

Vehicle Charging Infrastructure Solutions

RM6213

Buyer guidance
Key considerations



Crown
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Service

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Introduction

This guidance has been produced by Crown Commercial Service (CCS) to support public sector Buyers who intend to create an Order Contract under the RM6213 Vehicle Charging Infrastructure Solutions (VCIS) Dynamic Purchasing System (DPS). The document outlines the key considerations you may want to consider when developing your specification for vehicle charging infrastructure in order to gain an appropriate solution for your needs and best value.

The information contained in this document is not an exhaustive list. You may feel that you need support from suppliers offering feasibility and consultancy services to gather this information. You can find suppliers who can help you with this on the DPS.

The responsibility for vehicle charging infrastructure will sit in different departments depending on each individual organisation. We would encourage you to engage with colleagues from across the business to ensure you have a holistic approach that meets the needs of your organisation and users of the vehicle charging infrastructure. This may include individuals from teams in estates, commercial, procurement, fleet, operations, HR/Finance and sustainability.

You can also find additional information on the best practice approach to using the RM6213 agreement in the VCIS Buyer Guidance document on the CCS website.

1. Developing your scope and strategy

1.1. What you want to achieve

Understanding and articulating what your organisation is trying to achieve will help suppliers to provide you with the right solutions for your needs. Some key elements to think about are:

- Are you looking to install chargers capable of supporting operational fleet requirements?
- Are you looking to create provision to charge vehicles belonging to employees or visitors?
- Are you intending to provide chargers for public use?
- Do you need to provide ancillary services such as home charging?
- How do these deliverables relate to your organisational strategy?

1.2. Short, medium and long term goals

For some organisations, installing vehicle charging infrastructure will be a longer term project which will be undertaken in stages. For others it may be that significant work needs to be undertaken in the short term to enable longer term goals to be achieved. Understanding and articulating what your organisation will need in the short, medium and long term will help suppliers identify how you can phase your requirements and avoid expensive mistakes.

1.3. Accessing your charging infrastructure

The VCIS agreement allows for all types of users to be accommodated including employees, operational fleet and the general public. Each user group's access needs will need to be considered as these will be different. You may already have some requirements in place for your users to access chargepoints (such as via a card, an App, or an online account) which will need to be integrated into your solution.

1.4. Paying for charging services

Although offering a free service may encourage the initial take up of electric vehicles, could you continue to provide free electricity as demand grows? You may also have other considerations such as whether users need to be a member of your network* or

use pay-as-you-go. By including your user's access requirements in your specification, suppliers will be able to suggest the most appropriate options for you and ways for you to make your vehicle charging infrastructure sustainable over the short, medium and long term.

**Note: that the provision of charging for employees may have tax implications. Refer to HMRC [guidance](#) for more information.*

1.5. Other considerations

Before deciding on the right solution, you may need to take into account other factors outside of your specific organisational requirements. Considerations will include [legislation](#) and grant funding eligibility. Some regions have grant funding criteria which aims to ensure minimum standards and interoperability across charging infrastructure so it is really important that you are aware of the obligations on you and your supplier.

You can find out more information from [Office for Low Emission Vehicles](#) (OLEV) or from independent organisations such as [Energy Savings Trust](#).

2. Considering the needs of your Fleet and Users

2.1. Gaining an overview of your Fleet and User requirements

An initial review of your fleet will help determine your infrastructure needs. This can include

- The size and makeup of your fleet and anticipated likely trends
- The type of fleet you need to service (operational fleet, grey fleet, private users etc)
- Your current EV profile and the forward pipeline of anticipated volume and usage requirements
- The manufacturers that make up your fleet as this may inform the types of chargepoint connectors you need
- The EV battery capabilities that you have or are likely to have as this will inform on your chargepoint needs
- Your fleet policy and how that impacts on your future needs, fleet profile and anticipated timelines for change
- Telematics data to inform your understanding of operational needs

- Any previous feasibility studies or surveys you have undertaken to gauge operational and user needs. Having the right charging infrastructure to support the needs of your users will be crucial.

2.2. Number and ratio of vehicles to be charged

You will need to decide how many vehicles you will need to charge over a period of time. Single chargers are common across vehicle charging infrastructure however dual chargers are also available which enable two vehicles to charge simultaneously from one charge point.

You are advised to review your ratio of vehicles to establish how many chargepoints may be required. Organisations like Energy Savings Trust can help with this or suppliers can make an assessment as part of a feasibility study. Telematics data can also help you to understand the patterns of usage in more detail and ensure that you don't over specify your requirements.

2.3. Speed of charging required

Once you have worked out how many vehicles you will need to charge, you can consider which type of chargepoint you need. Please note that the charging times below are guides as these can vary depending on many factors, including but not limited to charge point power, battery capacity of vehicle (bigger batteries will take longer), vehicle battery charger capacity, power capacity of charging cable.

