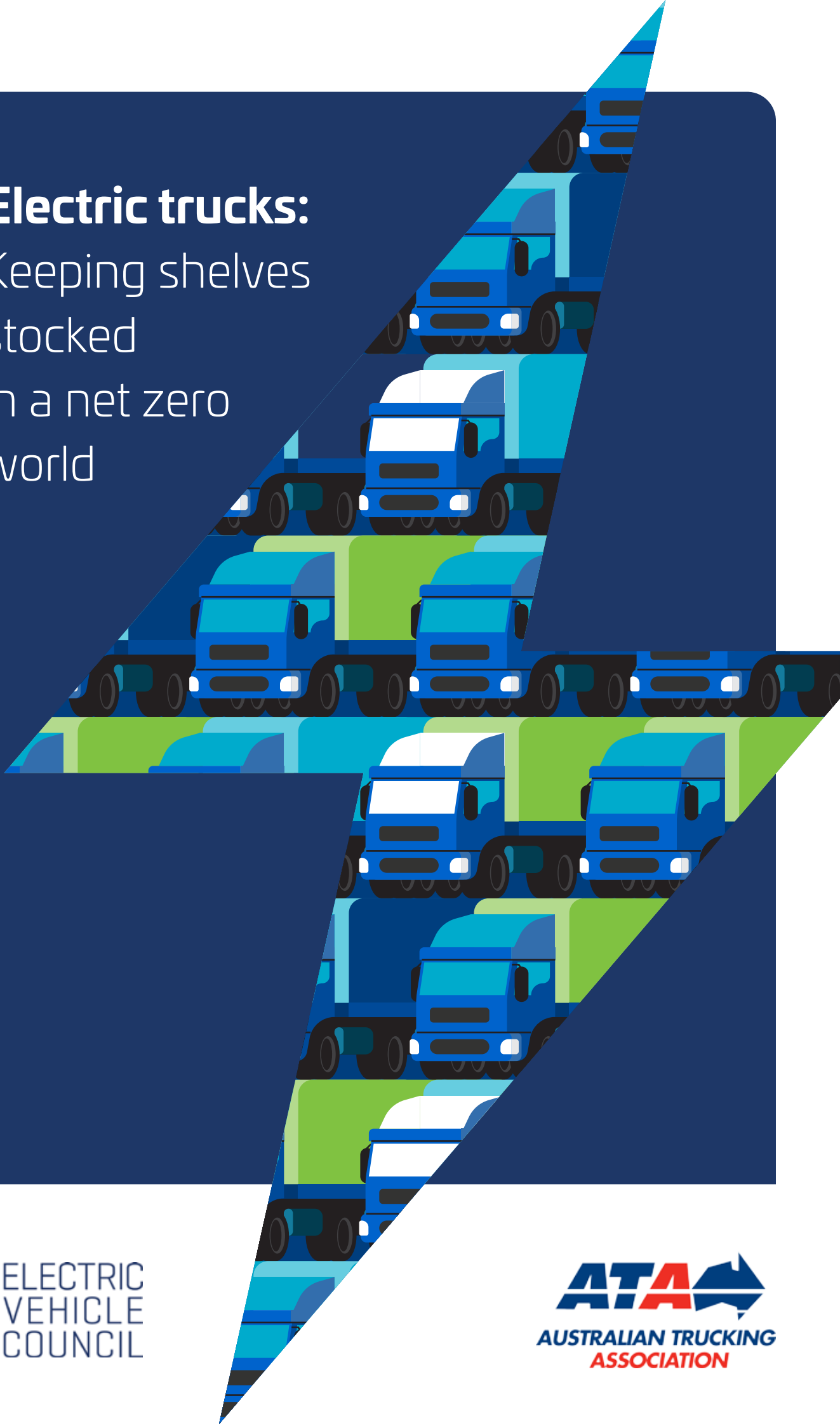
Electric trucks: Keeping shelves stocked in a net zero world



ELECTRIC VEHICLE COUNCIL

AUSTRALIAN TRUCKING ASSOCIATION

Executive Summary

The transport sector is undergoing a transformation that is changing the way we drive cars, transport goods, and receive deliveries. Targets to reduce emissions are impacting how governments interact with transport policy and businesses procure vehicles.

Over the last two years, COVID – 19 has changed the way Australians purchase goods, with eCommerce growing 57 per cent - and this shift in consumer behaviour is here to stay.[1]

Lockdowns and panic buying have highlighted the importance of the freight sector in keeping our supermarkets and pharmacies stocked. Growth in online shopping has resulted in an increased dependence on last-mile delivery. The Truck Industry Council reports that in 2021, there has been significant sales growth in vans and trucks over a 5-year average.[2]

With all governments in Australia having committed to net-zero by 2050, there is an immediate need to address emissions in the transport sector. The average lifetime of Australia's trucking fleet means that we have a limited number of years to accelerate uptake to reach our climate targets.

The importance of our freight sector demands that it is not left behind in the electrification of transport that is happening in Australia, and globally.

Electrification will also present opportunities to trucking businesses and Australia's supply chains, including ending volatile diesel costs, reducing maintenance costs, improving urban efficiency and air quality, and delivering better conditions for truck drivers.

However, there are unique policy and industry challenges for the Australian freight sector that limit its ability to electrify.

The Electric Vehicle Council (EVC) and the Australian Trucking Association (ATA) have partnered to address the need for electric freight policy.

