







Purpose

To provide Lake Macquarie with a charging infrastructure strategy that prepares our community for the global transition to electric vehicles

The challenge

Transport is undergoing a global paradigm shift and passenger vehicles are at the forefront of this change. Manufacturers and technology companies are rapidly moving the automotive industry towards an electric and automated future. With electric vehicle numbers increasing globally, governments and other organisations have started to devise strategies to promote and adjust to the change, addressing the massive shift from liquid fuels to electricity for road vehicles.

Locally, Lake Macquarie must address the absence of publicly available EV charging stations. The lack of charging infrastructure is a significant barrier to EV uptake by local residents and businesses, imposes limits on transport investment options and reduces Lake Macquarie's viability as a destination for EV tourism.



Consistent with projections for European, American and Asian markets, Australia's uptake of electric vehicles (EVs) is expected to rise rapidly over the next decade. A shift towards EVs in international markets and the lack of Australian vehicle manufacturing mean Australia must plan now for this major change.

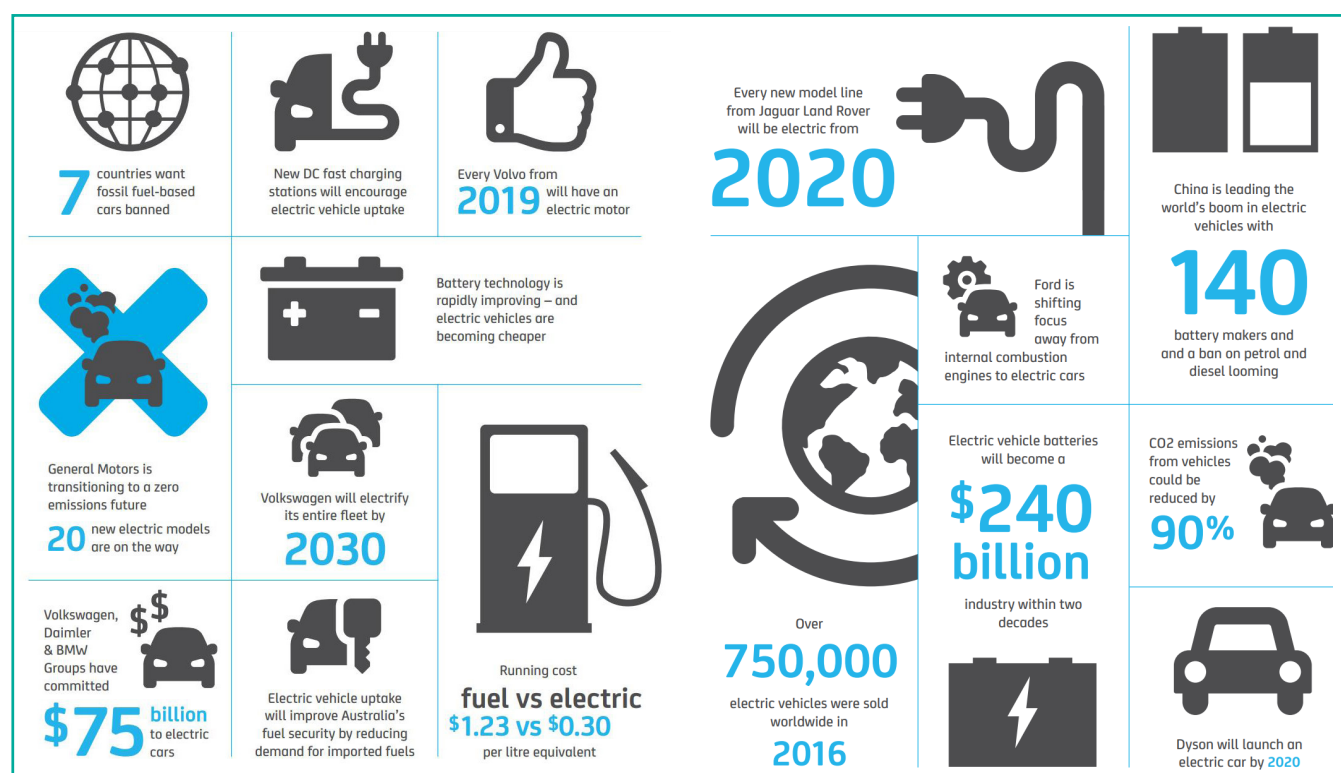
"Without taking crucial steps now, Australia will be left behind and the impact on our economy and local communities will be dire."

