POWERING AUSTRALIA

Cyan Ventures

Deloitte.

HORIZON 2035

A path to low-emissions transport

Executive summary

As global transport decarbonises, new opportunities are emerging for Australia not only to adopt cleaner vehicles and fuels, but to manufacture the equipment and infrastructure that supports them.

Australia's transport sector underpins its economic prosperity. It represents 21% of emissions with strong growth forecast over the next 15 years, posing urgent decarbonisation challenges; particularly in rail, maritime, aviation, and heavy-road freight where batteries or direct electrification are less suitable.

Growing clean transport manufacturing offers substantial potential for new value and jobs, positioning Australia as a reliable exporter of low-carbon liquid fuels and specialised heavy vehicles essential to domestic and regional supply chains.

Australia's clean transport manufacturing opportunity depends on pairing industrial capability with access to low-cost renewable energy, sustainable feedstocks and secure demand. Expanding local production of low-carbon liquid fuels and heavy-duty battery electric vehicles will only be competitive if paired with these advantages.

Low-carbon liquid fuels and heavy-duty battery electric vehicles stand out as the leading anchor opportunities, complemented by niche component and service industries, providing the clearest path to long-term growth as transport decarbonises.

Acknowledgements

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Opportunity landscape

Australia's clean transport manufacturing sector is an emerging opportunity, built on strong natural and renewable resource advantages, and unique transport needs.

Anchor projects could add around A$1 billion in gross value added by 2035, supporting more than 86,000 construction, operational and ongoing roles.

Australia is well positioned to capture a significant portion of this emerging market by leveraging its abundant natural resources, access to critical feedstocks, and high renewable energy potential to establish competitive clean transport manufacturing industries.

Transport is the connecting fibre of the nation, and there are meaningful opportunities for First Nations leadership and engagement, producing and processing feedstocks, innovating transport technologies, and maintaining equipment.

These emerging clean transport industries stand to enhance Australia's economic resilience by diversifying export offerings toward high-value, rapidly expanding sectors, while positioning the transport sector as a vital contributor to the nation's transition to a clean energy future.

Pathway to achieving competitiveness

Australia has a narrow but strategic window to establish globally competitive clean transport manufacturing industries. To realise these opportunities, we must leverage our cost advantages, from abundant renewable energy to critical feedstocks, and focus national attention on growing sovereign capabilities in clean-technology manufacturing.

To compete on the global stage, we need to focus on four key foundations:

1. Unique endowments
2. Demand
3. Industrial ecosystem
4. Strategy

Focusing on these pillars will grow Australia's capabilities from early leadership into sustainable industrial scale, boosting jobs and competitiveness. Achieving global relevance requires prioritising scale-up of proven innovations and supporting late-stage technology development. Establishing focused industrial innovation precincts that unite manufacturing, research, and infrastructure will attract investment, unify supply chains, and foster sustainable growth.

Australia has the potential, and now is the time to secure our place in transport manufacturing's next era.

1. Unique endowments

- Achieve a competitiveness advantage by leveraging land, resource and industrial endowments to compete with lower input costs

2. Demand

- Exploit logistics advantages for locally made fuel projects
- Tailor vehicle manufacturing to unique Australian haulage needs
- Develop local product specialisations for military and industrial applications

3. Industrial ecosystem

- Australia has an established innovative transport manufacturing ecosystem. Repurposing this ecosystem to innovate in clean-technology with an innovation precinct is essential

4. Strategy

- Build new industrial clusters for liquid fuels
- Expand Australia's emerging national public sector rail and bus collaborations
- Build new innovation capacity for clean-technology

“Clean transport and low carbon fuel manufacturing could add around **A$1 billion** in economic value by 2035, creating more than **80,000** jobs.

Transport is projected to become Australia's largest emissions source by 2030, driven by strong growth in road-based freight networks over the next 15 years.

Sector overview

Australia imports ~80% of its liquid fuels primarily from Asia (South Korea, Malaysia, Singapore, China), exposing the nation to supply chain vulnerabilities and market volatility. Transport accounts for 21% of national emissions, 4x the global per capita average, and is projected to become Australia's largest source by 2030.[1] Hard-to-abate sectors like aviation, mining, freight, rail, and maritime will dominate 80% of fuel demand by 2050, where batteries remain less viable due to vast geography and long asset lifecycles.

