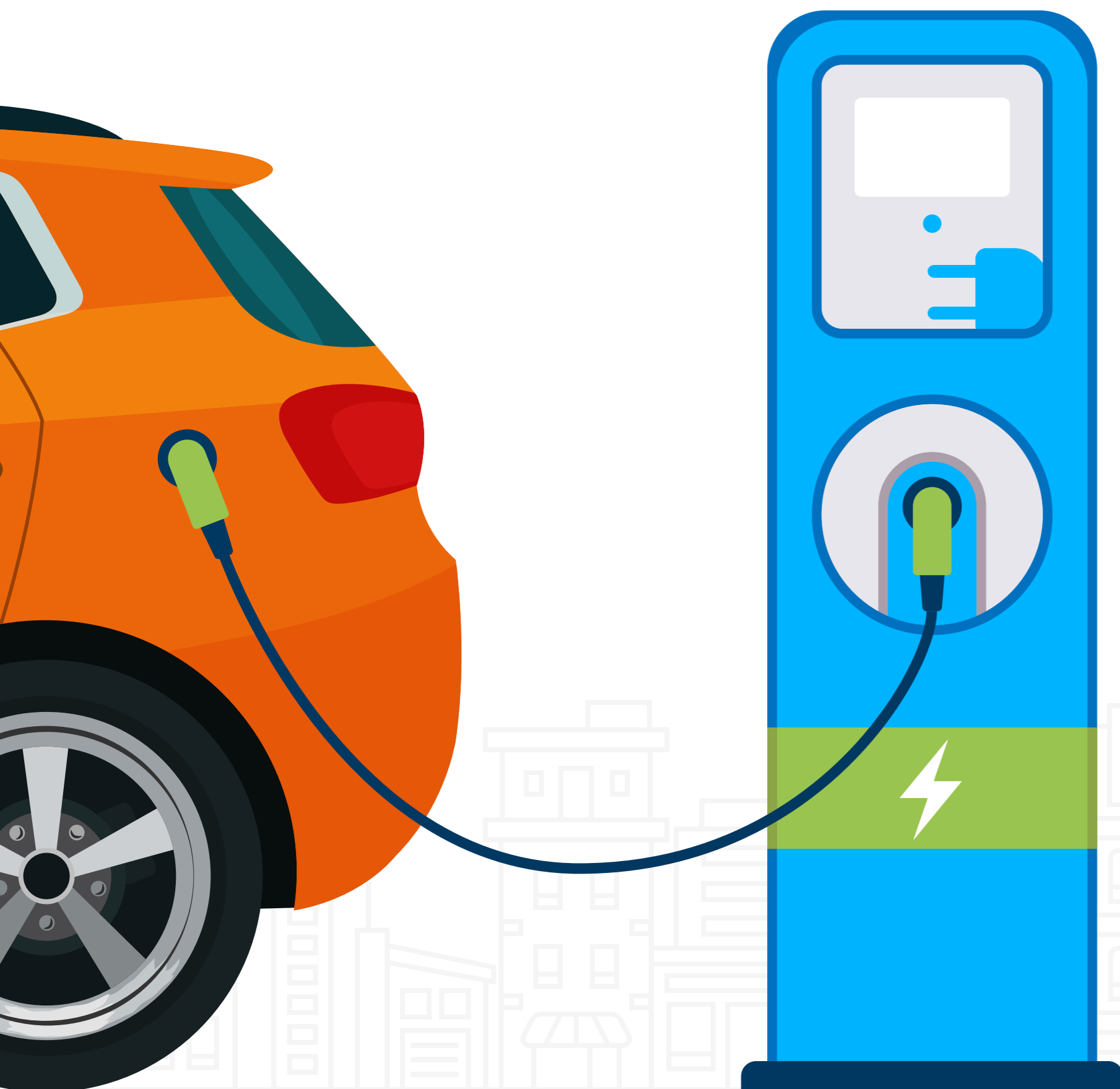


IMPLEMENTING LOCAL **ELECTRICAL VEHICLE CHARGING** INFRASTRUCTURE



PROJECT STEPS

- 1 ESTABLISH LOCATION AND NEEDS
- 2 WHO SHOULD BE INVOLVED?
- 3 DECIDE ON THE RIGHT INFRASTRUCTURE
- 4 SECURE FUNDING
- 5 CHARGING POINT INSTALLATION
- 6 WHAT NEXT?

CLEAN AIR VILLAGES PROGRAMME

This case study was commissioned by Cross River Partnership (CRP), a non-profit and impartial partnership organisation delivering projects that positively contribute to the social, environmental and economic health of London.

