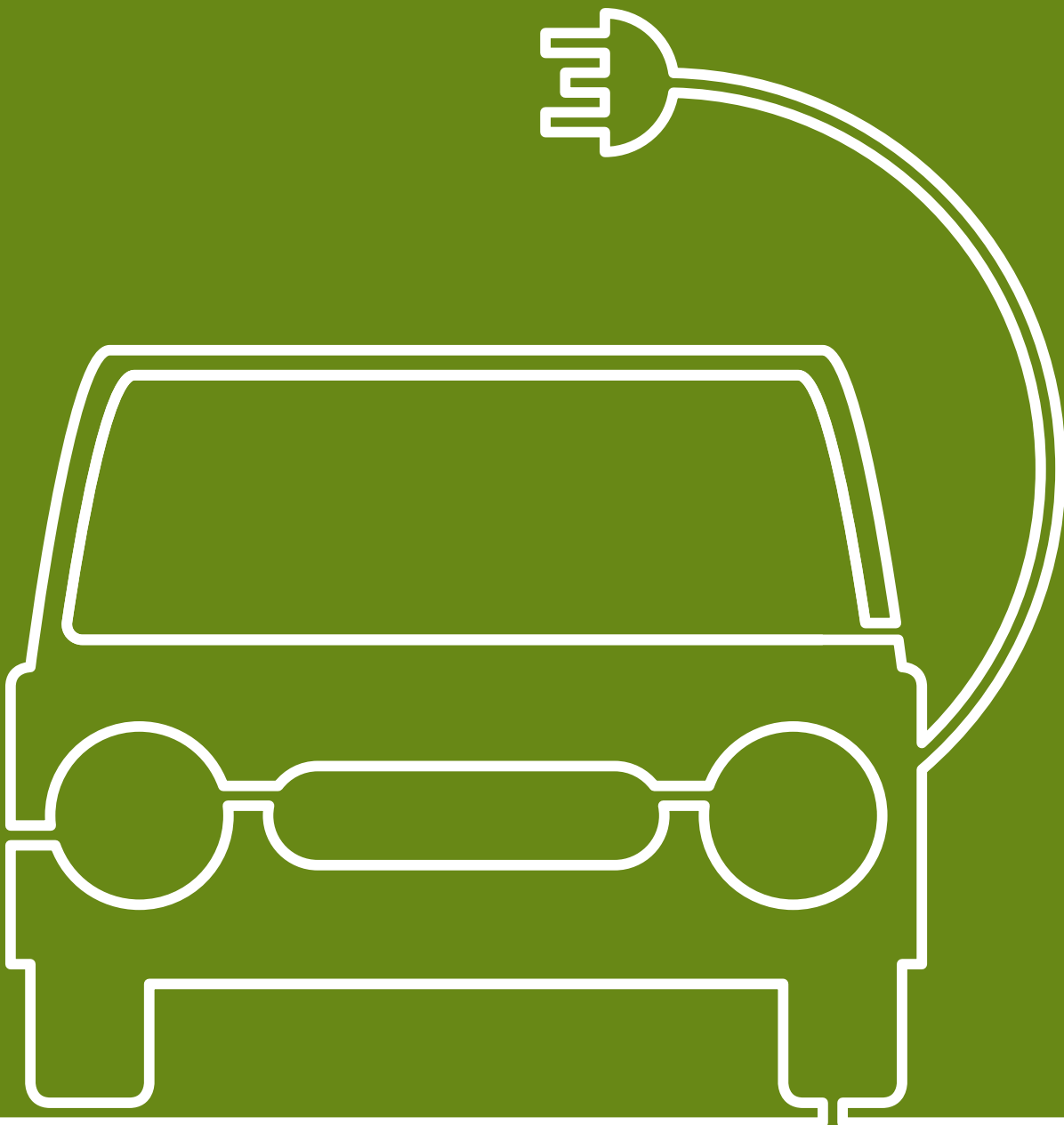


# Electric vehicle charging infrastructure strategy

October 2023



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# Abbreviations

<b>BEV</b>	Battery electric vehicle	<b>RPZ</b>	Resident parking zone
<b>CCC</b>	Climate change committee	<b>SLA</b>	Service level agreement
<b>CO<sub>2</sub></b>	Carbon dioxide	<b>SSEN</b>	Scottish and Southern Electricity Networks
<b>CPO</b>	Chargepoint operator	<b>TfSE</b>	Transport for the South East
<b>CSR</b>	Central Southern region (framework)	<b>TRO</b>	Traffic Regulation Order
<b>DFES</b>	Distribution future energy scenarios	<b>V2B</b>	Vehicle to building
<b>DfT</b>	Department for Transport	<b>V2G</b>	Vehicle to grid
<b>DNO</b>	Distribution network operator	<b>V2H</b>	Vehicle to home
<b>DVLA</b>	Driver and Vehicle Licensing Agency	<b>V2X</b>	Vehicle to anything
<b>ETRO</b>	Experimental Traffic Regulation Order	<b>ZEV</b>	Zero emission vehicle
<b>EV</b>	Electric vehicle		
<b>EVCi</b>	Electric vehicle chargepoint infrastructure		
<b>GSI</b>	Geospatial insight		
<b>HGV</b>	Heavy goods vehicles		
<b>ICE</b>	Internal combustion engine		
<b>IWC</b>	Isle of Wight Council		
<b>KPIs</b>	Key Performance Indicators		
<b>kW</b>	Kilowatt		
<b>kWh</b>	Kilowatt-hours		
<b>LEVI</b>	Local Electric Vehicle Infrastructure (Fund)		
<b>LGV</b>	Light goods vehicle		
<b>MW</b>	Megawatt		
<b>ORCS</b>	On-street residential chargepoint scheme		
<b>OSM</b>	OpenStreetMap		
<b>OZEV</b>	Office for Zero-Emission Vehicles		
<b>PCN</b>	Penalty Charge Notice		
<b>PHEV</b>	Plug-in hybrid electric vehicles		
<b>PHV</b>	Private hire vehicle		
<b>PPO</b>	Parking Places Order		
<b>PV</b>	Photovoltaic (solar) panels		

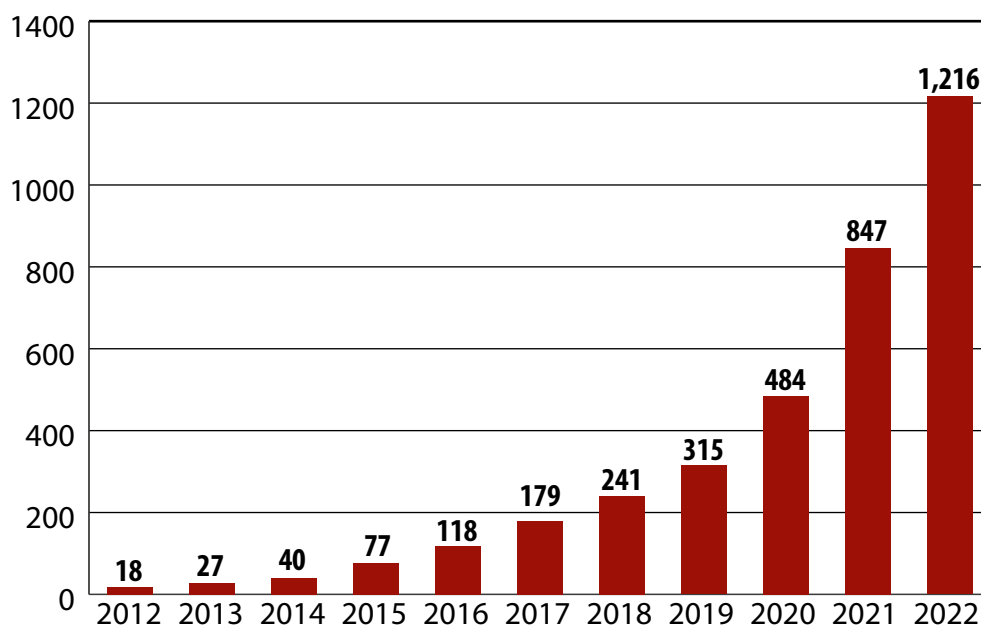
# 1 Introduction

In November 2020, the UK Prime Minister announced the phase out of new petrol and diesel cars and vans from 2030 and hybrids from 2035, at which point all new cars and vans must be fully zero emission at the tailpipe. By 2050, almost all cars and vans on our roads will be zero emission.

This provides a clear signal to consumers and industry that the transition to electric vehicles (EV) is underway. Those purchasing vehicles today will be thinking about the choice between an electric motor and an internal combustion engine (ICE).

Vehicle ownership data is released by the Driver and Vehicle Licensing Agency (DVLA)<sup>1</sup>. At the end of December 2022 there were 1,216 plug-in cars and light goods vehicles (including Battery electric vehicles [BEVs] and plug-in hybrids) registered on the Isle of Wight, up from 847 the previous year.

**Figure 1: EV ownership on the Isle of Wight**



Many of these EV owners will have private charging facilities at home, but the lack of public charging infrastructure is seen as one of the biggest hurdles to the uptake of EV. The UK Government's Zero Emission Vehicle Delivery Plan (July 2021)<sup>2</sup> states:

- 1 Vehicle licensing statistics data tables: [www.gov.uk/government/statistical-data-sets/vehicle-licensing-statistics-data-tables#ultra-low-emission-vehicles](http://www.gov.uk/government/statistical-data-sets/vehicle-licensing-statistics-data-tables#ultra-low-emission-vehicles)
- 2 Transitioning to zero emission cars and vans: 2035 delivery plan: [www.gov.uk/government/publications/transitioning-to-zero-emission-cars-and-vans-2035-delivery-plan](http://www.gov.uk/government/publications/transitioning-to-zero-emission-cars-and-vans-2035-delivery-plan)

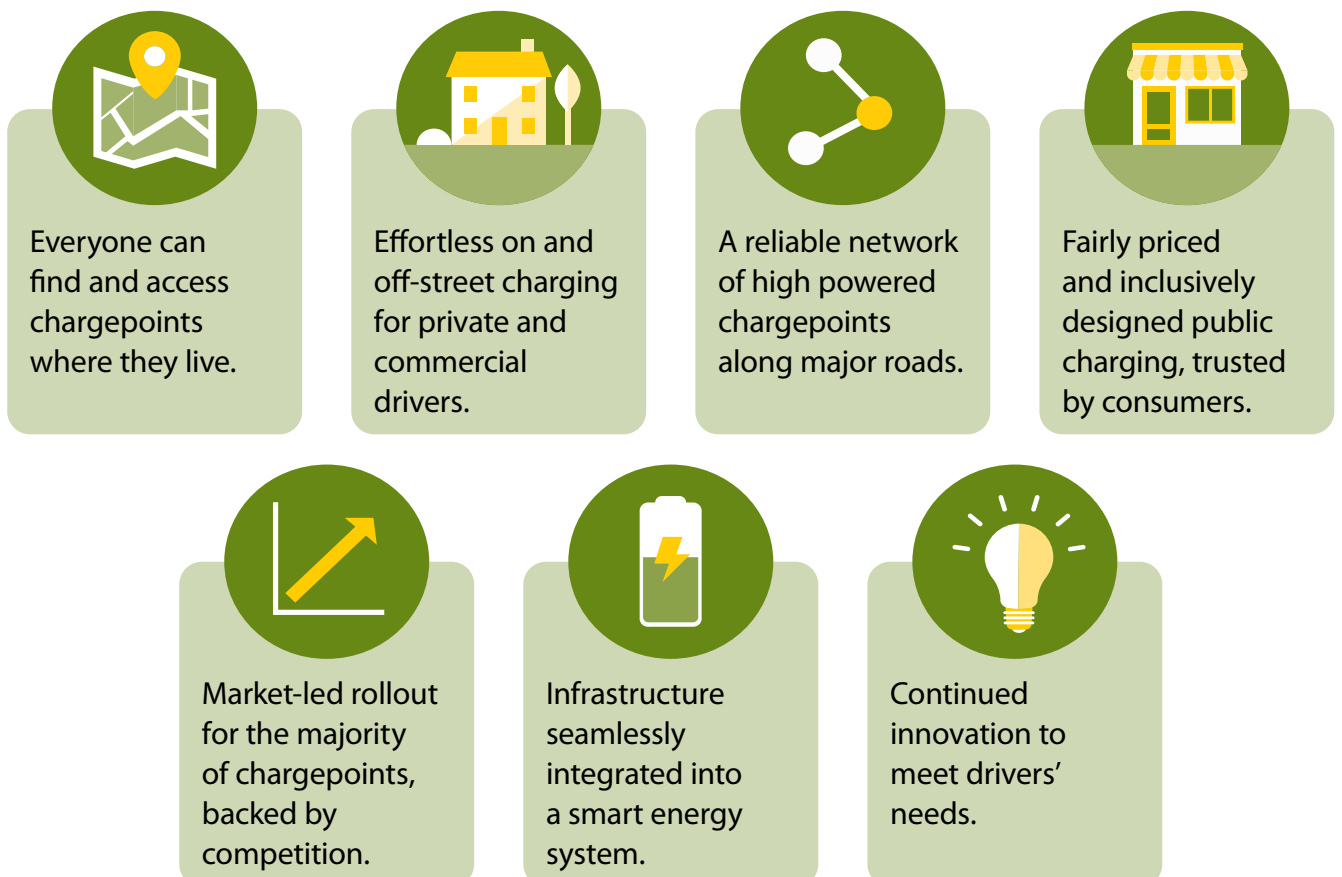
**“The rollout of charging infrastructure is critical to achieving our ambitions (for electric mobility)... Infrastructure provision and quality is key to convincing motorists to make the switch.”**

Public chargepoints serve a number of purposes; they allow residents without off-street parking to own an EV; they allow EV owners to ‘top-up’ opportunistically, for example, when shopping or visiting leisure sites; they reduce range anxiety by assuring EV owners that they can access charging points at any time; they support EV taxis; they provide a network which allows visitors to bring their electric vehicle to the Island; and they allow fleet vehicles to recharge without having to return to base.

This network must be provided ahead of demand in order to give confidence to prospective EV owners and allow them to purchase an EV without hesitation. Clearly there are risks in this. The chargepoints may initially have low usage and therefore run at a loss in the early years. Also, it is possible that charging systems will change over the next decade or so, with alternatives to plug-in charging emerging. However, the typical life of a charge point is eight to 10 years meaning that an investment made today should provide a commercial return before any alternative forms of charging become widely available.

The national EV Charging Infrastructure Strategy was published in March 2022 and puts an obligation on local authorities to develop and implement local charging strategies. These strategies should identify how to provide affordable, convenient charging for residents, businesses (including fleets), and visitors without causing highway disruptions that could discourage walking and cycling. The Strategy highlights a national pot of £500m (the Local Infrastructure Support Programme) to drive innovative new approaches to deploying local chargepoints at scale.

**Figure 2: Aims of National EV Chargepoint Infrastructure Strategy, 2022**



Government is also asking local authorities to scale up the rollout of public chargepoints on local streets. The specific responsibilities for local government, specified in the strategy, are:

Organisation	Summary of role and responsibilities
Local and mayoral authorities	<ul style="list-style-type: none"><li>• Develop and deliver ambitious tailored local EV charging infrastructure strategies that provide scaled, commercially sustainable public charging provision. They should align with wider local transport and energy decarbonisation policies.</li><li>• Ensure clear ownership and resourcing of the planning and delivery of EV charging infrastructure rollout.</li><li>• Ensure local chargepoints are inclusively designed and accessible for residents, businesses, and visitors, and in line with local authorities' legal obligations.</li><li>• Ensure internal processes for the installation of chargepoints (for example grant permissions) are efficient, fast and easy to navigate for those working with local authorities.</li></ul>

The number and speed of chargepoints required will depend on both technological developments and charging behaviour. The range of EVs will continue to increase, meaning less frequent charges are required. Instead of the 'run to empty, fill up and run to empty again' cycle typical of fossil fuelled vehicles, EVs may operate with regular small top-ups, taken opportunistically when a chargepoint is available.

