RACT
LOW AND ZERO EMISSION MOBILITY POLICY

MARCH 2020

RACT POLICY – LOW AND ZERO EMISSION MOBILITY

Organisation	RACT
Business Unit	Advocacy Committee

Version	Author	Description	Date Revised	Review Date
1				

RACT MOBILITY STRATEGY PILLARS:

Future mobility is the second component of RACT's mobility strategy. Within this pillar, RACT's vision is to:

- Have a range of mobility options available that are efficient, increase flexibility and keep our community safe.
- Meet the needs of the future through the delivery of cleaner more efficient transport methods, such as electric vehicles.

Sustainability is the third component of RACT's mobility strategy. Within this pillar, RACT's vision is to:

- Reduce fuel emissions through the use of affordable and clean energy.

1) LOW AND ZERO EMISSION POLICY STATEMENT

1.1 Low and zero emission mobility explained

- Low and zero emission mobility covers a range of transport modes including:
  - Battery electric vehicles (BEV), plug-in hybrid electric vehicles (PHEV) and fuel-cell electric vehicles (FCEV) powered by hydrogen. This includes passenger, commercial and heavy vehicles as well as electric motorcycles.
  - Electric buses, including autonomous buses, as well as trams or trackless trams, light rail or trains as well as ferries and boats.
  - Electric micro-mobility transport (MMT) devices such as e-bikes, e-scooters and e-skateboards.

1.2 Purpose of this Policy

- As Tasmania's peak motoring body, RACT will play a leading role in the continued rollout of low and zero emission vehicles and transport modes.
- This policy aims to inform RACT's position on low and zero emission technology, including: electric vehicle charging infrastructure, adoption, cost, incentives and subsidies, education and awareness, preparing for electric public transport, MMT devices and autonomous vehicles as well as hydrogen vehicle technology.
- This policy outlines how RACT will advocate for low and zero emission mobility during consultation with Australian, Tasmanian and local governments, key transport stakeholders and media.

1.3 Relevance to RACT

- RACT will **access or** undertake research to understand the impact of future mobility options, invest in electric vehicle infrastructure, educate Tasmanians about autonomous vehicles and prepare for their introduction.
- RACT will explore a change in the RACT fleet of vehicles over time.

2) BACKGROUND, EVIDENCE AND POSITION

2.1 Background

Electric vehicles (EVs) derive all or part of their power from the electric grid and include light and heavy vehicles. They are divided into battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), which are powered by electric and internal combustion engines.

Battery electric vehicles are powered by connecting to a charging station, which provides electricity that is stored in batteries. They produce no tailpipe emissions.

However, while PHEVs use batteries to power an electric motor that is also charged, they also use a petroleum-based or alternative fuel to power an internal combustion engine.

Emissions

- Tasmania's transport sector has the highest greenhouse gas emissions of all economic sectors, with vehicle costs also a significant expense. However, Tasmania is almost fully powered by renewable energy (TCCO, 2019).
    - Electric vehicles powered by this renewable energy sector could significantly improve vehicle efficiency through reduced transport costs, lower environmental and health impacts through reduced emissions and help improve the state's energy security.
    - Tasmania's high renewable energy profile, small size and shorter commuting distance, as well as a growing tourism sector suggests Tasmania should be well placed to realise many of the potential benefits of EVs.

Adoption and cost

- Electric vehicle purchases in Australia are increasing but remain low compared to other nations. The same can be said for Tasmania, which has the second lowest number of EVs in Australia (Electric Vehicle Council, 2020).
- Electric vehicle model affordability in Australia is limited due to high upfront vehicle purchase costs caused by lithium prices and the cost of manufacture, high vehicle taxes and lack of policy support (Electric Vehicle Council 2019).
- While electric vehicles have a higher purchase price relative to ICE vehicles, their upfront cost is expected to reach parity in the mid-2020s. They also have substantially lower running costs over their lifecycle and therefore and, according to the Electric Vehicle Council (2019), may already be the lower cost option.
    - Lifecycle savings from EVs are also expected to rise between 2020-25 due to cheaper charging costs in comparison to fuel, as well as cheaper servicing costs compared to ICE vehicles. This is due to fewer components and therefore fewer parts to maintain or replace.

