

3rd June 2022

To: NSW Environment Protection Agency

Via email: air.policy@environment.nsw.gov.au

Dear NSW Environment Protection Agency,

Submission for the NSW Protection of the Environment Operations (Clean Air) Regulation 2022 Draft

Lung Foundation Australia, Asthma Australia and the Thoracic Society of Australia and New Zealand are pleased to have the opportunity to provide feedback on the draft NSW Protection of the Environment Operations (POEO) (Clean Air) Regulation 2022. Whilst we welcome the review of the POEO (Clean Air) Regulation, the proposed changes are not sufficient to address the significant impact of air pollution on public health in New South Wales (NSW). In order to protect the health of people with asthma and other lung diseases, we strongly recommend:

- Reducing the timeframes between regulation reviews to ensure alignment with the NSW Clean Air Strategy 2021-2030
- Strengthening data collection to enable the true health costs of air pollution in NSW to be determined
- Consistency of regulatory controls for the burning of waste across local governments
- Expanding the 'summer' period for lower petrol volatility limits to accurately reflect the NSW environment
- Reducing petrol volatility limits of fuel to 60 kPa or below to effectively reduce volatile organic compound (VOC) emissions
- Rescheduling premises from groups 3 and 4 to groups 5 and 6 earlier than 2025 and 2030
- For the control of volatile organic liquids, introducing more stringent emission limits and controlling equipment requirements earlier than 2024
- Removing the provision allowing exemptions from Group emission limits
- Include woodfire heater emissions in the review of the Clean Air Regulation
- Strengthening legislative requirements for woodfire heaters and introducing new NSW standards for woodfire heaters in the absence of a long overdue update to Australian Standards 4013:2014 and AS 4012:2014
- The Clean Air Regulation should prohibit the installation of woodfire heaters in new homes and require woodfire heaters to be removed when a home is sold

About Lung Foundation

Lung Foundation Australia (LFA) is the only national charity and leading peak-body dedicated to supporting anyone with a lung disease including lung cancer. For over 31 years we have been the trusted national point-of-call for patients, their families, carers, health professionals and the general community on lung health. There are over 30 different types of lung disease currently impacting 1 in 3 Australians.

Our mission is to improve lung health and reduce the impact of lung disease for all Australians. We will continue working to ensure lung health is a priority for all, from promoting lung health and early diagnosis, advocating for policy change and research investment, raising awareness about the symptoms and prevalence of lung disease and championing equitable access to treatment and care. As a patient representative charity, we have partnered with patients, health professionals, researchers, medical organisations and the Australian community to drive reform in the delivery of health services in Australia to benefit more than 7 million Australians impacted by lung disease and lung cancer.

About Asthma Australia

Asthma Australia is a for-purpose, consumer organisation which has been improving the lives of people with asthma since 1962.

Asthma is an inflammatory condition of the airways, which restricts airflow and can be fatal. There is no cure, but most people with asthma can experience good control of their condition.

Asthma affects 1 in 9 Australians, or 2.7 million people. It has various degrees of severity (mild to severe) and affects people of all ages, from childhood to adulthood. Asthma can appear at all ages and stages of life.

About the Thoracic Society of Australia and New Zealand

The Thoracic Society of Australia and New Zealand (TSANZ) is a health promotion charity whose mission is to lead, support and enable all health workers and researchers who aim to prevent, cure, and relieve disability caused by lung disease. TSANZ is the only Peak Body in Australia that represents all health professionals working in all fields of respiratory health.

The TSANZ has a membership base of over 1800 individual members from a wide range of health and research disciplines. The TSANZ is a leading provider of evidence-based guidelines for the treatment of respiratory disease in Australia and New Zealand and undertakes a large amount of professional education and training. The TSANZ is also responsible for significant research administration and coordinates an accredited respiratory laboratory program.

Air Pollution in New South Wales

The NSW Clean Air Strategy 2021-2030 demonstrates the need for action to improve air quality and protect the health of residents¹. Between 2018-2020 particle concentrations (PM10 and PM2.5) in regional areas of NSW exceeded the national standards up to 151 days per year, compared to 16 days in 2015-2017². Likewise in 2018-2020 ground level ozone in Sydney exceeded national standards up to 28 days per year compared to 9 days in 2015-2017³. Whilst the great increase is largely due to the 2019-2020 bushfire season, this demonstrates the compounding impact of climate change and NSW emissions.