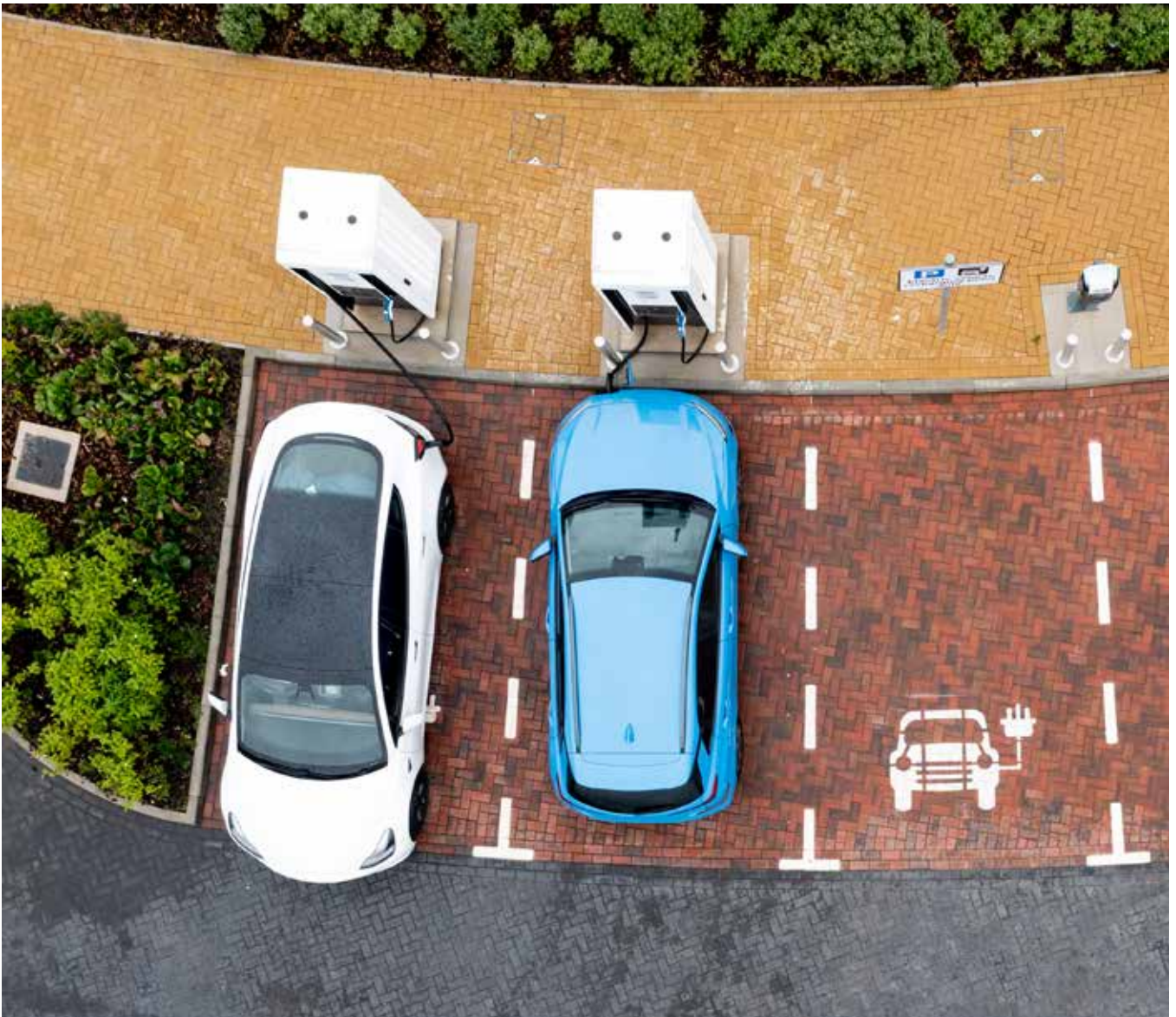
This could reduce the demand for ultra-fast charging but increase the number of chargepoints required.

The strategy for the Isle of Wight aims to provide a clear pathway for the development of the public charging network over the short and medium terms. It provides a no-regrets approach to the provision of publicly accessible EV charging infrastructure. Developments over the long-term (10+ years) are discussed but, because of unknowns, can't be planned for in detail at this stage.

## 2 Strategy development

A draft Electric Vehicle Charging Infrastructure (EVCI) strategy was developed throughout 2022, drawing on the knowledge of industry experts such as Energy Saving Trust and Cenex, guidance from other local authorities and the experience of the council in hosting chargepoints since 2013. Views from local chargepoint installers, town and parish councils and representative organisations, such as Visit Isle of Wight, were also sought.

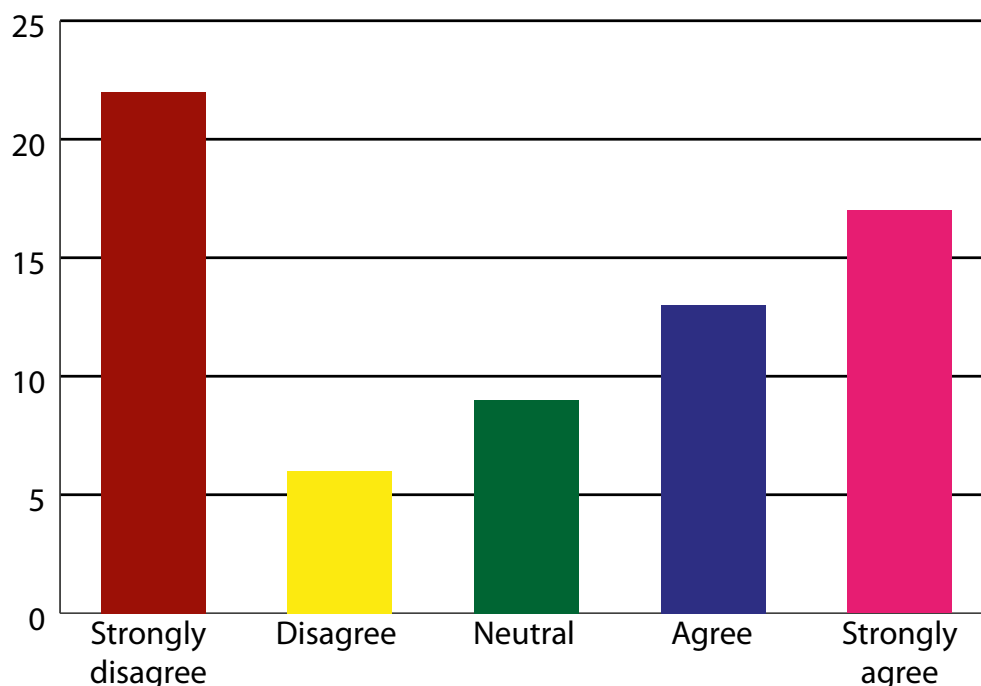
The draft strategy was issued for public consultation which ran for eight weeks from 24 February 2023 to 21 April 2023. A total of 68 responses were received during the consultation period. The majority of those who responded were residents (91 per cent) with a small number of responses from business owners, chargepoint operators (CPOs), visitors and others (including parish councillors). There was a





fairly even split between those who agreed and disagreed with the strategy, with 43 per cent agreeing or strongly agreeing and 41 per cent disagreeing or strongly disagreeing. 13 per cent were neutral.

**Figure 3: Survey response – Overall to what extent do you agree with this strategy?**



Answers	Count	Percentage
<b>Strongly disagree</b>	22	31.88%
<b>Disagree</b>	6	8.7%
<b>Neutral</b>	9	13.04%
<b>Agree</b>	13	18.84%
<b>Strongly agree</b>	17	24.64%

The council has incorporated, as far as possible, the results of the consultation in the final strategy. Some of the key issues and council responses are highlighted in the table on the opposite page:

**Table 1: Summary of consultation responses**

Issue	Response
<p>There was some opposition to on-street chargepoints with five respondents stating that they took parking away from residents and should not be pursued.</p>	<p>The council recognises that on-street chargepoints are more difficult to site and manage and can lead to resentment from residents. The draft strategy states that it will focus on provision in public car parks, with on-street chargepoints considered in areas which do not have convenient access to car parks. Where on-street chargepoints are provided, only one bay will be reserved for charging initially until demand increases, when the second bay will then be allocated. It should also be recognised that a car parked in the EV charging bay is likely to free up a space elsewhere on the street, so overall parking pressure should not be heavily impacted. This will become more evident as EV ownership increases. The needs of disabled drivers and those with limited mobility should also be recognised. These drivers require charging facilities closer to home.</p>
<p>it was pointed out that the placement of chargepoints should safeguard the pedestrian environment.</p>	<p>The council agrees with this and will favour a clear two metre footway width after a chargepoint is installed. A minimum of 1.5 metre will apply in all cases. The government is clear that the roll out of chargepoints should not hinder walking or cycling in any way.</p>
<p>The public are naturally concerned about what safety precautions are being put in place for chargepoints.</p>	<p>All on-street chargepoints are subject to a safety audit prior to installation to ensure that the location of the equipment is safe for users and others in the public realm. Installers must be suitably qualified and an Electrical Installation Certificate completed at commissioning. Contractual arrangements with CPOs will ensure that electrical tests are carried out on a regular basis and emergency procedures are in place for an immediate response in the case of a vehicle collision with a chargepoint.</p>
<p>It was requested that the council be able to offer advice and guidance to residents on vehicle charging and to businesses and others on how best to provide charging facilities.</p>	<p>Through its Local Electric Vehicle Infrastructure (LEVI) Capability Fund allocation, the council intends to employ a specialist to oversee the roll out of further public chargepoints. The postholder will consider how best to support the community in developing a wider network and will ensure that communications are updated to provide helpful guidance.</p>

Issue	Response
<p>A number of respondents felt that the demand from visitors had not been adequately assessed. They also pointed out that chargepoints could be provided at much holiday accommodation and that this could be a slower speed as most charging would be overnight. Visit Isle of Wight recommends more ultra-rapid charging at ferry terminals and a strong emphasis on reliability to ensure a good experience for visitors and to maintain the Island's reputation.</p>	<p>It is very challenging to determine visitor demand as there are so many behavioural issues to factor in. The consultation document did highlight some reports that had been focused on the Island which indicated significant visitor demand. While the council will focus public funding on provision for residents, the additional demand from visitors will make some locations more commercially viable for a CPO and may support a wider network. The council will continue to work with site owners that can offer private facilities for their guests, especially where they are able to open this up for wider community use. It will pursue the provision of ultra-rapid charging and will liaise with ferry operators on provision in and around ports. It will also have a focus on reliability to ensure that the public have a good experience of the chargepoint network.</p>
<p>The responses highlighted the need for charging hubs offering fast and rapid charging close to taxi ranks and other strategic points.</p>	<p>The council understands the need for fleet vehicles, including taxis, to have access to ultra-rapid charging facilities so that they can recharge during a shift. These are best provided at charging hubs and the council will seek to identify a shortlist of charging hub locations at strategic sites. These will include some slower chargers which allow fleet vehicles to charge overnight ready for the start of the shift in the morning.</p>

The consultation responses did not provide any major objections to the key principles in network development which the council will therefore adopt in this strategy. The council will therefore:

- contract with third party CPOs to fund and manage the public chargepoint infrastructure on its land;
- identify sites and seek providers who will install and run rapid charging hubs;
- for those without driveways, provide charging in council car parks in the first instance;
- focus on higher-powered chargepoints to minimise the amount of infrastructure required;
- adopt a new standard for on-street charging bays to ensure safety and accessibility;
- investigate the procedures and legal agreements required to permit cable gullies in streets which are not in close proximity to existing or planned chargepoints;
- allow car club operators to install EV chargepoints at dedicated car club bays in council car parks;
- not apply a parking charge to vehicles that are using the chargepoints in council car parks before 1 January 2025;
- ensure that future chargepoints installed on its land have an instant contactless card payment option.

## 3 Scope

This strategy focuses primarily on EV charging infrastructure for cars and vans, including taxis, private hire vehicles and delivery vehicles. It does not aim to identify charging infrastructure for larger vehicles and buses but recognises that some of the infrastructure may be suitable for these vehicles.

This strategy will not deal with charging for:

- **ebikes** – these use domestic three-pin sockets for charging. Power packs can be removed for charging inside, either at home or at destinations, so no planned public infrastructure is envisaged, apart from hire schemes which will provide their own charging system.
- **motorbikes** – solutions for electric motorbike charging are emerging with some using domestic three-pin sockets and others the type 2 chargepoints that are used by cars. It's anticipated that most motorbikes will be able to charge at home as they don't require the same off-street space as cars, but public charging needs will be kept under review.
- **buses and coaches** – the infrastructure for buses will require dedicated chargepoints which will be provided by the operator. The requirement for coaches is not yet defined but may be included in future versions of this strategy.
- **heavy goods vehicles (HGVs)** – as it is currently unclear to what extent they will utilise batteries or a low carbon fuel alternative such as hydrogen.
- **marine vessels** – electric boats have been developed and some EV charging has been installed at marinas around the world. Boat charging is a specialist activity which may be considered for harbours and marinas owned and operated by the council and others but is not included in this Strategy. We will, however, consider the opportunities for vehicle charging at ports and marinas.

Charging on strategic road network (motorways and major A roads) is managed by Highways England.

# 4 Existing chargepoints

Since 2022, the council has initiated the installation of 33 chargepoints, with a total of 66 sockets, on its land. These are a combination of 50kW rapid chargers and 22kW fast chargers, with a small number of 7kW standard chargers.

## 4.1 On-street

The council was successful in a bid to the On-Street Residential Chargepoint Scheme (ORCS)<sup>3</sup> for 75 per cent funding towards the cost of installing 10 on-street charge points. The sites selected, following requests from residents, are as follows:

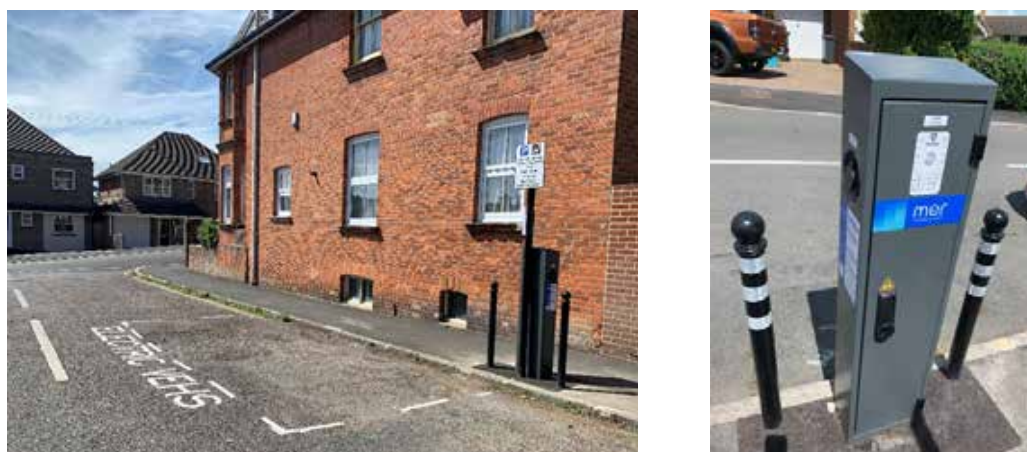
**Table 2: Sites for on-street chargepoint pilot project**

Town	Site	Number of sockets	Rate of charge (max)	Go live date
Cowes	Seaview Road	2	22kW	July 2022
Cowes	Cowes Parade	2	22kW	March 2023
East Cowes	Adelaide Grove	2	22kW	June 2022
Newport	Quay Street (1)	2	22kW	December 2022
Newport	Quay Street (2)	2	7kW	December 2022
Newport	Wykeham Road	2	22kW	June 2022
Ryde	Milligan Road	2	22kW	June 2022
Seaview	Seafield Road	2	22kW	February 2023
Ventnor	Trinity Road	2	7kW	July 2022
Yarmouth	River Road Car Park	2	22kW	March 2023

It should be noted that, while the maximum rate of charge has been quoted, not all vehicles are able to charge at this rate due to the limitations of the on-board charger. Therefore, while some vehicles (e.g. Renault Zoe) can charge at the full 22kW, others will charge at a slower rate.

3 On-Street Residential Chargepoint Scheme guidance for local authorities: [www.gov.uk/government/publications/grants-for-local-authorities-to-provide-residential-on-street-chargepoints/grants-to-provide-residential-on-street-chargepoints-for-plug-in-electric-vehicles-guidance-for-local-authorities](https://www.gov.uk/government/publications/grants-for-local-authorities-to-provide-residential-on-street-chargepoints/grants-to-provide-residential-on-street-chargepoints-for-plug-in-electric-vehicles-guidance-for-local-authorities)

**Figure 4: On-street chargepoint installations as part of pilot project**



At each of these sites an experimental traffic regulation order (ETRO) has been issued which allocates one dedicated charging space initially. This will increase to two when demand grows.

