



# PORT STEPHENS

C O U N C I L

## SUPPLEMENTARY INFORMATION

ORDINARY COUNCIL MEETING  
10 OCTOBER 2023

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SUBJECT

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## COUNCIL REPORTS

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- Nb. **Bold** Items listed above have not been previously received or viewed by Councillors.

## SUPPLEMENTARY INFORMATION

ITEM NO. 2

FILE NO: 23/261556  
EDRMS NO: PSC2022-01211

### DRAFT PORT STEPHENS DEVELOPMENT CONTROL PLAN - ROAD NETWORK AND PARKING (ELECTRIC VEHICLES)

REPORT OF: BROCK LAMONT - STRATEGY & ENVIRONMENT SECTION  
MANAGER  
DIRECTORATE: COMMUNITY FUTURES

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#### RECOMMENDATION IS THAT COUNCIL:

- 1) Place the draft Port Stephens Development Control Plan 2014 Chapter B8 Road Network and Parking (electric vehicles) (**ATTACHMENT 1**) as amended on public exhibition for a period of 28 days and should no submissions be received, the Development Control Plan be adopted, without a further report to Council.

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#### BACKGROUND

The purpose of this supplementary report is to provide additional information with regard to the Electric Vehicle (EV) Update Report (**ATTACHMENT 3**), as referenced in the body of the Business Paper.

This supplementary report supersedes the previous supplementary report, noting Council has since obtained copyright consent to enable the EV Update Report (**ATTACHMENT 3**) to be made publicly available.

#### ISSUES

Nil.

#### ATTACHMENTS

- 1) ATTACHMENT 3 - Electric Vehicle Update Report. [↓](#)

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PORT STEPHENS  
DEVELOPMENT CONTROL  
PLAN – EV UPDATE REPORT

For  
Port Stephens Council

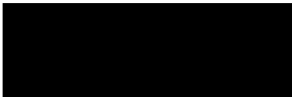
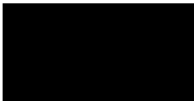
M&P CONTACT  
Lachlan Sims  
Principal Planner

P (02) 4926 1388  
M 0412 667 552  
l.sims@monteathpowys.com

[monteathpowys.com.au](http://monteathpowys.com.au)

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Our Ref: 23/0148	15 June 2023
Project	Port Stephens Development Control Plan – Electric Vehicle Update
Client	Port Stephens Council
Author	Courtney Rovere Planner Graduate Certificate in Urban Design
Signature	
Reviewer	Lachlan Sims Principal Planner Bachelor of Urban and Regional Planning
Signature	

This report was prepared by Monteath & Powys Pty Ltd.

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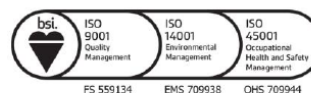
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#### PLANNING PROJECT MANAGEMENT SURVEYING 3D SPATIAL

ABN 94 000 861 110 13/125 Bull Street Newcastle West NSW 2302 info@monteathpowys.com.au  
P (02) 4926 1388 PO Box 2270 Dangar NSW 2309 monteathpowys.com.au

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## 1. INTRODUCTION

Port Stephens Council has engaged Monteath & Powys to review their Development Control Plan (DCP) against other Local Governments Areas (LGA) and their policies regarding electric vehicles (EV) and to recommend amendments to the DCP in accordance with these findings and the NSW Electric Vehicle Strategy.

This review aims to provide recommendations for the inclusion of appropriate provisions within the Port Stephens DCP to development controls remain current with contemporary and emerging standards for new technology, particularly regarding EVs. This includes consideration of providing appropriate infrastructure to ensure provision is made to accommodate the storage, parking and charging of EVs. within private development. The current industry trends, key outcomes from research, best practices, government policies, and anticipated future EV uptake will be outlined. Additionally, the existing strategies and development controls implemented by leading New South Wales (NSW) LGAs are evaluated. Based on the DCP provision review, we will recommend the appropriate development objectives and controls that align with industry trends and support sustainable living for the local community.

This review has been undertaken in response to Port Stephens Council's resolution dated 11 April 2023 (reference EDRMS No: PSC2023-01019) which includes the endorsement that the Port Stephens DCP 2014 is to be amended to include requirements for new development to be EV ready.

It is the intention of this review to provide sufficient information that will assist Council in clarifying its current EV policies and in comparison, with those of other Local Governments and to determine the necessary actions required to amend the DCP. The following areas will be discussed below:

- Overview and summary of current industry trends
- Existing Practices and Policies of Local Governments
- Anticipated future uptake of EVs.
- Evaluation of strategies implemented by Local Governments
- Overview of existing Port Stephens DCP provisions
- Recommendations for development objectives and controls

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## 2. OVERVIEW

This section summarises current industry trends and key outcomes from the EV research conducted. It outlines the adoption of EVs across NSW, the anticipated future uptake, and projections of EV charging infrastructure development. Followed by analysing the best practices, government policies, and initiatives to promote EVs, providing insights into the strategies for EV integration.