Through this partnership, a series of workshops were held to identify challenges for the sector. With over 50 participating organisations - including truck manufacturers, fleet operators, charging infrastructure and electricity - the wealth of knowledge presented by our attendees provided invaluable insights into what is needed to help the freight sector electrify.

The uncertain policy environment, limited model availability, lack of charging infrastructure, limited consumer awareness, and restrictive Australian Design Rules were identified as key barriers to the electric freight transition.

This paper outlines policy recommendations to address these barriers.



BEHYAD JAFARI
CEO,
ELECTRIC VEHICLE COUNCIL



DAVID SMITH
CHAIR,
AUSTRALIAN TRUCKING ASSOCIATION

Key takeaways

Amend Australian Design Rules for trucks

WIDTH SIZE

LIGHT DUTY

+1 TONNE

MEDIUM DUTY

EURO VI

HEAVY DUTY

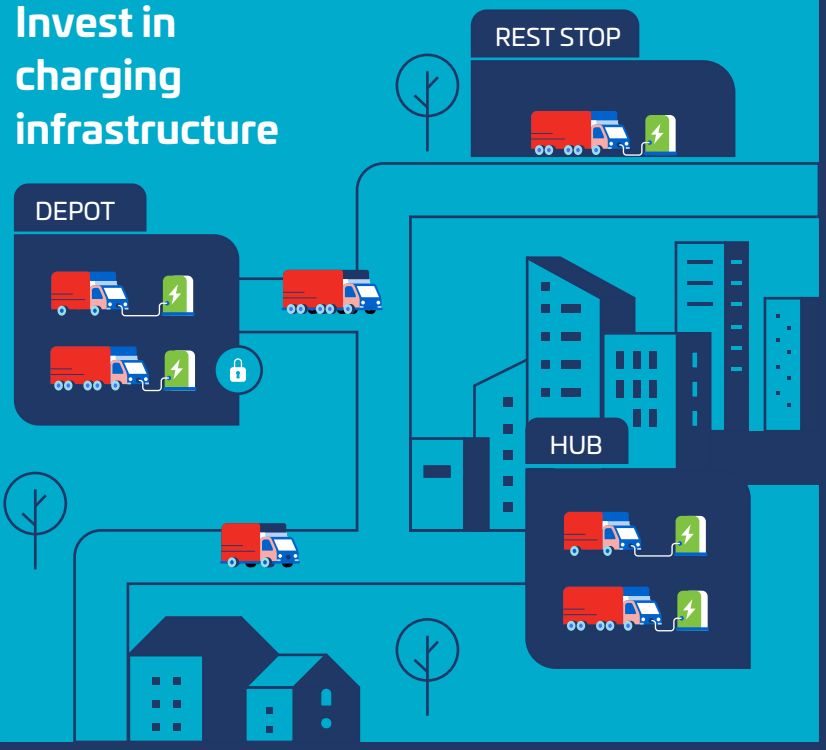
Provide Financial incentives



UPFRONT PURCHASE

STAMP DUTY

Invest in charging infrastructure



Sales goal of:

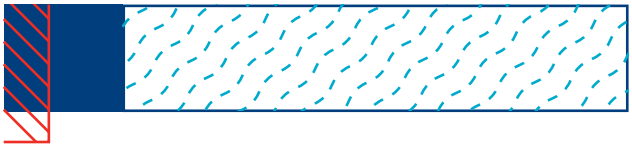
100% by 2040

30% by 2030

The case for electric trucks

EMISSIONS AND NET-ZERO

19% Transport emissions in Australia make up 19 per cent of our total emissions. [3]



38% The road freight sector contributes 38 per cent of our total transport emissions.[4]

4%

Heavy vehicles make up around only 4 per cent of the road vehicle fleet

8%

yet they perform about 8 per cent of road vehicle kilometres travelled (VKT).

23%

In total, heavy vehicles account for 23 per cent of all road transport fuel consumed in Australia.[5]

The result is a disproportionate amount of noxious emissions produced from the road freight sector.

Government projections indicate that emissions from articulated and rigid trucks will increase in the next decade, producing 22 MT CO2-e by 2030. This is a 6 MT CO2-e increase from 2005 levels.[6]

In addition to this, the average age of trucks in Australia is between 10-15 years, which is significantly older than the average age of trucks in Austria (6.4 years), France (9.3 years), Germany (9.5 years) and the Netherlands (9.6 years).

The age of the truck fleet in Australia results in higher emissions produced by the sector, as older vehicles tend to be more inefficient, consuming more fuel and contributing more damage to the environment.

There is an immediate need to accelerate the uptake of electric trucks in Australia.

As critical as linehaul, long distance and heavy haulage transport tasks are, Australia's truck fleet and freight task includes significant diversity. Road freight tasks in capital cities and urban centres currently account for between 30 to 40 per cent of total road freight [7]. Brisbane and Perth are expected to experience growth of more than 140 per cent by 2030.[8] There are electric vehicle models available today that could be deployed into existing urban fleet operations.

The adoption of electric freight vehicles will reduce noxious pollution and associated health impacts; create new jobs; encourage sustainable transport and energy choices; reduce transport costs and the cost of goods for consumers and businesses; increase fuel security, and lower Australia's carbon emissions.

All Australian governments have now committed to net-zero by 2050. This target cannot be achieved without decarbonising road freight and the broader transport sector. In order to reach our climate targets the last internal combustion engine trucks must be sold by 2040.