The council has provided a [Chargepoint Request form](#)<sup>4</sup> for residents to request a chargepoint installation on their street.

Further information is provided at the council's [dedicated webpage](#)<sup>5</sup>.

## 4.2 Off-Street

During 2022 and 2023, a number of off-street chargepoints have been installed in council car parks by Joju and its investment partner Mer. The chargepoints installed are as follows:

**Table 3: Off-street chargepoints to be installed in council car parks during 2022/23**

Note: rapid charger is 50 kilowatts, fast charger is 22 kilowatts and standard charger is seven kilowatts.

Town	Site	Details	Number of sockets
Newport	Chapel Street	One rapid charger and two fast chargers	6
Newport	Seaclose Park	One fast charger	2
Ryde	Quay Road	One rapid charger and one fast charger	4
Ryde	St. Thomas Street (upper) Car Park	One rapid charger and one fast charger	4
Sandown	St. John's Road Car Park	One rapid charger and one fast charger	4
Cowes	Cross Street Car Park	One rapid charger and one fast charger	4

4 [survey123.arcgis.com/share/d59e28215e4f4f9b8b9c759182d03ea8](https://survey123.arcgis.com/share/d59e28215e4f4f9b8b9c759182d03ea8)

5 [www.iow.gov.uk/transport-and-parking/electric-vehicle-charging-strategy/on-street-charge-points](https://www.iow.gov.uk/transport-and-parking/electric-vehicle-charging-strategy/on-street-charge-points)

Town	Site	Details	Number of sockets
Ventnor	Central Car Park	One rapid charger and one fast charger	4
Freshwater	Moa Place Car Park	One fast charger	2
Shanklin	Orchardleigh Road Car Park	One fast charger	4
Lake	New Road Car Park	One fast charger	4
Wootton Bridge	Brannon Road Car Park	One fast charger	2
Cowes	Somerton Park & Ride	One fast charger	2
Yarmouth	River Road Car Park	One rapid and one fast charger	4

Further information is provided at the council's [dedicated webpage](#)<sup>6</sup>



6 [www.iow.gov.uk/transport-and-parking/electric-vehicle-charging-strategy/off-street-charge-points](http://www.iow.gov.uk/transport-and-parking/electric-vehicle-charging-strategy/off-street-charge-points)

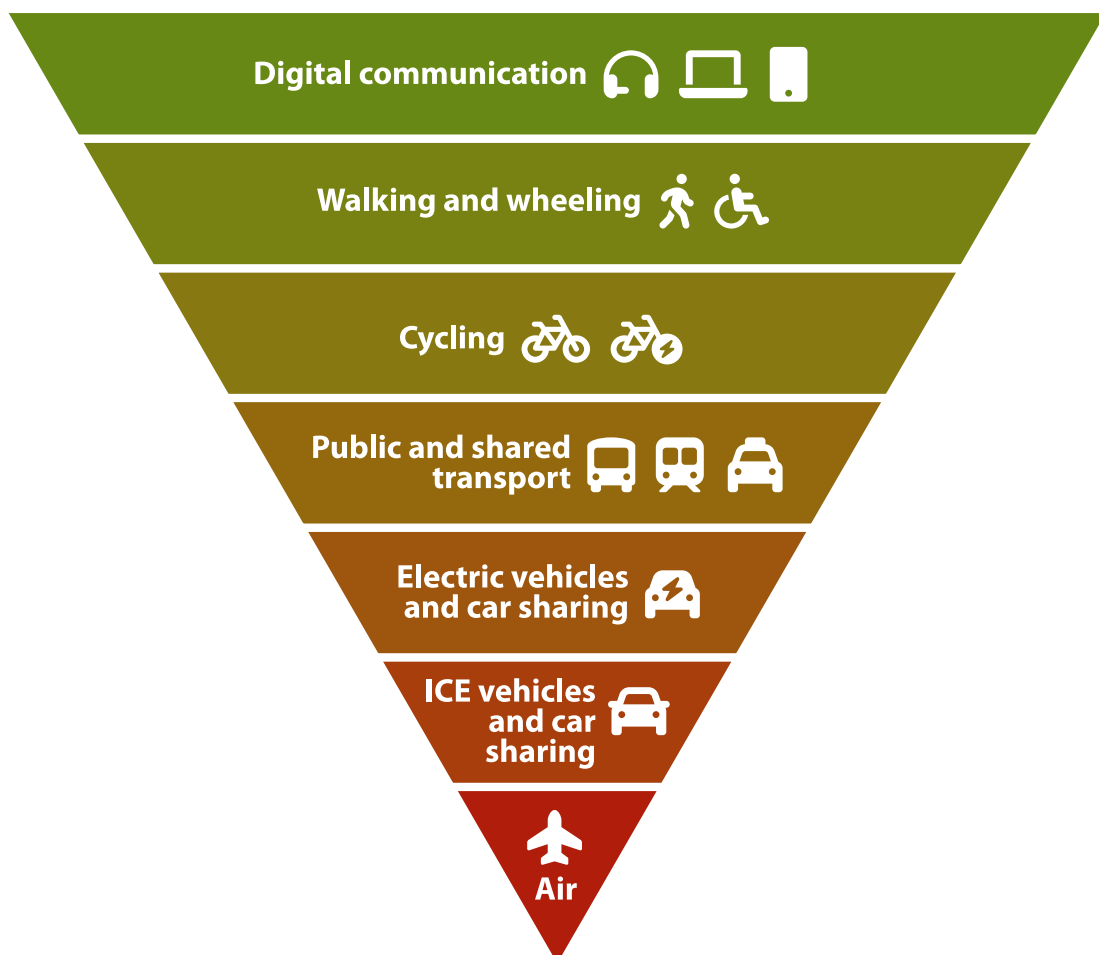
# 5 Sustainable transport hierarchy

Electric vehicle chargepoints are part of a policy approach to the decarbonisation of transport which is being resolved through the Local Transport Plan (LTP).

The LTP advocates a hierarchy of transport options which favours active travel (walking and cycling) and public transport but continues to support the use of private cars.

The sustainable travel hierarchy is an illustrative tool that enables an individual to understand the carbon impact of their journey. The higher up the hierarchy, the greener the travel option, ranging from digital communication through to air travel as illustrated below:

**Figure 5: The Sustainable travel hierarchy (Source: Energy Saving Trust 2021<sup>7</sup>)**



7 Energy Saving Trust (2021) An introduction to the sustainable travel hierarchy: [energysavingtrust.org.uk/an-introduction-to-the-sustainable-travel-hierarchy](https://energysavingtrust.org.uk/an-introduction-to-the-sustainable-travel-hierarchy)



According to the most recent National Travel Survey (Department for Transport [DfT], 2021)<sup>8</sup> most trips undertaken are relatively short. In 2020, 25 per cent were under one mile, and 75 per cent were under five miles. While walking is undertaken for most trips under one mile, for trips of more than one mile, the car is the most used mode of travel. While many of these journeys up to five miles can be undertaken by walking, cycling or public transport, for many longer trips, often the only practical option currently is to travel by car.

Car clubs are growing both in availability and popularity (albeit from a low base) and provide an alternative option to owning a car. They tend to be more commonly available in urban areas and, as public transport is either limited or unavailable in rural areas and cycling and walking aren't considered practical options due to long distances and lack of safe walking routes in some areas, many residents and visitors are left with little option other than using a private car (CoMoUK, 2020)<sup>9</sup>.

As such, where the use of a car is required, the use of electric vehicles contributes significantly less carbon emissions into the atmosphere over their lifecycle when compared to petrol and diesel vehicles. The latter also contribute a significant level of air pollution that can be harmful to both human health and the environment. In comparison, electric vehicles have zero tailpipe emissions, thus improving local air quality. Thus, within the context of the sustainable travel hierarchy it is important to encourage the use of electric vehicles where possible.

The national EV Charging Infrastructure Strategy states that chargepoints should not be installed where they'll interfere with modes higher up the hierarchy, for example, by preventing walking or the installation of cycle lanes.



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8 DfT (2021) National Travel Survey 2020: [www.gov.uk/government/statistics/national-travel-survey-2020/national-travel-survey-2020](http://www.gov.uk/government/statistics/national-travel-survey-2020/national-travel-survey-2020)

9 CoMoUK (2020) Shared Cars: [como.org.uk/shared-mobility/shared-cars/what](http://como.org.uk/shared-mobility/shared-cars/what)

# 6 Links with other strategies

## 6.1 Local

### **Isle of Wight Council corporate plan<sup>10</sup>**

The corporate plan is seeking to enhance the Island's infrastructure and support green and thriving businesses. These objectives are supported by accelerating the deployment of EV chargepoints for residents, businesses and visitors.

### **Mission zero climate and environment strategy 2021 to 2040, Isle of Wight Council, September 2021<sup>11</sup>**

The provision of electric vehicle chargepoints supports the council's climate and environment strategy and the ambition for the Island to be net zero by 2040. Specifically, it will support the following output:

**Output 040 – Increase the number of publicly available rapid charging and fast charging electric vehicle chargepoints across the Island to at least 72.**

This level of provision will meet immediate need. All chargepoints will be supplied with green electricity.

### **Local Transport Plan 4 (LTP) (in development)**

Called the Island transport plan, this is the main transport document for the council and outlines the transport vision for 2038. It will enable the council's commitment to achieving net zero by 2040 for the whole Island focusing on the following four main objectives:

1. A transport network which produces net zero greenhouse gas emissions and is resilient to the impacts of climate change.
2. People and goods can travel sustainably and efficiently to and from, and around the Island to help grow the local economy.
3. An inclusive, accessible, and affordable transport system for all.
4. A safe transport network that supports thriving, healthier communities.

Within LTP4 is 'Policy 14 – Supporting Zero Emission Vehicles (ZEV)'.

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10 Corporate Plan 2021 to 2025: [www.iow.gov.uk/documentlibrary/view/corporate-plan-2017-2020](http://www.iow.gov.uk/documentlibrary/view/corporate-plan-2017-2020)

11 Mission zero climate and environment strategy 2021 to 2040: [www.iow.gov.uk/azservices/documents/2570-Mission-Zero-Climate-and-Environment-Strategy-2021-2040-final.pdf](http://www.iow.gov.uk/azservices/documents/2570-Mission-Zero-Climate-and-Environment-Strategy-2021-2040-final.pdf)

## Isle of Wight Youth Council

The Isle of Wight Youth Council manifesto<sup>12</sup> identifies actions to help young people on the Island and commits “to work with the council and support campaigns that look after the environment and to create a sustainable, renewable hub for all”. Young people will be at the forefront of the move to more sustainable transport. Improvements in air quality resulting from the switch to EVs will be beneficial to young people, particularly those suffering from respiratory disease.

## 6.2 Regional

### Electric Vehicle Charging Infrastructure Strategy

Transport for the South East (TfSE) published a charging infrastructure strategy and action plan, along with supporting evidence in 2023<sup>13</sup>. The main objectives are to:

- produce scenarios for potential demand for EV infrastructure in the region.
- identify spatial clusters of demand for different types of charging infrastructure across the region.
- bring together data on current demand and potential future demand from fleets operating in the region.
- identify what further support local authorities need to develop local EV infrastructure strategies.
- highlight best practice in partnership working.
- foster partnerships between local authorities and other key stakeholders to ensure charging infrastructure is delivered in an efficient and cohesive manner.

## 6.3 National

### Ten point plan for a green industrial revolution, HM Government, November 2020<sup>14</sup>

Nationally, the Government has made a legally binding commitment to net zero by 2050 with stage posts, known as carbon budgets, to ensure continued progress. The commitment includes the

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12 Youth Council: [www.iow.gov.uk/council-and-councillors/isle-of-wight-youth-council/youth-council-manifesto](http://www.iow.gov.uk/council-and-councillors/isle-of-wight-youth-council/youth-council-manifesto)

13 Electric Vehicle Charging Infrastructure Strategy - Transport for the South East: [transportforthesoutheast.org.uk/our-work/electric-vehicle-charging-infrastructure-strategy](http://transportforthesoutheast.org.uk/our-work/electric-vehicle-charging-infrastructure-strategy)

14 The ten point plan for a green industrial revolution: [www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution](http://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution)

phasing out of fossil fuelled vehicles, starting with a ban on the sale of petrol and diesel cars and vans, followed by buses, hybrids and HGVs. The Ten Point Plan for a Green Industrial Revolution, published in November 2020, includes:

#### **Point 4: Accelerating the shift to zero emission vehicles**

This commits to the continuation of the plug-in car grant to reduce the purchase price of EVs, the development of “gigafactories” to produce the batteries needed for EVs at scale, and a £1.3 billion investment to accelerate the roll out of charging infrastructure. A focus for charging infrastructure is rapid charge points on motorways and major roads so that by 2030 there will be 2,500 high powered chargepoints on England’s motorways and major A roads.

#### **Taking charge: The electric vehicle infrastructure strategy (March 2022)<sup>15</sup>**

The strategy recognises that to date, the rollout of public chargepoints has been too slow, and the public is often let down by poor reliability and complex pricing schemes. It would like to see an acceleration in the deployment of reliable and easy to use chargepoints ahead of need.

#### **“A Better, Greener Britain” – Decarbonising Transport, Department for Transport, July 202<sup>16</sup>**

The transport decarbonisation plan sets out the government’s commitments and the actions needed to decarbonise the entire transport system in the UK. This goes wider than EVs and shows how the government’s action on the transition to Zero Emission Vehicles (ZEVs) fits into wider decarbonisation commitments. The place-based section contains further guidance for local authorities on changes to local transport plans.

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15 Taking charge: the electric vehicle infrastructure strategy: [assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1065576/taking-charge-the-electric-vehicle-infrastructure-strategy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065576/taking-charge-the-electric-vehicle-infrastructure-strategy.pdf)

16 Decarbonising Transport – A Better, Greener Britain: [assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf)

# 7 Types of chargepoints

In this document the following definitions are used for the speed of charging:

- **3-5kW** – slow
- **7kW** – standard
- **22kW/25kW** – fast
- **43kW/50kW** – rapid
- **100kW+** – ultra-rapid

Following the public consultation exercise, there was general agreement that bollard-type (sometimes called pedestal) chargepoints were the most appropriate for the majority of on-street and off-street installations. Examples are shown below.

**Figure 6: Summary of chargepoint types**



### **7 kW standard charger**

- Alternating current (AC).
- Twin Type 2 sockets to charge two vehicles simultaneously.
- Provides c. 20-25 miles charge in one hour.
- Compatible with every consumer EV currently on sale in UK - adaptors are available for older models.



### **22 kW fast charger**

- Alternating current (AC).
- Twin Type 2 sockets to charge two vehicles simultaneously.
- Provides c. 70-80 miles charge in one hour.
- Compatible with every consumer EV currently on sale, but not all vehicles will receive full 22 kW power.



### **50 kW rapid charger**

- Direct current (DC) and alternating current (AC).
- Triple connector incl. Type 2, CHAdeMO and CCS connectors.
- Charges one vehicle at a time, some models will now charge two.
- Provides c. 70-80 miles charge in 30 minutes.
- Compatible with every consumer EV currently on sale in UK – some older models may not be compatible.

A single unit is usually equipped with two sockets, compatible with the IEC 62196-1 Type-2 connector, allowing two vehicles to charge at the same time. They are easy to repair and equipment can be easily upgraded once the grid connection is established.

The council will aim for the fastest speed possible, primarily 22kW AC chargers and 50 to 75kW DC chargers. Where this is not possible due to available grid capacity, 7kW chargers will be acceptable.



**Figure 7: Alfen Eve 22kW chargepoint at St. Thomas' Street (upper) car park, Ryde**

The majority of new vehicles use CCS connectors for rapid charging, but a number of older vehicles use the Chademo system and these vehicles will still have need of the public network. The council will work with its CPOs to ensure that a proportion of rapid chargepoints (approximately 10 per cent) are equipped with Chademo cables.



**Figure 8: Tritium 50kW rapid chargepoint at River Road car park, Yarmouth. This chargepoint has one CCS connector and one Chademo connector.**

The consultation also showed some interest in chargepoints fitted to streetlighting columns, with the charging socket replacing the existing faceplate, an example of which is shown opposite:

**Figure 9: Ubitricity on-street charging solutions. Source: [www.ubitricity.co.uk](http://www.ubitricity.co.uk)**



This type of unit is best installed when the lighting column is on the outside of the footway, adjacent to the parking space. This situation is very limited on the Island, however, the council will consider the use of lighting column chargepoints where they are suitably located on the footway and no other alternatives exist. It will ensure that its selected CPO has the capability to install and operate this type of chargepoint.

