12 May 2026

Productivity Commission
Level 8, 697 Collins Street
Docklands VIC 3008

Dear Commissioners,

**Re: Productivity Commission Impacts of heavy vehicle reform – interim report**

We appreciate the opportunity to respond to the draft findings, recommendations and areas outlined in the Productivity Commission's Impact of Heavy Vehicle Reform interim report.

The Smart Energy Council (SEC) is Australia's peak body for the renewable energy and storage industry, representing over 700 member companies across solar, battery storage, energy management, and related clean energy sectors. Our membership spans technology manufacturers, installers, retailers, financiers, and policy advocates - all committed to accelerating Australia's transition to clean, affordable energy.

The current fuel crisis has made the cost of inaction impossible to ignore. With diesel reserves at approximately 30 days and freight fuel costs surging by around 40 per cent following Middle East supply disruptions, road freight's near-total dependence on imported diesel is now a live cost-of-living and national security issue, not merely a long-term climate risk.

Every regulatory barrier that delays the uptake of battery electric vehicles in the freight sector compounds this exposure. Australia's New Vehicle Efficiency Standard (NVES) provides an important foundation, but it does not yet extend to heavy vehicles, the very segment where the need is most acute.

While we are broadly supportive of the draft findings and recommendations, we urge the adoption of more ambitious and urgent framing in its final report, including:

- **Road freight decarbonisation is urgent** as transport is the only sector in which emissions grew in 2025 (+0.3 Mt $CO_2$-e). Road freight represents 86 per cent of freight emissions and without rapid intervention, truck emissions will exceed passenger vehicle emissions before 2040.
- **The window to transition assets is narrowing** - with over 37 per cent of rigid and articulated trucks older than 15 years, the replacement cycle now underway represents a once-in-a-generation opportunity. Replacing retiring diesel rigid trucks with battery electric vehicles (BEVs) could reduce cumulative emissions by 73 Mt $CO_2$-e over 15 years.

- **Battery Electric Vehicle (BEV) technology is ready for most of the freight task** as demonstrated by Mandala Partners, their modelling indicates 77 per cent of current freight trips can be served by available BEV technology based on distance and payload. This figure rises to 88 per cent by 2030.
- **Regulatory barriers are the primary obstacle for near-term trucking cohorts** including urban light, urban heavy, and much of the regional haul segment. Mass and width limits, curfews, and fragmented access rules are suppressing commercially viable BEV adoption.
- **Productivity impacts should be more explicitly linked to emissions co-benefits**, and the urgency of fleet replacement timing should inform implementation timelines.

We strongly encourage the Productivity Commission to address the areas outlined in the submission below and we would be happy to provide additional technical input prior to the release of the final report.

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## Response to key assumptions in the interim report

### Productivity and Emissions Benefits are Separate Reform Objectives

The Interim Report treats productivity uplift and emissions reduction as largely parallel, rather than mutually reinforcing, objectives. The SEC submits that this framing understates the case for reform and risks underweighting emissions co-benefits in cost-benefit assessments.

We suggest the Productivity Commission adopt an integrated framework in which productivity improvements from access reform are modelled alongside the direct emissions co-benefits. BEVs offer lower operating costs per kilometre, quieter operation enabling curfew exemptions, and telematics-enabled route optimisation which contribute to both productivity and emissions goals simultaneously.

The Mandala Partners analysis quantifies the combined case: a targeted policy package could deliver $138 billion in cumulative GDP growth, 900,000 additional jobs, 181 Mt $CO_2$-e in avoided emissions, and $18.5 billion in avoided externality costs by 2050, all from accelerating Heavy Zero Emission Vehicle (HZEV) adoption through the same regulatory levers the Commission is examining.

### Fleet Turnover is Gradual and Cannot Be Accelerated

The Interim Report acknowledges that Australia's truck fleet has a median age of 15 years, and notes that *"full mass market adoption of heavy zero emissions vehicles across segments is not expected to take place for many years."* We are concerned this framing may justify slower implementation timelines.

The pace of fleet turnover is not fixed; it is a policy variable. With over 40 per cent of light commercial vehicles older than 12 years and over 37 per cent of rigid and articulated trucks older than 15 years, a substantial fleet replacement cycle is already underway. The critical policy

question is not whether trucks will be replaced, but whether they will be replaced with BEVs or diesel. Each truck replaced with diesel today locks in emissions for another 15+ years.

The SEC urges the Commission to frame implementation timelines around the replacement cycle, not the reverse. Policies that take 3–5 years to design and implement will miss the immediate window for urban light and urban heavy cohorts.

