NORTH SEA REGION ELECTRIC MOBILITY NETWORK

e-mobility NSR

European Consultation on E-Mobility

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European Consultation on E-Mobility

On 11 May 2012 Delft University of Technology hosted the European Consultation on E-Mobility. The objective of this expert meeting was the exchange of knowledge and know-how regarding municipal experiences with policies to stimulate e-mobility. Policy-makers from various cities across the North Sea Region discussed the effectiveness, efficiency and feasibility of a wide range of policy measures. A Group Decision Room system was applied to structure the discussion. This enabled participants to contribute to the discussion anonymously. A survey was made of successful and less successful policy measures, which were then categorized, discussed and ranked.

The participants

The policy-makers from the different cities were contacted through the partners in the E-Mobility NSR project. Because of their close ties to their municipalities we were able to invite the most knowledgeable policy makers with respect to e-mobility related issues and policy making. Because of the scientific soundness of our sample of participants, we aimed for a homogeneous group of knowledgeable experts. Therefore, we defined a profile as a guideline for the selection of participants:

- a policy-maker for the local public authorities who really thinks from a 'municipal' mindset and preferably has a longer-term commitment with the municipality;
- has a good overview of what is happing in 'their' city in the policy fields connected to e-mobility (e.g. sustainability, traffic, parking, tax measures);
- possess in-depth knowledge of the process of local policy-making and decision-making;
- has actual responsibility for policy and decision-making concerning e-mobility.

In total seven policy makers were able to join the workshop.

Workshop set-up

As said, a Group Decision Room system was used during the workshop. Such a system enables participants to share ideas, arguments, experiences, etc. through a computer system. In practice this means that participants work simultaneously on a system of mutually connected laptop computers to communicate with each other. The system provides a structure for the discussion and also enables different quantitative ranking possibilities. Activities carried out via the GDR system may be combined with verbal discussion. Minutes are generated automatically by the system. The GDR system allows participants to respond to each other's input anonymously. This stimulates them to respond more freely and 'out of the box'. Nevertheless, each participant is assigned a nickname in order to allow the analysts to collate the input of each user and thereby to grasp the relation between the different statements and votes. To which participant those nicknames belong remains unknown nonetheless and anonymity is therefore guaranteed. The workshop was led by GDR expert

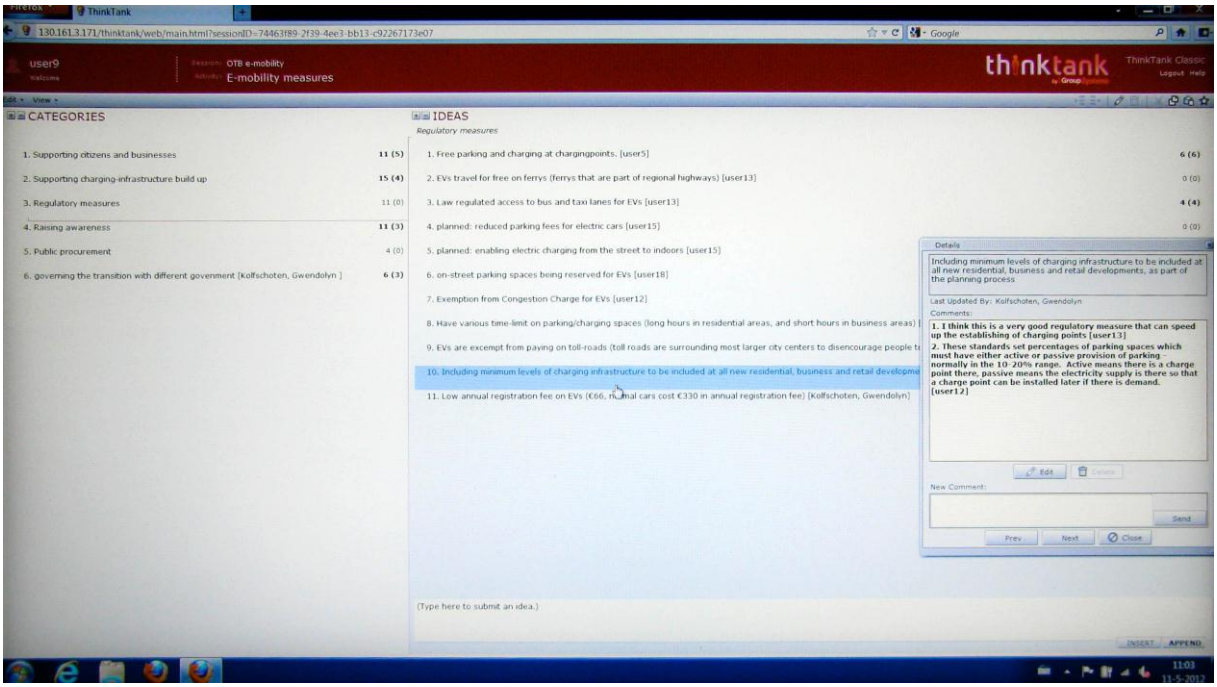
Mrs Gwendolyn Kolfschoten from Delft University of Technology, in order to guide the participants through the process and to help them with system.