Other types of chargepoint, such as modular, pop-up and low-lying chargepoints will be kept under review. It is important that these more innovative solutions are able to meet the accessibility requirements for chargepoint infrastructure as defined in PAS1899.

# 8 Demand

Calculating demand for public chargepoints is difficult given the number of variable factors such as speed of adoption of EVs, number of owners without driveways and, on the Island, visitor demand. The consultation document described studies that had tried to estimate demand, producing figures of between 200 and 400 chargepoint sockets in public places by 2025.

Much of the latest thinking on chargepoint requirements has been brought together by Cenex and used to develop the National EV Insights and Support (NEVIS) tool to help local authorities to plan their chargepoint infrastructure rollout. Using their medium uptake projections and a blend of near-home and charging hub facilities, the results for the Isle of Wight up to 2030 are shown below.

**Table 4: Projections for public chargepoint requirement on the Isle of Wight in 2025 and 2030 (Source: NEVIS by Cenex, 2023).**

2025			
Region	Vehicle type	EVI type	Number of sockets
Isle of Wight	Cars	Standard	252
Isle of Wight	LGVs	Standard	91
Isle of Wight	Cars	Fast	29
Isle of Wight	LGVs	Fast	10
Isle of Wight	Cars	Rapid	24
Isle of Wight	LGVs	Rapid	8
Isle of Wight	Cars	Ultra rapid	17
Isle of Wight	LGVs	Ultra rapid	6
<b>Total</b>			<b>437</b>

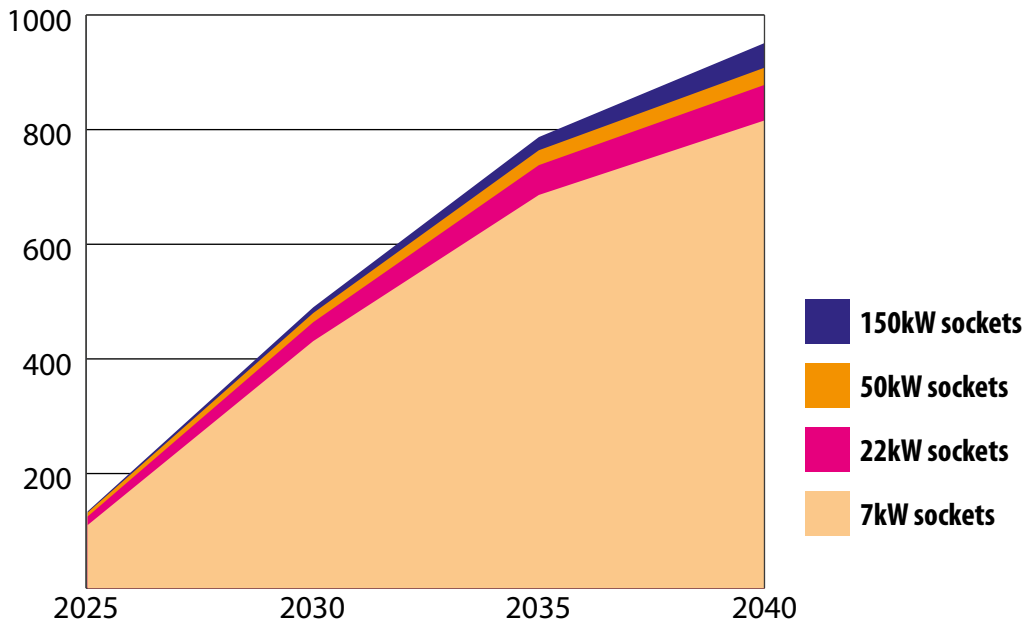
  

2030			
Region	Vehicle type	EVI type	Number of sockets
Isle of Wight	Cars	Standard	664
Isle of Wight	LGVs	Standard	343
Isle of Wight	Cars	Fast	51
Isle of Wight	LGVs	Fast	27
Isle of Wight	Cars	Rapid	31
Isle of Wight	LGVs	Rapid	15
Isle of Wight	Cars	Ultra rapid	33
Isle of Wight	LGVs	Ultra rapid	16
<b>Total</b>			<b>1,180</b>



Looking out to 2050, the chargepoint requirement increases dramatically as shown below:

**Figure 10: Chargepoint projections to 2050 (Source: NEVIS by Cenex, 2023).**



On the Island, there will be a greater focus on fast and rapid chargepoints and less on standard speed chargers, which should reduce the overall number of sockets required.

The data provided by the NEVIS tool is intended as a guide to decision-making and the estimates will need to be revisited and updated as new information becomes available.

While some of this demand will be met by private sector provision, it is in the early years that council provision is particularly important so that the availability of charging infrastructure is not a limiting factor in the adoption and use of EVs by residents and businesses.

It's also important that visitors feel confident enough to bring their EVs to the Island and the table below shows priority locations for visitor chargepoints:

**Table 5: Useful locations for visitor chargepoints**

Point of interest	OpenStreetMap value	
<b>Accommodation</b>	Apartment	Hostel
	Hotel	Guest house
	Motel	
<b>Parking</b>	Car parks	
<b>Tourism hotspots</b>	Attraction	Museum
	Information	Viewpoint

The council's role will be to ensure that infrastructure in public car parks meets the requirements of visitors as well as residents.

# 9 Ownership model

The EVCI consultation document suggested that the council favoured a lease option described as follows:

**Lease** – The lease ownership model represents the lowest level of investment from the landowner. In this model, all capital and operating costs are covered by an external supplier, with a small share of revenue retained by the landowner in return for making their land available to the chargepoint supplier.

This is similar to the concession model with the key difference being that under the concession model, the landowner provides the capital investment to establish an electrical connection point for an external supplier to install and operate a chargepoint.

While it provides the least opportunity for revenue generation, the lease model involves the least exposure to financial risk, particularly that resulting from unexpectedly low usage levels. If the council were to own and operate the chargepoints, it would require a significant investment pot running to hundreds of thousands of pounds, financial losses in the early years which would have to be covered from revenue budgets and additional staff resource.

There was no objection to the preferred Lease model in the public feedback and the council will therefore seek arrangements with CPOs to fund and manage the public charging network. The provider will be responsible for maintaining the infrastructure in a safe condition.

The council's current arrangement with Joju is a lease model and, through a procurement exercise, it will secure a CPO for the next phase of investment through a similar arrangement. It will seek to achieve the maximum revenue share and may also require a ground rent, with the final requirements being specified in the tender documents.

## 9.1 Procuring a chargepoint operator (CPO)

The council proposes to use the Crown Commercial Services (CCS) framework to procure a single CPO to own, install and manage the next phase of public chargepoints, comprising:

- Chargepoints in 23 to 26 council car parks (see section 10.1).
- Between 20 and 25 on-street chargepoints (see section 10.2).
- A small number of chargers in lighting columns where these are determined to be the best solution (see section 7).

The infrastructure specified above will be installed within two years of appointment, with a further year for installation of additional chargepoints identified by the CPO and agreed by the council. This will comprise the Core Investment Period (CIP) of three years. A term of 15 years from the end of the CIP will

be offered with the option to extend the term by up to five years at the council's discretion. At the end of the term, the local connection assets will be transferred to council ownership at no cost to the council. These arrangements will be confirmed when the tender documents are prepared. During the 15 year term the CPO can make further investment, if agreed by the council, but the term will remain the same.

Management of ultra-rapid charging hubs is considered to be a more specialist enterprise and any opportunities identified on council land will be tendered separately, with income to the council arising from ground rent and/or a revenue share.

## 9.2 Role of community organisations

The council will ensure that town and parish councils and other non-profit making community groups can work with the selected CPO on the same terms as the council where they have sites suitable for EV chargepoints. They will need to take out their own contract with the service provider and each site will be assessed by the service provider to see if it is a viable opportunity. It is hoped that this arrangement will facilitate a network that is wider than just council land while also providing a financial return to those organisations that are interested in collaborating. The arrangement will ensure that town and parish councils will not be required to fund EV chargepoints.

## 9.3 Private ownership models

The council recognises that private businesses will often be best placed to provide EV charging, particularly in more rural areas.

Businesses wishing to offer charging as a commercial service can purchase chargepoints and associated back-office services. Companies such as Rolec, Podpoint and Monta offer flexible back-office services for chargepoints installed by private businesses, allowing them to become part of a national network. The chargepoint owner can set the tariff for use of the chargepoint and will receive the revenue generated from the chargepoint minus a subscription fee. They will also have to arrange and pay for an electricity supply to the chargepoint as well as a repair and maintenance contract. Anyone wishing to offer this service must have the appropriate permissions, for example, planning permission, and insurances.

In particularly good sites it may be possible to get a CPO to make a full investment in the charging infrastructure and operation in return for a lease fee or profit share. However, this is likely to require a complex legal agreement and lease of 10 to 15 years.

# 10 Future chargepoint provision

Respondents to the consultation pointed out a number of gaps in EV provision, particularly the number planned for rural areas, in the provision for tourists and the availability of ultra-rapid charging.

The Joju/Mer network had not been completed at the time of the consultation and this will have eased the situation, especially in the near term. The council will aim to tender over the next 12 months for additional chargepoint provision in up to 30 of its car parks and a similar number of on-street locations. It will also consider locations for dedicated charging hubs which can provide ultra-rapid (150kW+) charging.

The total network will be a combination of chargepoints provided by the council, by private site owners (pubs, restaurants, visitor attractions etc) and by individual residents who make their home chargers available for others to use. The council will support this network development by liaising with private site owners (including filling stations) and other organisations on the long list of priority sites, understanding the needs of taxi drivers, continuing to monitor requests for on-street chargepoints and providing up to date information on grants and technological developments. It will seek to maintain dialogue with those that can provide charging facilities for visitors.

It was clear from the public consultation that there are some key issues that will create public confidence in the charging network:

- **Phasing** – the council recognises the need for some caution but will try to install chargepoints ahead of demand so as not to inhibit the transition to EVs. As the programme will be funded, in the main, by the private sector, the council's CPOs will determine the viability of installing chargers in the suggested locations and the council will not be risking its own resources if take up is slow.
- **Reliability** – it will be necessary to have tight management of the CPOs to ensure that they are repairing any faulty chargepoints as quickly as possible. Future tenders will include key performance indicators (KPIs) for chargepoint performance, including reliability, and the council will consider imposing penalties for failure to meet these targets.
- **Signage** – the council will ensure that signage on or near chargepoints explains how to use the chargepoint as well as any parking rules that apply, such as maximum length of stay. Accessibility guidelines for signage will also be followed and a phone number will be provided for those experiencing difficulties while using the chargepoint.
- **Safety** – all chargepoints will be subject to a safety audit prior to installation to ensure that the location of the equipment is safe for users and others in the public realm. Installers must be suitably qualified and an Electrical Installation Certificate completed at commissioning. Contractual

arrangements with CPOs will ensure that electrical tests are carried out on a regular basis and emergency procedures are in place for an immediate response in the case of a vehicle collision with a chargepoint.

- **Tariffs** – the council believes that any attempt to influence tariffs will distort the market. Prices are expected to become more competitive as the number of installed chargepoints increases. The current chargepoints are part of the Mer network which has standard charging tariffs across the UK. Charging costs have increased sharply over the last 12 months due to the wholesale cost of electricity and it's hoped they will start to come down as electricity costs fall. The council will explore with its CPOs whether charging costs can reduce at night to take advantage of cheaper electricity.

As a general rule, the Island does not have difficulty in supplying new electricity demands. There is capacity on the network which is supported by local renewable generation, such as solar farms. For larger installations, solar canopies and battery storage systems may be useful to maximise use of renewable generation (sometimes these can utilise 'used' car batteries to provide the storage).

However, careful siting is necessary to ensure that the power is available on the local network. In some cases, it will be necessary to install 7kW chargepoints because the power is not available for anything faster. The network operator, Scottish and Southern Electricity Networks (SSEN), is developing a tool for local authorities to be able to assess grid capacity at a very local level and this will ensure that cost-effective locations can be identified.

## 10.1 Off-street

Having considered feedback from the public consultation, reviewed the longlist of priority sites produced by Cenex and considered the popularity, size and location of car parks, the following sites have been identified for the next phase of installations to be carried out during 2024 and 2025:

**Table 6: Locations for next phase of off-street installations**

Location	Town
Carisbrooke High Street Car Park	Newport
Appley Car Park	Ryde
Vernon Meadow Car Park	Shanklin
Lugley Street Car Park	Newport
Lind Place Car Park	Ryde
Fort Street Car Park	Sandown
Avenue Road Car Park	Freshwater
St. Martin's Car Park	Wroxall
Totland Broadway Car Park	Totland
Wheelers Bay Car Park	Ventnor
Esplanade Gardens Car Park	Shanklin
Pier Road Car Park	Seaview
The Grove Car Park	Ventnor
Warnes Lane Car Park	Brightstone
Puckpool Park Car Park	Ryde
La Falaise Car Park	Ventnor
Yaverland Car Park	Sandown
The Heights Car Park	Sandown
Medina Campus Car Park	Newport
County Hall Car Park	Newport
Victoria Street Car Park	Ryde
Lane End Car Park	Bembridge
Landguard Road Car Park	Shanklin

The following sites are leased but will be included in the next phase if the freeholder's permission is granted:

**Table 7: Off-street locations to be included in next phase with freeholder's consent**

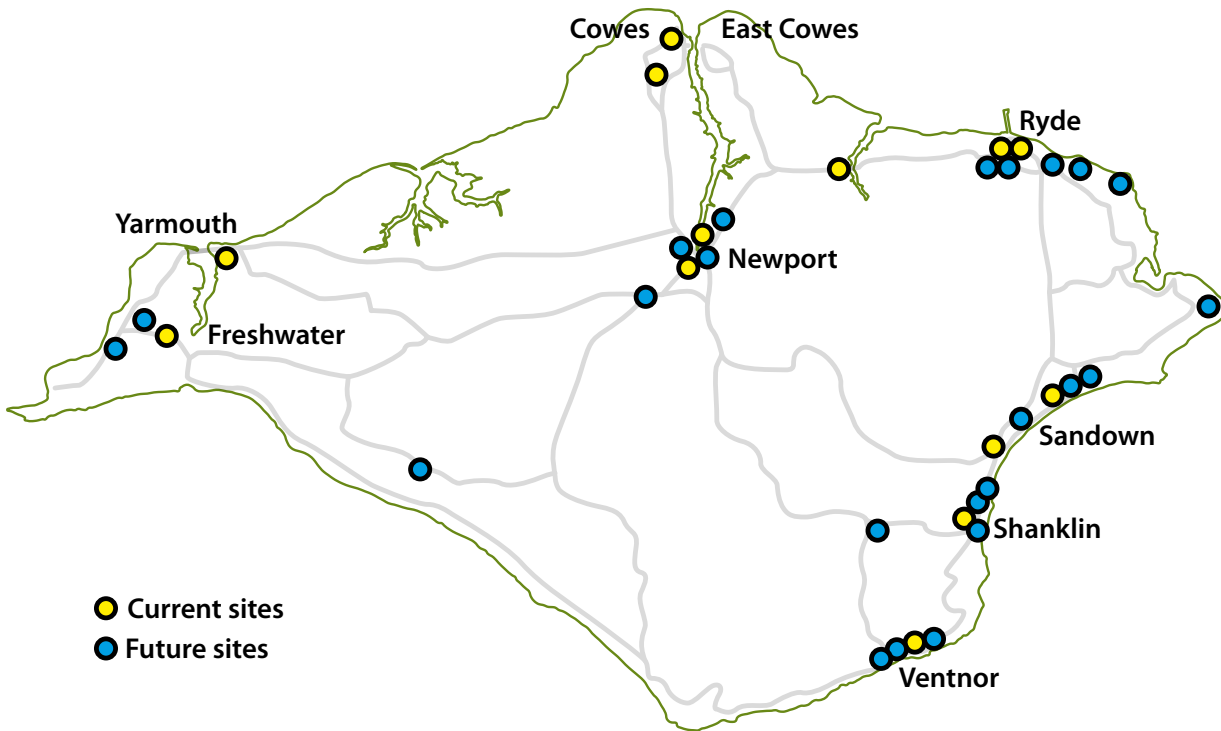
Location	Town
Coppins Bridge Car Park	Newport
Westridge Car Park	Ryde

As a minimum, we will require one rapid and one fast chargepoint in each of these car parks. At some sites it may be possible to do more and we will ask our selected CPO to develop detailed proposals for these, with the possibility of increasing this number within a core investment period, as demand increases. At other sites it may not be possible to meet the target because of the lack of space or grid capacity.

