



e-mobility NSR

NORTH SEA REGION ELECTRIC MOBILITY NETWORK

NEWSLETTER ISSUE 5-6 | 2014

EV RALLY

Around the NSR
in less than 80 hrs



SMARTPHONE APP

Mapping EV mobility
patterns in Gent



REVIEW FINAL CONFERENCE E-MOBILITY NSR

ELECTRIC VEHICLES AND ECO CARS: SOLUTIONS FOR GREEN GROWTH

More than 100 delegates gathered for the final international conference hosted by the London Metropolitan University on 11 April 2014. Organised by the E-Mobility NSR team at London Metropolitan University, in collaboration with the Chartered Institute of Logistics and Transport (CILT), the final conference reviewed the progress which has been made towards mainstream market acceptance of electric mobility. In particular, it placed special emphasis on the 'bigger picture': the prospects for electrifying road transport across Europe and other world regions, and opportunities to develop complementary green technologies and business solutions for cleaner, quieter, healthier cities.



Leon Daniels, Transport of London, and Prof. Stephen Shaw

Organizer Professor Stephen Shaw, London Metropolitan University, Faculty of Business and Law: „Competition between producers is driving a once-in-a-lifetime transformation of vehicle technology which will help to address some truly global challenges: mitigation of climate change, energy security and air quality in our cities.“ He added that nation states and city-regions are also competing to secure their share of the economic as well as environmental benefits, concluding that the desired transition to mass-market acceptance of electric vehicles might be market-led. Highlighting the crucial importance of transnational cooperation, Professor Shaw argued that an anticipated 'green growth' will depend on cross-sector and cross-border collaboration: the more collaborative-approach that we are championing in Europe's North Sea Region.

After welcoming words from London Met's Vice Chancellor Professor Malcom Gillies and Christian Byrith, Head of the Interreg IVB North Sea Program, the event kicked off with the keynote speech by Leon Daniels, MD Surface Transport from Transport of London. Mr Daniels introduced the new hybrid London buses that today transport commuters around London's streets, stating that the city is committed to increasing the electrification of buses and taxis in future.

In the course of the conference day, a group of UK and international speakers discussed the political, economic and social dimensions of electric vehicles and their potential for fostering green growth. Among those practitioners were, for example, Fraser Brown, MD Ultra Global PRT, Jim York, Vice President of GoGreen DHL Supply Chain Europe, Dr Mark Burgess, Oxford Brookes Psychology Department, Dr Keith Bevis and Russel Fenner, EValu8, East of England Plugged-in Place, and Peter Lindlahr, MD hySolutions GmbH, Hamburg, Germany.

In the final phase of the discussion, expert panels considered - in dialogue with the audience - what still needs to be improved, what works well, and what might be transferrable across borders and between the different players. Following the plenary, four E-Mobility NSR EV rally-teams departed from the conference venue in all-electric Tesla Model S sportscars in their quest to reach Oslo, Norway, in less than 80 hours.



London's new hybrid buses

Editorial

DEAR READER,

This is the final newsletter of the North Sea Electric Mobility Network (E-Mobility NSR) project which ends on 30 September 2014. With its 11 partners collaborating over the past three years, the international consortium has improved the awareness, the awareness of and knowledge about e-mobility, and even its implementation in the NSR. However, the electrification of the transport sector is an ongoing, dynamic transformation process during which certain variables and contexts can change rapidly. Therefore, decision-making under uncertainty needs flexible, adaptive solutions. This is true for both the development and deployment of electric vehicles (EVs) and the charging infrastructure as well as for certain policy developments. In this respect, our project results offer a range of strategic and technical recommendations and solutions which may facilitate the regional and transnational development of e-mobility in the NSR and beyond.

Enjoy reading!



Prof. Walter Leal Franziska Mannke Kathrin Rath



Didn't join our specialist seminars or public events detailing the latest e-mobility know-how, best-practice exchange with our partners and stakeholders from the EV community?