Climate change is expected to increase average temperatures and increase frequency, severity, and length of extreme weather events such as bushfires⁴. This will in turn increase the occurrence of ground-level ozone and levels of particulate matter in the atmosphere⁵. Reducing human sources of air pollution will immediately reduce air pollution and importantly reduce the short-lived climate pollutants (black carbon, methane, tropospheric ozone, and hydrofluorocarbons) that are contributors to climate change⁶. The distinction between natural and human made air pollution sources is becoming less meaningful as climate change, caused by humans, is worsening the most significant sources of 'natural' air pollution in NSW.

In NSW, woodfire heater smoke is a major contributor to air pollution in urban, regional, and rural communities⁷. Woodfire heaters are the leading source of human made PM2.5 air pollution in Sydney, and second greatest source in Greater Metropolitan Sydney, despite being used by a small minority of households and only during the colder months⁸.

Air pollution and Health Implications

Air pollution causes detrimental effects to the respiratory system including decreased pulmonary function, increased infections, increase in respiratory symptoms (cough, phlegm and wheeze), acute exacerbations of chronic obstructive pulmonary disease (COPD), asthma, increased respiratory hospitalisations, higher prevalence of childhood asthma and premature mortality in people with chronic lung disease⁹. In NSW 1 in 3 residents experience a lung disease and are significantly susceptible to the effects of air pollution. Ambient air pollution can also cause significant health impacts including ischaemic heart disease, stroke, and lung cancer¹⁰. Furthermore, air pollution has been linked to poor brain health

¹ NSW Department of Planning and Environment 2022 NSW Clean Air Strategy <https://www.environment.nsw.gov.au/topics/air/clean-air-strategy>

² NSW EPA, 2021, Summary, <https://www.soe.epa.nsw.gov.au/all-themes/climate-and-air/air-quality>

³ Ibid 2

⁴ EPA US, 2022, Climate Adaptation and Outdoor Air Quality <https://www.epa.gov/arc-x/climate-adaptation-and-outdoor-air-quality>

⁵ Ibid 3

⁶ UN Environment Programme, 2022, What are short lived climate pollutants, <https://www.ccacoalition.org/en/science-resources>

⁷ Ibid 2 & Centre for Air Pollution, Energy and Health Research 2021, there is no 'safe' level of air pollution, https://www.car-cre.org.au/files/ugd/d8be6e_c7615769a4f646498ed7e5d6fadfe69d.pdf

⁸ Ibid 2

⁹ US EPA 2022 Particle Pollution and Respiratory Effects <https://www.epa.gov/particle-pollution-and-your-patients-health/health-effects-pm-patients-lung-disease>

¹⁰ World Health Organisation 2019 Health consequences of air pollution on populations <https://www.who.int/news/item/15-11-2019-what-are-health-consequences-of-air-pollution-on-populations#:~:text=Exposure%20to%20high%20levels%20of%20people%20who%20are%20already%20ill>

with increased incidence of neurological and psychiatric disorders such as cognitive decline, dementia, anxiety, depression, schizophrenia and attention deficit hyperactivity disorder (ADHD)¹¹. Pregnant women, children and older persons are more susceptible to air pollution¹². Pregnant women exposed to high levels of air pollution over time may experience adverse pregnancy outcomes such as reduced birth weight or preterm birth¹³. Children are especially vulnerable as their lungs are growing and developing, immune and metabolic systems are developing, they suffer from frequent respiratory infections, and they are more outdoors breathing higher doses of outdoor pollutant¹⁴. Older people are more likely to be affected by air pollution due to weaker immune systems, or undiagnosed respiratory or cardiovascular health conditions¹⁵.

In 2016, air pollution was responsible for around 3000 premature deaths due to the exposure to fine particulate matter of 2.5 microns (PM2.5), amounting to approximately 1000 premature deaths in NSW¹⁶. The NSW Clean Air Strategy recognises that PM2.5 is the air pollutant responsible for the largest health burden in NSW¹⁷. Importantly, there is no safe level of exposure to PM2.5, meaning health impacts can occur even at very low levels¹⁸. The Regulatory Impact Statement (RIS), on page 8, defines particulate matter and states under source of pollutant 'particles come from both natural and human sources and are generally visible as brown haze.'¹⁹ According to the World Health Organisation 'a microscopic pollutant – PM2.5 – is so tiny that it can pass through many of our body's protective armours such as mucous membranes and other barriers, to damage our lungs, heart and brain'²⁰. We re-iterate the information from WHO and highlight particulate matter incorporates pollution of various sizes, many of which are so small that they are not only invisible to the naked eye, but they can only be detected using an electron microscope²¹. Given the significant health impacts associated with fine particulate matter PM2.5 we seek clarification that the RIS has appropriately accounted for the significant health and economic costs with this fine particulate matter. Air pollution including fine particulate matter which is not always visible to the eye poses a health risk to NSW and stress the importance of the risk being appropriately reflected in the regulation.

