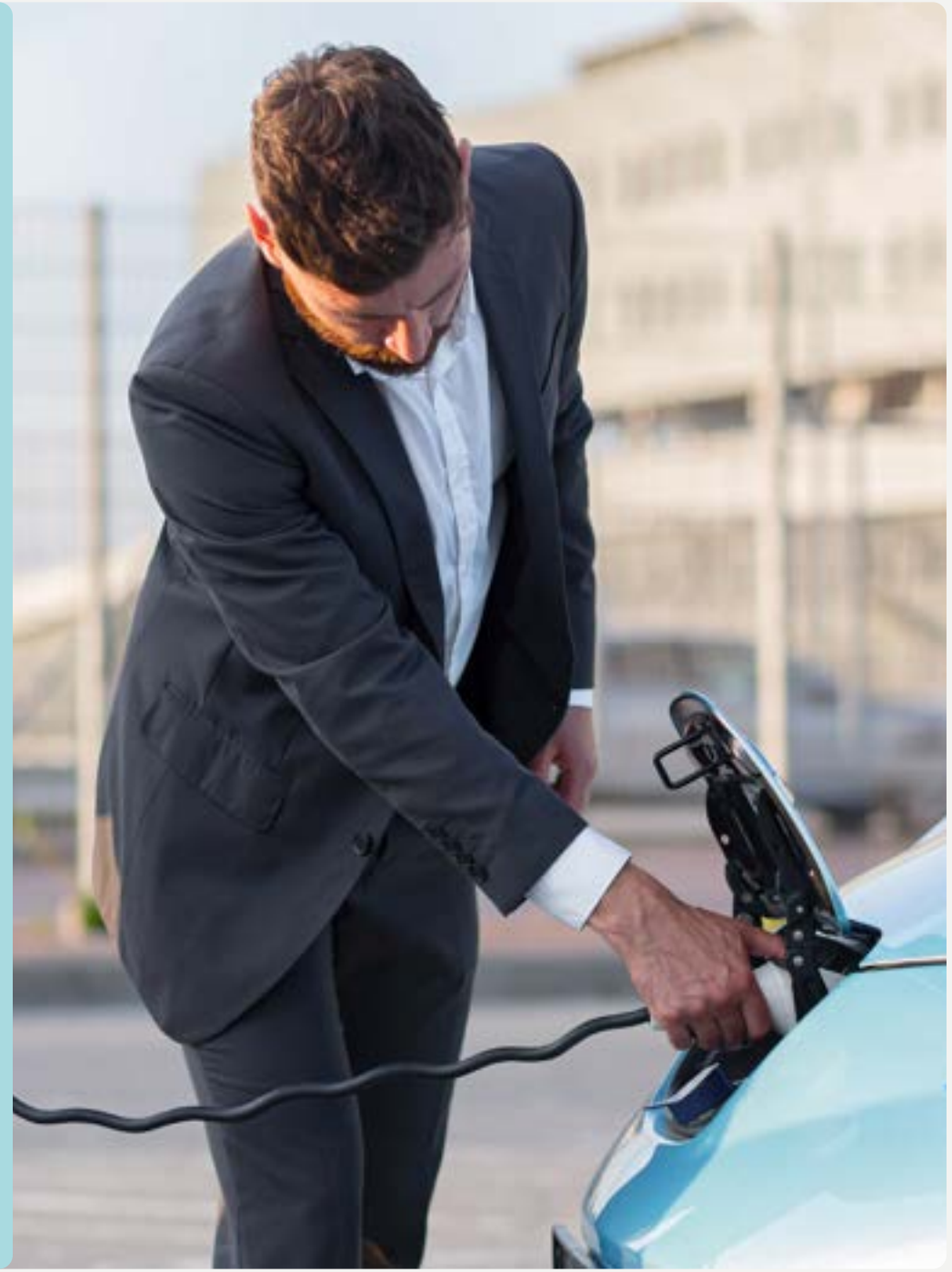
energy saving trust

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Switching from a public to commercial charge point network in Scotland

Guidance for charge point owners



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Key terms

CPO: Charge point operator.

CPS: ChargePlace Scotland.

CPNO: Charge point network operator.

RFID: Radio Frequency Identification.

BEV: Battery electric vehicle – a vehicle driven solely by a battery powered electric motor(s).

Roaming: the ability to pay to charge an EV using one app or RFID card at multiple charge point networks.

Interoperability: the ability of different EV charging stations and networks to work together seamlessly.

Free vend: A temporary state where an EV charging station allows users to charge their vehicles without requiring payment.