### 2.1 Current Industry Trends and EV Adoption

There has been a significant surge in the demand for EVs in Australia in 2023. During January, EVs comprised 5.7% of all vehicles sold, followed by February, which incorporated 6.8% of new car sales. Notably, a total of 5,932 EV sales were recorded in February.

On 3 May 2023, the FCAI issued a media release highlighting key trends in the automotive market. According to FCAI Chief Executive Tony Weber, EVs accounted for 8% of sales in April. Government and Business fleet sales increased by 8.1% and 2.9%, respectively. In contrast, sales in NSW declined by 1.5% (25,040 vehicles) compared to the same month in the previous year.

The National Roads and Motorists' Association Ltd (NRMA) has taken a significant step towards supporting EV infrastructure by establishing 50 electric car charging stations along major roads. The NRMA continues to expand its charging network to enable EV drivers to travel through NSW with peace of mind. These charging stations are located along several main highways, including the Pacific Highway.

By installing charging stations along these routes, the NRMA is actively facilitating the growth and adoption of EVs, offering convenient and accessible charging options for EV drivers on their journeys.

### 2.2 Existing Practices and Policies

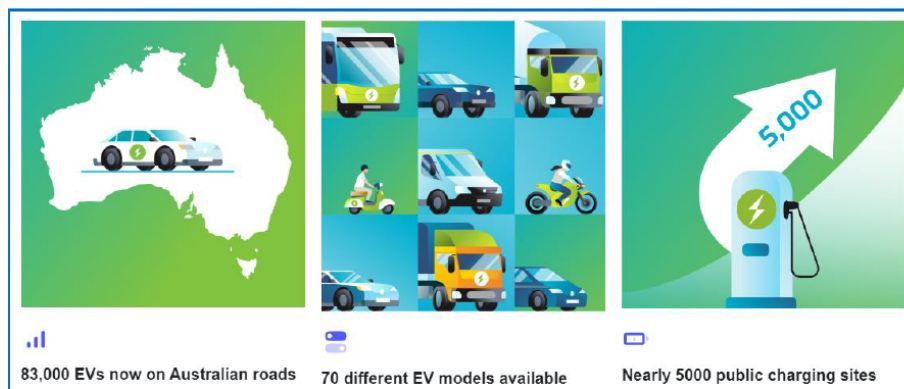
The Australian Electric Vehicle Industry Recap 2022, compiled by the Electric Vehicle Council (EVC), reveals a growth in EV adoption as seen in **Figure 1**. The report indicates EV buyers nearly doubled in 2022, marking an 86% increase over the year. Currently, Australia offers a range of 70 EV models, supported by an extensive network of approximately 5000 public charging stations.

Since the Federal Government introduced several initiatives in 2022, including the National EV Strategy, Electric Car Discount, Emission Reduction Targets, Heavy Vehicles Transition Support, and the Driving the Nation Fund, state and territory governments are now actively joining the efforts to promote adopting EVs. These governments are actively supporting the transition and working towards establishing a favourable environment for EV owners.



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*Figure 1: EV Statistics (Source: Australian Electric Vehicle Industry Recap 2022)*

The demand for EVs is pivotal in providing certainty for investors and governments considering investments in charging infrastructure that may initially have limited utilisation. Contrarily, the need for charging infrastructure delays EV uptake as potential drivers voice concerns about the availability and convenience of charging facilities. This includes accessible and conveniently located public facilities as well as the capacity to connect and charge an EV at home or at the workplace.

Easily identifiable and accessible EV charging infrastructure helps familiarise potential EV drivers with the technology, instilling confidence in the automotive sector's future. It also addresses the concerns of existing and prospective EV owners by providing convenient charging options.

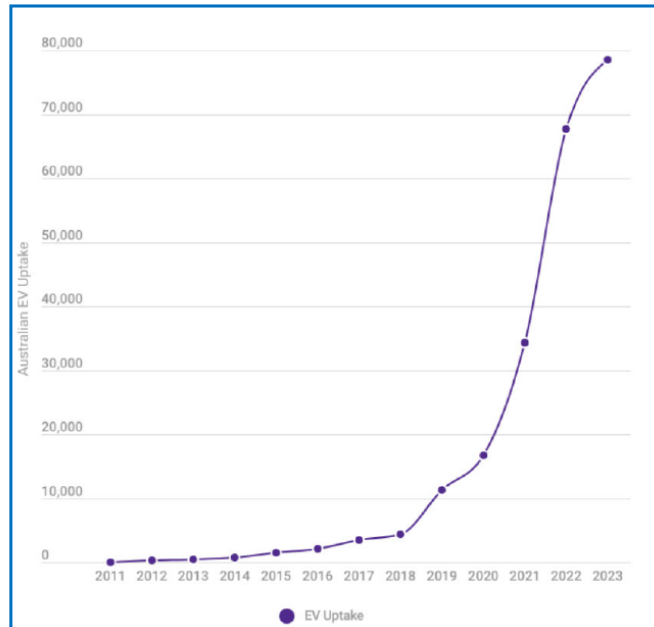
By strategically placing visible charging infrastructure, councils can address recharging concerns while ensuring fair access to charging facilities. This proactive approach supports the broader adoption of EVs and contributes to building sustainable communities. To complement the provision of publicly available and accessible EV charging locations, it is also essential that adequate provision is made for EV charging capacity in locations where vehicles are parked overnight or for extended periods, particularly in residential development.