## Regulatory Barriers to Charging Infrastructure are Minor

The Interim Report notes that "the administrative and regulatory barriers (the focus of this study) are minor by comparison" to electricity network connection challenges. The SEC respectfully disputes the weighting implied by this characterisation.

While grid connection costs are significant, administrative barriers compound and interact with infrastructure costs in ways that deter investment disproportionately. Planning uncertainty, fragmented approvals across jurisdictions, and the absence of explicit land use categories for HZEV charging all increase project risk premiums and reduce the bankability of charging investments. The Commission's draft recommendations 4.1 and 4.2 are well-targeted and should be characterised as high-priority, not minor.

## BEV Payload Penalties Require Only a Concessional Mass Limit

Draft Recommendation 2.2 proposes a nationally consistent concessional mass limit for electric HZEVs to address the payload gap caused by battery weight. The SEC supports this recommendation but notes that it addresses only one dimension of the regulatory weight problem.

BEVs are currently approximately 27 per cent heavier than comparable diesel vehicles. This affects not only payload under general mass limits, but also road access permissions, driver licence class thresholds, and bridge load ratings. A concessional mass limit that resolves the payload gap may still leave operators without road access if access notices, permit conditions, and licence categories are not correspondingly updated.

The Commission should recommend a holistic weight concession framework that simultaneously addresses: (a) concessional mass limits under the National Regulation; (b) access notice eligibility for BEVs at concessional weights; (c) driver licence class weight thresholds (as raised in Information Request 6.2); and (d) bridge assessment tools that can accommodate BEV weight profiles.

## The Fuel Crisis as a Catalyst for Structural Reform

The ongoing disruption to global oil markets has laid bare the structural vulnerability of an economy in which road freight remains almost entirely dependent on imported diesel. With Australian diesel reserves sitting at approximately 30 days and fuel prices surging by around 40 per cent since the onset of Middle East supply disruptions in early 2026, the

freight sector is absorbing cost shocks that flow directly through to consumer prices, agricultural supply chains, and construction costs nationwide.

This is not a temporary disruption; it is a foreseeable and recurring risk that will intensify as geopolitical instability continues to affect global oil supply. We consider this context materially strengthens the case for the Commission's reform agenda: every regulatory barrier that delays the uptake of battery electric vehicles in the freight sector is not merely a productivity cost; it is a compounding national security and cost-of-living risk.

The Commission should therefore frame the removal of access barriers, curfew restrictions, payload penalties and charging infrastructure impediments not only as productivity reforms, but as urgent measures to reduce Australia's exposure to oil price volatility and supply disruption.

Australia already has a foundational supply-side mechanism in place to accelerate this transition. The NVES creates regulatory pull that complements the demand-side reforms examined in this inquiry. However, the NVES currently applies to light vehicles and does not extend to heavy vehicles, precisely the segment where emissions are growing, where oil price exposure is greatest, and where the fleet replacement cycle is most urgent.

We urge the Commission to call on the Australian Government to extend the NVES framework to heavy vehicles or establish a Heavy Vehicle Efficiency Standard (HVES), establishing $CO_2$ intensity targets for the heavy vehicle fleet aligned with international benchmarks. Without this extension into heavy vehicles, the access reforms, charging infrastructure improvements and curfew exemptions proposed in the Interim Report will have diminished effect: operators who wish to transition to BEVs will continue to face a market in which heavy electric vehicle models are scarce, expensive, and allocated to more mature overseas markets ahead of Australia.

To give this integrated agenda the institutional durability and cross-portfolio coordination it requires, the SEC recommends the Australian Government establish a Federal Office for Zero Emissions Transport, with a mandate to bridge energy and transport planning, oversee the extension and implementation of the NVES to heavy vehicles, coordinate the rollout of charging infrastructure on freight corridors, align state and territory regulatory settings, and provide industry with the long-term policy certainty needed to justify major fleet investment decisions. Without a dedicated institutional home that connects fuel security, emissions, vehicle supply and infrastructure planning, the reforms examined by this Commission risk remaining fragmented across portfolio boundaries, slowing implementation and undermining the investment signals the freight sector urgently needs.

## Current BEV Sales Data Reflects Market Readiness

The Interim Report does not directly address the supply-side constraint on HZEV availability in Australia. The Mandala analysis highlights that Australia currently offers 2–3.7 times fewer rigid and articulated BEV models than comparable markets (Canada, US, Poland, Norway), keeping prices high and limiting competition. Extending the NVES to heavy vehicles, as recommended above, is the most direct mechanism to close this gap, as the NVES has achieved with passenger vehicles.