Key terms

eMSP: eMobility service provider - a company that operates a platform to facilitate payment for EV charging across multiple networks.

OCPI: Open Charge Point Interface protocol ensures that charge point operators use data formats that are open and machine-readable, making the information accessible to the public and government bodies.

OCCP: Open Charge Point Protocol - a communication protocol for managing EV charging stations, allowing different charging networks and equipment to work together seamlessly.

Plug and Charge: A feature that allows EV owners to initiate a charging session simply by plugging their vehicle into a charging station. This process streamlines the experience by automatically handling authentication, billing, and session management without the need for the user to use a separate app or payment method.

Established by the Scottish Government over a decade ago, the ChargePlace Scotland (CPS) network has successfully acted as a catalyst for the development of electric vehicle (EV) charging infrastructure across the country, making it one of the largest in the UK today. CPS has provided BEV drivers with an affordable means of seamlessly travelling throughout Scotland using a single RFID access card and smartphone app.

Over the next two years, the way that public EV infrastructure is being funded and developed will change. To increase the pace and scale of EV infrastructure expansion to meet the needs of all drivers in the years ahead, there will be much greater focus on commercial sector investment in public EV charging as the public sector alone cannot achieve that.

This will entail a transition away from the current CPS model which means that the contract to operate the CPS will not be renewed by Transport Scotland once the current one expires. The shift will offer drivers much greater choice to suit their needs, and it will offer drivers much greater choice to suit their needs, and it will offer you, the charge point owners, the opportunity to maximise the potential of your EV charging assets. To prepare for the managed exit of CPS, all charge point owners will be required to begin planning their next steps, including sourcing an alternative back-office.

This information pack is intended to help CPS charge owners begin the process of determining the best way forward for their organisation and their charge points. It is recommended that all charge point owners begin that process as soon as possible.

Your charging infrastructure plays a key role in Scotland's future transport strategy. It enables people and fleets to drive with confidence using a reliable network. A robust charging network is the backbone of BEV adoption. Without it, the market would stall.

This guidance outlines how to transition away from the CPS network and onto a new charge point operator (CPO) or charge point network operator (CPNO).

It covers:

- The growth of the BEV and charging infrastructure market.
- Funding models.
- Considerations for supporting charging infrastructure.
- Specific site considerations.
- Accessibility and legal requirements.

This will support you to continue using the charging infrastructure on your site. It may also inform discussions you have with commercial operators.

Overview of ChargePlace Scotland & BEV Growth

ChargePlace Scotland was created to provide an extensive, affordable and accessible public charging network in Scotland. As electric vehicle ownership has increased, the number of charge points on the network has risen to almost 3,000 units.

The rise of public charging infrastructure has facilitated the huge growth in electric vehicle sales. It has created consumer confidence in the market and fostered a shift away from petrol and diesel vehicles. The market will continue to grow significantly as more drivers switch to BEVs.

The millions of BEV drivers in Scotland and throughout the UK will need a reliable, effective and modern charging network with the same level of support as traditional forecourts.

