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An electric vehicle car sharing service for city workers and citizens

City of Lappeenranta (Finland)

Background

The City of Lappeenranta, situated in south-eastern Finland, is home to around 73,000 inhabitants. It aims to reduce CO_2 emissions compared to 2007 levels by 40% by 2021, and 80% by 2029. Transport emissions make up around 40% of CO_2 emissions, and have therefore been identified as a priority area.

In 2017, Lappeenranta decided to use environmental and climate criteria as well as lifecycle costs when purchasing vehicles. In addition, it also sought innovative new ways to encourage adoption of electric vehicles and increase vehicle sharing options.

Procurement objectives

In 2017, Lappeenranta launched a pilot procurement with the aim of introducing a fully-electric, versatile car-sharing service available to both city employees and third parties, such as residents, businesses and tourists.

The purpose of the procurement was to:

- Reduce vehicle/ travel costs and traffic based CO_2 emissions by increasing vehicle utilisation (maximising resource productivity and reducing the overall number of vehicles needed) and experimenting with the use of electric cars.
- Promote the development of infrastructure for electric cars.
- Collect data on user experience of the vehicles in use.

Image: City of Lappeenranta

Criteria used

Subject matter of the contract:

Purchase of vehicle services.

Technical specifications:

Four passenger vehicles must be available on weekdays from 07:00 to 16:30. Two must be reserved 100% for the City, and two are available for reservation by both the city and third parties. Outside of these times, all vehicles should be available to rent by third parties.

Vehicles must be rechargeable electric vehicles, with a full charge range of 200km.

Award criteria:

The contract was awarded to the most economically advantageous offer, weighted according to price (60%) and quality (40%).

Price was assessed using two factors: the monthly service cost for the city (50 points) and the rental rates for third parties (10 points).

To assess quality, bidders were asked to provide a service delivery plan, detailing:

- Vehicles and service provided, including the extent to which vehicles exceed minimum requirements, the quality of the mobile app service (for the management of reservations), and other services including 24 hour support, training for staff, maintenance and cleaning, vehicle replacement, and a monthly monitoring and reporting plan (20 points).
- Description of service marketing plan, and estimated numbers of third party users (15 points).
- Delivery time (5 points).

The monthly rate for the City is valid for the first year of the contract. In the second year of the contract, the city's base month prices fall by 10%, and in the third year fall 20%.

The parking spaces which will be made available to these vehicles are already equipped with specific charging equipment, and during the duration of the contract, the maintenance and repair of the chargers are the responsibility of the City.

"By offering electric cars, Lappeenranta is also providing residents an opportunity to test electric vehicles, and hopes to encourage an increased interest and use of electric mobility"

Results

Prior to receiving tenders, Lappeenranta conducted market dialogue, which included two open discussions, and several individual discussions. The suppliers interested in bidding for this contract were diverse, ranging from vehicle sellers to rental companies to taxis. In the end, three offers were received by the deadline in February 2018, only one of which met the criteria.

The service was launched in May 2018 and will run for three years. The cost of the four vehicles in the first 12 months of operation was €27,500 (0% VAT). This will gradually decrease over the course of the contract.

The vehicle service replaced six city-owned vehicles, some of which were underutilised (driving around 10,000km per year per car) and reliant on old and polluting technology.

It was originally estimated that City employees would drive each vehicle an estimated 20,000km per year, or 240,000km over the whole contract 36 month period. However, other measures, such as stricter enforcement of travel policy, and promotion of bikes for short trips, have resulted in an overall decline in the kilometres driven during office hours.

Based on the experience of this pilot, Lappeenranta intends to further develop the procurement model for future car sharing service procurement.

Environmental impacts

For each car replaced by Lappeenranta with an electric vehicle, an estimated two tonnes of CO_2 will be saved per year (estimated based on each car driving the minimum 10,000km per year). This will result in a minimum 36 tonnes

of CO_2 saved over the three year contract. In addition, mobility sharing services tend to provide better performing cars than the average private car (Source), and in this case, by offering electric cars, Lappeenranta is also providing residents an opportunity to test electric vehicles, and hopes to encourage an increased interest and use of electric mobility. Finally, introducing a car sharing service results in better use of resources, including space (in Europe, cars are parked, on average, 92% of the time, and as much as 50% of inner-city land is devoted to parking spaces and roads (Source)).

Lessons learned

1. Market supply of electric cars is growing and prices decreasing. A three year contract period is suitable, but additional purchases should be subject to new tenders.

2. Changing mobility habits takes time, and new services require several years of repeated training, evaluation and correction of administrative and business models. The same is true for both professional and private use of shared vehicles, although building new habits among staff can be facilitated by the provision of straightforward guidelines.

3. Increasing the use of shared cars also requires locating them in an appropriate place, with connecting mobility options. Users should be able to travel to and from the car station with ease.

4. Increasing the number of private users making use of the car service requires continuous effort, and can include strategies such as increasing awareness of the costs related to owning a private car.

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For related information, please see European GPP criteria for Road Transport and the Technical Background Report.