Electric vehicle charging concessions

A contract guide for public authorities

European Investment Bank
The EU bank

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Introduction

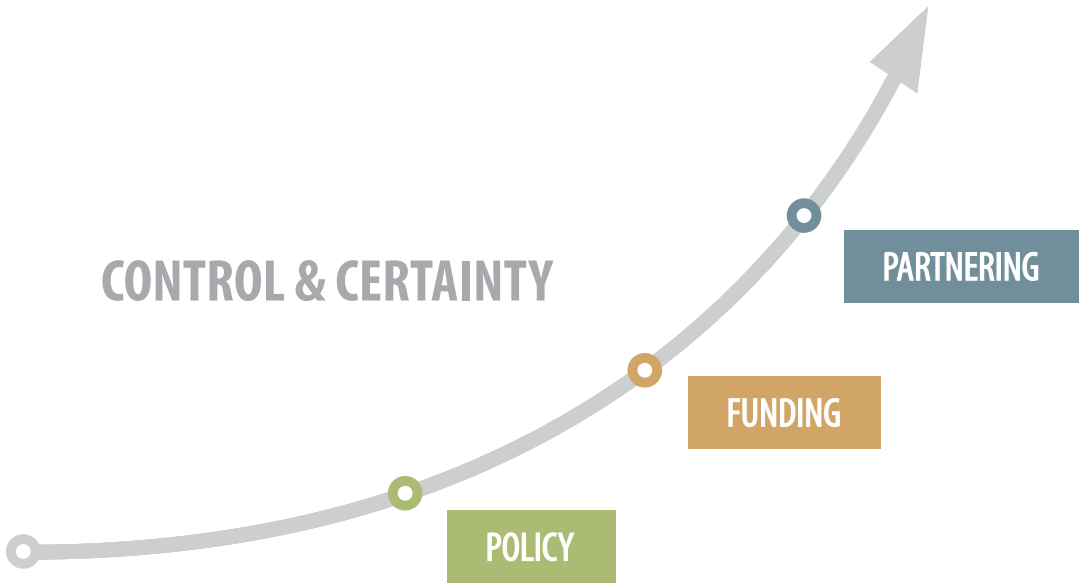
Background

The European Union's ambitious climate objectives rely on a widespread and rapid transition from internal combustion engine vehicles to electric vehicles (EVs) over the next few years. For this to happen, significant investment is needed to create a comprehensive, reliable and competitive EV charging network: the European Commission's Green Deal estimates that the number of publicly accessible charging points must increase from 200 000 in 2020 to at least 1 million in 2025.

Shaped by the pattern and pace of EV uptake and the maturity of EV charging businesses, the solutions to this investment challenge will be numerous and varied across the European Union. Some will be purely market-driven while others will need to be encouraged, supported or led by the public sector, primarily through:

- **policy** — such as planning policy that enables EV charging infrastructure in public places, or tax breaks or other incentives that encourage EV uptake;
- **funding** — including grants or loans made available to EV charging businesses;
- **partnering** — working with private partners to secure the delivery of public EV charging infrastructure and/or services.

A partnering approach will be appropriate for public authorities preferring more control and certainty on the scope and timing of public EV charging infrastructure deployment than the market can or will deliver by itself (or with enabling policy and funding support). This applies to many public authorities faced with demanding climate policy objectives and targets.



About this guide

A public authority wishing to pursue a partnering approach has various partnering models from which to choose. These include public contract, joint venture, concession, availability-based contract and licence.[1]

This guide focuses specifically on the concession model. Its aim is not to recommend this model above other partnering models, but to address a perceived need for greater understanding of concessions among public authorities (particularly at the local and municipal levels, where responsibility for EV rollout typically lies). Some public authorities are already successfully using concession contracts for this purpose,[2] but experience or know-how in this area is otherwise quite limited.

This guide therefore seeks to increase general awareness and understanding of the use, structure and content of concession contracts for public EV charging infrastructure. It draws on the European PPP Expertise Centre's experience and knowledge of best practice on concessions and other forms of public-private partnership (PPP).

This guide is structured as follows:

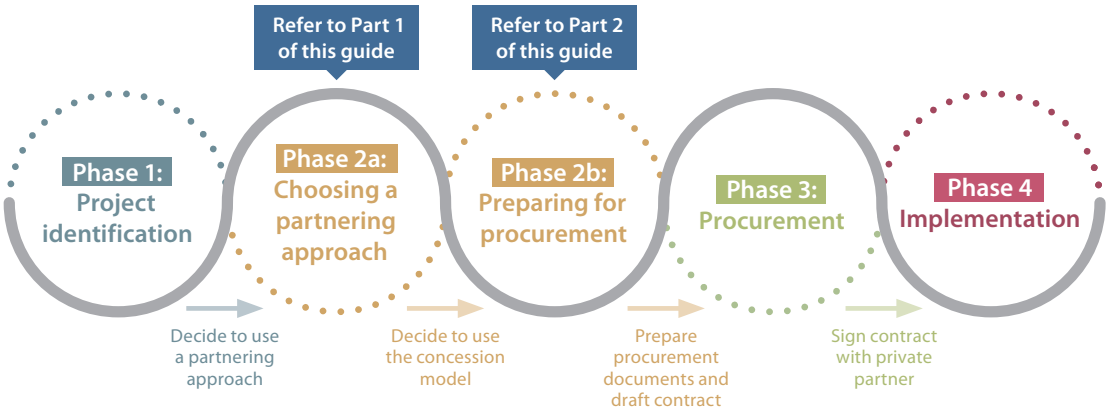
- **Part 1** sets the scene for deciding to use the concession model to procure public EV charging infrastructure. It describes how the concession model aligns with public authorities' typical objectives for this infrastructure, and compares the concession model against other partnering models in this regard.

- **Part 2** is the main body of the guide. Organised around the main themes to cover in a concession contract for public EV charging infrastructure, it explores the risks and issues associated with each theme and explains how to approach these in structuring and drafting the concession contract.

1 These five models are identified in the Sustainable Transport Forum's Recommendations adopted in December 2020 (see: https://transport.ec.europa.eu/transport-themes/clean-transport-urban-transport/sustainable-transport-forum-stf/active-sub-groups/sub-group-best-practices-public-authorities-support-deployment-recharging-infrastructure_en)

2 Examples include the authorities in Amsterdam, Rotterdam and Utrecht in the Netherlands.

When to use this guide during the project cycle[3]



Users must note the following limitations of this guide:

- It applies to publicly accessible EV charging infrastructure for use by private vehicles. It does not cover EV charging infrastructure for public transport, charging at home or work schemes for fleets or private vehicles, or private-to-private contracts. It applies only to charging for battery-powered EVs, and not to other zero-emission mobility solutions such as hydrogen fuel cell vehicles.

- It does not purport to recommend the adoption of a partnering approach alongside or instead of other forms of intervention in the EV charging market (such as policy or funding). That is a decision for the public authority to make, based on its particular objectives and constraints.

- As already stated, this guide does not purport to recommend a concession model over other partnering models. While Part 1 suggests and analyses the factors that might influence a public authority's choice of model, this is only to provide useful context for the rest of the guide. This guide does not list exhaustively or analyse in depth the issues that a public authority must consider in making this choice. Therefore, it must not be interpreted as endorsing or advising on a public authority's choice of partnering model.

- This guide does not cover either the process a public authority must follow or the decisions it must make in determining the strategy or scope of an EV charging infrastructure concession contract.[4]

- Part 2 does not provide an exhaustive list of concession contract clauses, nor the depth of analysis needed to develop and write a concession contract. Neither does this guide claim to cover all the ways a concession contract might address individual risks or issues. The individual circumstances of each EV charging infrastructure procurement, including the underlying laws, regulations and policies, will determine the most appropriate allocation of risks and the wording needed to reflect that risk allocation in the concession contract.

- This guide is not intended to replicate or substitute for professional advisory services (such as legal, financial or technical services) that a public authority may need in preparing and procuring EV infrastructure.