ECONOMIC OPPORTUNITY

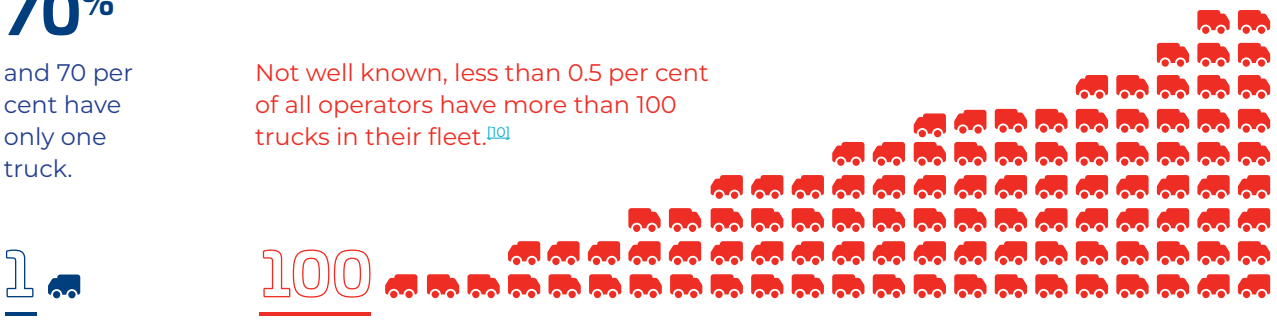
Increased costs and savings in the trucking industry have strong flow-on effects for other industries in the Australian economy, including wholesale trade, construction, retail, and agricultural industries. As such, the trucking sector is of critical economic and national importance.

98% Small and family businesses make up almost 98 per cent of all trucking operators,[9]

70% and 70 per cent have only one truck.

Not well known, less than 0.5 per cent of all operators have more than 100 trucks in their fleet.[10]

0.5%



Diesel is one of the most significant costs for a trucking business - with fuel representing around 20 per cent of short-haul operators' costs and around 35 per cent of long-haul operators' costs.[11] Trucking operators, especially smaller operators, have significant difficulty passing increases in the volatile price of diesel on to clients. [12]

By switching to an electric truck, operators will save on diesel costs, reducing the burden of the volatility of fuel prices. In addition, lower maintenance costs will provide cost savings to operators.

Additionally, electric trucks have the potential to deliver significant improvements in fleet efficiency, and through an exemption to urban truck curfews, could support increased flexibility in hours of operation. Truck curfews were introduced as a regulation to limit the operational hours of truck fleets due to the noise they create in residential areas. The lack of noise from electric trucks means they should be permitted to be used outside of curfew limits. Curfew-free operations would deliver significant financial and efficiency benefits. A reduction in peak hour traffic and congestion would provide further benefits to the community.

Furthermore, with environmental and health benefits delivered through reductions in pollution and greenhouse gas emissions it is estimated that the electrification of articulated and rigid trucks could save Australia $324.8 billion by 2050 [13].

Electrification of the truck fleet has significant potential to ensure our growing freight sector is greener, quieter, and delivers significant economic benefits.

HEALTH AND SAFETY

Electric trucks have significant potential to reduce vehicle noise and improve urban air quality in our communities. Electric trucks will also improve conditions for truck drivers, through lower noise and vibrations.

The health effects of exposure to air pollution include reduced lung function, ischemic heart disease, stroke, respiratory illnesses and cancer.[14] Living close to major roads and highways increases health risks,[15] and while Australia generally has good air quality by global standards the air quality index in the Sydney, Illawarra, Lower Hunter, Melbourne and Southeast Queensland regions has deteriorated since 2011.[16]

650

people in NSW die each year from vehicle emissions

60%

more people die from emissions than car crashes.

Source: *CLEANER AND SAFER ROADS - EVC & ASTHMA AUSTRALIA*

Electrification and new trucks more generally will also bring significant safety benefits and technology. The Government's consideration of safer freight vehicles would mandate additional safety technologies for wider freight vehicles, including devices for indirect vision, advanced emergency braking, lane departure warning systems, blind spot information systems, side underrun protection and conspicuity markings.[17]

> Delivery teams found the quieter cabin environment a fantastic change to their day. Most truck drivers are used to sitting above a hot, vibrating, noisy engine, but in the [SEA-powered electric trucks] that is all gone, and **they found communicating with customers prior to arriving at the delivery much easier to do in the new, improved cabin space.**

FINN DUNLEAVY, ANC
FEEDBACK PROVIDED BY ANC DELIVERS TO SEA ELECTRIC - 2021.



SUSTAINABILITY

Trucking operators are increasingly facing pressure to reduce emissions from their customers. Major retailers have begun announcing net zero or sustainability commitments and the ability of operators and distributors to utilise zero emission trucks in their fleets will be crucial to being in the best position to win future contracts with their customers.

Additionally, electric freight trucks are a way for companies to reach their own sustainability targets and reduce their environmental impact.

> It is the first of many electric trucks that will deliver our beer. Transitioning our deliveries to electric vehicles will help us achieve our ambitious sustainability goals of reducing our net carbon emissions across our entire supply chain by 30% by 2030 and to zero by 2050.[18]

ASAHI BEVERAGES GROUP CEO ROBERT LERVASI ON THE VOLVO VL TRUCK OPERATED BY LINFOX TO DELIVER VB.



> With the significant growth in parcel volumes, more vehicles are required in our network ... It makes good sense to add electric vehicles as part of this requirement. Not only will these eCanters fit our needs in this delivery category, but they will also contribute to our science-based target to reduce emissions by 15% by 2025 from a FY19 baseline.