Australia's remote location, sparse population, and declining domestic refining capacity heighten these risks. Australia's per capita transport emissions are double the EU average, driven by population growth and expanding freight networks. Existing manufacturing faces high labour costs, small domestic markets, and competition from low-cost imports with production overcapacity.

Yet global transport decarbonisation is creating new manufacturing opportunities. Aviation mandates, mining electrification, and long-haul transitions are driving demand for low-carbon liquid fuels and specialised vehicles. Australia's abundant renewables, biogenic feedstocks, and heavy vehicle capabilities offer a foundation to build competitive clean transport industries, guided by the Australian Treasury's National Interest Framework assessing competitiveness and resilience.

Two anchor opportunities emerge: low-carbon liquid fuels (biogenic LCLFs transitioning to eFuels) and heavy-duty battery electric vehicles. These align with both cost competitiveness and supply resilience objectives.

Notes/Sources: [1] Bioenergy Australia (2025), DCCEEW (2025), Climate Change Authority (2024).

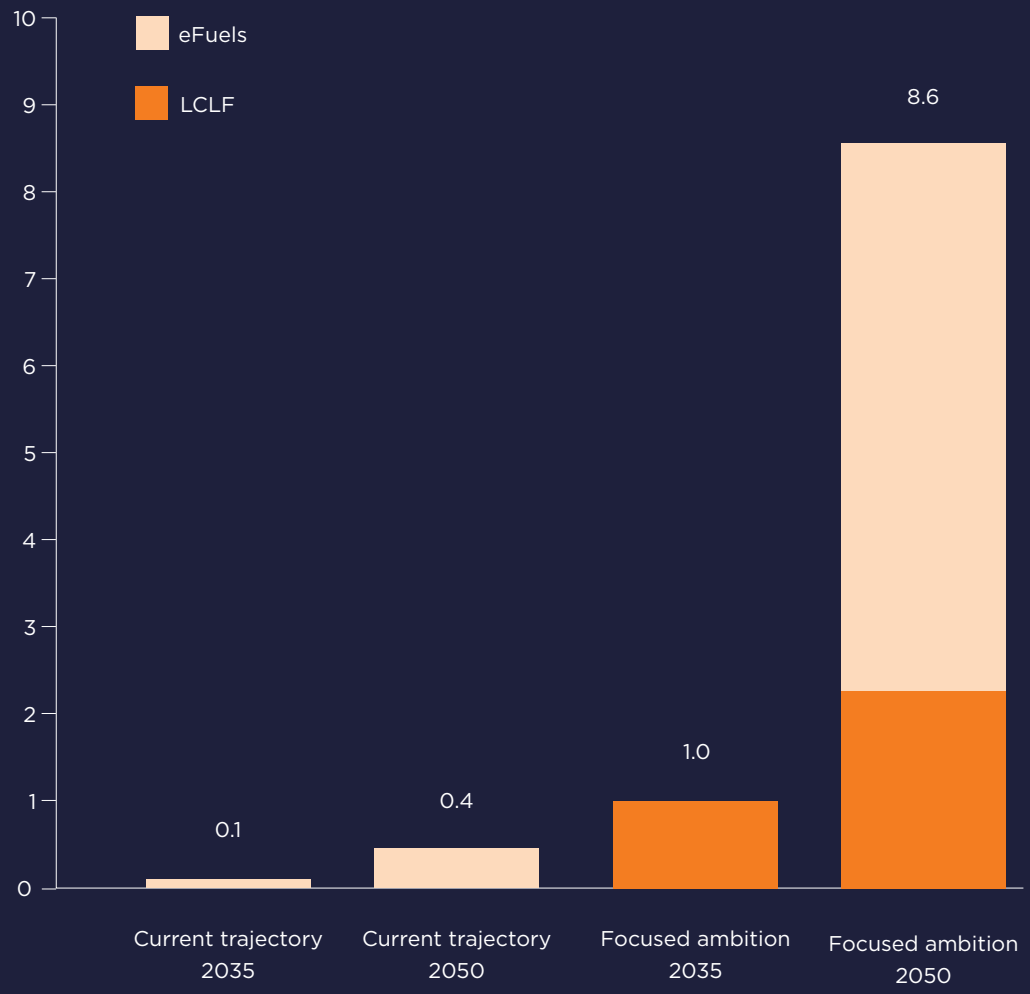
Size of the prize: economic value

The transport manufacturing sector already generates $12.1 billion annually for Australia's economy. Transitioning to green transport anchor opportunities, especially biogenic low-carbon liquid fuels (LCLFs) that shift to eFuels post-2035, offers substantial potential for new and sustained economic growth.

Under the Current Trajectory scenario, these opportunities add A$200 million in gross value added (GVA) by 2035. This rises to A$400 million by 2050 as projects mature and expand.

With strong government support and industry investment, the Focused Ambition scenario sees anchor opportunities delivering A$1.0 billion by 2035 and A$8.6 billion by 2050.

Together, this positions green transport anchor opportunities to contribute up to A$1.0 billion in 2035, growing to A$8.6 billion by 2050, an 8.6-fold increase over 15 years.[2]



GVA estimation under current trajectory and focused ambition scenarios (A$bn)

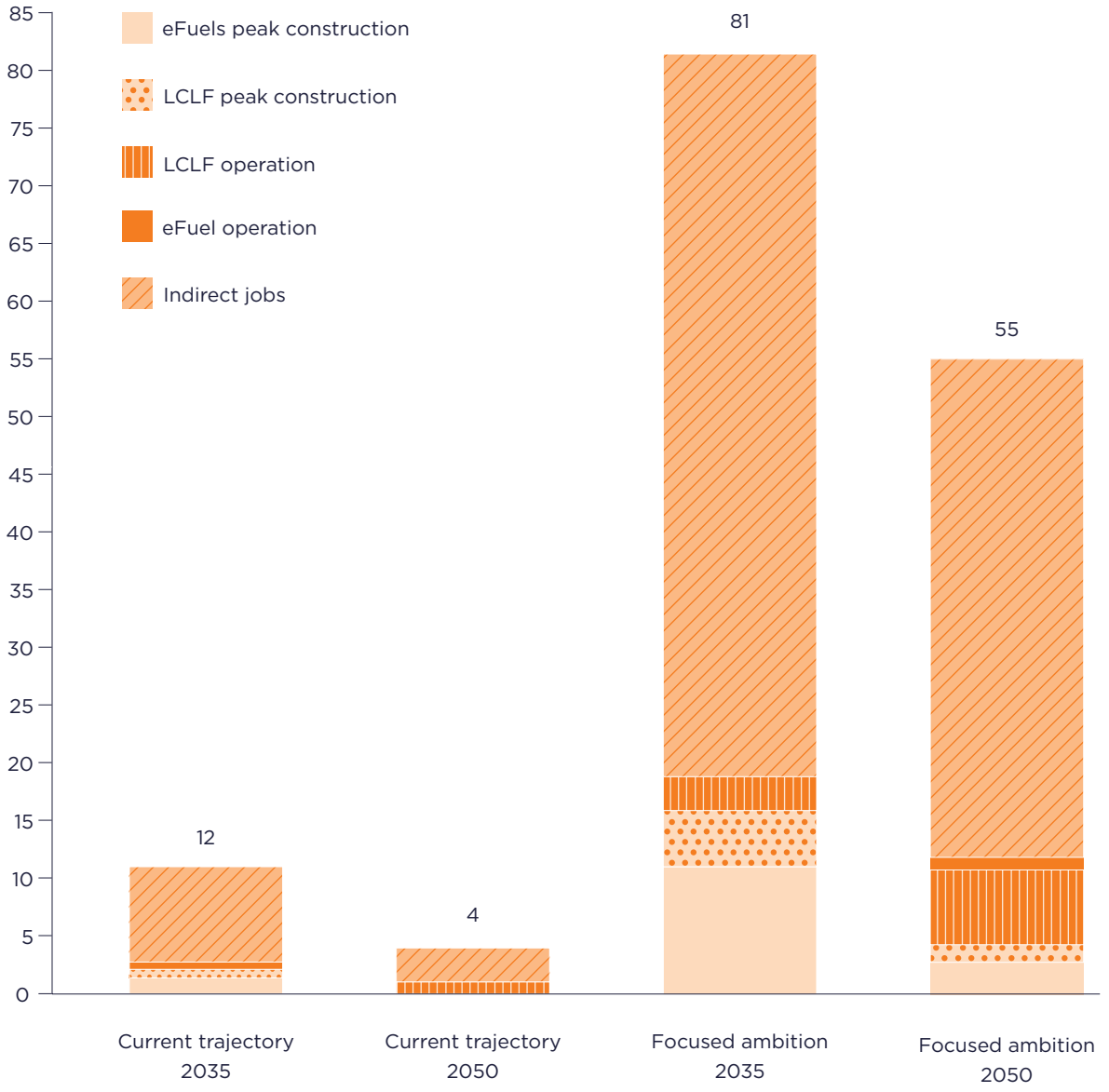
Notes/Sources: [2] Independent GVA analysis of Cyan Ventures and Deloitte.