- Barriers to EV uptake in Tasmania include purchase price, a limited selection and range of models, lack of public charging infrastructure (leading to range anxiety), a lack of consumer awareness and charging times (Tasmanian Climate Change Office, 2019).
    - Charging times, ranging from 2-30 hours for slow chargers (depending on output and battery size) and 8-90 minutes for fast and ultra-fast chargers, are also barriers.
- Upfront/annual costs associated with EVs include on-road costs, such as the luxury car tax, registration and insurance, which are discussed in the evidence section (RACT Vehicle Operating Costs Survey, 2019).
- AEVA argues that subsidising the motor tax and stamp duty components of registration fees should be introduced. The motor tax is set at the same rate for EVs as for a four cylinder ICE vehicle, while stamp duty is much higher for EVs due to their high purchase cost.
    - AEVA proposes that the Tasmanian Government remove the motor tax and reduce stamp duty for EVs in the short to medium term to increase uptake.
    - Brisbane, Victoria and the ACT all have registration subsidies (EVC, 2019)
- AEVA also proposes that an interest free loan scheme be established in Tasmania to support the cost of purchasing EVs (AEVA, 2020).
- Tariffs and incentives to encourage off-peak charging of electric vehicles, not yet offered by TasNetworks, can increase EV uptake, while reducing electricity use and mitigating the need for network upgrades (TCCO, 2019).
    - This is important as EVs have the potential to overload electricity grids during peak demand periods, due to large populations charging at home during the early evening.

Infrastructure considerations

- The Tasmanian Government also contributed funding to support the rollout of a state-wide charging network in 2020. Tasmania has a much lower number of AC and DC charging stations compared to most mainland states (TCCO, 2018).
    - As part of its Fast Charger Support Scheme, TasNetworks subsidises public fast charger installation costs.
    - RACT has installed its own electric vehicle charging stations at a range of properties throughout the state.
- At the time of writing, Tasmania had no standardised plug type for EV charging, which inhibits uniformity during station rollout and public use. The Federal Chamber of Automotive Industries (FCAI) recommends Type 2 plugs for slow AC charging and either CHAdeMO or CCS for fast DC charging by 2020.

Electric vehicle fleets

- In Australia, corporate and government fleet procurement can assist in increased EV uptake through demonstrating demand to carmakers, supplying the used car market and stimulating the roll out of charging infrastructure (EVC, 2019).
    - EV governmental fleet targets are in place in South Australia and NSW.
    - The ACT also has a fleet target for newly leased vehicles.
- The Tasmanian Government also commenced a Smarter Fleets program in 2018, providing guidance and support uptake of electric vehicles in local government and Tasmanian Government fleets, as well as heavy vehicle fleets.
- Importing used EVs from overseas helps to stimulate the second-hand electric vehicle market by increasing model availability, vehicle supply and therefore uptake (Arena, 2018).

Other government interventions

- Due to the barriers of EV adoption, and to assist reaching a target of zero net emissions by 2050, the Tasmanian Government established an Electric Vehicle Working Group in 2017 to increase uptake of EVs (TCCO, 2019)
- The Australian Government will release an electric vehicle strategy in 2020, which RACT understands will not include incentives, subsidies or other initiatives, nor will it include a position on road user charging. Road user charging reforms are being considered as part of a broader reform process by the Australian Government.
- Electric vehicles do not pay a road user charge.
    - Infrastructure Australia and the Senate recommends removal of road fees and charges, including the fuel excise, in place of a road user charge model that reflects each road user's utilisation of the network, including EVs. The Senate recommends this be phased in from 2025 as road user charging may disincentivise EV uptake in the short term (Parliament of Australia, 2019).
    - The above parties, as well as Infrastructure Partnerships Australia, suggest EV owners should pay a per-kilometre charge capped at what ICE vehicles owners pay on fuel excise. An appropriate percentage of revenue would go towards road safety and infrastructure improvements.
    - This system is supported by the Australian Automobile Association.
- The ACT will also allow zero emission vehicles to use transit lanes until 2023 (EVC, 2019).