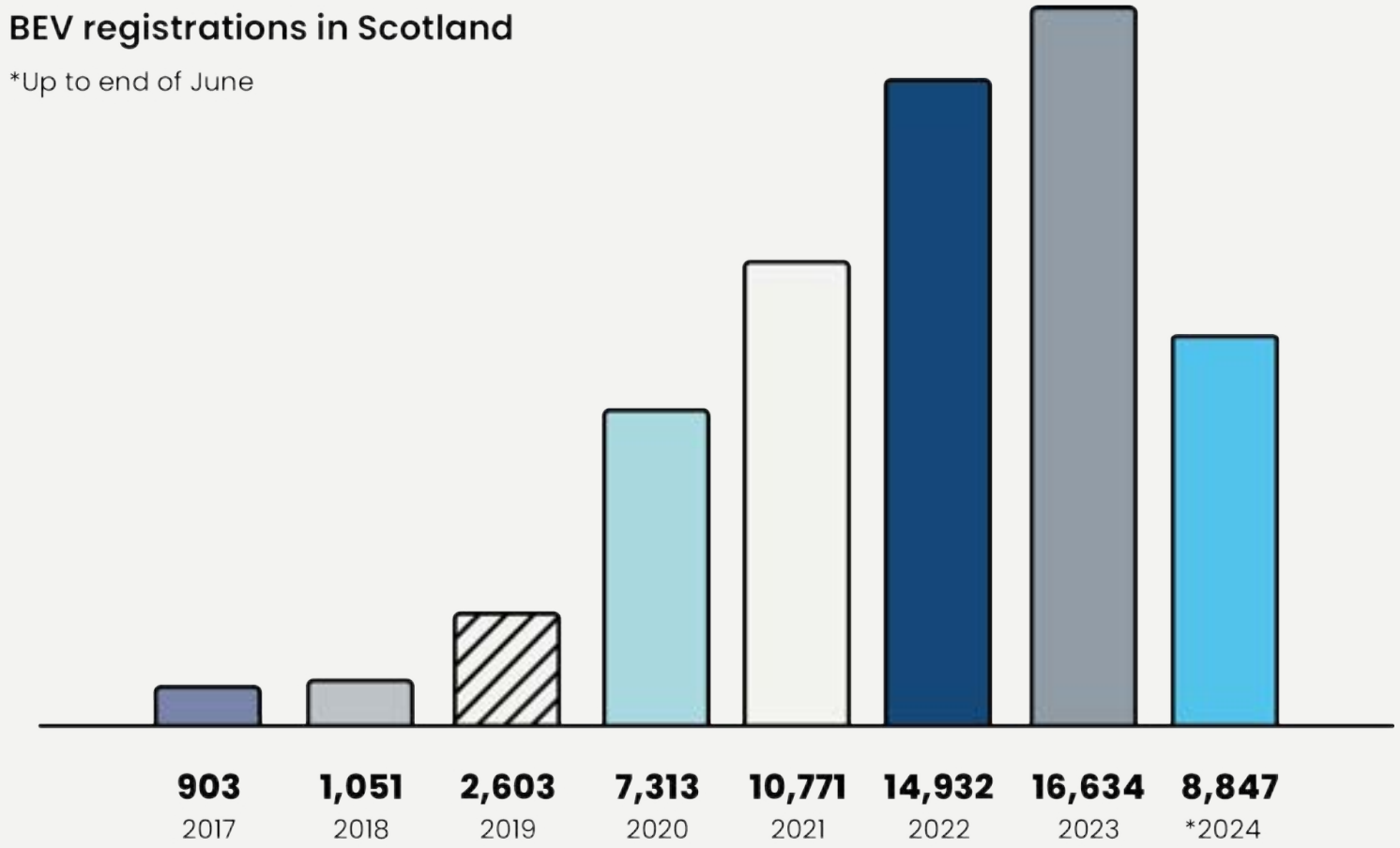
The UK's zero emission vehicle (ZEV) mandate will legally require 80% of new cars and 70% of new vans to be zero emission by 2030. This will increase to 100% by 2035. As a stepping stone, an initial target has been set for 22% of all new cars sold in 2024 to be ZEVs. Although 2035 is the ultimate goal, several manufacturers are working ahead of this deadline.

The Scottish Government has set its own targets for electric vehicle sales. In Scotland, any new car sold in 2030 will need to be either fully electric or a plug-in hybrid. This is the most ambitious target in the UK and one of the most ambitious in the world.

As BEV ownership increases, the need for charging infrastructure will only intensify. Your organisation can realise the commercial benefits from this shift by providing charging support for the future uptake of electric vehicles.

The graph below, taken from our reporting on new BEV registrations, highlights how sales have grown since 2017. The data reflects sales to the end of June 2024, and the expectation is that these will continue to grow.

While BEV sales continue to gather pace, they still make up only around 10% of new car annual sales. The market still has huge potential to grow and will be supported by the drive from major car manufacturers designing, researching, building and selling BEVs.

