Market Study Report on the Electric Vehicle (EV) Charging Service on Expressways (Summary)

July, 2023

公正取引委員会
Japan Fair Trade Commission

Background and Purpose, Subject and Methods, etc.

Background and Purpose

- The “Basic Policy for Economic and Fiscal Management and Reform 2023 ” (approved by the Cabinet on June 16, 2023) states that the Government will support the development of charging and hydrogen refueling infrastructure with the goal of 100% electric vehicles in new vehicle sales by 2035”. Toward the realization of carbon neutrality by 2050, it is expected that the market for EV charging service will expand rapidly in the future and its market condition will also change drastically.
- Accordingly, in order to promote fair and free competition in the development of charging infrastructure, and to promote the realization of a green society from the viewpoint of competition policy by stimulating new entrants and promoting innovation, the JFTC has conducted a market study on EV charging services on Expressways, where rapid charging is particularly needed to prevent EVs from running out of charge during long-distance travel.

Subject and Methods, etc.

- Hearings with Expressway Companies, Expressway Agency, EV charger installers, EV charging service providers and network providers
- Opinion exchanges with the U.K. authorities（Competition and Market Authority（CMA）and Office for Zero Emission Vehicles（OZEV））

How EV Chargers are Installed at Expressway, etc.

How EV Chargers are Installed at Expressway SA/PAs

■Number of EV chargers installed at Expressway SA/PAs

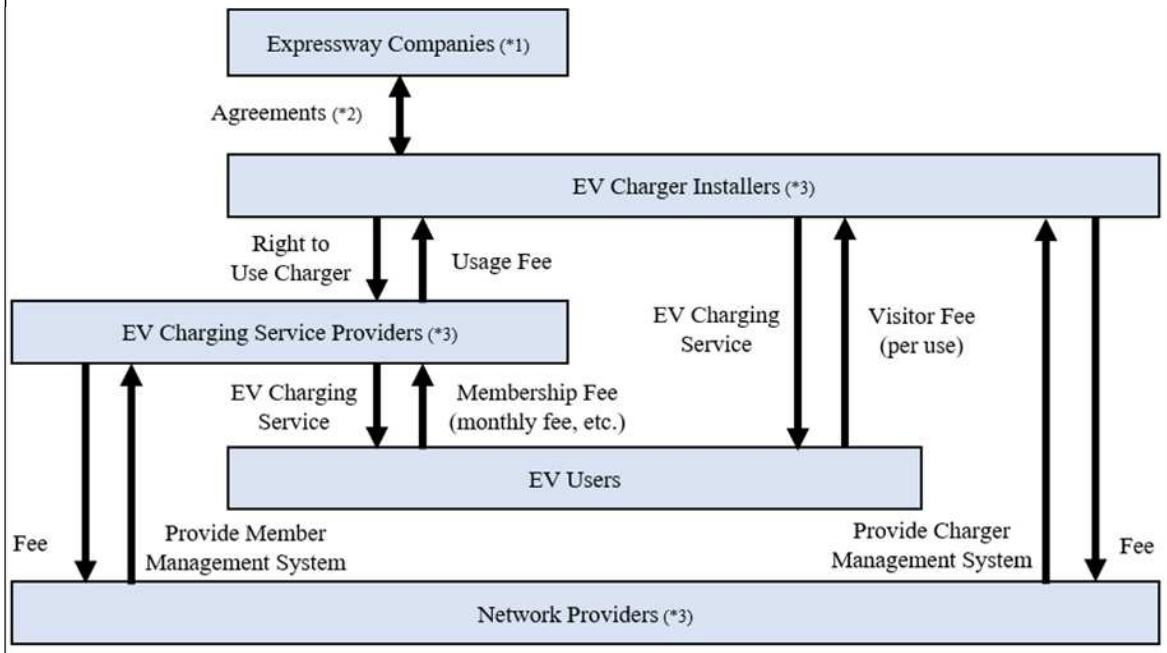
Expressway Company name	Number of units	Number of plugs
East Nippon Expressway	155	183
Central Nippon Expressway	129	169
West Nippon Expressway	141	159
Metropolitan Expressway	9	14
Hanshin Expressway	6	6
Honshu-Shikoku Bridge Expressway	5	5
Total	445	536

■Breakdown of EV charger installers at Expressway SA/PAs

EV charger installers	Number of units	%
eMP	439	98.7%
Expressway Company	6	1.3%
Total	445	100.0%

(both are as of March 31, 2023)

Business relationships for EV charging services at Expressway SA/PAs



*1 When installing EV chargers, the procedures for road occupancy permits are required when using road assets owned by Expressway Agency in addition to the land owned by each Expressway Company.

*2 Expressway companies lease land to EV charger installers, but whether or not they charge EV charger installers a usage fee and other costs (e.g., construction costs) varies from Expressway Company to Expressway Company.

*3 With respect to EV charger installers, EV charging service providers and network providers, the same entity may act in more than one of these roles, in which case no transactions will occur between them.

New Entry to Expressway SA/PAs ①

Current Status

- East Nippon Expressway Company, Central Nippon Expressway Company, and West Nippon Expressway Company (hereinafter collectively referred to as the "NEXCO 3"), announced that they would install approximately 1,100 sockets/connectors by FY2025, in cooperation with eMP, which installs EV chargers at Expressway SA/PAs managed by NEXCO 3.
- About 98.7% of the EV chargers currently installed at Expressway SA/PAs have been installed by eMP; furthermore, not only new installation but also switching installation has been made by eMP as a part of the joint project with NEXCO 3.