- NRMA, 2019

While estimates of future EV uptake rates in Australia vary, many authorities predict their purchase will accelerate significantly over the next 10-20 years. A 2018 study commissioned by the Australian Government predicted plug-in electric vehicles (PEVs) would make up 20 per cent of new public vehicle sales by 2030. Another report by the Bloomberg Energy Finance group has suggested that EVs will make up 40 per cent of Australia's new public vehicle sales by 2040.

The NRMA says the future of transport mobility in Australia will be "increasingly electric", with the nation now on the precipice of its first "transport revolution" since the shift from horse and cart to combustion engine almost 100 years ago.

Cities across Australia need to be prepared for this transition.



Source: NRMA 2017 'The Future Is Electric' mynrma.com.au/-/media/documents/the-future-is-electric.pdf

Purpose of this Strategy

This strategy provides a framework for consistent deployment of charging infrastructure across the City by private enterprise, residents and Council itself. Lake Macquarie City Council has a role in supporting the community as we move towards an electric vehicle future. This includes transitioning our own vehicle fleet, deploying chargers at our facilities in a way that enables a core charging network across our City, and providing guidance and support to businesses, community sectors and residents installing their own chargers. We must do this in a collaborative way, playing to our own strengths and leveraging those of our partners.

The strategy's aim is to set a long-term vision and provide electric vehicle charging network principles to ensure our city's investments align with regional and national investments. Our strategy is supported by a three-year action plan.

Council will lead the way with several publicly accessible chargers across the City, providing the catalyst for others to install more chargers around Lake Macquarie.

Alignment with other strategies and plans

Our strategy has been prepared to ensure strategic alignment with national, state and local strategies and plans.

Document	Summary	Alignment
A National Strategy for Electric Vehicles (2019)	Developed to ensure the transition to electric vehicle technology and infrastructure is planned and managed so that all Australians can access the benefits. The National Strategy emphasises the opportunities of a well-managed shift to EV to provide cleaner air, better health, smarter cities, lower transport costs and lower greenhouse gas emissions.	Our strategy focuses on enabling a core network that provides access for all motorists, regardless of what type of home they live in and what electric vehicle they drive.
NSW Future Transport Strategy (2016)	A suite of plans (The Future Transport 2056 Strategy, the Regional NSW Services and Infrastructure Plan and the Greater Sydney Services and Infrastructure Plan) focusing on the decisions needed over the next 40 years. Includes the need to take a strategic approach to EVs to accelerate uptake and maximise benefits.	Our strategy includes a long-term vision for EVs in Lake Macquarie and the Hunter and identifies a strategic approach to enable EV charging infrastructure as key to accelerating EV uptake and maximising benefits.
NSW Electric and Hybrid Vehicle Plan (2019)	A five-year plan to guide government and industry action on EVs. Actions within the plan are focused on three key priority areas: vehicle availability, charging points and customer information. The plan includes commitments to enable EV charging infrastructure across the State through co-investment, development of standards and guidelines, and supporting strategic land use planning. In the area of customer information, the plan commits to investment in a digital platform and development of standard roadside wayfinding signage	Our EV charging network principles, strategies and actions have been developed to ensure consistency with the State plan and leverage partnership opportunities with Transport for NSW.

