



Tasmanian Draft Climate Change Action Plan 2023-25

Asthma Australia Submission, April 2023

ABOUT ASTHMA AUSTRALIA

Asthma Australia is a for-purpose, consumer organisation that has been improving the lives of people with asthma since 1962. Asthma affects one in nine Australians or 2.7 million people. Asthma is an inflammatory condition of the airways, restricting airflow and can be fatal. There is no cure, but most people with asthma can experience good control.

Our purpose is to help people breathe better so they can live freely. We deliver evidence-based prevention and health strategies to more than half a million people each year.

ASTHMA AND CLIMATE CHANGE

Climate change is already impacting the health and quality of life of many people with asthma in Tasmania, **causing and exacerbating asthma** through events such as severe and prolonged bushfires and flooding. The emissions that drive climate change can also trigger asthma symptoms and increase the risk of developing asthma. Asthma exacerbations can lead to emergency department presentations, hospitalisations and even death. Climate change can also negatively affect the mental health of people with asthma.¹

ASTHMA IN TASMANIA

Asthma affects 66,000 people in Tasmania, or more than one in eight people.² This means **Tasmania has the second highest prevalence of asthma** in any state or territory in Australia. Tasmania's Brighton municipality has the highest rates of asthma, while Launceston has the highest total number of people with asthma.³

In 2022, asthma was the 8th leading contributor to the overall burden of disease in Australia, having risen from 10th place in 2003.⁴ It is the leading cause of burden of disease for people aged 5–14 years. In 2020, asthma caused 11 deaths in Tasmania,⁵ and as a chronic condition places a significant burden on the daily lives of people with asthma and their families, as well as Tasmania's health care system.



OUR RESPONSE TO THE DRAFT ACTION PLAN

Asthma Australia welcomes the opportunity to provide feedback on Tasmania's Draft Climate Change Action Plan 2023-25 (the Action Plan). Developed as a result of Tasmania's legislated target of net zero emissions by 2030, we welcome its broad intent, overarching vision and principles and identified actions. To ensure that the impacts of climate change effects on the health of Tasmanians - particularly on the **one in eight who have asthma** - are appropriately planned for and minimised, we highlight key areas within the Action Plan that require strengthening. These include: information relating to air quality, the electrification of Tasmanian homes and housing adaptations to better protect vulnerable populations from the health inequities that climate change exacerbates.

PRIORITY AREA 1: INFORMATION AND KNOWLEDGE

INFORMATION RELATING TO AIR QUALITY

Climate change is inextricably linked to air quality, with its adverse impacts such as increasing bushfire smoke, ground level ozone and pollen contributing to air pollution. Further, the emissions that drive climate change increase air pollution. The UN has deemed air pollution as 'the most important environmental health risk of our time', with it being responsible for 1 in 9 deaths globally.⁶

Certain air pollutants can trigger asthma symptoms and exacerbations and increase the risk of developing asthma. For example, findings from our survey on the 2019-20 bushfire crisis showed people with asthma reported higher rates of serious health outcomes than people without asthma, including attending the emergency department, hospitalisation and requiring oral or injected corticosteroid medication.⁷ The unprecedented levels and duration of exposure to bushfire smoke during this period also had significant impacts on mental health, including new and increased symptoms of anxiety and depression. The survey revealed that beyond health impacts, people with asthma disproportionately suffered financial strain and reduced participation in everyday activities.

The 2021 State of the Environment Report found that **better information could reduce the impact of poor air quality**,⁸ concluding that:

- Harmful pollutants are only assessed by Australian jurisdictions at 211 fixed air quality monitoring stations across Australia, leaving sensitive populations living in other areas with an **absence of information and unable to protect their health**. The report notes that new networks of low-cost sensors are helping to fill in gaps between monitoring stations.
- Communities need **real-time, local air quality information during periods of poor air quality**. The 2019–20 bushfires changed the way people want to access air quality data. The Bushfire Royal Commission recommended that air quality measurements be reported hourly, and that governments standardise the way they convey air pollution health alerts to the public.

Asthma Australia strongly supports these conclusions, and we would like to see them embedded into the Action Plan by including the recommendations set out below.



