

Appliance / Source Type	% of Domestic Wood Emissions	% of Total UK $PM_{2.5}$	Particulate Intensity
Traditional Open Fires	~70.0%	13.3%	EXTREMELY HIGH
Older Wood Stoves (Pre-2022)	~22.0%	4.9%	High
Modern Ecodesign Stoves	~8.0%	1.8%	NEGLIGIBLE

Source: Defra Statistical Release (Feb 12, 2026): "Emissions of air pollutants in the UK – Particulate matter (PM_{10} and $PM_{2.5}$)."
Source: National Atmospheric Emissions Inventory (NAEI) 2025/26 Sector Apportionment.

3. COMPARATIVE ANALYSIS: THE RENEWABLE SOLUTION

- Environmental Positive:** Wood is a **carbon-neutral, renewable fuel**. Ecodesign appliances have a carbon intensity of **~19g CO_2e/kWh** —vastly lower than Natural Gas (**210g**) or Heating Oil (**298g**).

- **Technological Suitability:** While **Air Source Heat Pumps** are a key tool, they frequently fail to achieve operational efficiency in the UK's older, poorly insulated housing stock. In these properties, wood stoves provide a viable low-carbon alternative.
- **Cost of Living:** On a per-kWh basis, heating with a modern stove is up to **72% cheaper than electric heating** and remains highly competitive with mains gas.



Source: Department for Energy Security and Net Zero (DESNZ 2025) Greenhouse Gas Conversion Factors. > **Source:** Stove Industry Association (SIA) 2025/26 Cost Index.

4. LOCAL ECONOMIC IMPACT: BONFIRE





- **Heritage:** A family-run company in your constituency for **nearly 25 years**.
- **Jobs:** We employ **15 local people** in skilled trades.
- **Ethics:** We prioritize the **"Ready to Burn"** standards, acting as frontline educators to ensure every installation reduces local particulates.

INFOGRAPHIC: DATA AT A GLANCE (UK 2026)

I. THE POLLUTION GAP

- **OPEN FIRE:**  (10.0g/hr $PM_{2.5}$)
- **ECODESIGN STOVE:**  (0.1 - 0.7g/hr $PM_{2.5}$)
- *Upgrading an open fire to an Ecodesign stove removes **90% of particulates**.*
> **Source:** HETAS Technical Briefing 2026; SIA Ecodesign Factsheet.

II. CARBON FOOTPRINT (g CO_2 e/kWh)

- **WOOD (RENEWABLE):** 19g 
- **UK GRID ELEC:** 126g 
- **NATURAL GAS:** 210g 
- **HEATING OIL:** 298g 

Source: DESNZ 2025 Carbon Reporting Standards.

III. THE ECONOMIC ENGINE

- **£3.1 BILLION** annual contribution to the UK economy.
- **25,000 JOBS** supported in manufacturing, retail, and installation.
- **72% CHEAPER** than direct electric heating for "Zonal" warmth.

Source: SIA Annual Economic Impact Report 2025.

OFFICIAL REFERENCE LIST FOR RESEARCHERS

- **Defra (2026):** *Emissions of air pollutants in the UK, 1970 to 2024.* (Published Feb 2026).
- **NAEI (2026):** *UK Informative Inventory Report (IIR) 1990-2024.*
- **DESNZ (2025):** *UK Government GHG Conversion Factors for Company Reporting.*
- **Woodsure (2026):** *Technical Data on Particulate Displacement in Domestic Wood Heating.*

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