

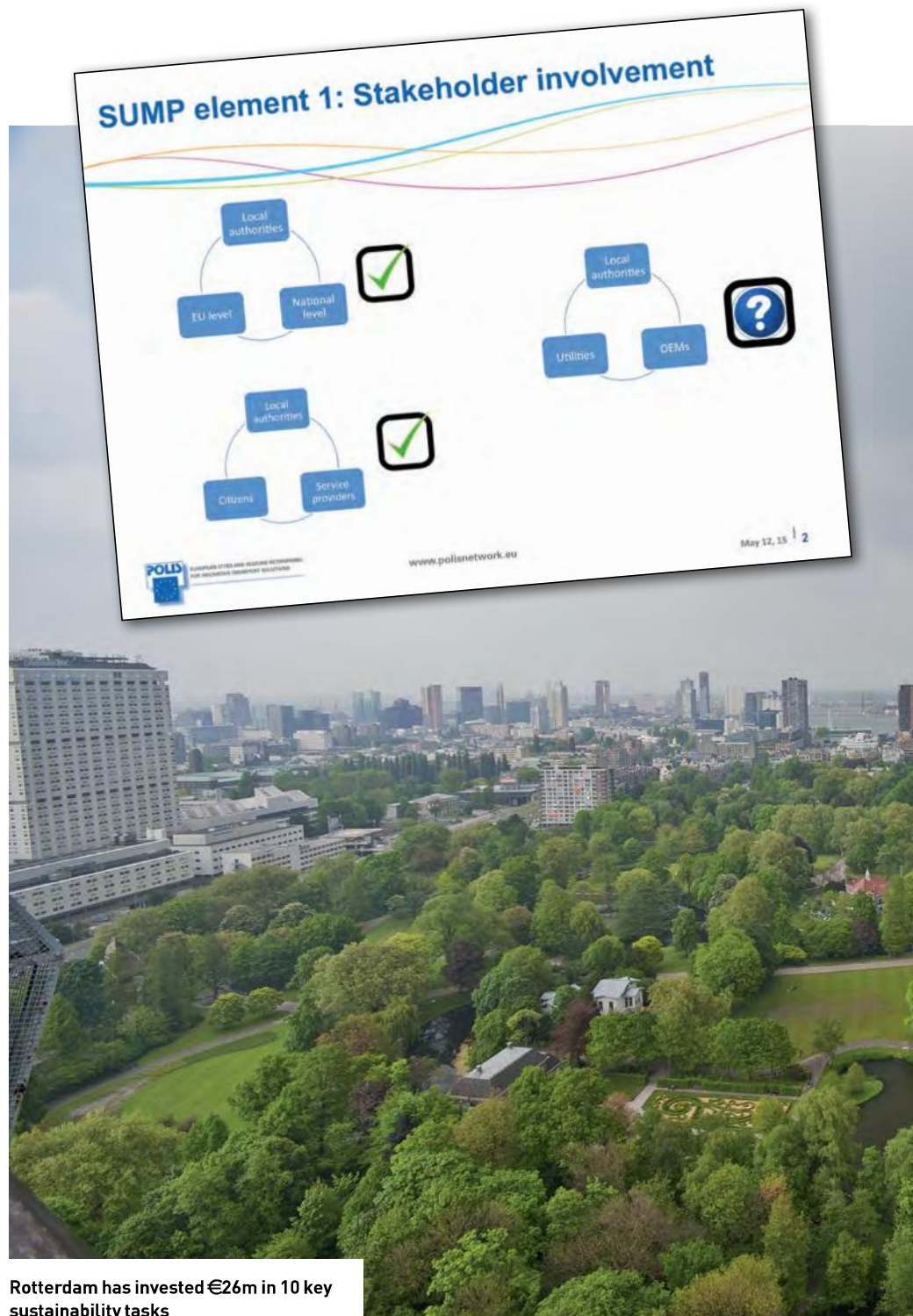
The full package

Gabriela Barrera on what's required to design local strategies for electromobility, citing Rotterdam as a case in point

It is now broadly recognized that European cities and regions have a key role to play when it comes to the deployment of electric- or electromobility. Due to the available range of electric vehicles (EV) and the potential that captive urban fleets have, it is expected that the roll-out of EVs will primarily take place in urban areas.

To support EVs roll-out, the charging infrastructure needs to be further developed. In this sense, the recently published European Alternative fuels directive¹ requires that Members States take actions to establish, by November 2016, national policy frameworks indicating the number of publicly accessible recharging points that will be in place by the end 2020, so electric vehicles can circulate; at least in urban, suburban agglomerations and other densely populated areas.

Electromobility is also becoming one of the important measures for cities and regions to achieve sustainability goals in terms of greenhouse gases (GHG), air pollutants and noise emissions reduction. Several European cities and regions have participated in different national or EU-funded pilots and have made resources available to test and deploy EVs. They also have incorporated them in their own fleets



Rotterdam has invested €26m in 10 key sustainability tasks

Electromobility is increasingly becoming part of existing local strategies when it comes to mobility, energy and air quality”



and have facilitated their private use and purchase. Cities and regions are also investing in the set-up of public charging infrastructure and in several cases, support associated services and collaborate in the infrastructure maintenance. Therefore, electric- or electromobility is becoming increasingly part of existing local strategies when it comes to mobility, energy and air quality.

