Revised Draft QPRC Solid Fuel Heater Policy

Submission from the Health Environment and Lives (HEAL) National Research Network

Professor Sotiris Vardoulakis, Health Research Institute, University of Canberra
Director, NHMRC Healthy Environments and Lives (HEAL) National Research Network
E: sotiris.vardoulakis@canberra.edu.au M: +61 (0) 4907 11964

About the HEAL National Research Network

The vision of the Healthy Environments and Lives (HEAL) Network is to catalyse research, knowledge exchange and translation into policy and practice that will bring measurable improvements to our health, the Australian health system, and the environment.

The HEAL Network is a broad coalition of 100 investigators and more than 30 organisations from across Australia that aims to bridge the gap between knowledge and action by bringing together Aboriginal and Torres Strait Islander wisdom, sustainable development, epidemiology, and data science and communication to address environmental and climate change, and its impacts on health across all Australian states and territories.

HEAL focuses on participatory solutions-driven research that will provide robust scientific evidence to underpin structural policy and practice changes. To meet this need, our collaboration includes Government health and environmental authorities; health sector organisations; Indigenous organisations; and data providers to integrate a complex social, environmental, economic and institutional ecosystem into a cohesive, multidisciplinary research network.

The HEAL Network is funded by the National Heath and Medical Research Council (NHMRC) Special Initiative in Human Health and Environmental Change.

Introduction

The HEAL Network has strong expertise and capacity to provide strategic advice on environmental and health policy aiming to strengthen community resilience to climate change and environmental degradation.

We welcome the opportunity to provide input to the public consultation on the Revised Draft QPRC Solid Fuel Heater Policy. Due to time constraints, our contribution to the consultation is based on existing scientific evidence, our expert knowledge, and an extrapolation of a recent study on the health impacts of wood heater smoke in the Australian Capital Territory. We would be happy to discuss our submission in more detail, if this is required.

Health Impact Analysis

There is increasing concern about the health and environmental impacts of wood heaters in Australia. The fine particulate matter ($PM_{2.5}$) air pollution emitted from wood heaters impacts every organ system in the body, increasing rates of cancer, cardiovascular disease, respiratory diseases, diabetes mellitus, obesity, and reproductive, neurological, and immune system disorders [1]. Wood heaters are currently the dominant source of air pollution in many cities and towns throughout Australia, including in New South Wales (NSW) and the Australian Capital Territory (ACT) [2].

It has been argued that modern wood heaters are subject to tighter emission testing and therefore are less polluting than older wood heaters. However, there is strong evidence that current laboratory based emission testing protocols do not reflect typical household operation or actual (real world) emissions that occur when wood heaters are used after sale [1]. Consequently, even modern wood heaters that perform well under existing laboratory testing conditions can still produce excessive amounts of air pollution when used in real households. Therefore, current emissions standards do not protect public health and the environment as intended [3].

We undertook a rapid health impact assessment of the effect of wood heater pollution on mortality in the ACT [4], based on available air quality data from three ACT Government operated monitoring stations, epidemiological evidence and population statistics. Using well-established scientific methods, we estimated that air pollution from wood heaters in ACT was linked to 11-63 deaths annually. These deaths cost the ACT an estimated $57-$333 million annually, based on the value of statistical life in Australia [5].

Using the relative size of the 2021 Census usual resident population of Queanbeyan-Palerang Regional Council (63,304) and the Australian Capital Territory (453,890), we extrapolated our study for the ACT published in the Medical Journal of Australia [4] to estimate the number of deaths linked to wood heater pollution in the QPRC area in 2021 (Table 1).

In the absence of local air quality monitoring data from the QPRC, we assumed that the levels of wood heater smoke ($PM_{2.5}$) in the QPRC were similar to those in the ACT. We believe this is a reasonable assumption given the proximity of the two areas and their similar climate and topography. We also assumed that a similar proportion of households use wood heaters in the QPRC and the ACT.

Table 1: Deaths and costs attributable to wood heater pollution

Year 2021	ACT	**QPRC**
Census usual resident population	453,890	63,304
Deaths linked to wood heater pollution	22 – 54	3 – 8
Equivalent cost of deaths linked to wood heater pollution ($ million)	117 – 288	16 – 40

Based on the above assumptions, we estimate that wood heater smoke was linked to 3 – 8 deaths in Queanbeyan-Palerang Regional Council in 2021, with an equivalent annual cost of $16 – $40 million.