Electric public transport

- There are also many forms of electric public transport, including electric buses trams or trackless trams, light rail or trains, ferries and boats (TCCO, 2019).

- Metro Tasmania has a new fleet of buses being delivered over two years from 2017-18, which are designed for conversion from diesel to electric. It is also considering hybrid buses as well as electric/alternate fuel technologies for its future River Derwent ferry service.
- RACT, together with the City of Hobart and the TCCO, delivered Tasmania's first demonstration of an autonomous (driverless) electric bus in 2019. The benefits of autonomous electric vehicles include improved safety, reduced congestion and emissions, first and last mile connections to public transport, access to ride and car sharing, reduced car parks and access for those with mobility challenges.
- At the time of writing electric bus trials were being conducted in NSW and were being explored in South Australia in order to increase community awareness.

Micro-mobility transport

- Electric micro-mobility transport (MMT), including e-bikes, e-scooters and e-skateboards, allow people to be less dependent on traditional transport. They can reduce emissions, enhance mobility access and choice, reduce congestion and provide a cheaper, more manageable commute (NTC, RAC, TCCO, and Department of State Growth, 2019).
    - E-bikes legally available in Tasmania include Power Assisted Pedal Cycles (PSPCs) that travel up to 10km/h (200 watts) as well as "pedalecs" that travel up to 25km/h (250 watts). PAPCs primary source of power are pedals, while pedalecs rely mostly on the motor.
    - Personal mobility devices (PMDs) are a subsection of MMT devices, which include e-scooters and e-skateboards. As of 2020, many PMDs are already available in Australia but are not recognised by Australian Road Rules (ARRs). Therefore, PMDs are operating in an inconsistent regulatory environment.
    - Queensland and South Australia are the only Australian states that have implemented legislation to enable PMDs to be legally used on roads and paths. However, PMDs are used in some states where they are not permitted.
    - The National Transport Commission is developing a regulatory framework to allow for consistent rules around PMDs in the ARRs, including motor type, braking, dimensions, speed and weight, as well as where they can operate on roads and paths, economic, safety and enforcement challenges. The Tasmanian Government is involved in these discussions, with a decision on amending the ARRs expected in November 2020.
    - The NTC considers that the best approach to balance mobility and safety would be to permit PMDs that comply with the proposed regulatory framework on

footpaths and shared paths at a maximum speed of 10km/h, and on bicycle paths and local roads at a maximum speed of 25km/h.

- RAC and RACQ believes regulations for MMT devices must consider the safe interaction with vehicles, including through separated cycleways, and ensuring operators comply with relevant legislation.
- The University of Tasmania claims it has experienced an increase uptake of e-bikes from staff and students since 2011, while Australia Post trailed three-wheeled e-bikes in Tasmania in 2017.
- This technology can be encouraged through separated cycle lanes and parking facilities. Encouraging employers to provide charging opportunities for commuters can increase use of e-bikes and e-scooters.

Fuel-cell electric vehicles (hydrogen)