SEAPS AND SUMPS

There are two main tools available for the development of local strategies in which electric mobility could be integrated: Sustainable Energy Action Plans (SEAPs) and Sustainable Urban Mobility Plans (SUMPs). A SEAP is a key document within the Covenant of Mayors² in which cities define activities and measures for the reduction of CO₂ by 2020 according to given targets. The Covenant of Mayors was established by the European Commission after the 2008 EU Climate and Energy Package³ to recognize and support local authorities' sustainable energy policies. On the other hand, Sustainable Urban Mobility Plans have been considered in EU projects since 2005 (e.g. the EU-funded project PILOT coordinated by Polis <http://www.pilot-transport.org/>) and are now an essential part of European policy. In the 2013 Urban

Rotterdam has an extensive network of electric vehicle charging points



Mobility Package communication⁴ SUMP are identified as an enabler for cities to deploy urban mobility measures in a cost-effective way. It also encourages Member States to actively promote SUMP and ensure framework conditions that allow local authorities to implement local urban mobility strategies successfully.

SEAPs and SUMP are local initiatives with common aspects when it comes to the introduction of electric vehicles: they could address the same schemes and stakeholders or consider the same measures such as public procurement. Furthermore, the SEAP GHG transport targets and baseline emissions inventories could be considered when elaborating a SUMP. Also, the SUMP carbon

assessment tools could be integrated in the Urban Energy Models used in SEAPs.

In particular for SUMP, integrating electric mobility should result in a sub-plan or sub-strategy that strengthens the role of electric mobility as part of a multimodal system. There are four main elements in the planning cycle of a SUMP that need to be considered in this integration:

- Stakeholder involvement: a SUMP is equipped to look at multilevel governance and at citizen outreach. However, the dialogue with vehicles manufacturers (OEMs) and utilities is more complex and it is not necessarily developed in the framework of a SUMP.

- Vision and objectives definition: defining common targets and priorities in a consultation process will help to set the milestones and goals to which EVs deployment will contribute. Having a consensus on these will also allow to reinforce the cooperation between different stakeholders, and will further facilitate assigning responsibilities and funding to the different measures that will be implemented.
- Developing an effective package of measures: EVs are part of a mobility system and therefore, should never be a standalone measure. However, defining how electric mobility will be part of an 'effective package of measures' could be a complex exercise for local authorities: How to balance the promotion of EVs as a collective mode versus private ownership? How to prioritise and fund the infrastructure and the procurement of vehicles? Which other measures should be included in 'the package' to maximize EVs deployment? (e.g.

REFERENCES

- 1 http://ec.europa.eu/transport/themes/urban/cpt/index_en.htm
- 2 http://www.covenantofmayors.eu/index_en.html
- 3 http://ec.europa.eu/clima/policies/package/index_en.htm
- 4 http://ec.europa.eu/transport/themes/urban/urban_mobility/ump_en.htm
- 5 <http://www.rotterdamclimateinitiative.nl/en/programme-on-sustainability-and-climate-change-2>

By the end of 2011 the first charging station had been deployed in the Rotterdam area: by the end of 2014 there were 1367"

access restrictions or preferential parking).

- Evaluation: Further steps need to be taken to ensure that a SUMP will enable the further roll-out of electric mobility. A SUMP should not only consider the EVs and charging infrastructure deployed in urban areas, but also their effect on the mobility behaviour.

The impact of current levels of EV penetration on the strategic objectives of a SUMP might be still minimal. Moreover, the 'real EV' take-up could be beyond the 5 to 10 years horizon that a SUMP has and some of the operational goals for electric mobility, such as the local grid capacity and use, are still difficult to relate to SUMP targets. Nevertheless, a state-of-the-art SUMP that, together with other measures, considers the introduction of electric mobility, could help to achieve the EU-driven SUMP objectives in terms of air quality, energy efficiency and GHG emissions reduction.

ROTTERDAM'S AMBITIOUS ELECTROMOBILITY STRATEGY

The city of Rotterdam established an ambitious programme on sustainability and climate change for the period 2010 to 2014⁵. Some of the goals of this programme included, among others, the reduction of carbon emissions by half, being 100 per cent prepared for the consequences of climate change, improving air quality and reducing noise. The municipality invested €26m in

10 key tasks, stimulating sustainable mobility and transport was of these. This investment generated €400 million in private and public sustainable investments in the city. Three different aspects were considered within this one task:


- 'Clean' transportation for both passengers and goods: this resulted in the construction of cycle paths and parking facilities for bicycles, the implementation of a dynamic traffic management system and the introduction of measures for a more efficient inner city logistics. In addition, more sustainable inland and ocean shipping were encouraged.
- Cleaner, quieter vehicles: the aim was to make the city vehicle fleet more sustainable with the introduction of electric and hybrid vehicles. Moreover, the purchase and use of electric bicycles and scooters was promoted, charging infrastructure for electric vehicles was set and together with private partners, innovative electric transport projects were established.
- Introduction of other alternative fuels, in particular biodiesel for lorries.

The 'Rotterdam electric' initiative was launched, several public-and private entities worked together to open the 'Electric Transport Centre' to allow business and potential EVs users to get information on electric vehicles and to test them.

The City of Rotterdam aimed to actively support the construction of

charging infrastructure for example, by co-financing the first 1000 charging points. The aim was also to ensure that at least 25 per cent of the city's fleet comprised electric or hybrid vehicles. These two last objectives were met and even exceeded: at end of 2014 a total of 1367 charging points were established in the greater Rotterdam area and 27 per cent of the city's fleet was electric.

The growth of the charging infrastructure is interesting to see. By the end of 2011 the first charging station had been deployed in Rotterdam – it was also the first in the Netherlands. By the end of 2012 100 stations had been deployed. The 14 cities surrounding Rotterdam also benefited from the tender Rotterdam issued. By the end of 2014 this resulted in a charging network of 1,650 charging points in the area. This way people living elsewhere and working in Rotterdam also have access to sustainable driving options.

The growth is attributed to a joint effort of three important factors. OEM's progressively introduced EV models at better prices, the national government issued tax incentives and the local government deployed the necessary infrastructure and communication. 

FYI

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