9th December 2022

Via email only: Fuel.Policy@industry.gov.au

Dear Department of Climate Change, Energy, the Environment and Water,
Re: Better fuel for cleaner vehicles: draft regulation impact statement for consultation

Lung Foundation Australia is pleased to provide feedback on the better fuel for cleaner vehicles draft regulation impact statement for consultation. We acknowledge the importance of improving Australia's fuel quality standards and to pave the way for the introduction of Euro 6d standards to reduce emissions from light vehicles. Strengthened regulations surrounding fuel quality and light vehicle emissions greatly reduce air pollution and protect the health of Australians, and such regulations are long overdue in Australia. Whilst we support the current consultation, it is important to note Australia is falling behind international standards and the implementation of better fuel standards is only the beginning and more must be done to support reduced light vehicle emissions in Australia.

We support the need to implement strong regulations to reduce health impacts associated with poor air quality and highlight the need for timely implementation of such requirements. For this reason, in principle we support option 3 of limiting the aromatics to maximum 35% for 91 RON, 95 RON and 98 RON. Option 3 provides the greatest benefit for human health by significantly reducing particulate matter and improving air quality across Australia. Option 3 must be implemented as a phased approach with 91 RON and 95 RON fuel improved by 2024, followed by 98 RON fuel by 2027 to ensure the implementation of Euro 6d vehicles is not delayed. We acknowledge the importance of this consultation and the foundations it sets to improve air quality in Australia.

About Lung Foundation Australia

Lung Foundation Australia is Australia's only national charity and leading peak body dedicated to supporting people with a lung disease, including lung cancer. For over 31 years we have been a trusted, national touch point on matters of lung health for people living with lung disease, their families, carers, health professionals and the general community. There are over 30 different types of lung disease and together these impact one in three Australians. Our mission is to improve lung health and to reduce the impacts of lung disease on all Australians. We are working to ensure that lung health remains a community priority through activities including promoting lung health and early diagnosis and advocating for policy change and research investment. We raise awareness about the symptoms and prevalence of lung disease, and we champion equitable access to treatment and care. As a patient-representative charity, we partner with people living with lung disease, health professionals, researchers, medical organisations, and the Australian community. Together, we can drive reform in the delivery of health services across the country and assist the more than seven million Australians impacted by lung disease and lung cancer. Lung Foundation Australia has offices across several Australian states. We are committed to achieving integration with state-based health systems so that the community has access to timely and accurate information and support.

The environment and health

The health of the environment directly influences human health. Improving environmental health can prevent poor human health outcomes and in turn reduce the economic burden placed on the health

system. According to The World Health Organisation in 2016, 24% of global deaths were linked to the environment, accounting for 13.7 million deaths a year[1]. The physical, chemical, and biological factors external to a person exert an influence on health and wellbeing and this notion, known as environmental health, aims to address the health risks linked to our environment, including air, water, and food quality[2]. Improving the quality of the environment in key areas such as air can prevent disease and improve human health, as our health and wellbeing are thoroughly linked to the state of the environment[3]. In 2018, Australia recorded more than 3,200 deaths due to particle matter air pollution, signifying the need for strong implementation of environmental legislation and consistent work to maintain healthy environments[4]. Furthermore, air pollution is estimated to cost Australia $16 billion annually[5].

Air pollution and Health Implications

Lung Foundation Australia strongly advocate for lung health, and we note the significant impacts of air pollution and the need to improve air quality. There is no safe level of air pollution and even exposure to small amounts of air pollution can cause health impacts.[6] There is no established level at which there a no observable impacts on human health for many air pollutants including PM2.5 and PM10, which are emitted from light vehicles.[7] 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 disease[8]. 1 in 3 Australians are living with a lung disease and are significantly susceptible to the effects of air pollution, which has the potential to exacerbate and worsen their existing lung disease. Ambient air pollution can also cause significant health impacts including ischaemic heart disease, stroke, and lung cancer[9]. Furthermore, air pollution has been linked to poor brain health with increased incidence of neurological and psychiatric disorders such as cognitive decline, dementia, anxiety, depression, schizophrenia and attention deficit hyperactivity disorder (ADHD)[10]. Pregnant women, children and older persons are more susceptible to air pollution[11]. Pregnant women exposed to high levels of air pollution over time may experience adverse pregnancy outcomes such as reduced birth weight or preterm birth[12]. Children are especially vulnerable as their lungs are growing and developing, immune and metabolic systems are developing, they suffer from frequent respiratory infections, they breathe at a higher rate, and they typically spend more time outdoors and closer to the ground where pollutants fall[13]. Older people are more likely to be affected by air pollution due to weaker immune systems, or undiagnosed respiratory or cardiovascular health conditions[14].

