THE FUTURE OF EV CHARGING: SPOTLIGHT ON GERMANY

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In the first of our "The Future of EV Charging: Spotlight on" series of articles, we look at Germany.

Having committed to reducing the transport sector's greenhouse gas emissions by 48% compared to 1990, the German federal government must meet this challenge without reducing citizens' quality of life. Electro mobility is key to achieving climate-friendly transport according to the German Federal Ministry of Economics and Energy (the "BMWi"), which wants Germany to be both a leading provider and market for e-mobility. Approximately 1,000,000 electrically powered vehicles and 860,000 hybrid vehicles are estimated to be currently travelling on German roads, whilst as of September 2023, around 51,800 charging stations were accessible to the public nationwide. In addition to these charging stations, an estimated 97,495 regular charging points and 18,577 fast charging points are accessible to electric vehicle drivers. The difference between regular and fast charging points is their charging capacity. Regular charging points offer up to 50 kWh and fast charging ones up to 350 kWh. All charging points with a charging capacity of 50 kWh or above are considered fast-charging points.

> "The German government aims to have 1,000,000 fully accessible and operational charging points by 2030."

The German government aims to have 1,000,000 fully accessible and operational charging points by 2030. To achieve this, it has developed a masterplan focussed on the optimal integration of e-charging infrastructure and the electricity system. In addition, the EU has introduced its new AFIR legislation regulating the number of charging stations and the distance between them, whilst also introducing regulations regarding intelligent and bidirectional charging. Under AFIR, fully accessible charging-stations must be available at least every 60 km on all main roads in the EU by 2026. To achieve this, significant investment is required – a challenge both public sector entities and private companies have taken up. The German ministry of transport and digital infrastructure (the "BMDV") is willing to invest up to €6.3bn to expand the existing charging network, highlighting the governments commitment to taking a lead in establishing a publicly accessible charging network before the market generates sufficient demand to make large scale private investments financially viable.

Whilst the public sector is concentrating on fast charging stations for passenger vehicles, planning has also started on establishing initial charging stations for heavy load vehicles.

DEUTSCHLANDNETZ INITATIVE

The Fast Charging Act ("SchnellLG") commits the BMDV to building a nationwide, needs-based fastments charging infrastructure network of around 1,100 charging stations to be established via public tender procedures under the Deutschlandnetz initiative (the "Initiative").

Given both increasing demand and new technological developments, all charging points built as part of the Initiative must have a capacity of at least 300 kWh. The tender process also seeks to promote a competitive landscape of diverse operators as well as user-friendliness and accessibility.

The Initiative comprises two campaigns. The first, run by the BMDV, aims to install a fast-charging network in pre-defined regional sectors. The second, led by the Autobahn GmbH, will focus on building infrastructure on state-owned sites adjacent to Germany's motorway network. In both cases, successful bidders receive state-backed financial support to build and operate fast charging stations.

Whilst the tender procedures for sites alongside motorways are still ongoing, those for the regional sectors have recently been successfully completed. In September 2023, ten bidders received awards and have now begun developing 8,000 charging points in 900 locations.

In addition to this public initiative, the private sector is also actively involved in the e-charging space. Project developers have teamed up with hotel owners, retailers and supermarket chains to build (fast) charging solutions on their premises. This can also include building battery storage systems, enabling fast charging even on sites with limited grid connection.

LEGAL REQUIREMENTS TO BUILD A CHARGING STATION

From a regulatory perspective, there are three types of charging station sites: those on publicly accessible locations adjoining publicly-owned roads; those on privately-owned land accessible to the public; and those on private land with exclusive access for specified users.

"To meet motorists' needs, German motorways provide both managed rest areas and unmanaged rest areas."

(1) Publicly accessible locations adjoining publicly owned roads

A distinction is made between charging stations next to motorways which are subject to federal (national) laws and those next to federal state roads and municipal roads which fall under the local state's regulatory regime.

a) Motorways

To meet motorists' needs, German motorways provide both managed rest areas (bewirtschaftete Rastanlagen) and unmanaged rest areas (unbewirtschaftete Rastanlagen). Whilst unmanaged rest areas offer parking spaces and sanitary facilities, managed rest areas (motorway service areas or MSAs) can include petrol stations, restaurants, hotels and other amenities.

Whilst MSAs are included in the government's fast charging network expansion plans, since they were privatised 20 years ago, approximately 90% are currently run by one private company, which raises several competition issues.