Size of the prize: jobs

Under the Current Trajectory scenario, green transport anchor opportunities are expected to support 11,900 jobs by 2035 across construction, operations and indirect roles, reducing to 4,280 jobs by 2050 as facilities reach steady-state operation.

In a Focused Ambition scenario, these figures grow substantially by comparison, 7x to 80,540 jobs by 2035 and over 13x to 55,330 jobs by 2050 as production expands and demand grows.[3]

These projections show the sector's potential to create thousands of direct and indirect jobs across Australia, with lasting impact through indirect roles in supporting services like accommodation, hospitality and other businesses serving green transport activity.



Jobs estimation under current trajectory and focused ambition scenarios (000' Full-Time Equivalent (FTE)

Notes/Sources: [3] Independent GVA analysis of Cyan Ventures and Deloitte

Anchor opportunities

Three of our key pathways to success are identified as “anchor opportunities.” These are opportunities with strong potential for Australia’s long-term competitiveness and may also contribute to improving supply chain resilience.

Low Carbon Liquid Fuels (LCLFs)

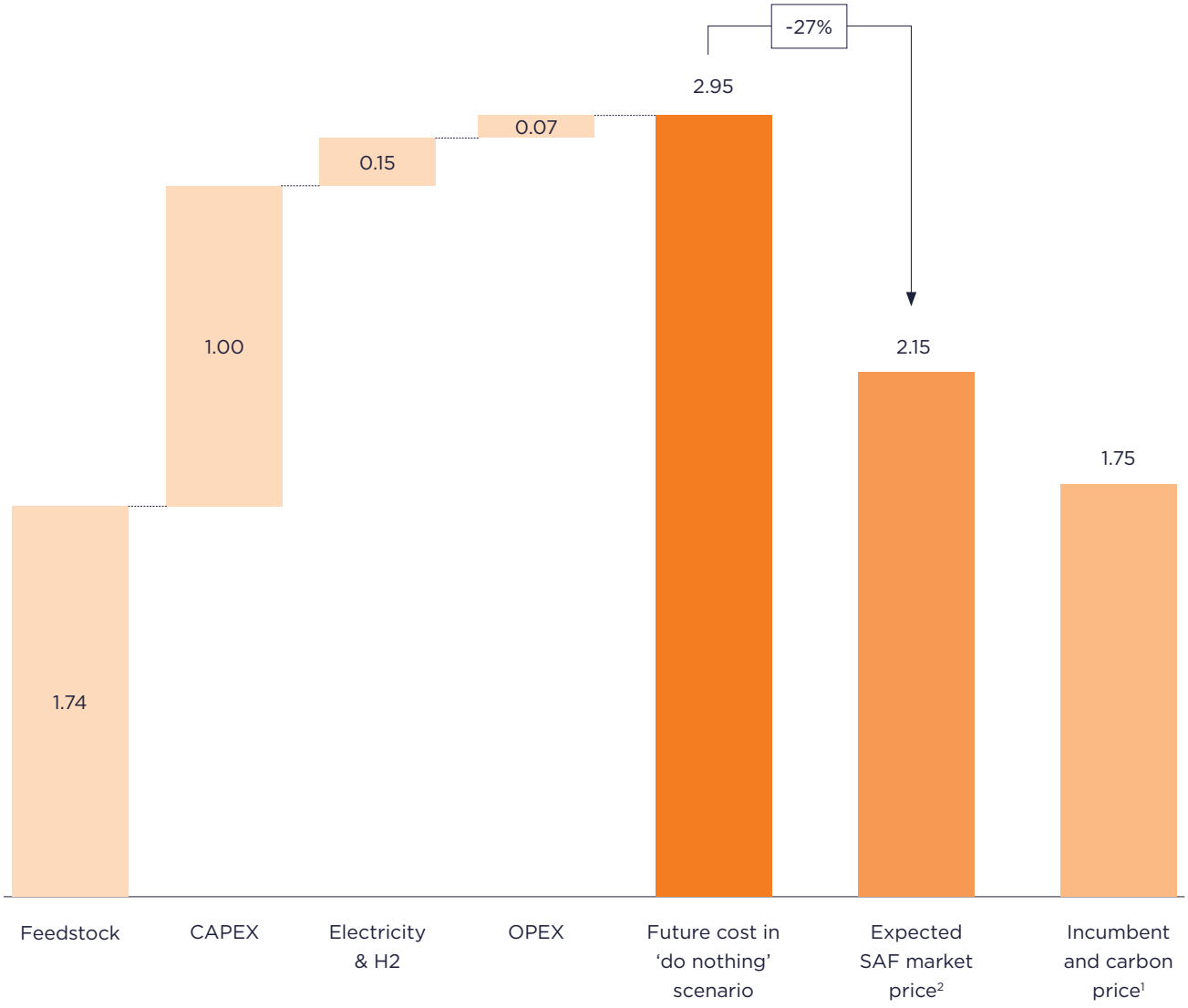
Low carbon liquid fuels (LCLFs) offer Australia a strategic opportunity to move up the value chain and reduce reliance on imported diesel and jet fuel. Produced from biomass and waste such as canola, tallow and sugarcane residues, biogenic LCLFs can deliver large lifecycle emissions reductions while using existing fuel infrastructure.