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3 A typical project cycle is described in the EPEC Guide to PPP: https://www.eib.org/en/readonline-publications/epec-ppp-guide-project-cycle.

4 For example a local authority may need to consider the following questions: What market segment does it want to address (town centre, rural, slow charging, fast charging)? Are electricity grid upgrades and connections required? Will the private partner be required to deliver a specific number of EV charging points and/or to install EV charging points in response to data or actual demand? The Sustainable Transport Forum's Recommendations, adopted in December 2020, provide further information on these and various other points.

PART 1

Deciding to use a concession model

Deciding to use a concession model

Overview of the partnering models

A concession is just one partnering model available for procuring public EV charging infrastructure. The four other main models are public contract, joint venture, availability-based contract, and licence.[5] Each model differs in the form of support required from the public authority and the allocation of responsibilities and risks between it and the private partner.

These models are described in very simple terms below, followed by an illustration of how they typically allocate the main project risks and responsibilities in a partnering approach to the rollout and management of EV charging infrastructure. Note that individual markets and legal systems might use different names for the models described below. In addition, there is scope for variation and flexibility within each model, and hybrid models can be formed by combining elements of more than one model.

Five main partnering models

Public contract	The public authority controls the specification, installation, operation and use of the infrastructure. It retains most of the project risks from installation through to exploitation (including user-demand risk), contracting these out as required. The public authority finances the capital, operation and maintenance expenditure, and collects and retains revenues from users.
Joint venture	The public authority and private partner share control of the infrastructure through a joint venture company they create. The risks are shared by the parties according to their stakes in the joint venture. The model is flexible on arrangements for financing, which might come from one or both parties or from a separate third party. User revenues are also collected and shared by the parties according to their stakes.
Concession	The public authority retains some control over the specification, installation, operation and use of the infrastructure. The risks associated with installation through to exploitation (including user-demand risk) are typically transferred to the private partner, although risk allocation in the concession contract can be tailored to the specific circumstances. The private partner finances the capital and maintenance expenditure, with or without subsidies, guarantees or other financial support from the public authority. It also collects and retains user revenues, with or without sharing with the public authority.
Availability-based contract	The public authority retains some control over the infrastructure, as in the concession model. Risks associated with installation through to exploitation are mainly transferred to the private partner, with the notable exception of user-demand risk. The private partner finances the expenditure, with or without financial support from the public authority, and is paid by the public authority over the duration of the contract only if the infrastructure is continually available for its intended use.
Licence	The private partner controls the infrastructure and retains most of the project risks from installation through to exploitation. It finances the capital and maintenance expenditure, and collects and retains user revenues. A licence might include conditions and limitations regarding the private partner's actions, but typically allows more freedom than other partnering models (stating what the private partner may, rather than must, do).

5 See footnote 1 above.

Indicative allocation of main risks under the five main partnering models

Risk	Public contract	Joint venture	Concession	Availability-based contract	Licence
Site *(Identification and provision)*	PUBLIC	SHARED	PUBLIC or PRIVATE	PUBLIC	PRIVATE
Permitting *(Planning approval, inspections, etc.)*	PUBLIC	SHARED	PRIVATE or SHARED	PRIVATE or SHARED	PRIVATE
Installation *(Cost, time, health & safety, defects, etc.)*	PRIVATE	SHARED	PRIVATE	PRIVATE	PRIVATE
Operating *(Cost, performance, maintenance, repairs, etc.)*	PUBLIC	SHARED	PRIVATE	PRIVATE	PRIVATE
Demand *(Sufficiency of user revenues to cover costs)*	PUBLIC	SHARED	PRIVATE	PUBLIC	PRIVATE
Technology *(Obsolescence)*	PUBLIC	SHARED	PRIVATE	PUBLIC	PRIVATE
Change in law *(Compliance with changes in laws or regulations)*	PUBLIC	SHARED	SHARED	SHARED	PRIVATE
Financing *(Resources to meet capital investment and ongoing costs)*	PUBLIC	SHARED	PRIVATE	PRIVATE	PRIVATE

Analysing the partnering models against the public authority's objectives

The public authority should design its partnering intervention in line with its main objectives for the EV charging infrastructure rollout. Each model addresses those objectives in different ways and different analyses are needed to define the terms of the model (such as technical input specifications in a public contract vs. output specifications in a concession contract). Common public authority objectives include the following:

1. Roll out a number of EV charging points within a specific timeframe.
2. Establish a reliable functioning network of EV charging points with sufficient capacity to meet user demand.
3. Achieve high levels of user satisfaction with public EV charging services.
4. Reach areas with low user demand (current and/or projected).
5. Create and/or maintain a competitive market for EV charging that drives fair prices for users.
6. Integrate EV charging within a wider eco-mobility strategy.
7. Use private sector capital and minimise the impact on public finances.
8. Deploy private sector expertise and resources.

Each of these objectives is discussed below.

Objective 1
Roll out a specific number of EV charging points within a specific timeframe

A public authority's decision to intervene in the EV charging infrastructure market is typically driven by local, regional or national policy targets on the number of publicly accessible EV charging points.[6]

Those targets can be readily transposed into obligations on the private partner to install [*x*] charging points by [*date*] under a public contract, concession contract or availability-based contract.[7]

In the **public contract model**, a payment schedule linked to installation milestones, with financial penalties for delay, incentivises the private partner to deliver. Where the private partner finances the investment upfront and is repaid gradually over time, through user revenues in the **concession model** or public authority payments in the **availability-based model**, the incentive to meet timescale, specification and cost requirements is even stronger.

By contrast, the more cooperative nature of the **joint venture model** and greater freedom afforded by the **licence model** give the public authority less control over how many and how quickly EV charging points are deployed. These approaches rely more on the market's appetite and initiative to invest in areas with clear user demand.

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6 The revision of the EU Directive on Alternative Fuel Infrastructure requires Member States to develop national targets that will result in a minimum of 1 kW power output through publicly accessible charging points for every EV.

7 This approach might be particularly relevant where the public authority's strategy is to create demand for EVs by establishing a visible and reliable public EV charging network. A contrasting approach is to respond to demand for EV charging infrastructure by installing on the basis of projected (data-driven) or actual (user-driven) demand. A hybrid approach might also be used, requiring the private partner to install a specific number of charging points and thereafter respond to projected or actual demand.

Objective 2

Establish a reliable and functioning network of EV charging points with sufficient capacity to meet user demand

In the **public contract** model, having paid for the installation of the infrastructure, the public authority then bears risk and responsibility for its ongoing reliability and functionality. The public authority has some recourse against the manufacturer and/or installer for defects, and might outsource some maintenance and operational services to the same (or more likely another) private partner, but needs to manage the placement of and any interfaces between those contracts. This requires the public authority to possess or hire technical expertise with respect to the charging networks. Ultimately, an unreliable, poorly functioning network could lead to lower-than-expected user revenues and a reduced funding stream to cover the authority's upfront investment and ongoing operating and maintenance costs.

By contrast, the **concession** and **availability-based models** adopt an integrated approach by transferring the risk of maintaining a reliable, functioning network to the private partner that provides and installs the infrastructure. This also removes any need for interface management by the public authority. If the network is unavailable for use, the private partner loses revenues (user revenues under the concession model; availability payments from the public authority under the availability-based model). This loss of revenues in turn affects the private partner's return on its upfront investment. Therefore, the concession and availability-based models create a strong financial incentive for the private partner to ensure the charging points remain available for use. In addition, both models use a system of key performance indicators to measure the network's condition and functionality over the life of the contract, with financial penalties applied by the public authority for non-compliance.

The concession model further incentivises the private partner to optimise the use of charging points to meet user demand: more use generates more revenues. This natural incentive is missing in the pure availability-based model (where the risk/reward of user demand lies with the public authority) but could be replicated to some extent, for instance through a mechanism where the public authority shares any revenues above a certain threshold.

The **licence model** gives the public authority very little control over how the private partner maintains and manages the EV charging network. Instead, the licence model's approach relies heavily on the private partner's natural incentive to maintain the network and thus maximise user revenues and its return on investment.