Generally speaking, the right to build and operate MSAs requires a public concession. Before starting to build a charging station, formal consent (Baufreigabe) must be granted. It remains to be seen whether new concessions will be granted or existing ones extended.

b) Federal state roads and municipal roads

E-charging stations built on publicly accessible locations alongside federally or municipally owned roads require formal consent from the relevant authority. When granting or denying said consent, the authorities take into account several factors, including compliance with zoning laws, ease of use and traffic safety, the nature of the location in question, number of parking spaces, urban design principles (städtebauliche Gestaltungsprinzipien), accessibility of the charging station, expected frequency of use and environmental protection measures. A special use permit (Sondernutzungserlaubnis) is also usually required and often granted on a first-come, first-serve basis. Special use permits can also be granted for limited periods of time only.

Depending mainly on where a charging station is built, other authorities may need to be involved. The Civil Engineering Office (Tiefbauamt) might need to approve underground works and the Monument Protection Authority (Denkmalschutzbehörde) could even get involved if the charging station is located near a listed historic building.

If charging stations on public land are being built and/or operated by private individuals or companies, a land lease or other usage agreement with the owner (municipalities etc.) is required.

(2) Privately owned locations accessible to the public

Publicly accessible, privately owned sites are increasingly important for electric vehicle drivers and, therefore, those investing in e-charging infrastructure. Fast chargers with up to 350 kWh capacity can charge a vehicle in 30-60 minutes, allowing motorists to take advantage of on-site shopping facilities whilst charging their vehicle and thereby generate profit for the site's owner.

Federal state construction law usually allows for the construction of e-charging stations without a permit, though local construction standards must still be respected. A special use permit is not required as the location is not public. If the charging station operator does not own the land on which it is being built, usage rights for the land will also need to be agreed with the owner.

Owners and operators must both ensure sites are safe and public traffic is not impacted by any charging station.

(3) Privately owned locations

Charging stations in privately accessible only locations where the operator is also the owner do not usually require a formal permit under federal state construction laws. Nor does a special use permit. Owners only have to ensure the e-charging points are installed by a professional electrician and inform the local electricity supplier. As of 2021, the Condominium Property Modernisation Act ("Wohnungseigentumsmodernisierungsgesetz") also entitles tenants to build private e-charging stations in underground car parks with their landlord's consent.

Flat owners, however, generally have no right to build private e-charging stations without the approval of their block's owners' association.

"The LSV regulates minimum technical requirements for the safe and inter-operable construction and operation of publicly accessible charging points."

LEGAL REQUIREMENTS FOR OPERATING A CHARGING STATION

(1) German charging station regulations

Since the third executive order of the Ladesäulenverordnung ("LSV") entered into force on 1 July 2023, there are new regulations regarding e-charging-stations in Germany.

Initially, the LSV transposed the EU directive on the development of infrastructure for alternative fuels (EU directive 2014/94/EU) into national law. In line with the directive, the LSV regulates minimum technical requirements for the safe and inter-operable construction and operation of publicly accessible charging points, as well as related matters such as authentication usage and payment. Under the LSV, all charging station operators are obliged to provide every electric vehicle user with the option of ad-hoc charging outside of an ongoing customer relationship.

In contrast to the first version of the LSV, all e-charging-station operators must now ensure that payments can be made via a common payment system, i.e. users can pay with Mastercard and Visa or Girocard (used in Germany). The operator must ensure that contactless payment via Near-field-communication ("NFC") is possible.

Contactless payment must be implemented and available to customers by July 2024, though e-charging stations that were already in operation before this date are exempt as are those that are only privately accessible.

Charging points must also adhere to the requirements of the Payment Services Supervision Act ("Zahlungsdiensteaufsichtsgesetz") regarding customer authentication.

(2) Tariffs and Metering

As of 2019, tariff structures that are solely based on charging time are no longer permissible in the opinion of the federal ministry for the economy. This view is based on the quotation of prices ordinance (Preisangabenverordnung), which requires prices for electricity to be stated based on kWh and has also been upheld by the federal constitutional court (Bundesverfassungsgericht). Pricing models which include a time-based parking fee in addition to a fee per kWh remain permissible.

Finally, publicly accessible charging stations must have calibrated metering devices under German metrology and calibration laws (Mess- und Eichrecht).