Today, Australia imports about 80 per cent of its refined liquid fuels but exports significant volumes of potential feedstocks, meaning much of the value is created offshore.[4] As global markets introduce mandates and incentives for sustainable aviation fuel and renewable diesel, demand for low carbon liquid fuels is set to expand.

Australia has credible pathways to narrow the cost gap with conventional fuels by lowering feedstock and energy costs, scaling production, sharing infrastructure and securing long term offtake. As green hydrogen and carbon capture mature, eFuels can complement biogenic LCLFs and extend decarbonisation across more transport segments.

By focusing on these levers, Australia can shift from primarily exporting feedstocks to producing low carbon liquid fuels at scale, strengthening fuel security and capturing more value from its natural and industrial advantages.

Notes/Sources: [4] Bioenergy Australia (2025).



Australia's indicative Biogenic LCLF production cost and incumbent price, 2035

Graph Notes/Sources: [1] Incumbent price is given as Jet A1 derived from Sydney Airport jet fuel service rate, inflated at 2.5% per annum, with a A$32/tonne ACCU carbon price applied at an ICAO rate of 3.16tCO2/t Jet-A. Jet fuel has been selected as the incumbent of choice as the most relevant cost gap in initial uptake although price parity is not expected. Expected market price is derived from Argus SAF U.S West Coast delivered price. [2] 2035 SAF market price is expected to range from $2.15-3.19/litre dependent on regional factors.