There are numerous ways to structure the **joint venture model**, but each typically involves both parties bearing any fall in user revenues due to a poorly maintained network.

Objective 3

Achieve high levels of user satisfaction with public EV charging services

User confidence in and satisfaction with public EV charging are critical for the transition from traditional vehicles to EVs. These are influenced by not only the availability and reliability of charging points (see objective 2 above) but also users' overall experience of the EV charging services (for instance, price transparency, ease of payment, accessibility, problem responsiveness, and complaint handling).[8] The different partnering models offer the public authority different levels of control over the quality of the EV charging services that users experience.

8 The European Commission's evaluation of the 2014/94/EU Directive identifies that the "lack of interoperable, easy-to use charging and refuelling infrastructure is likely to become a barrier to the needed market growth of low- and zero-emission vehicles." See https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2021:0637:FIN:EN:PDF

In the **public contract, concession** and **availability-based models**, the public authority can specify standards and requirements that the private partner must meet in the ongoing EV service delivery. These can be backed up by, for example, deductions from service payments (public contract model), deductions from availability payments (availability-based model) or the imposition of penalties (concession model). Of these, the availability-based and concession models provide the strongest incentive for the private partner to comply with contractual service standards and requirements, because any deductions or penalties imposed will affect the private partner's ability to repay the upfront infrastructure investment. Under a public contract, by contrast, the investment in infrastructure is a sunk cost for the public authority.

The concession model also creates a natural incentive for the private partner to provide a good quality service, as its return from user revenues will rise by attracting more customers. This incentive does not exist in the public contract or availability-based models, where the risk/reward of user demand lies with the public authority.

The **licence model** usually imposes very few conditions on service standards and has limited incentive and enforcement mechanisms.

The **joint venture model** could be structured to impose service-related obligations (backed up by an incentive and/or penalty mechanism), but both parties typically bear any fall in user revenues resulting from poor customer service.

Objective 4

Reach areas with low user demand (current and/or projected)

The revenue-generating potential of EV charging points varies greatly from place to place (for example inner-city zones vs. rural areas). Market forces alone will drive private sector parties towards installing EV charging infrastructure in areas with opportunities for higher, faster and safer investment returns. In some places, the problem might be slow EV uptake, meaning that charging points are not yet profitable but will become so over time. In other places, the problem might be low population density, meaning there will never be enough demand to make charging points profitable. Each partnering model has scope to deliver EV charging infrastructure in areas the market would otherwise ignore.

The **public contract** and **availability-based models** are simplest to negotiate and implement in this respect. The public authority identifies locations needing investment and the private partner is contractually obliged to install the infrastructure in those areas. The public authority bears user-demand risk and is obliged to pay the private partner[9] irrespective of the profitability of charging points.

Under the **concession** and **licence models**, where the private partner bears user-demand risk, unprofitable (or less profitable) locations need to be bundled with more profitable locations to ensure the private partner will make a reasonable return on its investment within a reasonable timeframe.[10] However, for a public authority, the "hands-off" nature of a licence arrangement gives limited assurance of the private partner delivering and sustaining the desired investment and operation in unprofitable locations over time. By contrast, through various contractual mechanisms, the concession model gives the public authority much more control over delivery of the EV charging infrastructure investment and the long-term availability and performance of the investment (see objectives 1, 2 and 3 above).

9 The public authority pays on installation under the public contract model or through regular availability payments under the availability-based model

10 In the concession model, the authority could alternatively provide some form of support (e.g. subsidies or guarantees) to mitigate the risk that unprofitable locations pose to the private partner.

The **joint venture model** could incorporate a remit to reach areas with various levels of demand and profitability. However, compared to other partnering models, a joint venture is more likely to give the public authority less control and certainty on reaching and servicing unprofitable areas.

Objective 5

Create and/or maintain a competitive market for EV charging that drives fair prices for users

A central message of most strategies promoting EV uptake is the low running costs of EVs compared to internal combustion engine vehicles. For this reason, a public authority will want to ensure that prices are fair and reasonable for users.

Primarily, this requires the public authority to run a robust and efficient procurement process that drives healthy competition among those bidding for the contract. To back this up, the public authority could use contractual provisions to ensure fair and reasonable prices for users. With no such controls, a dominant market player might emerge (at street/area/city level, for instance), with freedom to charge users unreasonably high prices. Price controls also allow a public authority to maintain price parity across different locations.

In the **public contract** and **availability-based models**, the public authority controls the operation of the infrastructure and keeps the revenues it generates. It therefore has complete freedom to determine the prices charged to users.

The **concession model** allows a public authority to fix or cap (or otherwise regulate) pricing in the contract. However, as the private partner must generate enough user revenues to profit from its investment, the public authority should consider how contractual price controls might affect the private partner's willingness to bear user-demand risk. Depending on the private partner's assessment of user-demand risk when bidding for the concession, it might seek support (such as guarantees or subsidies) from the public authority to mitigate that risk if price adjustments are constrained.

The **licence model** typically gives the public authority limited (if any) control over pricing, which is instead managed either naturally through competition or, in some cases, by a public regulator.

Arrangements in the **joint venture model** could be structured with any level of control over pricing. As in the concession model, however, private sector participation in the venture will depend on its assessment of risk and ability to make a return.

Objective 6

Integrate EV charging within a wider eco-mobility strategy

Increasing the number of EV charging points is usually just one element of a public authority's wider eco-mobility strategy. Other elements might include subsidies to purchase EVs or a ban on diesel vehicles in inner-city areas. A public authority should be mindful of the interactions between individual elements of its strategy, and of the limitations of different partnering models in accommodating strategy changes over time.

Changes to EV charging infrastructure

A change or development in overall strategy might prompt the public authority to seek to change the EV charging infrastructure and/or systems after signing the contract (e.g. to switch to fast chargers, integrate the user interface with a city-wide system/app, or concentrate charging points in hub areas). In the **licence model**, the public authority usually has no right to instruct the private partner to change the EV charging infrastructure or service. Under the **public contract model**, by contrast, the public authority is free to alter the infrastructure or service at its own cost. Similarly, the public authority is usually free to instruct changes under the **concession** or **availability-based model**, although the complex nature of these models can often make such changes difficult and costly to negotiate. In the **joint venture model**, changes to the EV charging infrastructure or service will typically be a joint decision, with the costs shared according to the parties' stakes in the arrangement.

Changes to other elements of the eco-mobility strategy

Under the **licence model**, the private partner bears the risk of how other elements of the strategy impact the performance or profitability of the EV charging infrastructure (lower user revenues, for instance, because the public authority decides not to implement a ban on diesel vehicles). In the **concession model**, however, it is more common for the private partner to seek guarantees from the public authority on the implementation of other strategy elements (such as the EV subsidy scheme continuing for a minimum period). Under the **public contract** and **availability-based models**, the interaction between the EV charging infrastructure's performance and profitability and other strategy elements is borne by the public authority.

Objective 7

Use private sector capital and minimise the impact on public finances

Except for the public contract model, which relies on public authority financing, all the partnering models provide an opportunity to deploy private sector capital. This reduces the need for the public authority to commit financial resources to upfront investment in EV charging infrastructure.

In the **licence** or **concession model**, the private partner makes the upfront investment in the EV charging infrastructure. If demand will likely exceed the level required to generate a reasonable return over a reasonable timeframe, the public authority might even demand a fee or share of the revenues, in return for granting the licence or concession (thus impacting positively on public finances). Conversely, if demand is unlikely to be sufficient, a licence or concession might only be viable if the public authority agrees to provide financial support (such as a guarantee or subsidy).

Likewise, in the **availability-based model**, the private partner makes the upfront investment. However, this model requires the public authority to pay periodic fees that cover repayment of the investment over the contract duration and to bear the risk of user revenues proving insufficient to cover those fees. The availability-based model can be structured to allow the public authority to contribute some capital to the upfront investment, thereby reducing the size of periodic fees. A public authority might choose to do this if, for example, it receives a lump-sum grant from a national authority, ring-fenced for this purpose.

The financing and funding arrangements of the **joint venture model** can be structured according to the parties' particular resources, objectives, and constraints.