This analysis did not take into account costs related to the full range of health outcomes linked to $PM_{2.5}$ pollution from wood heaters, including medication use and hospitalisations, for example due to asthma symptoms aggravated by wood heater smoke. Therefore, the overall health cost of wood heater pollution in the QPRC is likely to be even higher.

Response to the consultation

The impact of solid fuel heaters (commonly referred to as wood heaters) on public health and the economy in the Queanbeyan-Palerang Regional Council area are likely to be substantial based on our rapid analysis. Wood heater pollution disproportionally cause harm on people with asthma or other chronic conditions, pregnant women, young children, older adults, and Aboriginal and Torres Strait Islander people. Therefore, decisive action is needed to improve local air quality and safeguard public health.

We support the Revised Draft QPRC Solid Fuel Heater Policy which, if implemented, will mean new applications to install wood heaters will not be approved in urban areas of the Queanbeyan-Palerang Regional Council, and enforcement action will be taken against unapproved wood heaters.

If implemented and enforced, the measures contained in the Revised Draft Policy will improve air quality and health outcomes in Queanbeyan-Palerang's urban areas. Implementing these measures will also raise awareness in the community about the adverse health and environmental impacts of wood heaters.

However, a key limitation of the Revised Draft Policy is the continued approval for replacement of existing wood heaters with new wood heaters, and the lack of incentives or requirements to remove existing wood heaters. **We therefore urge QPRC to further improve local air quality and health outcomes by developing and consulting on additional measures to transition households from wood heaters to efficient, electric alternatives.**

Cleaner, healthier, and more sustainable and affordable domestic heating options, such as reverse cycle air conditioning powered by energy from renewable sources, can keep homes in the Queanbeyan-Palerang Regional Council area warm in winter and cool in summer, without harming the health of our communities.

Recommendations

Recommendation 1: QPRC should adopt the Revised Draft Solid Fuel Heater Policy, so that applications to install wood heaters in the urban areas of the Queanbeyan-Palerang Regional Council will not be approved. The Council should take enforcement action if unapproved wood heaters are installed.

Recommendation 2: QPRC should allocate sufficient resources for compliance and enforcement action to identify and remove unapproved wood heaters, and investigate and address complaints about wood heater smoke.

Recommendation 3: QPRC should consider the following additional measures for improving local air quality and protecting public health:

(a) remove the exclusion for replacement of existing wood heaters with new wood heaters in urban areas

(b) add requirement to remove existing wood heaters upon the sale of a property in an urban area

(c) provide financial incentives and requirements to replace existing wood heaters with efficient, electric domestic heating systems.

Recommendation 4: QPRC should consider installing an air quality monitoring system that will provide reliable air pollution data ($PM_{2.5}$) on an ongoing basis. These data can underpin future analyses of the health impacts of wood heater smoke in the QPRC area. This monitoring system could be complemented with portable low-cost sensors that can be used to investigate wood heater smoke complaints.

References

1. Johnston, F., et al., *Reducing the Health Impacts of Wood Heaters in Australia. Policy Implications*, in *Position Paper*. 2021, Centre for Air pollution, energy and health Research (CAR).
2. Borchers-Arriagada, N., et al., *The mortality burden attributable to wood heater smoke particulate matter (PM2.5) in Australia.* Science of The Total Environment, 2024. **921**: p. 171069.
3. OCSE, *"Burn Right Tonight' or Is There 'No Safe Level of Air Pollution'? An Investigation into Wood Heater Policy in the Act Can Canberra 'Burn Right Tonight' or Is There 'No Safe Level of Air Pollution'?* 2023, Office of the ACT Commissioner for Sustainability and the Environment.
4. Vardoulakis, S., et al., *Wood heater smoke and mortality in the Australian Capital Territory: a rapid health impact assessment.* Medical Journal of Australia, 2024. **220**(1): p. 29-34.
5. Office of Best Practice Regulation, *Best Practice Regulation Guidance Note: Value of statistical life*. 2022, Australian Government, Department of the Prime Minister and Cabinet: Canberra, Australia.