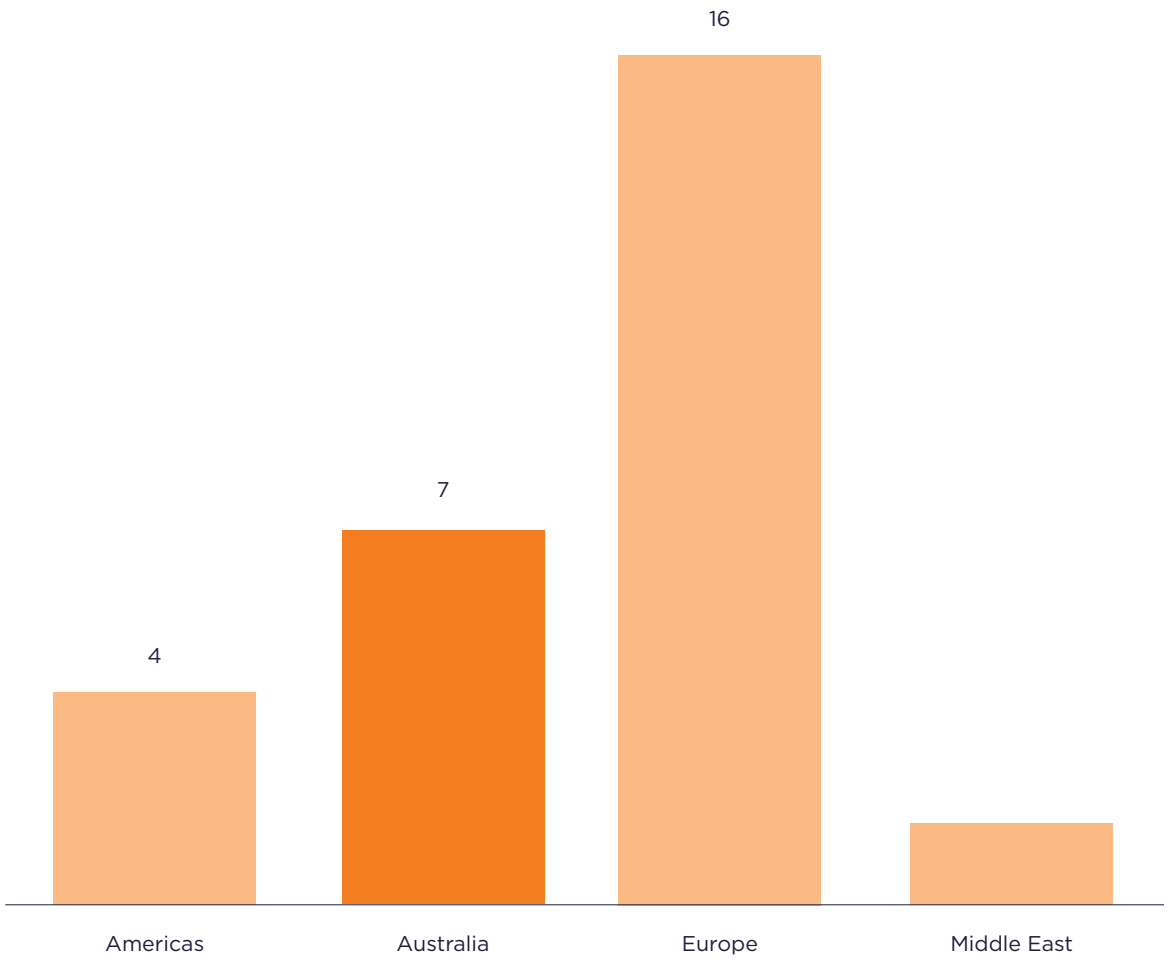
eFuels

Australia's eFuels industry is at an early but fast moving stage of development. Synthetic fuels made from renewable electricity, green hydrogen, and captured carbon are gaining attention as a credible pathway to decarbonise hard to electrify transport sectors such as aviation and shipping.

The domestic eFuels pipeline includes seven projects, one at advanced engineering stage, concentrated in Tasmania, Queensland, and South Australia. These developments leverage abundant renewable resources and emerging carbon capture capabilities to produce green methanol and synthetic fuels for domestic use and export.

