



وزارة الشؤون البلدية  
والقروية والإسكان  
Ministry of Municipalities, Housing & Urban Planning

# TECHNICAL REQUIRMENTS FOR ELECTRIC VEHICLES CHARGING

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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وزارة الشؤون  
البلدية والقروية

Ministry of Municipal & Rural Affairs



قرار رقم ( ) وتاريخ / / ١٤٤٢هـ.

إن وزير الشؤون البلدية والقروية المكلف

بناءً على الصلاحيات المخولة له نظاماً.

وبناءً على نظام إجراءات التراخيص البلدية الصادر بالمرسوم الملكي رقم (م/٥٩) وتاريخ ١٤٣٥/٩/٢٣هـ، والمتضمن بالمادة الثالثة: "تختص الوزارة بإصدار التراخيص البلدية للأنشطة بجميع أنواعها، وتعديلها، وتجديدها، وإلغائها، وإيقافها"، وبالمادة الرابعة: "تتولى الجهة الحكومية المختصة وضع اشتراطات ممارسة النشاط الداخل تحت إشرافها ومتطلباته وإصدار تراخيص ممارسته، وتعديلها، وتجديدها، وإلغائها".

يقرر ما يلي:

أولاً: الموافقة على إصدار الاشتراطات الفنية لشحن المركبات الكهربائية بالصيغة المرفقة.

ثانياً: تنشر هذه الاشتراطات على موقع الوزارة ويعمل بها من تاريخ نشرها.

الحازم ثالثاً: يبلغ هذا القرار لمن يلزم لإنفاذه.

وزير الشؤون البلدية والقروية المكلف

ماجد بن عبد الله الحفيل

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## INTRODUCTION

In light of the global trend towards using clean energy sources instead of oil derivatives to reduce pollution and preserve the environment, it was necessary to create a version to clarify the requirements and conditions for Charging Electric Vehicles that are in line with this trend, it also provides for the consumption of non-renewable energy sources.

The major international vehicles companies are investing and engaged in updating and developing electric vehicles that are becoming increasingly popular over time with evolution and creation added thereof. Also, its cost continually in reduction with its development, this matter leads to expand in the usage of such kinds of cars to keep environment clean as well as current energy source, so that no smoke will emerge thereof or exhausts this will improve public health and raise Saudi citizens life quality.

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# **CHAPTER ONE**

## **THE SCOPE AND APPLICATION LIMITS**

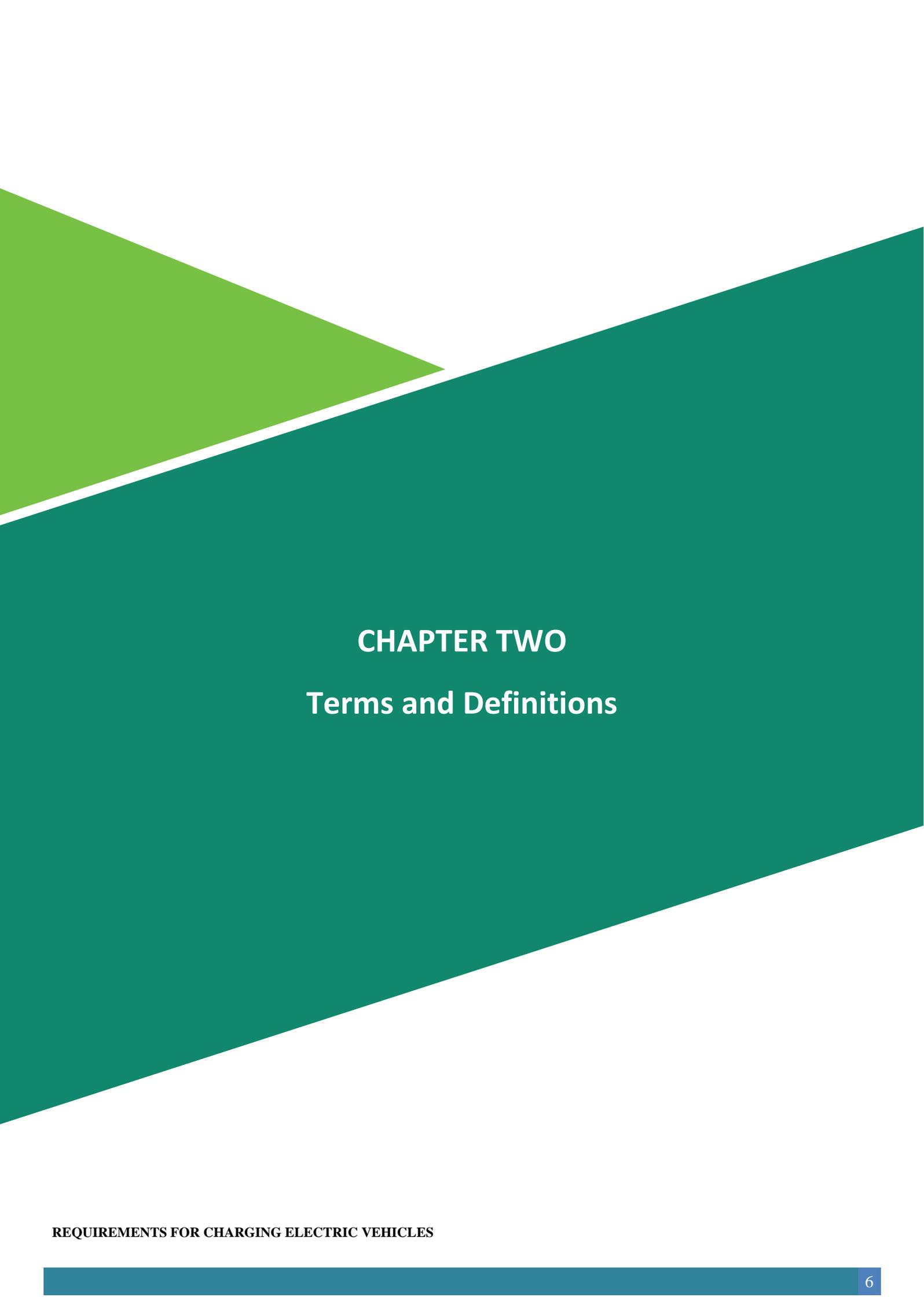
## **1. THE SCOPE AND APPLICATION LIMITS**

