

# Disputes and Solutions During the Installation of Charging Piles in Residential Communities in Tianjin, China

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doi:10.56397/SLJ.2024.06.02

## Abstract

With the rapid popularization of new energy vehicles, the demand for supporting charging infrastructure continues to increase. However, given the constraints of specific conditions, some private vehicle owners fail to equip their vehicles with charging facilities, leading to a series of disputes over the installation of charging piles in residential neighborhoods. The purpose of this paper is to summarize the basic situations such as the tension of public parking spaces and the difficulty of renovation, the refusal of property companies to install, the failure of public power resources in the district to meet the voltage demand of charging piles, and the disagreement of the relevant interested parties in the district on the matter of installation, and to explore in depth the legal basis for the resolution of these disputes from the perspective of balancing the interests of the relevant parties, and to further explore the perfect resolution mechanism in order to promote the development of new energy vehicles.

**Keywords:** charging post installation, property, solutions

## 1. Introduction

In the field of urban transportation, low-carbon development has become a mainstream trend and sustainable mobility is encouraged. The wide application of new energy vehicles, especially electric vehicles, helps to reduce vehicle emissions, so the establishment of a low-carbon urban transportation system is crucial to energy conservation and emission reduction. <sup>1</sup> Against the backdrop of the booming development of China's new energy vehicle industry, electric vehicles have gradually become the mainstream trend for future travel. The New Energy Vehicle Industry Development

Plan (2021-2035) mentions that since 2015, China's new energy vehicle production, sales and ownership have ranked first in the world for five consecutive years, and the industry has entered a new stage of superimposed convergence and integrated development. The demand for the installation of electric vehicle charging piles in residential neighborhoods has also shown a continuous climb. More and more owners of new electric vehicles choose to install charging stations in their private parking spaces. <sup>2</sup> However, a series of problems and disputes have surfaced during the installation of charging piles. 2023 The Guiding Opinions on Further

Constructing a High-Quality Charging Infrastructure System (GuoBanFa [2023] No. 19) issued by the General Office of the State Council specifically proposes to actively promote the construction of charging infrastructure in residential areas: on the installation of the facilities, it is required to accelerate the promotion of charging of fixed car parking spaces in the existing residential areas. Infrastructure should be installed as much as possible, the new residential areas to strictly implement the charging infrastructure construction requirements. According to offline research, in addition to new residential areas should ensure that 100% of fixed parking spaces should be constructed with charging infrastructure or reserved for installation according to the regulations, there are problems such as the obstruction of public charging facilities installation and disputes arising from the process of installing private charging facilities by a large number of electric vehicle owners in old neighborhoods.

## 2. Disputes Arising During the Installation of Charging Piles

### 2.1 Shortage of Public Parking Spaces and Difficulties in Upgrading Them

Tianjin Municipal Development and Reform Commission issued “accelerate the construction of public charging piles in residential neighborhoods implementation plan”, demand-oriented, combined with the transformation of the old community to promote the construction of public charging piles in residential neighborhoods, to promote the construction of public charging piles in residential neighborhoods, from the alleviation of people’s charging difficulties. However, in practice, the construction of charging piles has encountered a number of problems related to parking spaces, which directly affects the installation and use of public charging piles: first of all, the shortage of parking spaces is one of the main obstacles. Since parking spaces are often occupied, it is difficult to install charging piles in the only space available. Especially for public charging piles, additional parking space is needed for installation, which the current supply of parking spaces can no longer fulfill. Second, the installation of charging piles would require the redevelopment of parking spaces, which is not economically or technically practical. Many communities have sufficient parking spaces, but the cost and technical

difficulty of retrofitting parking spaces to install charging piles precludes corresponding retrofitting work. According to statistics, about 46% of communities are challenged by a shortage of parking spaces, and another 36% of communities have sufficient parking spaces but are unable to retrofit them to install charging piles.<sup>3</sup> These problems have seriously constrained the construction process of public charging piles and caused inconvenience to residents’ use of electric vehicles.