# Responses to Consultation Information Requests

### Distributional Impacts of Heavy Vehicle Reform

The reform package will have significant distributional dimensions that the Commission should address explicitly.

- Small business operators (90 per cent of road freight businesses turn over under $500,000 annually) face the greatest barriers to BEV adoption due to high upfront capital costs and limited access to green finance. The SEC recommends the Commission consider targeted subsidies for small operators as a complement to regulatory reform, noting that regulatory changes alone will not unlock BEV adoption for capital-constrained operators. Such subsidies should apply to the purchase of new BEV trucks, the conversion of diesel trucks to BEV, and charging infrastructure.
- Regional and remote workers: 34 per cent of road freight drivers work in regional and remote areas, where charging infrastructure gaps are most acute. Reform timelines and infrastructure investment must account for this geographic dimension to avoid exacerbating existing inequalities.
- Consumers in regional areas with long supply chains stand to gain disproportionately from lower freight costs that flow from BEV productivity gains but will also be most exposed to disruption if the transition is poorly managed.
- Aboriginal and Torres Strait Islander communities often rely on road freight for essential goods delivery in remote areas. The SEC recommends the Commission specifically examine how reform can support supply chain reliability to these communities.

### Impacts of Mass, Dimension and Loading Reforms from 1 July 2026

The SEC supports the proposed uplifts to General Mass Limits, length limits (19m to 20m) and height limits (4.3m to 4.6m) commencing 1 July 2026. We note the following implications for HZEVs specifically:

- The uplift to Concessional Mass Limits will partially, but not fully, offset the payload penalty for BEVs. The SEC estimates that current BEV rigid trucks carry a weight penalty

of approximately 1–2 tonnes relative to diesel equivalents. The proposed General Mass Limit uplift will reduce but not eliminate this gap.

- The increased height limit (to 4.6m) is particularly beneficial for HZEV adoption, as battery pack placement in some vehicle configurations increases vehicle height. Operators considering BEV fleet transition should be consulted on whether 4.6m is sufficient for their vehicle configurations.
- Unintended consequences: Operators have raised concerns about the interoperability of new general access dimensions with existing loading dock infrastructure, particularly in older urban distribution centres. The Commission should seek specific evidence on the cost of dock modification and whether this cost disproportionately falls on small operators.

**PBS Scheme Improvements and As-of-Right Access**

The SEC supports Draft Recommendation 2.1 (greater as-of-right access for PBS vehicles) and offers the following implementation observations:

- The requirement to refer all PBS design approvals to the PBS Review Panel creates material delays and costs, particularly for electric PBS vehicles which may use novel configurations not yet well understood by road managers. Removing mandatory referral for standard configurations is sensible, but the Commission should ensure that electric PBS vehicle configurations have a clear and expedited assessment pathway.
- The criteria for adding PBS vehicles to existing gazetted notices should explicitly include BEV PBS configurations. The current state-by-state exemption patchwork for BEV mass creates uncertainty for PBS operators considering electric fleet transition.
- The Commission consider a dedicated PBS electric vehicle fast-track pathway that combines as-of-right access with the concessional mass limit proposed in Draft Recommendation 2.2.

The concession should reflect the full observed payload gap between comparable diesel and electric HZEVs, currently estimated at 1–2 tonnes for rigid trucks and up to 3 tonnes for articulated trucks. The concession should be set at the upper bound of current observations to provide certainty for fleet investment decisions.

## Implementation of Nationally Consistent Mass Concession for Electric HZEVs

The SEC supports Draft Recommendation 2.2 and provides the following comments:

| Issue | SEC Position |
|---|---|
| **Size of concession** | The concession should reflect the full observed payload gap between comparable diesel and electric HZEVs, currently estimated at 1–2 tonnes for rigid trucks and up to 3 tonnes for articulated trucks. The concession should be set at the upper bound of current observations to provide certainty for fleet investment decisions. |
| **Interaction with PBS** | The concessional mass limit should automatically apply to eligible PBS electric configurations without requiring a separate PBS permit. A layered approval process would undermine the purpose of both reforms. |
| **Review mechanism** | A three-yearly review is appropriate. The review should be triggered automatically and should include independent technical assessment of battery weight trajectories, not rely solely on manufacturer submissions. |
| **Sunset provision** | The SEC supports a sunset mechanism once the payload gap materially closes but cautions that "materially closed" should be defined quantitatively (e.g., within 500kg) before the concession is established, to provide investment certainty. |
| **Road wear monitoring** | The Commission should recommend that the review mechanism include monitoring of actual road wear data from jurisdictions operating BEV fleets, not just modelled estimates. Tasmania's HVAMS data may provide a useful baseline. |

## National Automated Access System Design and Rollout

The SEC supports Draft Recommendations 3.1 (network-based access) and 3.2 (funding for the Strategic Local Government Asset Assessment Project).

