

Annex A – Key details on Electric Vehicle (EV) Car-Sharing Programme in Singapore

Objectives

Building on the earlier EV test-bed which was conducted from 2011 to 2013, EV Phase 2 Test-bed will commence in Singapore with a focus on car sharing. As part of the EV Phase 2 Test-bed, the EV car-sharing programme will trial a new transport option in Singapore as well as the viability of EV fleets, and seek to achieve the following objectives.

Transport

The proposed one-way (A→B) EV car-sharing programme seeks to complement existing efforts under the Land Transport Master Plan 2013 to provide Singaporeans with more choices to meet their mobility needs. One-way electric car-sharing can complement our public transport system by serving as a first-mile/last-mile connector to public transport nodes such as MRT stations and bus-stops. Car-sharing provides users with the option of on-demand car access without incurring the costs of car ownership.

Economic

The rollout of the EV fleet-based car-sharing programme gives industry players a large enough base to develop and test e-mobility solutions with the aim of eventually exporting them to other cities in the region. By serving as a living lab for e-mobility solutions, Singapore aims to be the regional leader in the innovation of EV technologies and the development of commercially viable business models.

Environment

EVs do not generate tailpipe emissions, thereby reducing the air pollution from vehicular traffic. They also generate net savings in carbon emissions after factoring in the energy from the predominant natural gas-fired power plants in Singapore. Due to the silent nature of EVs, the noise pollution would also be much reduced.

Strategic

Through the EV car-sharing programme, a large-scale EV charging infrastructure will be put in place, which would lay the foundation for a nationwide charging infrastructure, a critical requisite for potential EV proliferation, should EVs become commercially viable in the future. This will also enhance Singapore's standing as a Clean and Green City, and a Smart Nation.

Basic Scope

The EV car-sharing programme is a fleet-based trial of up to 1,000 fully-electric passenger cars, with a project duration of up to 10 years. It is envisaged to operate on a one-way car-sharing model. This differs from most of the local car-sharing services today which operate on a two-way model, where the car has to be returned to its original pick-up location. In a one-way car-sharing model, a user can pick up the electric vehicle from one location and return it at another.

Different One-Way Car-Sharing Models

The following possible one-way car-sharing models will be considered as part of the RFI process:

- i. Station-based** - Users are required to park/charge at designated EV car-sharing lots equipped with charging stations
- ii. Free-floating** - Users can park at any parking lot within public/private car parks and/or at any designated EV car-sharing lots which may or may not be equipped with charging stations
- iii. Hybrid** - A combination of station-based and free-floating models

Involvement of Consortium of Companies

The EV car-sharing programme will likely require the involvement of a consortium of companies that may include:

- i.** Car-sharing operators
- ii.** Charging infrastructure service providers
- iii.** EV manufacturers or providers

Such a consortium will be able to provide the hardware (electric vehicles, charging infrastructure, cabling, IT and communications infrastructure), software (fleet management system, payment) and maintenance services required to operate a fleet of EVs on a one-way car-sharing model.

Application of Smart Technologies

The RFI seeks proposals for an EV car-sharing system that will implement integrated smart technologies. According to the requirements stated in the RFI, the EV car-sharing system will provide registered EV car-sharing users with the ability to leverage on the location-based services in their smartphones to tell the availability of electric cars in the vicinity in real-time. With a simple touch of the screen, a user can conveniently pay to reserve the EV and his preferred destination lot. Thereafter, he can pick up and unlock the car and drive to his destination.

The car-sharing system will be integrated with LTA's online and mobile platforms such as MyTransport.SG and One.MOTORING, and Car Sharing Association's platforms.

To strengthen Singapore's position as a living lab for smart-sustainable city solutions, up to 5 per cent of the EV fleet will be used to test cutting-edge technologies such as smart sensors, driverless vehicles and advanced charging solutions that include wireless inductive charging.

Areas of Coverage and Allocation of Car Park Lots

The RFI will seek proposals from consortiums who intend to conduct the EV car-sharing programme across targeted geographical areas which can span HDB residential towns, CBD and city fringe areas, and Industrial Estates and Business Parks. The RFI proposals will include an indication of car park locations throughout Singapore, including allocations from the car parks run by HDB, URA and JTC.

Background of Electro-Mobility Singapore Taskforce

The Electro-Mobility Singapore (EMS) taskforce is co-led by LTA and EDB, and comprises members from different government agencies, including EMA, HDB, A*STAR, MTI, NEA, MEWR, SPRING, SCDF, URA and JTC, to coordinate the inter-agency efforts in the development and testing of e-mobility solutions in Singapore.