### 2.3 Anticipated Future Uptake of EVs and Charging Infrastructure

The NSW Government has launched an Electric Vehicle Strategy which aims for 52% of all new car sales to be EVs by 2031. According to **Figure 2** below, the future uptake of EVs in Australia is predicted to reach 80,000 by 2024. This means the availability of EV charging capacity and infrastructure will become an increasing expectation and an essential requirement for consideration in the servicing needs for new development.

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


**Figure 2:** Australian EV Uptake (Source: vFacts, The Driven)

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## 2.4 EV Charging Requirements

The charging requirements for an EV will vary depending on the make of vehicle and the capacity of the charging infrastructure. In general, the charging time for an EV is directly relative to the capacity of the charging infrastructure. Charging infrastructure can be divided into different levels as illustrated in **Figure 3**. In most domestic/residential and small-scale commercial settings, charging infrastructure can be expected at Level 1 or Level 2 only. Faster charging infrastructure requires much greater electrical input capacity and will only be accessible at specially designed locations with access to sufficient infrastructure.

	 Power	 Range added per hour	 Charging time	 Typical application
Level 1 – single phase (domestic)	2.4-3.7kW	10-20km range / hour	5-16 hours	Home
Level 2 slow – single phase (domestic or public)	7 kW	30-45km range / hour	2-5 hours	Home, work, shopping centres, car parks
Level 2 fast – three-phase (public)	11-22kW	50-130km range / hour	30mins – 2 hours	Urban roadside
Level 3 – fast charge (public)	50kW	250-300km range / hour	20-60 mins	Regional near highways, motorways and key routes
Level 4 – super-fast charge (public)	120kW	400-500km range / hour	20-40 mins	Regional near highways, motorways and key routes
Ultra-fast charge (public)	350kW	1000+ km range / hour	10-15 mins	Highways and motorways

**Figure 3** EV charging types (Source: Transport for NSW)

Information provided by Transport for NSW indicates that most EVs can be charged via a standard single phase 10-amp electric plug (the standard home plug used for most electric appliances). The provision of single phase 10-amp power access to most residential and commercial charging settings will be readily possible in most new developments and can be easily retrofitted to most existing car parking locations.

In addition to the above, an EV owner has the option of installing higher capacity charging infrastructure that will run on a single-phase domestic supply (see **Figure 4**). These facilities can be supplied and installed by a number of providers and will require appropriate wiring and support infrastructure.

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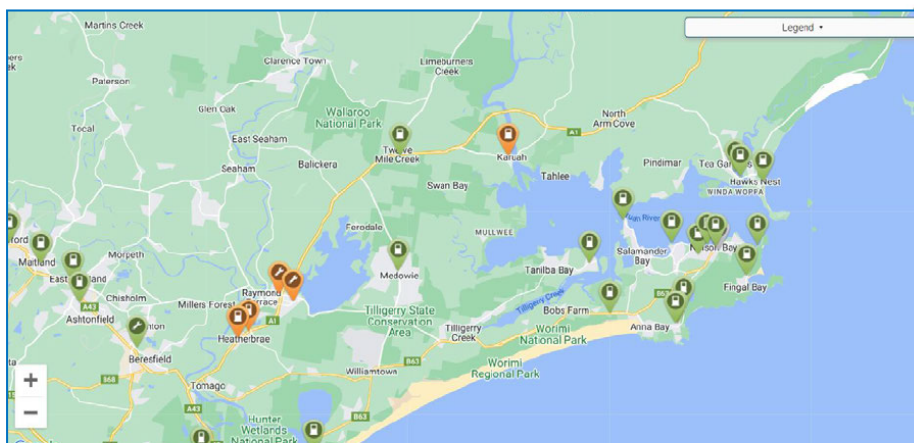
*Figure 4 Example of higher capacity domestic EV charging appliance (Source: TfNSW)*

The provision of higher capacity three phase electric charging requires enhanced electrical circuitry and will require specific wiring and switchboard capacity, thus reducing its accessibility and cost effectiveness in most residential situations. Where this infrastructure is desirable, it is essential to ensure provision is made in the electrical design of the development to enable access and connectivity to three phase electrical circuits in car parking areas.

Currently, higher capacity EV charging infrastructure is typically provided in publicly accessible sites by private operators including large commercial establishments. New and redeveloped service station sites are also beginning to provide high-capacity EV charging infrastructure. Information provided by Transport for NSW indicates that a range of publicly accessible EV charging facilities are available in the Port Stephens area (see **Figure 5**). It is noted, however, that many of these identified sites have limited capacity and accessibility and do not all provide high capacity, fast charging services.