This version covers charging service for electric vehicle type:

- 1 - Battery Electric Vehicles (BEV)
- 2 - Plug-in Hybrid Electric Vehicles (PHEV).

### **1-1 Scope Exceptions**

Excluded from this version Hybrid Electric Vehicles, as this type of electric vehicle does not require an external battery charging source.



# CHAPTER TWO

## Terms and Definitions

## **2. TERMS AND DEFINITIONS**

### **2-1 Ministry**

Ministry of Municipal Rural Affairs and Housing.

### **2.2 Secretariat / Municipality**

An entity affiliated to the Ministry of Municipal Rural Affairs and housing, and the site falls under its supervision. It is responsible for issuing the necessary licenses.

### **2.3 Saudi Building Code**

It is a set of terms, requirements and connected regulations, executive regulations and annexes related to building and construction to ensure safety and public health. This requirement refers to the item numbers in the Saudi Building Code 2018 version.

### **2.4 Aggregate Parking**

It means that Parking positions are not separated and next to each other.

### **2.5 Sockets, Connectors and Adapters**

It is every part that can be connected to an electric vehicle to supply it with electricity.

## **2.6 Electric Vehicles (EV)**

It is the vehicle that uses electricity in its engine to produce energy, propel the vehicle to movement, and store energy in the vehicles battery.

## **2.7 Plug-in Hybrid Electric Vehicles (PHEV)**

A plug-in hybrid electric vehicle (PHEV) is a hybrid electric vehicle that is equipped with an internal combustion engine along with an electric motor that can be recharged by plugging it in to an external source of electric power as well by its on-board engine and generator .

## **2.8 Saudi Distribution Code**

The Saudi Distribution Code specifies the technical aspects of the business relationship between service providers and users of the distribution system due to the importance of the stability, effectiveness and economy of the distribution system, to enable service providers, to verify compliance with Saudi network code.

## **2.9 Regulatory framework for electric vehicle Charging activity**

Determining the regulatory requirements that must be adhered to in case of wanting to install electric vehicle charging stations or equipment to ensure the effectiveness and safety of charging equipment and to ensure that it complies with the requirements of the distribution code to maintain the distribution system.