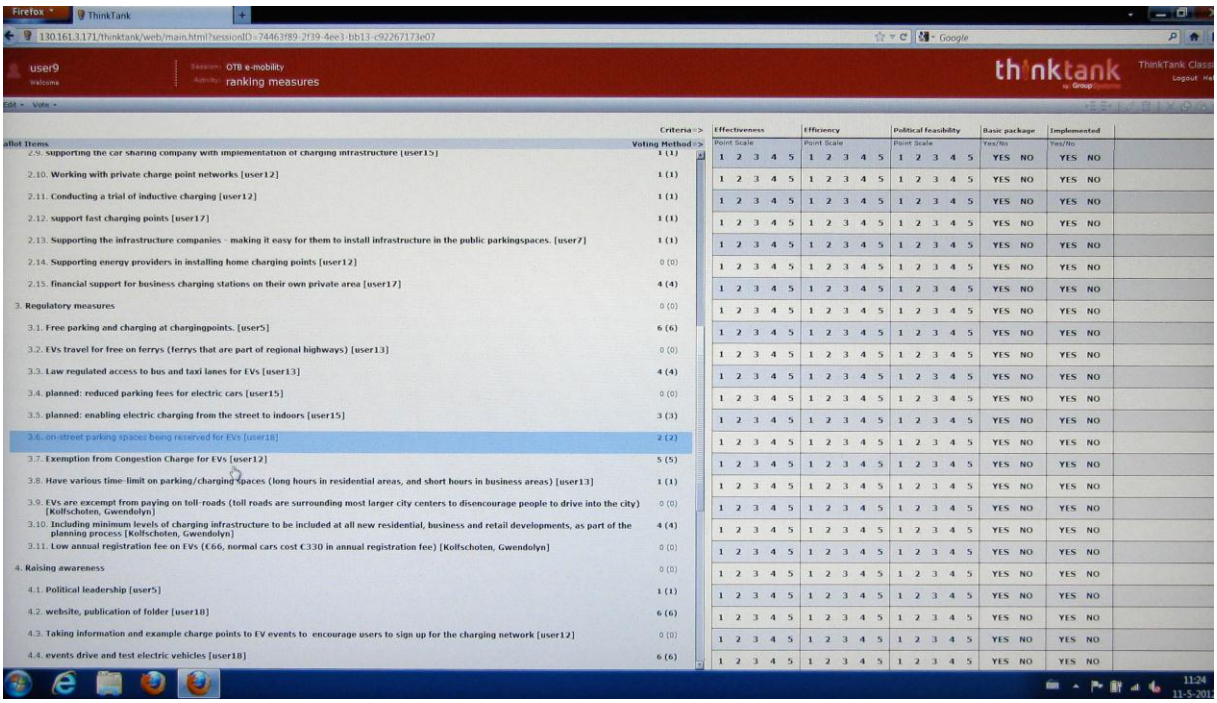
The workshop was set-up in three stages:

1. Participants were asked to list the policy measures their cities had adopted to support the uptake and use of electric vehicles. To provide some structure, five pre-defined categories were presented in the system: 'Raising awareness', 'Supporting citizens and businesses', 'Supporting charging-infrastructure build-up', 'Public procurement', and 'Regulatory measures'. The participants were asked to describe their measures in one or two sentences in order to be clear and explicit without elaborating already. After listing the measures that were actually adopted, the participants were asked to mention the measures that they are planning to adopt and the measures that had been tried in the past but proved impossible to adopt. After this stage the participants collaboratively reworked the multitude of measures to join those that were very similar and to reduce the number of measures that were to be debated in the following stages. This step that was done through regular verbal discussion resulted in 6 categories of measure-types with underlying concrete measures.