RECOMMENDATIONS

Recommendation 1: Improve Tasmania’s air quality monitoring capabilities.

We recommend adding a specific action to Priority Area 1 to improve air quality monitoring. This will both help support the Government’s decision-making in relation to its legislated target of zero emissions by 2030 and aid the decision-making of communities responding to climate change-related health risks.

Regional and rural populations commonly lack local air quality monitoring facilities, which can be particularly problematic during bushfires and hazard reduction burns as people in these communities are disproportionately affected by smoke. Even in metropolitan areas, air quality monitoring stations span many suburbs, meaning localised peaks of air pollution are neither detected nor reported on.

There are two ways in which the Tasmanian Government could improve its air quality monitoring: 1) by increasing the number of air quality monitoring stations, and 2) by using more low-cost air quality sensors. We recommend the Government consider both options as part of this action.

Recommendation 2: Increase access to local air quality information.

There is a gap in public health messaging around the health impacts of air pollution, which disproportionately affects the health and wellbeing of people with asthma. People need to be able to access air quality information and complementary public health advice so they can make informed decisions about how to better protect themselves from the health impacts of air pollution.

We recommend that the Action Plan incorporates a specific action committing to a public health education campaign to increase awareness in the general population and at-risk populations about how to respond to air pollution and where to find local air quality information.

Following the Bushfire crisis in 2019/20, Asthma Australia has responded to this need by developing and piloting a public education campaign, AirSmart. We provide details below on AirSmart for your information and would welcome further discussion about its use in Tasmania and incorporation into the Action Plan. Asthma Australia’s 2023-24 Pre-budget Submission to the Tasmanian Department of Treasury and Finance included AirSmart as a funding priority for the 2023-24 Tasmanian State Budget.⁹

Asthma Australia’s public health campaign: AirSmart

Asthma Australia has developed and piloted a public education campaign called ‘AirSmart’. AirSmart fills the need for community education and guidance around air quality, which was made clear during the 2019–2020 bushfire smoke crisis. The need for access to air quality information and guidance will only increase as climate change continues to increase the frequency and severity of events causing poor air quality.

AirSmart was developed with the guidance of a panel of environmental and public health experts, including from the University of Sydney and the NSW Department of Planning and Environment. It was piloted in communities across southern NSW, ACT, and regional Victoria over a six-week period in July-August 2022. The pilot was evaluated and strongly indicated that Australians want access to local, responsive air quality information and tools. The strong engagement in the campaign was demonstrated by over 16,000 app downloads and 23,000 website views in just six weeks, demonstrating the importance of this issue to many Australians.



PRIORITY AREA 2: TRANSITION AND INNOVATION

ELECTRIFICATION OF TASMANIAN HOMES

Asthma Australia commends the Tasmanian Government's achievement of net zero emissions for the last seven reported years, and of 100 per cent self-sufficiency in renewable electricity generation in 2020. We also welcome the Action Plan's recognition that net zero will be increasingly difficult for it to maintain not least because of the increasing effects of climate change, such as bushfires. To ensure the state can continue to meet net zero emissions and draw from its 100% renewable sources of electricity, we strongly urge Tasmania to move towards the electrification of Tasmanian homes. This requires the following two key actions: 1) phasing out wood heaters in residential areas, and 2) transitioning away from the use of gas appliances for cooking and heating.

1. Phasing out wood heaters in residential areas

Wood heater smoke is the largest source of winter air pollution in Tasmania.¹⁰ Wood heater use is higher in cooler jurisdictions, with 13% of people in Tasmania reporting they use a wood heater as their main source of heating, compared to 7% nationally.¹¹ Wood heater smoke has been recognised as a significant health issue in Tasmania with evidence from the University of Tasmania finding that more people die from wood heater smoke than bushfire smoke.¹²

Wood heaters are not an efficient or clean form of heating with wood heater smoke containing harmful pollutants including fine particulate matter (PM_{2.5}) and known carcinogens. There is no 'safe' level of air pollution and health impacts can occur even at low levels of pollution, well below air pollution standards.¹³ Wood heater smoke is a serious risk factor for asthma, both in terms of developing asthma and triggering symptoms in people who already have asthma.¹⁴ It is also a risk factor for other respiratory illnesses, certain cancers, cardiovascular disease, premature birth and premature death.¹⁵