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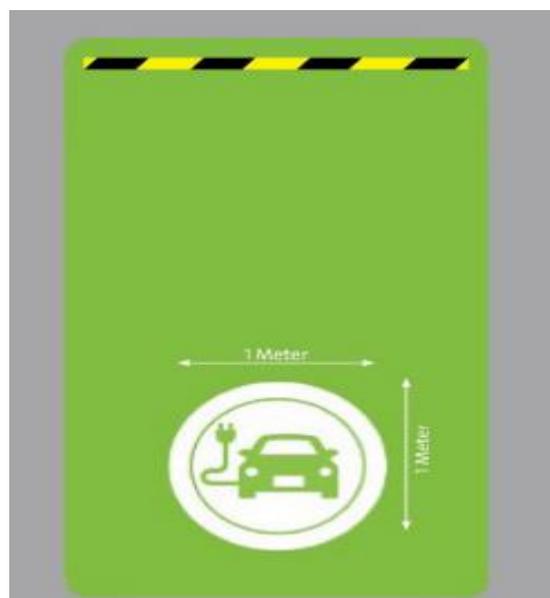
# **CHAPTER THREE**

## **Location and Technical Requirements**

### 3. Location Technical Requirements

1. Commitment to take into account the locations of the charging equipment, the places where the vehicle's wheels stop, the setbacks, and the surrounding sidewalks to avoid the vehicle from colliding with the charging equipment.
2. Commitment not to install vehicle charging equipment near ponds and water fountains or where sprinkler irrigation networks exist.
3. Install charging equipment in places where there is light and does not obstruct traffic.
4. Putting a distinctive sign to indicate the allocation of parking spaces for the electric vehicle.
5. Umbrellas must be placed in the open areas of electric vehicle charging devices.
6. Instructions for using the charger must be drawn up as described in the charger's manual in both Arabic and English.
7. The dimensions and height of the charger must not obstruct traffic or impede the movement of persons with disabilities.
8. The floor of each electric vehicle charging station must be marked in green and the sign indicating it according to Figure (1-3) without using vertical plates or signs.

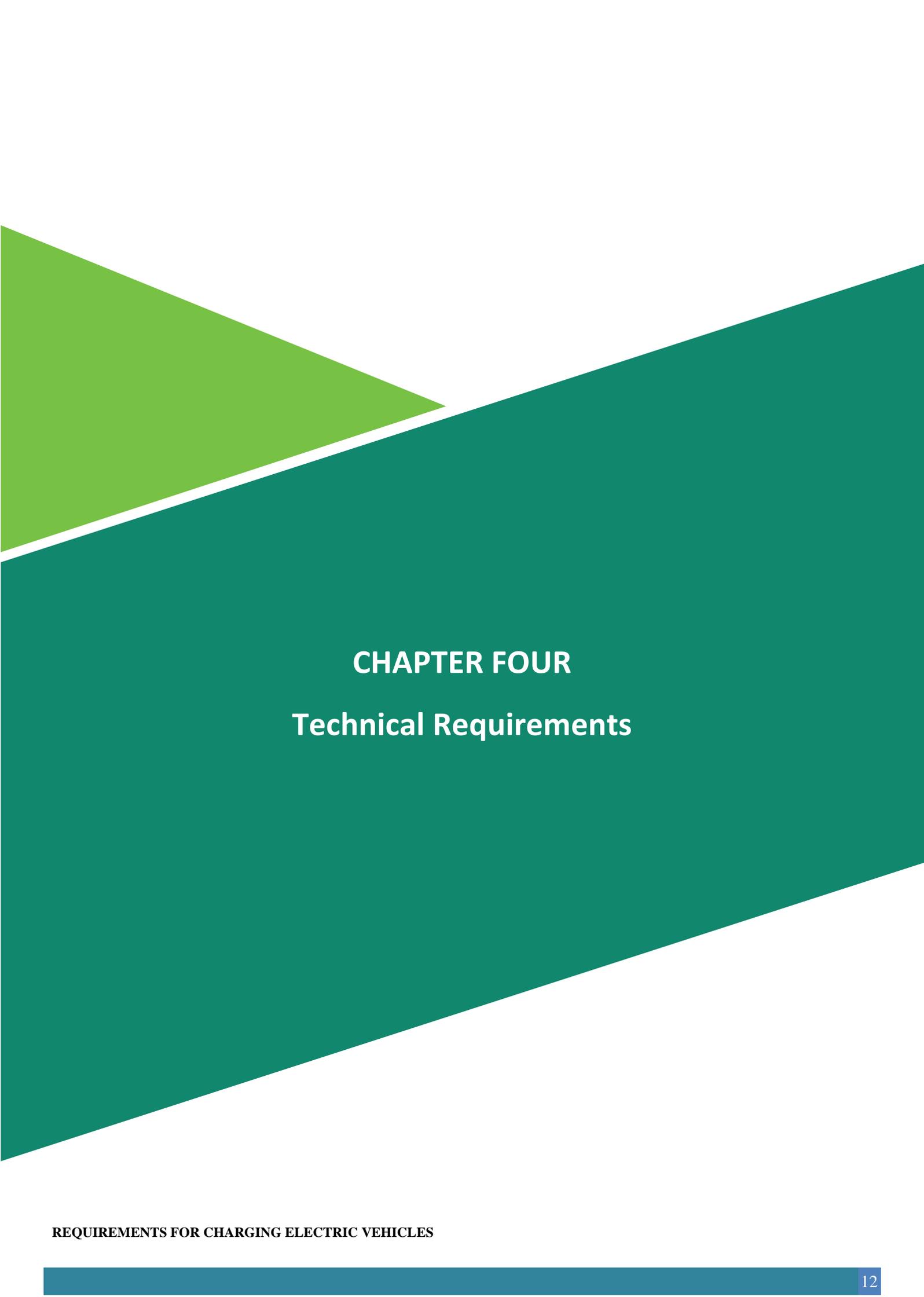
**Figure (1-3): Electric Vehicle Charging Parking Lots**



