Investing in cheaper, cleaner energy and the net zero transformation

Friday,6th June 2025

Introduction

The Australian Logistics Council (ALC) is the peak national body representing forty-five of Australia's leading end-to-end supply chain and logistics businesses, spanning all freight transport modes. ALC members include major transport and logistics operators, ports and terminals, infrastructure owners, technology providers and industry partners committed to supporting the decarbonisation of freight while ensuring the efficient, safe, and reliable movement of goods nationwide.

ALC advocates for policy settings that strengthen the productivity, resilience, and sustainability of Australia's supply chains. The transition to a net zero economy presents significant challenges and strategic opportunities for the logistics sector. Achieving this transition will require coordinated action between industry and all levels of government to support investment, accelerate infrastructure and regulatory transformation, and enable the long-term competitiveness of the freight task.

1. Investing in cheaper, cleaner energy and the net zero transformation

1.1 Why is investing in cheaper, cleaner energy and the net zero transformation important from a supply chain perspective?

Australia's supply chains underpin national productivity, facilitate export competitiveness, and ensure communities have access to essential goods. These operations rely on secure, affordable, and scalable energy sources. However, the freight sector remains one of the most carbon-intensive parts of the economy, with transport emissions accounting for approximately 22 per cent of Australia's national total — and freight transport a significant and growing contributor[1].

Over 90 per cent of Australia's transport fuels are currently imported[2] [3], exposing the freight sector to volatile international fuel markets and broader geopolitical risks. In a fragmented post-pandemic energy landscape, this reliance creates national vulnerability. Accelerating investment in domestic energy solutions — including electrification, hydrogen, and low-carbon fuels — is essential to strengthening energy sovereignty and future-proofing critical supply chains.

The shift to low-emissions technology is already underway in light and medium-duty road transport, supported by private capital and state-based incentives. However, long-haul heavy vehicles, rail freight and other energy-intensive freight assets require coordinated national investment in zero-emissions refuelling corridors, energy infrastructure in logistics precincts and upgraded grid capacity. The absence of clear investment signals and regulatory certainty is delaying fleet renewal and infrastructure planning.

Ports and maritime freight infrastructure face distinct transition challenges. Shore-side operations are rapidly electrifying, requiring improved access to renewable energy. Global shipping is also shifting to alternative fuels such as ammonia, methanol, and biofuels. Australian ports must anticipate future fuel bunkering requirements, shore power capabilities and integration with local renewable systems. Effective national coordination and forward planning are essential to support decarbonised trade corridors and maintain international competitiveness.

A further concern is emissions from vessels while moored. Ships often use auxiliary engines to power onboard systems, releasing greenhouse gases, air pollutants and noise. These emissions are largely unaddressed in Australia's climate frameworks. Leading jurisdictions, such as the European Union, now require vessels to use shore-side electricity under

[1] https://www.dcceew.gov.au/energy/transport

[2] https://www.infrastructure.gov.au/sites/default/files/documents/ditrdca-annual-report-2022-23.pdf

[3] https://www.theguardian.com/australia-news/2022/apr/21/over-90-of-australias-fuel-imported-leaving-country-vulnerable-to-shortages-report-says

the Alternative Fuels Infrastructure Regulation (AFIR)[4] (EU Regulation 2023/1804[5]). This harmonised approach improves air quality and encourages shipping decarbonisation. Australia should consider similar measures.

Investing in clean energy infrastructure across the freight system offers multiple benefits. It reduces reliance on imported fuels and exposure to global price shocks, aligns with Australia's emissions reduction targets (43 per cent by 2030 and net zero by 2050), and responds to increasing expectations from customers and investors for sustainability.

A coordinated and nationally consistent approach to clean energy infrastructure investment is critical to decarbonising the freight sector while supporting productivity, economic growth, and regional development.

1.2 What are the pillars of productivity (supply chain perspective)?

From a supply chain perspective, productivity is driven by six core pillars — each of which must be considered in the context of Australia's decarbonisation goals:

- **Infrastructure Efficiency and Integration:** Freight productivity depends on dependable, fit-for-purpose infrastructure across all modes — road, rail, sea, and air. Investment in clean energy infrastructure must be coordinated with upgrades to ports, intermodals, road, and rail networks to reduce transit times, enable modal shift, and maximise network throughput. A systems approach to infrastructure delivery is essential.
- **Industrial Land Use, Planning and Urban Freight Access:** Protecting industrial and logistics precincts from urban encroachment is critical to maintaining freight efficiency. Strategic land use planning must preserve access to key corridors, support 24/7 operations, and integrate freight into metropolitan planning schemes. Without appropriate zoning and access protections, freight operations face increasing delays and displacement pressures.
- **Technology Enablement and Data Integration:** Digital technologies — including automation, emissions monitoring, and energy management systems — are key enablers of productivity and decarbonisation. Public and private investment in interoperable, data-driven platforms will allow logistics operators to optimise asset utilisation, energy consumption, and environmental performance.
- **Workforce Capability and Availability:** A skilled, mobile, and adaptable workforce is fundamental to the deployment and operation of new clean energy systems, including electric heavy vehicles, hydrogen refuelling infrastructure, and energy storage technologies. Industry-led training, supported by governments through skills recognition and transition funding, will be essential to avoid workforce shortages and project delays.
- **Regulatory Consistency and Reform:** Current regulatory fragmentation across jurisdictions imposes unnecessary compliance burdens on freight operators. National harmonisation of emissions reporting, energy infrastructure regulation, and planning approvals would improve business certainty, lower compliance costs, and accelerate investment in low-emissions assets.
- **Decarbonisation and Energy Resilience**: Environmental sustainability is integral to long-term productivity. Integrating clean energy generation, emissions transparency, and circular economy principles into supply chain operations will enhance competitiveness, support export market access, and build resilience to global economic and climate shocks.

2.Summary of Recommendations

2.1. Clean Energy Infrastructure Investment

- Develop a coordinated national approach to clean energy infrastructure.
- Invest in zero-emissions refuelling corridors, logistics precinct energy infrastructure, and grid upgrades.
- Ensure Australian ports are future-ready with fuel bunkering, shore power, and renewable integration.

2.2. Policy Alignment and Cost-Effective Decarbonisation

- Implement a nationally harmonised emissions pricing framework.
- Clarify Scope 3 emissions methodologies with a national reporting standard.
- Prioritise low-cost, high-impact abatement measures.
- Integrate energy and freight infrastructure planning.

2.3. Addressing Policy Gaps

- Develop a Heavy Vehicle Decarbonisation Strategy.
- Address alternative fuel infrastructure gaps.

[4] Alternative Fuels Infrastructure - European Commission

[5] Regulation - 2023/1804 - EN - EUR-Lex

- Integrate freight needs into energy planning.
- Launch a national intermodal investment strategy.
- Create a freight fuel security strategy.
- Standardise supply chain emissions reporting.
- Establish a National Freight Decarbonisation Infrastructure Framework.

2.4. Streamlining and Harmonising Regulations

- Create a single national emissions reporting framework.
- Consolidate clean energy funding programs.
- Align planning approvals through intergovernmental agreements.
- Fast-track freight-relevant projects.

2.5. Planning and Approvals Reform

- Introduce concurrent environmental and planning assessments.
- Establish zoning overlays for clean energy infrastructure.
- Define national performance benchmarks for approvals.
- Create a national fast-track pathway for logistics-related clean energy.
- Classify freight energy projects as strategic/essential infrastructure.

2.6. Freight Infrastructure Adaptation and Resilience

- Include freight infrastructure in a national adaptation investment framework.
- Extend climate resilience standards to freight corridors and hubs.
- Prioritise resilient freight routes and logistics workforce housing.

3. Reduce the cost of meeting carbon targets

3.1 What could be done to improve the cost-effectiveness and alignment of policies to reduce emissions across the industrial, electricity and transport sectors?

For Australia's freight and logistics sector, cost-effective emissions reduction depends on policy coherence across jurisdictions, modes, and regulatory instruments. Freight operators — particularly those with large, diversified fleets and logistics facilities across multiple states — are subject to overlapping and sometimes inconsistent emissions, reporting, and incentive frameworks. These policy misalignments impose unnecessary administrative costs and discourage timely investment in lower-emissions technologies.

To improve alignment and cost-effectiveness:

- **Implement a nationally harmonised emissions pricing framework**: Freight operators need predictability and flexibility to invest in viable decarbonisation technologies suited to different operations. A refined application of the Safeguard Mechanism should reflect sector realities, such as long asset lifespans and limited availability of zero-emissions alternatives.
- **Clarify Scope 3 emissions methodologies and avoid duplication.** Many large freight customers and logistics providers are required to report on upstream and downstream Scope 3 emissions, including those associated with outsourced transport or warehousing. Without a consistent national methodology, these disclosures risk double-counting, raise compliance costs, and offer little additional insight for emissions management. ALC recommends a nationally consistent Scope 3 reporting standard for freight activities, supported by practical guidance tailored to transport and logistics.
- **Prioritise low-cost, high-impact abatement measures.** Government funding and policy settings should direct support to measures that deliver significant emissions reductions under a cost of $100 per tonne of CO_2 e abated. These include electrified last mile freight fleets, solar and battery integration in logistics hubs, and modal shift from road to rail — particularly where underutilised intermodal infrastructure exists.
- **Align vehicle and fuel taxation with decarbonisation objectives.** Freight operators face inconsistent treatment of fuel tax credits, fringe benefits tax (FBT) exemptions for zero-emissions vehicles, and road user charges across jurisdictions. A harmonised national approach would reduce investment risk and accelerate fleet transition. Reforming these levers to support total cost of ownership parity for zero-emissions heavy vehicles is a key enabler of transition.
- **Coordinate freight and energy planning.** Clean refuelling and recharging infrastructure must be integrated into freight corridor upgrades and logistics precinct planning to maximise efficiency and reduce capital duplication.

3.2 Are there gaps in the emissions-reduction policies in the industrial, electricity and transport sectors which should be addressed?

Yes. Several critical gaps in current policy settings create structural barriers to emissions reduction for the freight and logistics sector:

- **Heavy Vehicle Decarbonisation Strategy:** Unlike the light vehicle sector, there is no comprehensive national strategy to guide the transition of heavy road freight to zero emissions. This includes the absence of a national plan for hydrogen freight infrastructure, vehicle standards aligned with international best practice, or targets for zero-emissions heavy vehicle adoption.
- **Alternative Fuel Infrastructure Gaps:** Freight operators cannot invest in zero-emissions vehicles without reliable access to refuelling and recharging infrastructure. Current support for electric charging and hydrogen refuelling is limited in freight-intensive areas, particularly on long-haul routes and regional intermodal hubs.
- **Lack of integration between freight and energy planning:** Energy infrastructure upgrades — including grid capacity, renewable generation, and storage — often exclude industrial and freight precincts from eligibility or prioritisation. This leaves high-energy-use logistics assets, such as temperature-controlled warehouses and intermodal terminals, unable to decarbonise efficiently.
- **Limited incentives for modal shift to rail:** While shifting freight from road to rail can offer significant emissions benefits, policy and infrastructure barriers persist. Examples include V/Line access restrictions in Victoria, legacy pricing models, and outdated rolling stock. ALC recommends a national intermodal investment strategy that integrates emissions outcomes with rail access changes.
- **Lack of national freight fuel security strategy:** With more than 90 per cent of transport fuels imported, there is insufficient alignment between freight decarbonisation and energy security objectives. Expanding domestic renewable fuel production and reducing dependency on global diesel supply chains would improve resilience.
- **Inconsistent supply chain emissions reporting:** Without standardised emissions reporting across freight value chains, operators lack visibility over their full emissions profile, and government lacks the data needed to target high-impact interventions.

ALC recommends the development of a National Freight Decarbonisation Infrastructure Framework. This framework should align federal and state investment in clean energy infrastructure, refuelling corridors, logistics precinct upgrades, and supply chain emissions transparency.

3.3 Are there any duplicative emissions-reduction policies in the industrial, electricity and transport sectors which could be streamlined?

Yes. Key areas of duplication include:

- **Overlapping emissions reporting obligations.** Accessing consistent, high-quality emissions data across the supply chain remains a significant challenge for the freight and logistics sector. Large freight companies are already subject to multiple overlapping reporting obligations, including the National Greenhouse and Energy Reporting (NGER) scheme, corporate ESG disclosures, the Safeguard Mechanism, and various state-level sustainability reporting frameworks—each with differing thresholds, methodologies, and verification requirements. The phased introduction of mandatory climate-related financial disclosures from 1 January 2025 will further extend Scope 3 reporting obligations to a growing number of businesses, making alignment and standardisation increasingly important. Key challenges include the lack of consistent methodologies for Scope 3 emissions, difficulties in setting reporting boundaries within an interconnected supply chain, and the risk of double-counting due to overlapping activities. Timely access to upstream and downstream data is often impeded by differing reporting periods and varying organisational capacities. The sector would benefit from a consolidated national emissions reporting platform for transport and freight operators, aligned with international standards, to improve transparency and reduce administrative burden. Clear protocols are also needed to distinguish actual emissions reductions from improvements in data quality and to establish reciprocal data-sharing arrangements, recognising that organisations both contribute to and rely on the Scope 3 data of others.
- **Fragmented clean energy funding programs.** Freight businesses seeking to invest in renewable energy, ZEVs or clean technology must navigate separate federal and state grant programs (e.g. ARENA, CEFC, state transport decarbonisation funds), each with unique criteria, timelines, and reporting conditions. This delays uptake and imposes high resource costs on smaller operators.
- **Planning approval overlap for clean freight infrastructure.** Dual federal and state environmental and planning approvals — especially for freight-adjacent energy projects — lead to lengthy delays and inconsistent decisions. Freight operators seeking to install EV charging stations, hydrogen refuelling, or on-site solar generation often face unnecessary duplication under EPBC, local planning instruments, and energy licensing regimes.