These health impacts result in substantial economic costs, which have been estimated annually in excess of \$3,800 per wood heater.¹⁶ In Tasmania alone, the average yearly health cost of wood heater smoke is an estimated \$293 million (compared to \$16 million for landscape fire smoke).¹⁷

In 2020, Asthma Australia commissioned a representative survey of 25,039 people, which found that people exposed to wood heater smoke are largely unable to protect themselves against its impacts.¹⁸ Further, the survey found the majority of people support regulation to reduce the impact of wood heaters, with stronger support among people with asthma.

Reducing wood heaters in Launceston

To tackle the impact of wood heater smoke on air quality driven by the rising popularity of wood heaters, Tasmania has previously had notable success in reducing the number of wood heaters and their related emissions.

In 2001, Launceston became the focus of strategies aiming to reduce wood heater pollution. At the time, two-thirds of households in Launceston had a wood heater. Following a program of interventions, which included a buyback scheme, wood heater prevalence had been reduced to 30% by 2004. Researchers studying the impact of these interventions measured air pollution before and after them to find a significant decrease in annual coarse particulate matter (PM₁₀) pollution and an even greater decrease in winter air pollution levels.¹⁹ This was associated with a reduction in cardiovascular and respiratory mortality for males during winter months.



Given the significant contribution of wood heaters to air pollution in Tasmania and the known effect of reducing wood heaters on cutting harmful emissions there, the Action Plan must include phasing out wood heaters in residential areas as an integral part to maintaining net zero emissions in Tasmania in the future.

2. Transitioning away from the use of gas appliances for heating and cooking

Cooking with gas is an important source of household air pollution. Gas cooktops produce a variety of air pollutants, including fine particulate matter, nitrogen dioxide, carbon monoxide, and formaldehyde. Similarly, gas heaters produce a variety of air pollutants, and unflued gas heaters are particularly dangerous because these pollutants remain inside the home rather than being vented outside. Exposure to the pollutants produced by gas cooktops and heaters can trigger asthma flare-ups and contribute to the development of asthma. Cooking with gas is estimated to be responsible for up to 12% of the childhood asthma burden in Australia.²⁰

The prevalence of gas appliances in Australian homes

Asthma Australia's 2022 nationally representative survey looked at homes, health and asthma in Australia and was completed by 5,041 people.²¹ The survey asked participants about their current practices and preferences for heating their homes and cooking. The most common (and preferred) type of cooking was gas (48%) followed by electric (41%). Only 6% had an induction cooktop.

The preferred types of heating were reverse cycle air conditioning and central heating; the most efficient options. However, nearly half (43%) of respondents reported that they do not currently have their preferred form of heating at home. One in five respondents (22%) regularly use portable electric space heaters, 13% regularly use wood heaters, 8% regularly use flued gas heaters and 7% regularly use unflued gas heaters. For people who do not have their preferred source of heating, the most common barrier to switching is cost (43%), followed by not owning the home (32%).

Transitioning away from gas appliances in Tasmanian homes to efficient, electric appliances will improve air quality and people's health, as well as reduce greenhouse gas emissions. However, people on low incomes, will need financial support to transition away from gas. People who rent their homes from private owners or social housing providers will also need support to transition from gas appliances to healthier forms of heating and cooling. Supporting home electrification will provide additional benefits through reducing power bills and lowering greenhouse gas emissions.

RECOMMENDATIONS

Recommendation 3: Phase out wood heaters in residential areas through:

- Prohibiting the installation of wood heaters in homes in residential areas,
- Requiring wood heaters to be removed on sale of homes in residential areas, and
- Providing financial support, particularly to low-income households, to cover the costs of replacing wood heaters with efficient, electric heating.



Recommendation 4: Help support households transition away from the use of gas appliances in their homes by:

- Providing financial support to people on low-incomes seeking to switch to efficient, electric home heating, cooling and cooking,
- Incentivising landlords of private housing to switch to efficient, electric home heating, cooling and cooking,
- Investing in social housing to enable a transition to efficient, electric home heating, cooling and cooking, and
- Educating households about the health and environmental impacts of using gas appliances at home.