### 2.2 Refusal of the Property Company to Install

In fact, private EV charging piles are more popular than public charging piles.<sup>4</sup> In today’s era of technological advancement, there is no longer much technical difficulty in realizing the installation of charging piles for private parking spaces in the community, and more resistance comes from the property companies in the community, with a percentage of 54.8%.<sup>5</sup> According to the relevant regulations, the power sector for owners to install charging piles to take the application system rather than the approval system, the owner only need to bring valid documents can be processed. However, the consent letter issued by the property owner for the installation of charging piles is a necessary formality in the application process. According to the Model Text for Management of Charging Infrastructure Construction in Residential Areas for Private Users, the management process for the construction and installation of charging infrastructure in residential areas is stipulated, including six stages, including preparation of materials, application for electricity, site investigation, construction, confirmation of power connection, and operation and maintenance. In Article 4 of the “Model Text for Management of Charging Infrastructure Construction in Residential Areas”, the preparation materials include proof of consent to the installation of charging piles issued by the property owner (issued by the owner’s committee or neighborhood committee of the community without property management). However, in practice, in the process of requesting the owner of the property to issue a letter of consent, some of the property performance “ignore” or “strict refusal”, many owners have no choice but to file a lawsuit.<sup>6</sup> In the offline research, the author considered three obstacles for property companies, namely, unclear responsibilities, imperfect policies and norms, and insufficient revenue. Among them,

“unclear responsibilities” is the most important reason that restricts the cooperation and participation of property companies. About 34% of property managers in residential communities believe that it is not feasible to

install charging piles, i.e., property companies believe that they do not have the legal obligation to install charging piles for property owners, or there is no relevant agreement when signing the property service contract.

**Table 1.** Barriers to property company management

Obstacles to property management	Lack of clarity of responsibilities	Inadequate policy regulation	Insufficient revenue
percentage	58%	37%	5%

**Table 2.** Acceptability of installing public charging posts by managers of property management companies

Property Acceptance	unfeasible	conditionally qualified and viable	practicable
percentage	34%	4%	62%

According to the Property Service Management Contract, the parties to the contract are the property and all owners, i.e., the object of the property to fulfill its obligations is all owners. Therefore, the property owner should consider the interests of other owners when deciding whether or not to issue a certificate for the owner, and fulfill the obligations of notification and assistance according to the nature and purpose of the contract. In the case of private parking space, the parking space belongs to the owner personally, and it is necessary to clarify whether the owner's installation of charging piles in his/her parking space will jeopardize the practical interests of other owners in order to resolve the issue of whether the property should be issued with a certificate. There is some difference between the case of shared parking spaces and the case of privately owned parking spaces. In the case of shared parking spaces, the property rights of the parking space are not owned by the owner alone, but by all the owners in common, which may involve the issue of circuit modification. The defense given by the property owner in the case is usually that the property owner does not have the legal or contractual obligation to issue a letter of commitment to the plaintiff to install charging piles. In addition to some properties also believe

that the installation of charging piles there are fire safety hazards, in the use of parking space should consider the public interest of the community, the installation of new energy vehicle charging piles in addition to meet the needs of the parking space user's own use of the demand, but also should take into account the safety of the community's public areas and the safety of all owners of the life and property safety, and thus refused to install. But the fact is that the installation of charging piles and other issues involved in the electricity conditions, fire and other issues are in line with the installation conditions, should be judged by the power company and other relevant departments based on the site investigation. Whether the installation of charging piles will cause safety hazards, is by the relevant departments for investigation and gatekeeper, not by the property company for subjective determination, therefore, the owner of the rental and use of the parking space to install its car with the charging piles, the property needs to be clear about their own responsibilities, and under the premise of protecting the interests of owners, actively cooperate with the owner to handle the relevant formalities, to fulfill the obligations of the property service contract.