¹¹ Kim H Kim W-H Kim Y-Y and Park H-Y (2020) Air Pollution and Central Nervous System Disease: A Review of the Impact of Fine Particulate Matter on Neurological Disorders. *Front. Public Health* 8:575330. doi: 10.3389/fpubh.2020.575330

¹² NSW Health 2013 Who is affected by air pollution? <https://www.health.nsw.gov.au/environment/air/Pages/who-is-affected.aspx>

¹³ Ibid 12

¹⁴ Ibid 12

¹⁵ Ibid 12

¹⁶ Australian Institute of Health and Welfare 2011 Australian Burden of Disease Study Impact and causes of illness and death in Australia

<https://www.aihw.gov.au/getmedia/d4df9251-c4b6-452f-a877-8370b6124219/19663.pdf.aspx?inline=true>

¹⁷ Ibid 1.

¹⁸ Ibid 7

¹⁹ EPA NSW, 2022, proposed clean air regulation, <https://hdp-au-prod-app-nswepa-yoursay-files.s3.ap-southeast-2.amazonaws.com/2816/4601/5354/RIS-Clean-Air-Reg.pdf>

²⁰ WHO 2022 10 Things To Know About Air Pollution <https://www.who.int/news-room/spotlight/how-air-pollution-is-destroying-our-health/10-things-to-know-about-air-pollution>

²¹ US EPA, 2022, Particulate Matter (PM), <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#:~:text=PM%20stands%20for%20particulate%20matter,seen%20with%20the%20naked%20eye>

Protection of the Environment Operations (Clean Air) Regulation 2022

Recommendation: Reducing the timeframes between regulation reviews to ensure alignment with the NSW Clean Air Strategy 2021-2030

Stricter regulations and emission limits need to be implemented to ensure better health outcomes, by addressing the health risks posed by current air quality issues in NSW. Understandably a staged approach to improving the clean air regulation is necessary and in light of this, we strongly encourage timeframes between regulation reviews to be reduced. Importantly, this aligns with the NSW Clean Air Strategy 2021-2030 aiming to ensure opportunities are explored to modernise and improve the regulatory framework, and the continuous improvement in environmental performance by remaking the POEO Clear Air Regulation²². The proposed amendments for the regulation permit the continuation of significant air pollution and do not provide the strong framework required to protect NSW residents.

Valuing health impacts

Recommendation: Strengthening data collection to enable the true health costs of air pollution in NSW to be determined

The RIS implements a damage cost approach to determining the value of health and describes the impact pathway approach being too time and resource intensive. Damage costs are generated by using location-specific inputs and data, however due to a lack of research within Australia, readily available data to undertake a full impact pathway process cannot occur²³. Thus, damage costs from overseas are employed and merely adjusted for the Australian context²⁴. As identified by the Department of Environment, Land, Water and Planning in Victoria, the lack of Australian damage costs reduces the level of confidence of the estimated health costs of air pollution²⁵. Given how integral the costs are to decision making and implementation, the assumptions being applied must reflect the true situation. In 2012, NSW estimated the health costs of air pollution to exceed \$4 billion per year (direct and indirect costs)²⁶. We recommend stronger data collection to enable implementation of impact pathway approaches, which will provide an accurate understanding of the economic and health burden of air pollution in NSW.

Control of burning (see Part 3 of the draft regulation)

Recommendation: Consistency of regulatory controls for the burning of waste across local governments

The RIS does not propose any new changes to the current regulations surrounding the burning of waste, wood and vegetation in backyards, despite the health impacts continuing. The pollution for these sources causes the same impact regardless of location in the state, however, there are major inconsistencies within

²² Ibid 1.

²³ Environment Land Water and Planning 2020 Estimating the health costs of air pollution in Victoria https://www.climatechange.vic.gov.au/_data/assets/pdf_file/0022/421717/Final_Health-costs-of-air-pollution-in-Victoria.pdf

²⁴ NSW EPA 2021 Methodology for valuing the health impacts of changes in particle emissions – final report <https://www.epa.nsw.gov.au/~media/EPA/Corporate%20Site/resources/air/HealthPartEmiss.ashx>

²⁵ Ibid 23

²⁶ CSIRO 2020 Air Quality <https://research.csiro.au/acc/research-themes/air-quality/>

local governments. Different Local Government Areas should not have different legislative requirements for the burning of domestic waste and vegetation. To ensure consistency and best practice, the state needs one set of rules; to ensure residents are not disadvantaged based on where they live. The smoke from such burning practices contribute to the level of particulate matter in the air which, as mentioned previously, can cause severe health implications such as respiratory disease.