9. It is necessary to allocate 5% of the total available parking spaces, according to municipal regulations and requirements, for those who wish to add electric charging in the places shown in Table (2-3).

**Table No. 2-3: (Electric Vehicles Charging locations)**

LEVEL TYPE	LOCATION
<b>First Level</b>	Places where individuals leave their vehicles for a long period of time extending to a large number of hours, such as: parking lots in residential buildings, offices, airports, railway stations, and regional transport stations.
<b>Second Level</b>	Places where individuals leave their vehicles for several hours, such as: car parks in commercial complexes(mall), theaters, and hotels.
<b>Third Level</b>	Allocated parking spaces on both sides of the commercial and main streets and gas stations (class A – B)



# CHAPTER FOUR

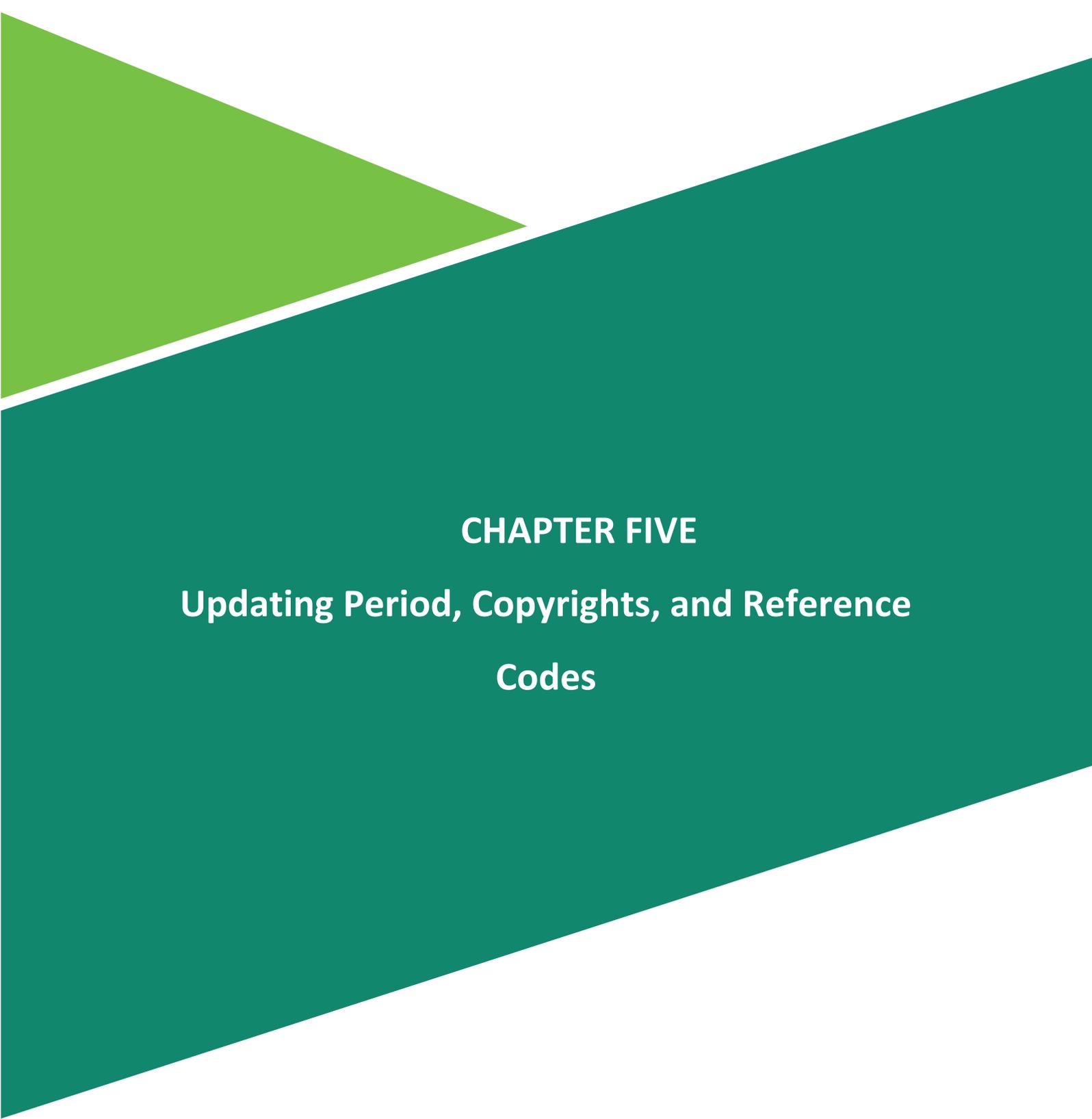
## Technical Requirements

## **4. TECHNICAL REQUIREMENTS**

- Commitment to comply with the technical standards and requirements issued by the Water and electricity regulatory Authority (Electricity And co-generation Regulatory Authority previously), especially the requirements of the Saudi Distribution Code and the regulatory framework for charging electric vehicles, and the requirements of the Saudi Building Code, and obtaining the approval of the electrical service provider to supply energy, And to ensure executing all works , fittings , equipment and materiel's as per Saudi standards and technical regulations issued by Saudi Standards, Metrology and Quality Organization (SASO).
- Commitment to approving all design works and supervising the implementation of charging equipment for electric vehicles that will be established after the issuance of these requirements by qualified advisory offices that the Ministry of Municipal and Rural Affairs and Housing and General Directorate of Civil Defense have .

### **4.1 ARCHITECTURAL REQUIREMENTS**

1. Providing charging stations for both types of electric vehicles in clustered locations near the main entrances.
2. The obligation to use the directional boards to direct users in the parking lots to the places designated for charging, highlighting those places, placing the traffic sign and the necessary arrows, whether by paints or by reflectors which specifies the shape of arrows, and the writing must be in Arabic and English.
