

Creating a more dynamic and resilient economy

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INTRODUCTION

The Australian Logistics Council (ALC) welcomes the opportunity to provide a submission to the Productivity Commission's Inquiry into Regulatory Reform. As the national peak body representing major companies participating in the end-to-end freight and logistics supply chain, ALC supports the Commission's focus on regulatory transformation to create a more dynamic and resilient economy.

Efficient, secure, and sustainable supply chains underpin national productivity, economic competitiveness, and community wellbeing. As Australia seeks to build economic resilience in the face of global disruptions, climate-related risks, and increasing technological complexity, the regulatory environment must be fit-for-purpose, enabling supply chain adaptability, innovation, and long-term growth.

This submission outlines the key characteristics of a resilient and dynamic supply chain network and offers targeted recommendations aligned with the objectives of the Commission's inquiry. It draws on previous ALC submissions and positions, including our work on supply chain resilience, decarbonisation, the 24-hour economy, and workforce development.

1. THE ROLE OF SUPPLY CHAINS IN A DYNAMIC AND RESILIENT ECONOMY

A strong economy depends on both dynamism and resilience. Dynamic economies foster innovation, investment, and workforce mobility, while resilient economies maintain core functions and recover quickly from disruption. Supply chains underpin both, enabling the movement of goods through freight networks, intermodal terminals, ports, and warehousing facilities. These systems allow industry to respond to shifting demand and maintain continuity during crises.

Resilient supply chains reduce business interruption risks, contain input costs, and strengthen Australia's global competitiveness. However, regulatory fragmentation, infrastructure gaps, fuel insecurity, and labour shortages undermine adaptability and impose significant operational costs.

2. INSTITUTIONAL BARRIERS TO SUPPLY CHAIN DYNAMISM

Australia's freight sector is limited by fragmented regulation, inconsistent planning frameworks, and weak national coordination. These institutional shortcomings inhibit long-term infrastructure investment and reduce the sector's ability to adapt to emerging challenges.

Key barriers include:

- Inconsistent regulation across jurisdictions for heavy vehicle access, driver licencing, and planning approvals.
- Delays and duplication in freight infrastructure planning and approval processes.
- Regulatory lag in supporting zero-emission and automated freight technologies.
- Uncoordinated and unpredictable regulatory responses to supply chain disruptions, including inconsistent curfews and lockdown rules.

To enable a more dynamic and resilient freight system, regulatory frameworks must shift from reactive compliance to proactive, risk-based governance that fosters innovation and cross-jurisdictional alignment.

3. FOUNDATIONS OF A RESILIENT SUPPLY CHAIN NETWORK

3.1 Fuel Security and Energy Transition

Supply chains depend on the secure and continuous availability of fuel. Australia imports more than 90 per cent of its liquid fuel, and domestic stockpiles remain well below the International Energy Agency's (IEA) 90-day benchmark. Australia holds just 54 IEA days of fuel¹, with actual usable stockpiles potentially as low as 32 days under current consumption patterns. The domestic refining sector has contracted significantly over the past two decades, with only two

operational refineries remaining. These structural vulnerabilities expose the freight sector—and by extension, the national economy—to severe risks in the event of geopolitical shocks, global supply chain disruptions or maritime blockades.

The COVID-19 pandemic and more recent international tensions, including disruptions in the Red Sea, the Ukraine-Russian war and instability in global energy markets, have underscored the fragility of Australia's energy security framework. ALC supports coordinated national action to strengthen fuel resilience across all freight modes. This includes investment in onshore refining and storage infrastructure, improved governance of strategic reserves, and clearly defined emergency response protocols. Fuel security must be embedded within national resilience planning frameworks to ensure continuity of supply for freight operations during crises.