Motor vehicles and motor vehicle fuels (see Part 4 of the draft regulation)

Recommendation: Expanding the 'summer' period for lower petrol volatility limits to accurately reflect the NSW environment

Recommendation: Reducing petrol volatility limits of fuel to 60 kPa or below to effectively reduce volatile organic compound (VOC) emissions

The RIS outlines the expansion of the summer period to reduce petrol evaporation and subsequent formation of harmful ozone pollution. As stated in the NSW Clean Air Strategy, average ozone in NSW is increasing and exceedances of the ozone standards are occurring before the start and after the end of the current summer petrol volatility season due to climate change²⁷. Ground ozone is created as a secondary pollutant by the chemical reaction between nitrogen oxides (NOx) and volatile organic compounds (VOCs) in the presence of sunlight²⁸. NOx are a family of poisonous, highly reactive gases and pollution is emitted from automobiles, trucks, and industrial sources such as power plants and cement kilns²⁹. VOCs have high vapour pressure and low water solubility, and many VOCs are human made chemicals used to manufacture paints, pharmaceuticals and are often components of petrol and paint thinners³⁰. Vehicle exhaust and evaporative emissions of petrol account for the largest proportion of VOC emissions³¹. Ozone production accelerates at high temperatures and therefore reducing VOCs can reduce ozone production during summer.

The new proposed summer period for NSW low volatility limits is set to align with the Victorian Summer. Climate statistics demonstrate the average temperature between the two states varies greatly, with Sydney and Melbourne experiencing an average maximum temperature in November of 23.7 degrees and 22.0 degrees respectively³². Importantly, the average maximum temperature for Sydney in October is 22.2 degrees (already above the November temperature for Melbourne)³³. It is clear the states experience different temperatures due to geographical location and thus, the potential for ground ozone to form quickly will occur at different times. To effectively reduce ozone production the petrol volatility

²⁷ Ibid 1

²⁸ Ibid 19

²⁹ EPA US 2022 Nitrogen Oxides (NOx) Control Regulations

<https://www3.epa.gov/region1/airquality/nox.html#:~:text=NOx%20pollution%20is%20emitted%20by,appears%20as%20a%20brownish%20gas>

³⁰ EPA US 2022 What are volatile organic compounds (VOCs)? <https://www.epa.gov/indoor-air-quality-iaq/what-are-volatile-organic-compounds-vocs>

³¹ Ibid 19

³² Bureau of Meteorology 2022 Climate statistics for Australian locations

http://www.bom.gov.au/climate/averages/tables/cw_066062.shtml and Bureau of Meteorology 2022 Climate statistics for Australian locations http://www.bom.gov.au/climate/averages/tables/cw_086071.shtml

³³ Ibid 32.

limits to NSW Greater Metropolitan Area must be expanded further than 15 days on each side of the summer. Acknowledging the impact of ozone, Victoria has further implemented more stringent ozone standards at 60ppb compared to the national 65ppb³⁴. The importance of reducing ozone cannot be understated as increased levels of ozone are associated with a rise in hospitalisation for respiratory diseases and mortality and can make people more susceptible to respiratory infection and aggravate pre-existing respiratory diseases, placing a significant burden on health services³⁵.

Furthermore, limiting the volatility of petrol by reducing the vapour pressure, reduces petrol evaporation and emissions of VOCs. The RIS limits for fuel during the summer months is limited to 62 kPa in any one month and no batch exceeding 64 kPa and only within the Greater Metro Region (GMR) of NSW. Vapour pressure above 60 kPa increases evaporative emissions and thus is considered a key fuel variable³⁶. Vapour pressure emission limits must be tightened to effectively reduce exhaust emissions. In Victoria, regulations around vapour pressure prevented a 66 per cent increase in VOC emissions from current levels, however emissions are still considerably high, prompting further action to reduce petrol evaporation³⁷. Importantly, the petrol volatility measure does not address the issue of too many polluting vehicles on the road. In other countries cars need to pass an emissions test as part of the pink slip equivalent³⁸.