2. Continuing with these categories and measures, the participants were asked to comment on these in terms of their positive and negative experiences, the success and fail factors related to the measures and their political feasibility. One of the advantages of using the GDR system is that each participant can comment on the measures that he or she has experience with and that they can do so simultaneously. Naturally, it is possible for them to respond to each other and to ask questions. In this way, the GDR system is time-saving in comparison with a regular verbal discussion.

3. Finally, after the qualitative discussion in the system the participants were asked to score each measure on a 1-5 scale in terms of respectively effectiveness, efficiency and political feasibility. Also, they could indicate whether or not a measure should be part of a 'basic package' of measure that each city should minimally if it wants to stimulate the uptake and use of electric vehicles. Finally, for analytical purposes the participants were asked to indicate whether or not a measure was actually adopted by their cities.





Screenshots of the GDR system: 1) listing the policy measures, 2) ranking.

Assessing e-mobility measures

1. Supporting citizens and businesses

When it comes to supporting citizens and business, three major options are available.

First of all cities can provide subsidies for individuals when they purchase an electric vehicle. This can be for a car, but also for scooters or e-bikes. Especially for the e-scooters and bikes these subsidies are very popular and effective. However, these subsidies are very costly for a municipality. One of the participants remarked that such subsidies for cars are not that effective as the cars remain too expensive for individual citizens and that such subsidies make that car manufacturers profit from these as well and that they will not bring down their prices as long as these subsidies are around.

Second, a city can support firms when they want to use EVs in their operations. Direct subsidies are again an option, but it was also suggested that a city can help these companies to understand the business case better and to make total cost-of-ownership calculations. Furthermore, there are marketing benefits for companies that are among the first to use EVs and a city could help those companies in reaping those benefits by forms of co-branding.

Third, many cities already host a car-sharing (or car club) initiative and financial or other support could lower the threshold for such organizations to introduce a number of EVs into the fleet. Car sharing is particularly interesting with respect to electric cars. EVs are typically well-suited for use in cities because of their size and range and, from a municipality perspective, car sharing allows many people to gain experience with driving an EV and this could be very powerful in terms of educating the public. It is thought as well that these companies are by definition used to alternative and green mobility models.

2. Supporting charging-infrastructure build up

All cities recognize that the build-up of a recharging infrastructure is necessary to make the introduction of EVs successful. There are different approaches to this however. The most proactive cities invest in a number of on-street charging points with numbers ranging from 60 to 400. These points are then placed on strategic locations such as shopping centres, railway stations and (underground) public parking facilities. Another strategy is to place the points close to EV owners' homes. Cities can also opt for co-financing schemes in which a private company, for instance an electricity supplier, invests in the infrastructure with matching funding from the municipality. Naturally such a solution can only succeed when the private party is indeed willing to invest in such a venture. Likewise, businesses, shops and individual EV owners can also be supported financially to invest in a charging point. In the latter case such a point would probably not be available to other EV drivers.

All participants agreed that the business model for public recharging is still difficult as the profit margins on electricity are marginal. Especially in this early phase when drivers rely on low energy costs to offset the initial investments in the vehicle, higher charging costs are virtually unacceptable. This consideration, together with a lack of billing solutions, makes that many cities offer either free electricity at the points or work with an annual fee instead of a pay-per-charge scheme.

The strategies of placing the points differ very much per city. Some cities prefer people charging on private property to avoid any pressure on existing parking spaces, other cities prefer on-street points because more drivers can profit from those and to increase the visibility of electric cars to the wider public. Another participant reported that, following a meticulous selection of strategic locations, it often proved difficult to actually install the points on desired locations for all sorts of practical reasons. Currently the city just installs the points as the local stakeholders ask for one.

There is agreement that fast chargers are useful to reduce range anxiety with EV drivers.

3. Regulatory measures

Whereas many of the before mentioned measures require direct investments by the municipality, there are also regulatory measures that have no or far less impact on public budgets. The most popular measure is free parking for EVs in the city centres. Often such parking takes place at public charging points and this introduces the problem that these points are occupied by EVs that are already fully charged. One participant reported that almost 50% of the EVs use the charging points for parking only while charging at home during the night. How this dilemma is to be solved remained unclear during the discussion but some parking time limits may have to be imposed on these spots. Also, the free parking is often a temporary measure and can only last as long as the number of EVs is fairly limited. In cities with high parking pressure, free-parking EVs could cause jealousy with other drivers and this could in the end reduce support for EVs and policies supporting EVs.