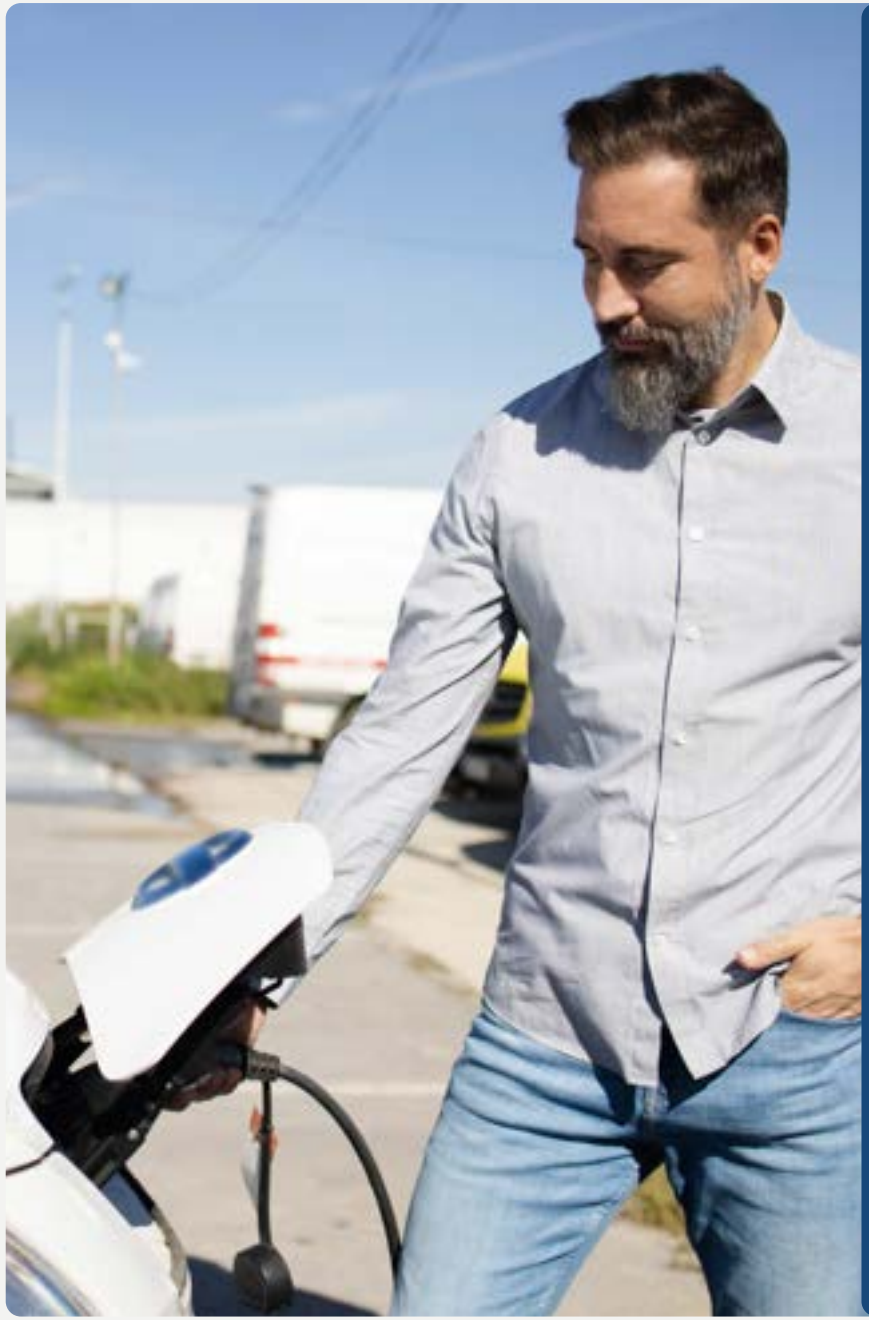


Scottish Government incentives, such as our low carbon transport loan, helped to foster the BEV market and boost sales.

The interest-free loan encouraged businesses and consumers to buy BEVs, making them more affordable and accessible to drivers. Ultimately, this resulted in more BEVs on Scottish roads.

This incentive helped spark the shift towards electrified, zero emission transport. Further support from the Scottish Government has helped maintain the momentum, as have policy initiatives. This includes the rollout of Low Emission Zones removing the highest polluting vehicles from Scottish cities and the previously mentioned 2030 electric vehicle target.

Alongside the ZEV mandate, these initiatives emphasise the need for charging infrastructure and a robust public charging network.



Commercial network operators

CPS is a CPNO. It manages a connected network of charge points that are accessible under a single platform. CPS does not manufacture, own or install units. Instead, it provides a system for charge points to connect to and be managed by one operator.

Through this system:

- Charge points can be located on digital maps.
- Payment and tariffs can be implemented.
- Charger faults can be recorded and repaired.

A CPO provides a full, turnkey solution from the ground up. It is responsible for the installation, maintenance and ongoing support of charging infrastructure. This includes payment support and diagnostics.

A CPO can also act as a CPNO, managing a network of charge points. These roles are interchangeable.

By transitioning away from CPS, you will need to engage with another provider. It's important to be fully aware of what they will provide and what your organisation's needs may be.

You should engage with several commercial providers to discuss their offerings and how this can be tailored to suit your needs. Charging infrastructure, if properly managed and executed, should generate income and complement your business.

The next page includes an overview of some of the features a commercial provider can offer.

While a CPO provides more features, these may not be necessary for your site if your infrastructure is working as intended and doesn't need to be replaced.

In this scenario, you could use a CPNO to facilitate a connection to a private network where your site could be listed and advertised. If your charge points need to be upgraded or you want to expand your site in the future, you may then choose to engage with a CPO.