- The Department of State Growth has developed a draft Tasmanian Hydrogen Action Plan, which outlines the following:
  - Fuel cell electric vehicles (FCEVs) operate through a chemical reaction between hydrogen and oxygen, which releases electricity to power an electric drive-train. These vehicles provide significant environmental benefits, through reducing transport related greenhouse gas emissions and air pollution.
  - These technologies are active across the world and offer a comparable experience to traditional ICE vehicles including driving experience, driving range and refuelling time. They are also more efficient than ICE vehicles.
  - Together with battery electric vehicles, hydrogen mobility technologies can use Tasmania's renewable energy to power the state's transport sector and provide economic, environmental and energy security benefits.
  - Hydrogen FCEV technology is particularly well suited to heavy vehicle applications, as it can avoid the potential weight issues associated with using batteries to power heavy electric vehicles, with quicker refuelling times. Hydrogen is also more cost effective for larger vehicles.
  - The Tasmanian Government will investigate opportunities for the use of hydrogen transport technologies in the state, with an initial focus on 'return-to-base' transport activities, such as buses, fleet vehicles, freight (including road and rail) and marine applications (such as ferries or barges), as this is the most efficient use of hydrogen refuelling infrastructure.
  - The Tasmanian Government will also explore opportunities to trial hydrogen FCEVs within its fleet to gain first-hand experience of the technology. This can serve as catalyst for uptake in the private sector.
  - The Tasmanian Renewable Hydrogen Fund will support feasibility studies and investment for pilots, trials, demonstrations and pre-commercial projects

associated with renewable hydrogen production, storage, export and use within Tasmania.

- The National Hydrogen Strategy has also identified Tasmania as having a high potential for hydrogen production, citing Bell Bay as a viable location for production and distribution of the gas to main population centres and for export. The strategy also discusses the following (COAG, 2019).
    - Hydrogen can power fuel cell electric cars, trucks, buses and trains. The advantages of hydrogen powered vehicles compared to battery electric vehicles are: faster refuelling times and the ability to travel longer distances carrying larger loads before refuelling.
    - The key barrier to FCEV uptake is refuelling infrastructure. Refuelling hydrogen vehicles requires a network of stations, similar to what exists for petrol and diesel, with infrastructure being mapped out nationally.

2.2 Evidence

Emissions

- A shift to 100% electric vehicles would eliminate at least 6% of Australia's greenhouse emissions (Beyond Zero Emissions, 2016).
- Furthermore, air pollution from motor vehicles kills over 1,700 Australians per year Department of Infrastructure, Regional Development and Cities, 2018). Electric vehicles produce zero exhaust emissions so widespread adoption of these vehicles would make marked improvements to Australia's air quality (EVC, 2019).
- Tasmania's transport sector has the highest greenhouse gas emissions of all economic sectors at 19% (Tasmanian Climate Change Office, 2019).
    - However, Tasmania's grid is powered by more than 90% renewable energy, allowing EVs to produce close to zero emissions. The Tasmanian Government is aiming to be 100% renewable by 2022, (TCCO, 2019).
- Electric vehicles in Tasmania recorded just 140 grams of carbon dioxide per kilowatt hour when charged from the grid in 2016. This compared to Victoria (1080 grams), NSW/ACT (830), Queensland (790), Western Australia (700), Northern Territory (640) and South Australia (490) (Climate Works, 2018).

Adoption and cost

- RACT's 2019 member survey indicated that 51% of those surveyed would not purchase an electric vehicle in the next five years. However, 56% said they would do so if there was a financial incentive.
    - The survey also revealed the most contributing reasons for not purchasing an electric vehicle related to purchase and running costs (72%) and a lack of charging infrastructure (64%). The environment was be the main reason to purchase an EV (81%).