Even more so, one participant commented that car parking should never be entirely free because the ultimate goal should be to reduce car use and to stimulate the use of public transport and cycling.

Cities with bus lanes or similar limited access roads can allow EVs to make use of those roads. Along those lines, but more costly, EVs can be exempted from fees on toll-roads, congestion charge schemes, and even on ferries. Measures that prevent EV drivers from spending time in traffic may be especially effective in convincing businesses. Such measures should however not cause any congestion on bus lanes, but so far this was not the case in any of the participants' cities.

Another measure is an obligation to property developers to include charging infrastructure in 10-20% of the parking facilities of newly built apartment buildings, offices, and retail developments. This could mean that the developer actually has to install charging equipment, but it is also possible to ask for EV-ready parking facilities in which the necessary cables are pre-installed.

4. Raising awareness

Most citizens are still unfamiliar with e-mobility and have never had the experience of driving an EV. As a consequence, there is little knowledge about the technology itself, levels of performance, the costs owning and using the vehicle, and practical aspects like charging etc. One role of government may be to provide such information on the city's website, during all sorts of events, and whenever people ask about it. Especially for the latter case it is important that within the municipality there is a one-stop-shop for such information and that means that all knowledge should be concentrated.

A limitation to these means of communication is that one reaches only those citizens that already take an interest in the subject. In order to reach more people there are several ways of showcasing the use of EVs. For instance, one participant mentioned the fact that the Mayor drives an EV. Another city will deploy EVs during a major upcoming sports event. In general, EVs in the public fleet are good ways to show that the city really believes in the technology and its practical usability. To increase visibility further, charging points should be visible to the public (under the condition that the design is truly attractive).

Among the participants there was broad consensus that the experience of driving an EV is very important in convincing people that EVs are proper and fun vehicles to drive. Although the city should not buy vehicles for this purpose, it can try to co-organize test-drive events together with car dealerships. Or, like some cities have done, set-up a (semi-)permanent EV centre where people can test-drive vehicle throughout the year. As mentioned before, car-sharing initiatives with EVs are also a very effective way of having many people gain the experience of driving an EV and telling their friends and family about it.

5. Public procurement

For a number of reasons it is worthwhile to consider buying a number of EVs for the city's vehicle fleet. It directly contributes to improving air quality and other policy goals that are served by EVs. It is a way of showing the public and businesses that the city is not just talking about EVs but is willing to invest as well. Finally, it is a way showing that EVs can make sense from a financial perspective as well as soon as one is willing to take into account the environmental and branding benefits.

Procuring EVs is however easier said than done. The process of selecting the right vehicle for the job is difficult and when European procurement regulations apply the process gets even more complex and lengthy. The costs of purchase are higher than regular cars and it is not yet possibly to fully assess the total costs of ownership. Central governments' subsidy schemes may help to lower the costs, but this remains to be the biggest hurdle to do more than purchasing a small number of (test) vehicles. Nevertheless, most cities have at least purchased their first vehicles and other are up scaling towards, for instance, 25 cars this year or have even set goals of electrifying 25% of the city's fleet by 2014.

They buying power of the municipality can be combined with other (local) governments and even private companies in order to profit from scale benefits. In practice this has proven difficult however. The companies are discouraged by public procurement regulations and in the end all buyers have their own specific preferences for vehicle types and performance characteristics.

6. Governing the transition with other levels of government

Cities cannot govern the transition towards electric mobility on their own and they need to cooperate with other levels of government. Nationally, cooperation with other cities, regions, and central government could lead to nationwide billing systems that allow roaming between different cities and charging networks and unified information and possibly centralized information about the availability of charging points. Also, each city has its own policies regarding parking places and permits for charging points and some unification would be very welcome to provide clarity to citizens as well as organizations that aim to set-up a charging network. Together with other stakeholders, the participants recognized, much more could be achieved through a well-organized lobby for more favourable national e-mobility policies such as vehicle subsidies and no vehicle taxation.