Feature	CPS	CPNO	CPO
Supply charge point hardware			X
Site survey			X
Installation			X
Connection and metering			X
Bay marking and signage			X
Warranty and maintenance			X
Management system	X	X	X
Payment facility and tarriff	X	X	X
Management app	X	X	X
Online map	X	X	X
Fault report and diagnositcs	X	X	X

Finance

You may choose to upgrade your site by replacing the existing charge points with new infrastructure or adding new points.

Alternatively, you may choose to continue with your current setup and use a CPNO to host your location on their platform. This means your units would be advertised publicly (as they are under CPS) so drivers can locate them.

The next few pages highlight some of the funding options available to you. These are not prescriptive. You should consider which approach best fits your business needs.

Do you want to continue to make your charge point available to the public?

Management service (back office support)

Continue with your current infrastructure and replace CPS with another CPNO. This means you can publicly advertise your location and generate revenue through usage.

What if I do nothing?

Your charging infrastructure would continue to operate without support or a management service. There would be no automated payment service related to usage. As the owner, it would be up to you to ensure the infrastructure is maintained and operational, and that payments are received. Or your charge point would likely operate in 'free-vend' mode as taking payments will almost always require a back office support.

Make sure you carry out a thorough search of the charging landscape. There are now dozens of organisations that operate in this sector. You should contact several of them to discuss the options available to you. Some of these organisations are members of the umbrella group ChargeUK who represent the BEV charging infrastructure industry.

Replacing and upgrading units

Fully funded model

This is where a CPO provides the charging infrastructure with no upfront costs for you. The CPS provides management and back office support. It also owns and maintains the units. Both parties decide a revenue split.

Purchase model

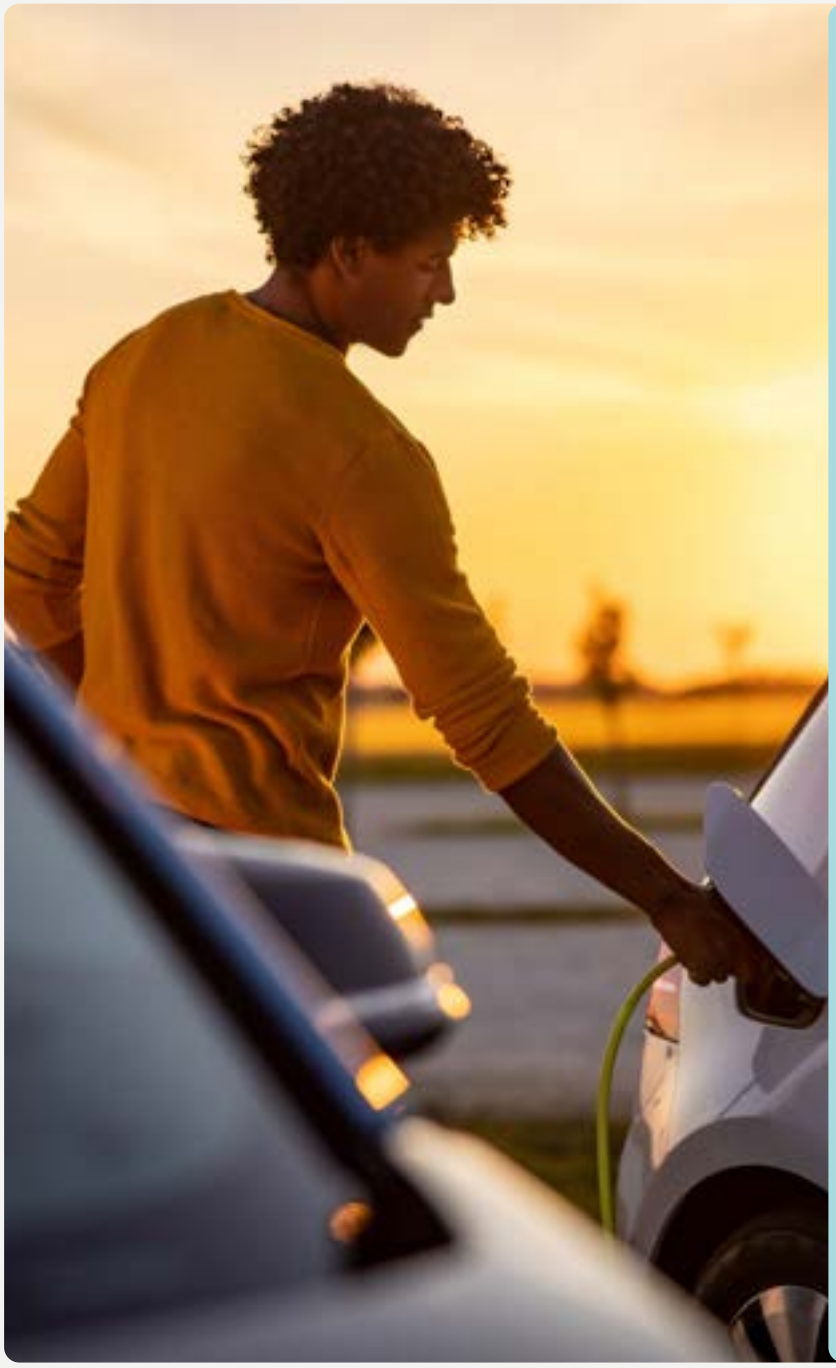
Similar to the fully and part funded models except the owner covers all the capital expenditure. The owner receives most of the revenue but also takes on a greater level of risk, as this is dependent on usage.