- Network-based access over route-based access is the correct design principle. The Tasmania HVAMS model demonstrates that network-based systems reduce administrative burden on operators and road managers simultaneously. The NAAS should be designed from the outset for network-based access, with route-based access only as a transitional fallback.
- Local government capacity is the binding constraint. The Commission's finding that rollout is behind schedule due to local government asset data gaps is accurate. The SEC recommends that Phase 4 of the Strategic Local Government Asset Assessment Project be funded in the 2025-26 Budget, not deferred to 2027-28 as currently proposed in Draft Recommendation 3.2.
- HZEV-specific data: The NAAS should be designed to capture bridge and road tolerance data relevant to BEV weight profiles, including the effect of concentrated battery pack weights on pavement and bridge structures. This data will be essential for implementing concessional mass limit access decisions at scale.

## Charging Infrastructure Barriers and Rest Area Investment

The SEC supports Draft Recommendations 4.1 and 4.2 and suggests the following recommendations:

- The Electric Vehicle Charging Infrastructure Mapping Tool should be expanded as proposed, with urgency for granular distribution network capacity data. Investment decisions by charging infrastructure providers are currently constrained by the absence of this data. Network service providers should be required (not merely requested) to contribute this data within 12 months.
- State and territory governments should be required to develop a minimum charging infrastructure plan for government-provided rest areas within 18 months. The SEC recommends a minimum standard of at least one megawatt-capable charger per rest area on designated freight corridors by 2030.
- Planning exemptions should be extended nationally on the NSW model, which exempts a wide range of EV charging installations from planning approval requirements. Inconsistency across jurisdictions is a material barrier to investment, particularly for national fleet operators.
- Depot charging subsidies for small operators: The Commission should consider recommending targeted capital grants for depot charging infrastructure at businesses with fewer than 50 trucks. Mandala analysis estimates depot fast chargers cost $40,000–$100,000 per unit, which is prohibitive for most operators in the freight sector.

## Heavy Vehicle Curfews

The SEC endorses Draft Finding 5.1 (strong case for reducing curfew burdens on HZEVs) and recommends the following approach to reform:

- HZEV exemption from existing curfews is the preferred short-term reform. Given that curfews exist primarily to manage noise impacts, and BEVs produce significantly less noise than diesel vehicles, the case for automatic exemption is compelling. The Commission should recommend a model exemption framework that state, territory and local governments can adopt consistently.
- Performance-based approach: In the medium term, the SEC supports a performance-based approach tied to verified noise measurement, but notes that the compliance infrastructure for real-time noise measurement does not yet exist at scale. An interim HZEV status exemption (based on vehicle type certification) provides more immediate operational certainty.
- Outcomes-based approach: An outcomes-based decibel limit framework is the most future-proof approach but requires significant regulatory redesign across multiple levels of government. The Commission should recommend that this be developed as a 3-5-year reform objective, building on the model exemption framework in the short term.
- Priority lane access: The SEC recommends that curfew reform be accompanied by access to existing bus and transit priority lanes for HZEV operators, as recommended in the Mandala analysis. NSW's current T2/T3 lane access for BEVs (until 30 June 2027) provides a model that should be made permanent and extended nationally.

### National Heavy Vehicle Driver Competency Framework

The SEC supports accelerated implementation of the National Heavy Vehicle Driver Competency Framework and draws particular attention to the HZEV-specific licensing issues raised in Information Request 6.2.

- Weight concessions in licence classes: Current licence class weight thresholds create a structural penalty for HZEV operators, as drivers licensed for a given diesel vehicle class may find their licensed weight ceiling is insufficient to operate an equivalent BEV. The SEC recommends that weight concessions for HZEV driver licences be implemented concurrently with the vehicle mass concession in Draft Recommendation 2.2, to ensure that operators who access the vehicle concession can drive the vehicle.
- Overseas licence recognition: Australia's heavy vehicle driver shortage is a productivity and safety constraint that disproportionately affects the sectors most important for HZEV adoption. Strengthening recognition of overseas licences, particularly from jurisdictions with comparable BEV training requirements (EU, UK, Canada), would accelerate both driver supply and familiarity with electric fleet operations.
- HZEV-specific training: The Framework should incorporate mandatory training modules on BEV operation, including charging protocols, range management, and emergency response for electric powertrains. This is currently absent from the Framework and represents a safety gap as HZEV fleet numbers grow.