Objective 8
Deploy private sector expertise and resources

Limited expertise and resources within a public authority might influence its choice of a partnering model.

The **public contract model** typically requires more technical know-how and expertise from the public authority, which needs to understand and define its technical and service requirements in very prescriptive "input" terms. By contrast, the **concession** and **availability-based models** tend to specify requirements in "output" terms, requiring the public authority to define the outcomes or outputs it expects but not the inputs needed to achieve them.[11]

The **licence model** is the least demanding on public authority expertise and resources, leaving the private partner largely free to design, install and operate EV charging infrastructure as it chooses, within only limited constraints.

The **joint venture model** allows the public authority to draw in whatever type and level of private sector resources and expertise it needs. However, the success of this partnering model relies heavily on the public authority's ability to drive the joint venture towards its founding objectives. The public authority therefore requires specific expertise to continually manage the private partner, in addition to a good understanding of EV business models.

Conclusion
Choosing a partnering model

The public authority's assessment of how the various models align with its objectives, and ultimately its selection of a partnering model, will take account of a range of financial (quantitative) and non-financial (qualitative) factors including (but not limited to):

- costs of installation, maintenance and operation; forecast utilisation; envisaged tariff structure;
- availability of public finances and the implications of the various partnering models under rules for budgeting, accounting and statistical treatment (Eurostat);[12]
- market capacity (skills and resources) and appetite (interest, understanding, attitude to risk and investment size) to deliver what the partnering models require;
- public authority capacity (skills and resources) and appetite (interest) to procure and deliver what the partnering models demand, in terms of legal obligations and ongoing monitoring and management needs;

11 In any of these three models, cooperation at a regional and/or national level allows public authority expertise to be shared or aggregated.

12 Budgeting and accounting rules apply at the level of the relevant public authority, governing how the authority budgets and accounts for expenditure and income under the partnering model. Statistical treatment rules apply at the level of national government, governing how expenditure and income under the partnering model affects national debt and deficit figures.

- the public authority's preferred level of influence over the development and performance of the public EV charging infrastructure network (such as service quality, pricing, spatial development, market organisation);

- impact on the shape, size and competitiveness of the EV charging market (for example, risk of crowding-out or deterring new entrants);

- flexibility of the various partnering models to adapt to changes in laws, policies and/or regulations;

- requirements and restrictions of relevant laws and regulations (for instance, relating to public contracts);

- estimated time to procure a contract and roll out the EV charging infrastructure under the various partnering models.

The choice of partnering model requires complex analyses and decision-making. The public authority will need to follow a process that ultimately enables a robust "value for money" judgment on the best use of public resources.

PART 2

Structure and content of the concession contract

Structure and content of the concession contract

The public authority will start to prepare the concession contract after:

- defining the scope of the EV infrastructure procurement;[13]
- determining that a concession is the optimal partnering model.

Part 2 of the guide is structured around 13 contract themes and explains the typical features of a concession arrangement for public EV charging infrastructure. It explores the risks and issues associated with each theme and how these are approached in the concession contract. The public authority objectives mentioned in these themes are typically those described in Part 1 of this guide. For some themes, the guide suggests some public authority support measures that, depending on the circumstances, might be appropriate or even necessary to enhance or address concerns about the concession's viability or deliverability.

Building on the description in Part 1 of this guide, Part 2 assumes that an **EV charging infrastructure concession** is an arrangement between a **public authority** and a **private partner** in which:

- the private partner is responsible for installing, maintaining and operating publicly available EV charging infrastructure for a defined time period;
- the private partner provides some (or all) of the financing required to design, purchase, install, operate and maintain the EV charging infrastructure;
- the private partner has a direct relationship with users and collects and retains revenues from them;
- the private partner's revenues fluctuate according to user demand and/or the standard to which it performs its obligations.

The success of a concession contract in meeting a public authority's objectives will depend on not only the content of the concession contract (this guide's focus) but also the public authority's commitment to managing the contract's implementation. Throughout the contract, the public authority needs to allocate appropriate time and resources to monitoring the private partner's performance and enforcing the contractual terms to realise the full value and opportunity of the concession arrangement.

13 The precise definition of EV charging infrastructure depends on the scope of the private partner's obligations (see footnote 4). It can include any or all of the following: grid upgrades; grid connections; charging points; systems, devices, applications and components for the user interface. The viability of the scope of an EV concession contract should be tested with the market in advance of procurement.

Theme 1
Duration

The contract should clearly state the duration of the arrangement and any process for its renewal or extension. In setting the contract duration, the public authority will be mindful of:

- the period of time needed for the private partner to recover its investment and make a reasonable return;
- the amount of public funds available to support the concession if required (e.g. shorter duration might increase the need for public support);
- the likelihood of shifts in the EV market and/or technology (avoiding being locked into long-term contracts for redundant infrastructure);
- whether the underlying objectives are short-term (e.g. testing or demonstrating a concept) or long-term (e.g. creating a large-scale public service);
- maintaining a healthy and competitive market (avoiding overly long contracts with single providers, particularly if exclusivity is granted);
- legal restrictions;[14]
- time and resources needed to prepare and run procurements for future concessions (i.e. how often the public authority wants to undertake this exercise);
- interfaces with any other relevant contracts.

The contract typically distinguishes between an installation period, within which the private partner must install the public EV charging infrastructure, and an exploitation period, during which the private partner is entitled to operate and receive income from the EV charging infrastructure. In many contracts, these two periods will overlap, enabling the private partner to start generating revenues from the first charging points it installs while continuing to install further charging points.

Contracts often give the private partner exclusivity over installing EV charging points on public land during the installation period.

14 One example is laws implementing Directive 2014/23/EU, particularly Article 18, which states that a concession's duration should not exceed the time needed to recover the investment made and a return thereon.

Theme 2
Sites

Selecting sites

The contract will identify sites for installation of the EV charging infrastructure, and/or potential sites where the private partner is expected to develop the network in response to projected or actual demand arising during the contract.

These sites might be selected by the public authority before procurement, based on an assessment of how best to meet its objectives (network coverage and balance, for instance) within any constraints (such as available land or planning conditions). The public authority might invite bidders to propose additional or alternative sites during the procurement process. if accepted by the public authority, these sites are then included in the contract. The contract itself can also offer flexibility for the private partner to propose additional or alternative sites during the installation period. Some contracts even financially incentivise the private partner to minimise use of public land and instead find alternative private sites that still meet public demand. For instance, a private partner able to do this might pay reduced concession fees to the public authority. The public authority's approval is usually required for changes to sites specified in the contract.

Ownership and access

The public authority typically retains ownership of the sites and, in the contract, grants rights of access to the private partner for installing, maintaining and operating the EV charging infrastructure on those sites. Conversely, the contract will make the private partner responsible for arranging whatever access rights it needs for any proposed alternative sites not owned by the public authority.

Site conditions

Many contracts are silent about the suitability or condition of the sites, which implies that the private partner bears the risk and responsibility for any difficulty, delay or cost caused by unexpected site conditions (such as contamination). In practice, adverse ground conditions are unlikely to cause problems for the installation and operation of most public EV charging infrastructure, which will typically be located at the roadside. Looking at PPP practice in other sectors, there are some support measures that the public authority might consider taking in relation to site conditions. These include, in increasing order of supportiveness:

- disclosing to bidders, during the procurement, any site surveys undertaken by the public authority;
- guaranteeing the accuracy and/or completeness of such surveys;
- if sites cannot be surveyed before contract award, including a contractual provision allowing the private partner to claim relief and/or compensation if it encounters any adverse site conditions (see **Theme 10**).

The extent to which these types of measures are necessary or appropriate to enhance competition and drive a better value solution for users will depend on the project's specific circumstances. These include the amount of publicly available information; the level of interest from potential bidders; the cost, time and disruption of multiple surveys; and issues encountered on previous projects in the area.