This case study was developed as part of the Clean Air Villages 2 project, funded by Defra's Air Quality Grant. The project aims to reduce emissions in 13 hotspot 'villages' of poor air quality across the London Boroughs of Lewisham, Camden, Hammersmith & Fulham, Lambeth, Wandsworth, The Royal Borough of Kensington and Chelsea, and the City of Westminster. Within these villages, CRP is working with businesses and communities to make deliveries and servicing more efficient, using both individual and collective action.

W12 Shopping Centre is based in Shepherds Bush, which is one of the Air Quality Focus Areas targeted by the Clean Air Villages 2 project. They have engaged with CRP on air quality initiatives. CRP has been working with Pod Point, referring them to organisations interested in installing EV infrastructure.

In 2020-21, the project is expanding into new areas as part of [Clean Air Villages 3](#).

For more information about the project, and to access further resources and case studies, please visit: crossriverpartnership.org/projects/clean-air-villages-2/



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 **CROSS RIVER
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CLEAN AIR VILLAGES

INTRODUCTION

In this best practice document you will be guided, step by step, through the processes, challenges, and solutions in setting up charging points. This document includes advice that ranges from establishing initial interest through to the successful management of the service.

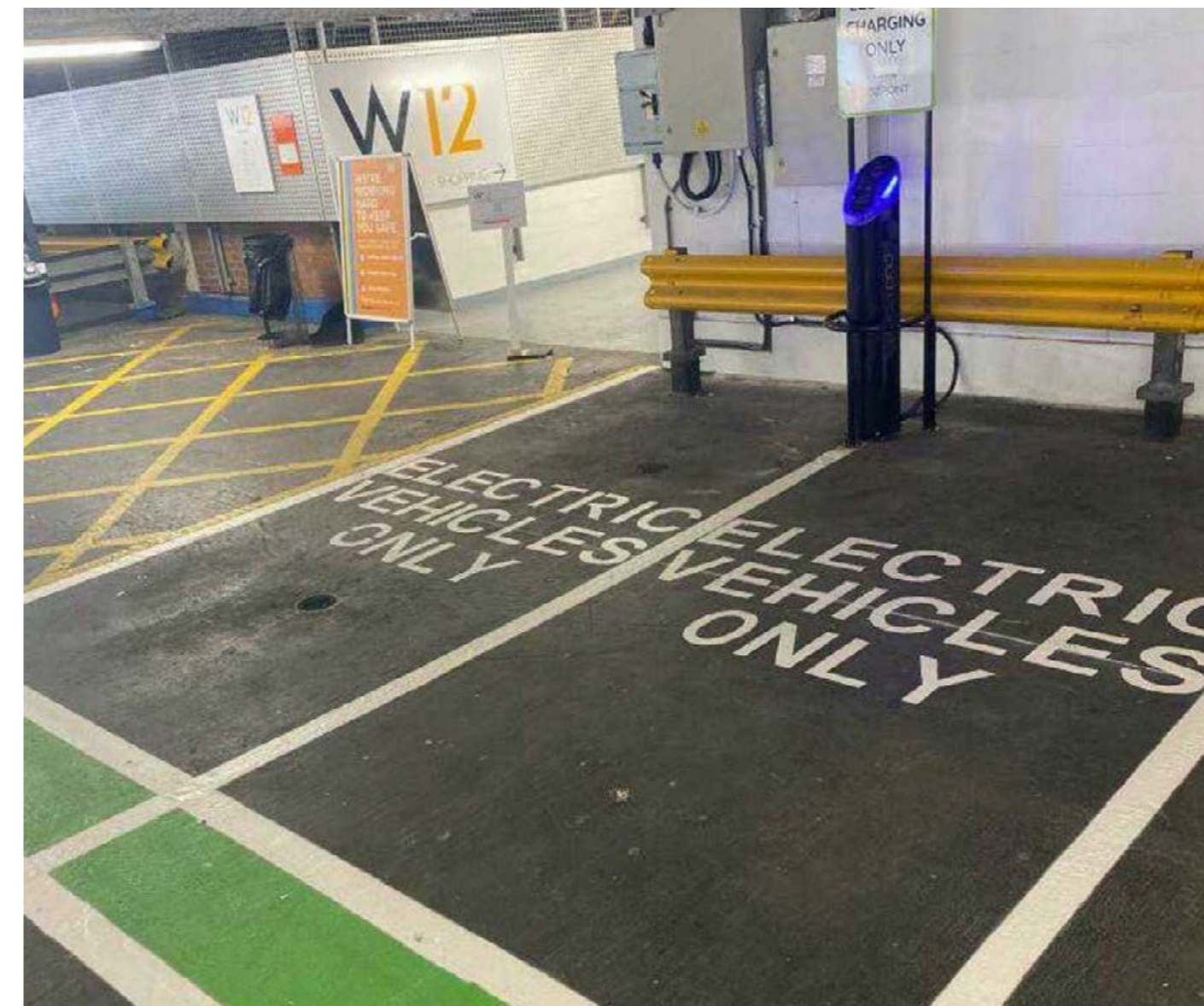
W12 Shopping Centre and Pod Point (the electric vehicle charging point provider) worked together to create this service. Electric charging points form part of the infrastructure requirements needed to address air pollution in highly congested areas.