At all sites, the chargepoints and charging bays will meet the PAS1899 accessibility standards and any chargepoint greater than 8kW will include an instant contactless card payment option which does not require the user to sign up to a membership service.

The map below shows the locations of the current and future off-street installations.

**Figure 11: Chargepoint locations (current and future) in council car parks**



As the chargepoint agreement will be open to community organisations (see section 9.2), it is hoped that sites owned by third parties will become part of the network. Some examples are shown below:

**Table 8: Examples of sites under third party control which could use the council contract**

Location	Town	Control
Steyne Road Car Park	Bembridge	Bembridge Parish Council
Brading Car Park	Brading	Brading Town Trust

The council will be happy to hear from other community organisations that would be interested in installing EV chargepoints on their land using the new supply contract.

## 10.2 On-street

The council's aim is to provide a public chargepoint within 200m of the homes of those who will rely on them because they don't have a private driveway and the ability to charge at home. It is estimated that on the Isle of Wight, up to 37 per cent of homes (23,000 properties) have no access to off-street parking and will be completely reliant on public infrastructure or charge-sharing schemes. Some of this infrastructure will be on-street, that is, installed in the footway.

### 10.2.1 Standards

In the national EV Charging Infrastructure Strategy, published in March 2022, a set of principles was identified to help integrate local chargepoints into the surrounding environment:

1. Chargepoints should not obstruct pavements or highways, or present a safety risk to pedestrians.
2. Cables will not be allowed to trail across the pavement unless adaptive infrastructure is provided to accommodate them safely e.g. gullies. Anything that creates a trip hazard does not constitute adaptive infrastructure.
3. Chargepoints must be incorporated into existing street furniture or parking bays wherever possible. In circumstances where it is not possible, priority must be given to ensuring that access to, and use of, pavements is not impeded and the safety of pedestrians is not jeopardised.
4. Parking spaces for EV charging will not be added in places where parking spaces are currently not allowed, nor where they would disrupt traffic flow, cyclists or pedestrians.
5. Chargepoint design and placement should meet accessibility standards and guidance.

### 10.2.2 Identifying suitable locations

The consultation document described a digital mapping tool called LOCATE that was being developed by Geospatial Insight (GSI) to help the council plan its on-street network. A full version of the tool has now been commissioned.

LOCATE is based on the following bespoke analysis for the Island:

- Using satellite and geospatial data, identify the properties that are unlikely to have off-street parking;
- Identify if these properties are within 200m of a council car park – in which case allocate the property to that car park for chargepoint provision;



- Identify the number of properties allocated to each car park, allowing the council to determine how many chargepoints will be required as a result;
- Identify properties that are not served conveniently from a council car park.

This analysis assumes that using council car parks for public EV chargepoint provision will be the most cost-effective and convenient solution and is therefore the first option. These will be known as residential charging hubs. Households without off-street parking that are more than 200m from a car park will require an alternative solution, potentially an on-street chargepoint where these can be installed safely and cost-effectively.

The council has decided that flats and apartments should be included in the properties that are not able to charge at their own property. This is due to the difficulty of providing chargepoints within shared private car parks.

When all the GSI analysis is combined, the results indicate clearly where the focus for on-street installations needs to be, as shown below:

**Figure 12: Output of GSI analysis**



The most suitable provision for the properties which are not served by a car park (that is, more than 200m away from the nearest car park) has to be determined. If numbers are very low, it may be reasonable to assume that the nearest car park will be used even if it is slightly further than 200m away. It may be that there are privately owned chargepoints in the area that can be used or there is a local scheme that allows residents to use private driveways for charging. Or it may be that a kerbside charger needs to be installed or, in a small number of situations, a charger integrated within a lighting column. Each area must be assessed individually and the appropriate solution identified, incorporating the national and local standards outlined in sections 10.2.1 and 10.2.4.

While the full analysis is yet to be completed, early work suggests that a relatively small number of on-street locations could be sufficient to complete a convenient network. For example, two on-street locations in Yarmouth and three in Bembridge may be sufficient alongside the intended installations in local car parks.

For the next phase, a requirement for 20 to 25 on-street installations will be included in the tender, with the precise locations to be determined by the council in partnership with the appointed CPO.

The council has an online form for residents to request an on-street chargepoint on their street. To date, there have been 50 requests, with the locations of these shown in the table below:

**Table 9: Resident requests for on-street chargepoints**

Town	Number of requests
Cowes	8
Ryde	7
Sandown	5
East Cowes	4
Yarmouth	4
Bembridge	3
Brading	3
Lake	3
Newport	3
Seaview	2
Shanklin	2
Freshwater	1
Havenstreet	1
Rookley	1
Shorwell	1
Ventnor	1
Wroxall	1

These requests will be used to prioritise the locations of the next phase of on-street chargers.

### 10.2.3 General approach to on-street provision

Where on-street chargepoints are required, the council will move forward through the following principles:

1. Install infrastructure ahead of demand – in order to give residents the confidence they need to purchase an EV.

2. Seek a CPO to install and manage the on-street chargepoint network – as with off-street chargepoints, the council has decided that it does not have the resources or expertise to develop and manage a full public network and is not able to bear losses in the early years.
3. Utilise public funding – the council has a provisional allocation of £1.6 million of LEVI capital funding which can be accessed from Autumn 2023 subject to the submission to the Department for Transport of an acceptable business case.
4. Focus on bollard-type chargepoints – there are a large number of on-street chargepoint solutions. The council will initially focus on installing bollard-type chargepoints because they provide the required speed of charging, are robust and generally vandal-proof, are easily accessible and provide the highest levels of public safety. It is recognised that many of the other solutions are valuable in certain circumstances and all options will be kept under review. Chargepoints in lighting columns will be specified where there are no other options and the lighting column is suitably located.
5. Future-proofing - it can be cost effective to install a second base plate at each location so that an additional chargepoint can be installed when demand increases. This would increase the number of charging spaces at each on-street location to four. The council will need to secure grant funding either from government or the CPO for this solution.
6. Minimise street furniture – faster chargepoints can serve a larger number of vehicles, reducing the overall infrastructure requirement. The council will therefore seek to install fast (22kW) and rapid (50kW) chargepoints where possible. Both require a three-phase electricity supply and this is only financially viable on some parts of the low voltage network, so 7kW (single phase) chargers will remain an option. Also, there may not be space on the footway for rapid chargers which will therefore require a 'build out' where the kerb is moved further into the highway.
7. Avoid shopping streets – the council is not intending to install chargepoints in streets which are used primarily for retail. This is to ensure the swift turnaround of vehicles in parking bays outside shops and to discourage parking for longer than is absolutely necessary. However, it will consider requests from retailers for chargepoints on shopping streets and also recognises that there are many homes above shops which are likely to require public chargepoint facilities. It is hoped that the majority of this need will be provided from public car parks close to retail areas, but all requests will be considered on a case-by-case basis.
8. Traffic Regulation Orders (TROs) – future on-street chargepoint installations will be preceded by a permanent TRO. This will ensure that the correct locations have been identified and approved prior to any investment by the CPO. The council will draw on its learnings from the ETROs used for the first phase of on-street installations and will develop a rolling programme of TRO approvals and installations.

## 10.2.4 Local safety standards

There is currently no national guidance for the design of on-street chargepoint installations. Transport for London has produced a document titled “London’s Electric Vehicle Charge Point Installation Guidance” (December 2019) which contains some useful ideas, although some of these are more relevant to busy city centres. Working with Island Roads, the council has devised a specification for future on-street charge points, as follows:

- **Street lighting** – there should be adequate ambient street lighting of the chargepoint.
- **Location** – not placed too close to junctions or crossings so that they negatively impact intervisibility.
- **Cable location** – avoid locations where cables could be an obstruction or trip hazard.
- **Set back of charging unit** – minimum of 450mm to reduce risk of impact damage. The first phase of on-street chargepoints were installed with a post between the charger and the kerb. This prevents people trying to walk between the charger and the kerb and therefore reduces the trip hazard. This is an acceptable solution, although bollards and posts must be set back a minimum of 300mm. Each site will be subject to a safety audit and the CPO will have to take full responsibility for any infrastructure, including signposts and bollards, which are less than 450mm from the kerb.
- **Footway width for pedestrians passing unit** – recommended = 2m, acceptable minimum = 1.5m.
- **Accessibility for disabled users** – bays should be close to a pedestrian dropped kerb facility and meet the requirements of PAS1899. Footway area should be level to allow easy access for wheelchair users.
- **Other obstructions** – consider trees, cabinets, lamp columns and signs.
- **Carriageway width** – 2.75m minimum width outside of bay and buffer zone to allow larger vehicles to pass safely.
- **Bay width and length** – minimum bay width is 2.7m and length is 6.6m.
- **No buffer zone required for Hierarchy 4 roads** – Hierarchy 1, 2 and 3 should consider a 0.5m buffer on case-by-case basis depending on speed, volume and type of vehicles.
- **Other access needs** – the facility should not negatively impact other premises with access needs.

All potential on-street locations will be subject to a safety audit and PAS1899 accessibility assessment to ensure they comply with these standards.

## 10.3 Charging hubs

Charging hubs provide a greater number of chargepoints, a variety of charging speeds and can be located in convenient locations for local residents.

## 10.3.1 Residential hubs

Following the principle that the first choice would be to position the residential chargepoints in council car parks, the following sites have been identified by the council as being most suitable for residential charging hubs:

**Table 10: Priority car park sites for residential charging hubs**

Town	Location	Already installed or planned?
Shanklin	Orchardleigh Road Car Park	Yes
	Landguard Road Car Park	Yes
	Atherley Road Car Park	No
Lake	New Road Car Park	Yes
Wootton Bridge	Brannon Way Car Park	Yes
Newport	Lugley Street Car Park	Yes
	Chapel Street Car Park	Yes
	Medina Avenue Car Park	Yes
	Carisbrooke High Street Car Park	Yes
	Sea Street Car Park	No
Cowes	Cross Street Car Park	Yes
Ryde	Victoria Street Car Park	Yes
	Quay Road Car Park	Yes
	St. Thomas St (upper) Car Park	Yes
	Lind Place Car Park	Yes
Sandown	St. John's Road Car Park	Yes
	Fort Street Car Park	Yes
Yarmouth	River Road Car Park	Yes
Freshwater	Avenue Road Car Park	Yes
	Moa Place Car Park	Yes
Wroxall	St. Martin's Car Park	Yes
Totland	Totland Broadway Car Park	Yes
Ventnor	Wheeler's Bay Car Park	Yes
	Central Car Park	Yes
	Pound Lane Car Park Car Park	No

Chargepoints have either been installed, or are planned for installation, in the majority of these car parks. Those that are not included have either been identified for other uses, are not in the council's control or are very close to other designated charging hubs.

Where there is existing chargepoint provision, this could be enhanced by the installation of an additional chargepoint which is being considered by Joju for Central Car Park in Ventnor and St. John's Road Car Park in Sandown, sites which have proved to be very popular.

At other sites a more ambitious expansion may be possible, providing faster charging speeds and greater convenience for users. Such hubs are being considered for Chapel Street car park in Newport and Quay Road car park in Ryde. These schemes, illustrated below, will utilise a 200kW Kempower Unit which feeds eight charging sockets.

**Figure 13: Design for proposed residential charging hub at Chapel Street car park and Quay Road car park**



The system utilises 'load balancing' so that, when one vehicle is plugged in it can access a full 200kW DC charge. This is shared when additional vehicles plug in, so that two vehicles will get 100kW each, four vehicles will get 50kW each and, if all eight sockets are in use, there will be 25kW of charge to each.

### 10.3.2 Ultra-rapid hubs

Larger charging hubs, the electric equivalent of a petrol filling station, will have a variety of chargepoints offering different charging speeds, with a focus on rapid and ultra-rapid (100-350kW) charging. They are in accessible sites, usually adjacent to a main road with a high traffic flow, and sometimes incorporate 'waiting' facilities such as 'pop up' office space, meeting rooms, coffee machine, vending machines and exercise equipment. They can also incorporate digital screens with advertising or local community information.

They are designed for all motorists requiring a rapid charge and are of particular use to taxi drivers and delivery vehicles and other fleet vehicles that want to minimise downtime during the day. They may also be useful for blue light vehicles in the future. They are likely to have a higher level of security than general public infrastructure.

They can also be used for slower, overnight charging and a well-positioned charging hub can meet the needs of nearby streets which do not have off-street parking.

Charging hubs are very visible facilities and inspire confidence with the public. It is likely that a small number will ultimately be sufficient for the Island, alongside more traditional facilities.

If the site is suitable, a charging hub can incorporate a solar canopy and battery storage. Solar canopies provide clean, renewable power and reduce strain on grid and are often supported by battery storage systems to maximise use of on-site generation. On-site generation insulates the facility from volatile energy supply prices and means the price to the customer can be kept more stable.



**Figure 14: Princes St Charging Hub, Dundee**

Charging hubs will require a significant power supply, the cost of which may be the critical factor in the final choice of location. They will also be subject to planning consent.

They could be developed as more ambitious Mobility Hubs, offering a range of sustainable and active travel modes on one site - bus, EV charging, car club, bike/e-bike hire, package delivery hub etc.

The council is currently considering one site for a larger charging hub. This is the roundabout at the junction of Saunders Way and Whippingham Rd, just outside East Cowes.

This would be on council owned land to the south of Saunders Way, immediately outside the entrance to GKN, which provides good highway access. As there is no potential for



**Figure 15: Greenstation charging hub (Photo courtesy of Greenstation)**



**Figure 16: Possible location for a charging hub near East Cowes**

chargepoint installations in car parks in East Cowes, ultra-rapid charging at this site (allowing a full charge in 10 to 15 minutes) could provide a good solution for local residents.

The site has good grid connection potential, but further assessments and consultation needs to be carried out before it can be progressed.

## 10.4 Rural areas

Rural areas will present a challenge, particularly when there is no public car park in the settlement. The proportion of properties with driveways is likely to be higher in villages, but there will still be properties which can't install a private charger.

When demand is likely to be low, locations are not attractive to CPOs. This may be offset on the Island by high visitor demand in rural locations, although this can be highly seasonal. The appointed CPO for the next phase of installations will therefore be required to fund a balanced portfolio with more profitable chargers in towns subsidising those in rural areas. In some circumstances where costs are exceptionally high, the council may decide to use LEVI funding to reduce the financial risk.

It may also be difficult to find a suitable location where chargers can be installed safely but are still accessible to users. This can only be locations where an adequate power supply can be installed.

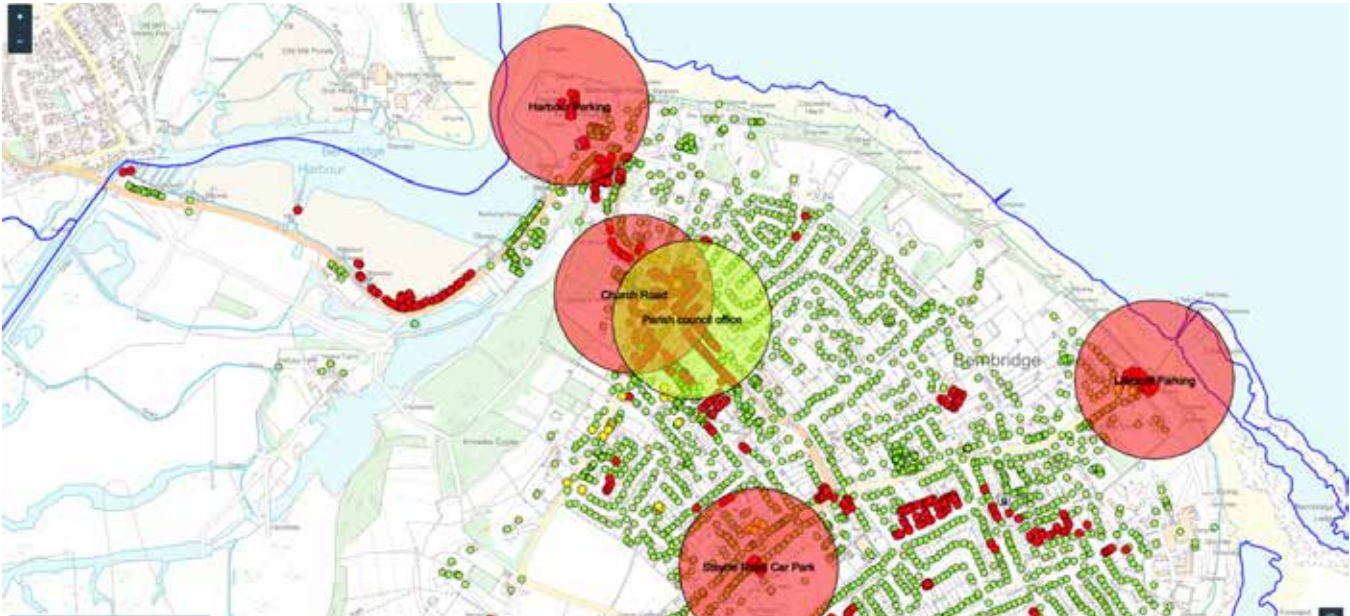
Unless residents with a driveway are prepared to let others in the village use their private chargepoint, it may be necessary to rely on private landowners to make sites available. This could include owners of pubs, restaurants and visitor attractions.