Document	Summary	Alignment
NSW Climate Change Policy Framework (2016) Lake Macquarie Greenhouse Gas Policy	<p>Sets an aspirational goal of net zero carbon emissions by 2050 through measures such as energy efficiency and renewable energy.</p> <p>The Lake Macquarie Greenhouse Gas Policy articulates the City's commitment to a three per cent annual per capita greenhouse gas reduction from 2007-2008 levels.</p>	Our strategy includes commitments to smart and sustainable energy for EV charging, which may include demand management and smart grid management techniques, and sourcing of on-site or remote renewable energy.
Imagine Lake Mac 2050 and Beyond (2019)	A long-term strategy to guide the evolution of Lake Macquarie City to 2050. This includes a strategic aspiration to be a City of close connections, including expanding active transport networks, maximising progress in technological change such as electric vehicles, autonomous vehicles and on-demand public transport, and planning and advocating for appropriate infrastructure. This will cater for population growth and stimulate investment within the City. Provision of appropriate infrastructure to support the uptake of technology to improve the performance of transport outcomes in the City is highlighted.	The transport hierarchy highlighted in Imagine Lake Mac is integrated into our EV charging network principles, strategies and actions. The core EV charging network to be developed in Lake Macquarie focuses on the strategic economic centres, economic centres and commuter hubs identified in the Imagine Lake Mac transport map.
Lake Macquarie City Community Strategic Plan 2017-2027 (2017)	A plan for our community outlining how we can achieve our City's vision. Mobility and accessibility and connected communities are key focus areas, and include a focus on active and public transport.	Our strategy includes access for all and supports the transport hierarchy as key principles.
Lake Macquarie Parking Strategy (2018)	Covers best practice parking management principles considered essential to solve the City's parking issues.	Our strategy includes specific consideration of the location of chargers in light of the parking strategy, and identifies management actions required to address operational issues relating to parking enforcement.
Environmental Sustainability Strategy and Action Plan	Consolidates actions to achieve Council's environmental sustainability priorities into a single document linked to the Local Government Integrated Planning and Reporting Framework. The priority action areas include transport, environmental health (including air quality), climate change adaptation and energy.	Our strategy delivers against the identified priority areas, providing the framework for an orderly transition to an EV future for our City.

Principles for a Lake Macquarie electric vehicle charging network

Access for all

We provide equitable access to affordable, convenient charging infrastructure aligned with community needs. Chargers are easy for the community to find via consistent wayfinding signage and digital platforms like Google Maps and Plug Share.

Fit for purpose

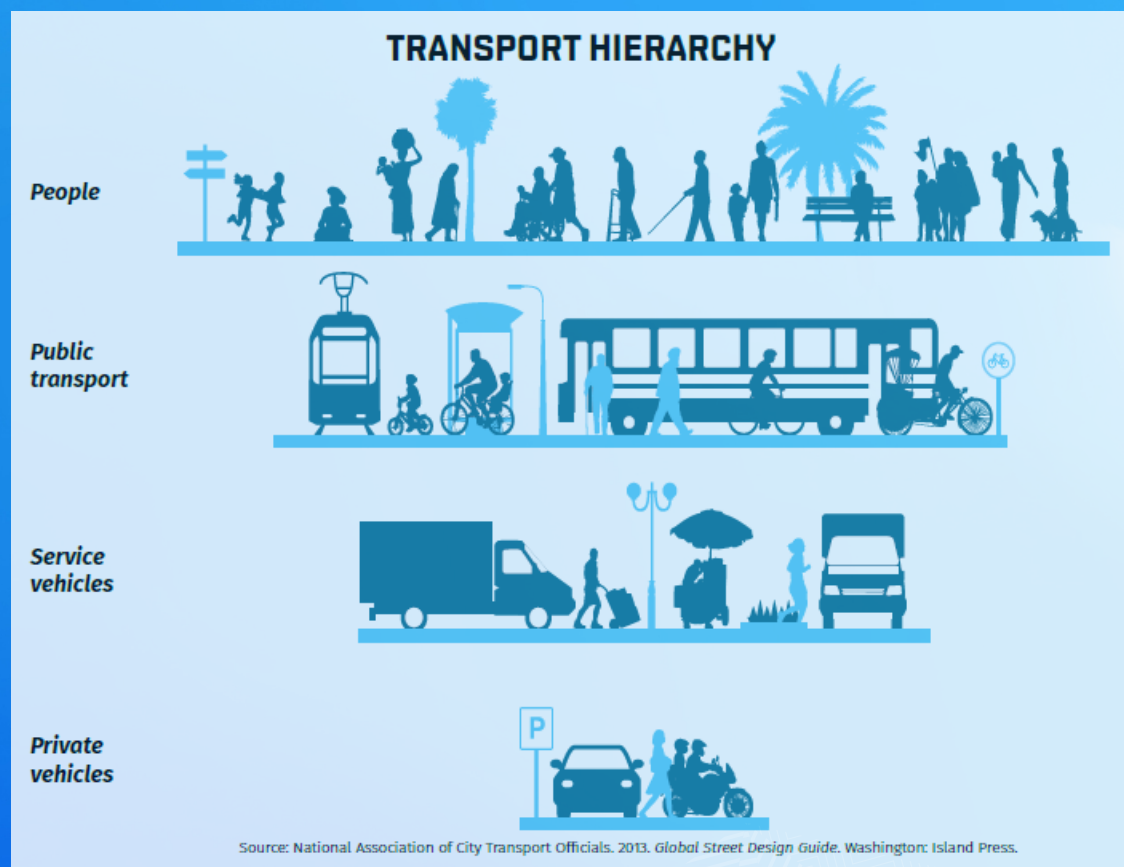
The right chargers are installed in the right places by the right organisations to ensure a fit-for-purpose network. We will play our part to enable the network, and will support residents and private enterprise to expand the network in line with demand.