Government support is accelerating progress, with the $250 million Future Made in Australia Innovation Fund and ARENA's $4 billion Hydrogen HeadStart program providing key financing and revenue incentives. Together, they lay the foundation for Australia to become a major exporter of clean transport fuels in the coming decades.

A gradual transition is expected, with biogenic low carbon fuels preceding large scale eFuels adoption as hydrogen markets and supporting infrastructure mature.



eFuels projects under development (number of projects)[1]

Graph Notes/Sources: [1] Adapted from: eFuels Production Map - eFuel Alliance (2024).

Heavy-duty BEVs and wider supply chain ecosystem

Australia's established capabilities in manufacturing and assembly of on- and off-road heavy-duty (HD) vehicles, primarily internal combustion engine (ICE) models, provide a strong foundation for transitioning to battery electric vehicles (BEVs). This positions the sector to meet surging road freight demand, projected to rise 77% from 2020 levels by 2050, alongside niche off-road requirements in mining, construction, agriculture, and defence.[5]

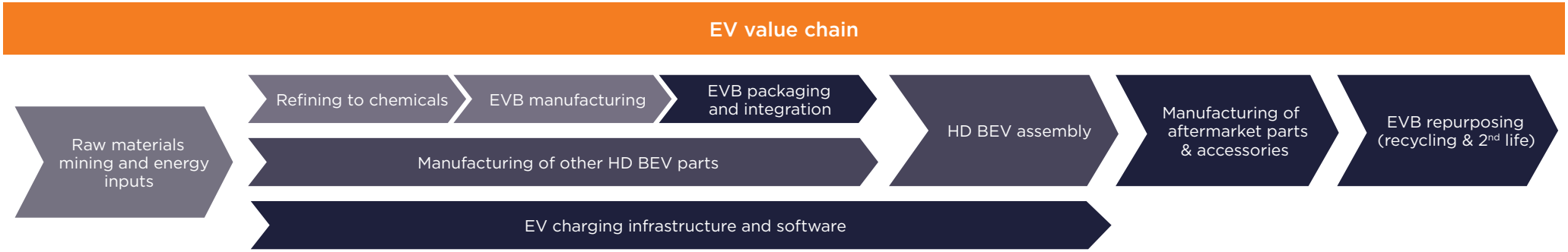
Local HD BEV production enhances supply chain resilience against import disruptions (despite 85% of trucks currently imported) and leverages Australia's unique operating conditions (heavy loads, vast distances, and extreme environments) to deliver specialised solutions that global competitors often overlook. Established players like Volvo, planning HD BEV output from 2027, and aftermarket conversion specialists offer a ready launchpad for scaling domestic capabilities.[6]

Success depends on building out the full value chain:

- **Adjacent opportunities** in battery repurposing and integration, aftermarket parts and accessories manufacturing, plus charging infrastructure and software deployment.
- **Wider ecosystem** support through shared infrastructure, skilled workforce expansion (drawing on the existing 40,000-strong truck manufacturing base), and knowledge sharing.[7]
- **Proximity benefits** that cut transport costs, spur collaboration, innovation, and efficient resource use.

Truck manufacturing already generates $2.9 billion in revenue (53.9% of domestic motor vehicle production), with 95% of vehicles needing custom secondary work tailored to Australian needs.[8]

Adjacent value-chains to pursue in support of the anchor opportunities



EVB packaging and integration: Energy Renaissance and 3ME Technology are developing locally assembled battery packs tailored for harsh Australian conditions across sectors line mining, defence and agriculture.

EVB repurposing: Innovators such as Relectrify and Infinitev are leading efforts in repurposing used EV batteries for stationary energy storage, particularly suited to off-grid and residential applications.

Manufacturing of aftermarket parts & accessories: Existing automotive workshops can expand into specialised aftermarket services for EVs.
EV charging infrastructure and software: Charging technology innovation and local manufacturing (e.g. eLumina, vehicle-to-grid charging).

Anchor opportunity | Adjacent opportunity | Critical requirement | Existing capability

Notes/Sources: [5] BITRE (2022), [6] EVMAGZ (2023), [7] Janus Electric (2025), [8] IBISWorld (2024).