Part funded model

Similar to the fully funded model except you provide more initial capital expenditure towards the units. This should result in a greater share of any revenue generated.

Land leasing model

The operator leases your land from you, installs and manages the charging infrastructure, and provides back office support. Similar to the fully funded model, except the lease is the income generator for the owner. There may be no revenue split from usage.



Each funding model has benefits but may not be suitable for your organisation or align with your current position. Consider the responsibilities of each party and reach a clear understanding of what each party provides.

Similarly, you should consider the amount of upfront investment you want to provide, the total contract length and the payback you will receive.

To make an informed decision, you can download your data from your CPS owner's hub. If you can't access your hub or have issues downloading, you can contact ChargePlace Scotland directly at cps-transition@evoltcharging.co.uk.

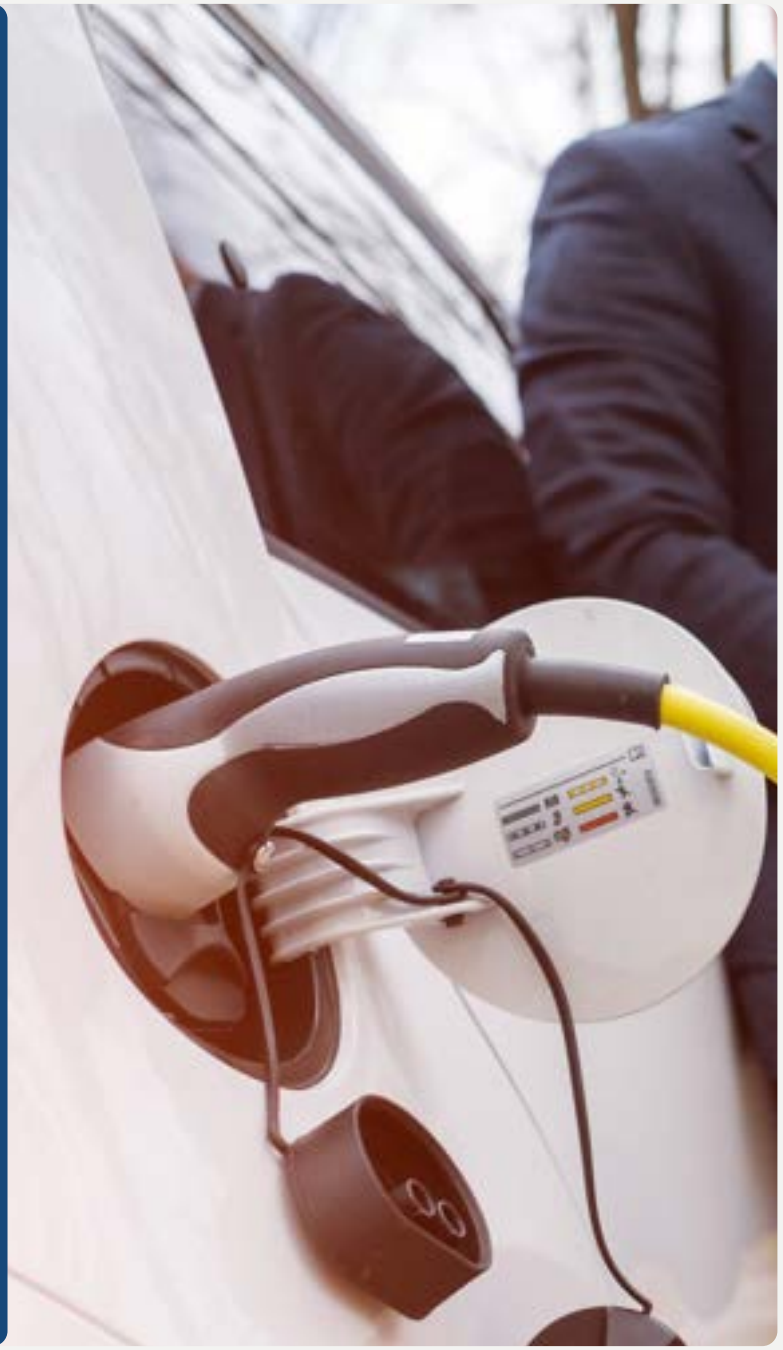
With this data, you can analyse patterns in charging activity, establish periods of high demand and understand when and for how long users charge. This may help you to work out the number and power of charge points needed.

