



***Cleaner, Cheaper to Run Cars: The Australian  
New Vehicle Efficiency Standard  
Consultation Impact Analysis***

**Response to the Australian Government Department  
of Infrastructure, Transport, Regional Development,  
Communications and the Arts**

**University of Melbourne**

**4 March 2024**

## Background

The Australian Government is consulting on its proposed policy for the introduction of a new vehicle efficiency standard (VES) through the *Cleaner, Cheaper to Run Cars: The Australian New Vehicle Efficiency Standard Consultation Impact Analysis* (VES Consultation Impact Analysis). The VES Consultation Impact Analysis presents three policy options, including the Government's preferred option (Option B) based on results from a cost-benefit analysis.

The response below from experts at the University of Melbourne recommends that the Australian Government pursue **Option C** as articulated in the VES Consultation Impact Analysis to maximise human health outcomes as they pertain to VES. We have framed our submission around the questions comprising the questionnaire for organisations, outlined on p.13 of the VES Consultation Impact Analysis.

While the authors of this submission (listed below in alphabetical order) work for the University of Melbourne, any mistakes are our own.

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## Responses to the general questions raised in the VES Consultation Impact Analysis (p.13)

### 1. Please rank the proposed options in order of preference

We rank the Australian Government's policy options as articulated in the VES Consultation Impact Analysis in the following order, from most preferred to least preferred:

- Option C
- Option B
- Option A.

### 2. Briefly, what are your reasons for your choice?

As experts committed to maximising health outcomes across Australian populations, **Option C** as articulated in the VES Consultation Impact Analysis presents substantially better health benefits than Option B (which in turn presents substantially better health benefits than Option A). **We therefore strongly encourage the Australian Government to pursue Option C.**

Where regressive consequences, i.e. in relation to the limited availability of ICE vehicles and affordability of EVs/hybrids, are anticipated, we strongly recommend that the Australian Government introduce additional complementary policies to protect against inequitable social impacts/consumer outcomes. For example, the creation of an 'affordable transport fund', targeting lower-income households<sup>1</sup> is one potential avenue to address policy inequities.

Transformative transport sector decarbonisation requires a holistic approach that facilitates accessible and affordable private *and* public transport options through sustained, long-term investment in both transport and energy sectors<sup>2</sup>. This will help to address both anthropogenic climate change and social inequities.

### 3. Do you support the Government's preferred option (Option B)?

We would only support the Australian Government's pursuit of Option B as an alternative if Option C was deemed unfeasible. While it slightly underperforms Option B on the benefits cost ratio (3.08 compared with 2.96 respectively), **Option C** remains our preferred policy option given it outperforms both Options B and A in relation to effectiveness, credibility, and robustness.

Critically, Option C presents substantially higher estimated health benefits by

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<sup>1</sup> Cornago, E. (2021). *How to decarbonise EU road transport without summoning the Gilets Jaunes*. Centre for European Reform. Accessed 1 March 2024. Available at <<https://www.cer.eu/insights/how-decarbonise-eu-road-transport-without-summoning-gilets-jaunes>>

<sup>2</sup> Say, K., Csereklyei, Z., Brown, F.G., Wang, C. (2023). The economics of public transport electrification: A case study from Victoria, Australia, *Energy Economics*, 120: 106599. <https://doi.org/10.1016/j.eneco.2023.106599>

2050 of AUD\$19.65 billion compared with Option B (\$5.52 billion) and Option A (\$0.02 billion). It also results in higher net benefits by 2050 compared with Option B (AUD\$114.90 billion compared with AUD\$96.46 billion respectively). We would not support the pursuit of Option A unless the alternative option was 'business as usual'.

#### **4. Do you have any feedback on the analysis approach or key assumptions used?**

Many of the figures and assumptions in the VES Consultation Impact Analysis regarding health outcomes require updating to be aligned the most recent (and applicable) evidence. First, the VES Consultation Impact Analysis indicates that the "two main air pollutants of greatest concern to health experts are fine particles, commonly referred to as PM<sub>2.5</sub>, and ground-level ozone<sup>3</sup>. The most recent evidence indicates that the main pollutant of health concern when examining vehicle emissions is nitrogen dioxide (NO<sub>2</sub>) as it is the most robust proxy measurement of exposure to vehicle exhaust<sup>4</sup>.