A KEY CHALLENGE FACING DRIVER AND COMPANY FLEETS WHEN SWITCHING TO ELECTRIC VEHICLES (EVs) IS UNDERSTANDING CHARGING AND THE AVAILABILITY OF CHARGING POINTS. IF WE CAN OVERCOME THIS THEN WE CAN HELP TO ELECTRIFY MORE VEHICLES AND REDUCE POLLUTION.



Tom Stebbing
Business Development Manager
Pod Point



“ LANDSEC ARE COMMITTED TO SUPPORTING THE GROWTH IN EV OWNERSHIP. EV USAGE AND THE SUBSEQUENT REDUCTION IN EMISSIONS FORMS A VERY IMPORTANT PART OF OUR SUSTAINABILITY GOALS. WE ARE INSTALLING EV CHARGERS THROUGHOUT OUR PORTFOLIO AND ALREADY HAVE OVER 250 INSTALLED, WITH OVER 100 MORE PLANNED. WE WILL CONTINUE TO REVIEW THE MARKET AND TECHNOLOGIES TO ENSURE WE DELIVER THE BEST PRODUCTS AND SERVICES TO OUR CUSTOMERS. ”

PAUL PLUMBLEY
COMMERCIAL PARKING AND TRANSPORT MANAGER
LANDSEC



1 ESTABLISH LOCATION AND NEEDS

Once it is understood how drivers will be interacting with charge points in relation to the available supply, it is easier to picture the right solution. If drivers typically stay for shorter periods, perhaps a higher charging speed and fewer sockets makes best use of the capacity. Alternatively, if vehicles are being charged throughout the day, or overnight, perhaps more sockets at a slower speed would make charging simpler.

! CHALLENGE

Knowing the power supply to the site that requires the charging points.

✓ SOLUTION

Contact electric vehicle charging point (EVCP) provider to survey existing power.

! CHALLENGE

Understanding the needs of the users of the charging points.

✓ SOLUTION

Engage with vehicle users on site to gain data on how the site is used and the time period vehicles are static. Consider the vehicles which are likely to be charging - not all vehicles can charge at the full charge point speed. For example, many vehicles cannot charge at 22kW, so make sure your charging solution suits your vehicles.

+ ADDITIONAL INFORMATION



1

ESTABLISH LOCAL INTEREST

⊕ ADDITIONAL INFORMATION

Landsec's perspective:

- The previous management agent had removed the slow chargers from the car park at the W12 Shopping Centre.
- After an internal review which looked at charge points ranging from 3kW through to 100+kW it was decided that 7kW units were the most suitable for the needs of the user. Not only could they provide a top up charge for customers using the shopping centre but far more points could be deployed due to their lower power requirements.