First Nations opportunities

First Nations engagement and partnership is a key enabler for clean transport success. Australia's transition presents a historic opportunity to embed First Nations leadership in low-carbon liquid fuels for aviation, shipping and heavy freight, plus manufacturing of specialised heavy-duty battery electric vehicles (BEVs). This requires stable regional workforces, access to land and resources, and culturally respectful models aligned with self-determination.

First Nations businesses can enter through three main pathways tailored to transport opportunities.

- **Land and sea-linked partnerships** via ILUAs, equity stakes, and services for biogenic LCLFs, eFuels production, and feedstock supply chains from sugar and canola regions.
- **Direct entry** into manufacturing and assembly of heavy-duty BEVs for mining and freight, plus aftermarket parts and retrofits.
- **Supporting services** including project development, construction and EPC for fuel plants and charging infrastructure, fabrication of transport components, heritage assessments, land management, and operations/maintenance along freight corridors.

These pathways position First Nations businesses and communities as critical partners in delivering a sustainable, low-emission transport future.

First Nations could engage in the sector opportunities across these three areas

	1. Opportunities to land and sea	2. Broader clean-technology opportunities	3. Clean-technology supporting services
Description	*Opportunities that link closely to **land or sea access**, where First Nations communities and businesses could engage through **land-use agreements, partnerships, and/or ownership***	*Opportunities **not directly linked to land or sea**, where First Nations businesses can **lead and own or partner***	*Opportunities to provide **services and inputs**, that enable clean-technology manufacturing where First Nations businesses and **lead and own or partner***
Potential opportunities (non exhaustive)	• Biogenic Low Carbon Liquid Fuels • eFuels • High yield oilseed crop feedstocks	• Manufacturing & assembly of specialised heavy duty BEVs • Manufacturing of EV aftermarket parts and vehicle accessories	**Opportunities in the wider ecosystem project related services:** • Project development and finance • Community engagement and heritage services • Construction/EPC • Operations, including transportation management, improvement services • Decommissioning, environmental services **Equipment manufacturing related services:** • R&D in new technologies/ design and engineering • Fabrication and assembly/deployment • Materials recycling/ water management

Making it happen

Australia's pathway to global leadership in clean transport manufacturing depends on leveraging its unique strengths to deliver competitive, innovative, and scalable clean-technologies:

Secure low-cost feedstocks and renewables for LCLFs and eFuels

Build strategic international partnerships for technology and offtake

Develop domestic demand signals through incentives and mandates

Success requires cost competitiveness, advanced manufacturing leadership, and strategic positioning in high-growth markets like low-carbon liquid fuels (LCLFs) and heavy-duty battery electric vehicles (HD BEVs), plus collaboration across industry, government, and communities.

By capitalising on abundant renewable energy, biomass resources, and engineering expertise, supported by actions like the LCLF Fund ($250m), Hydrogen HeadStart, and HD BEV R&D, Australia can establish itself as a trusted, reliable supplier in global clean transport supply chains.

Focusing on these actions will lay the foundation to develop competitive, resilient, and globally significant clean transport sectors, grounded in practical collaboration and sustainable growth.

Achieving Australia's potential

Australia is ready to pioneer clean transport manufacturing.

From low-carbon fuels and heavy-duty BEV assembly to infrastructure and supply chains, robust partnerships across industry, government and communities will power progress.

True collaboration across industry, government and internationally will develop Australia's manufacturing expertise and strategic advantages into sustained economic gains.

Achievement calls for united effort now.

We invite industry leaders, policymakers, investors and First Nations organisations to connect with Powering Australia and partner to build a cleaner, stronger and more competitive transport sector.

For more information and to engage with our team, please contact Powering Australia.

Acknowledgement

Powering Australia wishes to acknowledge the First Nations of Australia and recognise their enduring connection to Country through culture, people, place and story. We honour the knowledge systems that have sustained these lands and waters for thousands of generations and recognise the vital role of First Nations leadership and self-determination in shaping a just and sustainable future. As Australia undergoes a significant clean energy and industrial transition, we acknowledge the importance of respectful partnership, cultural integrity, and shared purpose to realise the full opportunity of the Clean Energy Transition.