Accordingly, in view of the most recent evidence highlighting the independent mortality impacts of NO<sub>2</sub>, the mortality estimate used in the Australian Government's 2023 Final Impact Analysis<sup>5</sup> of 1,715 premature deaths in 2015 is too conservative and likely to be a significant underestimation of the health impacts<sup>6,7</sup>. Further, the Government's 2023 Final Impact Analysis does not include the following causal associations: adverse birth effects (both premature birth and low birth weight), diabetes incidence and asthma onset, which as the leading burden of disease in children<sup>8</sup> is particularly important in the Australian context.

Second, the VES Consultation Impact Analysis states that "there is also mounting

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<sup>3</sup> Australian Government Department of Infrastructure, Transport, Regional Development, Communication and the Arts (2024). *Cleaner, Cheaper to Run Cars: The Australian New Vehicle Efficiency Standard. Consultation Impact Analysis*, p.4. Accessed 26 February 2024. Available from <<https://www.infrastructure.gov.au/sites/default/files/documents/cleaner-cheaper-to-run-cars-the-australian-new-vehicle-efficiency-standard-consultation-impact-analysis-february2024.pdf>>

<sup>4</sup> Walter, C. M., Schneider-Futschik, E. K., Lansbury, N. L., Sly, P. D., Head, B. W., & Knibbs, L. D. (2021). The health impacts of ambient air pollution in Australia: a systematic literature review. *Internal Medicine Journal*, 51(10), 1567-1579. <https://doi.org/10.1111/imj.15415>

<sup>5</sup> Australian Government Department of Climate Change, Energy, the Environment and Water and Department of Infrastructure, Transport, Regional Development, Communications and the Arts (2023). *Improving Australia's fuel and vehicle emissions standards – Final impact analysis*. Accessed 27 February 2024. Available at <<https://oia.pmc.gov.au/sites/default/files/posts/2024/02/Impact%20Analysis.pdf>>

<sup>6</sup> Schofield, R. (n.d.) *Response to 'The Fuel Efficiency Standard – Cleaner, Cheaper to Run Vehicles for Australia Consultation paper'*. Accessed 29 February 2024. Available at <<https://www.infrastructure.gov.au/sites/default/files/documents/ccca-robyn-schofield.pdf>>

<sup>7</sup> Walter, C., & Say, K. (2023). *Health impacts associated with traffic emissions in Australia. Expert position statement*. Accessed 26 February 2024. Available at <[https://www.unimelb.edu.au/\\_data/assets/pdf\\_file/0006/4498161/Expert-Position-Statement\\_Vehicle-emissions\\_FINAL.pdf](https://www.unimelb.edu.au/_data/assets/pdf_file/0006/4498161/Expert-Position-Statement_Vehicle-emissions_FINAL.pdf)>

<sup>8</sup> Australian Institute of Health and Welfare. (2022). *Australian Burden of Disease Study 2022*. Accessed 1 March 2024. Available from ><https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022>>

evidence that PM<sub>2.5</sub> exposure can contribute to the incidence of Type 2 diabetes”<sup>9</sup>, with reference to a 2015 paper. Diabetes has been classed as a causal association for several years now<sup>10</sup> and should be included in quantitative assessments as such.

Third, the VES Consultation Impact Analysis states that “While our **average level of exposure to PM<sub>2.5</sub> is declining**, in part due to reductions in exhaust emissions from new road vehicles, our exposure to ozone is increasing”<sup>11</sup>. According to the CSIRO 2021 State of the Environment report, exposure to PM<sub>2.5</sub> is increasing across Australian capital cities, except in Darwin, Hobart, and Melbourne where levels remain stable<sup>12</sup>.

Fourth, the VES Consultation Impact Analysis states that “Under BAU, annual health costs in Australian cities associated with motor vehicle emissions were approximately AUD\$3.9 billion in 2024”<sup>13</sup>. The most recent estimates from New Zealand, calculated in 2022, estimate social costs of NZ\$10.5 billion per annum attributable to vehicle emissions<sup>14</sup>, with NO<sub>2</sub> exposure accounting for just over 60% of the total costs<sup>15</sup>. Given the substantial population differences between New Zealand and Australia (5.12 million compared with 25.69 million in 2021 respectively), it is illogical that New Zealand’s transport-related health costs are significantly higher than Australia’s, suggesting incongruencies between metrics used to calculate health costs.