JAMES DIXON, GENERAL MANAGER, NETWORKS FOR AUSTRALIA POST ON THE ECANTER WHICH WILL BE DISTRIBUTED THROUGH THE FUSO RETAIL NETWORK AND DAIMLER TRUCK AND BUS AUSTRALIA. [19]



FUEL SECURITY

Australians rely on the freight sector to deliver utilities, medical needs, mains water, and food distribution using refined fuel. However, experts suggest that distribution could come to a halt in three weeks with an offshore disruption,[20] given. This is because Australia only has around 20 days of diesel consumption in our national reserves (as at September 2021).[21]

Australia's continued dependence on imported oil will increasingly be threatened by geopolitical tensions, climate change and unprecedented global events, such as the COVID-19 pandemic.

The pandemic continues to impact Australia's fuel supply chain, causing unpredictable changes in demand for fuel and creating a potential for major disruptions to the domestic and international fuel supply chains.[22]

There are now only two oil refineries left in Australia - half of what was available in 2019, with BP closing its Kwinana Refinery in 2020 and ExxonMobil closing its Altona oil refinery in 2021. To address this, the Federal Government announced a $2 billion package to keep refineries open.

However, this does not solve the issue of Australia's increasingly volatile fuel security. Given that Australia's continued dependence on imported fuel is a matter of national security, there is an imperative to diversify fuel consumption. Electric vehicles, including trucks, provide an opportunity to do this.

In 2020, 24% of Australia's total electricity generation was from renewable energy sources, including solar (9%), wind (9%) and hydro (6%).[23] Australian-made renewable energy could be used by the transport sector to power our vehicles, providing economic benefit to the Australian community.

Similarly, utilising renewable energy to power electric trucks will provide a cost benefit to operators, who can utilise tariffs and battery storage to save on the total cost of ownership.

ELECTRICITY VS. DIESEL COSTS.

In a **22-tonne electric truck,** covering 300 km unladen would use 280 kWh of electricity.

In a **22-tonne rigid diesel truck,** covering 300km requires 70-85L of fuel.

FUEL TYPE	Electricity	Diesel
ENERGY REQUIRED FOR 300KM RANGE	280kWh	84L
COST PER KWH (OFFPEAK COMMERCIAL)	$0.05-$0.15/kWh*	
COST PER L ($ AVERAGE)		$1.33/L
COST PER 100KM	$4.67-$14.00 (93.33kWh/100km)	$38.78** (28.6L/100km)
COST FOR 300KM WORTH OF FUEL	$14-$42	$116.34

* Electricity price is based on a commercial off-peak tariff for a depot-based fleet.
** including diesel cost of $37.24 (28L/100km) and Adblue of $1.54)

While there is a need to sustain fuel supply to the existing Australian fleet, the importance of strengthening our fuel security should be at the forefront of transport policy in Australia. Electric vehicles provide the opportunity to fuel our vehicles with Australian-made renewable energy.

It's time to act now on electric trucks

Australia's truck fleet is made up of approximately 500,000 rigid trucks and 100,000 articulated trucks. Around two thirds of the freight task for rigid trucks is in urban regions, whilst around two thirds of the freight task for articulated trucks is in non-urban regions. Rigid trucks are smaller, carry less freight, and have a higher utilisation in urban areas, providing an immediate investable opportunity for electrification.

International experience has shown that light and medium duty truck applications are deployable now, and are producing total-cost-of-ownership comparisons that are at parity with internal combustion engine trucks.

> "On the demand-side, the adoption of electric freight trucks is driven mainly by competitive total-cost of ownership , better driver comfort, much lower noise levels (8 times lower according to Renault Trucks), reduced congestion and air quality benefits in cities."[24]

With the right policy settings, trucking and freight businesses in Australia are ready to make the transition to electric and zero emission trucks. By 2025, businesses and operations with heavy vehicle fleets see a significant role for electric, hydrogen and alternatively powered heavy vehicles.

The EROAD The Road to Sustainability report found that operators expect between 11.9 per cent (for medium sized fleets) to 36.9 per cent (for larger fleets) of fleet make up to be zero or low emission vehicles.[25] However, current zero emission truck sales in Australia indicate this expectation will not be achieved.

> Current policy settings do not support the choices which trucking businesses wish to make.

Globally, the trucking industry expects that zero emission road freight technology is likely to evolve faster than expected. Today, there are already more than 58 models available for purchase in North America, Europe, and China.[26] This is compared to the 14 electric truck and van models available in the Australian market (SEE APPENDIX 1).

Industry needs to move beyond planning to commence deployment of new technologies to operations, so they can be tested and refined. This is important to increasing the scale of new technologies to lower costs and improve infrastructure.[27]

Battery electric truck technology is deployable now, especially in urban use cases. Zero emission vehicles should be accelerated based on technology readiness and government policy should enable trucking operators to choose the best technology fit for their business.

Hydrogen fuel cell vehicles may play a vital role in the Australian trucking industry, over longer distances and for heavier transport use cases. However, it is critical that the deployment of battery electric trucks is not delayed whilst hydrogen and other potential technologies are refined and tested.

It is probable that for light trucks in urban use cases in particular, hydrogen will not become competitive against battery electric, in the same way that hydrogen may not be competitive against battery electric for the majority of light passenger vehicle use cases.

Additionally, the potential development of alternative fuels may assist decarbonisation of the trucking fleet but this is not a reason for delaying electrification. Currently, these fuels still generate tailpipe emissions, are limited in supply, carry a price premium, and may face significant demand from other hard to abate sectors.[28]

The technology will continue to improve as battery electric trucks are deployed around the world. As battery technology becomes both cheaper and lighter, this will deliver increasingly longer driving range, and expand the potential use cases for electric trucks and associated charging infrastructure.