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**Figure 5** Publicly accessible EV charging infrastructure in Port Stephens  
Source: Transport for NSW

It is important to note in the consideration of the above that because of the newness and rapid development of the EV market and its ongoing evolution, charging requirements and options will be constantly changing. The requirements necessary to service EVs today will likely be significantly different in future as the technology and charging capacities/requirements advance.

#### 2.4 National Construction Code

A range of new provisions have been incorporated into the 2022 edition of the National Construction Code. These new provisions include requirements for electric vehicle charging infrastructure in Part J9 of the Building Code of Australia (BCA) that will take effect on 1 October 2023. From this date, new buildings having car parking areas associated with Class 2, 3, 5, 6, 7b, 8 or 9 buildings must be provided with electrical distribution boards dedicated to electric vehicle charging. Class 2, 3, 5, 6, 7b, 8 or 9 buildings include apartment and multi-unit residential buildings, boarding houses, hostels, office and commercial buildings, retail developments, warehouses, factories and industrial buildings and public buildings. An extract of Part J9 is provided in **Figure 6** below.



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### J9D4 Facilities for electric vehicle charging equipment

(1) Subject to (2), a carpark associated with a Class 2, 3, 5, 6, 7b, 8 or 9 building must be provided with electrical distribution boards dedicated to electric vehicle charging—

- (a) in accordance with Table J9D4 in each storey of the carpark; and
- (b) labelled to indicate use for electric vehicle charging equipment.

(2) Electrical distribution boards dedicated to serving electric vehicle charging in a carpark must—

- (a) be fitted with a charging control system with the ability to manage and schedule charging of electric vehicles in response to total building demand; and
- (b) when associated with a Class 2 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 11:00 pm to 7:00 am daily; and
- (c) when associated with a Class 5 to 9 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 9:00 am to 5:00 pm daily; and
- (d) when associated with a Class 3 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 48 kWh from 11:00 pm to 7:00 am daily; and
- (e) be sized to support the future installation of a 7 kW (32 A) type 2 electric vehicle charger in—
  - (i) 100% of the car parking spaces associated with a Class 2 building; or
  - (ii) 10% of car parking spaces associated with a Class 5 or 6 building; or
  - (iii) 20% of car parking spaces associated with a Class 3, 7b, 8 or 9 building; and
- (f) contain space of at least 36 mm width of DIN rail per outgoing circuit for individual sub-circuit electricity metering to record electricity use of electric vehicle charging equipment; and
- (g) be labelled to indicate the use of the space required by (f) is for the future installation of metering equipment.

*Figure 6 National Construction Code 2022 Extract – Part J9  
Source: Australian Building Codes Board*

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### 3. LOCAL GOVERNMENT APPROACH

Many Local Government Authorities (LGAs) across Australia have embraced the increasing accessibility of EV technology to include EVs in Council fleets as part of efforts to increase sustainability and reduce carbon emissions. Many Councils have adopted EV policies as analysed further below, examining their effectiveness in promoting EV adoption, advancing charging infrastructure development, and addressing any associated challenges. The evaluation will compare the policies implemented by other LGAs to identify successful approaches adaptable to the Port Stephens region.

#### 3.1 Implemented Council Policies on EV Infrastructure

Within NSW, LGAs have recognised the significance of EVs and have taken steps to incorporate EV policies into their council areas. In many instances, these provisions only apply to Councils provision and support for public EV infrastructure. The following tables present an overview of these local government areas and their commitment to the adoption of EVs.

Common Trends in Local Government EV Policies	
Commitment to transitioning to electric or hybrid vehicles	
Focus on reducing emissions and promoting sustainability	
Integration of EVs into council fleet vehicles	
Implementation of EV procurement policies	
Collaboration with stakeholders to develop charging infrastructure	

The commitment to transitioning to electric or hybrid vehicles is a prevalent theme, demonstrating their recognition of the environmental benefits and the need to reduce carbon emissions.

These local government areas prioritize sustainability and actively seek ways to promote clean energy alternatives by integrating EVs into their fleet vehicles. By leading by example, they aim to encourage the wider community to consider EVs as a viable transportation option.

Furthermore, the implementation of EV procurement policies showcases a commitment to supporting the EV market and driving demand for EVs. By prioritising EVs in their procurement processes, local councils send a clear message that they value sustainable transportation solutions.

Collaboration with stakeholders, such as energy providers and charging infrastructure developers, is another crucial aspect of these EV policies. By working together, local government areas can develop robust charging infrastructure networks that provide convenient and accessible charging options for EV owners.

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In summary, local government areas in NSW have recognized the importance of EVs and have embraced various policies to support their adoption. By prioritizing electric or hybrid vehicles, reducing emissions, integrating EVs into fleet vehicles, implementing EV procurement policies, and collaborating with stakeholders, these councils are actively contributing to a cleaner and more sustainable future for their communities.

