Climateworks CENTRE

Level 27, 35 Collins St,
Melbourne VIC 3000

P: +61 3 9902 0741

info@climateworkscentre.org

climateworkscentre.org

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Department of Infrastructure, Transport, Regional Development, Communications and the Arts

Lodged electronically

To whom it may concern,

**Climateworks Centre submission on the review of the National Freight and Supply Chain Strategy**

Climateworks Centre welcomes the opportunity to make a submission to the National Freight and Supply Chain Strategy (the Freight Strategy) review. Climateworks Centre bridges the gap between research and climate action, operating as an independent not-for-profit within Monash University. Climateworks develops specialist knowledge to accelerate emissions reduction, in line with the global 1.5°C temperature goal, across Australia, Southeast Asia and the Pacific.

Climateworks supports the review of the Freight Strategy, in particular the ambition to incorporate thinking on decarbonisation. Australia has committed to the Paris Agreement goals of reducing $CO_2$ emissions to limit global average temperature rise to well below 2 degrees, while pursuing further limiting temperature rise to 1.5°C. Transport contributes approximately 20 per cent of Australia's domestic emissions, and is likely to become the largest source of emissions by 2030 (Department of Climate Change, Energy, the Environment and Water 2022). Climateworks analysis has calculated that freight emissions account for just under 40 per cent of Australia's transport emissions, equivalent to 7 per cent of total domestic emissions[1]. This underscores the importance of embedding strategies to decarbonise the freight sector within the Freight Strategy.

This submission makes six key recommendations for consideration, leveraging our ongoing work in researching net zero pathways for the transport sector. This includes our forthcoming, in-depth report on freight decarbonisation, which will set out our recommendations for freight decarbonisation in full and is expected to be published in October 2023 (Climateworks Centre 2023 [Forthcoming]). Climateworks is also conducting freight modelling, to be published in 2024 as part of our broader *Net Zero Transport Pathways* report. We would welcome the opportunity to brief you on this work.

**Climateworks recommends that the revised Freight Strategy:**

1. Include an explicit objective supporting transformative change in line with the Paris Agreement goals of limiting global warming to well below 2°C and striving for 1.5°C
2. Adopt an integrated approach to decarbonisation, drawing on a range of decarbonisation measures, including but not limited to zero emissions trucks and vehicles
3. Focus on reducing emissions from road freight, the source of most of Australia's freight emissions
4. Update the National Action Plan to include an additional critical action area to support the decarbonisation objectives of the Freight Strategy

[1] Climateworks analysis of the ABS Motor Vehicle Census, Australia, 2021 shows that approximately 60% of light commercial vehicles (LCVs) can be categorised as freight and 40% as a passenger mode. Emissions from cars, buses and domestic aviation are considered as passenger emissions in Climateworks' analysis. The analysis is based on historical annual emissions data-sets as of August 2023, from Australia's National Greenhouse Gas Accounts (Paris Agreement Inventory). Note that gas pipeline transport is also a sub-category of the transport sector but has not been considered in Climateworks' analysis as there is no direct fuel combustion for mobility.

5. Implement existing solutions to decarbonise short-haul road freight, and integrate rail and other solutions to reduce emissions from long-haul road freight
6. Increase the scope of emissions data collected to enable better emissions tracking and reporting.

These recommendations are discussed in further detail below.

## Goals of the Freight Strategy

### Recommendation 1: Design the Freight Strategy to include an explicit objective of supporting transformative change in line with the Paris Agreement goals of limiting global warming to well below 2°C and striving for 1.5°C.

Australia has taken significant steps in decarbonisation since the last iteration of the Freight Strategy. Now is an important time to consider how the government can guide action across the economy, including in freight. Positive global trends indicate freight could accelerate its decarbonisation efforts quickly, including strong manufacturer interest in zero-emissions trucks, ambitious policy measures aimed at decarbonisation emerging in other countries, and increasing regulatory pressure to decarbonise value chain emissions (Climateworks Centre 2023 [Forthcoming]). Australia can draw on these to develop a sector-wide zero emissions plan that charts a path to net zero for the country's transport sector, including freight.

The next iteration of the Freight Strategy, and associated actions, can play a critical role in supporting Australia's climate policy priorities, emissions reductions targets and net zero emissions goal. To achieve this, the new Freight Strategy should align to the sectoral pathways and plans being developed now, to guide emissions reduction trajectories.

Climateworks recommends the government include an explicit objective in the Freight Strategy so that all actions coming from the National Freight and Supply Chain Strategy support:

- Transformative change in line with the Paris Agreement goals of limiting global warming to well below 2°C and striving for 1.5°C
- Australia's emissions reduction targets
- Clear interim decarbonisation targets to achieve the above, acknowledging the step change required across the freight transport sector.