Support the transport hierarchy

Chargers are designed and located in a way that supports Lake Macquarie's transport hierarchy and network.

Leverage economic opportunities

We make the most of economic opportunities provided by EV charging, such as increased visitation to tourist locations and shopping districts, while not over-capitalising.



Smart infrastructure

Our charging network is smart in the way it's deployed and managed. The network is deployed with agility, where we learn from each step and adjust as we go. We collect and share data to enable collaboration, digital access and continuous improvement. Smart grid management and renewable energy sources are prioritised.

Regional consistency through collaboration

The community has access to a consistent charging network across the Hunter Region and Central Coast, leveraging expertise and funding from multiple sources, including government and private enterprise.



Our key strategies

We have identified five strategies to achieve our vision. These strategies are supported by achievable actions to be implemented over the next three years.

Strategy 1 – Develop regional and cross-sector partnerships

We will strengthen investment in Lake Macquarie's EV charging, coordinating local efforts with regional, state and national EV charging networks. We will develop regional and cross-sector partnerships to support our region's transition to EVs. This will enable us to coordinate the efforts of multiple parties to achieve a fit-for purpose, regional EV charging network and leverage collaborative opportunities.

Strategy 2 – Plan transport for liveable communities

We will integrate EV charging into future decision-making, with a focus on infrastructure that supports smart transport options for all parts of the community. Our planning will support the City's transport hierarchy and adapt based on community feedback. In doing so, we will move our City closer to our 2050 transport vision of a "City of close connections".

Strategy 3 – Deploy Lake Macquarie Council charging infrastructure

To ensure we make the most of our large operational footprint, we will deploy appropriate charging infrastructure at key Council sites across Lake Macquarie City. This will support the transition of our own fleet and ensure a core network of chargers accessible to the public.

Strategy 4 – Facilitate deployment of non-Council infrastructure

Deployment of charging infrastructure by Council will support access to public chargers across the City, leading the way for others to continue further installations.

With our partners, we will facilitate deployment of critical public charging infrastructure at key locations beyond Council's control, and provide consistent guidelines, tools and resources to support businesses, residents and developers installing their own EV charging infrastructure.

Strategy 5 – Encourage smart energy and smart grid management

Electric vehicle charging provides opportunities and challenges for the way we source energy and manage the grid. With our partners we will undertake smart-charging trials. These will explore ways to improve EV charging management, charge EVs from renewable energy and investigate how to include EVs into the grid. We will facilitate appropriate data sharing to improve charging outcomes.

A core EV charging network for Lake Macquarie

A key aspect of our Action Plan is the provision of a core network of EV chargers at strategic locations. This map shows proposed EV charging locations for the baseline network. Further deployments will be considered on a case-by-case basis using our decision support tool.