- While EV purchases are increasing slowly in Tasmania, as of November 2019 there were 158 battery electric vehicles registered in the state, with 44 plug-in hybrid electric vehicles. Of these, 74 were built in 2019. This comprised about 0.04% of the state's passenger vehicle market, which was 420,000 vehicles as of January 2020 (Department of State Growth, 2020).
- Electric vehicle purchases in Australia are increasing but remain about 0.6% of the national passenger vehicle market, with almost 6800 sales in 2019 - up from 2200 in 2018 (EVC, 2020).
- EVs could make up 49% of new vehicle sales in Australia by 2030 and 100% new sales by 2040 (Energeia, 2018). Furthermore, Australia's market share is expected to reach 35% by 2050, on par with the global share, according to a 2018 Centre for International Economics report for the Australian Automobile Association.
- As of February 2020, there were 28 electric vehicle models on the Australian market. Twelve were battery electric vehicles (BEV) and 16 were plug-in hybrid electric vehicles (PHEV). In total, 21 of these vehicles cost more than $65,000, which is a significant barrier to uptake (EVC, 2020).
    - By the end of 2020, it is expected that six more electric vehicles will be available, all BEVs. The Australian Electric Vehicle Association expects most of these to have a real-world range of 250km.
- Electric vehicles will reach cost parity with internal combustion engine vehicles by 2024 (EVC, 2019), something that would assist in boosting EV sales. Furthermore, the range capacity of EVs is also expected to reach parity with ICE vehicles by 2024, with ranges varying from 100km to 500km at the time of writing (AEVA, 2018).
    - Battery capacity is closely linked with advancements and the availability and price of lithium, which is reducing by 8-9% each year (Energeia, 2019)
- Lithium-ion battery packs are the most expensive component of an electric vehicle. However, global investment in electric vehicle battery production is driving the demand for lithium up, and the cost of batteries down (Bloomberg, 2018).
    - In 2010, the cost of a lithium-ion battery was US$1160/kWh but by 2018 it had dropped to US$174/kWh. It is expected to drop to $94/Kwh by 2024, when EV cost parity with ICE vehicles is reached, and to $62/kWh by 2030.
    - The growth of electric vehicles from 2017-2023 will increase global demand for lithium batteries by 32.4%.
- When taking into account energy use per km, electricity versus fuel costs, costs per km and average annual travel costs, the average annual costs for ICE vehicles is $1923, compared to $623 for an EV. This is a fuel saving of $1300 a year and $6500 over five years for EV owners (EVC, 2019).
- More specifically, AEVA estimates that charging costs between $4 and $25 for a full charge, depending on the power and speed of the charger, vehicle battery size, how much charge is left and electricity tariffs.

- In Tasmania, the weekly on road costs for EVs, such as registration, insurance and the luxury car tax, are roughly the same as ICE vehicles, ranging between $30-$70 depending on size, power, fuel efficiency and cost (RACT Vehicle Operating Costs Survey, 2019).
- Additionally, while there are no registration subsidies in Tasmania, Queensland offers the lowest registration fee for battery electric vehicles, while Victoria offers a $100 discount and the ACT a 20% discount (EVC, 2019)
- The Australian Government's luxury car tax includes a fee on luxury vehicles at 33% on the amount above the threshold (ATO, 2020).
    - The LCT threshold is discounted for fuel efficient vehicles, including for EVs, at $75,000 in 2019, compared to $66,000 for ICE vehicles. In 2009 the LCT threshold for fuel efficient vehicles was at $75,000, while for ICE vehicles it was lower at $57,000. AEVA argues the tax free threshold for fuel efficient vehicles is not increasing like the ICE vehicle threshold as they are indexed at different rates (AEVA, 2020).
    - Nearly half of all EVs for sale still remain above the threshold for the LCT. Some experts state that LCT should be abolished for low/zero emission vehicles as it was introduced to protect the Australian passenger vehicle manufacturing industry, which no longer exists. Others state that the threshold for EVs should be indexed and lowered at the same rate as for ICE vehicles (AEVA, 2020).

Infrastructure considerations

- As of March 2020, there were 45 dedicated electric vehicle charging stations in Tasmania, with just four of these being fast chargers (PlugShare, 2020).
- However, in Australia it is estimated that 80-90% of EV charging will generally be undertaken by motorists at home or work, with more than 99% of daily trips under 50km – for a round trip of 100km (Arena, 2018). This is well within the range of new EVs with larger battery capacities.
- Nonetheless, in 2019 the Tasmanian Government provided $525,000 worth of grant funding to seven organisations, assisting them to install fast DC charging stations at 12 Tasmanian locations.
    - These are expected to be installed by June 2020, with 15-17 sites expected by December 2020, covering 97% of all trips in Tasmania (Australian Electric Vehicle Association, 2019).
    - The government has also provided a further $79,000 in grants towards 23 slow AC charging stations, going to destinations and workplaces.
    - As part of its $250,000 Fast Charger Support Scheme, TasNetworks subsidises 50% of public fast charger installation costs, up to $20,000.