Your charge point and site

Your charging infrastructure should generate revenue, increase visitor numbers and enhance the overall experience of your site. Each charging location is unique and should be built around the characteristics of the site.

You may have owned charging infrastructure for one or several years. Regardless of where you are on your journey, there's potential for growth.

The next few pages list key considerations for your site to discuss with your provider.



Charge points

1. Charge point age and compatibility. You may want, or need, a new charge point when considering the age and compatibility of your existing infrastructure. A new charge point complies with the UK's Public Charge Point Regulations (2023), where an older unit may require upgrades. A new charge point could more easily link with your chosen CPNO's system. It can also help expand your infrastructure in response to a growing BEV market.

2. Power. Charge points have many speeds, ranging from low to rapid and ultra rapid. What can be installed depends on the power available at the site. Increasing the available power can result in more units or more powerful infrastructure being installed. However, this can be expensive and take several months to complete.

3. Charge point connector. BEVs are built with a charging inlet or socket where the charge point connects using a compatible or matching connector. The most common types of connectors are Type 2, CCS and CHAdeMO. Older BEV models may not be compatible with some connectors. Consider which connectors are most suited to your location, particularly if you plan to install a new charge point.

Maintenance and support

1. Back office support. What is included in the back office support? This should cover monitoring your charge point usage, financial reporting, tracking costs, ensuring faults can be reported and fixed, offering customer support and remote diagnostics.

2. Warranty. Do new charge points have the manufacturer's warranty attached to them? This can vary in length depending on the unit and manufacturer.

3. Maintenance. Does your infrastructure have effective maintenance procedures to maximise usage and income? Maintenance should be routine and include an initial response to faults. Consider if local support is included in your contract, as a faster response time ensures your unit provides maximum availability and revenue.

4. Remote diagnostics. Can faults be diagnosed and repaired remotely? If a charge point has a fault, it won't be available and so can't generate income. Remote diagnostics and efficient repairs increase the availability of a unit, which means more income can be generated. Consider whether there is an annual service and guaranteed response time for faults.

5. Customer support. What support is available to customers using the charge pointcharge point? Consider how you will communicate with customers, be thatfor example through a dedicated helpline or app.

6. Payment. How do visitors pay for charging? Ease of payment creates a positive user experience and should result in more people using your charge point. Most payments can be made via an app, bank card, radio frequency identification access card, plug and charge, or through an online service provider.

7. Charge point app. Does your charge point need an app? Many providers now have a dedicated app. This gives users more control over their charging experience and allows them to identify charge point locations, report faults, pay for usage and manage their overall account.

8. Roaming. Consider whether a provider partners with roaming platforms. Roaming platforms allow their subscribers or members to use charge points from other networks, which is required by the UK Public Charge Point Regulations 2023.

Your site

1. Destination charging. Try to match your infrastructure to your location type. Slower charging speeds are more suitable for longer stays such as in restaurants, hotels and B&Bs or tourist locations.

2. Journey charging. This is for people who need a quick top-up on their journey. For example, at a café where a visitor might be stopping briefly. Infrastructure should be of a higher power so users can charge their vehicles and be on their way.

3. Car parking spaces. Consider how many parking spaces you can provide for charging. BEV users need direct and constant access to a parking space with a charge point.

4. Additional revenue. Think about what else you can offer visitors on your site while they charge, like a toilet, café or shop. Having additional services in place, as well as different power levels on your charge point, can increase dwell times and spend at your site.

5. Advertising. Your site should be properly advertised so users are aware of its location. Several online resources provide maps of charging infrastructure across Scotland, like Zapmap. As well as highlighting the location of charge points, these maps often show the power and number of chargers available at each site. You can also advertise on tourism and accommodation websites, local newspapers or newsletters, your business website, and any apps used by your CPNO.