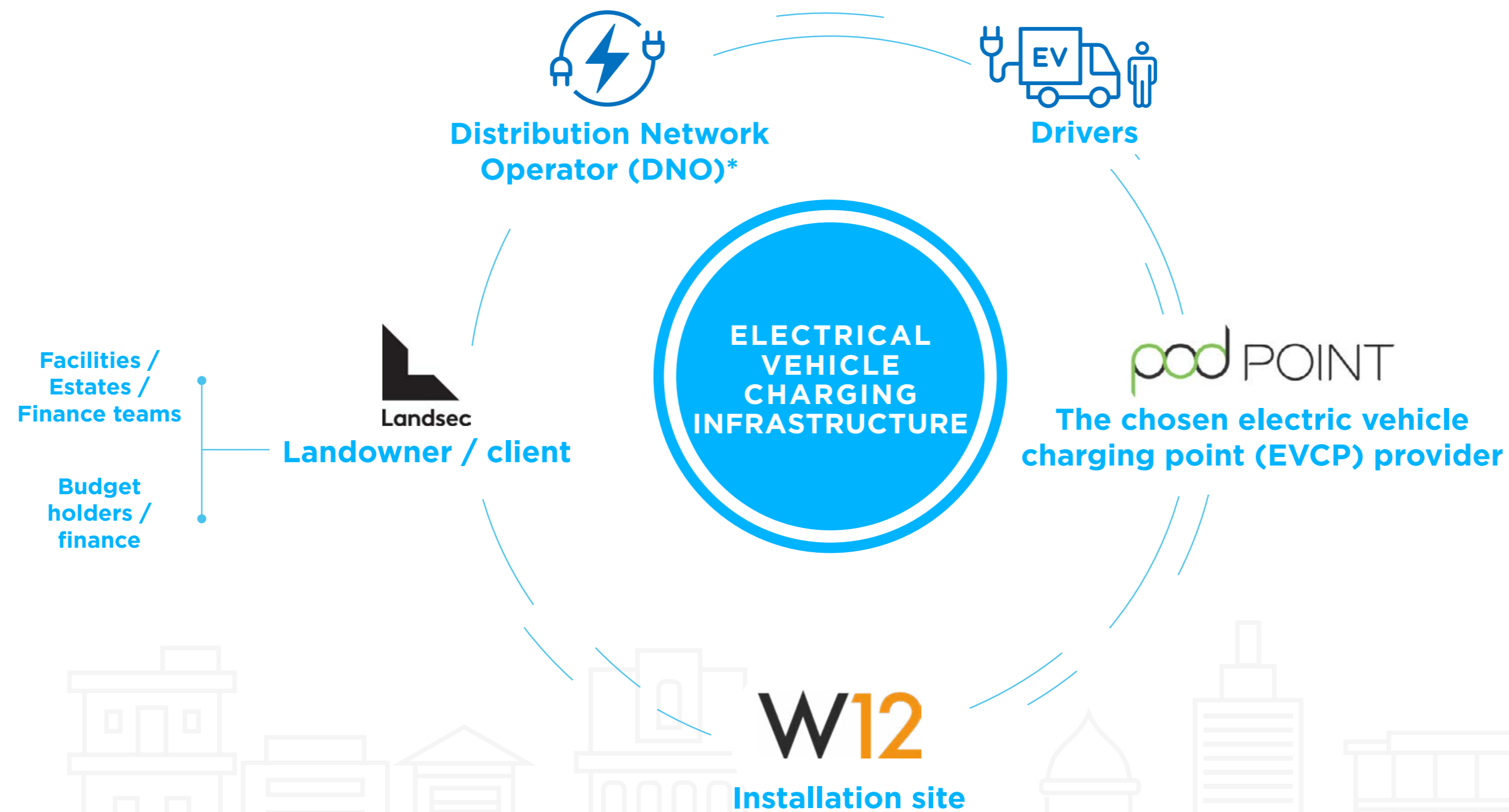
⊕ ADDITIONAL INFORMATION

NEXT STEP



2 ARE THE RIGHT PEOPLE INVOLVED?

Having established a business case, it was key to make sure the stakeholders were involved, from pre-installation to accessible charging usage.