- Fast or ultra-fast DC chargers cost between $40,000 and $100,000, with installation between $15,000 and $60,000. Alternatively, slow AC chargers cost around $6000 to be installed, with hardware usually between $2000 and $3000 (EVSE, 2019).

Electric vehicle fleets

- In Australia, fleets make up 52% of new vehicle sales and serve as an important source to the used car market, meaning electric fleets help build the used EV market, (EVC, 2019).
- Business fleets accounted for 63% of total sales in 2018, with private purchases making up 33% and government fleets just 4%. Government electric vehicle fleet targets are expected to result in overall fleet growth in future years (EVC, 2019).
    - EV fleet targets on the mainland include NSW's 10% target by 2020-21 and South Australia's 30% target by 2019, which surpassed 40% in 2019.
    - The ACT is aiming for 50% of all newly leased passenger vehicles to be zero emission by 2019-20, and 100% by 2020-21.
- In 2016, the New Zealand Government announced a suite of measures to support growth in the national EV fleet to reach 64,000 vehicles – or 1.6% of the national fleet – by 2021 (NSW Government, 2019).
- Ten councils took part in the Tasmanian Government's Smarter Fleets program between 2018 and 2019. They were given advice as to which fleet vehicles were best suited for replacement with an EV. Government will not be following the implementation progress of each council, with the program now concluded (TCCO, 2020).
- The Tasmanian Government program runs from May 2019-April 2020, assisting departments to prepare to integrate electric vehicles into their fleets. The aim is to ensure fleets are "electric vehicle ready" as new models are introduced into the Australian market in the coming years and uptake increases.
    - The program is analysing the existing fleet to calculate the environmental benefits and cost reductions of electric vehicles. Departments received electric vehicle integration plans in late 2019, which identified opportunities to transition. However, as of February 2020 there were just two battery electric vehicles and 77 hybrid vehicles within the government fleet.
- AEVA modelling suggests the Tasmanian Government fleet turnover is 20% per year. Based on this, AEVA believes EVs could make up 25% of the government's fleet by approximately 2025 and 88% by 2030, if the government purchases 50% of all EVs sold in Tasmania through to 2030.
- Furthermore, AEVA suggests that an ambitious target for local government fleets would be 25% electric by 2025 and 90% by 2030, due to a low turnover of vehicles and a composition of 50-70% utilities. Electric utes are not in market as of 2020.

Electric public transport

- Metro Tasmania has 100 new buses being delivered over two years from 2017-18, which are designed for conversion from diesel to electric (TCCO, 2018).
- McDermott's Coaches has four Volvo diesel-electric hybrid buses that transport visitors between the Cradle Mountain visitor centre and Dove Lake.
- SeaLink, which operates the Bruny Island ferry service, is planning to introduce a fully electric ferry in the future, while Gordon River Cruises vessel Spirit of the Wild has is a diesel-electric hybrid.

Micro-mobility transport

- Regarding micro-mobility transport devices, it is estimated that between 5000 to 7500 e-bikes were imported to Australia in 2016, with around 10,000 to 15,000 in 2017. The 2016 import total is estimated to have tripled in the past three years (Bicycle Industries Australia, 2019).
    - In Queensland, Lime Scooters estimate they have deployed 750 e-scooters in Brisbane. Additionally, Neuron Mobility indicated they plan to deploy 600 e-scooters in Brisbane in the future (NTC, 2019).