However, long-term resilience also depends on reducing the freight sector's exposure to international fuel markets through the accelerated adoption of alternative and low-carbon fuels. ALC supports a dual-track approach that sustains reliable access to liquid fuels in the short to medium term, while enabling a transition to diverse energy sources that enhance economic and environmental performance. Investment in scalable, commercially viable alternatives is critical to ensuring a robust and adaptable transport energy mix.

Alternative fuels such as hydrogen and electricity, and low-carbon liquid fuels such as renewable diesel and synthetic fuels, are essential components of this transition. Hydrogen offers significant potential for decarbonising high-duty and long-haul transport tasks. The Australian Government has recognised this opportunity through national hydrogen strategies². In parallel, renewable diesel and biofuels offer near-term emission reduction benefits for existing diesel-powered fleets and infrastructure, without the need for major capital retooling. The Department of Infrastructure has identified low-carbon liquid fuels as a key transitional pathway to support decarbonisation while maintaining operational reliability³. However, government recognition must now translate into practical, system-wide action. Strengthening fuel security and enabling the adoption of alternative fuels requires a coordinated suite of measures. These include mandating minimum fuel reserve levels in line with international benchmarks, accelerating the rollout of electric and hydrogen refuelling infrastructure in strategic freight corridors and industrial precincts, and establishing clear regulatory frameworks for fuel quality, emissions standards, and operational safety. Further, the Government should implement targeted incentives to scale the domestic production and distribution of renewable diesel and biofuels and invest in port and terminal upgrades to support the import, storage and blending of low-carbon fuels.

The success of these efforts depends on the timely delivery of enabling infrastructure. ALC continues to advocate for national coordination in deploying charging and refuelling networks across key freight nodes, including regional and intermodal locations, to maximise network connectivity and minimise market risk for early adopters. Public–private partnerships and market development mechanisms will be essential to underpin long-term commercial viability and ensure freight operators can access alternative fuels at competitive prices and at scale.

Fuel security is not merely an energy issue—it is central to national resilience. Disruptions to freight fuel supply can have immediate and widespread impacts on communities, supply chains and critical services. A secure, diverse, and low-emissions transport energy system is essential to safeguarding the productivity and sovereignty of Australia's economy. By investing in both conventional fuel stability and the infrastructure required for alternative and low-carbon fuels, governments can enhance supply chain resilience and ensure the freight sector is equipped to support economic stability and long-term growth.

3.2 Decarbonisation of the Freight Sector

Decarbonising the freight sector is both a resilience measure and an economic imperative. The freight and logistics sector underpins the entire economy, facilitating the movement of goods across vast distances, connecting producers, manufacturers, retailers, and consumers. Transport emissions constitute a considerable proportion of Australia's greenhouse gas emissions⁴, making the transition to a low-carbon freight system imperative to meet national climate targets, enhance energy security and sustain international competitiveness.

ALC advocates for a comprehensive, mode-neutral National Zero-Emission Freight Strategy⁵ that recognises the diversity of freight modes—including road, rail, maritime and intermodal—and the unique challenges and opportunities each presents. Central to this strategy is the need for consistent regulatory alignment across jurisdictions. Current fragmentation in vehicle emissions standards, fuel quality requirements, and certification processes for emerging technologies create barriers to investment and fleet transition. National harmonisation of these regulatory frameworks is essential to reduce compliance burdens, provide market certainty, and accelerate adoption of zero- and low-emission

² https://www.dcceew.gov.au/sites/default/files/documents/national-hydrogen-strategy-2024.pdf

³ https://www.infrastructure.gov.au/sites/default/files/documents/lclf2024-tourism-and-transport-forum-ttf.pdf

⁴ <u>https://www.climatechangeauthority.gov.au/reviews/light-vehicle-emissions-standards-australia/opportunities-reduce-light-vehicle-emissions</u>

⁵ https://austlogistics.com.au/wp-content/uploads/2025/04/Submission-250402-Victorian-Climate-Change-Strate.pdf

vehicles and fuels. Harmonised access arrangements and dimension concessions will facilitate seamless cross-border operations for zero-emission heavy vehicles.