Further, by assessing other investments and actions included in the Freight Strategy in terms of their emissions reduction potential and alignment to the sectoral pathways being developed by the Climate Change Authority, the Department can ensure freight is pulling its weight towards achieving Australia's emissions reductions targets.

### Recommendation 2: Adopt an integrated approach to decarbonisation within the Freight Strategy, drawing on a range of decarbonisation measures, including but not limited to zero emissions trucks and vehicles

An integrated approach to freight decarbonisation calls for policies across all modes of transport and types of interventions to support the overall goal of freight transport decarbonisation. Integration will mean that, beyond zero-emissions vehicles, a suite of solutions such as freight on rail, lower emission alternative fuels and operational efficiency are also assessed and considered.

While freight has frequently been characterised as 'hard-to-abate', there are many solutions available to decarbonise freight now and others requiring critical forward planning. Our forthcoming report sets out a range of interventions to reduce freight emissions, drawing on the *Avoid, Shift, Improve* framework commonly used to frame transport decarbonisation plans and strategies (SLOCAT n.d.). *Avoid*, or as Climateworks refers to them, *Reduce* strategies focus on reducing unnecessary travel by optimising operations. *Shift* strategies involve moving freight by modes that are less

emissions-intensive. Finally, *Improve* strategies encompass improving vehicle and fuel energy efficiency and reducing the carbon intensity of fuel (Climateworks Centre 2023 [Forthcoming]).

An integrated approach will also take into account the highly fragmented road transport sub-sector, with its high proportion of small businesses and owner-operators.

Well-planned, integrated freight decarbonisation plans and policies can enable freight-based solutions that reduce emissions while also delivering on economic outcomes, such as improved productivity and efficiency, and cost savings for businesses. Freight decarbonisation can also deliver numerous co-benefits, including improvements in fuel security, cleaner air and its associated health impacts, improved liveability and safety for communities, and reduced congestion in urban areas (International Transport Forum 2023).

### Recommendation 3: Focus the Freight Strategy on reducing emissions from road freight, the source of most of Australia's freight emissions

Road freight makes up approximately 83% of Australia's freight emissions and is therefore a vital area of focus for emissions reduction efforts set out in the Freight Strategy.

Total freight activity in 2021–22 was 795 billion tonne kilometres (tkm), and is expected to increase by 26 per cent on 2020 levels by 2050 (Bureau of Infrastructure and Transport Research Economics [BITRE] 2022a). Given the sector's heavy dependence on fossil fuels, this growth in freight activity will lead to a commensurate increase in emissions.

Road freight has dominance in the transportation of non-bulk, consumer goods. Future growth in the shipping of these goods means that the share of road freight activity is projected to rise from 29 per cent of total freight activity in 2020 to 41 per cent by 2050 (BITRE 2022a, 2022b). If there is no fundamental change to the way road freight is managed, this will cause a significant increase in emissions, which may pose a challenge to achieving Australia's legislated climate targets.

While road freight is the source of most freight emissions in Australia, reducing these emissions should look beyond zero emissions trucks. There is further potential for rail in decarbonising the freight sector, given its low emissions intensity. In 2021–22, rail had a 17 per cent share of transportation in non-bulk goods, having dropped from its high of 22 per cent share in 2007-08 (BITRE 2022b). Rail has a relatively low share of port-related freight transport, indicating potential for further mode shift (Australasian Railway Association 2022).

It is important to note that, although the Freight Strategy and other transport decarbonisation plans will need to focus attention on reducing emissions associated with road freight, policies must be carefully considered to avoid unintended impacts on other transport modes. For example, incentives that prioritise zero emissions trucks could lead to shifts of freight away from rail, undermining mode share here and associated sustainability benefits. In addition, efforts to decarbonise other modes of freight transport, such as rail or domestic marine shipping, can be undertaken in parallel to actions taken to decrease emissions from domestic road freight.

## Priorities for the next five-year National Action Plan

### Recommendation 4: Update the National Action Plan to include an additional critical action area to support the decarbonisation objectives of the Freight Strategy

The four critical action areas outlined in the current iteration of the National Action Plan within the Freight Strategy remain key focus areas to be maintained in the next iteration of the Freight Strategy. Climateworks recommends that a fifth critical action area should be added to the National Action Plan, relating to decarbonisation of the sector in line with the Paris Agreement goals. This will ensure that specific relevant actions can be incorporated within the National Action Plan and delivered on through implementation of the Freight Strategy.