**Table 3.** Defenses of the properties in the case

Property defenses	No statutory or contractual obligation to issue an undertaking agreeing to the plaintiff's installation of	Fire safety hazards exist	The authorization of the Homeowners' Association or the Neighborhood Council is required for the improvement of the public power supply in the community
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	charging posts.		and for the wiring of the common areas.
percentage	57%	18%	25%

### *2.3 The Public Power Resources in the Community Do Not Meet the Voltage Demand of the Charging Piles*

Community public power resources to meet the voltage demand of the charging pile, at this time, some of the relevant owners are concerned about the charging pile radiation impact on health, or worried about the charging pile occupies public space, affecting the parking space, and other factors, and thus will be in the knowledge of the charging pile installed, filed a lawsuit requesting the demolition. However, out of consideration for the interests of the car owners who installed the charging piles, the charging piles will usually not be dismantled, and mediation and negotiation will be carried out between the owners of the new energy vehicles and the relevant owners.

The public power resources in the district do not meet the voltage demand of the charging pile, which involves the transformation of the public power implementation in the district as well as the wiring of the public area, in accordance with the relevant provisions of Article 278 of the Civil Code, which stipulates that the following matters shall be decided by the owners jointly. In such cases, the principle of joint decision-making by owners must be followed to ensure adequate democratic procedures and legality, and the authorization of the owners' committee or neighborhood committee is required. That is, the occupation of community public power resources to change its intended use, involving all owners of the district residential security and common interests, should be decided by all owners, at least by the proprietary part of the area accounted for more than 2/3 of the owners and the number of people accounted for more than 2/3 of the owners to participate in the vote, and by the participation of the proprietary part of the area accounted for more than 3/4 of the owners and the number of people involved in the vote accounted for more than 3/4 owners agree to ensure that the charging pile installation behavior by the majority of owners. Charging pile installation behavior is recognized by the majority of owners. However, in judicial practice, the plaintiff will lose the case because of the inability to obtain the consent of all owners. This

shows the inconsistency of the green function of civil law in the implementation of individual property rights and public property rights.<sup>7</sup>

### *2.4 Disagreement of Relevant Community Stakeholders on Installation Matters*

Since the installation of charging piles needs to meet certain safety distance requirements, it is easy to trigger disputes between owners when selecting the installation location, such as charging piles installed close to residential buildings, parking lots or in the community outside the wall skin installation, etc., which may lead to potential safety hazards.

When installing charging piles in parking lots, some properties or owners claim that they need to obtain the consent of the owners of the surrounding parking spaces. However, Article 4 of the Interpretation of the Supreme People's Court on Several Issues Concerning the Application of Law to the Trial of Cases of Disputes over the Distinctive Ownership of Buildings stipulates that: "The owner, based on the reasonable need for the specific use of the exclusive part of the residence, business premises and other proprietary part of the functionality of the use of the roof and the external wall corresponding to its proprietary part of the common parts of the roof and other common parts shall not be recognized as an infringement of rights and interests. However, except for the violation of laws, regulations and management statutes that harm the legitimate rights and interests of others". Owners enjoy the rights based on the exclusive part, inevitably have the use of common parts of the reality of the need for car owners to install charging piles in the private parking space such demand should be the owners of the exercise of the exclusive rights of the reasonable extension of the exclusive part of the use of the exclusive part of the better. The use as long as it does not violate the laws, regulations, management regulations or affect the common interests of other owners of the community, can be recognized as reasonable use. The installation of charging piles in its exclusive area does not belong to the damage to the rights and interests of owners of neighboring parking spaces. Owners have the right to request the infringer to



bear civil liability for the infringement of their legitimate rights and interests. Owners of the community as a common part of the wall enjoys the right of common and common management, especially for their own first floor of the exclusive part of the wall closely linked with the right of common reasonable use, is the part of the wall of the stakeholder. Therefore, it is necessary to obtain the consent of the interested party when installing charging piles on the outer wall.

It should be recognized that the installation of charging piles does have certain safety risks. However, it should be noted that agreeing to the installation of charging piles by the owner does not mean that the property company can be exempted from the obligation to manage the safety of the parking space, and the owner of the installed charging piles should fulfill the corresponding safety management obligations.

