

Legal Analysis of Charging Stations Installation Contract of Electric Vehicle

Ju-Yin Chen

School of Law, Soochow University, Taipei, Republic of China (Taiwan)

Email address:

pio362@yahoo.com.tw

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Abstract: With the urgent requirements for environmental protection, widespread electric vehicles (EVs) indeed have identified as a cornerstone of transportation sector emission control strategies, and many governments around the world make all their efforts to improve charging infrastructure and trying to find good operating scenarios. This article focuses on the current development in deployment of charging station, noting the function of policy instrument in the respect of laws and market. Furthermore, the national and state governments show diverse strategies in legislations at the present stage. This discussion especially explores the amendment of Civil Code for deploying stations in Hawaii and California, and meanwhile by subsuming the norms applicable to charging station installations. And the characteristic elements of new-style contracts should consider not only potential consumption but also development of a strong market basing on the nature of service network though it may deploy in private sector.

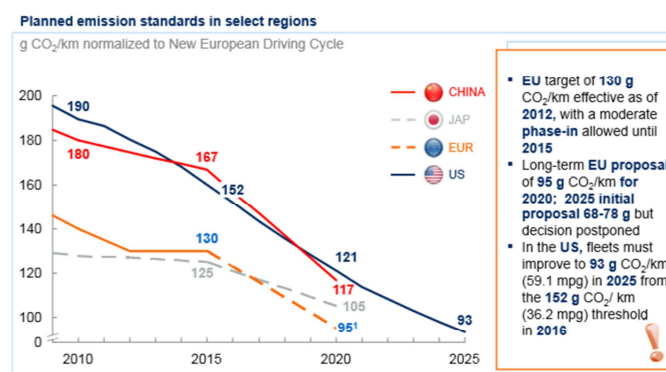
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1. Introduction

Electric power must become less dependent on fossil fuels and transportation must become more electric to decrease carbon emissions and mitigate climate change. Plug-in electric vehicles (PEVs or electric vehicles) offer a transformative opportunity to address energy security, air

quality, climate change, and economic growth. Overall, EV and charging infrastructure deployment has continued growing; vehicle electrification has gone multi-modal with 46,000 electric buses and 235 million electric two-wheelers deployed; and total EV spending by EVI (the Electric Vehicles Initiative) governments equaled 16 billion USD between 2008 -2014[1].

Governments around the world are setting ambitious targets for light vehicle CO₂ emissions



1 European Commission proposal for 2020, voting deferred at end of June 2013 (earliest time of approval currently May 2014), path 2015-2020 unclear
SOURCE: ICCT; Press search, McKinsey

Figure 1. Targets of main four governments for light vehicle emissions (Amsterdam Roundtable Foundation, April 2014).

However, electric vehicles remain a small percentage of most countries vehicle fleet, and future market growth is uncertain because of economic [2], policy, and technical challenges. Nevertheless, increasing availability and accessibility of charging stations is predicted to increase purchases of electric vehicles. Thus, many governments are making investments in EV-enabling infrastructure (e.g., charging stations, special parking spots), and in several European countries, public sector has taken the lead in installing infrastructure where PEVs drivers can plug in to charge. Based on the current development, this paper focuses on legal issues concerning charging stations deployment and various installation contract related. The discussion is organized in different but logically connected sections: first, we will point out the legal development of charging stations as well as how it did switch traditional regulations of law in an international perspective; second, the main theme is to analysis the contracts concerning new operational models of these stations. Since smart grids as an incentive for an intelligent link between the consumer and the grid, and the regulation and installation contract with PEVs user predictably will be supportably critical mechanism, therefore we will highlight the characteristic elements of new-style contracts and its legal grounds related to charging with new communication functions and business models.

2. Legal Framework of Charging Stations

2.1. Background

With the urgent requirements for environmental protection, widespread electric vehicles indeed have identified as a cornerstone of transportation sector emission control strategies. Nowadays, many governments around the world make all their efforts to improve charging infrastructure and trying to find good operating scenarios. Though some doubts in policy and legislations once forbade utilities to entrance the new market, however, situation shows, no matter what, sustainable environment is the urgent priority; therefore “market has to be made”, and there are many challenges, including technology integration, optimization, and scale-up [3].

Legislations as an effective policy instrument [4], which not only have an instrumental nature but also possess a normalizing function and require monitoring and enforcement, organize the relation between government and governed subjects and activities [5]. Meanwhile, a policy instrument is not seen as “constant”, it can be modified through the policy learning processes or, especially in the field of civil law contracts, the process of mutual adaptation, learning negotiations and interactions. To be more positive, contract as a free instrument may create market and trade that bring the practice from “initiative” to action.

Since the charging stations for electric vehicles cannot be bought and installed anywhere, and the rights and obligations such as ownership, access, maintenance and charging fee

have special characters that need to be more discussed to ensure the two considerations of equity and technical prospects. We analyze current legislations which are in direct regulation with installation, as well as the component parts of contract in following paragraphs. It is believed that in the shaping process of a new transport paradigm, binding norms including laws and contracts apparently will continue to play vital role.