PRIORITY AREA 3: ADAPTATION AND RESILIENCE

HOUSING ADAPTATION, HEALTH INEQUITIES AND CLIMATE CHANGE

We strongly welcome the first principle of the Action Plan of ‘sustainable development and social equity’ since the impact of climate change on the burden of disease disproportionately affects distinct population groups. This is because the instability caused by climate change threatens the social determinants of health - the social, economic and environmental factors that positively or negatively affect health - such as an individual’s socioeconomic position, housing, environment, education and employment.

Priority Area 3 seeks to address ‘the environmental, economic and social impacts of climate change’ through adaptation and building resilience, and as a result provides the greatest opportunity to address the social inequity climate change compounds in health. To this end, we would like to see recognition in the Action Plan of the **importance of the social determinants of health in informing actions that address climate change adaptation** in communities. Critically, this includes actions to support **necessary adaptations to Tasmania’s housing stock** to ensure it is equipped to protect those people most vulnerable to the health impacts of climate change. We provide detail on these actions in our recommendations below.

ASTHMA, CLIMATE CHANGE AND HOUSING

The burden of asthma disproportionately affects certain population groups, including First Australians, people living in areas of lower socioeconomic status and people living in rural and remote areas. Climate change, and the drivers of climate change, exacerbate the inequities these groups experience. More extreme weather events and increased emissions increase the prevalence of harmful substances in our day-to-day environments and can both cause and trigger asthma.

People typically spend 60% of their time at home making housing a key social determinant of health,²² and particularly of asthma outcomes. Changing weather patterns due to climate change have reinforced the importance of housing in providing protection from cold, heat and other extreme weather events.²³ Health advice during periods of air pollution includes staying inside with doors and windows closed but air pollution can enter homes. Homes can also be unhealthy environments for people with asthma with almost one third of people with asthma or allergies experiencing worse symptoms when they are at home.²⁴

The home environment can worsen asthma through indoor triggers, such as mould or air pollutants emitted from gas cooktops, or through outdoor triggers entering the home, such as pollens, pests (e.g. ants, cockroaches and dust mites) or bushfire smoke. The thermal comfort of homes is another



significant issue as both cold and heat can trigger asthma. Following the more recent extreme weather events of torrential rain and floods, governments across Australia have recognised the impact of this weather on people's homes, including the increased risk of mould in homes. No amount of mould is considered safe for health.²⁵

In contrast, healthy homes are:

- **Free from indoor triggers** from mould, dust mites and pest infestations,
- **Appropriately sealed** against outside pollutants, such as smoke, dust and pollen,
- **Adequately ventilated**, allowing good airflow to remove accumulated air pollutants and other harmful substances, and
- **Equipped with efficient and unharmed energy sources**, such as electric appliances.

Tasmania's homes should be safe, healthy places, free from harmful substances or equipped to appropriately eliminate them. However, as evidenced in the survey we undertook in 2022 on housing, indoor and outdoor triggers are commonly found in Tasmanian homes today.

Tasmanian homes and asthma triggers

In 2022, Asthma Australia's survey on housing and asthma triggers,²⁶ results showed that **Tasmanian respondents had the highest use of wood heating in their homes** (30%, compared to 13% average of all respondents), 28% had mould in their homes in the last 12 months, 50% had dampness and 74% had pests. Further, one in five Tasmanian respondents stated it was too expensive to buy equipment to address exposure to the trigger or that they did not own their home, and one in five stated that energy costs were too expensive and prevented them from switching to healthier sources of fuel.

The use of **air purifiers** can help people with asthma, and those with other health conditions, remain inside homes that are affected by poor air quality. Air purifiers with HEPA (high-efficiency particulate absorbing) filters can be highly effective in reducing indoor air pollution.²⁷ However, the cost can be prohibitive for many people with our housing survey finding that only 6 out of 10 Australians were confident about making changes to improve the air quality inside their home.²⁸ Alongside the expense of purchasing or using equipment, many survey respondents noted the additional pressures of living on low incomes and the cost-of-living crisis was a barrier to improving air quality. Providing financial support for people on low incomes to people vulnerable to air pollution exposure would increase access to an effective adaptation, which improves indoor air quality and ensure homes are safe during increasing climate change air pollution events.