### **3. Clarification of the Court's Thinking on Decisions**

The core of the normative theory of civil law is to harmonize the configurational relationship between different types of legal norms, while the primary purpose of a contract dispute is to make a proper judgment on the validity of the contractual act. <sup>8</sup>Some courts have held that the act of charging pile installation has potential safety risks and lacks the legal obligation of the property to assist in the installation of charging piles, and that the property service contract does not explicitly stipulate the act of installation, but it cannot allow the installation by default. In their view, charging pile installation requires more professional technical support and safety protection, otherwise it may lead to safety hazards and damage the legitimate rights and interests of other property owners, thus rejecting the property owner's litigation request. Charging pile installation involves the use of electricity and safety issues, and there are certain potential risks. The General Office of the State Council on accelerating the construction of charging infrastructure for charging vehicles, "clear safety management requirements and requirements to strengthen the safety management of charging facilities in residential areas, the relevant parties should be strictly enforced, and timely investigation and elimination of potential safety hazards". Property as a community management party, its charging pile installation process, should do a reasonable management and assistance

responsibilities. Although the property service contract does not specify the charging pile installation behavior, under the premise of maintaining the overall safety and interests of the community, the property owner should prudently manage the charging pile installation behavior to ensure safety and compliance in the installation process.

Other courts have taken a different view, arguing that charging pile installation behavior should not be prohibited by default, even if it is not expressly provided for in the property service contract. Charging pile installation behavior can be discussed in two situations. When the parking space belongs to the owner who needs to install the charging pile, the owner installs the charging pile on his private parking space can be regarded as the use of the exclusive part of the owner's building ownership, and thus the property owner does not have the right to intervene in this behavior. If the parking space for all owners, that is, public parking space, because it belongs to all owners, charging pile installation involves the common interests of the owners, according to the Civil Code Article 278 requires the owners of the joint decision-making and negotiation, which need to install the charging pile of the owners of the litigation request is not supported.

### **4. Obligation of Property Service Companies to Assist in Installation**

Relevant policies, regulations and management rules provide a clear direction and basis for property owners to assist the installation of electric vehicle charging piles in residential areas. Properties should strengthen communication and collaboration with owners to promote the smooth progress of charging pile installation and create favorable conditions for the development of China's new energy vehicle industry. Article 6 of the Notice on Accelerating the Construction of Electric Vehicle Charging Infrastructure in Residential Areas states that property service enterprises should play an active role. In the process of residential charging infrastructure installation, property service enterprises should cooperate with the owners or their commissioned construction units, provide relevant drawing information in a timely manner, and actively cooperate with and assist in on-site investigation and construction. Encourage property service enterprises to use public parking spaces to build relatively concentrated public charging infrastructure and

provide charging services according to user demand and authorization of the owners' meeting. That is, in the process of charging pile installation, the property should play an active role in providing the necessary assistance and support. Obviously, property companies have mispositioned their relationship with owners, viewing themselves as managers above owners, doing whatever they can to strengthen their management function, neglecting their service function, harming the interests of owners, and contributing to the intensification of conflicts.<sup>9</sup>

Also pursuant to the Notice on Accelerating the Construction of Electric Vehicle Charging Infrastructure in Residential Areas issued by the National Development and Reform Commission, the National Energy Administration, the Ministry of Industry and Information Technology, and the Ministry of Housing and Urban-Rural Development in 2016 (Development and Reform Energy [2016] No. 1611), for residents who have leased a parking space in the community for a long period of time (one year or more for the lease period), if they put forward a request or act of constructing the charging pile facilities, the Owners' Committee or the management unit authorized by the Owners' Association shall, in principle, agree and provide necessary assistance. Based on this, the property company cooperates with the owner to install the charging pile is stipulated by the relevant provisions of the Civil Code and the national policy. Owners to buy electric cars, electric cars parked in the parking space charging, is a direct way to reflect the value of the use of new energy vehicles as well as the use of parking space, in line with the realization of the purpose of the property service contract. For community charging pile installation disputes, different mediation and decision-making methods should be adopted according to different situations. In the case of meeting the demand for public power resources, the dispute will be resolved through mediation and negotiation and joint decision of owners; in the case of insufficient public power resources, all owners should be organized to make a joint decision in accordance with the law to ensure that the charging pile installation behavior is legally recognized. Only through reasonable communication and negotiation can we achieve a balance between the interests of owners and the public interests of the community, and promote the installation and use of charging

piles.