PUBLIC PROCUREMENT AND COMPETITION LAW

For e-charging infrastructure development projects initiated by local authorities or municipal utilities, it can be assumed that planning, construction, and operating services will be put out to tender. If the relevant thresholds are exceeded, a Europe-wide tendering procedure is required in accordance with the provisions of the Act against Restraints of Competition ("Gesetz gegen Wettbewerbsbeschränkungen"), the public Procurement Ordinance ("Vergabeverordnung") and the Contract Regulations for Construction Works ("Vergabe- und Vertragsordnung für Bauleistungen").

"This new programme will provide €500m between summer 2021 and end 2025 to build at least 50,000 charging points, 20,000 of them being fast charging points."

(1) Subsidies or tax incentives for the construction and operation of charging stations

(a) Subsidies

Between 2017-2021, as part of the government's Funding Directive for E-charging Infrastructure for Electric Vehicles (Förderrichtlinie Ladeinfrastruktur für Elektrofahrzeuge in Deutschland), an incentive programme was in place to help establish nationwide e-charging infrastructure. The government had already provided €300m as part of this scheme, before it was replaced by a new subsidy programme for publicity accessible e-charging infrastructure for electric vehicles in Germany (Öffentlich zugängliche Ladeinfrastruktur für Elektrofahrzeuge in Deutschland). This new programme will provide €500m between summer 2021 and end 2025 to build at least 50,000 charging points, 20,000 of them being fast charging points.

Unfortunately, new applications for grants under this programme are no longer possible, nor is another application round in sight.

Other options exist, however. Some federal states have introduced funding frameworks for the development and operation of e-charging infrastructure, which supplement the government funding programme and can be regarded as co-financing. One example is, the Funding Programme for E-Charging Infrastructure for Electric Vehicles in Bavaria ("Förderrichtlinie Ladeinfrastruktur für Elektrofahrzeuge in Bayern").

The European Investment Bank ("EIB") and the (German) state-owned development bank KfW (Kreditanstalt für Wiederaufbau) also offer subsidy programmes. The KfW offers companies credit for financing environmental protection measures, which explicitly includes e-charging projects, of up to €50m per project. The EIB meanwhile grants funding for €30m+ environmental protection projects.

(b) Tax incentives

The German government has established tax incentives to promote e-mobility, primarily focussed on electric vehicles themselves. For example, electric vehicles registered before the end 2025 are exempt from vehicle tax ("KFZ-Steuer") for ten years.

E-charging infrastructure is also treated favourably from a tax perspective. Notably, for employers who allow their employees to charge electric or hybrid electric vehicles for free, this benefit is exempted from any taxation, e.g. income tax. This incentive was recently extended until 2030. Under the electricity tax law, a charging point's operator is considered to be the end consumer, meaning customers do not need to pay any electricity tax.

"There are three key players for publicly accessible e-charging stations: the e-mobility provider, the charge-point operator and the electricity supplier."

KEY ROLES IN THE OPERATION OF PUBLICLY ACCESSIBLE E-CHARGING STATIONS

There are three key players for publicly accessible e-charging stations: the e-mobility provider ("EMP"), the charge-point operator ("CPO") and the electricity supplier.

EMPs act as service providers for e-charging station users. This includes, for example, issuing charging cards and/or providing mobile applications through which users can identify themselves at charging stations. EMPs are also responsible for determining pricing models for and settling payment processes with their customers. EMPs are often energy suppliers or car manufacturers with an existing e-mobility-related customer base. In principle, however, any other service provider or CPO may act as an EMP.

CPOs are usually responsible for the construction, operation and maintenance of e-charging stations and ensuring electricity is available once they are in operation. There can be instances where the investor who built and owns a charging station is not the same legal person or entity as the CPO, such as when a CPO operates a charging station through a lease or similar agreement with an investor.

Electricity suppliers are responsible for providing electricity at charging stations, usually as contracting partners to CPOs.

Each time a vehicle owner uses a charging station for charging their vehicle, they are charged an agreed fee by the EMP as their contracting partner for said charging process. The EMP itself is charged an agreed fee – usually lower than the fee charged to the vehicle user – by the CPO operating the charging station (as contracting partner to the EMP) for said charging process.

Other roles in the operation of publicly accessible e-charging stations include:

- providers of (strategically attractive) spaces to CPOs for the construction and operation of charging stations (based on leases or similar agreements); and
- operators of software-based e-mobility services platforms that connect CPOs with EMPs (based on usage agreements with the CPOs and EMPs).

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