THE EFFECTS OF POOR HOUSING ON PEOPLE WITH LOW INCOMES, RENTERS AND SOCIAL HOUSING RESIDENTS

Houses that are not properly sealed, have poor ventilation and use harmful energy sources pose significant risks to the health of people with asthma and to those who are more susceptible to developing it, including children. People who rent their homes privately or from social housing providers may be particularly vulnerable to the impacts of poor quality housing as they do not have the agency to make the changes needed to their homes to support and protect their health.²⁹ For example, gas cooktops are the most common type of cooktop in Australian homes,³⁰ however, a tenant does not have the autonomy to replace a gas cooktop with a healthier alternative. Landlords



may also need to be persuaded to address issues relating to mould elimination and improved ventilation and air tightness.

Additionally, people on low incomes face cost and awareness barriers to improving the health of their homes.³¹ As the findings from the housing survey noted, people on low incomes may find devices to improve air quality at home, such as air purifiers or effective rangehoods, too expensive to buy and run.³² For both those who rent and people on low incomes, today's current competitive housing markets further compound these issues since seeking alternative housing is even more difficult and renters may not seek remediation by owners because they are afraid of rent increases or non-renewal of their lease.

To ensure Tasmanian communities are better prepared to meet the challenges of climate change impacts, the Action Plan must prioritise adapting homes to make them safe and healthy places where people can take refuge. This will require a range of different supports aimed at different population groups as set out in the recommendations below.

RECOMMENDATIONS

Recommendation 5: Develop a suite of programs to support the adaptation of Tasmanian homes to ensure they are equipped to protect people most vulnerable to the health impacts of climate change. Programs should include:

- a. **Financial assistance programs targeting low-income households and focusing on priority populations**, including people with asthma, to help them make adaptations to their homes such as transitioning to healthy and efficient heating and cooking sources, and sealing their homes so they require less heating and cooling.
- b. **Incentives for landlords to improve the health of private rental homes** that are designed to pre-empt unintended consequences such as rental increases or tenants being forced to leave their homes.
- c. **Sustainable improvements to the health of the existing social housing stock**, such as reducing the need for heating by improving insulation and sealing draughts and transitioning to electric-only appliances.
- d. **Education programs** to improve understanding of climate change and healthy homes in the general population and among priority populations.
- e. **Subsidised HEPA air purifiers** to improve indoor air quality and ensure homes are safe during air pollution events.

Recommendation 6: Improve design and construction standards to ensure new homes are 'healthy homes' and are built to be resilient to the challenges of climate change. Improved standards could include:

- A ban on the installation of wood and gas heaters, and gas cooktops,
- Increased thermal efficiency, and
- Improved ventilation and air tightness.

Asthma Australia thanks the Department of State Growth for the opportunity to make a submission and welcomes being contacted for any future contributions towards developing the Action Plan.