**Table 1:** Local Government Areas and Future Electric Vehicle Replacement Plans

LGA	Future Electric Vehicle Replacement Plan
City of Newcastle	The Newcastle Council presently operates a total of 14 EV charging bays across four locations. The Council's vision of fostering a livable, sustainable, and inclusive city aligns with its objective of achieving a registered EV count of 10,000 by 2025. In line with this commitment, the Council actively encourages and supports the early adoption of EVs within the community.
Northern Beaches	This plan encompasses all publicly accessible EV charging infrastructure on public land (established by the Council or third-party entities). It outlines the comprehensive guidelines for providing public EV charging infrastructure, catering to residents, businesses, and visitors' needs.
Lake Macquarie City	Lake Macquarie Council has officially adopted an Electric Vehicle Charging Strategy to implement a comprehensive charging infrastructure plan that effectively prepares the local community for the ongoing global shift towards EVs. This strategy seeks to address the emerging needs and challenges associated with the widespread adoption of EVs, ensuring the community is well-equipped to embrace this transformative transition.
Woollahra	Woollahra Council has designed an Electric Vehicle Charging Infrastructure Policy to facilitate the establishment of publicly accessible EV charging infrastructure. This policy serves as a guide for the Council in installing public EV charging infrastructure, aiming to encourage and facilitate the adoption of EVs within the community. This policy aligns with similar initiatives Randwick and Waverley Local Government Areas have implemented.
Shoalhaven City	Shoalhaven Council has proactively installed electrical lines for EV charging in all residential developments, except for single-dwelling houses, dual occupancies, and boarding houses. This infrastructure will streamline the cost-effective installation of vehicle charging stations and associated wiring at a later stage.  In non-residential developments in B3 Commercial Core and B4 Mixed Use zones in the Nowra CBD, where ten or more parking spaces are required, a minimum of 10% of these spaces must be designed and constructed to allow for the installation of EV charging points/stations, either presently or in the future.
City of Parramatta	As per the guidelines set by the Parramatta Council, all residential apartment car parking spaces must include an EV Ready Connection for at least one parking space per dwelling, along with EV Distribution Boards of sufficient capacity and ample space for future installations. Additionally, visitor's car spaces must have a shared EV connection available.  In commercial buildings, car parking facilities must provide one shared EV connection for every ten commercial car spaces, ensuring an evenly distributed availability of EV charging points throughout the car park.
Blacktown	The Western Sydney EV Roadmap sets out targets to achieve by 2030. These targets include transitioning at least 50% of council fleets to EVs, ensuring that all buses operate with zero emissions, and aiming for 50% of taxis, car shares, and ferries to be powered by zero-emission technologies. The roadmap serves as a strategic plan to drive the adoption of EVs and promote sustainable transportation solutions in the Western Sydney region.
Inner West	The Inner West Council has implemented an Electric Vehicle Encouragement Strategy 2022. This strategy encompasses publicly accessible EV charging facilities, both kerbside and within Council car parks. It also extends its provisions to address the charging requirements of both new and existing developments, aiming to meet residents' needs and facilitate EV car share schemes. The Council is actively engaged in educational initiatives and awareness campaigns to promote the adoption of EVs within the community.



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### 3.2 Council Adopted Development Controls

As noted above, while many LGAs have adopted policies on incorporating EVs into Council fleets and demonstrating commitments to the provision of accessible and available public charging infrastructure, many Councils are yet to incorporate guidance and requirements for the inclusion of EV charging infrastructure in private developments. Some Councils have taken early steps to adopt EV charging requirements into their DCPs while others are in the process of drafting amendments to incorporate EV provisions. The information provided below contains an assessment of several NSW Councils that have adopted development controls to specifically require the consideration and inclusion of EV charging infrastructure in new private developments.

#### Newcastle City Council

Newcastle City Council has included provisions for EV charging in Part 7.03 Traffic Parking and Access. It contains specific provisions in Section F based on the objective "to encourage and support increased usage and demand for electric vehicles". The DCP references that charging standards are defined by the NSW Electric and Hybrid Vehicle Plan, Future Transport 2056.

The DCP notes that compliance with the controls specified will lead to a development being EV Ready and for larger development this includes ensuring the installation of appropriate electrical circuitry to allow for future EV charging points, by pre-wiring. These controls do not require the installation of a charging point but are encouraged.