Investment in supporting infrastructure is indispensable for a successful transition. The development and deployment of high-capacity electric vehicle charging stations designed specifically for freight applications must be prioritised along key freight routes, rest areas, ports, and logistics hubs. Complementing this, the establishment of hydrogen refuelling infrastructure across critical corridors will enable the practical adoption of hydrogen-powered long-haul vehicles. Additionally, the production and distribution capacity for renewable diesel and other low-carbon liquid fuels represent vital transitional solutions for existing diesel fleets while zero-emission technologies mature. These infrastructure investments require careful coordination at the national level and must be regionally tailored to reflect the operational realities and freight patterns in various parts of the country. Upgrading the electrical grid to accommodate increased demand from freight electrification and integrating renewable energy sources will further underpin the sector's decarbonisation efforts.

Acknowledging that many freight tasks, especially those involving heavy or long-haul transport, will continue to rely on liquid fuels in the medium term, the strategy must actively promote the integration of certified low-carbon and renewable fuels. These include renewable diesel, biodiesel, bio-LNG, and emerging sustainable marine fuels. Supporting domestic production of these fuels and enabling their uptake through incentives and inclusion in emissions accounting frameworks will foster a cost-effective and practical transition pathway for freight operators.

Maritime freight decarbonisation is a vital and often overlooked component of the sector's emissions reduction efforts. Maritime transport is integral to Australia's domestic supply chains and international trade, and reducing its emissions is critical for national and port-area air quality as well as climate goals. The development of a national maritime emissions reduction roadmap aligned with International Maritime Organization targets is required. Investment in shore power infrastructure at major ports will significantly reduce emissions from berthed vessels and idle ships, a substantial source of local pollution. Incentivising the adoption of low- and zero-emission maritime fuels such as LNG, methanol, ammonia, and hybrid propulsion technologies is also necessary. Port emissions monitoring and management frameworks will ensure transparency and accountability, facilitating continuous improvement.

In addition to technological and fuel transitions, modal shift represents a powerful lever to reduce freight emissions and enhance supply chain resilience. Moving freight from higher-emission road transport to rail and coastal shipping can yield significant environmental benefits, including lower greenhouse gas emissions per tonne-kilometre, reduced congestion, and wear on road infrastructure, and improved urban air quality. However, modal shift faces structural barriers, including insufficient rail infrastructure capacity, fragmented pricing, and access regimes, limited coastal shipping competitiveness, and disjointed land-use and transport planning. Addressing these issues requires increased investment in rail networks and intermodal terminals, changes to rail access arrangements to improve transparency and costeffectiveness, and regulatory and financial support to enhance coastal shipping's viability. Moreover, integrated planning of freight corridors that connect road, rail and maritime assets is essential to enable seamless modal transitions. Workforce development initiatives must also focus on building skills relevant to intermodal logistics and maritime freight operations to support this modal evolution. Modal shift not only reduces carbon emissions but also increases network redundancy and decreases reliance on road freight, thereby improving resilience against fuel price volatility and supply chain disruptions.

Planning reorganisation is another crucial enabler of decarbonisation. Modern, coordinated planning systems must prioritise industrial land near ports, intermodal hubs, and freight corridors to accommodate the infrastructure and operational requirements of a decarbonised freight sector. Streamlining approval processes for energy infrastructure such as charging depots and hydrogen production facilities will facilitate timely deployment. Land-use policies should also support 24-hour, low-emission freight activities in both urban and regional areas to maximise operational efficiency and reduce emissions. Proactive and aligned planning will reduce bottlenecks, improve productivity, and support sustainable economic growth.

