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To whom it may concern,

Climateworks Centre submission on the Impacts of heavy vehicle reform

Climateworks Centre welcomes the opportunity to respond to the Productivity Commission's interim report on the impacts of heavy vehicle reform. Climateworks bridges the gap between research and climate action, operating as an independent not-for-profit within Monash University. Climateworks accelerates ambitious, evidence-based action for net zero in Australia and Southeast Asia.

The national discussion on transport decarbonisation and productivity, generated by the Productivity Commission's recent reports, is timely. Australia is at a critical point to align transport decarbonisation with Australia's climate goals. In our submission, we present evidence from Climateworks modelling showing the rate of uptake of heavy zero-emissions vehicles (HZEV) that can achieve Australia's climate goals and outline the critical policy and regulatory reforms that can support achieving these goals.

Submission recommendations

- The federal government and Productivity Commission broaden the scope of their inquiry to assess incentives to support more rapid uptake of heavy zero-emissions vehicles and freight on rail.
- Reform vehicle-specific regulatory settings to remove barriers to the uptake of heavy zero-emissions vehicles, with a nationally consistent concessional mass limit for electric trucks as the priority.
- Improve freight planning and infrastructure readiness with a focus on enhancing charging infrastructure mapping and enabling heavy zero-emissions vehicle charging through land-use planning reforms.
- Reduce regulatory and operational barriers to heavy zero-emissions vehicles by updating curfew arrangements given quieter HZEV operations and strengthening driver competency frameworks to support safe and efficient deployment.

Achieving a rapid increase in heavy zero-emissions vehicles supports Australia's climate goals and improves energy security.

Climateworks' report, *Decarbonising Australia's transport sector,* provides foundational sector-specific modelling to inform the development of transport decarbonisation plans and policies (Climateworks Centre 2024). While this report explores different scenarios to reduce transport emissions, each scenario includes a strong uptake of electric heavy zero-emissions vehicles (HZEVs) as part of setting a cost-effective pathway to achieving Australia's emissions goals. Taking every opportunity to increase the uptake of HZEVs, shift more freight onto rail, and improve the efficiency of freight movement all contribute to a least-cost transition pathway.

Climateworks 'technology change' scenario sees rapid HZEV uptake, making up 60 per cent of new heavy vehicle sales by 2030. An alternative scenario considers a slower rate of change in freight, reflecting the slow uptake of HZEVs amid regulatory and financial barriers. In addition to including very rapid light electric vehicle (EV) uptake, demand management and mode shift, this scenario still requires HZEV to make up 22 per cent of sales by 2030.

With HZEV accounting for less than one per cent of Australia's new vehicle sales in 2025, policy mechanisms are needed to boost uptake (Mov3ment 2025). Such mechanisms could include addressing regulatory barriers and providing incentives.

The benefits of delivering stronger HZEV uptake go well beyond addressing the climate challenge. Australia will be in a stronger position to respond to current and future fuel crises by replacing reliance on imported fuel with technologies that use domestic, renewable energy sources. Decarbonising freight can also help Australia achieve a much needed boost to productivity outcomes.

A broader inquiry into incentivising freight decarbonisation can catalyse emissions reduction, improve energy security and boost productivity.

Recommendation: The federal government and Productivity Commission broaden the scope of their inquiry to assess incentives to support more rapid uptake of electric heavy zero-emissions vehicles and freight on rail.

Accelerating freight decarbonisation relies on a suite of measures that go beyond the scope of the current Productivity Commission inquiry – such as incentives for heavy-zero-emissions vehicle purchases and a review of freight pricing, charges and taxes. These measures are to ensure zero- and low-emissions options (e.g. rail freight and HZEVs) are cost-effective choices for the freight industry. Implementing these broader measures not only catalyses freight decarbonisation, but would also work towards improving productivity and Australia's energy security at a critical time.

Australia can learn from the passenger EV transition and apply incentives to HZEV purchasing. This includes a range of incentives and tax breaks to stimulate uptake, as well as implementing policy measures and guidance to share the benefits and cost of decarbonisation across the supply chain, rather than only on freight operators.