Theme 3
Design and installation of EV charging infrastructure

Overall approach

The conventional approach to design and installation of EV charging infrastructure includes the following elements:

- **Technical specifications:** the private partner is required to design and install EV charging infrastructure that meets the public authority's technical specifications for the hardware (for example, user-friendly design of charging points, signage, spatial integration, grid connections, hardware interoperability) and software (such as metering requirements, remote connectivity, system interoperability, cybersecurity). The specifications will likely refer to other industry design standards and specifications, as well as relevant laws and regulations (see **Theme 9**).

- **Process:** the contract might specify procedures the private partner must follow during the installation phase. For instance, if the contract requires installation in response to user demand, it may set a particular procedure from receipt of a user application through to site identification and finally completion of the installation.

- **Permits and authorisations:** the private partner is obliged to obtain all permits and authorisations necessary for installing and operating the EV charging infrastructure (such as planning consent).

- **Grid connections (new):** where any new grid connection is required, the private partner is responsible for securing agreement with the grid operator and for the time and cost of the connection works.

- **Grid connections (existing):** if the private partner is taking over an existing grid connection, it is responsible for transferring the existing agreement.

- **Programme:** the private partner is required to meet certain deadlines in the installation phase. For instance, the contract may stipulate the installation of [*x*] charging points at [*specific locations*] or the achievement of [*kWh*] of available charging capacity by [*date*], or require the installation of a charging point within [*y*] months of a user application.[15] The opportunity to start generating user revenues creates a natural incentive for the private partner to install the EV charging infrastructure quickly. However, the public authority will have a programme in mind for implementing the project and achieving its underlying objectives. Setting deadlines in the contract will increase the certainty of meeting these aims. Failure by the private partner to meet these deadlines should lead to penalties appropriate to the project's scale and market practice in the sector (e.g. liquidated damages) and/or ultimately to the contract's early termination (see **Theme 12**).

- **Approval:** before the private partner starts work, the public authority often has the contractual right to review and approve the design of the EV charging infrastructure (hardware and software), design of the network (the final positioning of individual stations relative to one another) and the installation programme. Thereafter, the public authority will reserve the right to approve any changes to these.

15 Obligations in the installation programme will depend on the underlying strategy for developing the EV charging network — see footnote 4 above.

- **Health & safety:** the private partner is responsible for complying with all relevant health and safety laws, regulations and good practice.

- **Monitoring:** the public authority typically has the right to monitor the installation's progress and its compliance with the technical specifications and requirements.

Exceptions

The time and cost of designing and installing the EV charging infrastructure under the approach described above are the private partner's risk and responsibility. Nevertheless, contracts often contain exceptions allowing the private partner to claim relief and/or compensation from the public authority (see **Theme 10**). Some contracts create a general exception, such as for any circumstances beyond the private partner's control. However, best practice is for the contract to list a limited number of specific exceptions. This creates much more certainty for both parties and is particularly recommended for exceptions with a direct financial impact on the public authority (when compensation is payable). Theme 10 provides further guidance on these exceptions and the mechanisms through which they can be applied.

Additional support measures

The public authority might also consider additional measures to support the design and installation of the EV charging infrastructure, such as:

- ensuring its planning and permitting regime supports the installation of EV charging points. This does not form part of the contract but will affect the market's appetite for and approach to the concession arrangement;

- undertaking in the contract to cooperate and facilitate the private partner's applications for permits and authorisations;

- using regional, national and/or other known industry standards and specifications, with which the market is familiar;

- carrying out preparatory surveys and grid connection works and/or securing grid connection agreements (including on costs) in advance of the concession contract award;

- undertaking in the contract to obtain the required grid connections, with failure resulting in relief and/or compensation (see **Theme 10**);

- granting capital subsidies for the purchase and/or installation costs (see **Theme 6**).

Theme 4
Operation of the EV charging infrastructure and services

The private partner is naturally incentivised to maintain the EV charging infrastructure and provide quality services for users. Non- or poorly functioning EV charging infrastructure and poor services will likely generate lower user revenues. However, this natural incentive may not always be strong enough to ensure the public authority's underlying objectives are met. For example, the private partner might be disinclined to repair a charging point in a low-demand area, which would be contrary to the underlying objective of ensuring a balanced network. The private partner might also be less inclined to deliver quality customer services if customers have no realistic charging alternatives, which would be contrary to the underlying objective of increasing EV uptake.

Performance requirements and standards

To reinforce the private partner's natural incentives, the public authority should use the contract to specify its requirements and set standards for any or all operational aspects of the EV charging infrastructure and services. The precise requirements and standards will vary for each project, depending on the public authority's objectives and priorities. As a starting point, however, the contract will typically require the private partner to ensure a certain level of overall performance of the EV charging infrastructure network. Depending on the public authority's underlying objectives and the stage of EV market development in its area, overall performance might be measured by, for example:

- the "uptime" of all charging points installed to date under the contract;
- the available charging capacity available across the area at any point in time.

Some contracts apply different indicators of performance at different stages. For example, during the installation period, the private partner must respond to demand and ensure a certain level of available charging capacity (as demand increases, it must install new charging points). Then, once the installation period ends, the private partner must ensure the "uptime" of the charging points it has installed.

The private partner's performance might also be measured by more detailed requirements and standards relating to, for example:

- accessibility of the EV charging infrastructure to users (for instance, interaction with parking policy, interface with subscribers vs. one-off users);
- accessibility of the EV charging infrastructure to e-mobility service providers;
- functionality of the EV charging infrastructure (such as how quickly charging starts, availability of real-time charging information);
- number of service failures and timescales for responding to them;
- procedures and timescales for dealing with user enquiries, calls for assistance and complaints;
- procedures and timescales for inspections, maintenance and repairs;

- policy on energy resources (e.g. renewable energy use, user choice of energy source);
- pricing policy and transparency, and user payment procedures (see Theme 5);
- reporting to and sharing data with the public authority (for monitoring contract performance, monitoring use and/or informing the public authority's overall EV strategy);
- inspection and monitoring rights for the public authority.

Creating a performance mechanism

To create meaningful incentives, the contractual requirements and standards concerning operation of the EV charging infrastructure and services must be accompanied by provisions for performance monitoring and reporting, as well as sanctions for non-performance. Collectively, the provisions on obligations, monitoring, reporting and sanctions comprise the "performance mechanism."

There are numerous ways to approach and structure the performance mechanism in the contract, but good practice is to create a separate list or schedule of requirements and standards. These are often referred to as "performance measures," and need to be defined to allow clear and objective measurement of whether or not they have been met. Some performance measures may be directly linked to the functioning of the EV charging infrastructure and services (including an obligation to respond within a certain period to maintenance issues). Others may be more general in nature and relate to management of the contract (such as submitting monthly reports to the public authority).

The contract should set out requirements for regular monitoring and reporting against the performance measures. Most contracts permit self-reporting by the private partner but entitle the public authority to dual-monitor and/or audit the private partner's reports. Some performance measures will relate to obligations that must be met routinely, such as submitting monthly reports to the public authority, whereas others will need to be met and measured on an ad hoc basis, such as responding to maintenance requests.

For each performance measure, the sanction for non-performance should be clear and objective. Some contracts allocate a fixed monetary value to each performance measure, and apply this amount as a financial penalty when a failure occurs. Other contracts have a system that allocates performance points to each failure and then a monetary value to performance points. Both approaches can include weightings that reflect the performance measure's importance and the impact of failure: for example, not responding to an emergency assistance call attracts a higher penalty than late delivery of a report, while a one-day delay in completing a repair attracts a lower penalty than a one-week delay. The public authority needs to consider the appropriateness and fairness of the level of such penalties: the overall objective is to create the right incentives for the private partner to deliver without being overly punitive.

For some failures, it might be appropriate to allow a remedy period before applying a penalty. The remedy period might be embedded in the performance measure itself: for instance, a defect in the EV charging infrastructure might only be considered a failure if not rectified within 24 hours. Alternatively, the remedy period might apply after a failure occurs: for example, a defect in the EV charging infrastructure is an automatic failure but a 24-hour remedy period is then allowed before applying a deduction.

