Project description:

Background

Sufficient charging infrastructure is a precondition for the transition to electric transport. Currently, however, the market for charging infrastructure is immature because the business case is uncertain. Three cities of the 'Randstad' region of the Netherlands – Amsterdam, Rotterdam and Utrecht – are working to increase usage of electric transport. They began their efforts to stimulate the market by creating (semi) public charging points, including experimental fast-charging points in Amsterdam and Utrecht. Next, they joined forces for the roll out of a large-scale, interoperable network of charging points in the metropolitan area, and to also introduce measures to facilitate the purchase of electric cars. The LIFE project ‘E-mobility 3 cities NL’ was a crucial part in this strategy.

Objectives

The aim of the ‘E-mobility 3 cities NL’ project was to contribute to the roll out of a number of fast-charging points for electric vehicles in order to gather user information and practical experience. This experience would be shared with private enterprises in order to make the business case viable.

The demonstration project aimed to implement in the three cities a number of fast-charging points that were especially targeted at frequent urban drivers (such as taxicab and delivery van drivers). A fast-charging point can charge the battery of an electric car in half an hour. For taxis and delivery vans, which are intensively used, a short charging time is essential. The fast-charging points could also be used by business drivers, who come on short visits to a city and then move on. During such visits, their vehicles could be quickly charged.
The specific project objectives were:
- To boost electric transport in Amsterdam, Rotterdam and Utrecht by setting up an adequate charging infrastructure;
- Stimulate geographic spread of charging infrastructure in the Randstad, in order to boost electric transport between cities; and
- To stimulate cooperation between the three cities in order to implement a regional, uniform network of charging infrastructure and to share information and knowledge on electric transport.

The project represents a crucial step towards establishing a full coverage municipal and regional charging infrastructure for electric transport, which consists of regular and fast-charging points. It would demonstrate the functioning of different types of charging points in various circumstances; an aim was to prove that by rolling out sufficient charging infrastructure the use of electric transport will increase. In addition, the project would collect data to provide necessary information for the implementation of a large-scale fast-charging infrastructure, such as location conditions, user-friendliness, reliability and customer wishes. A monitoring programme was an integral part of the project.

Results

The objectives of the ‘E-mobility 3 cities NL’ project in the three cities of Amsterdam, Rotterdam and Utrecht, which are part of the Randstad region, were achieved. Planned quantified results were exceeded. The project increased the electric (EV) charging infrastructure in the project area, with the installation of 60 (semi) public fast chargers and 220 (semi) public regular chargers. Thus, the project ensured its geographical spread and facilitated an intensified cooperation in terms of knowledge sharing and increased EV charging points between the three project cities.

Responding to the growing number of EV drivers, the charger network servicing the Randstad region became more reliable and was increasingly recognised by users. This was facilitated by the growing number of apps brought onto the market by EV charger providers. Preparatory actions of the project enabled a total of 220 related traffic decisions and permits favouring EV driving. The project completed six stakeholder platforms and 11 general meetings which included private and commercial EV drivers. It contributed to the upward trend of seeing a significant increase in the number of ‘heavy Km’ drivers, which reached nearly 40 000 by the time of project completion.

The Dutch government’s goal is to reach 200 000 EVs in 2020; this is expected to sustain demand for using charging points. The project was able to reach good environmental targets: i.e. it achieved emission reductions of 190.003 kg of PM10, 1 900.030 kg of NOx and 465 007.295 kg of CO2. The EV charging infrastructure also improves environmental standards of air quality and noise, enhanced living circumstances for municipal residents and commuters and overall sustainability.

The project’s monitoring tool, IDOLAAD, will continue to be used. It provides optimal and updated information on the current charger network and
infrastructure and covers nearly 70% of chargers in the Netherlands. It is able to reflect detailed changes and developments in the charger market which can productively feed into the policy-making process. The tool provides useful insights to a number of key issues relating to EV driver consumer behaviour (for example the volume of kWh charged each time, whether each recharge increases the kWh volume, etc). Such data can provide an important input to the forecasted needs/numbers of chargers, the kWh volume of the charger itself and the location of the charging infrastructure.

The user surveys and stakeholder platform meetings undertaken by the project showed that EV driving is increasingly considered as an alternative to regular driving. EV sales have increased and the geographical cover of EV chargers is being extended. However, the costs of installation and exploitation of EV chargers are currently higher than the income they produce, despite the significant reduction of EV charger costs (which significantly contributed to the placement and operation of a higher number of regular and fast chargers during the project cycle). A continued cost reduction is therefore required for the market to cover installation and operation costs.

Further information on the project can be found in the project's layman report and After-LIFE Communication Plan (see "Read more" section).

Environmental issues addressed:

Themes

Air & Noise - Air pollutants
Land-use & Planning - Transport planning - Traffic monitoring

Keywords

urban area, electric vehicle, transport planning

Target EU Legislation

- Climate Change & Energy efficiency
- Directive 2009/33 - Promotion of clean and energy-efficient road transport vehicles (23.04.2009)
- Air

Natura 2000 sites

Not applicable
Beneficiaries:

Coordinator: Gemeente Amsterdam
Type of organisation: Local authority
Description: The Municipality of Amsterdam, which employs some 15,000 people, has made improving air quality a key priority for the Dutch capital. It is aiming to create a healthy environment for residents and as a precondition for the economic development of the city. In 2006, Amsterdam established a specific municipal unit to deal with this issue: Programme Bureau Air Quality. This unit coordinates all actions that contribute to the improvement of air quality, with the aim of meeting EU standards by 2015.

Partners: Gemeente Rotterdam, The Netherlands
Gemeente Utrecht, The Netherlands

Administrative data:

Project reference: LIFE11 ENV/NL/000793
Duration: 01-SEP-2012 to 31-MAR-2016
Total budget: 2,074,753.00 €
EU contribution: 733,178.00 €
Project location: Noord-Holland (Nederland)

Read more:

Brochure: Title: "Elektrisch rijden: in 5 stappen van 0 naar 100%" (2.21 MB) Author: Marc Bolier Year: 2014 Editor: MRA elektrisch No of pages: 16
Brochure: Title: "Een oplaadpunt voor elektrische auto's op het terrein van de Vereniginf van Eigenaren: Hoe werkt dat?" (10.3 MB) Year: 2013 Editor: EVConsult, Advocaten van van Riet No of pages: 12
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<td>Author: Maarten Linnenkamp, Suzan Reitsma</td>
<td>Year: 2013 Editor: MRA elektrisch</td>
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<td>No of pages: 7</td>
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<td>Year: 2014 Editor: Afdeling Onderzoek</td>
<td>No of pages: 51</td>
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<td>Title: &quot;European Battery, Hybrid &amp; Fuel Cell Electric Vehicle Congress [Presentation about BIOS-groep]&quot; (2.62 MB)</td>
<td>Author: Martijn van Leeuwen</td>
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<td>Author: Robert van den Hoed, Simone Maase</td>
<td>Year: 2015 Editor: Amsterdam University of Applied Sciences</td>
<td>No of pages: 19</td>
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<td>Title: &quot;European Battery, Hybrid &amp; Fuel Cell Electric Vehicle Congress [Presentation about ANWB]&quot; (2.26 MB)</td>
<td>Author: Marco van Eenennaam</td>
<td>Year: 2015 Editor: Royal Dutch Touringclub, ANWB</td>
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