Parish councils will have a key role to play, identifying local need and site options. Chale Parish Council has carried out a local audit to map all the properties in the parish without a driveway and, using the results, has identified a suitable location which will be convenient for the majority of those who need it.

Bembridge Parish Council has also carried out a local property audit to identify those that do not have off-street parking. They have used the Parish Online mapping system to digitally store the information and help with the planning of chargepoint locations, as shown below:



**Figure 17: Bembridge Parish Council's chargepoint planning exercise using the Parish Online tool**



The council will encourage town and parish councils to carry out similar local audits to provide greater accuracy to its LOCATE tool.

## 10.5 Innovative technologies

The council will work with its selected CPO to investigate the use of smart charging which modulates the rate of charge at different times in response to signals such as electricity prices. This has the potential to reduce stress on the grid and provide lower charging tariffs.

EV charging solutions are developing rapidly. Innovation is likely to lead to different methods of charging in the future, for example:

- Induction charging e.g. for taxis, port provision
- Vehicle to Grid (V2G) and Vehicle to Home (V2H)
- Subscription services

The council will seek to participate in relevant innovation projects and will make space available in council car parks for trials of products and services which it considers beneficial to residents and visitors. Participation allows the council to demonstrate its forward-thinking attitude and to potentially attract businesses in the sector to invest in the Island economy.

As timescales for commercial deployment of these novel technologies are not known, these future developments should not inhibit the deployment of current technology.

Sites that present potential opportunities to deploy innovative technologies were considered in the Cenex report. The technologies considered are summarised below:

**Table 11: Summary of innovative technologies**

Technology	Description
Solar Photovoltaic (PV) Panels	Panels of photovoltaic cells that convert photons (light energy) to electricity. These panels can be fitted to canopies that cover parking bays, which are currently available from several suppliers.
Inductive (Wireless) Charging	Pads mounted above the road surface or coils installed beneath the road surface that wirelessly provide electricity to compatible electric vehicles by inducing an oscillating magnetic field. As of 2019, no production EVs are compatible with wireless charging, but the technology can be retrofitted.
V2G	Electric vehicle chargepoints that are equipped to accept bi-directional electrical currents. This enables compatible EVs to return electricity back to a building or to the grid in periods of high demand on the electrical distribution network. V2G can also be used to store renewable electricity during periods of high renewable generation, allowing it to be used during periods of high carbon intensity. A small number of production electric and plug-in hybrid vehicles are available that are compatible with V2G chargepoints, including the Nissan Leaf, Nissan eNV-200, Mitsubishi Outlander. This is expected to increase in the future.

## Solar

Sites that were identified as being appropriate for the installation of solar PV canopies were typically larger sites, with evidence of an electrical supply either on or near to the site. The most appropriate sites were also located near to buildings, where electricity generated by the solar PV canopies could be used to supply the buildings, as well as EVs. While smaller car parks could also potentially host solar PV canopies, the installation of the canopies would have a greater impact on parking availability and potentially remove a small number of bays that would have a more significant impact than on sites with a greater number of spaces. Sites without an electrical supply could also benefit from solar PV panels, but they would most likely need to be accompanied by battery storage in order to allow EV chargepoints to utilise any electricity generated.

## Wireless charging

Sites were identified as being appropriate for the deployment of wireless charging technology. These are locations where vehicles spend a some time, though are not parked and as such they are not compatible

with wired charge points. Examples of this that have been identified include queues for ferry terminals, where the usage of conventional wired charging would prohibit an EV to join and maintain position in the terminal queue. Other examples include taxi ranks, where hackney carriage vehicles queue while plying for hire. In these cases, an EV hackney carriage driver would be prohibited from maintaining their position in the rank if their vehicle was plugged-in to a conventional wired chargepoint.

## **V2G**

Sites that were identified as being particularly appropriate for deployment of V2G technology were typically car parks attached to specific properties, where vehicles are likely to be parked for a significant period of time (e.g. workplaces). In these cases, V2G charging infrastructure would allow compatible EVs to supply electricity to the building, as well as to the grid. Research has shown that the business case for V2G is stronger when the technology is utilised primarily to provide electricity to buildings during periods of peak energy pricing, as opposed to being utilised to return electricity to the grid. This is especially the case where EVs have been charged using electricity from local renewable sources. The business case can be further improved by providing grid services such as Firm Frequency Response (FFR). V2G can also be utilised to mitigate costs that may arise from additional power required as part of a supply agreement with the distribution network operator (DNO).

The council will be mindful of these opportunities as it works with its CPO on the design of each charging station. A full list of sites with potential for innovative technologies is shown in Appendix 2.

# 11 Utilising domestic electricity supplies

Charging at home is both cheaper and more convenient than using public infrastructure. Unit (kilowatt hour) costs are cheaper for domestic supplies than chargepoints, with domestic supplies subject to five per cent VAT and chargepoints having to charge the full 20 per cent.

As a result, households without driveways are looking at other ways to utilise their domestic supplies. The Isle of Wight Council has not issued guidance on the use of charging cables crossing the public highway or footway and is not currently supportive of this solution. However, it became apparent through the consultation exercise, that many residents would like to see a solution which allows the use of their own domestic electricity supply for charging. In the absence of alternative solutions, it's likely that the council will see an increasing number of applications to convert front gardens into driveways and to create dropped kerbs for access.

The council is not yet comfortable with the widespread installation of cable gullies but will continue to investigate these and other solutions and the legal agreements that would be required to ensure that the homeowner is responsible for the safe installation and management of the gullies. It will also consider situations where there is no footway outside the home and a cable can reach the vehicle without causing an obstruction; it may be possible to establish different rules for this situation.

## 11.1 Households with a footway

Extending the domestic electrical supply to the kerb can be achieved using cable channels and guides. These are typically shallow trenches dug into a pavement, before being fitted with a cover that allows a charging cable to run through the channel without presenting a public health and safety risk in the form a trip hazard.

In some locations, it will not be possible to provide either off-street or on-street chargepoints within a reasonable distance of people's homes. In these areas the viability of cable gullies will be considered, with a view to allowing residents to install a chargepoint at their property and run a cable safely to the vehicle.



**Figure 18: Kerbo Charge cable channel**

In approving cable gullies, the council must consider the lifecycle of the gully, ensuring it is properly maintained and, if necessary, decommissioned, with liability being passed from one property owner to the next. If this process is not managed properly, the council could be exposed to significant financial risk.

The council will therefore initiate a pilot of 6-10 installations to test the principle and practice of this solution. The council will consider whether the pilot is open to all households or restricted to certain groups such as:

- blue badge holders;
- residents living in quiet streets where there is little footfall;
- residents living in streets where properties are well spaced out to minimise the number of cable channels installed.

Before it starts the pilot, it will utilise LEVI funding to devise a process for householder applications and assessments and develop a legal agreement that specifies ongoing management of the cable channel by the householder and ensures that public liability rests with the householder at all times. The householder will be required to take out insurance to indemnify the local authority.

The council will also need to approve the cable channel infrastructure prior to installation and will require a dedicated 3-7kW domestic chargepoint.

Under no circumstances will the installation of a cable channel lead to the creation of a private parking space on the highway. Householders installing a channel, with council permission, will not be able to ensure that space adjacent to the channel is available to park their car.

## 11.2 Households without a footway

The council will also consider allowing a chargepoint to be installed within the boundary of a property and a cable run to a vehicle, as long as it does not cross a footway or verge and the car is parked directly outside the property without contravening any parking restrictions. The council will consider whether a process is required to approve this arrangement on a case-by-case basis or whether a set of guidelines can be developed which all householders in this situation must comply with. The latter will be a simpler solution but may not provide the council with the indemnity it needs. Again, there is no guarantee that the parking space will always be available to the property owner.

# 12 Network development

The council's role in the provision of electric vehicle charging covers the following aspects:

- Provision of chargepoint infrastructure on council land with a third-party provider.
- Co-ordination of network development, identifying gaps in provision, and encouraging private sector provision.
- Promotion of grant schemes and other useful information.

## 12.1 Infrastructure development

Sites which are not owned by the council but which might be suitable for chargepoints are:

- Car parks owned by other parties including:
  - private businesses and industrial estates;
  - NHS;
  - educational organisations
- Transport hubs, including:
  - train stations;
  - fuel stations;
  - taxi ranks;
  - ferry terminals
- Leisure destinations and attractions, including:
  - retail parks and districts;
  - museums;
  - galleries;
  - National Trust and English Heritage sites;
  - theme parks;
  - viewpoints
- Locations where EV charging infrastructure has already been installed.
- Supermarkets with attached car parks

During the site identification and assessment work carried out by Cenex, 53 privately owned sites were longlisted, with a further five of unknown ownership that are also likely to be in private ownership. The top 23 privately owned sites that were assessed during the EV infrastructure mapping are shown in the table below:

**Table 12: Shortlist of privately-owned sites, identified as ideal for EV charging infrastructure installation (Cenex)**

Name	Ownership	Type	Use case	Rating
Lidl Shanklin	Private	Rapid	Destination	17
Morrisons Lake	Private	Rapid	Destination	17
Medina Yard Redevelopment	Unknown	Fast	Destination	16
New Red Funnel Ferry Terminal	Unknown	Rapid	Transit	16
Robin Hill Country Park	Private	Fast	Destination	15
The Needles	Private	Fast	Destination	15
Park Road Car Park	Unknown	Standard	Destination	15
Aldi Lake	Private	Rapid	Hub	15
Albany Road Redevelopment	Unknown	Standard	Residential	14
Blackgang Chine Theme Park	Private	Fast	Destination	14
Brading Car Park	Private	Fast	Destination	14
Morrisons Newport	Private	Rapid	Hub	14
Tapnell Farm Park	Private	Fast	Destination	14
The Old Smithy and Gardens	Private	Fast	Destination	14
Booker Wholesale Cowes	Private	Rapid	Fleet	14
Gunville Retail Park	Private	Fast	Destination	14
Park Road Car Park (hub)	Unknown	Rapid	Hub	14
Shanklin Station Car Park	Private	Rapid	Taxi	14
Waitrose East Cowes	Private	Rapid	Hub	14
Gulf Lushington Hill	Private	Rapid	Transit	14
Northwood Garage	Private	Rapid	Transit	14
Tesco Westridge	Private	Rapid	Hub	14
Arreton Barns Craft Village	Private	Fast	Destination	14

The full list of sites is in Appendix 1.

The council will use its LEVI capability funding to employ an Electric Vehicle Infrastructure Programme Manager whose role, alongside overseeing the installation of the next phase of council chargepoints, will be to work with:

- private businesses interested in the deployment of public chargepoints, prioritising the shortlisted sites shown in table 12;
- supermarkets and existing filling stations which are well placed to provide charging infrastructure;
- Visit Isle of Wight to ensure that visitor needs are being met;
- ferry operators to understand how infrastructure can be provided at or near the ports. This may include innovative solutions such as induction charging;
- town and parish councils and other community organisations that have land suitable for EV chargepoints;
- taxi and private hire vehicle (PHV) owners who are considering electric vehicles to understand how public chargepoints can assist their operations;
- businesses operating electric vehicles to understand their charging needs.

The postholder will consider how best to support the community in developing a wider network and will ensure that communications are updated to provide helpful guidance.

They will also liaise with businesses that have already installed chargepoints to gain a greater understanding of delivery models and any challenges faced by these businesses.

## 12.2 Network development

A number of specific issues relating to chargepoint deployment and the wider sustainable transport agenda will need addressing.

### 12.2.1 E-car clubs

In the sustainable transport hierarchy, shared transport is above private car ownership since it has the potential to take vehicles off the road, reducing emissions and congestion. Car clubs have been around for a number of years and provide a form of flexible and convenient car and van hire which can save users considerable sums when it means they do not have to purchase and run their own vehicle. Research has shown that car club members are more likely to engage in active travel and public transport use when they're not hiring a vehicle. On the Island, Co-Wheels and Enterprise offer car club services.

Increasingly, car clubs are using electric vehicles. In order to support car clubs, the council has dedicated parking spaces at Cross Street car park in Cowes and Quay Road car park in Ryde and is willing to consider requests from car club operators for additional spaces. The council will consider allowing them to install dedicated charging points at these locations and any others that may be agreed.



## 12.2.2 Blocks of flats with shared parking

While flats will usually have parking areas with room to install chargepoints, the permission of a freeholder or landlord of a property is required and can present a barrier that prevents a property leaseholder or tenant from installing a domestic EV chargepoint. There is no legal obligation for this permission to be granted. Installing a chargepoint in these circumstances can also be more complicated than a home charger on the outside of the property. From March 2022, the EV Charge grant scheme<sup>17</sup> can be used to fund chargepoints and infrastructure in car parks owned by landlords; however, the council's analysis will assume that blocks of flats do not have charging facilities and will seek to provide these in local car parks.

## 12.2.3 Booking system

EV drivers will be familiar with online systems such as [zap-map.com](https://zap-map.com) and [chargefinder.com](https://chargefinder.com) which show the locations of chargepoints and provide information about their power rating and availability.

The national EV Infrastructure Strategy is keen that, in future, information is readily available to users in a simplified format so that they can easily compare pricing across networks. The council will monitor the development of national databases and systems.

It will also consider developing bespoke services such as booking systems for residential charging hubs which gives users the security of knowing that a chargepoint is available and allows the council to restrict use to eligible residents. It will need to work with CPOs to develop a system of this type and may require external funding.

## 12.2.4 Planning

Liaison with the council's planning department will ensure a co-ordinated approach to network development, ensuring that future developments include charging points on an individual and collective basis. There was a strong feeling from the consultation responses that new commercial (non-residential) developments should be required to exceed the minimum requirements<sup>18</sup> for the

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17 Residential landowners Electric Vehicle Chargepoint Scheme - Energy Saving Trust [energysavingtrust.org.uk/grants-and-loans/residential-landowners-electric-vehicle-chargepoint-scheme](https://energysavingtrust.org.uk/grants-and-loans/residential-landowners-electric-vehicle-chargepoint-scheme)

18 Statutory guidance on Infrastructure for charging electric vehicles: Approved Document S - Infrastructure for charging electric vehicles: Approved Document S [www.gov.uk/government/publications/infrastructure-for-charging-electric-vehicles-approved-document-s](https://www.gov.uk/government/publications/infrastructure-for-charging-electric-vehicles-approved-document-s)

provision of chargepoints for public use. Of those who expressed a clear opinion, 89 per cent were in favour and 11 per cent against making it easier to create off-street parking at home.

It was felt that dropped kerbs should still require planning permission but that this should be easier to achieve, while the counter-argument was also put that more dropped kerbs would be detrimental to the pedestrian environment. It was also suggested that new homes should have sufficient solar PV installed to charge a car and that planning rules around listed buildings and conservation areas should be waived to allow people to install chargepoints at home.

## 12.3 Promotion of grants and information

In order to support the development of the Island charging network, the council will provide information on grants schemes available to individuals and businesses and signpost to useful resources, such as those provided by the Energy Saving Trust<sup>19</sup>. Grants offered by Government through its Office for Zero Emission Vehicles (OZEV) change periodically but currently include the Workplace Charging Scheme, EV Infrastructure Grant for Staff and Fleet, Electric Vehicle Homecharge Scheme and Rapid Charging Fund to increase provision on motorways and major trunk roads.