3. Commitment to provide all vehicle parks in which the equipment for charging electric vehicles is provided with the necessary systems for prevention and protection from fire and to prevent the spread of flames. According to the requirements of the Saudi code for fire protection (SBC-801)
4. All forms of plugs, receptacles, connectors or adapters approved by SASO must be provided, taking in to account the traffic in the place and the charger must be far from electric vehicle.



# CHAPTER FIVE

## Updating Period, Copyrights, and Reference Codes

## **5.1 Updating Period**

This version is subject to updating or addition as explained below, and all amendments or additions become an integral part of this publication, And It is have the same strength and the influence after approval by the Ministry of Municipal and Rural Affairs and Housing .

1. This version is subsequently updated periodically every three years.
2. As an exception to clause (1) above, further updates can be made if necessary.

## **5.2 Copyrights**

1. It is not permissible to deduct part of this publication and use it alone, and it is not permissible to use the components of the publication in the work of producing other publications without the written permission of the Ministry of Municipal Rural Affairs and Housing.
2. The rules of intellectual property limits were taken into account in the production of this publication and at the end it contains a list of all references that were referred to when preparing it.

## **5.3 REFERENCES GUIDES**

- 1- NFPA- 70 National electrical Code.
- 2- Plug-in Electric Vehicle Handbook for Public Charging Station Hosts-U.S department of energy.
- 3- Electric Vehicle charging technology analysis and standards - Electric-Vehicle transportation center – University of Central Florida.
- 4- Installation of electric Vehicle supply equipment- (EVSE) - Regulation. Supervision Bureau - Dhabi Abu- UAE.
- 5- The Saudi Arabian Distribution Code
- 6- Regulatory Framework for Electric Vehicle Charging



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