Check our project website which contains thematic studies, reports, research papers and conference documents:

www.e-mobility-nsr.eu



European Union



The European Regional Development Fund



@E-MobilityNSR

BEST PRACTICES FOR PROCURING FAST CHARGING INFRASTRUCTURE

When it comes to building an infrastructure of Fast Charging Stations (FCS), marketwise as well as from a very „hands on“ perspective, this best practices report by Lindholmen Science Park, Sweden, guides and informs interested parties in drawing the right conclusions.

The authors discuss the rules and regulations that outline definite boundaries as well as the question of feasibility from a practical and economic view. The report includes aspects of installation, demand, function, safety, maintenance, user-friendliness and cons-

truction - in other words: hands-on knowledge how to introduce FCSs.

Over 68 pages, the report focuses on studying and evaluating best practices guiding the implementation of fast charging stations/infrastructure. The authors take a glance at the current market situation and try to highlight considerations important from a developing market point of view. A checklist at the end of the report helps decision-makers and infrastructure planners to remember the most important criteria for implementing fast charger infrastructure.



Access

[HTTP://E-MOBILITY-NSR.EU/INFO-POOL/](http://e-mobility-nsr.eu/info-pool/)

for the

“Study on best practices and requirements for procuring fast chargers”

For inspiration, see also the “best practice” example of a subsidy regulation for the purchase and installation of a fast charger for electric vehicles, Province of North Holland

MRA ELECTRIC AND LEASEPLAN ROLL OUT NETWORK OF CHARGING STATIONS



Hand in hand towards improving charging infrastructure in the Netherlands – MRA-E and E. Henstra, M. Linnenkamp, LeasePlan

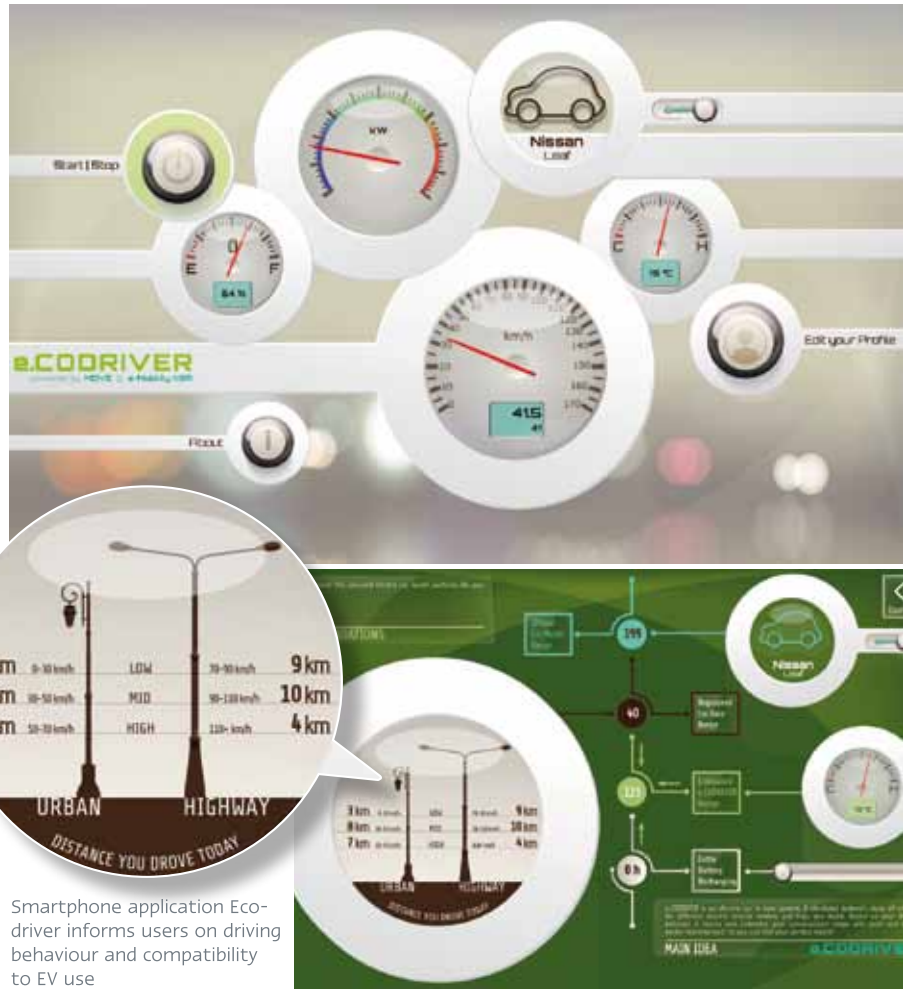
While charging points for business fleets are often already installed, not every motorist has the possibility of charging their electric car at home. In such cases, they are reliant on a public charging station. However, processing an application for a public charging station can take months and not all municipalities have the financial resources to install charging stations themselves. To ensure that there are enough charging points in the public domain and to stimulate electric driving, MRA Electric is rolling out a network of charging