6. Signage. It's helpful to have signs that directs users to your site. Road signs at key locations can direct drivers to your site. You can also put up visible signs on site indicating BEV bays.

7. Unique selling point. Consider what makes your location unique. You could be on a popular tourist route, in an isolated area or on an island. You may have excellent on-site amenities where drivers can relax. Reliable charging infrastructure will create consumer confidence and draw people to your location.

8. Tariff and roaming. Your charge point tariff should be competitive and appropriate. An excessively high tariff will price you out of the market and a low tariff may not cover your costs. Try to align your price with prices in the local area. Consider the roaming agreements offered by your network or operator. If your charging infrastructure is available to users on a different network in the UK or globally, this may attract more visitors to your site.

Accessibility and safety

As BEVs become more commonplace in Scotland, investing in safe and inclusive infrastructure will future proof your site, while boosting consumer confidence and patronage.

The British Standards Institution (BSI) launched an accessible charge point standard in October 2022, known as PAS 1899:2022. The standard provides guidelines on the design, placement and physical environment of charge points for those with diverse accessibility needs.

Installing effective lighting can protect charge point users during darker periods, making sure they are safe and feel confident using your site. Installing CCTV can also boost user confidence, particularly if your charging infrastructure is in a rural or more isolated area.

If your infrastructure is exposed and subject to severe weather, it may be helpful to incorporate a shelter to shield users from the weather and protect your unit.

Legal requirements

In the UK, new charge point regulations came into force in November 2023. These focus on the consumer experience to improve accessibility, reliability and ease of use.

The requirements highlighted in the Public Charge Point Regulations 2023 attempt to benchmark standards for charging networks which will need to be incorporated into existing or new infrastructure.

Some of the key aspects of the regulations are listed on the next page. You should discuss these with your chosen CPO or CPNO.

From November 2025, CPOs or CPNOs will need to enable drivers to access charge points, regardless of the CPO or CPNO they have an account with.

Think of this like mobile phone data roaming. The driver can use your charge point even if it's outside their network. This opens your charging infrastructure to a more users and can generate more revenue.

Other aspects to discuss with your CPO or CPNO to ensure compliance with the regulations include:

- Offering and operating a 24/7, free helpline for customers.
- Providing contactless payment for new charge points operating over 8kW and existing charge points over 50kw.
- Being transparent about pricing and displaying this clearly.
- Reporting data openly for the public and to government bodies.
- Ensuring an average of 99% reliability for rapid charge points.

Managing charging infrastructure end of life

If you decide your charge point needs to be refurbished, repaired or repurposed, discuss your options with your installer and consider any implications on your business needs. Start the conversation following circular economy principles, with refurbishment, repair and repurposing at the top of your list before recycling or disposal.

Reuse & refurbish

This should be one of your first considerations. If your infrastructure is in good condition and meets the requirements of your organisation and user base, there may be no need to remove it.

This is a cost-effective option and ensures that electrical equipment is not discarded unnecessarily.

Refurbish an old asset by replacing damaged components with new parts and maintaining the operational health of the unit.

Repair

Broken or malfunctioning equipment may only need a simple repair to be operational again. Repairing equipment is easier, cheaper and more environmentally friendly than replacing it. Always consider repairing equipment before replacing it.

Repairing your infrastructure should increase its longevity and meet its design requirements. However, if constant repairs are needed, repairs are too expensive or the infrastructure doesn't work as intended after repair, you may want to replace the unit.

Managing charging infrastructure end of life

Repurpose

Donate your old unit to an organisation that needs it. It may not function for your needs but may still work for another organisation that wouldn't ordinarily be able to afford one.

For example, a charger that is no longer suitable for public use could be repurposed for fleet or business use only.

You can also donate your old unit to a college or university training engineers and technicians.

Recycle

It may be possible to recycle all or some of the materials that make up your charge point. This helps to reduce landfill waste.

Make sure the removal of any electrical items is in full compliance with Waste Electrical and Electronic Equipment regulations and standards.

Actions

The demand and market for charging infrastructure are growing. By acting now, your organisation will be ready to benefit from this demand.

After reviewing the information in this guidance, you should now have a better understanding of:

- What you need to do to transition away from the CPS network.
- The benefits of continuing to support charging infrastructure at your site.
- Where to begin conversations with commercial operators.

More support and advice will be available as you move away from the CPS network, including opportunities to hear from experts.

You can also visit the CPS website and owner's hub where you can find information on key dates, timescales and further contact information.

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Contact

If you have any questions, please contact electricvehiclesscotland@est.org.uk