The Newcastle DCP specifies different controls based the scale of development as follows:

- new development that involves car parking, or residential alterations and additions with an estimated cost of equal to or more than \$200,000, and
- new residential accommodation development that involves car parking, excluding dwelling houses, semi-detached dwellings, secondary dwellings or dual occupancies

<b>New development that involves car parking, or residential alterations and additions with an estimated cost of equal to or more than \$200,000</b>	
<b>1</b>	Electric circuitry to accommodate 'Level 2' or higher standard EV charging points must be integrated into all off-street car parking of new residential and non-residential development to ensure that 100% of car spaces can install EV charging points in the future. This must include: <ul style="list-style-type: none"> <li>(a) Ensuring adequate electrical capacity and infrastructure (cable size, distribution board size etc.) for the EV charging point system; and</li> <li>(b) Providing either buried cables underground or cable trays sufficient to accommodate electric circuitry to each car space (see Figures below).</li> </ul>
<b>2</b>	Minimum electric circuitry for a 'Level 2' EV charging point, if provided, is required to be: <ul style="list-style-type: none"> <li>Privately available spaces: 'Level 2' slow – single phase with 7kW power or higher standard; and</li> <li>Shared spaces: 'Level 2' fast – three-phase with 11-22kW power or higher standard.</li> </ul>
<b>3</b>	In addition to EV Ready, the installation of electric circuitry for a 'Level 2' or higher standard electric vehicle charging point is encouraged for new dwelling houses, semi-detached dwellings or dual occupancies.

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4	A Development Application is accompanied by a report prepared by a suitably qualified and experienced person (such as an electrical engineer) demonstrating how the development will be EV Ready. This report should also include an accurate electrical plan, specifications for any off-street car parking and any electric kiosk requirements.
5	Provide EV Distribution Board(s) of sufficient size to allow connection of all EV Ready connections.
6	Locate EV Distribution Board(s) so that no future EV Ready connection will require a cable of more than 50 metres from the parking bay to connect.
7	Identify on the plans submitted with the development application, the future installation location of the cable trays from the EV Distribution Board to the car spaces allocated to each dwelling that are provided a Future EV connection, with confirmation of adequacy from a suitably qualified person (such as an electrical engineer). Spatial allowances are to be made for cables trays and EV Distribution Board(s) when designing in other services.
<b>New residential accommodation development that involves car parking, excluding dwelling houses, semi-detached dwellings, secondary dwellings or dual occupancies</b>	
8	Development must provide 1 car parking space or 5% of all car parking spaces – whichever is greater - to have a 'Level 2' or higher standard EV charging point installed. A Development Application is accompanied by a report prepared by a suitably qualified and experienced person (such as an electrical engineer) demonstrating how the development will provide the specified EV charging point(s). This report should also include an accurate electrical plan, specifications for any off-street car parking and any electric kiosk requirements.

#### Northern Beaches Council

Northern Beaches Council have incorporated EV charging provisions into the transitional Warringah DCP. These provisions currently only apply to new development in the Dee Why Town Centre with general traffic and parking requirements including the following EV provisions:

<i>Car parking areas should be designed and constructed so that electric vehicle charging points are either installed with the development or can be installed at a later time.</i>	
a.	<i>New retail, commercial or mixed use development, with a cost of works equal to or greater than \$5 million, must include publicly available electric vehicle charging points at the following rate:</i>
i.	<i>1 charge point per 30 spaces, and</i>
ii.	<i>a minimum of 2 charging points being provided.</i>
b.	<i>Car parking areas should be designed and constructed so that additional electric vehicle charging points can be installed.</i>

#### Woollahra Council

Woollahra Council's DCP provisions relating to relating to Parking and Access are contained within Part E of their DCP. EV specific provisions have been incorporated into Chapter E1.11 and include the following controls:

C1	Electric circuitry to accommodate 'Level 2' EV charging points must be integrated into all off-street car parking of new residential and non-residential development to ensure that 100% of car spaces can install EV charging points in the future. This must include:
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	<ul style="list-style-type: none"> <li>a) Ensuring adequate electrical capacity and infrastructure (cable size, distribution board size etc.) for the EV charging point system; and</li> <li>b) Providing either buried cables underground or cable trays sufficient to accommodate electric circuitry to each car space.</li> </ul>
C2	Minimum electric circuitry for a 'Level 2' EV charging point is required to be: <ul style="list-style-type: none"> <li>a) Privately available spaces: 'Level 2' slow – single phase with 7kW power; and</li> <li>b) Publicly available spaces: 'Level 2' fast – three-phase with 11-22kW power.</li> </ul>
C3	The installation of a 'Level 2' EV charging point is encouraged for new dwelling houses, semi-detached dwellings or dual occupancies.
C4	All new residential and non-residential development (other than for dwelling houses, semi-detached dwellings or dual occupancies) must provide 1 car parking space or 10% of all car parking spaces – whichever is greater - to have a 'Level 2' EV charging point installed.

#### Waverley Council

The Waverley DCP includes provisions for EV charging points in Chapter B7 Transport of Part B based on the objective of preparing future buildings for the requirements of EVs. The DCP includes the controls below as well as a table specifying the required number of charging spaces and their energy capacity.

- a) Electric vehicle chargers and Electric Vehicle Ready infrastructure should be installed as per the rates and specifications in Table 7.
- b) Electric Vehicle Distribution Boards should be installed to achieve the requirements in Table 7.
- c) All charging point locations are to be identified on CC Plans.
- d) All charging points are to have clear signage identifying location, any fees and charges and whether the bay is for public or private use only.
- e) Charging stations should allow for monitoring and individual billing payment through an Open Charge Point Protocol compatible software back end and NMI registered electricity meters.
- f) All mixed use, commercial and residential flat building development with on-site car parking should provide at least 1 dedicated space and charging point to be used for electric bicycles and mobility scooters.