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19 All you need to know about electric vehicles - Energy Saving Trust [energysavingtrust.org.uk/advice/electric-vehicles](https://energysavingtrust.org.uk/advice/electric-vehicles)

# 13 Parking charges

The council does not currently apply a parking charge to vehicles that are using the chargepoints in council car parks. This was a decision taken a number of years ago to encourage EV ownership.

It is not the council's intention to introduce parking charges for EV charging where a parking charge does not already exist, for example, in residential streets or free car parks. It is the intention to work with the existing charging system as far as possible, but the council recognises that consideration needs to be given to those that will rely on public charging facilities and can't benefit from cheaper domestic electricity tariffs.

The arguments for and against applying a parking charge to EV charging bays were captured by those who responded to the public consultation. On the one hand, not applying a parking charge can be seen as a form of subsidy for EV owners, whilst the application of a charge can penalise lower income groups that do not have driveways and those charging at slower speeds who will be parked for longer.

The council's strategy for public charging is to direct residents to charge their vehicles in council car parks when they are close to their homes, but a parking charge will add an additional financial burden when on-street parking is free. Conversely, if there is no parking charge while a vehicle is plugged into a chargepoint, there will be a tendency for EV owners to plug in to take advantage of the free parking, even when their vehicle is not in need of a charge.

As the number of chargepoints in public car parks increases, the potential for loss of parking income also increases. This could be compensated by a revenue sharing agreement with the CPO but that will be dependent on the rate that can be achieved and the usage of the chargepoints. There is currently a revenue sharing agreement with Joju/Mer but the initial chargepoint network has not been installed for long enough for demand to build and the true potential of the revenue share to be assessed.

If parking charges were to be introduced, the council has identified a number of options:

1. To formalise the existing arrangement so that there will be no parking charge applied to vehicles that are plugged into charging points – over time, this will have an impact on council parking income of as much as £1,064 per parking space per year. Revenue-share and rental income from the chargepoint can offset losses from parking charges.
2. To require EVs that are charging to pay the parking fees that currently apply in the car park or street (as well as the cost of using the chargepoint) – this only applies to spaces that currently attract a parking fee. This may be the cheapest option for vehicle owners use EV charging bays occasionally.
3. To extend existing parking permits to include EV charging bays – while it would allow the holder to use general bays as well, this will be an expensive option for those who only want to use the EV charging bays and have no need for the general bays. All existing permits will be extended to allow the use of the charging bays as well as standard parking bays for those who wish to purchase these permits.

4. To introduce a range of new parking permits at reduced rates which allow the use of EV charging bays. Because charging events are likely to become less frequent as the range of vehicles increases – perhaps only once a week or fortnight – these will be at a lower cost than existing permits. They will, however, only allow parking in EV charging bays. It is anticipated that these households will use free, on-street parking for the rest of the week.
5. To increase the tariff for EV charging to include a parking charge – this would be at the discretion of the CPO which may be unwilling to change their back office systems or collect money for the council. It will also confuse the tariff charges when CPOs are trying to standardise these.
6. To introduce a new parking permit which covers the cost of both parking in a dedicated bay and charging the vehicle, i.e. the cost of the EV charge is included in the cost of the permit – this would also require CPO collaboration, (see 5 above).

In considering the merits of introducing a parking charge for EV charging bays, the consultation document identified the following principles:

1. There should be no parking charges for EV charging bays on streets or in car parks which do not currently attract a parking charge.
2. All existing permits will allow parking in EV charging bays in areas covered by the permit at no additional cost.
3. Blue badge holders will not incur a parking charge for EV charging bays in any locations.
4. Resident EV Permit – if living within 200m of car park, pay 25 per cent of current costs for use of charging bays in a named car park (£49.75 for first vehicle and £66.25 for second vehicle at 2023 prices). This permit would only allow parking in EV charging bays and in a named car park.
5. All Island EV permit – allows parking in any off-street charging bay at 25 per cent of current cost of All Island Car Park Permit (£135 at 2023 prices).
6. Those that do not have a permit will be required to purchase single parking tickets for their charging session.
7. Parking in all EV charging bays can only take place while the vehicle is receiving a charge from the chargepoint. It is the driver's responsibility to move the vehicle once the charge is completed, otherwise a penalty notice will be issued.
8. There may be further restrictions on the duration of stay in the bays which will be clearly signed.

However, given current uncertainties, particularly the revenue share income that can be derived from its next contract, it has been decided to spend time gathering more information before a final decision can be made. The council will therefore guarantee no parking charges until 31 December 2024 and will continue to monitor the position until then. It will have procured a CPO for phase 2 and will calculate the revenue sharing income at that stage. The other suggestions made, such as an overstay charge rather than a parking charge will also be considered. If it is decided to introduce a charge or some other form of control, this will not be introduced before 1 January 2025.

# 14 Parking regulations

Traffic orders are required to enforce regulations. These are essential to ensure that designated bays are available for charging and that vehicles do not stay longer than necessary to acquire a charge. This ensures a regular turnover of vehicles and maximises use of the chargepoints.

The council uses Parking Places Orders (PPOs) to describe restrictions on parking in council car parks and TROs are the legal mechanism by which it determines how public highways and footways are to be used, and the legal basis upon which their usage can be enforced. PPOs and TROs are required to set and enforce parking restrictions that can include maximum permitted parking durations, no return periods, vehicle type, time of day and parking permit requirements.

However, charging behaviour, along with the size of vehicle batteries, is constantly evolving and the council will therefore keep the restrictions under review. It will also monitor resident access to chargepoints and keep abreast of suggestions to ensure that residents can access chargepoints when needed. This may just be a case of adding more chargepoints to the network, but it could be facilitated through technology.

## 14.1 Off-street parking

The council's current PPO, which covers all off-street car parks, includes the following restriction for Electric Vehicle Bays:

**“Where bays within a parking place are designated for electric vehicles to recharge their supply, no vehicle shall wait within the bay unless the vehicle is a plug-in electric or plug-in hybrid electric motor vehicle and wait for no longer than the hours specified by the signs.”**

This allows the council to determine how long a vehicle will be allowed to stay in an EV charging bay in each of its car parks. At present it allows four hours in long stay car parks, three hours in short stay car parks and 10 hours in car parks which are used by commuters. In all cases, it is recommended that parking bays adjacent to EV charging infrastructure are only permitted to be used by EVs.

The council will vary the restrictions according to the type of chargepoint provided in each car park, that is, whether it is a standard, fast or rapid charger. The restriction will reflect the speed of charge and likely users of the charger. The council will focus on the provision of fast and rapid chargers so these restrictions are expected to be most common, although there may be a small number of places where 7kW standard chargers are installed. In all cases the restrictions will be posted close to the chargepoints.

The parking restrictions will be different in short stay and long stay car parks, as follows:

In short stay car parks:

**Table 13: Parking regulations for different chargepoint types in short stay car parks**

	7 kW	22 kW	50 kW+
<b>Permitted parking duration</b>	Three hours	Three hours	One hour
<b>No return period</b>	12 hours	Four hours	Two hours
<b>Active hours</b>	8am to 6pm	8am to 6pm	8am to 6pm
<b>Type of charger</b>	Standard	Fast	Rapid or ultra-rapid

In long stay car parks:

**Table 14: Parking regulations for different chargepoint types in long stay car parks**

	7 kW	22 kW	50 kW+
<b>Permitted parking duration</b>	Six hours	Four hours	Two hours
<b>No return period</b>	12 hours	Four hours	Two hours
<b>Active hours</b>	8am to 6pm	8am to 6pm	8am to 6pm
<b>Type of charger</b>	Standard	Fast	Rapid or ultra-rapid



In car parks which are identified as being used by commuters, up to 10 hours stay will be allowed. This will be monitored and may be reduced in future if it is seen to have a detrimental impact on the availability of chargepoints.

For clarity, there will be no restrictions on length of stay between 6pm and 8am allowing vehicles to receive an overnight charge and not requiring the owner to move the vehicle in the middle of the night.

Where a mixture of chargers is provided in the same location, we will apply different permitted stay periods to individual bays, depending on the power of the charger. The existing PPO allows this degree of flexibility.

These restrictions apply to council car parks. If the council facilitates the development of privately-run charging hubs on its land, it will be up to the operator to determine the parking restrictions, although the council will try to ensure that local residents without off-street parking are catered for.

It should be noted, however, that whatever the time limit, the vehicle can only remain in the bay whilst it is receiving a charge from the chargepoint. Therefore, drivers must ensure that the vehicle is moved before it is fully charged or, in the case of overnight parking, by 8 a.m. the following morning.

Early analysis of charging behaviour at the existing off-street cap parks, installed by Joju/Mer, shows the following results up to June 2023:

**Table 15: Summary of usage patterns for Joju/Mer chargepoints**

	Number of successful charging events	Average kWh per charging event	Average time charging (minutes)	Average stay without charging (minutes)
<b>22kW chargers</b>	534	12	158	4
<b>50kW chargers</b>	520	24	51	7

This shows that, on average, drivers charge for just under an hour at rapid chargepoints and for about two and a half hours at fast chargepoints. While this does not account for the few drivers taking a much longer charge, it does suggest that the maximum stay times being allowed by the council are sufficient for the majority of users.

It should also be noted that drivers stay for very short periods of time when charging has completed, on average only four to seven minutes. While strictly this would incur a penalty charge because the vehicle is plugged in but not charging, in practice the driver will receive a notification through their app when the vehicle is nearly fully charged and will have ample opportunity to return to the vehicle and remove it from the charging bay before incurring a penalty or overstay charge.

## 14.2 On-street parking

As part of the ORCS project, an ETRO was introduced. This limits parking in designated bays to EVs only and limits the length of stay to a maximum of four hours, with no return within four hours, between 8am and 8pm. Between 8pm and 8am (i.e. overnight) there are no time restrictions so a vehicle can stay in the bay charging overnight. This is the same for both standard and fast chargepoints.

The same restrictions will be applied to new on-street chargepoints as shown in the table below, with the same restrictions for standard and fast chargers.

**Table 16: Proposed TRO for on-street chargepoints**

	7 kW	22 kW	50 kW+
<b>Permitted parking duration</b>	Four hours	Four hours	Two hours
<b>No return period</b>	Four hours	Four hours	Four hours
<b>Active hours</b>	8am to 8pm	8am to 8pm	8am to 8pm
<b>Type of charger</b>	Standard	Fast	Rapid

In some locations, where there are existing parking restrictions, these existing restrictions will also apply to on-street EV bays. For example, Quay Street in Newport, has a maximum stay of two hours and active hours between 8am to 6pm. To avoid confusion among local residents who use these bays, the existing restrictions will remain.

## 14.3 Provision in resident parking zones (RPZs)

The on-street residential chargepoints have to date been located in areas that are not covered by RPZs, where parking pressures are currently at their greatest. Requests for chargepoints have already been received from residents in the RPZs and, over time, this will increase. Chargepoints will be installed in RPZs when they have been requested by a resident within the RPZ and the installation has the support of both the relevant cabinet and ward members.

The council will consider fitting slower chargepoints in these areas, such as 7kW bollards or lamppost chargers, to discourage the general public from parking in RPZs simply to use the chargepoint, since the two hour parking limit would provide a small charge.



# 15 Accessibility requirements

It is important that the deployment of charging infrastructure is inclusive to all different types of drivers to ensure no-one is left behind in the transition to net zero. The national EVCI Strategy states that everyone, including disabled drivers, should be able to use the public network with ease. This includes both the chargepoint unit itself and parking bays dedicated for EV charging.

In partnership with Motability, the British Standards Institute (BSI) has developed charging standards to improve disabled people's experience when using public EV chargepoints. This has recently been published as PAS 1899:2022.

The council will ensure that the PAS1899 guidelines are incorporated into all future chargepoint installations, both on-street and off-street. This applies to both the chargepoint and to adjacent parking bays.

All proposed chargepoint locations will be subject to an accessibility assessment using the checklist provided with PAS1899. There will be additional costs associated with meeting these requirements, for example, the need to introduce dropped kerbs on-street and the need for additional lighting in off-street locations. There may also be the loss of additional general parking bays to accommodate the increased size of accessible charging bays. When this would make locations unviable for a CPO, the council will consider using its LEVI capital allocation to bring the sites up to standard.

Where there is space, the council will also consider cut outs and build outs to provide safer on-street charging bays.



# 16 Future energy system

The UK government has set an explicit target to achieve a net zero electricity system by 2035. This will require significant new low carbon generation and grid upgrades to handle the increased demand for electricity for heating and transport and the reverse flow of energy from distributed generation. Because of the intermittent nature of many renewables, storage capacity also needs to be significantly enhanced so that power is available when it is needed.

In this new energy system, there is significant potential for EVs, with their large energy storage capacity, many times bigger than domestic battery storage systems, to play a very important role in balancing the energy system, charging when electricity is abundant and cheap and returning power to the grid, or into the home, when it is in short supply and expensive. Provided it can be managed to ensure that frequent charge and discharge cycles do not damage the vehicle battery, EVs can help avoid expensive grid reinforcement by providing these flexibility services.

To provide this service, EVs will need to be digitally connected so that they can respond to requests to charge or discharge. This will be motivated by 'time of use tariffs' which costs electricity in half-hour blocks throughout the day. Consumers will be able to take advantage of this, either through suppliers managing when the EV charging takes place or a user-controlled system where the EV owner chooses their own charging times based on when prices are lowest.

This puts the EV owner in much greater control and able to minimise the cost of charging their vehicle. In addition, as early trials have shown, there is the opportunity to make money by discharging the car battery back to the grid (vehicle-to-grid or V2G) when the supplier requests. In the Isle of Wight there is the potential to create a much more localised energy system which is based on local renewable generation and uses storage and flexible loads to utilise the renewable generation at the times when it is available.

An alternative is to discharge the vehicle battery into the home to power heating, hot water, lighting and appliances. Providing this electricity has been bought cheaply, or generated on site, it can replace expensive electricity during the peak hours and lead to significant cost savings, as well as reducing strain on the grid. Another advantage of this system is to provide back-up power to the house during power cuts, particularly important when there is medical equipment in the home which requires an electricity supply.

These vehicle to everything (V2X) systems are not yet a commercial proposition but development is progressing quickly and they are likely to be a normal part of the energy system in future years.

The council will continue to monitor developments in smart charging and V2X and will consider whether it can offer services through the public charging network where this will provide benefits for the local community.

# 17 Funding

Funding for EVCI delivery is being provided by the DfT through the Local Electric Vehicle Infrastructure (LEVI) Fund with allocations to the Isle of Wight Council as follows:

1. **LEVI Capability Fund (£315,000)** – to ensure that local authorities have the skills and staff to undertake the planning and delivery of local EV chargepoints in their areas
2. **LEVI Capital Fund (£1,625,000)** – to support chargepoint purchase and installation costs to significantly scale up the number of local chargepoints, enabling more residents, especially those without off-street parking, to switch to EVs.

Securing the funding is dependent on suitable plans being agreed by the Department for Transport.

The council has recently secured its full Capability Fund allocation which will, among other things, support a full-time EV infrastructure programme manager who will have primary responsibility for the procurement of a CPO and subsequent delivery of the next phase of chargepoints, which is likely to deliver 150 to 200 new chargepoint sockets. In addition, the funding will support safety and accessibility audits of all proposed sites and the legal agreements necessary for a cable channel trial. It will support the purchase of the LOCATE tool through which the council will identify properties requiring public chargepoints and the preferred location of the on-street infrastructure.

Delivery of the action plan that accompanies this strategy will be exclusively funded through the council's LEVI Fund allocations since the council does not have internal funding for this activity. This will include network development (see section 12), consulting with local stakeholders and improving the provision of information to the public.

The Capital Fund will support the installation of new chargepoints where the costs can't be reasonably met by the appointed CPO. This is likely to be focussed on chargepoints in rural areas which will have marginal viability and those where installation costs are particularly high, for example through high grid connection costs. It will also support physical improvements to meet accessibility requirements where these will impact the viability of the location. The Capital Fund will also support a small cable channel trial and, subject to DfT approval, the establishment of rapid charging hubs in locations where they are the best solution to the charging needs of local residents.

# 18 Monitoring and reporting

Delivery of the EVCI Strategy and implementation of the LEVI fund will be overseen by the Major Highways Improvement Programme Board. This will be the forum for considering risks and issues affecting the project and will receive reports on the performance of the CPO, particularly with regards to the reliability and availability of the network. Through this board the relevant cabinet member will be regularly updated.

Reports will also be prepared for the Department for Transport showing how the LEVI capability and capital funding is being used.

Summary reports will be submitted to the Climate and Environment Programme Board.