Performance is typically measured (and reported) monthly, although the public authority might also require real-time access to certain information and data. Any financial penalties are typically applied monthly or annually. Financial penalties are often capped at an annual amount and/or aggregate amount over the contract duration.

If the public authority pays some form of operating subsidy, the financial penalty imposed on the private partner is usually deducted from that subsidy. Otherwise, the penalty might be due as a payment by the private partner or added to any concession fees payable.

Operating costs and risks

Save for any payments (see **Theme 5**) or relief and compensation (see **Theme 10**) payable by the public authority under the contract, the private partner bears the risks and costs associated with operating the EV charging infrastructure and services in accordance with the contractual requirements and standards. The private partner's responsibilities include securing the supply of energy (sometimes with restrictions, such as only using renewable energy), and its risks include energy-cost fluctuations (usually with provision for indexation if charging prices are restricted by the contract — see **Theme 5**).

Some contracts might require the private partner to take on responsibility for the ongoing operation and maintenance of existing EV charging infrastructure. Its willingness to do so will depend on factors such as the infrastructure's age and specifications, the availability of manufacturer warranties and guarantees, and information on current revenues. To avoid bidders overpricing this risk during the procurement process, the public authority can make information on the existing EV charging infrastructure available to all bidders. In some extreme cases, the private partner might insist on the public authority taking or sharing this risk. This can be achieved through the authority providing relief or compensation if defects arise (see **Theme 10**) or undertaking to pursue claims against manufacturer warranties and guarantees that cannot be transferred to the private partner.

Theme 5
Payments and pricing

User pricing and payments

The principal payments in a concession are those by users to the private partner. The contract typically imposes conditions on the prices that can be charged to users and on the payment scheme operated by the private partner, often specifying:

- any maximum, minimum and/or average prices the private partner is entitled to charge users, or other price-setting guidelines;
- the extent to which the private partner may or must use differential pricing models, for instance by differentiating between subscribers and ad hoc users, or between the time of day and duration of occupation of a charging point, to incentivise use at times of low energy demand;
- any requirements on user connection fees and payment plans; visibility, transparency and stability of prices for users; interaction with parking policy and parking charges;
- any permissions or restrictions on generating revenues from advertising space on EV charging infrastructure;
- any permissions or restrictions on offering other services such as smart-charging or access to 4G and 5G networks;
- the basis of any routine price adjustment for indexation;
- the basis of any adjustment for fluctuations in energy costs;
- the consequences of changes in energy tax (for instance whether the cost of these changes can be passed on to users).

The public authority will likely want some control over prices. Concessions create an environment, albeit regulated, in which one or more market players operate. Without price controls, users would be forced to pay whatever prices the private partner determined. A lack of control could also lead to large pricing differentials across different EV charging point operators and to users being charged different prices according to the area where they live: such outcomes are likely to be undesirable from a public policy perspective.

However, strict price regulation might be difficult for bidders to accept in new markets where demand is insufficient and/or unstable and therefore difficult to predict. It may also prove difficult in situations where underlying costs (e.g. for energy) are unstable and unpredictable. In such circumstances, the private partner might ask the public authority for additional support measures to mitigate user-demand risk. Such measures might include, for example, capital subsidies or adjustment to prices for exceptional increases in energy costs. In return for any such support measures, the public authority might demand a share of higher-than-expected revenues that might arise if demand increases or stabilises or if other revenue-generating opportunities materialise.

In some markets, the public authority sets the charging prices for users during the contract procurement stage. Bidders are therefore evaluated principally on their technical solutions and the amount of any concession fee they propose to pay, and/or any subsidy they require from, the public authority. This set price assumes certain underlying energy costs, and so is adjusted (e.g. annually) in line with movements in these costs. The private partner bears the risk of energy-cost movements in between these regular adjustments. When energy costs are extremely volatile, this might prove too burdensome for the private partner. It might, therefore, be worth considering additional contract mechanisms to account for this situation: for instance, a provision could stipulate that an increase of at least [*x*]% in energy costs will trigger an exceptional interim indexation adjustment.

Other payments

Besides any liquidated damages for installation delays (see **Theme 3**) and penalties for substandard performance (see **Theme 4**), the contract also needs to specify the terms and conditions for the following potential payments:

- concession fees payable by the private partner to the public authority;
- any capital subsidies from the public authority (i.e. payments towards the costs of purchasing and installing EV charging infrastructure);
- any guarantee payments or operating subsidies from the public authority.

Concession fees do not feature in every EV charging infrastructure concession contract. The public authority's decision on whether to demand concession fees, and the appropriate structure of the concession fee mechanism, will depend on the context of the specific concession arrangement. Concession fees need to be factored into the overall economics of the project, and ultimately be covered by revenues the private partner receives from users (and therefore reflected in user prices). For the first concession in an immature EV market, it may not be viable to demand any concession fees, or payment of concession fees might only be triggered if and when the concession performs exceptionally well. As the EV market matures, concession fees might become standard practice and the mechanisms more favourable to the public authority. Examples of concession fee mechanisms include:

- a single upfront payment on signature of the concession contract;
- regular fixed payments for each site on which EV charging infrastructure is installed (akin to rent);
- a percentage share of revenues or profits above a certain threshold or once specific targets (e.g. kWh per use, occupancy rate) are met;
- a fixed payment per kWh of charge.

In practice, concession fees structured as a percentage share of revenues or profits on an ongoing basis have been found to work well. These types of arrangement keep both parties interested and engaged in the continuing performance and success of the concession.

The rationale for demanding concession fees is strengthened where the public authority financially contributes toward the capital or operating costs because the concession fees give the public authority some return on its investment.

For **capital subsidies** (see **Theme 6**), the contract should be clear on the timing and any conditions to which these are linked, such as evidence of successfully installing equipment, so as to minimise the risk to the public authority of losing its contribution (e.g. due to private partner insolvency).

Operating subsidies (see **Theme 6**) can take various forms. Once again, the contract simply needs to be clear on the timing and conditions for these payments becoming due. They might, for example, be payable monthly, quarterly or annually; in advance or arrears; firm or contingent on a shortfall of revenues or cash flow.

By making the payment of operating subsidies conditional on proper performance of the EV charging infrastructure and services, the public authority strengthens the private partner's incentives to perform: it cannot simply avoid maintenance, watch demand fall and call on the guarantee. This, in turn, gives the public authority greater assurance of achieving its underlying objectives, such as greater uptake of EV in its area. In this regard, the contract should contain:

- clear and objective indicators against which performance can be measured to determine the payment due (see **Theme 5**). These might not fully capture the performance of each and every element of the services but should capture key elements;

- a mechanism for varying payments according to the level of performance achieved (a percentage reduction or fixed deduction for each indicator breached, for example). The mechanism might attribute different weightings to different indicators: for example, a functional failure of an EV charging point might attract a higher financial penalty than a delay in providing data and reports to the public authority. The financial penalty for an instance of poor performance will likely also vary according to how long the poor performance persists. See **Theme 4** for further guidance.

Theme 6
Financing and public authority support

Availability and cost of financing

The private partner is typically responsible for financing the costs of designing, purchasing, installing, operating and maintaining the EV charging infrastructure. It may look to banks and investors to source the money it needs for this. The availability and cost of financing for the private partner will be driven by the overall economics of the proposed concession arrangement, and should, therefore, be addressed by the public authority through early market sounding when considering the concession model.

Public authority financial measures to improve the concession's viability

The public authority might need or decide to adopt certain support measures to improve the viability of the concession arrangement, particularly where forecast user revenues are insufficient for the private partner to meet its upfront investment and operating costs. This will, in turn, help the private partner raise financing from banks, equity investors or other sources. Such measures can include:

- **capital subsidy:** a contribution to the cost of purchasing and installing the EV charging infrastructure, typically at the end of (or at milestones during) the contract's installation phase;
- **minimum revenue guarantee:** an undertaking by the public authority that if revenue falls below a specific level, it will pay the private partner the amount needed for its revenue to reach a certain level;
- **cash flow guarantee:** an undertaking by the public authority that if the private partner's net cash flow (i.e. revenues minus operating costs) falls below a specific level, the public authority will pay the private partner the amount needed for its net cash flow to reach a certain level;
- **fixed operating subsidy:** regular fixed payments made by the public authority during the operation and maintenance phase;
- **availability payments:** regular fixed payments made during the operation and maintenance phase, adjusted according to the availability (i.e. functionality) of the EV charging infrastructure and/or the quality of the private partner's performance.