2.2. Current Legislations and Contract Law

2.2.1. National Levels

The European Parliament just passed a resolution in 2013 that will require member states to install a specified number of electric vehicle charging stations and hydrogen and natural gas stations by 2020 [6]. This directive requires all member states to build publicly-available networks of electric vehicle chargers and refueling stations for alternative fuels. Countries with hydrogen fuel networks have to install additional stations so that the maximum distance between any two stations is 300 km. The new resolution will help reduce dependence on fossil fuels and achieve a 60% reduction in greenhouse gas emissions from transportation by 2050. In terms of public charging station deployment, Denmark, the Netherlands, Germany, the UK and France are leading the region, and national plans have been put in place to increase coverage. Similar approaches are adopted in U.S., and even alternative fuel and fuel economy legislation dates back to the Clean Air Act of 1970 which created initiatives to reduce mobile sources of pollutants, the American Recovery and Reinvestment Act of 2009 appropriated nearly \$800 billion towards the creation of jobs, economic growth, tax relief, improvements in education and healthcare, infrastructure modernization, and investments in energy independence and renewable energy technologies. Moreover, the Tax Increase Prevention Act of 2014 extended and reinstated a number of alternative fuel tax credits.

2.2.2. State Levels

As the national laws pay much attention to stimulate initiatives to reduce mobile sources of pollutants and increase investment, some states have noticed the details of property right about charging stations or equipment and even passed laws to deal with [7]. We take Hawaii and California for example which rank second and first in the number of electric vehicles registered in the state, according to data released on December in 2014 by the U.S. Energy Information Administration.

A. Hawaii: Act 186 HRS 196-7.5 (2010)

In 2010, Hawaii was the first state to enact legislation regarding electric vehicle charging stations in multi-unit housing developments, as its legislature approved Act 186. The act provides that as long as the resident is the owner of their residence,

“Notwithstanding any law to the contrary, no person shall be prevented by any covenant, declaration, bylaw, restriction, deed, lease, term, provision, condition, codicil, contract, or

similar agreement, however worded, from installing an electric vehicle charging system on or near the parking stall of any multi-family residential dwelling or townhouse that the person owns. Any provision in any lease, instrument, or contract contrary to the intent of this section shall be void and unenforceable.” (Act 186 HRS 196-7.5(a))

Moreover, the act stipulates that the owner of the electric vehicle shall be financially responsible for the installation of the station, and any maintenance that may be necessary, as well as indemnify the landlord or HOA for any losses caused by installation or operation.

B. California: Davis Stirling Act, Civil Code §1353.9. Electric Vehicle Charging Stations

In 2012, California followed Hawaii to become the second state to enact legislation regarding the issue of PEV charging stations in multi-unit developments. The section of the Act that deals with PEV charging stations, §1353.9, is even stronger and more expansive in its language than Hawaii's.

“Any covenant, restriction, or condition contained in any deed, contract, security instrument, or other instrument affecting the transfer or sale of any interest in a common interest development, and any provision of a governing document, as defined in subdivision (j) of Section 1351, that either effectively prohibits or unreasonably restricts the installation or use of an electric vehicle charging station in an owner's designated parking space, including, but not limited to, a deeded parking space, a parking space in an owner's exclusive use common area, or a parking space that is specifically designated for use by a particular owner; or is in conflict with the provisions of this section is void and unenforceable.”(Davis Stirling Act, Civil Code §1353.9(a))

The act declares that while reasonable restrictions on EV charging stations are permitted, “it is the policy of the state to promote, encourage, and remove obstacles to the use of electric vehicle charging.

3. Analysis of Installation and Charging Contract

3.1. Installation and the Parties

Some great studies have proposed several basic charging modes from charging point location and the type of access, such as home charging (HO), for private area with public access (PR) and public area with public access (PU), identifying legal issues regarding involved agents, infrastructure ownership, and commercial relationships [8], yet, this article focuses on integrating the common framework for discussing contract clauses. In fact, many countries develop initial infrastructure by government or cooperating with the electricity utility (especially the distributed sector), and private companies, there is still superimposed image of contractual relationship upon these different charging modes. Regardless of unbundling the energy retail markets, there is always an operator providing EV charging services to EV owners. Therefore, the charging stations which are installed no matter in the parking lots of

local businesses, governmental entities and non-profits stations or residential dwelling or townhouse that the person owns need to sign a contract.

For easy to discuss, here we assume that government, company has installed, or individual apply for installing electric charging stations at locations in "A" (the "Charging Stations"). Such Charging Stations are available for use by authorized owners of electric plug-in vehicles ("Vehicle Owner") to charge their plug-in vehicles ("Plug-in Vehicle"). Since lots of governments invite qualified undertakings or authorize state-owned utility to participate deploying stations and operating charging business (the "Stations Operator") for a cost-effective and successful charging station installation, they may make arrangements that the company operates and makes profit for duration of several years at which time ownership reverts to the government. In other case, when legislature obligates some places to install station, the host is solely responsible for the cost of installing the charging station while the government essentially may retains ownership of said Charging Station, too. The station host must install the Charging Station and have the Charging Station functioning within certain days of delivery. Also the station host normally has to use an authorized contractor.