## Additional Recommendations Beyond the Interim Report

The SEC emphasises that several issues raised in the Mandala Partners analysis fall within the spirit of the Commission's inquiry but are not addressed in the Interim Report. We ask the Commission to consider the following in its final report:

### Heavy Vehicle $CO_2$ Emissions Standard

Australia remains one of the few advanced economies without a $CO_2$ intensity standard for heavy vehicles. The absence of such a standard is the single most significant supply-side barrier to HZEV availability in Australia, as it removes the regulatory incentive for manufacturers to allocate zero-emission models to this market.

As noted earlier in the submission, the existing New Vehicle Efficiency Standard provides a proven domestic framework that should be extended to heavy vehicles, with a target of 45 per cent reduction in fleet-average $CO_2$ intensity by 2035, aligned with EU and Canadian benchmarks. This would complement all five reform areas examined by the Commission by ensuring that the vehicles needed to benefit from improved access and infrastructure settings are available in the Australian market at competitive prices.

We also suggest the establishment of a Federal Office for Zero Emissions Transport to provide the cross-portfolio institutional architecture this reform agenda requires. The freight decarbonisation task spans energy policy, transport regulation, infrastructure investment, vehicle standards and fuel security, responsibilities currently distributed across multiple Commonwealth portfolios and eight state and territory jurisdictions with no single coordinating body.

A dedicated Federal Office, with a mandate to bridge these domains, oversee NVES extension to heavy vehicles, coordinate charging infrastructure rollout on freight corridors, and align jurisdictional regulatory settings, would provide industry with the durable policy certainty needed to justify the scale of fleet investment this transition demands. Without it, the reforms examined by this Commission risk being implemented piecemeal and at a pace that misses the fleet replacement window now open.

### Road User Charge Reform

The current fuel-based Heavy Vehicle Road User Charge (RUC) creates a structural incentive for diesel over electric operation. As BEV adoption grows, the fuel-based RUC will generate diminishing revenue while failing to capture the road wear and externality costs of the growing HZEV fleet.

The SEC recommends that the Commission note the case for transitioning to a comprehensive per-kilometre RUC that incorporates road damage, noise, carbon, and particulate matter externalities, alongside removal of stamp duty for rigid and articulated trucks. A well-designed RUC reform could be revenue-positive for government while improving the relative cost competitiveness of BEVs, removing the fiscal distortion currently embedded in the Heavy Vehicle RUC structure.

### Energy Sovereignty and Supply Chain Resilience

The Interim Report does not address the energy sovereignty dimension of HZEV adoption, which the Mandala analysis identifies as a significant co-benefit. Australia holds approximately 30 days of diesel reserves, and the ongoing Middle East conflict has demonstrated the vulnerability of this position. A decarbonised freight network would draw on domestically produced electricity, materially reducing Australia’s exposure to oil price shocks and supply disruptions.

We reiterate that the reforms examined in this inquiry now carry an urgency that was not present when this process was initiated. With fuel prices surging by around 40 per cent since the onset of Middle East supply disruptions in early 2026 and Australia holding just 30 days of diesel reserves, road freight's dependence on imported diesel has become a live cost-of-living and national security crisis. The Commission's final report is an opportunity to reflect this changed context, and the SEC strongly urges it to do so

The SEC recommends that the Commission acknowledge this co-benefit in its final report and recommend that the Australian Government incorporate HZEV adoption targets into national fuel security planning, alongside the freight-specific reforms examined in this inquiry.

## Conclusion

The Productivity Commission's Interim Report on Impacts of Heavy Vehicle Reform represents an important and timely contribution to Australia's policy framework for the decarbonisation of road freight.

The Smart Energy Council urges the Commission to strengthen its final report in three respects:

1. Frame the reform agenda around the urgency of the fleet replacement cycle. The window for influencing whether retiring trucks are replaced with BEVs or diesel is open now and will narrow materially over the next three to five years.
2. Adopt an integrated productivity-and-emissions framework. The economic and environmental co-benefits of BEV adoption are not in tension – they are mutually reinforcing, and the Commission's modelling should reflect this.
3. Recommend a supply-side reform to complement demand-side regulatory changes. Without a $CO_2$ intensity standard for heavy vehicles, the regulatory improvements proposed in the Interim Report will have reduced effect because the vehicles needed to benefit from them will not be available in sufficient numbers or at competitive prices.

The Smart Energy Council remains available to provide further evidence, technical input or stakeholder connections to support the Commission's final report. We would welcome the opportunity to present in person during the consultation period.

If you have any queries on the issues raised, please do not hesitate to contact me.

Kind regards,

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Senior Policy & Advocacy Officer