The amount and timing of any such support measures need to be determined on a project-specific basis, according to factors such as:

- the "viability gap" — based on market sounding, what is the optimum contribution needed to ensure that bids will be received for the contract and at the same time keep bidders motivated to assess and consider how to manage user demand risk adequately?;
- the public authority's "value for money," affordability and budgeting constraints — for example, whether an upfront lump-sum payment is better than an ongoing contribution over several years; the likelihood of a guarantee being called upon balanced against the certainty of an upfront payment.

If the public authority is making any financial contribution to the concession arrangement, the contract should clearly specify the timing and conditions for such payments (see **Theme 5**). Committing to make such financial contributions strengthens the rationale for the public authority including the following provisions in the contract:

- performance standards for the operation and maintenance of the EV charging infrastructure and a mechanism to penalise poor performance. These will incentivise the private partner to perform and not rely solely on the guarantee, ultimately ensuring the functionality of the investment being supported and the public authority's underlying objectives in entering into the concession arrangement (see **Theme 4**);

- a concession fee mechanism that allows the public authority to share in revenues (perhaps above a certain threshold and/or after a period of time) that the private partner generates from the EV charging infrastructure (see **Theme 5**);

- recognition of any public authority financial contributions in the financial settlement between the parties on early contract termination (see **Theme 12**);

- a requirement that the EV charging infrastructure is in an appropriate condition (commensurate with proper maintenance during the contract) when handed back to the public authority on contract expiry (see **Theme 13**).

Other public authority support measures

To further support the private partner in taking the financing and user-demand risks associated with the concession arrangement, the public authority could, for example:

- contractually guarantee the private partner exclusivity for installing and/or operating EV charging infrastructure in the relevant area within a certain time period;

- introduce wider public policy measures promoting the uptake of EVs by individuals and businesses in the relevant area (such as tax incentives, subsidies for EV purchases, information for users on how to request an EV charging point, clear and efficient planning and other approval processes). Although these are not contractual, a supportive environment for EVs can influence how the market approaches the concession contract.

Theme 7
Insurance

The contract should specify the insurance policies that the private partner must have in place. These usually include:

- professional indemnity insurance;
- construction/property damage insurance;
- public liability insurance.

For each required form of insurance,, the contract typically specifies key terms, such as minimum and maximum coverage and specific inclusions or exclusions. The public authority might seek to be a "named party" on the insurance policies depending on its own insurance arrangements. Insurance requirements in a concession contract strongly influence the market's willingness to bid and approach to bidding, so public authorities need to take expert insurance advice on setting these requirements at appropriate levels.

The availability of insurance and fluctuations in insurance costs are typically private partner risks. If insurance risks prove too problematic for the market (for unusually long contracts, for example), the public authority might consider providing support measures often used in PPPs in other sectors, such as:

- sharing the cost of insurance premiums if they increase above a specified threshold (and, correspondingly, sharing the benefit of the premiums if they fall below a specified threshold);
- treating the unavailability of insurance as a force majeure event, which could ultimately lead to early contract termination (see **Theme 12**);
- a contractual provision allowing the public authority to step in as insurer of last resort should insurance become unavailable (as an alternative to early termination for force majeure).

However, these support measures should be explored only in exceptional circumstances.

Theme 8
Changes

The parties are typically free to amend the contract by mutual agreement in accordance with the laws in force in the jurisdiction. However, the contract itself usually explicitly recognises either party's right to request changes and sets out a process that structures the negotiation of changes.

In general, the public authority will have the right to request any change. The private partner might have grounds on which it can refuse a change, but these should be specific and limited in number. For instance, the private partner might be permitted to refuse a change that would lead to an unreasonable shift in the contract's nature or risk profile, or a change for which required permissions or consents would be impossible to obtain. The public authority is typically required to ensure the private partner is left in a no-better/no-worse position as a result of the change, for instance through financial compensation and/or other forms of relief under the contract.

Likewise, the private partner will have the right to propose any change, although the public authority is more likely to retain absolute discretion to refuse any change not required by a change in the law.

As far as possible, it is advisable to agree in advance and specify in the contract the consequences of certain types of change, for instance by fixing the amount of compensation the public authority must pay if it demands the removal or relocation of EV charging infrastructure. This not only provides certainty on the costs of *implementing* changes but also helps to minimise the time and cost involved in *negotiating* changes.

Theme 9
Complying with laws and regulations

The contract requires the private partner to comply with all laws and regulations applicable to the design, installation, operation and maintenance of the EV charging infrastructure and services. Relevant laws and regulations might change over the course of the contract, and these changes might require additional capital expenditure (changes to hardware or software to ensure interoperability, for instance) or operating expenses (such as more frequent safety checks).

The longer the contract duration, the greater the risk that legislative or regulatory changes will lead to additional costs and the more difficult this may be for the private partner to bear. Some concession contracts permit the private partner to pass on the costs of a change in law to users by increasing its prices. In contracts that restrict price changes, the public authority might consider it appropriate to take on or share some of this risk, to enhance the viability or "value for money" of the concession arrangement.

To date, many EV concession contracts state simply that the parties should discuss and agree how to apportion change-in-law costs (on a fair and reasonable basis, for instance) whenever the situation arises. However, an "agreement to agree" of this nature creates contractual uncertainty and the potential for disputes to arise. To ensure more certainty on change-in-law risk allocation, an EV concession contract could draw on the various mechanisms often used in PPP contracts in other sectors. These include:

- treating a change in law that requires capital expenditure as a compensation event (see **Theme 10**), triggering a direct payment by the public authority to cover the private partner's increased costs or allowing the private partner to recover the increased costs by other means (such as a price increase or contract extension);

- an undertaking by the public authority to contribute a certain percentage of any increased capital expenditure required as a result of a change in law;

- extending either of the two mechanisms above to also cover increased operating expenditure;

- limiting any of the three mechanisms above to provide compensation only for changes in laws specifically related to EV charging infrastructure and associated services (by specifying, for instance, that compensation would not be payable for the costs of changes in general laws on employment or health & safety);

- treating a change in law that makes performance of the contract illegal or impossible as a force majeure event (see **Theme 10**).

Any change-in-law protection for the private partner should exclude changes that were foreseeable at the time it submitted a bid for the contract.

Theme 10
Relief, compensation and force majeure

A concession arrangement generally transfers the risk of design, installation, operation and maintenance of the EV charging infrastructure to the private partner. However, the contract might recognise exceptional situations where the private partner is entitled to claim relief and/or compensation from the public authority. Contracts vary considerably in their approach to these exceptions. Some provide for renegotiation on a "fair and reasonable" basis if exceptional or unforeseen circumstances arise, although such "agreement to agree" arrangements create uncertainty and the potential for future disputes between the parties.

Instead, it is good practice to have contractual mechanisms that clearly identify (i) the specific circumstances that trigger relief and/or compensation and (ii) the procedure for claiming and quantifying the relief and/or compensation to which the private partner is entitled. These types of mechanisms are common in PPP contracts across a number of sectors and EU jurisdictions. This guide describes these mechanisms below as "relief events," "compensation events" and "force majeure events."

Relief events

These might include the following events (provided they are not due to the private partner's actions or failures):

- accidental damage to the EV charging infrastructure;
- latent defects in any existing EV charging infrastructure for which the private partner is required to take responsibility (if bidders did not receive adequate information during the procurement phase that would have enabled assessment and acceptance of this risk);
- energy supplier failures;
- unforeseen site conditions (see **Theme 2**);
- delay in obtaining permits or authorisations, provided the private partner has complied with relevant processes;
- delay by the grid operator, provided the private partner has complied with relevant processes.