What does electric freight look like?

Freight electrification will require collaboration across the sector. Building awareness across the sector will generate enthusiasm, reduce timelines, improve efficiency, create confidence, and accelerate electrification.

FLEET OPERATORS



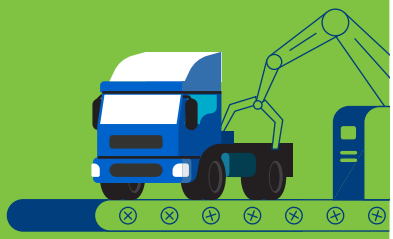
Fleet operators will be the key player that make the decision to electrify. They will be the ones purchasing or leasing zero emissions vehicles.

FINANCIAL INSTITUTIONS



Financial institutions will provide the financing methods to enable operators to procure electric trucks.

TRUCK MANUFACTURERS



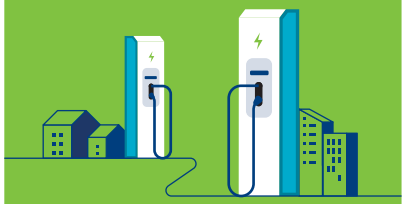
Truck manufacturers are those supplying electric trucks to the market.

ELECTRICITY SECTOR OPERATORS



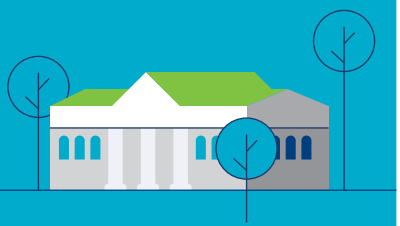
Electricity sector operators, including Distributed Networks Service Providers (DNSPs), and at a larger scale Transmission Network Service Providers (TNSPs) will be responsible for upgrading and supplying the required electrical capacity to the site of charging infrastructure.

CHARGING INFRASTRUCTURE PROVIDERS



Charging infrastructure providers supply the charging infrastructure hardware to recharge the electric truck batteries.

GOVERNMENTS



Governments should provide focussed electric truck policy with financial, regulatory, and charging infrastructure levers, to support the industry with transitioning.

There is a need for government policy to support all the players in truck electrification. Similarly, there is a need for all players involved in electrification of trucks to support operators as they begin the customer journey.

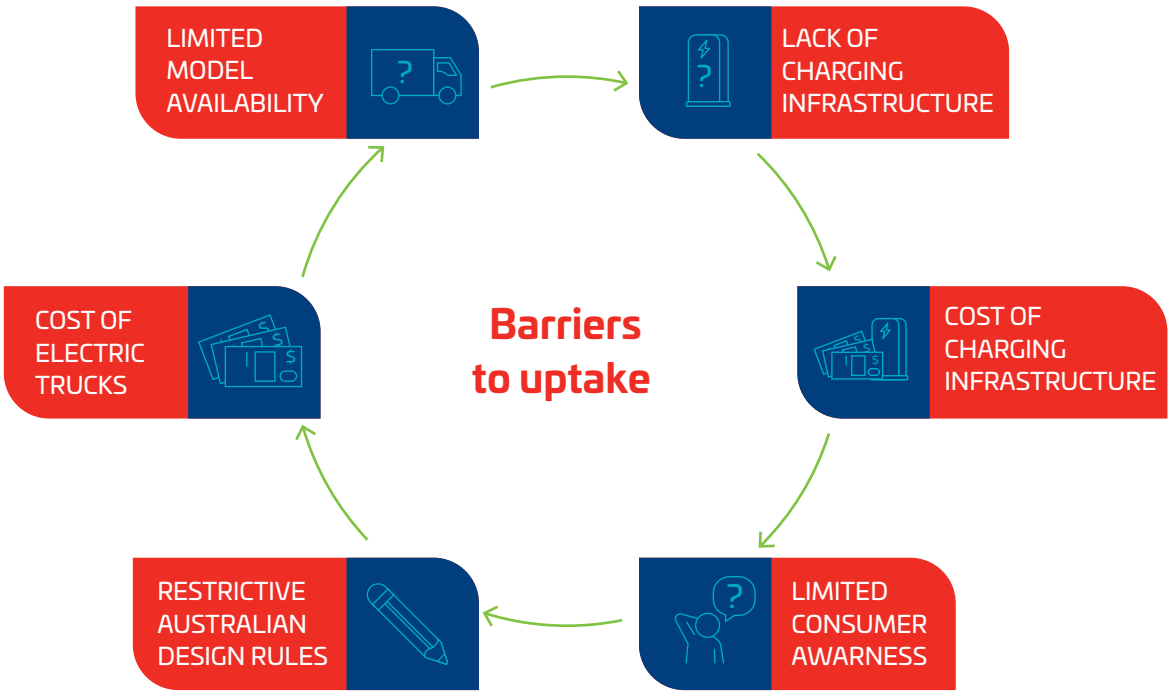
Challenges for the industry

The trucking industry is faced with a specific set of challenges when considering electrification. Operational feasibility, energy usage and capacity, land assets and parking facilities, duty cycles, driver awareness and behaviour, and upfront purchase costs must all be considered when planning the transition to an electric fleet.