+ ADDITIONAL INFORMATION

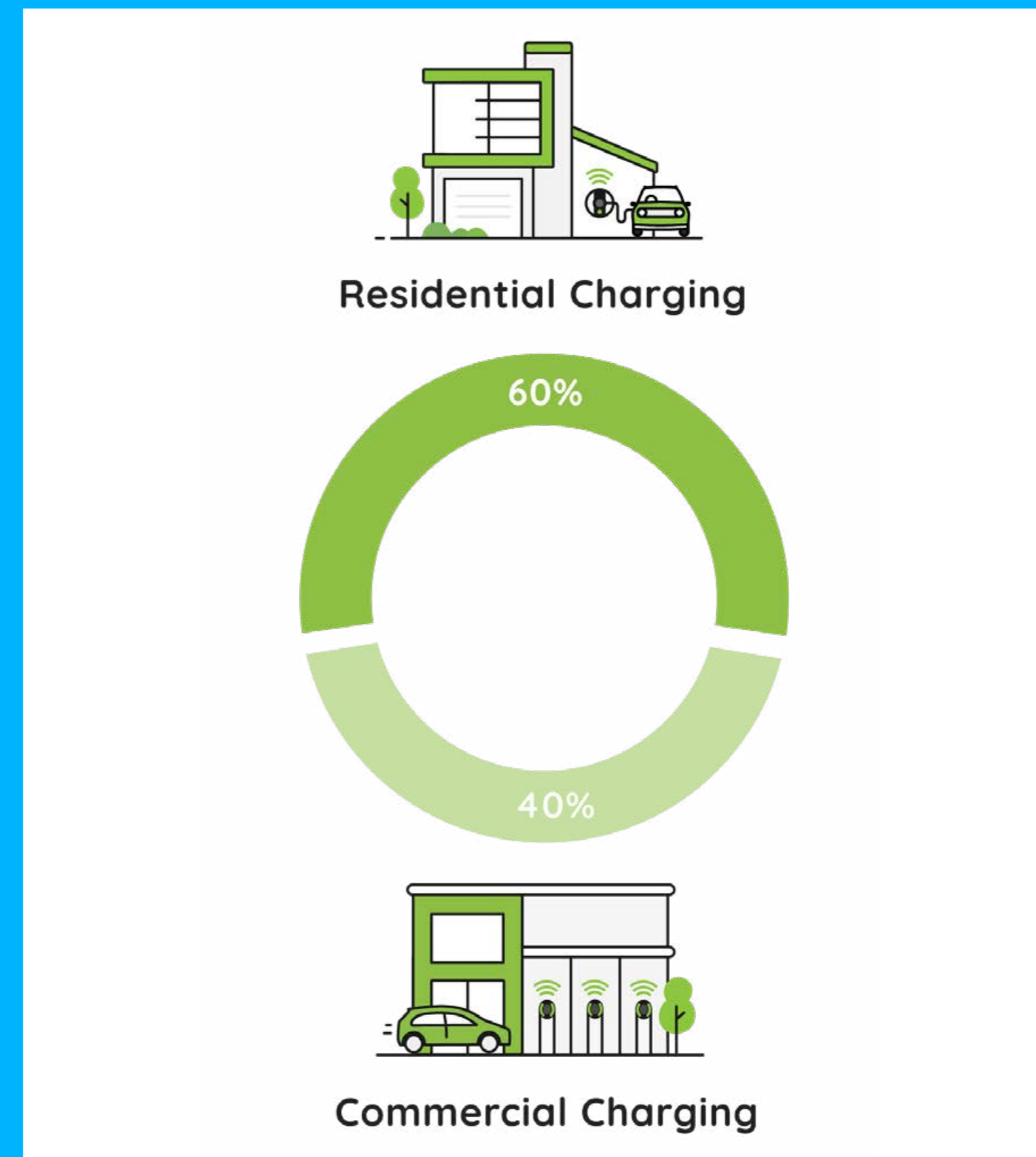
*A DNO is a company licensed to distribute electricity in the UK.





+ ADDITIONAL INFORMATION

- Landsec has an internal Electric Vehicle Charging working group which works with the sustainability and portfolio teams.
- OLEV (Office for Low Emission Vehicles) provide funding for workplace installations. Pod Point work together with clients and OLEV to access funding of up to £14,000.
- It's important to engage your DNO (e.g. UK Power Networks) if power upgrades are needed. Other solutions, such as load management, are a technical solution to balance energy across more sockets, creating a smarter way for a larger number of vehicles to charge.
- Any business seeking to encourage EV uptake could consider reaching out to a local dealership that has models available, to see if they would like to demo them once the charge points are installed - or even beforehand.



Source: Pod Point

3 DECIDE ON THE RIGHT SERVICE

The optimum service for driver and client needs is vital for offering a long-term solution.

! CHALLENGE

A significant challenge is not understanding EV driver behaviour. EV driving is a top-up model, unlike an ICE (Internal Combustion Engine). It's very useful to approach the charging infrastructure around the dwell time of the vehicle, rather than focussing on charging speed.

✓ SOLUTION

Data collection around usage of the charge points by the users of different vehicles on site, and the speed that a vehicle can charge at.