- Slow (2.4-3kW) 8-12 hours to fully charge
- Fast (7kW single phase) 4-6 hours to fully charge
- Fast (22kW three phase) 1-2 hours to fully charge
- Rapid (43kW AC) - 30 minutes to charge to 80%
- Rapid (50kw DC) 20-30 minutes to charge to 80%

3. Funding options available under the DPS

3.1. Buyer funded vehicle charging infrastructure

This includes both the purchase and lease of the charging equipment which is funded from the capital or revenue budgets within your organisation. These costs may be supplemented by grants.

3.2. Supplier Funded models

This is where you enter into a contract with a supplier whereby they supply, operate and maintain vehicle charging infrastructure over an agreed period of time (with minimal or no upfront costs to you). The supplier is remunerated for this service by charging users.

Suppliers who offer this model may fund projects which are either closed schemes (such as workplaces or fleets) or used by the general public. These models require significant feasibility as suppliers will need to assess whether the infrastructure that you require can generate the return required for them to recover their expenditure. Not all schemes will meet the Supplier's requirements and be eligible for this route.

Areas for you to consider:

- Who will own the infrastructure and assets at the end of the contract?
- Will the chargepoints be updated periodically and how often?
- Is the Supplier willing to consider a revenue share agreement?
- Will the supplier consider installing chargepoints in less affluent areas in order to support social value?
- Who will maintain/service the charge point?
- Who is responsible for disposal at the end of life?

4. Electricity supply

4.1. Electricity capacity to enable installation of chargepoints

You will need to gather some key information to determine your requirements:

- i) The maximum output your electricity supply can maintain for charging vehicles.
- ii) The power output required from the chargepoints by calculating the power needed to charge your vehicles based on energy consumption and miles driven. Organisations such as Energy Savings Trust will be able to help.

- iii) Whether your distribution board has enough capacity to accept the required output of required chargepoints.
- a) If there is enough capacity you may want to consider upgrading to enable additional chargepoints to be added at a later date.
 - b) If there is insufficient capacity consider what work is required. This may be a basic upgrade, for example a new distribution board. A larger upgrade may need the support of your Distribution Network Operator* (DNO) - to find out who your DNO is click [here](#).
- iv) Whether you should install on-site generation to accommodate additional electricity charging demand (CCS offers access to suppliers via RM3824)

**Note: A DNO can take time to upgrade the supply and there will be an additional cost, which could be substantial. The VCIS supplier will not have control over the time or cost so build this into your project. Your Supplier will manage the engagement with the DNO if required.*

4.2. Location of chargepoints

Consultancy and feasibility services under VCIS may be useful to advise you on the optimal number and the positioning of charging points for your organisation.

Areas for you to consider:

- How close is your preferred location to the electricity supply? The further away chargepoints are from the electricity supply installation is likely to cost more.
- Where would users normally park - is this the best location? Altering the layout may reduce distance from supply and therefore cost.
- Is the area easily accessible?
- Can a charge point serve two parking bays simultaneously?
- What [planning regulations](#) do you need to consider?
- Do you need to gain landlord permission or planning permission?
- Mobile signal - is there sufficient strength in signal to enable chargepoints to connect to back office solutions
- Check if on-street location/traffic management is required during installation. This may add time and cost to the project.

5. Software and back office solutions

5.1. What a back office solution offers

A back office solution is software which enables the chargepoints to run on a network and keeps a register of users. The chargepoints communicate with the back office system and can provide data for users, initiate and terminate charging.

Software can automatically identify and report faults meaning you can remotely diagnose, monitor, maintain or upgrade the chargepoints and software.

Depending on requirements and levels of service, some software can provide information on energy consumption, CO² emissions and statistical data which can help feed into carbon reduction reporting.

5.2. Maintenance and end of life disposal

Consideration of the ongoing maintenance of the chargepoints is critical from installation through to end of life disposal. Ongoing maintenance is essential to ensure chargepoints are working and available for use as required and that uptime is maximised.

The specification for RM6213 requires

- charging hardware equipment to be supplied with a manufacturer's warranty for a **minimum of 36 consecutive months**, and;
- accessory equipment (which may include, but is not limited to mounting poles and cables) to be supplied with a manufacturer's warranty of a **minimum of 12 consecutive months** from the date of installation

You can agree an alternative period of warranty with the Supplier and include this in your Order Contract. Warranties may be subjected to service contract provisions.

Once the charging asset has come to the end of its useable life or the Order Contract has ended, removal and disposal of any assets should be carried out in accordance with the Waste Electrical and Electronic Deliverables (WEEE) Directive 2012/19/EU.

5.3. Interoperability

CCS wants to make sure that you have the ability to add chargepoints to your existing network which will work seamlessly with your existing infrastructure. We also think it is important that you are not tied in to a specific back office provider long term. The RM6213 agreement requires suppliers to ensure that their services comply with the

[Open Charge Point Protocol](#) (OCPP) which enables interoperability and will future proof your charging infrastructure, saving you time and money in the future.

6. Next Steps

If you require any further information please

Contact us at info@crowcommercial.gov.uk

Visit the VCIS webpage <https://www.crowcommercial.gov.uk/agreements/RM6213>

You can also learn more about Crown Commercial Service at:

Website:

crowcommercial.gov.uk

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