Air impurities emitted from activities and plant (see Part 5 of the draft regulation)

Recommendation: Rescheduling premises from groups 3 and 4 to groups 5 and 6 earlier than 2025 and 2030

As mentioned in the RIS, there is no safe concentration threshold at which adverse health effects have not been observed for exposure to PM_{2.5} and subsequently, even low levels may have an adverse impact on human health. For this reason, scheduled premises should be more accountable for their emissions and more stringent air emission standards should be employed. Scheduled premises currently classified in Groups 3 and 4 of the Regulation should be moved to groups 5 and 6 earlier than 2025 and 2030. The reduction in emissions (60-80%) would provide enormous benefits to the health of the community and the environment and given the accelerated rate of climate change and poor regulations placed on emissions by such industries, it is integral the NSW Government take strong action now. A proposed way to do this may be to introduce incentives for companies which meet the new guidelines quicker, as to improve the speed of implementation.

³⁴ EPA Ozone in the Air 2022 <https://www.epa.vic.gov.au/for-community/environmental-information/air-quality/ozone-in-the-air>

³⁵ Ibid 19

³⁶ EPA Vic 2013 EPA Regulatory Impact Statement — Environment Protection (Vehicle Emissions) Regulations <https://www.vic.gov.au/sites/default/files/2019-11/Environment-Protection-Vehicle-Emissions-Regulations-2013-RIS.pdf>

³⁷ Ibid 23

³⁸ ECO point 2022 Periodic Technical Inspections (PTI) <https://dieselnet.com/standards/eu/pti.php>

Recommendation: The provision allowing exemptions from Group limits should be removed. Exemptions should not be granted in the absence of a regional air quality assessment including primary and secondary pollutants and a health impact assessment.

Current exemptions to limits prescribed by the regulations weaken the intent of the limits and sets a precedent for all industries. Exemptions provide more than sufficient time to meet the requirements, yet previously industries have received multiple extensions, allowing them to operate as normal and ignore the requirements set to protect the health and wellbeing of the environment and NSW residents. Further to this, the current process for obtaining an exemption does not include a requirement to conduct a regional air quality assessment (including both primary and secondary pollutants) across the GMR or a health impact assessment, meaning the decision is made without an understanding of the impact this will cause for air quality and the health of communities.

[Control of volatile organic liquids \(see Part 6 of the draft regulation\)](#)

Recommendation: For the control of volatile organic liquids, introducing more stringent emission limits and controlling equipment requirements earlier than 2024

More stringent VOC emission limits and control equipment requirements for large storage and loading plant, small loading plant and tank vehicles is a welcomed change within the proposed regulation. Current controls for VOCs are in place as some VOCs can cause significant health and environmental health consequences such as benzene and polycyclic aromatic hydrocarbons (PAHs)³⁹. PAHs in air pollution are primarily bound to particulate matter and occur mainly from the incomplete combustion of organic material (i.e. emissions from vehicles, domestic heating or cooking) and the burning of agricultural waste⁴⁰. VOCs such as petrol are highly volatile and are released into the atmosphere⁴¹. Petrol contains up to 1% benzene which is a known human carcinogen with no safe level of exposure for humans, thus there is a need to tighten measures to prevent vapour loss during standing of fuel storage tanks and during filling and emptying process⁴². Due to the health concerns around VOCs it is vital the restrictions are implemented in an accelerated manner with all new regulations implemented prior to 2024. This would not only reduce the burden of health costs due to improved health outcomes, but also reduce ozone levels by reducing the volume of VOCs emitted into the atmosphere.

³⁹ Ibid 19

⁴⁰ WHO Europe 2021 Human health effects of polycyclic aromatic hydrocarbons as ambient air pollutants <https://www.euro.who.int/en/health-topics/environment-and-health/air-quality/publications/2021/human-health-effects-of-polycyclic-aromatic-hydrocarbons-as-ambient-air-pollutants-report-of-the-working-group-on-polycyclic-aromatic-hydrocarbons-of-the-joint-task-force-on-the-health-aspects-of-air-pollution-2021>

⁴¹ Ibid 19.

⁴² Ibid 19

Woodfire Heaters:

Recommendation: Include woodfire heater emissions in the review of the Clean Air Regulation.

Recommendation: Strengthening legislative requirements for woodfire heaters and introducing new NSW standards for woodfire heaters in the absence of a long overdue update to Australian Standards 4013:2014 and AS 4012:2014

Recommendation: The Clean Air Regulation should prohibit the installation of woodfire heaters in new homes and require woodfire heaters to be removed when a home is sold.