Long-term regulatory certainty is paramount. The capital-intensive nature of investments in zero-emission vehicles, alternative fuels, and infrastructure necessitates stable and predictable policy frameworks. Businesses require confidence that regulations will remain consistent across jurisdictions and election cycles to justify the significant expenditure involved in fleet transitions and infrastructure development. Alignment of national, state and territory policies with Australia's net-zero targets will support innovation, competitiveness, and supply chain resilience.

3.3 Environmentally Resilient Infrastructure

Australia's freight infrastructure is increasingly exposed to the impacts of climate change, with critical road and rail corridors vulnerable to extreme weather events such as floods, bushfires, and storms. The recent flooding in Queensland, which temporarily severed key rail links, highlights the vulnerability of national supply chains to climate-related

disruptions. These events regularly result in significant freight delays and increased costs, underscoring the economic consequences of inadequate investment in resilient infrastructure and ongoing asset maintenance.

Investment in the maintenance and enhancement of freight-critical infrastructure must be prioritised. This applies not only to major transport corridors but also to the enabling nodes that facilitate modal transfer and intermodal connectivity. Embedding resilience in asset lifecycle management—including the systematic assessment of climate risks during planning and investment decision-making—is essential to safeguarding long-term network functionality.

Resilience must also be supported through modal alternatives. A diversified freight network—capable of shifting between road, rail, coastal shipping, and air where appropriate—ensures greater continuity when specific corridors are compromised. Realising this requires integrated infrastructure planning and better alignment of investments across jurisdictions and modes. Coordinated planning at the freight precinct level further strengthens the network's capacity to absorb and recover from climate-related shocks, thereby enhancing national economic resilience and protecting supply chain performance.

3.4 Interconnection and Reuse of Freight Assets

The geographical scale of Australia's freight task underscores the need to optimise existing infrastructure assets to support supply chain efficiency and resilience. Better utilisation of freight infrastructure can reduce unnecessary duplication, lower costs, and improve overall network capacity.

Encouraging shared use and flexible redeployment of transport assets across modes and sectors increases the efficiency of the national freight system. Focused investment in high-volume corridors, last-mile connections, and regional freight hubs facilitates consolidation and improves the flow of goods to market. This approach enhances the capacity and responsiveness of supply chains to evolving economic demands.

To inform effective asset management and investment decisions, there is clear value in a comprehensive national assessment of freight infrastructure conditions and utilisation rates. Such an assessment would highlight opportunities to optimise existing capacity through reuse or reallocation, helping to prioritise maintenance and capital works expenditure. Regulatory settings that support greater asset sharing and interoperability across networks will reinforce this optimisation and contribute to more resilient freight supply chains.

3.5 Enabling a 24-Hour Freight Economy

Modern freight supply chains require flexible access to infrastructure and services beyond conventional business hours. A regulatory environment that enables 24-hour freight operations—without mandating night-time activity—supports productivity by allowing freight operators to optimise delivery schedules based on commercial demand, operational efficiency, and safety considerations.

Removing unnecessary constraints such as restrictive curfews, inconsistent planning controls, and fragmented noise regulations allows supply chains to better utilise infrastructure capacity, reduce peak-hour congestion, and respond to demand variability. Crucially, this is not about shifting freight to night-time periods, but about providing the flexibility for businesses to determine the most appropriate and efficient operating hours.

Governments should prioritise nationally consistent planning and noise management frameworks, integrated into land use and industrial precinct planning. Local incentives—such as voluntary quiet delivery schemes, toll discounts, and flexible planning approvals—can encourage uptake where community amenity is preserved. State-led reforms, supported by federal coordination, will provide the regulatory certainty needed to support a productive, resilient, and adaptable freight sector within a 24-hour economy.

3.6 Digital Visibility, Data Safety and Cybersecurity

Real-time digital visibility is a cornerstone of agile and resilient supply chains. The ability to monitor freight movements and asset utilisation supports informed decision-making, rapid response to disruptions, and overall operational efficiency. However, uneven adoption of digital technologies and a lack of common data-sharing protocols continue to hinder these benefits.