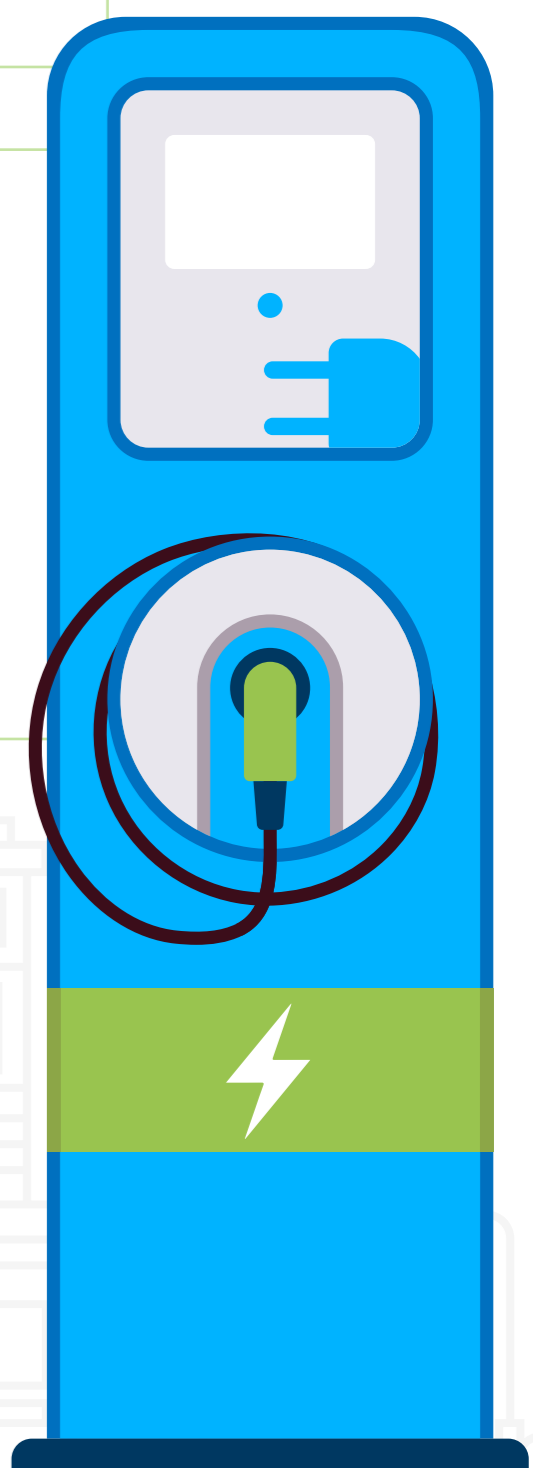
! CHALLENGE

In case of insufficient power on site, and if a charge point provider/DNO is engaged very late in the project, there can be a disconnect between project goals, timelines, budgets and what is achievable in terms of electrical power.

✓ SOLUTION

It's important to bring a provider into the conversations earlier to help steer the technical aspect of the project and survey on-site power before budgets and timelines are set.

+ ADDITIONAL INFORMATION



3

DECIDE ON THE RIGHT SERVICE

+ ADDITIONAL INFORMATION

- Although rapid chargers (50kW+) are sought after by EV drivers, they are very expensive to install (£30k-£50k+ each) and usually require additional power from the local DNO. This would be restrictive to Landsec. Rapid chargers are far more suited to service stations and short stay locations as the charge is usually around 20 minutes, whereas the typical retail customer has a dwell time of around two hours.
- Rapid charging absorbs lots of the power capacity and stops the installation of overnight/all-day charging points. That capacity could be better used to provide multiple slower chargers.
- Landsec went through a tender process with several large EV suppliers, including rapid charging suppliers. Ultimately, Landsec chose Pod Point as their preferred supplier based on their hardware and software setup which is currently used by a very large user base of EV drivers.
- This would facilitate the user being able to access the points and charge their car without having to register with another company.

+ ADDITIONAL INFORMATION

NEXT STEP



4

ENSURE THE RIGHT FUNDING IS IN PLACE

To benefit financially for implementing charge points as part of this long-term project, significant funding is required from initial installation.

! CHALLENGE

Securing internal buy-in and not relying on external funding.

✓ SOLUTION

To safe-guard internal budgets for EV adoption and installation of charging points. Investigate EVCPs who provide leasing options to ease financial costs over the long term.

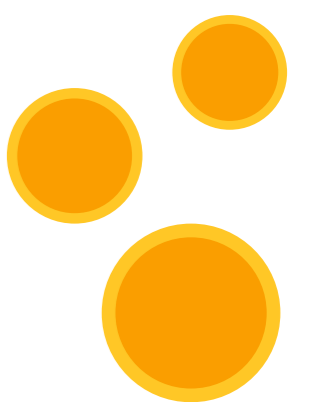
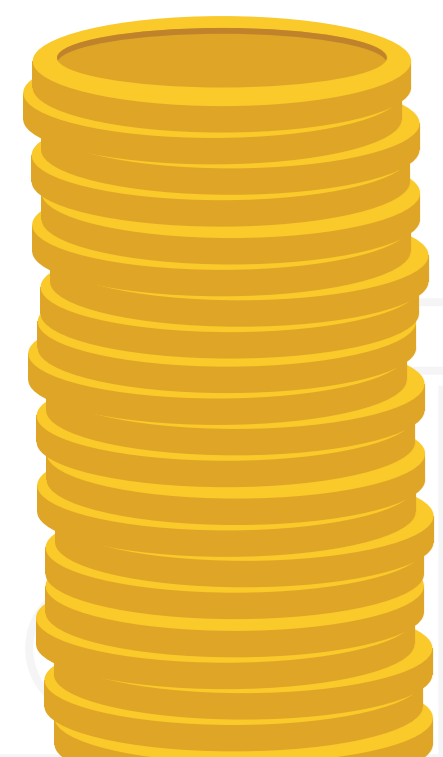
! CHALLENGE

Understanding the complexity of the installation.