REFERENCES

- ¹ Asthma Australia (2020) Bushfire Smoke Impact Survey 2019-2020. Bushfire Smoke: Are you Coping? Available online: https://asthma.org.au/wp-content/uploads/Resources/AA6_Smoke-Impact-Survey-1920_Revised.pdf
- ² PHIDU 2019. Asthma Atlas of Australia. Adelaide: PHIDU.
- ³ Public Health Information Development Unit (PHIDU) 2020. Social Health Atlas of Australia. Adelaide: PHIDU.
- ⁴ AIHW, 2022. *Australian Burden of Disease Study 2022*. Canberra: AIHW.
- ⁵ ABS 2021. Causes of Death, Australia. Canberra: ABS.
- ⁶ United Nations Environment Programme website. Available online: <https://www.unep.org/explore-topics/air>
- ⁷ Asthma Australia, 2020. Bushfire Smoke Impact Survey.
- ⁸ Australia State of the Environment Report (2021). Available online: <https://soe.dcceew.gov.au/air-quality/introduction>
- ⁹ Asthma Australia Pre-Budget Submission 2023-24. Available online: <https://asthma.org.au/wp-content/uploads/2022/11/2022.10.13-FINAL-Asthma-Australia-Pre-budget-Submission.pdf>
- ¹⁰ Senate Community Affairs References Committee (2013) Impacts on health of air quality in Australia. Available online: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/Completed_inquiries/2010-13/airquality/report/index.
- Borchers-Arriagada, N., Palmer, A.J., Bowman, D.M.J.S., Williamson, G.J., Johnston, F.H. (2020). Health Impacts of Ambient Biomass Smoke in Tasmania, Australia. *International Journal of Environmental Research and Public Health*. 17(9): 3264. DOI: 10.3390/ijerph17093264.
- ¹¹ Asthma Australia (2021) Wood Heaters and Health Survey Key Findings Report (n=25,039), available online: <https://asthma.org.au/about-us/media/public-would-support-a-phase-out-of-wood-heaters/>.
- ¹² Borchers-Arriagada, N. et al (2020).
- ¹³ Centre for Air pollution, energy and health Research-CAR (2021a).
- ¹⁴ Australian Government Department of Health (2018) National Asthma Strategy 2018, available online: <https://www.health.gov.au/resources/publications/national-asthma-strategy-2018> p9 and 24.
- ¹⁵ Australian Government Department of Agriculture, Water and the Environment (2005) Woodheaters and Woodsmoke, available online: <https://www.environment.gov.au/resource/woodheaters-and-woodsmoke>.
- Borchers-Arriagada, N. et al (2020).
- Bothwell, J.E., Mcmanus, L., Crawford, V. L. S., Burns, G. Stewart, M.C., Shields, M.D. (2003) Home heating and respiratory symptoms among children in Belfast, Northern Ireland, *Archives of Environmental Health: An International Journal*, 58:9, 549- 553.
- Naeher, L. et al (2007) Woodsmoke Health Effects: A Review, *Inhalation Toxicology*, 19:1, 67-106.
- ¹⁶ Robinson, D.L. (2011) Australian wood heaters currently increase global warming and health costs. *Atmos. Pollut. Res.*, 2, 267–274.
- ¹⁷ Borchers-Arriagada, N. et al (2020).
- ¹⁸ Asthma Australia 2021. Wood Heaters and Health.
- ¹⁹ Johnston, F.H., Hanigan, I.C., Henderson, S.B., Morgan, G.G. (2013) Evaluation of interventions to reduce air pollution from biomass smoke on mortality in Launceston, Australia: retrospective analysis of daily mortality, 1994-2007 *BMJ*; 346 :e8446.
- ²⁰ Knibbs, Woldeyohannes, Marks, Cowie, 2018. Damp housing, gas stoves and the burden of childhood asthma in Australia. *MJA*.208(7):299–302.
- ²¹ Asthma Australia (2022) Homes, Health and Asthma in Australia: Understanding who is at risk in their home, what actions people take to protect themselves, and the barriers to action.
- ²² National Institute for Health and Care Excellence, UK. NICE guideline: Indoor air quality at home final scope. Available online: <https://www.nice.org.uk/guidance/ng149/documents/final-scope>
- ²³ World Health Organisation, 2018. WHO Housing and Health Guidelines. Geneva: World Health Organization. Licence: CC BY-NC-SA 3.0 IGO.
- ²⁴ Asthma Australia 2022. Homes, Health and Asthma in Australia.
- ²⁵ Asthma Australia 2022. Homes, Health and Asthma in Australia.
- ²⁶ Asthma Australia 2022. Homes, Health and Asthma in Australia.



²⁷ Sotiris Vardoulakis, Bin B Jalaludin, Geoffrey G Morgan, Ivan C Hanigan, Fay H Johnston, 2020. 'Bushfire smoke: urgent need for a national health protection strategy'. *Medical Journal of Australia* 212(8), pp. 349-353.

²⁸ Asthma Australia 2022. Homes, Health and Asthma in Australia.

²⁹ Asthma Australia 2022. Homes, Health and Asthma in Australia.

³⁰ Asthma Australia 2022. Homes, Health and Asthma in Australia.

³¹ Asthma Australia 2022. Homes, Health and Asthma in Australia.

³² Asthma Australia 2022. Homes, Health and Asthma in Australia.





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