Submission to the Ministerial Forum on Vehicle Emissions on the Better fuel for cleaner air draft regulation impact statement

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Healthy planet, healthy people.

DEA Submission to the Federal Department of the Environment and Energy's Ministerial Forum on Vehicle Emissions: Better fuel for cleaner air draft regulation impact statement.[1]

Doctors for the Environment Australia

Doctors for the Environment Australia (DEA) is an independent self-funded, non-government organisation of medical doctors and students in all Australian States and Territories. DEA works to address the diseases-local, national, and global-caused by damage to our natural environment. We are a public health voice in the sphere of environmental health with a primary focus on the health harms of pollution and climate change.

Conclusions and recommendations

Australia's fuel standards are the lowest of the countries comprising the OECD and amongst the lowest in the G20.

A growing population and urban congestion are contributing to premature deaths and illness in Australian communities because of worsening air quality.

Although Australia has vast open spaces, over 80% live in urban areas and vehicular pollution is becoming a major health problem. Poor air quality contributes to 3,000 premature deaths in Australia each year, about half of which are from transport pollution.

The Ministerial Forum on Vehicle Emissions did not include the Health Minister or Department of Health in discussions of fuel standards.

There is no discussion in the paper of other measures which can improve urban air quality in a substantial way. For example, electric vehicles and other low or zero-emission vehicles are not considered. Public transport, urban design, and active transport, all of which were not mentioned, can do much to limit emissions.

Australia's greenhouse gas levels are rising, largely due to transport emissions. This is ultimately a health issue as climate change will impact the health of people everywhere, including Australians.[2]

DEA recommends:

- Adoption of Fuel Policy Option B as the best of the available options. This will see a reduction of sulphur to 10 ppm and reduction of aromatic compounds to 35%, as well as phasing out RON 91 fuel.
- Compensation for vulnerable groups if and when RON 91 fuel is phased out, recognising the large cost differential at the bowser between RON 91 and RON 95 petrol. This could be achieved by adjustment of the fuel excise.
- Introduction of Euro 6/VI vehicle emission standards as soon as feasible and before the end of the decade for all new vehicle models entering the country.
- Emission testing standards under 'real world' driving conditions for all models entering Australia, as recommended by the Australian Automobile Association (AAA).
- Including electric and other low/zero emission vehicle technologies in all further Ministerial Forum discussions.
- Anti-idling laws for buses trucks and other vehicles outside schools, as in some other jurisdictions.

Discussion

DEA welcomes the opportunity to comment on the Draft Regulation Impact Statement (RIS) for proposed changes to fuel standards under the Fuel Quality Standards Act 2000 and congratulates the Ministerial Forum for addressing this important climate and health issue. We are, however, dismayed at the delay since the establishment of the Forum, particularly in light of Australia's very poor vehicle emission and fuel emission standards compared with other OECD countries and the G20.

DEA respectfully requests that this submission be read in conjunction with DEA's previous submissions and position statement on vehicle emissions, fuel quality and air quality.

Vehicle Emissions Discussion Paper submission - April 2016[3]

Better Fuel for Cleaner Air submission - March 2017[4]

Impacts on health of air quality in Australia submission – March 2013[5]

Position Statement on Transport – October 2017[6]

This draft RIS addresses the fuel quality standards and instruments to reduce noxious and greenhouse gas emissions, a responsibility of the Department of Environment and Energy. Euro 6/VI vehicle emission standards and fuel efficiency measures, which form the other two parts of

the Forum's measures, are the responsibility of The Department of Infrastructure and Regional Development and are not part of this Draft RIS. This untidy arrangement is an impediment to clarity on these closely related issues. DEA notes also the absence of the Health Minister and his department, notwithstanding evidence that urban air pollution is a leading cause of death and morbidity.[7]

The proposed reforms in the Draft RIS focus on petrol. Yet diesel is the fastest growing fuel type for light vehicles in Australia.[8] This trend requires more focus because diesel vehicles produce more noxious emissions, including oxides of nitrogen and particulates, and diesel is recognised as a Group 1 carcinogen by the International Agency for Research on Cancer.[9]

Also missing from the Draft is any consideration of the projected exponential growth of electric vehicles, their impacts on air quality and greenhouse emissions and the disruption they will bring to the petroleum industry.

The quality of our fuel harms our health and environment

Section 2.2.1 of the Draft describes the health impacts of urban air pollution which DEA and many health organisations and scientists have researched. These are well summarised in table 2 of the Draft and well referenced in the text. Transport is the major contributor to poor quality air in urban areas. Impacts fall most heavily on the old and the very young, including the unborn. DEA requests that the Forum consider this section of the draft most carefully and again questions why the Department of Health is missing from the Ministerial Forum.

Policy Options

We note that Option D, proposed by the Worldwide Fuel Charter and canvassed in the discussion paper *Better Fuel for Cleaner Air,* has been ruled out. The Draft RIS states "*While Option D provides the greatest health and environmental benefits and was supported by many stakeholders, the cost-benefit analysis revealed that it is unlikely that it will deliver a net benefit to the community*". It is unfortunate that a decision to rule out Option D has been made on economic, and, seemingly, not on health, grounds.