### **5. Legal Relationship Between the Property, the Owner of the Property Requiring the Installation of the Charging Post and Other Property Owners**

Property as the management of the community, and all the owners of the property service management contract or similar documents, and the owners of the community there is a relationship of principal and agent. According to the "property management regulations" and other relevant laws and regulations, the property has the responsibility to maintain the public order of the community, provide basic services, and protect the legitimate rights and interests of the residents of the community. Properties should comply with the relevant laws and regulations and management regulations, fulfill the obligations agreed in the contract according to the entrustment relationship, and provide necessary services for all owners, including handling reasonable requests from owners, such as installing charging piles. As a manager, the property owner has the responsibility to provide necessary services to the owners in accordance with the law, including assisting in handling the owners' reasonable requests for the installation of charging piles and coordinating the resolution of conflicts of interest among the owners in the district. When an owner requests the installation of a charging post, the property owner should weigh the interests of all parties to ensure that the installation is in accordance with laws and regulations and the provisions of the community management. Other owners have the right to make comments and suggestions on the charging pile installation behavior, the property should actively coordinate to solve the disputes and problems that may arise, to maintain the harmony and stability of the district. For the demand of charging pile installation which may involve common parts, the property owner should help the owner to solve the disputes and conflicts that may arise through negotiation and communication. According to Article 272 of the Civil Code, owners have the right to reasonably utilize their private parts (e.g. parking spaces), including the right to install charging piles. Owners who need to install charging piles have the right to legally install charging piles in their private parking spaces, but they also have the responsibility to ensure that the process of using them is safe and

regulated, and to consider the rights and interests of other owners, and to respect the legal rights and interests of other owners.

To sum up, property and owners is a kind of agency relationship based on entrustment, all the behavior between the owners and the property are based on the rights and obligations of the two sides in the contract as the legal basis, the property is responsible for the management of the community, to maintain the order of the community, to protect the legitimate rights and interests of the owners, the owners are obliged to comply with the provisions of the community management, respect for the legitimate rights and interests of the property, the two are equal in status, and there is no difference between the primary and the secondary. In the operation of the relationship between the property and the owner of the process, both sides need to strictly abide by the contractual agreements, to fulfill their obligations. The need to install the charging pile of the community owners and other owners of the legal relationship between a balance of interests, the property is obliged to provide convenient conditions for the installation of charging piles, to ensure that the installation process is carried out smoothly. This means that at the legal level, the property needs to respect and protect the legal rights and interests of the owners of the charging pile installation. At the same time, the rights and interests of other owners in the neighborhood should also be fully protected. They have the right to ask the property to maintain the overall environment of the neighborhood and ensure that the charging pile installation will not affect their quality of life. On this basis, the property should, under the premise of respecting the individual rights of the owners, fully consider the rights and obligations of all parties to ensure that the charging pile installation can meet the needs of the charging pile owners without infringing on the lawful rights and interests of the other owners, to resolve disputes and problems that may arise through lawful means, to safeguard the interests of the district as a whole, and to promote cooperation and win-win situation among all parties, in order to maintain the harmony and stability of the district within the district.

## **6. Solutions to Disputes over the Installation of Charging Piles**

### *6.1 Rationalize the Location of Charging Posts*

In dealing with the issue of charging piles occupying public space and their impact on parking spaces, property companies and relevant departments should actively seek the opinions of owners before the installation of charging piles and formulate a number of feasible programs for owners to vote on, taking into account the actual situation of the district. In the process of program development, it is necessary to pay attention to the safety, convenience, aesthetics and other factors of the charging pile location to ensure the fairness and reasonableness of the program and rational planning of the location of the charging pile. When installing charging piles in parking lots, it should be ensured that the distance between the charging piles and the parking spaces meets the safety requirements, so as to prevent the charging piles from posing safety hazards to the vehicles and personnel during the charging process, and to prevent the charging piles from being stolen or suffering damage. When determining the installation location of the charging pile, all parties concerned should communicate fully and express their demands and concerns. This can be done through owners' meetings, symposiums, etc., so that all parties can fully express their opinions and seek consensus. In the process of communication and coordination, the property company should give full play to its role as a bridge, actively coordinate the relationship between owners, and promote the smooth progress of charging pile installation. In the process of determining the installation location of charging piles, a third-party assessment organization with professional qualifications can be invited to conduct a safety assessment to evaluate the safety of the installation location of charging piles in accordance with the relevant national regulations and standards, and provide authoritative and impartial opinions and suggestions for all parties involved.