To address these issues, ALC recommends the following actions:

- Establish a single, streamlined national reporting framework for emissions from the transport and logistics sector.
- Consolidate government support for freight-relevant clean energy infrastructure under a joint federal–state energy transition program, with standardised application and reporting requirements.
- se intergovernmental agreements to align environmental and planning approvals for strategic freight-energy infrastructure, drawing on recommendations from the 2020 EPBC Review[6]

4. Speed up approvals for new energy infrastructure

4.1 How can planning and approvals processes be sped up without unduly compromising regulatory standards?

The timely delivery of clean energy infrastructure is essential for decarbonising Australia's freight and logistics sector. Grid upgrades, renewable energy generation, and zero-emissions refuelling infrastructure underpin the sector's ability to transition heavy vehicles and logistics precincts to low-emissions operations. However, delays in planning and environmental approvals are a major impediment.

In Victoria, planning permit applications for energy generation facilities took an average of 376 days in FY2023, with a current-year average of 334 days. As of April 2024, one wind farm proposal lodged in 2018 remained undecided after 2,045 days — indicative of broader systemic inefficiencies[7]. ALC Members report that clean energy projects commonly face four- to five-year approval timeframes due to complex, sequential and overlapping regulatory processes.

Such delays increase capital costs, prolong reliance on diesel, deter investment in low-emissions vehicles, and hinder site upgrades — compounding operational and emissions-related compliance risks for freight businesses.

ALC supports reforming planning and environmental approvals to enable faster clean energy deployment, while maintaining robust environmental, cultural heritage and community safeguards. Key opportunities include:

- Concurrent environmental and planning assessments: Integrated assessment pathways — consistent with recommendations from the Samuel Review of the *EPBC Act (2020)* [8]— would streamline project delivery and reduce duplication, particularly for freight-relevant infrastructure such as solar arrays and hydrogen facilities.
- Zoning overlays for industrial clean energy assets: Pre-approved zones within logistics precincts for solar installations, battery storage, EV depots and hydrogen refuelling would provide investment certainty and reduce administrative burden.
- Statutory performance benchmarks for approvals: Nationally consistent benchmarks — such as a 12-month maximum for battery storage and solar systems in industrial zones — would create accountability and accelerate delivery.
- National fast-track pathway for freight-focused energy projects: Projects located within or directly servicing designated freight corridors and logistics precincts should benefit from an expedited pathway, including streamlined grid connection processes for microgrids and embedded networks.

4.2 Are there gaps in the emissions-reduction policies in the industrial, electricity and transport sectors which should be addressed?

Yes. From a freight infrastructure perspective, key gaps include:

- Lack of freight corridor prioritisation in transmission investment planning. Long-haul electric truck corridors will require predictable access to high-capacity charging infrastructure.
- No designated status for freight-relevant energy projects within planning legislation. Unlike housing or data centres, logistics facilities are rarely identified as priority infrastructure despite their energy intensity.
- Inconsistent treatment of microgrids and distributed energy resources in industrial areas. Delays in grid connection and unclear regulatory rules for embedded networks delay deployment.

[6] https://www.dcceew.gov.au/environment/epbc/our-role/reviews/epbc-review-2020

[7] https://www.ceig.org.au/wp-content/uploads/2024/04/HSF-_-CEIG-Report-Delivering-major-clean-energy-projects-in-QLD-and-VIC.pdf

[8] https://www.dcceew.gov.au/sites/default/files/documents/epbc-act-review-interim-report-june-2020.pdf

Recommendation:

- Establish a national fast-track pathway for clean energy infrastructure located within or directly servicing designated logistics precincts.

4.3 Should clean energy projects be treated differently to other projects for the purpose of environmental and other approvals? If so, how?

Yes. The net zero transition is time sensitive. Freight-focused clean energy projects should be treated as strategic infrastructure within state and federal planning frameworks, given their role in enabling Australia's decarbonisation targets. These include:

- Hydrogen refuelling stations for long-haul transport.
- High-capacity EV charging depots.
- Rooftop solar and battery storage at intermodal terminals

Strategic classification would enable:

- Statutory periods for approvals
- Priority status under state planning schemes

Models such as New South Wales's Renewable Energy Planning Framework[9]and the Federal National Renewable Energy Priority List[10] offer a basis for extending targeted treatment to freight-related energy infrastructure.