A broad range of pricing and taxes affects which vehicle and mode of transport operators choose, as well as their level of investment in decarbonisation. These include road user charging, tax breaks for HZEVs, fuel excise discounts and fuel tax credits. Several of these measures are under review and are the subject of public debate. Ensuring that the combined effect of these measures encourages the uptake of HZEVs and the shift to freight on rail is essential to decarbonising freight and supporting Australia in meeting its climate targets as well as enhancing its energy security.

Response to Productivity Commission's draft recommendations

Recommendation: Reform vehicle-specific regulatory settings to address barriers to electric heavy zero emissions vehicle uptake, with a nationally consistent concessional mass limit for electric trucks as the priority.

Reforming vehicle-specific regulations is essential to address structural barriers that currently limit the uptake of HZEVs. We agree with the report's 'Draft Recommendation 2.2' that a nationally consistent concessional mass limit for electric trucks is a critical priority to boost uptake, as HZEVs are currently heavier than internal combustion engine (ICE) equivalents, restricting their use on Australian roads. In addition, allowing for heavier HZEVs makes them more attractive and productive assets. Currently, battery weight can impose payload penalties that directly undermine commercial viability – particularly

in weight-sensitive freight tasks (Mandala 2026). Addressing the imbalance between HZEVs and ICE vehicles in terms of network access and payload is a near-term intervention that would place zero-emissions trucks on a more level footing while the market matures. In the longer term, the efficiency of batteries and HZEVs is expected to improve, potentially reducing weight (IEA 2025). This suggests that the issue of HZEVs being heavier may be relatively short-term and other risks may reduce in the longer term, such as risks related to safety or road damage.

Climateworks' report, *Delivering freight decarbonisation,* identifies revisions to gross vehicle and axle mass limits as among the highest-priority reforms needed to unlock HZEVs deployment (Climateworks Centre 2023). Any concessional mass limits for HZEVs would increase effectiveness and provide confidence to freight operators if it were nationally consistent. Changes and exemptions could have clear timelines with in-built reviews, allowing governments to monitor payload parity, safety impacts and changes in road wear as technology evolves. Revisions to concessional mass limits could remain in place until HZEVs reach cost parity with equivalent ICE vehicles.

Alongside mass limit reforms, there is some value in simplifying access to Performance-Based Standards (PBS) vehicles as a complementary measure to improve freight efficiency, as suggested in the report's 'Draft Recommendation 2.1'. PBS vehicles can enable higher payloads, improved load factors and fewer truck movements, reducing emissions intensity in the near term. However, while increased access to PBS provides a measure to improve efficiency and productivity, it does not represent a long-term solution that can be scaled to achieve overall transport decarbonisation, and these efficiency gains need to be weighed against impacts on road infrastructure and amenity, especially where there is limited reduction in emissions. Any adjustments to PBS frameworks would also need to avoid unintentionally undermining the uptake of zero-emissions vehicles.

Recommendation: Improve freight planning and infrastructure readiness by improving charging infrastructure mapping and enabling heavy zero-emissions vehicle charging through targeted land-use reforms.

Clear, accessible information on the best locations for charging infrastructure is important for enabling a credible and coordinated transition to zero-emissions freight. Strengthening the Electric Vehicle Charging Infrastructure Mapping Tool for heavy vehicles, as suggested in the report's 'Draft Recommendation 4.1', would reduce uncertainty around grid capacity, site availability and planning constraints. This would reduce investment risk and improve deployment . Lack of visibility about infrastructure and/or grid requirements and planning constraints affects both operator decision-making and system-level coordination between freight operators, planners, energy providers and governments (AECOM 2025). Enhanced mapping would support more strategic public and private investment, improve collaboration across jurisdictions, and help accelerate the rollout of charging infrastructure where it is most needed.

