Strengthening Australia's freight backbone

An achievable roadmap to unlock the economic, security and health benefits of electrifying truck freight in Australia

(Transport & Environment Australia – [March] 2025)

DRAFT VERSION 0.1

Version notes:

- *Skeleton contents and headings to illustrate structure of the end product brief*
- *Full draft of the executive summary to test a problem framing*
- *Key feedback sought in order of priority:*
    a. *What is your reaction to the problem framing?*
    b. *Is this the right table of contents?*
    c. *Do you have ideas for content blocks / visualisations - please comment directly in the document.*

Executive Summary

Trucks are the backbone of Australia's economy connecting our exports to the global marketplace and bringing critical energy, industrial, and food products to Australia's homes and businesses. In 2022-2023, Australian trucks moved over **249 billion** freight-tonne kilometers[1] generating more than **$70 billion** in revenue[2], expected to grow by over **77%** by 2050 over 2020 levels.[3]

However, the sector also carries significant risks:

- **National energy security:** Australia's almost complete dependence on foreign diesel imports[4] ($35B annually) and our slim national stock of diesel (just ~24 days[5] coverage) make our industrial, food and agriculture supply chains vulnerable to severe disruption.
- **Health impacts**: An estimated 620 Australians died because of transport-related air pollution in Australia in 2015, which cost our economy approximately **$9.2 billion**. This is equivalent to over half the national road toll from accidents that year. Noxious emissions from road vehicles are a particularly harmful source of pollution as people generally have a higher level of exposure to these than most other sources.[6]
- **Carbon emissions**: Heavy vehicles make up more than [**22%**] of Australia's road transport emissions. If trucks were an Australian state they would have the same emissions as the whole of South Australia. As a rapidly growing sector, they threaten Australia's emissions targets and climate security.

Strategically electrifying Australia's freight sector and investing in high-power fast charging infrastructure investing in renewable fuel technologies such as green hydrogen and ammonia can mitigate these risks, reducing reliance on imported fuels, cleaning up Australian air, slashing carbon emissions and accelerating economic growth and job creation in one of Australia's core economic drivers.

What's more, electrifying trucks requires lithium-ion batteries, therefore creating downstream demand for materials, such as battery-grade lithium. This can help the current faltering efforts to establish local processing of raw materials in Australia and add more value to local mining operations.

In the near term, Australia's policy should be on:

---

[1] Freight dashboard visualising 2024/2025 BITRE data.
[2] Alt framing is gross value add to economy which was ~113B in 2024. The 70B figure comes up in reporting but have not nailed the source. Action to verify but its order of magnitude correct is referenced by IBIS.
[3] IBID fn 1.
[4] Its higher than this, but need to find the right source.
[5] https://www.energy.gov.au/energy-data/australian-petroleum-statistics - access 4 March 2025.
[6] This whole bullet is a direct quote from the Regulatory impact statement for a heavy vehicle emissions standard commissioned by the department in 2015. Query update this analysis?

- **Agreeing CO2 reduction targets for truckmakers and importers** requiring a progressive share of new truck sales to be zero emission by 2030. Priority should be given to the vehicle segments used on most dense line-haul routes and coastal freight corridors ….

- **rapidly electrify targeted freight segments**, particularly line-haul routes (300-600 km/day) and coastal freight corridors which could have an estimated immediate impact of [insert key metrics of fuel reduction reliance, health impacts, carbon abatement].

- **Implement incentives and regulatory measures frameworks** to incentivize rapid electric fleet adoption, including purchase (or lease) incentives for zero emission trucks . and lower road usage or other taxes. Australia can accelerate its regulatory maturity by [adopting lessons learned from the European market].

- **Invest strategically** in a national charging infrastructure network and grid upgrades to support widespread electrification. [A case study on Australia's busiest truck arterial shows the immediate economic viability].

- **Provide targeted financial incentives** and accelerated depreciation mechanisms for early adopters.

In the medium to long term:

- Set a **long-term policy vision for all freight operations and HDV sales to go zero emission no later than 2040**, including milestones and enabling conditions.

- **Supply Chain Resilience**: Enhance domestic production capabilities for electric vehicle components, batteries and high-power grid infrastructure renewable fuels to strengthen supply chain resilience and develop domestic downstream market for processed critical minerals.

- **Workforce Development**: Implement training programs to equip the workforce with skills necessary for the maintenance and operation of electric vehicles and associated infrastructure and alternative fuel vehicles.

Electrifying Australia's freight sector will immediately enhance national energy security, dramatically improve public health outcomes, and drive economic growth, positioning Australia as a leader in the global clean energy transition.