4.4 Please outline any evidence showing the productivity benefits of faster approvals for energy projects.

Delays in approvals significantly impact energy infrastructure costs and downstream productivity. The Clean Energy Investor Group (CEIG) estimates that each year of delay in clean energy project delivery increases financing and construction costs by up to fifteen per cent[11].

For freight operators, the impact of delayed access to clean energy includes:

- Higher operational costs due to prolonged reliance on diesel.
- Deferred investment in fleet transition due to infrastructure uncertainty.
- Compounding emissions and ESG compliance costs.

A planning and regulatory framework that enables faster delivery of clean energy infrastructure will improve energy affordability, reduce business uncertainty, and support broader productivity gains across the supply chain.

5.Encourage adaptation by addressing barriers to private investment

5.1 What are the barriers and enablers impacting decisions by owner-occupiers, landlords and developers about how housing is built and updated over time so that it is resilient to the effects of climate change?

ALC acknowledges that while it does not directly represent residential housing interests, adaptation barriers and enablers for industrial property and logistics assets share many of the same principles.

Barriers include:

- **High upfront costs** for retrofitting existing warehouses, intermodal hubs, and cold storage facilities.
- **Inadequate climate risk data** at the parcel or precinct level, particularly for flooding and heat stress.
- **Uncertainty about insurance coverage and cost of premiums** in disaster-prone locations.

[9] Renewable Energy Planning Framework | Planning

[10] National Renewable Energy Priority List - DCCEEW

[11] https://www.ceig.org.au/wp-content/uploads/2024/04/HSF-_-CEIG-Report-Delivering-major-clean-energy-projects-in-QLD-and-VIC.pdf

Enablers include:

- **Clear, trusted risk information** for property owners.
- **Demonstrated return on investment (ROI)** from resilience upgrades (e.g. roofing insulation, fireproof cladding).
- **Public-private co-investment schemes** that offset the capital burden.

5.2 What role might minimum standards play in ensuring the resilience of Australia's housing stock?

Minimum resilience standards for housing make an important contribution to the stability of Australia's freight supply chains. By reducing the extent of disaster-related damage in residential areas, these standards help maintain access to key freight routes and limit disruptions caused by road closures or detours. They also reduce pressure on construction material supply chains during recovery by minimising the volume of rebuilding required, preserving logistics capacity for broader recovery needs. Resilient housing protects the homes and communities of the logistics workforce, supporting continuity of operations during and after disruptive events. Consistent national standards provide greater planning certainty and enable coordinated investment in resilient infrastructure. Together, these outcomes strengthen the reliability, efficiency, and disaster-readiness of the freight network.

5.3 The impacts of climate change are being factored into the regulation of where and how houses are built in diverse ways around Australia. What does leading practice look like? Where is there room for improvement? Are there lessons we can learn from other countries?

- **The Netherlands** integrates climate adaptation into zoning and housing policy via national investment tools[12][13].
- **New Zealand** uses managed retreat frameworks that include financial instruments for relocation[14][15].
- **Victoria's Planning Policy Framework** has begun to incorporate climate overlays but lacks freight-specific provisions[16].
- **Japan**: Enforcing stringent building codes to withstand seismic activity[17][18].

Recommendations:

- Create a national adaptation investment framework that includes logistics and industrial infrastructure.
- Expand the scope of adaptation planning beyond residential to include key freight corridors and hubs.

Conclusion

The logistics sector is integral to Australia's economy and plays a pivotal role in the nation's transition to a net zero future. By investing in cleaner energy, streamlining regulatory processes, and fostering resilient infrastructure, Australia can enhance the productivity and sustainability of its supply chains. The ALC remains committed to collaborating with government and industry stakeholders to achieve these objectives.

[12] https://klimaatadaptatienederland.nl/en/policy-programmes

[13] https://english.deltaprogramma.nl/three-topics/spatial-adaptation/delta-plan

[14] https://environment.govt.nz/assets/publications/Sapere-Assessment-of-mechanisms-of-managed-retreat-August-2022.pdf

[15] https://www.rnz.co.nz/news/in-depth/516237/managed-retreat-how-do-we-get-out-of-the-way-of-climate-change

[16] https://austlogistics.com.au/wp-content/uploads/2025/04/Submission-250402-Victorian-Climate-Change-Strate.pdf

[17] https://www.architecturaldigest.com/story/japan-overhauled-architecture-earthquakes

[18] https://e-housing.jp/post/japans-earthquake-resistant-buildings-overview-history