Three policy options are considered in the Draft RIS

1. Option B - Revisions to the fuel standards to harmonise with European standards. Regular unleaded petrol (91 RON) would be

phased out, sulphur content is reduced to 10 ppm, aromatics are reduced to 35%. For diesel, aromatics are reduced to 35% and diesel for non-road use is included in the standards.

2. Option C - As per option B, with the exception that 91 RON petrol is retained but with the lower sulphur limit of 10 ppm.
3. Option F - Revision to the petrol standard to reduce sulphur to 10 ppm but no change to other parameters.

Policy Proposals

Policy F

While DEA welcomes any policy to reduce sulphur in petrol to 10 ppm, Policy Proposal F fails to produce a satisfactory outcome for health and the environment. As section 2.3 describes, fuel under this proposal will inhibit the uptake of existing efficient and cleaner motors which meet Euro 6/VI standards, and does not allow for anticipated improvements in engine design and emission controls. In particular, aromatic content is unchanged and therefore populations at risk will continue to be exposed to unacceptable levels of particulates, oxides of nitrogen, and ground level ozone as well as benzene and 1,3-butadiene, which are known carcinogens. Also, Policy F does not bring about efficiency gains or a reduction of greenhouse gases.

Policies B and C

These differ only in that RON 91 fuel is retained under Policy C. Both represent a substantial improvement on business as usual or Policy F. By aligning with European standards, the uptake of more efficient and cleaner vehicles is enabled and when Euro 6/VI vehicles emission standards are implemented for all new vehicles, air quality and human health will benefit. However, maintaining the retention of 91 RON fuel (Policy C) will delay modernisation of the Australian fleet and hold back improvements in air quality, so that Policy C is a second-best option from a health point of view. Also, a decrease of greenhouse gas emissions will result under Policy B but not C. In view of Australia's rising GHG emissions due to transport, Policy B therefore, is strongly preferred by DEA.[10]

However, DEA recognises that the price differential between 91 RON and 95 RON at the bowser, often of the order of 8-10 cents per litre, could cause hardship to the most disadvantaged who are unable to upgrade to more efficient cars. A phase out of 91 RON fuel in step with the retirement of older cars should take place. Adjustment to the fuel excise could compensate those who are unable to benefit from 95 RON fuel.

"A number of likely benefits could not be quantified in the analysis. If these benefits could be quantified, the NPVs of options B, C, and F would probably be greater than presented in this draft RIS". This statement in Section 5 raises the question whether health benefits have been adequately addressed. Many of the health impacts are difficult to quantify because longitudinal studies take some years and the lag time between exposure to pollution and onset of disease may be considerable. We would urge therefore that the precautionary principle should be applied, and option B endorsed.

Unregulated fuel standards

Diesel for non-road purposes: DEA supports the call by the NSW and Victorian governments for the diesel standard to be expanded to non-road uses. This measure will reduce the occupational health risk for many workers now exposed to unsafe levels of particulates and nitrox compounds.

Additives

DEA supports the prohibition of fuel additives which are harmful to health and/or the environment and notes that 'no fuel additives or classes of fuel additives have been entered' on the Register of Prohibited Fuel Additives. The advent of lead free fuel has undoubtedly saved many lives and much sickness. Besides lead, DEA supports bans on organometallic compounds, N-methylaniline (NMA), and polychlorinated n-alkanes as suggested in the Draft RIS.

Ethanol added to fuel can improve octane rating and obviate the need for more harmful additives (listed above).[11]

Whether ethanol results in a better environmental outcome depends on the life-cycle emissions of ethanol which rely on how it is made, what it is made from and whether it displaces food producing agriculture.[12]

Aromatics

Reducing aromatics or BTEX compounds (benzene, toluene, ethylbenzene and xylene) from 45% to 35% will result in fewer carcinogens, less particulate matter, particularly ultrafine particulates, and polycyclic aromatic hydrocarbons. They are implicated in both toxic tail-pipe emissions and evaporative emissions during refuelling at the bowser. A safe limit for fine and ultra-fine particulates has not been established.[13]

Diesel

Diesel vehicles now constitute 22% of the national fleet, up from 15.9% in 2012, according to the Australian Bureau of Statistics. While diesels are considered more fuel efficient, this has come at the expense of air quality because diesel vehicles produce higher levels of particulate matter and oxides of nitrogen which also contribute to ground level ozone. Much depends on the efficiency of particulate filters which can easily degrade over time. Some global cities are planning to ban diesel engines partially or wholly because of dangerous levels of air pollution. Changes to the fuel standards for diesel are welcome but will not reduce toxic emissions substantially until tighter vehicle emission standards prevail.[14]

References

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[5] https://www.dea.org.au/wp-content/uploads/Impacts_on_health_of_air_quality_in_Australia_Submission.v1_03-13.pdf

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[13] https://www.ncbi.nlm.nih.gov/pubmed/25938171

[14] https://theconversation.com/the-toxic-air-in-britains-cities-demands-urgent-action-not-legal-delays-76669