Fuel-cell electric vehicles (hydrogen)

- Regarding FCEVs, Hyundai has Australia's only hydrogen refuelling station in Sydney for its use only, while Toyota has a portable station (CarAdvice, 2019).
    - Refuelling stations are planned in most states and territories, with Australia's first public station to be online in ACT in early 2020 as well as one each in Queensland and Victoria expected in late 2020. Stations are also planned in NSW, South and Western Australia and Tasmania (COAG, 2019).
- In terms of high profile FCEV models entering Australia, the $60,000 Hyundai Nexo (800km) is expected to be on sale from 2020 but only initially to government or fleets that have access to a refuelling station (COAG, 2019, CarAdvice, 2019).
    - The $60,000 Toyota Mirai (500km range) is being tested around Australia, while and there is also a Honda Clarity available overseas.
    - During 2020, the ACT Government will introduce 20 Hyundai Nexo vehicles to its fleet once it commences operations, while the Queensland Government will also rollout five Hyundai vehicles once its station is online.
    - FCEVs are expected to be commercially available in Australia by 2025, once comprehensive infrastructure is available (Motor Trades Association, 2019).

2.3 Position

RACT urges the Tasmanian Government and all local councils to develop comprehensive EV strategies, including BEVs, PHEVs and FCEVs. These parties must also develop strategies

on electric public transport, micro-mobility transport (MMT) devices, heavy vehicles and motorbikes. These policies must address following points relevant to governing areas.

Adoption and cost

RACT

- Urges the Tasmanian Government to lower the motor tax component of vehicle registration and provide a stamp duty rebate for EVs in the short to medium term as an incentive to uptake, while EV purchase prices are still high.
- Urges the Australian Government to phase out and remove the national luxury car tax in order to increase uptake of low and zero emission vehicles, particularly expensive EVs. RACT also urges the Tasmanian Government to support removal of the LCT.
- Urges the Australian Government to discontinue its fuel excise as EVs become more common, phasing in a road user charge from the mid-2020s. This is because early implementation of road user charging may be a disincentive to uptake.
- Urges the Tasmanian Government to implement an interest free loan scheme to assist with the high cost of purchasing EVs and increase uptake.
- Urges TasNetworks and other electricity retailers to subsidise fees for electricity used to charge electric vehicles at private residences and commercial premises through a unique tariff, in order to incentivise use.
- Urges TasNetworks to also:
    - Subsidise upgrades to grid connections, transformers and switchboards as well as metering equipment that allows off-peak charging at discounted rates for home and public charging. This is also aimed at incentivising use.
    - Obtain vehicle registration address data and correlate with transformer location to assess areas of high EV concentrations. These areas will affect the grid first and may be required for upgrade.
    - Monitor transformers and lines in areas of high EV concentration to determine intervention required.

Infrastructure considerations

RACT

- Urges the Tasmanian Government, local government and businesses to continually expand the state's public charging network, including slow, fast and ultra-fast chargers in regional and urban locations not serviced, and hubs in key locations.
    - These chargers should be located at local or Tasmanian Government owned assets, new buildings, car parks and on-street parking sites.
    - Plug type should be consistent between all states and territories, enabling consistency for EV owners. This should be in line with the FCAI's recommendation for Type 2 plugs for AC charging and either CHAdeMO or CCS for DC charging.

    - Charger location and type must be consistent with RACT's Electric Vehicle Vision: Charging Infrastructure document.
    - RACT will also explore additional charging stations at its Destinations properties.
- Urges TasNetworks to continue to operate its Fast Charger Support Scheme, established for public chargers, and to offer installation subsidies for home chargers.

Electric vehicle fleets

RACT

- Urges Tasmanian Government departments, government controlled entities and key Tasmanian councils to:
    - Increase their electric vehicle fleets through policies and targets. This includes EV inclusion in government purchasing preferences, which will assist in stimulating the used-car market.
    - The Tasmanian Government should offer fleet managers financial incentives and subsidies through a recommenced Smarter Fleets program. This should include local government fleets, as well as business and heavy vehicle fleets.
- Urges large Tasmanian corporations to increase their electric vehicle fleets through policies and targets. RACT will explore an increase in its electric vehicle fleet.
- Urges the Tasmanian Government to support the importation of used EVs from overseas to stimulate EV uptake. This is providing they meet all Australian Design Rules standards, are roadworthy and able to be registered.