✓ SOLUTION

To have a survey and feasibility study conducted by a reputable EVCP provider to gauge an accurate costing.

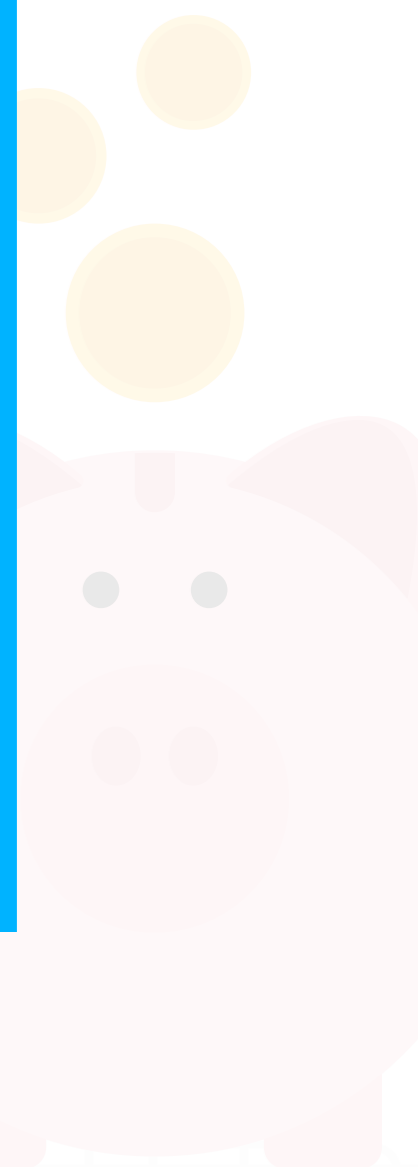
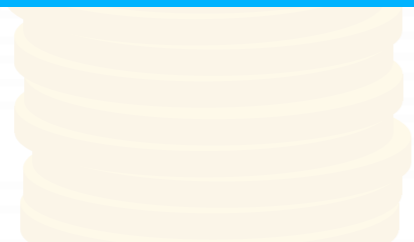
+ ADDITIONAL INFORMATION





+ ADDITIONAL INFORMATION

- Be careful of hefty maintenance packages as they may be unnecessary for your site. As a baseline cost, Pod Point's kit has three years warranty as standard which can be renewed at £150 per year. Customers should discuss ongoing costs with their EVCP provider as it varies between companies and future proofs sites that wish to expand later. This can be achieved with a load balancing system which means a small increase of cost upfront but saves money in the long term to grow your infrastructure.
- Pod Point are an OLEV approved supplier and can help access funding for residential and workplace charging infrastructure projects of up to £350 per socket, up to 40 sockets. Once you have a robust survey, proposal, and any additional funding you then have a sound case of information for the budget holder to approve an installation.



5

CHARGING POINT INSTALLATION AND HOW THEY CAN BE ACCESSED

By following the previous four steps, installation on-site can now begin. It is important to conduct site visits with the approved EVCP provider before installation to overcome any barriers.

A typical 6-step guideline to installation:

1. Survey and Feasibility study
2. Discussion with the client on survey results, installation options and costs
3. Permissions and sign off (landlord, budget holder, facilities team)
4. Order confirmed and queued with EVCP provider
5. Installation on site
6. Go live

! CHALLENGE

Not having permission from all stakeholders involved, including landowner and DNO, incurring additional costs and delays to installation.