Building Class	Car Space Type	Minimum Charging Stations Installed (% of spaces)	Minimum Number of EV Ready Spaces (%)	Minimum Current per Space (A)	Minimum Energy Capacity per Space Day = 9am-5pm Night = 11pm-7am (kWh)
Low density residential	Resident	0	100	16	Night 24
Medium & high density residential (3 + dwellings)	Resident	20	100	16	Night 15
	Visitor	100	100	32	Day 15
Boarding houses, co-living, hostels, hotels, motels	Any	20	40	32	Night 48
Business & office premises	Any	20	40	32	Day 15
Retail premises	Any	20	40	32	Day 15
Other premises	Any	20	40	32	Day 15

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#### Shoalhaven City Council

Shoalhaven Council have included provisions for EV charging in Chapter G21 of their DCP relating to car parking and traffic. This DCP identifies the performance standard and acceptable solutions to achieve the standard. For EVs, the Shoalhaven DCP's performance standard is "provision is made for charging facilities for electric vehicles". Their identified acceptable solutions to meet this standard are copied below:

- |      |   |
|------|---|
| A3.1 | The installation of electrical conduits for electric vehicle charging for each dwelling in a residential development (excluding single dwelling houses and, dual occupancies or boarding houses) to facilitate cost effective installation of vehicle charging stations and associated wiring at a later date.  |
| A3.2 | Where 10 or more parking spaces are required for non-residential development within the B3 Commercial Core and B4 Mixed Use zones in the Nowra CBD, a minimum of 10% of spaces are to be designed and constructed so that electrical vehicle charging points/stations can be installed now, or at a later time. |

#### City Of Parramatta

The City of Parramatta has included requirements for EV charging infrastructure in their draft citywide DCP. These are based on the following objectives:

- |                   |   |
|-------------------|---|
| <b>Objectives</b> |   |
| O.1               | Ensure new development in Parramatta provides the necessary infrastructure to support the charging of electric vehicles.  |
| O.2               | To ensure new development in Telopea provides the necessary infrastructure to support the charging of electric vehicles.  |
| O.2               | Minimise the impact of electric vehicle charging on peak electrical demand requirements.  |
| <b>Controls</b>   |   |
| C.1               | All residential accommodation (excluding dwelling houses, secondary dwellings and dual occupancy) car parking must:   |
| a)                | Provide an EV Ready Connection to at least one car parking space for each dwelling/apartment.   |
| b)                | Provide EV Distribution Board(s) of sufficient size to allow connection of all EV Ready Connections and Shared EV connections.  |
| c)                | Locate EV Distribution board(s) so that no future EV Ready Connection will require a cable of more than 50 metres from the parking bay to connect.  |
| d)                | All car share spaces and spaces allocated to visitors must have a Shared EV connection.   |
| e)                | Identify on the plans the future installation location of the cable trays from the EV Distribution Board to the car spaces allocated to each dwelling that are provided a Future EV connection, and to make spatial allowance for it when designing in other services.  |
| C.2               | All commercial building car parking must:   |
| a)                | Provide 1 Shared EV connection for every 10 commercial car spaces distributed throughout the carpark to provide equitable access across floors and floor plates.  |
| b)                | All car share spaces and spaces allocated to visitors must have a Shared EV connection.   |
| c)                | Identify on the plans submitted with the Development Application the future installation location of the cable trays from the EV Distribution Board to the car spaces allocated to each dwelling that have an EV Ready Connection, with confirmation of adequacy from an electrical engineer. Spatial allowances are to be made for cables trays and EV Distribution Board(s) when designing in other services. |
| C.3               | All garages in single and dual occupancy dwellings are to be provided with a Private EV connection, which must be illustrated on plans submitted with the Development Application.  |

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### 3.3 Evaluation and Recommendations

The range of controls identified above varies from highly prescriptive to overly general but with a consistent trend demonstrating the importance of focusing on ensuring development has capacity to adapt and accommodate the needs of EV charging requirements into the future. It is further noted that some of the adopted provisions by some Councils has the effect of duplicating and potentially conflicting with the new NCC requirements that take effect on 1 October 2023.

It can be considered that, based on current and anticipated EV trends, most low-density housing arrangements with provision for off-street parking will be readily adaptable to allow for the fitting and retrofitting of EV charging infrastructure. Based on this, and consistent with the requirements of the NCC 2022, it is not recommended any specific development controls be implemented for low scale residential development such as dwelling houses, secondary dwellings or dual occupancies (NCC Class 1 buildings).

The key consideration for Port Stephens Council in reviewing and updating its DCP controls is to ensure future multi dwelling, medium and high density residential, mixed use, commercial and tourist development can accommodate the expected demands for EV charging into the future. Based on this and from the examples above, the incorporation of appropriate but flexible and adaptable EV charging requirements into the DCP that supplement the forthcoming NCC requirements will ensure new development is designed and constructed to contain appropriate provision for EV charging that meets future expectations.