As requested, updates will also be presented to the Scrutiny Committee for Neighbourhoods and Regeneration.

The strategy and action plan will need updating regularly. The action plan that follows covers the period September 2023 to November 2025, that is, the period starting with approval of this strategy and ending with the conclusion of LEVI capability funding. An action plan for the period after November 2025 will need to be produced should the council be in a position financially to continue network development.



# 19 Action plan (2023 to 2025)

Reference	Action	Target start date	Target end date
INT1	Recruit EVI programme manager.	August 2023	October 2023
INT2	Liaise with planning department on feedback from consultation exercise.	November 2023	December 2023
INT3	Develop guidelines for use of cables which do not cross a footway or verge.	April 2024	December 2024
PM1	Publish tender documents for a CPO to deliver and manage the Phase 2 network.	September 2023	September 2023
PM2	Award contract to CPO.	November 2023	November 2023
PM3	Submit LEVI Capital Fund proposal.	November 2023	March 2024
PM4	Liaise with town and parish councils on new chargepoint locations.	January 2024	March 2024
PM5	Encourage community organisations to carry out local property audits of houses without driveways and promote the Parish Online system as a tool to do this.	January 2024	November 2025
IRO1	Complete analysis of on-street chargepoint requirements using LOCATE platform.	October 2023	November 2023
IRO2	Update LOCATE with new information when received.	September 2023	November 2025
IRO3	Carry out safety audits and PAS1899 assessments for long list of off-street locations.	November 2023	February 2024
IRO4	Carry out safety audits and PAS1899 assessments for long list of on-street locations.	November 2023	February 2024
IRO5	Develop a process for applications to install cable channels through the footway.	April 2024	December 2024
IRO6	Develop a legal agreement for cable channel installations.	April 2024	December 2024
IRO7	Deliver a pilot of six to 10 cable channels.	January 2025	August 2025
CPO1	Work with CPO to identify sites suitable for solar canopies and battery storage.	January 2024	March 2024
CPO2	Sign off CPO's implementation plan for infrastructure rollout.	May 2024	May 2024
ND1	Liaise with community organisations on any potential to host chargepoints.	January 2024	November 2025

Reference	Action	Target start date	Target end date
ND2	Liaise with Visit Isle of Wight on visitor requirements and provision at holiday accommodation and attractions.	January 2024	November 2025
ND3	Contact private site owners on priority list to discuss interest in installing chargepoints.	January 2024	December 2024
ND4	Provide information on chargepoint infrastructure on the council website, including grants for householders and businesses.	January 2024	November 2025
ND5	Work with the Energy Saving Trust to determine the charging requirement for taxis and private hire vehicles.	April 2024	Aug 2024
ND6	Ask Housing Associations to identify sites for public chargepoints within their housing developments.	April 2024	July 2024
ND7	Talk to filling station owners about timescales for installing chargepoints.	September 2024	March 2025
FES1	Monitor innovations in chargepoints, management systems, smart charging and Vehicle to Grid (V2G).	September 2023	November 2025

Key:

- INT** Internal
- PM** Project management
- IRO** Infrastructure rollout
- CPO** Chargepoint operator
- ND** Network development
- FES** Future energy system

# Appendix 1

## Full list of charging sites

The sites listed below were identified and appraised in the report “Isle of Wight Electric Vehicle Infrastructure Planning” produced by Cenex for the council in April 2020.

Name	Ownership	Type	Use Case	Use Rating	Int Rating	Rating
Chapel Street Car Park	IW Council	Rapid	Hub	10	9	19
St Thomas Street Car Parks (hub)	IW Council	Rapid	Hub	10	9	19
County Hall	IW Council	Standard	Workplace	9	9	18
St John’s Road Car Park	IW Council	Fast	Destination	8	9	17
Carisbrooke High Street Car Park	IW Council	Standard	Workplace	9	8	17
Lidl Shanklin	Private	Rapid	Destination	9	8	17
Morrisons Lake	Private	Rapid	Destination	9	8	17
Medina Yard Redevelopment	Unknown	Fast	Destination	7	9	16
Cross Street Car Park	IW Council	Fast	Destination	8	8	16
Quay Road Car Park	IW Council	Fast	Destination	8	8	16
St Mary’s Hospital	NHS	Fast	Destination	8	8	16
New Red Funnel Ferry Terminal	Unknown	Rapid	Transit	8	8	16
Newport Jobcentre Plus	Public	Standard	Workplace	8	8	16
Spa Car Park	IW Council	Fast	Destination	8	8	16
Church Litten Car Park	IW Council	Rapid	Taxi	9	7	16
Orchardleigh Road Car Park	IW Council	Fast	Destination	9	7	16
Appley Car Park (hub)	IW Council	Rapid	Hub	6	9	15
Cowes Enterprise College	Education	Standard	Workplace	7	8	15
Isle of Wight College	Education	Standard	Workplace	7	8	15
Robin Hill Country Park	Private	Fast	Destination	7	8	15
The Needles	Private	Fast	Destination	7	8	15
Vernon Gardens Car Park	IW Council	Fast	Destination	7	8	15
The Heights Car Park	IW Council	Standard	Workplace	8	7	15
Park Road Car Park	Unknown	Standard	Destination	8	7	15
New Road Car Park	IW Council	Standard	Residential	8	7	15
Pound Lane Car Park	IW Council	Fast	Destination	8	7	15
Victoria Street Car Park	IW Council	Fast	Destination	8	7	15

Name	Ownership	Type	Use Case	Use Rating	Int Rating	Rating
Aldi Lake	Private	Rapid	Hub	9	6	15
Albany Road Redevelopment	Unknown	Standard	Residential	6	8	14
Colwell Bay Car Park	IW Council	Standard	Destination	6	8	14
Coppins Bridge Car Park	IW Council	Standard	Residential	6	8	14
Blackgang Chine Theme Park	Private	Fast	Destination	7	7	14
Brading Car Park	Private	Fast	Destination	7	7	14
Morrisons Newport	Private	Rapid	Hub	7	7	14
Tapnell Farm Park	Private	Fast	Destination	7	7	14
The Old Smithy & Gardens	Private	Fast	Destination	7	7	14
Brannon Way Car Park	IW Council	Fast	Destination	7	7	14
Brunswick Road Car Park	IW Council	Standard	Residential	7	7	14
Lind Place Car Park	IW Council	Fast	Destination	7	7	14
Lugley Street Car Park	IW Council	Standard	Residential	7	7	14
Booker Wholesale Cowes	Private	Rapid	Fleet	8	6	14
Gunville Retail Park	Private	Fast	Destination	8	6	14
Park Road Car Park (hub)	Unknown	Rapid	Hub	8	6	14
Shanklin Station Car Park	Private	Rapid	Taxi	8	6	14
Waitrose Cowes	Private	Rapid	Hub	8	6	14
Gulf Lushington Hill	Private	Rapid	Transit	8	6	14
Northwood Garage	Private	Rapid	Transit	8	6	14
Tesco Westridge	Private	Rapid	Hub	8	6	14
Central Car Park	IW Council	Fast	Destination	8	6	14
Esplanade Gardens Car Park	IW Council	Fast	Destination	8	6	14
Yarmouth Car Park	IW Council	Fast	Destination	8	6	14
The Parade	Public	Fast	Destination	9	5	14
Arreton Barns Craft Village	Private	Fast	Destination	9	5	14
Avenue Road Car Park	IW Council	Standard	Residential	5	8	13
Medina Campus Car Park	IW Council	Fast	Destination	5	8	13
East Cowes Marina	Private	Standard	Workplace	6	7	13
Havenstreet Station	Private	Fast	Destination	6	7	13
The Co-op Freshwater	Private	Rapid	Hub	6	7	13
Fort Street Car Park	IW Council	Standard	Residential	6	7	13
Hope Road Car Park	IW Council	Fast	Destination	6	7	13
Carisbrooke College	Education	Fast	Destination	7	6	13
Dudley Road Car Park	IW Council	Fast	Destination	7	6	13
River Road	IW Council	Rapid	Taxi	7	6	13
Aldi Cowes	Private	Rapid	Hub	7	6	13
Sainsbury's Newport	Private	Rapid	Hub	7	6	13
Market Street Car Park	IW Council	Fast	Destination	7	6	13



Name	Ownership	Type	Use Case	Use Rating	Int Rating	Rating
Medina Avenue Car Park	IW Council	Standard	Residential	7	6	13
Moa Place Car Park	IW Council	Fast	Destination	7	6	13
Pier Road Car Park	IW Council	Fast	Destination	7	6	13
Landguard Road Car Park	IW Council	Fast	Destination	8	5	13
Somerton Park & Ride	IW Council	Fast	Destination	8	5	13
St Martins Road Car Park	IW Council	Standard	Residential	8	5	13
The Co-op Cowes	Private	Fast	Destination	8	5	13
The Crown Inn	Private	Fast	Transit	8	5	13
Sea Street Car Park	IW Council	Standard	Destination	5	7	12
Totland Broadway Car Park	IW Council	Standard	Destination	5	7	12
M&S Cowes Car Park	Private	Rapid	Hub	6	6	12
Asda Newport	Private	Rapid	Hub	6	6	12
The Grove Car Park	IW Council	Fast	Destination	6	6	12
Warnes Lane Car Park	IW Council	Fast	Destination	6	6	12
The Chequers Inn	Private	Fast	Transit	7	5	12
St Helens Green Car Park	Public	Fast	Destination	7	5	12
The Needles (hub)	Private	Rapid	Hub	7	5	12
Yarmouth Car Park (hub)	IW Council	Rapid	Hub	8	4	12
Tesco Express Lake	Private	Fast	Destination	8	4	12
Freshwater Bay Car Park	IW Council	Fast	Destination	8	4	12
Fairlee Service Station	Private	Rapid	Hub	4	7	11
Puckpool Park Car Park	IW Council	Fast	Destination	4	7	11
Fort Victoria Country Park	Private	Fast	Destination	5	6	11
Newport Harbour Car Park	IW Council	Fast	Destination	5	6	11
Wheelers Bay Car Park	IW Council	Fast	Destination	5	6	11
M&S Newport	Private	Rapid	Hub	6	5	11
Osborne Garage	Private	Rapid	Transit	6	5	11
The Olde Village Inn	Private	Fast	Destination	6	5	11
Seaclose Park Car Park	IW Council	Fast	Destination	6	5	11
Osborne Car Park	Private	Fast	Destination	7	4	11
Green Street Car Park	IW Council	Fast	Destination	7	4	11
Shanklin Road Car Park	IW Council	Fast	Destination	7	4	11
Station Avenue Car Park	IW Council	Fast	Destination	7	4	11
Red Funnel Ferry Queue	Private	Rapid	Transit	8	3	11
Ashey Road Garage	Private	Rapid	Transit	8	3	11
Bouldnor Viewpoint	IW Council	Fast	Destination	4	6	10
Sandford Service Station	Private	Rapid	Transit	4	6	10
The Duver Car Park	IW Council	Fast	Destination	4	6	10
The White Horse	Private	Fast	Transit	5	5	10

Name	Ownership	Type	Use Case	Use Rating	Int Rating	Rating
Freshwater Bay Car Park (hub)	IW Council	Rapid	Hub	6	4	10
Amazon World Zoo	Private	Fast	Destination	6	4	10
Lidl Newport	Private	Rapid	Hub	6	4	10
Horse & Groom	Private	Fast	Transit	7	3	10
Sherbourne Street	IW Council	Fast	Destination	7	3	10
Carbourne Sun Inn	Private	Fast	Transit	8	2	10
Lane End Car Park	IW Council	Standard	Destination	3	6	9
Westridge Garage	Private	Rapid	Transit	4	5	9
La Falaise Car Park	IW Council	Fast	Destination	5	4	9
Royal Exchange Car Park	IW Council	Standard	Residential	5	4	9
Yaverland Car Park	IW Council	Fast	Destination	5	4	9
Atherley Road Car Park	IW Council	Standard	Residential	6	3	9
Old Battery	Private	Rapid	Destination	6	3	9
The Duver Car Park	IW Council	Fast	Destination	6	3	9
F H Winter & Sons	Private	Rapid	Transit	7	2	9
The Blacksmiths Arms	Private	Fast	Transit	7	2	9
Grange Chine Autocentre	Private	Rapid	Transit	8	1	9
Broadway Garage	Private	Rapid	Transit	6	2	8
Mornington Road Car Park	IW Council	Fast	Destination	6	2	8
Eastcliff Car Park	IW Council	Fast	Destination	7	1	8
Isle of Wight Bus and Coach Museum	Private	Fast	Destination	4	3	7
Brooks Close Car Park	IW Council	Standard	Residential	4	2	6
Carisbrook Castle	Private	Fast	Destination	4	2	6
Sandown Road Car Park	IW Council	Standard	Residential	4	2	6
Smugglers Haven Car Park	IW Council	Fast	Destination	4	2	6
The Wight Military Heritage Museum	Private	Fast	Destination	4	2	6
Eastern Esplanade Car Park	IW Council	Fast	Destination	5	1	6
Shore Road Car Park	IW Council	Fast	Destination	4	1	5
Church place Car Park	IW Council	Standard	Residential	2	2	4
Steyne Road Car Park	IW Council	Standard	Residential	2	2	4
Blackgang Viewpoint Car Park	IW Council	Fast	Destination	3	1	4
Whale Chine Car Park	IW Council	Fast	Destination	3	1	4

# Appendix 2

## Sites considered suitable for innovative technologies.

A list of sites that were considered appropriate for the installation of one or more of these technologies is shown below.

**Table 19: List of sites identified as being appropriate for innovative technology deployment (Cenex)**

Name	Ownership	Shortlist	Solar	V2G	Wireless
St Mary's Hospital	NHS	Yes	Yes	Yes	Yes
New Red Funnel Ferry Terminal	Unknown	Yes	Yes	No	Yes
Red Funnel Ferry Queue	Private	No	No	No	Yes
County Hall	IWC	Yes	Yes	Yes	No
Cowes Enterprise College	Education	Yes	Yes	Yes	No
Isle of Wight College	Education	Yes	Yes	Yes	No
The Heights Car Park	IWC	Yes	Yes	Yes	No
Tapnell Farm Park	Private	No	Yes	Yes	No
Chapel Street Car Park	IWC	Yes	Yes	No	No
St Thomas Street Car Parks (hub)	IWC	Yes	Yes	No	No
Medina Yard Redevelopment	Unknown	Yes	Yes	No	No
Quay Road Car Park	IWC	Yes	Yes	No	No
Gunville Retail Park	Private	No	Yes	No	No
Carisbrooke College	Education	No	Yes	No	No
Yarmouth Car Park (hub)	IWC	No	Yes	No	No
Appley Car Park (hub)	IWC	Yes	Yes	No	No
Aldi Lake	Private	Yes	Yes	No	No
Albany Road Redevelopment	Unknown	No	Yes	No	No
The Old Smithy & Gardens	Private	No	Yes	No	No
Tesco Westridge	Private	No	Yes	No	No
Yarmouth Car Park	IWC	No	Yes	No	No
Arreton Barns Craft Village	Private	No	Yes	No	No
Aldi Cowes	Private	No	Yes	No	No
The Needles (hub)	Private	No	Yes	No	No
Freshwater Bay Car Park	IWC	No	Yes	No	No
Tesco Express Lake	Private	No	Yes	No	No

Name	Ownership	Shortlist	Solar	V2G	Wireless
Seaclose Park Car Park	IWC	No	Yes	No	No
Osborne Car Park	Private	No	Yes	No	No
Freshwater Bay Car Park (hub)	IWC	No	Yes	No	No

# Appendix 3

## Graph data

### Page 5 – EV ownership on the Isle of Wight

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 (Q3)
18	27	40	77	118	179	241	315	484	847	1,112

### Page 40 – Projection for power requirement of different charger archetypes

		Baseline	2025	2030	2035	2040
Domestic off-street	Capacity (MW)	4	57	189	318	327
En-route local	Capacity (MW)	0	2	7	18	22
Workplace	Capacity (MW)	0	2	6	14	17
Domestic on-street	Capacity (MW)	0	1	4	11	15
Fleet	Capacity (MW)	0	0	1	4	7
Destination	Capacity (MW)	0	1	1	2	2
En-route national	Capacity (MW)	0	0	0	1	1
Car Park	Capacity (MW)	0	1	1	1	1
<b>Total</b>	<b>Capacity (MW)</b>	<b>4</b>	<b>64</b>	<b>209</b>	<b>369</b>	<b>392</b>