**Wood smoke pollution – key data**

**Victorian, NSW and Australian data**

* The EPA Victoria's newly released [2016 Emissions Inventory Report](https://www.epa.vic.gov.au/about-epa/publications/2028) finds domestic wood heaters to be the **largest source of human-generated particle pollution (51%)** across Melbourne and Victoria. While only 5% of Melbourne households use wood heaters ([PIA, page 31](https://www.epa.vic.gov.au/about-epa/what-we-do/standards/variation-to-the-waste-management-policy-solid-fuel-heating)) they are estimated contribute half (51%) of human-generated fine particle (PM2.5) air pollution in Melbourne, more than vehicles (30%) and aircraft (7%). Across Victoria, wood heaters were estimated to be the main source of PM2.5 pollution, contributing 38%, more than fossil fuel burning (27%) and vehicle pollution (22%) [p.13].
* The [NSW draft Clean Air Strategy](https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Air/nsw-clean-air-strategy-2021-30-draft-for-consultation-210080.pdf) finds that wood heaters are responsible ‘for the single largest health impact, estimated to contribute to 100 deaths in 2010–11’ (page 20) and includes that in Sydney – 46% of PM2.5 exposure from wood heaters, despite only 4.4% of Sydney households using wood as main heating (Fig 13).
* Only [about 5 percent](https://www.abs.gov.au/AUSSTATS/abs%40.nsf/Lookup/4602.0.55.001Main%2BFeatures1Mar%202014?OpenDocument) of people in metropolitan areas use wood heaters in Australia, but they impact on the health of other 95 percent who don’t.
* The Victorian Auditor General [report](https://www.audit.vic.gov.au/report/improving-victorias-air-quality?section=) 2018 found that EPA’s limited air quality monitoring is misrepresenting air pollution levels in Victoria including failing to detect localised air pollution impacting residential areas.

**Health impacts**

* The damaging health impacts of particle pollution (PM2.5) from wood smoke are [significant](https://www.bmj.com/content/360/bmj.k167/rr-3) and [well known](https://www.who.int/news-room/fact-sheets/detail/ambient-%28outdoor%29-air-quality-and-health) including that for [every new modern](https://www.researchgate.net/publication/319301753_Emergency_department_visits_of_young_children_and_long-term_exposure_to_neighbourhood_smoke_from_household_heating_-_The_Growing_Up_in_New_Zealand_child_cohort_study) wood heater per hectare there is a 7% increase that a child under 3 years will end up in emergency for all causes except accidents; the health costs of wood heater smoke *in Victoria alone* is [estimated as $8 billion](https://www.epa.vic.gov.au/about-epa/publications/954) over the next decade. Australia-wide the estimated cost is [$3.4 billion per year](https://envirojustice.org.au/sites/default/files/files/Air%20Summit%202015/Robinson_2014_AQCC_Woodsmoke_Health_Regulation.pdf) or $4000- $5600 per wood heater per year.
* People on low incomes are most at risk as they are [more likely](https://www.aihw.gov.au/getmedia/f69a0bd9-16f5-48c1-8922-2ef7e904bd14/aihw-cdk-12-fact-sheet.pdf.aspx) to have health conditions and live in areas with higher numbers of wood heaters/wood burning. Children are particularly vulnerable to the impacts of smoke.

**Air pollution globally**

* The World Health Organisation new [2021 global air quality guidelines](https://www.who.int/news/item/22-09-2021-new-who-global-air-quality-guidelines-aim-to-save-millions-of-lives-from-air-pollution) are the first update in fifteen years. The guidelines recommend reductions in levels of key air pollutants (including nitrogen, PM.25 and PM10). The guidelines highlight that there is now a much stronger body of evidence to show how air pollution affects different aspects of health at even lower concentrations than previously understood. These new guidelines should challenge Australian policy makers to review the current particulate matter levels of the [National Environment Protection (Ambient Air Quality) Measure (NEPM)](https://www.environment.gov.au/protection/air-quality/ambient-air-quality-nepm). For example, the PM2.5 level of the NEPM for a 24 hour period is 25ug/m3 while the new guidelines set levels at 15 ug/m3.