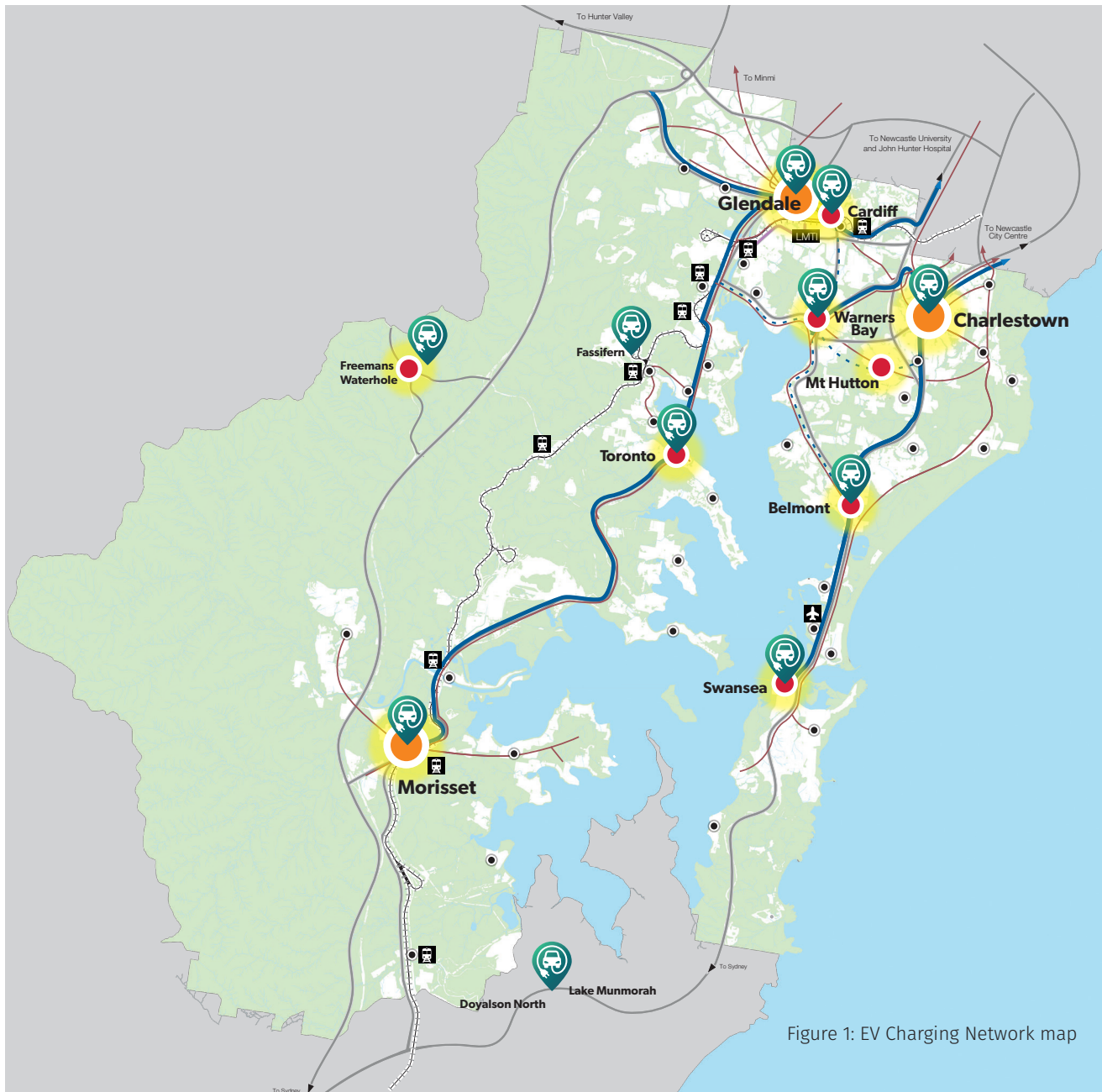


Figure 1: EV Charging Network map

ELECTRIC VEHICLE CHARGING NETWORK MAP



Monitoring progress

With a rapidly changing transport landscape, the implementation of our strategy must be flexible and agile. It will be based on regular monitoring of our progress and technological changes. We will establish milestones and a resourcing strategy based on the action plan presented in this strategy, and will devise relevant next steps as we progress. We will track progress through our Environmental Sustainability Strategy and Action Plan and report to the community through the Lake Macquarie City Annual Report. Monitoring and reporting will include evaluation of how we are tracking against the six principles outlined in this document, and whether corrective actions are needed to keep us on track. A stand-alone EV charging action plan completion report will be prepared in 2022.