⇒ At present, it can be hardly said that it is expected for EV charger installers except eMP to install EV chargers at Expressway SA/PAs.

Hearing results

- In order to prevent EVs from running out of charge, we believe it is necessary for us to install EV chargers universally at SA/PAs on roads we are responsible for. The current joint project partner was selected through a public invitation. At the time of the public invitation, ten years ago, eMP was in practice the only company that met the abovementioned criteria; therefore, we have been in the agreement of joint projects with eMP since then. (Expressway Companies)
- Regarding the installation of EV chargers at Expressway SA/PAs, the maximum amount of subsidy for construction cost is relatively large compared to that for installation at other locations. ; however, the cost we bear is still high. Nevertheless, we have made a forward-looking effort to install EV chargers at Expressway SA/PAs throughout the country, believing that EV chargers are essential social infrastructure. (eMP)
- As much as we would like to install EV chargers at Expressway SA/PAs , it would be quite difficult to enter the market if it is required to install them at places with low demand. (EV chargers installers and EV charging service providers which have not installed EV chargers at Expressway SA/PAs)
- The Expressway Agency recognizes that relevant laws and notices are on the MLIT and e-Gov websites; however, we are not aware of what can be actually be checked on these websites. (Expressway Agency)

New Entry to Expressway SA/PAs ②

Viewpoints from Competition Policy

Under today's circumstances where there are several companies that install EV chargers by themselves and provide EV charging service, if all chargers at Expressway SA/PAs are kept installed by a certain company that was selected through the first public invitation, various services by companies' ingenuity would be less inclined to flourish than if several companies compete with each other, which may lead to some concerns such as failure to timely respond to EV charger innovation; for example, the situation where timely charger switch in response to further increased power would not happen.

⇒ ・ It is desirable for Expressway Companies to make a choice among several EV charger installers, in the light of letting the market mechanism work; that is, it is desirable to promote new entry of EV charger installers in the future, which may lead to enhanced competition in EV charging service.

・ It is essential to have a discussion from the perspective of ensuring competition in the EV charging service; therefore, competent ministries, namely, METI and MLIT, should deepen the discussion on what the policy of EV charging infrastructure in this country should be (see the initiatives of the U.K.). The JFTC will also participate in this discussion from the viewpoints of competition policy.

・ For the reference of new entrants in the future, it is desirable for the Expressway Agency to publish exhaustively the laws and orders that should be referred to for the installation of EV chargers at the Expressway SA/PAs.

Use of off-Expressway EV chargers ①

Current Status

- According to “the Package for Speeding Up Development of Electric Mobility Infrastructure” (March 29, 2023), (i) when using EV chargers installed off-Expressway, only if prescribed requirements are met, the terminal fee will be waived upon re-entry through a fee adjustment and the long-distance reduction will continue (“temporary exit”), (ii) how to introduce this new system will be considered, so that they can be implemented sequentially starting from FY2024.
- The NEXCO 3 have been conducting a social experiment on temporary exits to rest stops off Expressway since May 2017; the experiment targets vehicles equipped with ETC2.0.
- Other examples of temporary exits do not exclude conventional ETC-equipped vehicles; the targets are not limited to ETC2.0-equipped vehicles.
- None of the EV chargers currently installed in Japan is compatible with ETC card billing and payment.

Hearing results

- It is concerned that the EV chargers that could be used for temporarily exit from the Expressway would be limited to EV chargers installed by certain companies or EV charging services provided by certain companies. (EV charger installers, EV charging service providers, and network operators)
- ETC card authentication systems are expensive and cannot be supported by general purpose payment terminals, resulting in high capital costs. If the Expressway Company only wants to confirm whether a driver has temporarily exited the Expressway to recharge EV, it is sufficient to send the charge history from the charger management system via an API connection.

(EV charger installers, EV charging service providers, and network operators)

Use of off-Expressway EV chargers ②

Viewpoints from Competition Policy

In addition to providing EV users using Expressways with more EV charging options, it is expected that EV chargers installed off-Expressways will exert competitive pressure on EV chargers installed at Expressway SA/PAs, thereby promoting competition in EV charging services and fees.

⇒ ・ It is desirable from a competition policy perspective that the EV chargers that can be used after temporary exit will not be limited to those installed by a specific operator or to EV charging services provided by a specific operator.

・ It is desirable from a competition policy perspective to consider measures that do not require large capital investments and that allow, as far as possible, payment methods other than ETC cards.

・ It is desirable from the point of view of competition policy not to limit the target of temporary exit for EV charging to vehicles equipped with systems compatible with specific technologies such as ETC 2.0, etc., but to include as many EV users as possible.

Future Initiatives of the JFTC

・ The JFTC will make proposals presented in this report to the METI and the MLIT. It is expected that this will encourage the aforementioned organizations, Expressway Companies, EV charger installers, and EV charging service providers to consider specific measures and take voluntary actions to promote fair and free competition in EV charging services on Expressways.

・ In addition, as new companies with the ability and technology to provide highway EV charging and related services are expected to enter the market in the future, the JFTC will closely monitor the market and take strict and appropriate action if we encounter specific cases that raise issues under the Antimonopoly Act.