**Modern wood heaters – myth versus reality**

* Studies [have shown](https://www.environment.nsw.gov.au/resources/air/WoodsmokeControlReport.pdf) that wood heater standards do not reduce emissions. In real life wood heaters produce far [higher emissions](https://9afbdcab-a-62cb3a1a-s-sites.googlegroups.com/site/ausaqg/files/EHPC_NationalApproach_Reducing_WoodheaterEmissions_ScopingPaper.pdf?attachauth=ANoY7crZSJkN7_f0KmVs199qoTuUHm4WG0RfZHTChUaME5TuJmbjLV2zkKvfOJMJ4_DwYaEZ79UR-4FosdzNTCmsmB750gAUAPhwGwNoNyArlBhTPLWBjnSMzWPkpbedYrtZSNb3qw4hlfdtefR3ckY3irOEJl47TC2Plv7GSyP7w3iCPXOBDVC226dHUlCQ1eNkYN5o2I8kNO6RuyZjWLET2ezSwsV77Jl-AqywU4KL_Jx7d7cYTtPJRwcZFk7l3Z_t1wfh20jrchISSK7FPjdORTv_K54r3Eb0emLBAA10XmELbVpdAp0%3D&attredirects=0) - individuals can burn damp or painted wood and allow heaters to smolder overnight.
* New modern wood heaters (often referred to as Eco or Scandinavian wood heaters) are almost as polluting as older models. One eco-certified wood stove is rated at 3.1grams/h of particulate matter which is equal to six heavy-duty lorries which are rated at 0.5grams/h of particulate matter each.
* Wood burning is the opposite of environmentally friendly – it is [speeding up global warming](https://link.springer.com/article/10.1007/s13595-013-0269-9) and climate change.

**The policy versus the practice**

* Local council responses to wood smoke have proven to be ineffective, as has the education in ‘correct operation’. The reality is that many wood heater owners know how to properly operate their wood heater but who is there when they decide to burn the damp wood because they ran of dry wood, or to burn rubbish because it is too cold to go outside the bin? Who is there when they decide to save money by allowing the fire to smoulder so it burns less wood? And even when ‘properly operated’ the fact is that burning wood produces particle pollution. Wood heater/fireplace use often occurs in evening or weekends when council officers are unavailable. The burden of monitoring smoke levels falls on neighbouring residents, who obtain minimal support from their local council.

**Support for clean air**

* Most people would support a phase out of wood heaters. Asthma Australia’s recently released nationally representative survey (n=25,000) finds that **77% of people agree that woodfire heaters should not be allowed in urban or built-up areas** and over half agree they should be phased out (55%) or banned completely (54%). For those with asthma support for a phase out was even higher - with 84 % agreeing they shouldn't be allowed in built up areas. This provides strong evidence of public support for measures to protect the health of the community from residential wood smoke pollution. For the full survey – go to <https://asthma.org.au/about-us/media/public-would-support-a-phase-out-of-woodfire-heaters/>

**What would work to clear our air?**

Implement a phase-out program with a target date and include:

1. **Prohibit new wood heaters being installed:** Legislation should be enacted to prevent wood heaters/fireplaces being installed and remove existing wood heaters/fireplaces upon the sale of a house. This costs the taxpayer nothing and helps to clear our air.
2. **Provide a replacement scheme**: Extend current subsidy schemes that aim to encourage households to switch to healthier heating options (i.e. sustainably sourced electric heating - cost efficient heat pumps) with a focus on ensuring households with wood heaters access the program as a first priority.
3. **Support the above with a widespread public education campaign.** Like campaigns that have been developed to encourage people to quit smoking, the campaign should highlight the risk to health posed by woodsmoke in order to raise levels of health literacy. Asthma Australia have recommended a [similar campaign](https://asthma.org.au/about-us/media/new-national-health-campaign-on-air-genda/) on air pollution.