3.2. Contract Terms

According to the conceptual frame previously elaborated, basic terms composed a installation contract (the "Contract") are analyzed as follows:

3.2.1. Billing

Customers ("Vehicle Owner") using the charging stations will pay the operator for the electricity. However, some laws have provided that a station host cannot charge customers for use of charging stations on their own property or charging a fee to use the station. This means the Stations Operator will be the sole subject that is allowed to charge customers for use of the Charging Stations. Consequently, Stations Operator will reimburse the station host if the electricity to the charging station flows through its meter. This will be done via a credit to the charging station host's electricity bill after certain months.

3.2.2. Maintenance and Repair

In the contractual duration of operation station, the Stations Operator obligates to repair a damaged or faulty Charging Station. After this date, if a Charging Station is materially damaged or destroyed, the cost of repair is borne by the station host. Additionally, if operator denies in writing a request by a station host to repair a Charging Station after the deadline date, the Contract automatically terminates. Since deadline is linked to the warranty, therefore, a station host cannot look to the manufacturer for additional maintenance support before that date. If the government will own the Charging Station according to the contract after this deadline it will be completely in the ballpark on whether or not to repair a damaged or faulty Charging Station.

3.2.3. Liability

This Contract is silent as far as liability for injuries or property damage suffered by Customers ("Vehicle Owner") in the normal use of charging. In some cases, Stations Operator may use clauses to limit the liability of the parties excluding special or consequential damages including such things as business interruption, loss of profits, or expenses incurred from the malfunction of or inability to use the Charging Stations, or state unilaterally there is no indemnification clause because it is a municipal contract. Those are not adequate assertions. In the other hand, station hosts may inquire with legal counsel and policy provider as to whether their current insurance policy would cover injuries or property damage sustained by Customers ("Vehicle Owner") when using the Charging Station. Though the government would not more than likely be protected from such claims through state compensation liability, yet, the station host should well-prepare that if a civil law suit is filed the station host will be named as a responsible party even though it does not operate the Charging Station. [9]

3.2.4. Assignability

The Contract is not assignable unless written consent is acquired. When selling the real property a station host should be careful to notify the potential purchaser of the existing agreement with Stations Operator and its terms. If written approval for an assignment can be obtained from "Stations Operator" the station host will want to include assumption and assignment language in its Contract for sale and have legal counsel draft any other required documents.

3.2.5. Improvements to the Property

If a charging station host is considering major improvements to the property including the parking lot, it must consider any implications that will have under the agreement. For example, under the agreement, a Charging Station may not be removed for longer than certain business days with written permission from the Stations Operator. Besides, if improvements are needed and the Station needs to be removed temporarily, the station host will bear the entire cost of removing and re-installing.

3.2.6. Information and Energy Data

In order for the Stations Operator to evaluate the charging program and Charging Station use patterns, the station host will allow Stations Operator to access and acquire information and energy data related to the Plug-in Vehicle through its meter. This information and energy data may come from the Charging Stations, the Plug-in Vehicle, or other sources as they become available, including a Third-Party Vendor. [10]

3.2.7. Termination of Participation in Charging Network

Station host may terminate the Contract at any time by providing written notice to the Stations Operator in accordance with contractual clauses. Termination of participation in the charging network does not prevent the Customers ("Vehicle Owner") from using any Charging

Stations and does not affect any agreement between the Stations Operator and a third-party vendor. Such termination of this agreement precludes the Customers ("Vehicle Owner") from being eligible for any discount provided through Charging Program.

4. Conclusion

In November 2014, the California Public Utilities Commission (CPUC) rule on the role of utilities for speeding charging infrastructure of electric vehicle [11]. California is poised to establish a transformative electric vehicle framework, and by integrating public utilities into the state's growing electric vehicle infrastructure, it seems to be going smoothly than ever before. The key element is the electric vehicle market. The transition is moving slowly, and need legislative, regulatory and even market-based electric utility structure cooperate. In fact, in the process of boosting electric vehicle, charging stations deployment with various operational business models which governments may adopt is widely regarded as the most significant part. In the past the electric utility—the entities responsible for managing the flow of electricity on the grid—seems nothing about transportation, but now they may take chance to sell electric power when participate in the charging infrastructure.

This article describes the current development in deployment of charging station in the first place, and continue to discuss policy instrument from the concerning laws and market, the national and state levels legislations in the U. S. ,for example, which especially worth to notice is the amendment of Civil Code for deploying stations. And finally by subsuming the norms applicable to charging station installations, we also analyze the common terms in the contract that will apply widespread in the near future. It is reasonably expected that establishing customer relationship guidelines, or amending existing ones, to address contractual issues rose between station host and station operator will be the important step. New data privacy issues may arise when utilities have access to customer driving behavior. In addition, a range of outside service providers, such as car dealers, and grid services aggregators, will play a central role by deploying additional equipment and contractual arrangements. Hopefully, this paper may provide some point of views for identifying the constructive role of civil contract in the era of sustainable environment.

Acknowledgements

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