The contract will typically state that if the private partner's performance is adversely affected by a relief event, the private partner must bear the financial consequences (such as a fall in user revenues, deductions or penalties for poor performance) but can claim relief from the full contractual consequences of the event (e.g. termination for default).

For example, if a fire (not caused by the private partner) damages a site and thus delays the completion of installation, the private partner will bear the risk of revenues lost through this delay (although recovery through insurance may be feasible), but its failure to have that site fully functioning by the contractual deadline would not trigger early contract termination. Put simply, the public authority's right to terminate for private partner default would not extend to situations where the private partner's failure is caused by a relief event.

Compensation events

A public authority's breach of contract (such as failure to provide access to sites) is typically treated as a compensation event. Some or all of the relief events listed above might also be included as compensation events. The decision to categorise each circumstance as a relief event and/or compensation event needs to be made by the public authority on a project-specific basis. On the occurrence of a compensation event, the private partner is entitled to relief from termination (as for a relief event) and to payment of financial compensation from the public authority to cover its costs and losses. Under some contracts, financial compensation might take the form of reduced concession fees and/or a contract extension, rather than a direct payment from the public authority.

Force majeure events

An event is regarded as one of force majeure when outside either party's control and, typically, not covered by insurance. Some contracts recognise a broad definition of force majeure events (e.g. "an unforeseeable event outside the control of either party"). However, including a specific list of force majeure events in the contract gives certainty for both parties, which can positively affect the market's appetite for and approach to bidding. A contractual definition of force majeure events will often include:

- war, riot, armed conflict, terrorism, or protests;
- nuclear explosions, or radioactive, chemical, or biological contamination;
- natural disasters such as earthquakes, landslides, lightning, floods, or storms;
- changes in law that prevent performance of the contract.

A force majeure event mechanism in the concession contract typically operates as follows:

- the private partner is relieved from the contractual consequences of non-performance (the public authority cannot terminate the contract on grounds of private partner default);
- the private partner might receive some financial relief (for example, suspension of the obligation to pay concession fees or of non-performance penalties), although this might depend on the availability of insurance;
- if the event continues to prevent performance of the contract for a specified time period (e.g. one month), either party has the right to terminate (see **Theme 12**).

In some jurisdictions, the impact of force majeure events is regulated by the law. Nevertheless, it can be helpful to include specific provisions in the contract, even if their effect is only indicative and they do not override the law.

Theme 11
Liability for claims

The contract will typically contain an indemnity from the private partner to cover any losses or liabilities the public authority incurs as a result of the private partner's performance or non-performance of the contract. The categories of losses and claims covered by the private partner's indemnity typically include:

- death or personal injury;
- loss or damage to property;
- breach of the public authority's statutory duties;
- third-party claims brought against the public authority.

The contract might limit the private partner's indemnity, for example by excluding claims that arise through the public authority's own breach or negligence, or by setting a financial cap (applied annually and/or for the duration of the contract) on the private partner's liability beyond that covered by insurance.

Theme 12
Early termination

The contract should set out the circumstances that may give rise to early termination, the procedure to follow to terminate early, and the consequences of early termination. Although early contract termination might be governed by the laws in force in the jurisdiction, express provisions in the contract give certainty for both parties and can affect the market's appetite for and approach to bidding.

Early termination can typically be triggered by the following:

- default by the private partner;
- default by the public authority;
- the public authority exercising its right to terminate at will;
- force majeure.

Private partner default is defined very broadly in some contracts (e.g. "material breach of the contract"). Other contracts aim to provide greater clarity and certainty by listing more specific events or circumstances. Another approach is to include in the contract a list of defaults and a catch-all "material breach" default. The list of private partner defaults might include the following:

- insolvency or bankruptcy;
- failure to achieve certain milestones in the installation programme;
- failure to have appropriate insurance policies in place;
- fraudulent or corrupt behaviour;
- late payments (such as of concession fees owed to the public authority);
- repeated or consistent failure to meet certain performance standards, usually measured over a period of time, and sometimes by reference to an amount of financial penalties accrued over a specified period (see **Theme 4**).

Public authority default is, similarly, defined very broadly (as "material breach", for example) and/or by reference to a specific list of circumstances, which might include:

- a failure to provide site access that substantially prevents the private partner's performance of the contract;
- late payments (of capital subsidies that contribute to installation costs, for instance);
- breach of any exclusivity undertaking given to the private partner (see **Theme 6**).

In situations of private partner or public authority default, the contract typically provides that the non-defaulting party may serve a termination notice on the defaulting party. The contract usually allows a limited time period after receiving the notice for the defaulting party to remedy the default (if it is capable of being remedied). Sometimes additional remedy periods are built into the definition of a default: for example, a payment must be [*x*] days overdue or the installation programme must be more than [*y*] months delayed before a party is considered to have defaulted.

The public authority might wish to reserve an explicit contractual **right to terminate the contract at will** at any time. Overriding policy reasons might arise, for example, which would cause it to exercise this right.

The contract will also typically recognise the right for either party to terminate the contract in circumstances where a **force majeure event** (see **Theme 10**) prevents one or both parties performing obligations under the contract for a specified period of time (for instance, longer than one month).

Financial consequences of early termination

Many contracts recognise the need for a financial settlement between the parties on early termination. This takes into account the circumstances of termination (who is at fault) and the fact that the EV charging infrastructure will typically revert to public authority control. Some contracts leave determination of this financial settlement to be agreed by the parties at the time (an "agreement to agree"). However, it is helpful to set out some clear principles that will apply in determining an appropriate settlement. These include, for example:

- the basis for valuing the EV charging infrastructure;
- recognising any funding contribution by the public authority to the purchase and installation costs;
- recognising loss of profit for the private partner if the contract is terminated for public authority default or at will by the public authority;
- recognising any remediation or other costs the public authority might face if the contract is terminated for private partner default;
- recognising any pre-existing claims the parties have against each other;
- recognising "shared loss" where early termination arises because of a force majeure event.

Any contractual provisions on financial settlement may, of course, be subject to the laws in force.

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Other consequences of early termination

The contract should clearly state what is expected to happen to the EV charging infrastructure on early termination: in most cases, it will be handed over to the public authority. The contract typically contains provisions to ensure a smooth handover, such as obligations on the private partner to:

- give the public authority all information, manuals, documentation and software relating to the design, installation and operation of the EV charging infrastructure;
- leave all sites in an orderly state;
- transfer the benefit of third-party warranties and guarantees;
- transfer the benefit of any grid connection agreements.

Theme 13
Expiry

The contract typically takes one of two approaches to determining its expiry:

- **fixed contract period:** the expiry date is fixed by reference to the contract start date;
- **fixed exploitation period:** the expiry date is fixed by reference to the date when some or all of the EV charging infrastructure becomes operational.

The first approach creates a stronger incentive on the private partner to complete the installation on (or even before) time, as any delay in installing the EV charging infrastructure will reduce the time available to generate user revenues. The second approach offers more flexibility to cope with unexpected events during the installation period (such as unusual delays in getting approval for new charging stations), as the period for the private partner to generate revenues is unaffected.

The contract should specify what will happen to the EV charging infrastructure on expiry, which will depend on the length of the contract and the expected lifetime or use of the infrastructure after the contract expires. If the public authority expects ongoing use of the infrastructure, the contract should require the private partner to:

- leave the infrastructure in good working order (a particularly important provision if the public authority has funded part of the infrastructure) and the sites in an orderly state;
- give the public authority all information, manuals, documents and software relating to the design, installation and operation of the EV charging infrastructure;
- transfer the benefit of third-party warranties and guarantees;
- transfer the benefit of any grid connection agreements.

Conversely, if the public authority foresees no use of the EV charging infrastructure beyond the contract's expiry, the contract should require the private partner to remove the infrastructure and reinstate the sites to their original (or other agreed) condition.

Some contracts allow the public authority to choose, just before the contract ends, between transfer and removal of the infrastructure. The possibility of significant removal and reinstatement costs on expiry will affect the market's approach to bidding for and pricing the concession arrangement. Therefore, unless removal is a realistic prospect, it may be optimal for the contract to provide for the transfer of infrastructure to the public authority.

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