Planning and zoning constraints are a material barrier to changing infrastructure deployment, particularly at depots, freight hubs and rest locations, where charging would be most efficient, given vehicle dwell times (AECOM 2025). Changes to land-use planning processes to address these constraints would support the development of HZEV charging infrastructure. We agree with the report's 'Draft Recommendation 4.2' that land-use regulation should be adapted so that HZEV charging is treated as a permitted or encouraged use within existing freight and transport-related zones. This would reduce approval delays, lower investment risk and support more efficient use of existing industrial land. While appropriate conditions are still required to manage other planning concerns such as amenity, safety and grid impacts, clearer and more permissive land-use frameworks would support timely infrastructure rollout.

Improving broader freight planning and access systems is also foundational to supporting zero-emissions freight at scale. Modernising access arrangements as part of the National Automated Access System (NAAS), including a shift toward network-based access, as suggested in the report's 'Draft Recommendation 3.1', would improve consistency and certainty across jurisdictions. The current permit-based system creates inefficiencies and uncertainty for operators. This is particularly problematic for HZEVs, given that route certainty affects an already challenging business case. Ensuring that zero-emissions trucks are not unintentionally penalised by inconsistent or opaque

access arrangements is critical during this early adoption phase. Careful and transparent safeguards would ensure community amenity and infrastructure are protected.

More efficient access systems can be achieved through stronger data on infrastructure conditions. We agree with the Productivity Commission's proposal in 'Draft Recommendation 3.2' for the continued investment in the Strategic Local Government Asset Assessment Project – beginning with Phase 4 in the 2027–28 Budget. If carefully implemented, this measure could achieve nationally consistent data on local government roads, bridges and pavements. This would enable better understanding of network readiness for heavier zero-emissions vehicles and for managing concerns related to axle loads, road wear and bridge capacity. Current data gaps, particularly on local roads, present a major barrier to scaling zero-emissions freight and to aligning infrastructure investment with emerging technologies. In addition to the measures discussed above, Climateworks recommends greater integration with the National Adaptation Plan (DCCEW 2025), as that would further ensure that freight access and infrastructure resilience are embedded within broader climate adaptation efforts.

Recommendation: Reduce regulatory and operational barriers to heavy zero-emissions vehicles by updating curfew arrangements given quieter HZEV operations and strengthening driver competency frameworks to support safe and efficient deployment.

Reducing operational and regulatory barriers is key to realising the full benefits of zero-emissions freight vehicles, particularly in urban and short-haul contexts where technology transition is increasingly viable. Many existing curfews and local traffic restrictions are designed for diesel trucks and do not reflect the substantially lower noise and local air pollution impacts of electric vehicles. As a result, these rules can unnecessarily constrain the efficient operation of HZEVs, and we agree that there is a case for reducing the applicable curfews for HZEVs as suggested in the report's 'Draft Finding 5.1'.

Targeted, evidence-based curfew reforms – such as extended delivery windows or partial exemptions – could unlock significant benefits, including quieter off-peak freight movements, improved logistics efficiency and reduced congestion during peak periods (EVC-ATA, 2021). A calibrated approach, rather than blanket curfew removal, would allow the freight industry to realise the benefits of zero-emissions freight while maintaining community confidence that amenity and safety impacts remain well managed. Additionally, enabling the use of HZEVs for longer periods can also provide an incentive for operators to invest in HZEVs by making them more productive assets.

Workforce capability development can also support operational reform. Continued implementation of reforms to the National Heavy Vehicle Driver Competency Framework, as suggested in the report's 'Draft Finding 6.1', is essential, with a stronger focus on skills specific to HZEVs. Drivers will require updated competencies in areas such as electric drivetrains, regenerative braking, charging practices, high-voltage safety and energy-efficient driving. Without targeted training and competency recognition, there is a risk that zero-emissions vehicles will be under-utilised or that safety and efficiency benefits will not be fully realised. Investing in driver capability is therefore a core enabler of safe, efficient and scalable zero-emissions freight operations.

Thank you for taking the time to consider our submission. We would welcome an opportunity to brief your team if you would like to explore our responses in further detail.

Yours sincerely,

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