Appendix 1 – Three-year action plan

Strategy 1 – Develop regional and cross-sector partnerships

Action	Primary Responsibility	Timing
Facilitate a regional local government forum and working groups to ensure consistency and leverage opportunities	Environmental Systems/City Works	Years 1-3
Establish partnerships with key infrastructure providers, transport operators, ride share platforms, EV retailers and member-based organisations, including Transport for NSW, Ausgrid, taxi operators and the NRMA	Environmental Systems/City Works	Years 1-3
Work with tourism, retail and hospitality operators to install appropriate charging infrastructure	Arts, Culture and Tourism/ Environmental Systems	Years 1-3
Investigate opportunities to co-locate EV car sharing scheme at core charging sites	Assets/Environmental Systems	Years 1-3

Strategy 2 – Plan transport for liveable communities

Action	Primary Responsibility	Timing
Engage with stakeholders on how the location of EV charging infrastructure could support an expansion of travel choices	Community Partnerships	Years 1-3
Incorporate universal design principles into design / technical specifications for infrastructure	Assets/Environmental Systems	Year 1
Explore opportunities for electric vehicle charging facilities, including electric bikes and scooters	Assets/Community Partnerships	Years 1-3

Strategy 3 – Deploy Lake Macquarie Council charging infrastructure

Action	Primary Responsibility	Timing
Prepare technical guidance for Council charger installations and associated infrastructure	Environmental Systems/Assets	Year 1
Pilot operating models and user payment methods for publicly accessible chargers	Environmental Systems/ Finance	Years 1-3
Establish charging supplier panel	Environmental Systems/Assets	Year 1
Deploy appropriately rated chargers at strategic locations identified in Figure 1	Assets	Years 1-3
Define signage and approach to parking enforcement	Assets/Compliance	Year 2

Strategy 4 - Facilitate deployment of non-Council infrastructure

Action	Primary Responsibility	Timing
Seek funding and partnerships for deployments at commuter carparks	Environmental Systems/Assets	Years 1-3
Prepare decision support tool to support investment decisions beyond the core EV charging network	Environmental Systems / Finance	Year 1
Work with partners to provide regionally consistent guidelines for private EV charging installations	Integrated Planning/ Environmental Systems	Years 1-3
Review opportunities to support EV charging in Council's development control plan and guidelines	Integrated Planning	Years 1-3
Provide information and advice on the approval pathways and planning matters for the provision of charging stations	Development Assessment and Compliance	Year 1
Engage with local employers to encourage EV charging in fleet car parks and employee car parks	Community Partnerships	Years 1-3
EV community engagement program, including displays and educational materials	Community Partnerships	Years 1-3

Strategy 5 – Encourage smart energy and smart grid management

Action	Primary Responsibility	Timing
Investigate smart energy management methodologies	Environmental Systems	Years 1-3
Determine and implement a methodology and plan for appropriate data collection and sharing in line with our shared data policy	Business Information and Technology Solutions	Year 1
Trial smart and sustainable public EV charging	Environmental Systems	Years 1-3



Reference Documents

A National Strategy for Electric Vehicles 2019

<https://www.environment.gov.au/climate-change/government/national-vehicle-strategy>

NSW Future Transport Strategy 2056

<https://future.transport.nsw.gov.au/plans/future-transport-strategy>

NSW Electric and Hybrid Vehicle Plan 2019

<https://future.transport.nsw.gov.au/sites/default/files/media/documents/2019/Future%20Transport%20NSW%20Electric%20%26%20Hybrid%20vehicle%20plan.pdf>

NSW Climate Change Policy Framework 2016

Lake Macquarie Greenhouse Gas Policy 2008

<https://www.lakemac.com.au/downloads/111C1FB5C8423D4326DBA067BBEE0DE28393B70B.pdf>

Imagine Lake Mac 2050 and Beyond (2019)

<https://www.lakemac.com.au/downloads/5821B647BFDA30EBBE07C208B1151C9BFA015EB9.pdf>

Lake Macquarie City Community Strategic Plan 2017-2027

<https://www.lakemac.com.au/page.aspx?&pid=2282&vid=25>

Lake Macquarie Parking Strategy 2018

<https://www.lakemac.com.au/parking-strategy>

Environmental Sustainability Action Plan 2014-2023

<https://www.lakemac.com.au/downloads/3C332529AFF9DC84F53E7B6464ECE0FC609F8ED3.PDF>



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