## Recommendation 5: Within the National Action Plan, implement existing solutions to decarbonise short-haul freight, and integrate rail and other solutions to reduce emissions from long-haul freight

We suggest that a suite of integrated solutions be embedded as actions in the National Action Plan, as part of a new critical action area relating to decarbonisation. The *Reduce, Shift, Improve* framework discussed earlier has been used to structure the solutions detailed in this recommendation, to ensure the full range of solutions is addressed. These recommendations will be further discussed in our forthcoming report.

**Solutions to decarbonise short-haul freight are available.** Short-haul freight involves shorter travel distances, often in urban areas, and thus has higher potential to access existing decarbonisation solutions such as electric vans, smaller electric trucks and e-cargo bikes. The following readily available solutions provide an opportunity to kickstart freight emissions reduction:

1. **Unlock supply of zero emission trucks by revising design limitations on heavy vehicles, and formulating regulations that boost availability.** Australia's limits on width and steer-axle mass pose a critical challenge in implementing zero emissions technologies for medium-duty trucks with a gross vehicular mass above 4.5 tonnes. Zero emissions vehicles currently available in this class are wider and have a heavier steel-axle mass than is currently allowed. Existing regulations will need to be revised to unlock the supply of these vehicles into the Australian market. This policy intervention was identified as the highest priority of freight sector participants in a series of Climateworks workshops on freight decarbonisation (Climateworks Centre 2023 [Forthcoming]).
2. **Build demand for zero emissions vehicles by making these competitive assets for business investment.** This could include restricting access to benefits or levying charges based on emissions, providing purchase incentives or preferential taxes, and developing relevant standards and guidelines.
3. **Build an environment that supports market innovations and optimisation.** This could include developing standards to support market innovations in last-mile deliveries and 'Green Freight' optimisation, supporting training and skills development in new jobs and ancillary industries, and supporting the deployment of recharging and refuelling infrastructure for low emissions vehicles.

**Long-haul freight similarly has clear solutions.** While there remains some technology uncertainty in long haul freight, the suite of solutions to plan for are known. Supporting industry through a period of technological transition will also be critical.

We recommend embedding the following as actions in the National Action Plan:

4. **Explore potential for greater mode share for rail in priority areas.** Making rail a competitive mode choice for long-haul freight could include prioritising policies that improve efficiencies and reduce costs of rail, linking mode-shift subsidies to clear decarbonisation targets, and investing in intermodal infrastructure to facilitate cost-efficient and optimised mode choices.
5. **Reduce technological uncertainty by providing guidance, supporting vehicle trials and demonstrating integrated use-cases.** According to participants in our freight sector workshops, uncertainty in long haul vehicle technologies is delaying investment decisions and locking in existing, high-emissions assets (Climateworks Centre 2023 [Forthcoming]). Greater focus on technology testing and information sharing can help to reduce uncertainty.
6. **Assess the potential of advanced biofuels.** We recommend assessing the potential of and formulating a role for advanced biofuels as a solution in the transition to zero emissions vehicles, coupled with effective implementation measures.

## Monitoring the performance of the Freight Strategy

### Recommendation 6: Increase the scope of emissions data collected to enable better emissions tracking and reporting

To be able to effectively evaluate the Freight Strategy, and support broad freight sector emissions monitoring and reporting, a broader range of data needs to be collected and made readily available.

Companies that want to practise 'green freight' initiatives are often challenged by the lack of data and information on measures that work, and in estimating the impact of the measures. To improve load factors, optimise routes, and to plan for and monitor decarbonisation more broadly, freight operators will need reliable data. They also need to be able to share their data, knowledge and assets (e.g. vehicles and warehouses) with other industry players.

Data will be of critical importance in decarbonising freight. By providing independent data, guidelines, standards and accreditations that can help the freight industry, government can act as an enabler for broader transport sector decarbonisation efforts. For instance, this could include standardised information on fuel use, emissions and energy efficiency across the value chain. This information should be as disaggregated as possible, including separating emissions for each freight vehicle class.

## Reviews and papers to consider

It is encouraging that the review will consider findings from related work, including the National Reconstruction Fund's priority investment area of transport.

Climateworks is publishing an in-depth report on freight decarbonisation in October 2023, from which we have drawn our recommendations (Climateworks Centre 2023 [Forthcoming]). Climateworks is also conducting freight modelling throughout 2023, to be published in 2024 as part of our broader *Net Zero Transport Pathways* report.

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 and to brief you on both our forthcoming freight decarbonisation report and transport decarbonisation modelling.

Yours sincerely,

Helen Rowe
**Program Impact Manager (Transport)**
**Climateworks Centre**
[redacted]

Josh Solomonsz
**Engagement Coordinator (Cities)**
**Climateworks Centre**
[redacted]

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