Specific barriers were identified through a series of workshops held by the ATA and EVC, in which truck operators, truck manufacturers, charging infrastructure providers and the electricity sector highlighted that limited model availability, price of vehicles, lack of charging infrastructure, cost of charging infrastructure installation, limited consumer awareness, and restrictive Australian Design Rules are key barriers to electric truck transition.

The challenges have the potential to restrict investment and limit confidence among truck manufacturers and operators. Given that trucking is already a low margin industry, with many small and family businesses owning and operating the majority of Australia's truck fleet, there is a need to incentivise electrification – particularly with regard to the high capital expenditure required for network upgrades, vehicle costs, and deployment of charging infrastructure.

Policies to support the electric freight sector are necessary to increase market confidence, drive investment, and accelerate the transition to electric trucks. The truck industry is ready and willing to begin fleet transition to electric.



Policy recommendations

The EVC and ATA recommend **a national strategy** with the following policy actions to accelerate uptake:

		FEDERAL	STATE
REGULATORY			
WIDTH LIMIT	Truck width should be increased to align with standards used by major supplier economies.	✓	
STEER AXLE MASS	One tonne concession for electric and zero emission trucks.	✓	
EURO VI	Mandate Euro VI emission standards (and equivalent international standards) by 2024 / 2025	✓	
URBAN TRUCK CURFEWS	State and territory governments to exempt electric and zero emission trucks from truck curfews.		✓
CHARGING INFRASTRUCTURE			
DEPOT BASED CHARGING	Incentive payment to reduce the cost of installing charging infrastructure at depots.	✓	✓
PUBLIC CHARGING INFRASTRUCTURE	Investment in public charging infrastructure to support En route electric truck charging.	✓	✓
FINANCIAL			
PURCHASE PRICE INCENTIVE	Incentive payment to reduce the upfront purchase price difference between electric/zero emission trucks and internal combustion engine trucks.	✓	✓
STAMP DUTY	Exempt electric and zero emission trucks from stamp duty.		✓
OTHER			
SALES GOAL	The Australian Government should adopt the Global Memorandum of Understanding (MoU) for Zero-Emission Medium and Heavy-Duty Vehicles (ZE-MHDVs) with a ZE-MHDV sales goal – • 30 per cent by 2030 • 100 per cent by 2040.	✓	✓
SKILLS AND TRAINING	Consult with the electric vehicle and truck industries to determine what skills gaps currently exist and what skills may be required in the future skills market.	✓	✓



REGULATORY

Australian Design Rules were identified by workshop participants as a barrier to electrification.

Currently, width rules, steer axle mass, and fuel standards are out of step with international regulation. This creates a unique and expensive import and modification process for selling a vehicle in the Australian market.

Alignment of standards would simplify the import process, making it more efficient and cost effective for manufacturers to import electric trucks, ultimately providing more choice for operators.

WIDTH RULES



Truck width should be increased to align with standards used by major supplier economies.

Australia's truck width rules, at 2.5 metres, are out of step with the standard in Europe (2.55 metres, with 2.6 metres for refrigerated vehicles) and North America (2.6 metres). This is delaying and restricting the availability of zero emission trucks in the Australian market.

Vehicles based on EU or US market designs (including Australian made trucks) make up around 60 per cent of new heavy trucks and the cost of redesigning these trucks for the Australian market is currently estimated at $15 to $30 million per year.

Additionally, it has been reported that likely future design changes will be increasingly difficult or not economical to adapt to a 2.5 metre width and the relatively small Australian market, particularly for battery electric trucks.

STEER AXLE MASS



Minimum one tonne concession for electric and zero emission trucks.

The weight of batteries can have a significant impact on electric trucks, in particular for trucks that operate over longer distances and/or at higher gross combination mass. Australia's steer axle mass limit, currently at 6.5 tonnes, is holding back the deployment of larger electric truck models.

Australia's axle mass rules are already lower than major supplier economies such as Europe. A minimum one tonne concession for steer axle mass is needed in the short term to enable more electric trucks to be introduced into the Australian market.

EURO VI



The Australian Government should mandate Euro VI emissions standards at Stage C and equivalent US and Japan standards for new heavy vehicle models from 1 January 2024 and all new heavy vehicles from 1 January 2025.

This position has wide industry support (including the Australian Trucking Association, the Electric Vehicle Council, and the Truck Industry Council) and would bring these standards into force three and a half years earlier than proposed in the Government's draft Regulation Impact Statement (RIS).

The RIS projected that reductions in emissions from previous standards reached their limit in 2020, and without a move to a mandatory Euro VI standard, emissions will now steadily increase. Mandating Euro VI has a benefit cost ratio of 4.53 ($5.2 billion) out to 2050, according to the RIS.

Adopting Euro VI emission standards would deliver a reduction in emission



limits for oxides of nitrogen (NOx) by up to 80 per cent, a reduction in emission limits for particulate matter by up to 66 per cent and a new particle number limit to reduce ultrafine particle emissions.[29]

> 'Mandating Euro VI for heavy vehicles would also bring Australia's vehicle standards into closer alignment with international standards adopted by major vehicle markets, which also supply the majority of heavy vehicles to Australia.'
>
> THE DEPARTMENT OF INFRASTRUCTURE, TRANSPORT, REGIONAL DEVELOPMENT AND COMMUNICATIONS (2020).

URBAN TRUCK CURFEWS



State and territory governments should exempt electric trucks from urban truck curfews.

Truck curfews seek to minimise and mitigate the community impacts of vehicle noise and emissions from truck movements in urban areas. Electric trucks do not produce these emissions and are significantly quieter. They should therefore be exempt from curfews.