In summary, the current acceptable standards for the provision of EV charging infrastructure within new developments are:

- To provide adequate electrical circuitry and capacity within larger scale development to service an appropriate level of charging connectivity to all car spaces (this provision will largely be addressed by the NCC requirements),
- To provide shared, public car parking with charging points (or capacity for their installation) in retail, commercial, mixed use and tourist developments at an appropriate ratio (e.g. 1 per 10 spaces),
- Car parking in development is designed with capacity to incorporate future EV infrastructure without substantial reconfiguration or redesign, and
- Residential apartment development provides 1 car parking space per dwelling with capacity for EV charging (either provided with the development or with capacity for future installation at occupant's expense).

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#### 4. PORT STEPHENS DCP REVIEW

The Port Stephens DCP currently contains requirements for car parking infrastructure in Part B8. This part specifies the expected on-site parking provisions for new development and is the recommended location for inclusion of EV specific considerations.

Consistent with the projected increase in the use and ownership of EVs and using the model of similar approaches taken by other LGAs, it is recommended Port Stephens Council considers a range of minor amendments to Part B8 of the DCP to incorporate the provision of EV infrastructure in new development.

##### 4.1 Recommended DCP Amendments

The most appropriate location within the current Port Stephens DCP for inclusion of provisions for EVs is within Part B8 which contains provisions relating to Road Network and Parking. The recommended additional provisions relating to EVs can be included as separate component in Part B8.F and can supplement and complement the existing parking provisions without impacting on the function of the existing objectives and controls. The recommended additional objectives and controls to facilitate the provision of EV infrastructure in new developments are provided below.

##### Objectives

It is standard practice in the application of development controls to ensure these are based on a performance objective. To enable and support the provision of EV related controls and expectations for new development in Port Stephens, it is recommended an appropriate additional objective be included in a new Part B8.F to reflect this as follows:

- To recognise the increasing use and demand for electric vehicles and ensure new development is designed to reflect this.*
- To ensure development includes adequate infrastructure to provide for the charging of electric vehicles.*

##### Controls

The findings of this report have identified the dynamic nature of the EV sector and its rapidly changing technological environment, it is recommended that prescriptive development controls for EV charging infrastructure in new development be avoided.

A precautionary approach to applying development controls is recommended. This will ensure that adequate provision is made in new development to accommodate the demands for EV use while also allowing flexibility and adaptability as demand/ownership of EVs increases and technological changes are implemented.

It is the recommendation of this report that specific EV charging controls are not applied to low density residential development (such as dwelling houses, dual occupancies and semi-detached dwellings) at this time. In general, these developments can readily provide EV charging connectivity as needed without requiring specific development controls. Other developments, such as medium and high density residential developments, require consideration of EV charging capacity at design stage given the potential difficulties of retrofitting infrastructure post-construction. Similarly, inclusion of EV charging capacity in non-residential development is relevant for at design stage for larger scale developments.

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The inclusion of stand-alone EV related objectives and controls in a new Part B8.F of the DCP that complements existing parking related requirements will also enable these provisions to be revised and updated in the future without compromising other DCP elements.

The recommended development controls for EVs to be included in a new Part B8.F of the DCP are as follows and are intended to be supplementary to the requirements of the NCC:

- |       |   |
|-------|---|
| B8.20 | Car parking for <b>residential accommodation</b> (excluding dwelling houses, dual occupancies and semi-detached dwellings) is to be designed to include provision of electrical circuitry with capacity to provide charging facilities for an electric vehicle to each car parking space. |
| B8.21 | Car parking for non-residential development where 10 or more parking spaces are provided is to include provision for the installation of at least one shared electric vehicle charging point for every 10 car parking spaces.   |

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## 5. CONCLUSION

This report has identified the emerging trends and anticipated increased demands expected in the use of EVs in Australia. The recently published NSW Government EV Strategy projects that by 2031, 52% of all new vehicle sales will comprise EVs. This will result in a significant increase in the demand and expectation for EV charging facilities particularly in the residential setting. This is further supported by new provisions incorporated into the NCC for the inclusion of wiring and electrical switchboard infrastructure to be designed to accommodate future demand for EV charging. Over time it is anticipated that EV charging facilities will become more standardised, and that expectations and requirements will evolve and adapt with developing technologies. The recommendations of this report provide for the implementation of a level of guidance and control for new development to ensure adequate provision is made for EV infrastructure that will meet current needs but that can also be flexible and adaptable to accommodate a changing technological environment.



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## Monteath & Powys

ABN 94 000 861 110

13/125 Bull Street  
Newcastle West NSW 2302

PO Box 2270  
Dangar NSW 2309

P (02) 4926 1388  
[info@monteathpowys.com.au](mailto:info@monteathpowys.com.au)

[monteathpowys.com.au](http://monteathpowys.com.au)