### *6.2 Disputes Relating to Installed Charging Posts*

For the installed charging piles, if they do affect the use of public space and parking spaces, reasonable measures such as adjusting the location of the charging piles and increasing the number of parking spaces can be taken to solve the problem. If there are still owners filing lawsuits requesting the removal of the charging piles, the property company and the relevant departments should place the rights and interests of the owners of the new energy

vehicles in the first place and resolve the dispute through mediation and negotiation. During the negotiation process, it is necessary to fully consider the demands of both parties and seek a solution acceptable to both parties. For owners affected by the installation of charging piles, property companies and relevant departments should actively coordinate and provide reasonable compensatory measures, such as adjusting parking spaces and installing additional parking spaces, in order to alleviate owners' concerns. In addition, the successful experience of other neighborhoods can be drawn upon to provide reasonable suggestions for the installation and use of charging piles to reduce the incidence of similar problems.

### *6.3 Construction of a Charging Post Management System*

Ensuring the normal operation of charging piles is the basic goal of establishing a sound charging pile management system. Property companies play a key role and bear important responsibilities in the management of charging piles. As the main party responsible for the management of public charging piles, property companies should formulate complete charging pile management rules and regulations, and clarify the use of charging piles, charging standards, maintenance and other aspects of the specific content. In addition, property companies should also strengthen the daily inspection and maintenance of private charging piles to ensure that the equipment is in normal operating condition and to deal with possible safety hazards in a timely manner. At the same time, a sound charging pile use and maintenance system is established to regulate the use behavior of owners and prevent the occurrence of potential safety hazards. Once the hidden safety hazards are found, the property company shall immediately take appropriate measures to deal with them and formulate corresponding rectification programs according to the different degrees of hidden safety hazards. For major safety hazards, the relevant charging piles should be immediately deactivated and professional maintenance personnel should be notified in a timely manner to carry out repairs. In the process of dealing with potential safety hazards, it is important to ensure the safety of the owners' lives and properties and prevent the expansion of the accident. At the same time, the property company should also strengthen the communication and collaboration with the

relevant departments, and establish a sound emergency plan to ensure that in the event of a safety accident can be quickly responded to and effectively disposed of. By constantly summarizing the lessons learned from safety accidents, the charging pile safety management system can be improved and the safety performance of the charging pile can be enhanced.

According to 2023 data, China's charging infrastructure added 3.386 million units, up 30.6% year-on-year; domestic sales of new energy vehicles reached 8.292 million units, up 33.5% year-on-year. The National Development and Reform Commission and the National Energy Administration issued a plan on the "14th Five-Year Plan" for a modern energy system Notice, clear to enhance the end-use energy low-carbon electrification level. Actively promote the application of new energy vehicles in urban public transportation and other fields, and by 2025, the proportion of new vehicle sales of new energy vehicles will reach about 20%. Optimize the charging infrastructure layout, comprehensively promote the synergistic development of vehicle piles, promote two-way interaction of energy and information between electric vehicles and smart grids, and carry out pilot demonstrations of new charging and switching stations combining light, storage, charging and switching. Despite the rapid growth of electric vehicle sales, the supply of charging infrastructure still lags behind demand. In practice, due to the severe shortage of private parking spaces, some regions have begun to promote the sharing of private charging piles<sup>10</sup> or the adoption of the "charging pile + commodity retail + service consumption"<sup>11</sup> model.

In the practice of promoting the installation of charging piles, all stakeholders should work together to gradually promote the work. In the process of implementing the charging pile installation program, all relevant parties should continue to pay attention to the safe operation of the charging pile, timely detection and resolution of potential problems, through scientific and reasonable planning of the charging pile installation location, taking into account the residents' charging needs, and to ensure the safety of life and property, and to create favorable conditions for the development of China's new energy vehicle industry. To ensure the harmonious development of charging



piles and neighborhoods.

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