✓ SOLUTION

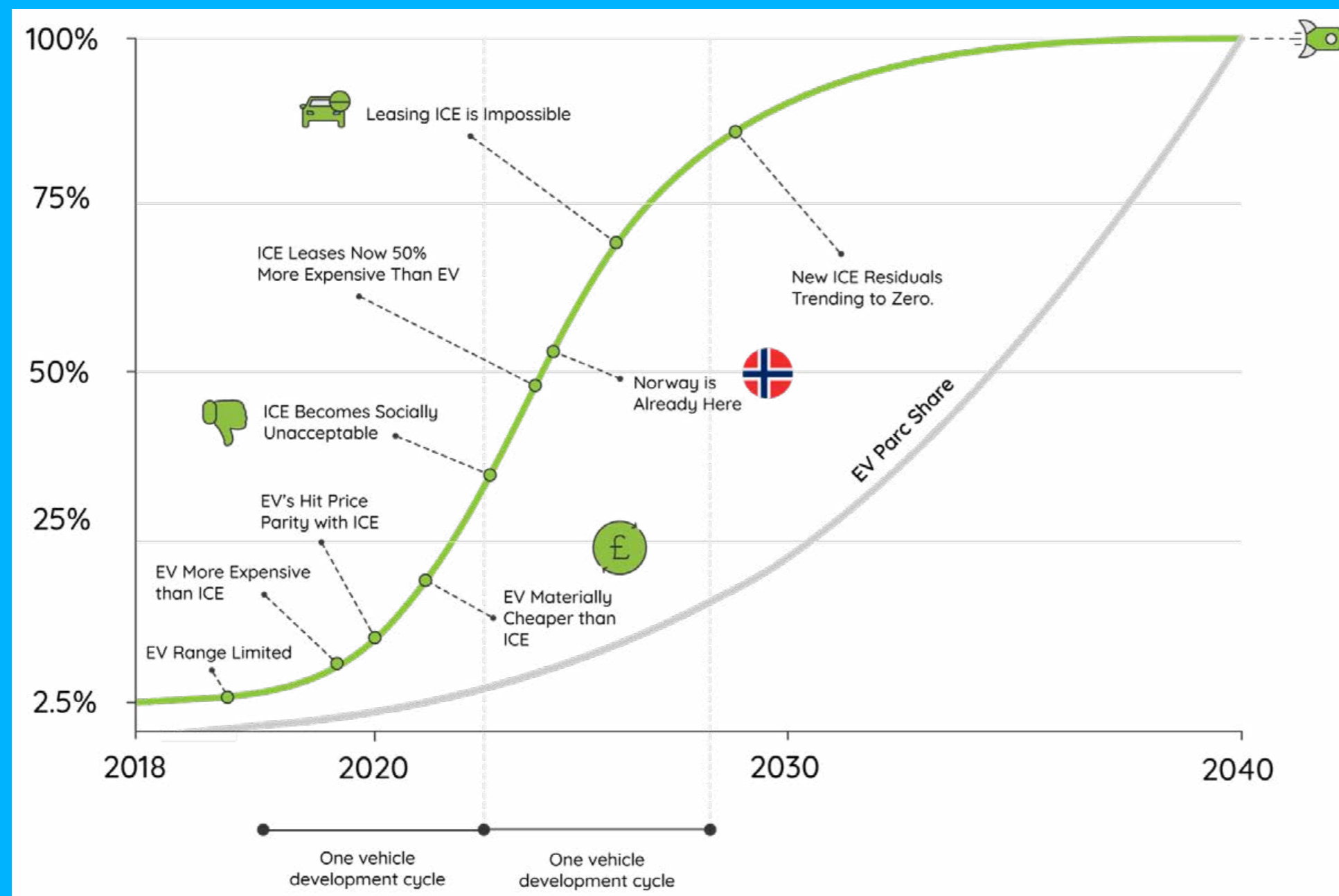
Organise permissions with all the relevant stakeholders at the start of the project.

+ ADDITIONAL INFORMATION



+ ADDITIONAL INFORMATION

- For now, Landsec can simply match ownership with demand and are targeting around 1-2% of all spaces to be fitted with EV units, this can then be increased as needed.
- Landsec have ensured that their units remain relevant, by installing smart Pod Point units which have the ability to be updated throughout the EVCP Lifecycle using 'over the air' updates.



Source: Pod Point

6

WHAT HAPPENS NEXT?

It is important to keep all stakeholders updated on future plans and to gain insight from users after installation.

! CHALLENGE

Avoiding a disjointed, short-term solution and further ad-hoc installations, causing a poorer driving experience.

✓ SOLUTION

Include initial installation in the context of a broader strategy and roll-out in multiple phases. Discuss with your EVCP provider so they can bear this in mind for surveys and proposals to help keep future costs down and factor in available power for future expansion.

! CHALLENGE

Involving the right stakeholders throughout and keeping them informed of key progress updates.

✓ SOLUTION

This will help enable regular stakeholders e.g. fleet managers to be involved in every step of the installation and give the view of the user.