The impacts of COVID-19 on the supply chain – including increased demand for goods such as toilet paper – has seen some curfews suspended, improving freight efficiency.

A NSW Government review of the suspension of curfews for COVID-19 reported benefits from out of hours deliveries included improved productivity and efficiency, flexibility to respond to surges in demand, reliability for consumers, fewer visible heavy vehicles at peak times and improvements to road safety.

CHARGING INFRASTRUCTURE

The accessibility and affordability of charging infrastructure were identified as key challenges in truck electrification.

Therefore, investment in charging infrastructure is necessary to provide confidence to operators that they can fulfil their daily operations. Funding should include grid upgrades, site electrical upgrades, and charging infrastructure installation.

Two forms of charging infrastructure will be required to support electric truck fleet operations: depot-based charging and public charging networks (including highways, hubs and distribution centres).

There is additionally a lack of understanding of truck operators in what infrastructure is required to support existing vehicle utilisation. Providing support and building awareness of the different roles of public and depot-based charging infrastructure will be instrumental to the success of truck fleet electrification.

FUNDING FOR DEPOT-BASED CHARGING INFRASTRUCTURE



Governments should provide funding to support fleet operators with the installation of charging infrastructure, inclusive of grid upgrades and electrical capacity.

It is likely that the first use cases of electric trucks will be fleets that have - depots or back-to-base fleet operations, which would allow them to charge their vehicles overnight.

However, the installation of depot-based charging infrastructure will have upfront capex implications for fleet operators.



Given that the needs of trucking operators will demand different levels of charging, funding should seek to support both AC and DC infrastructure.

FUNDING FOR PUBLIC CHARGING INFRASTRUCTURE



Governments should provide funding for public charging infrastructure for the freight sector.

Public charging infrastructure will be required at locations across metro regions, in industrial complexes, at existing trucks stops, along highways, and at service stations to support existing truck operations.

In metro regions, public charging will facilitate the transition for operators who do not own the land they park their trucks on or do not have depots. Additionally, it will support fleet operations that need a top-up during their routes.

Public charging infrastructure along freight routes will support intercity and interstate fleet operations.

Recognising the importance of managing fatigue for truck drivers, priority for public charging infrastructure should be given to co-location with driver rest facilities both on freight routes and in metro regions.

FINANCIAL

The higher upfront cost of electric trucks is a significant barrier for trucking operators, who have low profit margins. This issue was consistently raised by workshop participants and members of both the EVC and ATA.

For some truck models, the upfront cost can be twice that of a diesel equivalent. With the high price of heavy vehicles, this can represent an additional $200,000.

Some operators report higher insurance costs, and changes to the utilisation of an electric truck (such as recharging time) can have a significant impact for a trucking business.

Financial incentives will play a significant role in reducing the cost burden of an electric truck and incentivising freight transition.

PURCHASE PRICE INCENTIVE



Governments should provide an incentive payment to reduce the upfront purchase cost between electric/zero emission trucks and internal combustion engine trucks.

New trucks require investment decisions to be made by trucking businesses. Prior to COVID-19, it was estimated that trucking operators would need to invest in excess of $3.5 billion in capital just to meet demand over an expected five-year period. With tight profit margins, it will be difficult for trucking businesses to invest in electric trucks whilst a large upfront price barrier remains requiring additional capital above and beyond a business-as-usual case.

The introduction of a purchase price incentive is critical to accelerating the transition to electric and zero emission trucks. Increased scale, sales, and model availability is needed to bring down costs to make electric trucks a commercial choice for Australian businesses. A purchase price incentive signals to truck manufacturers that there is demand in the market.



For example:

In California, the Hybrid and Zero Emission Truck and Bus Voucher Incentive Project (HVIP) has provided 7,500 incentives of US$120,000 to purchase the cleanest medium and heavy-duty trucks. The scheme provides point of sale price reductions on ZLEV trucks and buses.[30]

In Germany, an incentive is available representing 80 per cent of the price difference for battery, fuel cell and trolley hybrid drive systems. The incentive is available to leasing or rental companies if the incentive is fully passed through. With an initial term to 2024, the scheme also provides industry with planning security.[31]

STAMP DUTY EXEMPTION



State and territory governments should exempt electric and zero emission trucks from stamp duty.

Stamp duty currently discourages trucking operators from investing in new heavy vehicles, because it adds an additional cost burden on the operator at the time of purchase. To encourage the purchase of electric and zero emission trucks, a stamp duty exemption should be provided.

However, the level of stamp duty per truck is significantly less than the higher upfront cost of an electric truck. Stamp duty exemptions would not change the need for a purchase price incentive.

OTHER

SALES GOAL



The Australian, state and territory governments should adopt the Global Memorandum of Understanding (MoU) for Zero-Emission Medium and Heavy-Duty Vehicles with a sales goal of 30 per cent by 2030 and 100 per cent by 2040.

Electric truck sales goals signal to truck manufacturers that there is demand for product and that units should be allocated to the Australian market. For model availability to increase, there needs to be confidence in the market – a sales target would provide that.

The Global Memorandum of Understanding (MoU) for Zero-Emission Medium and Heavy-Duty Vehicles, announced at COP26, is the first ever global agreement on zero emission trucks and buses. The MoU has been endorsed by national governments, sub-national governments, manufacturers, fleets and other industry bodies.

The sales goal would enable the success (or failure) of zero emission trucking policy to be measured. As long as the existing sales trajectory of zero emission trucks is not meeting this goal, stronger incentives will be required.