Euro 6d – Australia falling behind international standards

We strongly emphasise that Australia is falling behind international standards. Importantly, 87 countries have already implemented 35% aromatics limit or have market content of 35% aromatics or lower. Additionally, Australia's vehicle emissions standards still align with Euro 5, whilst in the European Union (EU) Euro 6 became mandatory for all vehicles in 2014, almost a decade ago. The implementation of Euro standards introduced lower Nitrogen Oxide (NOx) emission limits for diesel vehicles, tighter monitoring thresholds for on-board diagnostics and an interim particle number limit for direct injection petrol vehicles. Following this, the EU implemented Euro 6d in 2017 which introduced a tighter particle number limit for direct petrol vehicles and even tighter monitoring thresholds for on-board diagnostics. The European Commission proposed in November 2022, new Euro 7 standards.[15] The tighter regulations aim to better reflect that road transport in cities is a major source of air pollution and ensure vehicles on roads are cleaner to protect the health of the environment and citizens.[16] The proposal additionally tackles emissions from tailpipes, brakes, and tyres across a broad range of driving conditions to help meet the European Green Deal's zero-pollution ambition. [17]

The current fuel quality in Australia does not support the implementation of Euro 6d standards and is holding Australia back from implementing vital technology that will effectively improve air quality and improve the health of Australians. The lack of action by the Australian government has permitted the continuation of harmful emissions from light vehicles and subsequently poor health outcomes and premature mortality for Australians. International technology to improve vehicles exhaust system and overall fuel quality and has paved the way to effectively minimise the air pollution from light vehicles, and Australia must utilise this to reduce air pollution.

As stated in the Light Vehicle Emission Standards for Cleaner Air draft RIS from October 2022, if Euro 6d was mandated for all newly approved models manufactured from 1 July 2027 and for all new vehicles manufactured from 1 July 2028, the benefit-cost analysis suggested that its adoption would result in avoided health costs of $6.4 billion by 2050. This signifies the importance of clean air for human health, and yet government action has been limited.

The Euro 6d standards need to be implemented as soon as possible to protect the health of Australians. We acknowledge the research that is being completed to evaluate the costs and benefits of introducing Euro 6d by 2025 and strongly urge the government to support the implementation of these standards.

Comments on the regulation impact statement

Preferred Option – Max 35% aromatics for 91 RON, 95 RON and 98 RON

Lung Foundation Australia in principle support option 3 outlined in the discussion paper. This option acknowledges the ongoing harms to human health as a result of air pollution and provides the most significant avoided health costs. It is recommended that option 3 is implemented as a phased approach, achieving maximum 35% aromatics in 91 RON and 95 RON by 2024, as this was deemed achievable for option 1 and 2. We acknowledge that improving the quality of 98 RON by 2024 cannot be achieved due to the changes required in infrastructure and the financial costs, however, 95 RON can be used in the meantime to meet the Euro 6d standards in Australia.

The consultation states most 91 RON fuel is meeting the 35% aromatics requirement already without having such regulations in place. Importantly, as this is not a regulation, 91 RON fuel can and in many instances may be over the 35% aromatics limit, resulting in higher emissions and increased air pollution. We propose that both 91 RON and 95 RON are limited to max 35% aromatics by the end of 2024. This option is economically feasible, will provide the greatest benefit to human health in the near future and will enable the importation of Euro 6d light vehicles into Australia.