Establishing interoperable standards for data exchange among supply chain participants enhances coordination and efficiency. Encouraging the digitisation of freight documentation and compliance processes reduces administrative burdens and increases transparency across the supply chain.

Given the critical role of logistics infrastructure in national economic security, addressing cybersecurity vulnerabilities is imperative. Implementing baseline protections across logistics-critical systems safeguards supply chains from cyber threats that could disrupt operations.

Expanding support for national digital freight platforms, such as the National Freight Data Hub, will improve visibility, facilitate collaboration, and underpin more responsive supply chain management. These digital enablers contribute directly to economic resilience by allowing the freight sector to adapt swiftly to changing conditions.

3.7 Circular Economy and Resource Efficiency

Integrating circular economy principles into freight and logistics operations is essential to strengthening national resilience. By designing out waste, extending the useful life of materials and assets, and supporting domestic remanufacturing, circular practices reduce reliance on vulnerable global supply chains and enable more adaptive, resource-efficient operations.

Despite this, Australia's regulatory environment remains largely configured for a linear model of production and consumption. Current planning, environmental, and procurement frameworks do not adequately incentivise or accommodate circular activities within freight networks. This limits investment in infrastructure such as repair, reuse, and materials recovery facilities within or near freight precincts and intermodal terminals—where they are most cost-effective and beneficial.

Targeted regulatory reforms can unlock circular value and improve freight system resilience by:

- Amending planning and zoning frameworks to enable the co-location of remanufacturing, reuse, and repair activities in freight precincts, reducing transport costs and supporting regional economic development.
- Reforming waste and environmental regulations to facilitate the commercial reuse of packaging, pallets, and transport assets, and remove barriers that classify recoverable materials as waste.
- Embedding circularity in public procurement through use of recycled materials, design-for-repair standards, and lifecycle performance criteria in freight infrastructure contracts.
- Supporting product stewardship schemes that promote asset durability and end-of-life recovery in high-value freight equipment, with tax or depreciation incentives for participating businesses.

Aligning regulatory settings with circular economy goals will generate long-term benefits, including reduced input costs, lower emissions, and enhanced sovereign capability in freight services and manufacturing. This also improves Australia's preparedness for disruptions related to natural disasters, geopolitical shifts, and resource scarcity.

RECOMMENDATIONS FOR REGULATORY REFORM

To support the productivity objectives of this inquiry, ALC recommends:

- 1. **Establish a National Supply Chain Resilience Framework**, with regulatory oversight and planning mechanisms that align freight infrastructure, technology, workforce, and energy policy.
- 2. **Harmonise regulatory settings** across jurisdictions, particularly in areas of vehicle access, planning approvals, decarbonisation standards, and digital compliance.
- 3. Adopt risk-based, forward-looking regulation that anticipates disruption scenarios, enabling initiative-taking investment in resilience and innovation.
- 4. Accelerate infrastructure funding and approval processes through strategic freight corridor declarations and resilience criteria.
- 5. **Establish national data standards** and support digital freight visibility platforms to enable informed risk governance and real-time response.
- 6. **Enhance national fuel security policy** to safeguard transport resilience, including diversification into sustainable fuels.
- 7. Integrate circular economy principles into freight regulation and procurement.
- 8. **Enable a 24-hour freight economy** by amending curfews, operational restrictions, and planning rules to support round-the-clock freight movement.
- 9. Accelerate the decarbonisation of freight through consistent regulation, infrastructure investment, and technology incentives.

CONCLUSION

Supply chains are the foundation of a dynamic and resilient economy. Australia's regulatory system must evolve to enable the logistics sector to respond to disruption, adopt modern technologies, and grow sustainably. ALC urges the Commission to centre supply chain resilience in its recommendations and to embed enabling regulation as a core pillar of national productivity.

We welcome the opportunity to provide further evidence and contribute to the next phase of this inquiry.