Other government interventions

RACT

- Urges the Tasmanian Government, local government and businesses to grant EVs preferential parking access next to charging stations with standardised EV charging signs to increase awareness and visibility. This would be in the short term.
    - This can be facilitated through specific number plates or exemption stickers applicable to EVs, which has been mandated but is not yet active in Tasmania. Such a model can be implemented around on-street parking sites, carparks, shopping centres or retail districts, places of employment and government buildings and rest stops
    - When planning any future development, including for shopping, retail, hospitality, employment, education or accommodation, EV charging capacity requirements or charging stations, as well as preferential parking near chargers, must be considered.
- Urges the Tasmanian Government and, where applicable, local government, to grant EVs access to future T2 and T3 lanes developed across the state in the short term. As EVs become more common, this should be repealed.

Electric public transport

RACT

- Urges the Tasmanian Government, alongside Metro Tasmania, to establish an electric bus fleet. Metro's latest buses can be converted from diesel to electric.
    - The Tasmanian Government must also seriously consider other electric public transport options, such as hybrid or hydrogen buses, electric, hybrid or hydrogen ferries for the River Derwent, electric trams/trackless trams, light rail and trains as well as electric autonomous buses.

Micro-mobility transport

RACT

- Urges the Tasmanian Government, local government, businesses and educational institutions to increase the safe and legal uptake of legal micro-mobility transport devices, including e-bikes, e-scooters and e-skateboards. This includes the safe interaction of MMT devices with vehicles, including through separated cycleways, and ensuring operators comply with legislation.
    - Part of this will be urging the Tasmanian Government to appropriately consider the NTC's proposed regulatory framework to ensure personal mobility devices to be safely used in Tasmania.
- Urges government to facilitate trials, and more permanent use if trials are successful.

Fuel-cell electric vehicles (hydrogen)

RACT

- Urges the Tasmanian Government to invest in hydrogen powered mobility to leverage the opportunities Tasmania has through the renewable energy profile.
- Urges the Tasmanian Government to undertake the exploration of opportunities to increase FCEV transport technologies in the form of heavy vehicles, Metro buses, fleet vehicles, and ferries/barges. These "return to base" applications will allow for the best use of hydrogen refuelling infrastructure.
    - The government should undertake passenger FCEV trials within its fleet to generate awareness and uptake as the technology becomes available.
    - As passenger FCEV technology becomes available, the government should explore strategies to introduce this technology in Tasmania, including trials.
    - The government should also establish hydrogen storage and refuelling stations across Tasmania to facilitate introduction and uptake of FCEVs.
- Urges the Tasmanian Government, local government and key stakeholders to continue to, or commence, a public outreach and education campaign surrounding EVs.

- Will educate Tasmanians on the use of low and zero emission mobility options. This includes how they operate, their environmental benefits, costs and models.
- Will explore a high profile EV or FCEV trial in Tasmania.

3) SCOPE

3.1 Policy Relevance

This policy is relevant to all Tasmanian motorists and transport stakeholders, including:

- Tasmanian road users
- The Australian Electric Vehicle Association
- The Tasmanian Climate Change Office
- The Tasmanian Electric Vehicle Working Group
- TasNetworks
- Hydro Tasmania
- Local government
- Metro Tasmania
- Bicycle Network Tasmania
- The University of Tasmania
- The Department of State Growth
- Australian Government ministers
- Tasmanian Government ministers
- The Australian Automobile Association
- State and territory auto clubs

3.2 Policy Ownership

- The ownership and responsibility of this policy is with the RACT Board.

4) APPROVALS

4.1 Date of approval: [insert date]
4.2 Date of review: [insert date]
4.3 Signature of CEO: [insert signature]