Importance of improving 98 RON

With the recent growth in liquid fuel demand and projections that more than 80% of the fleet is still projected to use internal combustion engines in 2030, in Australia, it is vital to improve the quality of all fuel sources. Despite only 1% of Australian light emission vehicles requiring 98 RON fuel, it is important to note that individuals may continue to choose 98 RON. Furthermore, the market for 98 RON fuel may continue to grow as the use of 91 RON declines due to the importation of Euro 6d cars that require 95 RON fuel or higher. Thus, this strengthens the need to implement standards to improve the quality of 98 RON fuel. Importantly, the import price parity increase will be very minimal, and consumers will not experience financial impacts from improving the quality of any fuel types.

Improving the quality of 98 fuel will provide the most significant avoided health costs at $66.9 million which is substantially higher than the avoided health costs of improving only 95 RON which results in $29.9 million. As mentioned in the discussion paper, particulate emissions may reduce even further if ethanol is mixed into 98 RON however the health benefits of this could not be quantified due to a lack of evidence. The use of ethanol in 98 RON would further reduce greenhouse gas emissions as well as

noxious emissions, however the benefit this would provide to health outcomes is once again unable to be determined due to a lack of consistent data.

Regardless, it is clear that improving the quality of all types of fuel in Australia would provide significant reductions in air pollution and considerable benefits to human health, preventing poor health outcomes and reducing premature mortality associated with exposure to air pollution.

Air pollution regulations in Australia

Australian states and territories have acknowledged the importance of addressing fuel quality and its links to public health and continue to improve standards regarding fuel. Regulations addressing volatility has been implemented and explored by state governments as climate change and subsequent high temperatures are causing increasing amounts of toxic emissions from vehicles. Addressing fuel volatility results in significant reductions in air pollution producing positive benefits for both the environment and human health. We acknowledge and support the recent announcement by the Australian Government to set limits of 10ppm for sulfur for all grades of petrol from December 2024. The earlier implementation of this standard acknowledges the importance of addressing air pollution to protect the environment and human health. The outcomes and policy reforms that will result from this consultation is merely the beginning of improving light vehicle emissions in Australia and we have a significant way to go to meet international standards.

The federal government must do more to protect the health of Australians particularly in the light of climate change and the exacerbation of impacts to human health. 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.

Yours sincerely,

Mark Brooke
CEO
Lung Foundation Australia

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[1] World Health Organisation 2016, Environmental Health https://www.who.int/health-topics/environmental-health#tab=tab_1
[2] Environmental Health Standing Committee (enHealth)2016, Preventing disease and injury through healthy environments, https://www1.health.gov.au/internet/main/publishing.nsf/Content/A12B57E41EC9F326CA257BF0001F9E7D/$File/Standing-Committee-Strategic-Plan-2016-2020.pdf
[3] European Environment Agency 2022 Environment and health, https://www.eea.europa.eu/themes/human/intro#:~:text=Human%20health%20and%20well%2Dbeing%20are%20intimately%20linked%20to%20the,and%20material%20inputs%20for%20production
[4] Australian Institute of Health and Welfare 2022, Natural environment and health https://www.aihw.gov.au/reports/australias-health/natural-environment-and-health
[5] Hanigan, I. C., Broome, R. A., Chaston, T. B., Cope, M., Dennekamp, M., Heyworth, J. S., Heathcote, K., Horsley, J. A., Jalaludin, B., Jegasothy, E., Johnston, F. H., Knibbs, L. D., Pereira, G., Vardoulakis, S., Hoorn, S. V., & Morgan, G. G. (2021). Avoidable mortality attributable to anthropogenic fine particulate matter (Pm2.5) in Australia. International Journal of Environmental Research and Public Health, 18(1), 1-9. [254]. https://doi.org/10.3390/ijerph18010254
[6] Victoria Government, 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
[7] Ibid 6
[8] US EPA, 2022, Particle Pollution and Respiratory Effects, https://www.epa.gov/particle-pollution-and-your-patients-health/health-effects-pm-patients-lung-disease
[9] 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,people%20who%20are%20already%20ill .

[10] 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
[11] NSW Health, 2013, Who is affected by air pollution? https://www.health.nsw.gov.au/environment/air/Pages/who-is-affected.aspx
[12] Ibid 12
[13] Ibid 12
[14] Ibid 12
[15] https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6495
[16] Ibid above
[17] Ibid above