Given the VES Consultation Impact Analysis states that an objective of the Australian Government is to “provide the greatest net benefit to the Australian community”<sup>16</sup> and that avoided health costs as listed as “fully quantified”, then the

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<sup>9</sup> Australian Government Department of Infrastructure, Transport, Regional Development, Communication and the Arts (2024). *Cleaner, Cheaper to Run Cars: The Australian New Vehicle Efficiency Standard. Consultation Impact Analysis*, p.4. Accessed 26 February 2024. Available from <<https://www.infrastructure.gov.au/sites/default/files/documents/cleaner-cheaper-to-run-cars-the-australian-new-vehicle-efficiency-standard-consultation-impact-analysis-february2024.pdf>>

<sup>10</sup> Australian Institute of Health and Welfare. (2021). *Australian Burden of Disease Study 2018: Interactive data on risk factor burden*. Accessed 27 February 2024. Available from <<https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors>>

<sup>11</sup> Ibid, p.5.

<sup>12</sup> Australian Government Department of Climate Change, Energy, the Environment and Water (2021). *Air quality key findings*. Accessed 1 March 2024. Available from <<https://soe.dcceew.gov.au/air-quality/key-findings>>

<sup>13</sup> Australian Government Department of Infrastructure, Transport, Regional Development, Communication and the Arts (2024). *Cleaner, Cheaper to Run Cars: The Australian New Vehicle Efficiency Standard. Consultation Impact Analysis*, p.68. Accessed 26 February 2024. Available from <<https://www.infrastructure.gov.au/sites/default/files/documents/cleaner-cheaper-to-run-cars-the-australian-new-vehicle-efficiency-standard-consultation-impact-analysis-february2024.pdf>>

<sup>14</sup> New Zealand Ministry for the Environment (2022). *Health and air pollution in New Zealand 2016 (HAPINZ 3.0): Findings and implications*. Accessed 27 February 2024. Available from <<https://environment.govt.nz/publications/health-and-air-pollution-in-new-zealand-2016-findings-and-implications/>>

<sup>15</sup> Kuschel, G. (2023). HAPINZ 3.0: A tale of two pollutants... Who knew NO<sub>2</sub> was such a problem and at such low levels???, *Air Quality and Climate Change*, 57(1), 27-34. Available at <<https://search.informit.org/doi/epdf/10.3316/informit.029764134316787>>

<sup>16</sup> Australian Government Department of Infrastructure, Transport, Regional Development, Communication and the Arts (2024). *Cleaner, Cheaper to Run Cars: The Australian New Vehicle*

most recent and applicable evidence on pollutant exposure must be used, otherwise it can be assumed the estimates regarding net (health) benefits to the Australian community will be inaccurate resulting in a downward bias in health impact estimates and the related cost-benefit analysis. Based on the observations above on analysis and assumptions used, we argue that the most recent and applicable evidence has not informed the quantification of health benefits for the purposes of the VES Consultation Impact Analysis.

It is important to note the considerable underestimation of vehicle emissions across the Australian vehicle fleet. The health costs are likely to exceed what is estimated in New Zealand for Australia when the underestimation of vehicle emissions (which is upwards of 45%) is considered. This highlights the urgency to act on Option C.

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*Efficiency Standard. Consultation Impact Analysis*, p.21. Accessed 26 February 2024. Available from <<https://www.infrastructure.gov.au/sites/default/files/documents/cleaner-cheaper-to-run-cars-the-australian-new-vehicle-efficiency-standard-consultation-impact-analysis-february2024.pdf>>



# Organisation questionnaire response

**Privacy Setting:** I agree for my response to be published with my name and position.

<b>What organisation do you represent?</b>  (required)	The University of Melbourne
<b>What is your name?</b>  (required)	Dr Annabelle Workman
<b>What is your position at the organisation?</b>  (required)	Research Fellow, Melbourne Climate Futures and Melbourne School of Population and Global Health
<b>Please rank the proposed options in order of preference.</b>  (optional)	Option A - 3rd, Option B - 2nd, Option C - 1st
<b>Briefly, what are your reasons for your choice?</b>  (optional, 3000 character limit)	Please see our response in the attached document.
<b>Do you support the Government's preferred option (Option B)?</b>  (optional)	NULL
<b>Do you have any feedback on the analysis approach and key assumptions used?</b>  (optional, 3000 character limit)	Please see our response in the attached document.
<b>Briefly, describe how the NVES might impact your organisation</b>  (optional, 3000 character limit)	NULL
<b>Who should the regulated entity be?</b>  (optional, 3000 character limit)	NULL