The sales goals would also support the net zero commitment of all Australian governments.

SKILLS AND TRAINING



The Government should consult with the electric vehicle and truck industries to determine what skills gaps currently exist and what skills may be required in the future skills market.

To support the growth of jobs in the electric vehicle industry and as electric trucks become more widely adopted, there will be a need for national training programs to upskill and/or qualify those working or entering the sector.

APPENDIX:
EV VAN AND TRUCK MODEL AVAILABILITY

MANUFACTURER	MODEL	SEGMENT	BATTERY SIZE	RANGE
ACE	ACE Cargo Light	Light Commerical	23.2	200
Daimler Truck and Bus	Fuso e-canter	Light Duty Truck	82.8	100
Electric Trucks Australia / TrueGreen Mobility	BYD T3	Van	50.3	300
EV Automotive	EC11	Van	73.6	200
JAC motors	N55 EV truck	Light duty truck	96.7	200
Janus Electric	Kenworth T403	Truck conversion	600	400-500
Renault	Kangoo Maxi	Light commercial van	33	200
SEA Electric	E4V	Van	88 kWh	300
	SEA 300-85	Truck Cab-Chassis	100 kWh – 136 kWh	275 (Unladen)
	SEA 500-140	Truck Cab-Chassis	136 kWh	200 (Unladen)
	SEA 500-225	Truck Cab-Chassis	136 kWh – 250 kWh	220 (Unladen)
	SEA 300-45	Truck Cab-Chassis	70 kWh	275 (Unladen)
Volvo Trucks	Volvo FL Electric	Prime mover	200 kWh	300
	Volvo FE	Heavy duty	198 or 26	120-200

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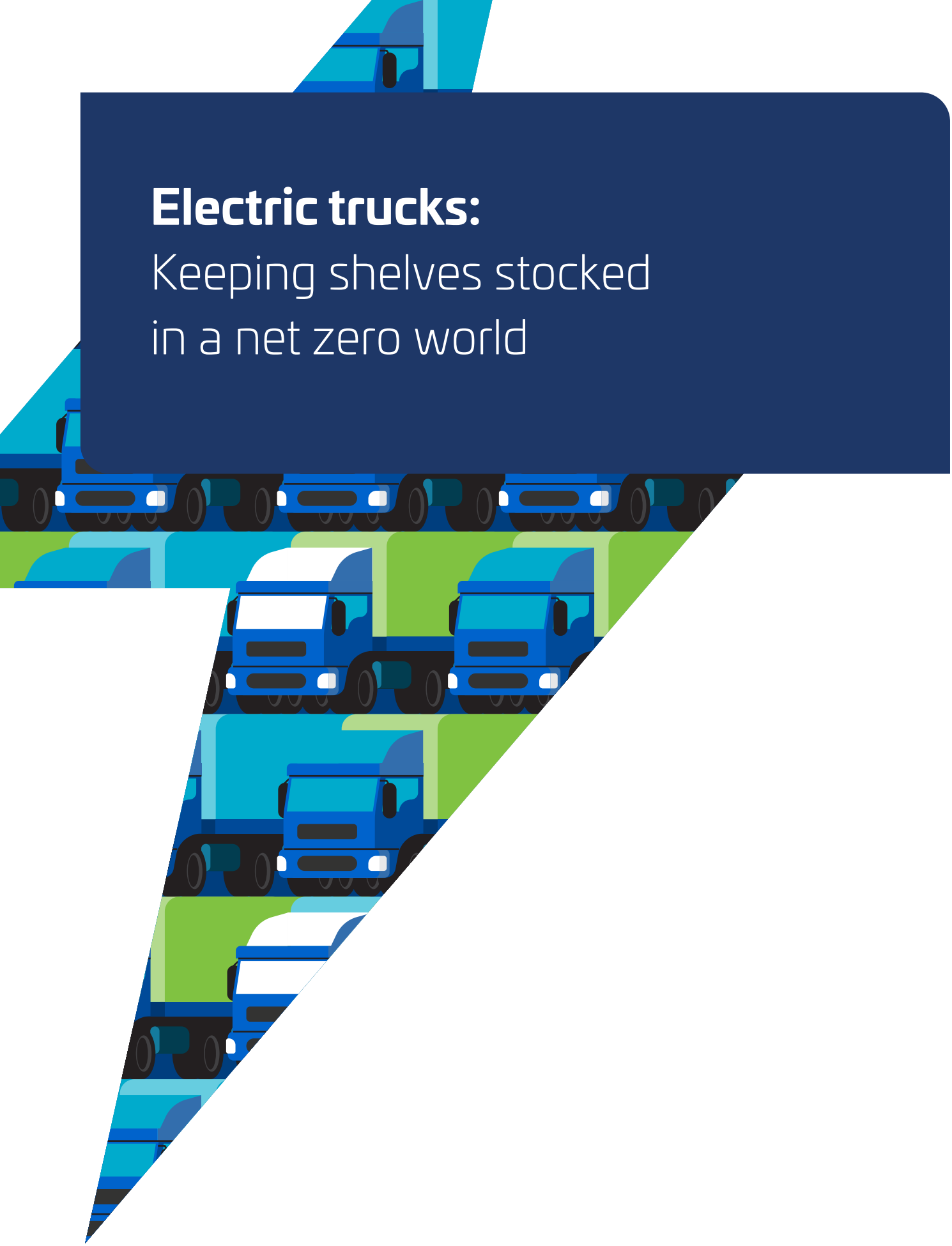
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