International cooperation is necessary to lobby for European standards for connectors and sockets. Today, in many of the cities different connectors are in use and people have to carry multiple cables in their cars. For the municipalities it is also unclear what types of sockets their charging points should have. Setting a standard for each city is undesirable as people should have the possibility to move between cities and eventually between nations, so international cooperation is clearly needed.
There may be some need to stress the issue of local air quality towards the national and international level. This problem is specific to cities and EVs are a potential solution.

7. Overarching issues

One of the issues that was debated most lively during the meeting was the question to what extent (local) governments should support businesses (such as car makers or charging pole manufacturers) to sell their EVs, equipment and services. All participants agreed that governments should not act as if they are car dealerships, but opinions differed on the extent to which public resources should be used to reduce vehicle and equipment costs to citizens and local businesses.
Underlying this issue of government involvement in this emerging market is the question to what extent any government should embrace a single technological option and support it at the cost of other competing technologies. In other words, can and should governments adopt technology-specific policies instead of remaining neutral with regard to specific technological solutions. While the majority of measures that were discussed during the workshop are explicitly meant to support the adoption and use of electric vehicles, a number of these measures can also broadened to include any type of low-emission or energy efficient vehicle. Principally, the workshop participants prefer technology neutral policies as they feel that the market should decide which technologies are to be preferred. However, they also recognized the specific benefits of electric vehicles to cities (zero tailpipe emissions and noise-free) and the to support them for these reasons. On top of that, electric vehicles need a recharging infrastructure and with technology neutral policies alone, such an infrastructure will not be realized.

A Top 10 of actions and measures

Following the discussion during the workshop, the participants were asked to rank the different policy measures in terms of their effectiveness, efficiency, and political feasibility. The following top 10 is based on those rankings:

1. Lobby for EU-wide standards for plugs and sockets
2. Enable roaming between different regions (billing)
3. Support and enable infrastructure build-up
4. Show political leadership
5. EV-readiness as a requirement for new developments
6. Reserve on-street parking spaces for EVs
7. Provide information to businesses and citizens
8. Support car sharing initiatives with EVs
9. Allow EVs to drive on bus/taxi lanes
10. No toll/congestion fee for EVs

It is noteworthy that the vast majority of these measures hardly involve public investments. The support for infrastructure build-up and for car sharing initiatives may include financial support, but simply helping these initiatives by removing institutional barriers may also be very helpful. Exemptions from toll fees and such are likely to remain very modest in terms of required budgets. One should consider, however, whether different types of plug-in hybrids should qualify for such an exemption as well. If a large number of vehicle owners qualify this may cause feelings of antipathy amongst those that do not. The same may be true, perhaps even more, with the use of bus lanes by EVs or the provision of free parking space.

A ‘basic package’ of low-risk measures

One of the main goals of the workshop was to define a ‘basic package’ of efficient measures that any city should adopt in order to stimulate the use of electric vehicles. The Top 10 above provides a list of measures for truly ambitious cities, but taking into account that cities have varying budgets and priorities, the basic package that resulted from the workshop is a low-risk set of measures:

- A recharging infrastructure is an essential prerequisite to the adoption of electric vehicles. Public resources may be needed to realize this, but above all a city should try to minimize the barriers to installing the recharging infrastructure. In practice this means that permits should be provided swiftly and that the city must be willing to sacrifice generic parking places and convert them to charging spots. The actual build-up of a network of chargers is preferably done by a private charging network company. Otherwise a consortium can be formed with such a company in which the costs are shared.
- Provide incentives to drivers such as access to bus lanes and exemptions from toll-fees.
- Show leadership by including EVs in the city’s fleet.
- Connect with other cities and initiatives to learn from each other and to bundle forces towards higher levels of government.
- Provide information to citizens and businesses through online media and events. Also, organize the exchange of experiences and lessons between early adopters in the city and communicate these towards interested citizens.
- Make sure that citizens get to drive an electric car. This can be achieved through test drive events organized together with dealerships or through car sharing initiatives that include electric cars.

About E-Mobility NSR

The Interreg North Sea Region project North Sea Electric Mobility Network (E-Mobility NSR) will help to create favorable conditions to promote the common development of e-mobility in the North Sea Region. Transnational support structures in the shape of a network and virtual routes are envisaged as part of the project, striving towards improving accessibility and the wider use of e-mobility in the North Sea Region countries.

www.e-mobility-nsr.eu

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