Woodfire heaters are causing an enormous environmental and health impact for NSW residents and should have been reviewed and addressed in the drafting of the updated regulation and consultation period. The updated regulation neglects to reduce pollution from woodfire heaters, with the RIS outlining that woodfire heater regulations will remain unchanged. We re-iterate that woodfire heaters are the leading cause of air pollution in Sydney and the second leading in GMR, identifying the need for urgent action. The Clean Air Regulation therefore needs to be amended to reduce emissions from woodfire heaters and additional public consultation should be conducted.

The Clean Air Regulation for woodfire heaters relies on compliance with the Australian Standards 4013:2014 and AS 4012:2014⁴³. Amendments to these standards last occurred in 2015 and are not regularly updated to reflect environmental changes or the adverse health impacts associated with woodfire heaters. Further, the current Australian Standards governing woodfire heaters do not reflect the 'real world' conditions in which woodfire heaters are operated. This means heaters which comply with the standard can emit significantly more smoke into neighbourhoods than anticipated under the Standards. According to a nationally representative survey of 25,000 people undertaken by Asthma Australia in 2020, just 28% of the general population and 18% of people with asthma said they are able to protect themselves from woodfire heater smoke⁴⁴.

The NSW EPA identified benzene from domestic solid fuel heaters contribute 17% and 19% of the annual pollutant emissions within the GMR and Sydney region respectively⁴⁵. As previously discussed, benzene exposure is detrimental to human health and long-term exposure has been linked to increased incidence of leukaemia. Asthma Australia's 2020 survey identified 77% of the population agree that woodfire heaters should not be allowed in urban or built-up areas⁴⁶. The current legislation leaves both healthy and vulnerable residents exposed to wood smoke which causes a decrease in respiratory function leading to shortness of breath, congestion, wheezing, coughing, and chest tightness⁴⁷; will increase the risk of asthma, stroke, heart attack, and cancer⁴⁸; can exacerbate pre-existing respiratory

⁴³ Ibid 19.

⁴⁴ Asthma Australia 2020 Woodfire heater smoke <https://asthma.org.au/what-we-do/advocacy/woodfire-heater-smoke/>

⁴⁵ Ibid 19.

⁴⁶ Asthma Australia 2020 Woodfire heater smoke <https://asthma.org.au/what-we-do/advocacy/woodfire-heater-smoke/>

⁴⁷ Borchers-Arriagada Nicolas et al. "Health Impacts of Ambient Biomass Smoke in Tasmania Australia." International Journal of Environmental Research and Public Health vol. 17 no. 9 2020

⁴⁸ Ibid. And Naeher et al

diseases such as asthma and COPD.⁴⁹ The Clean Air Regulation should prohibit the installation of woodfire heaters in new homes and require woodfire heaters to be removed when a home is sold.

Summary

Exposure to ambient air pollution causes detrimental health impacts, and thus causes a significant burden on the economic and health systems of NSW. Preventing air pollution is not only more cost effective but will prevent negative health outcomes allowing NSW residents to live longer, healthier lives. The changes made in this regulation are insufficient to tackle the burden of air pollution in NSW and delaying action puts more lives at risk and causes a significant burden to the everyday lives of individuals with lung conditions. Whilst improving fossil fuel and optimising conditions of its use and storage can assist, reducing the fuel is a key element for clean air. Regardless of the restrictions, pollution will continue to be emitted from these sources and no amount of air pollution is safe to human health. The NSW government must take strong action now. Lung Foundation Australia, Asthma Australia and the Thoracic Society of Australia and New Zealand encourage the NSW Environment Protection Agency to consider the above recommendations and take stronger action to protect the health of the NSW community, as the costs (both indirect and direct) are significant.

Thank you for the opportunity to provide feedback. If you would like to discuss the recommendations further, please contact Paige Preston, Senior Manager of Policy and Advocacy at Lung Foundation Australia on PaigeP@lungfoundation.com.au.

Sincerely,



Mark Brooke

Lung Foundation Australia CEO



Michelle Goldman

Asthma Australia CEO



John Upham

President

The Thoracic Society of Australia and New Zealand

⁴⁹ Scott Abigail F. and Christopher A. Reilly. "Wood and Biomass Smoke: Addressing Human Health Risks and Exposures." Chemical Research in Toxicology vol. 32 no. 2 American Chemical Society 2019 pp. 219–21
doi:10.1021/acs.chemrestox.8b00318.