stations in North Holland, Flevoland and Utrecht, where EV lease drivers can apply for a public charging point close to their home address. LeasePlan is the first large leasing company that has entered into a partnership with MRA-E at this level. By co-financing these new charging stations, the company contributes to the realisation of a network that is accessible to its clients. New charging stations will be placed within a radius of 300 metres from the applicants home address, but remain public amenities. Each charging station can charge two ve-

hicles. Maarten Linnenkamp, Project Manager MRA-E: „Although the cost of a charging pole has reduced significantly in recent years, installing and exploiting a charging pole is still not profitable enough. There still aren't enough electric vehicles on the road, so electricity sales remain low. The market and the government still have to commit the necessary investment in order to activate the market. LeasePlan's initiative is an important contribution to the realisation of public charging stations. This is great news for the air quality in our cities.“

NEW SMARTPHONE APP FOSTERS SUSTAINABLE MOBILITY IN GHENT

Ghent University used a set of smartphone applications in the frame of their smart grid research tasks. In a set of EV field tests in Ghent, the first app tracked and visualized the mobility pattern of EV drivers whereby GPS-logging mapped drivers' positions in real-time. With this, consumer's e-mobility behaviour and preferences could be identified and simulated. Another application called eCO-DRIVER transforms the mobile phone into a fictitious EV, raising awareness for an electric alternative to fossil-fuelled cars. While driving one's regular car, the driver can chose a personal favourite from a set of possible EV profiles. The application monitors one's driving style and informs the car driver in a virtual cockpit on the screen of the mobile phone how his or her driving style fits to driving his or her preferred EV.



Smartphone application Eco-driver informs users on driving behaviour and compatibility to EV use

DANISH EV QUIZ GAME WITH ATTRACTIVE PRIZES



Page with sample question

What is the best way to attract attention of visitors at an electric mobility information centre? The Municipality of Høje Tåstrup, Denmark (HTK) developed a computer-based quiz game for its mobile centre. Users who successfully answer a small set of electric mobility related questions can win a prize, for example, a month's free use of an electric vehicle, or whatever prize is on offer in the hosting municipality or institutions which the mobile EMIC serves. The HTK team promoted the quiz with great success at the People's meeting on the Baltic Sea island of Bornholm this June. The well-known, annual open air festival deals with opportunities for society and fundamental challenges, as well as promoting sustainable lifestyles. Leaders of all Danish political parties attended together with government ministers, MEPs as well as many mayors and public officials from all around Denmark and from neighbouring countries.



Waving good bye to the teams



Take off in London



Arriving in Oslo after
178 HOURS
14 MINUTES

Frits Lakemeier & Frank Manders
TEAM 80DR

E-MOBILITY NSR EV RALLY

IN LESS THAN

80 HOURS

AROUND THE NSR



Pitstop at Høje Tåstrup



Rally teams attracted the media



Pitstop in the Netherlands

An 80 hour rally from London to Oslo solely with electric vehicles has been completed successfully. Initiated by E-mobility NSR, the rally was co-organized with local partners and endorsed by 80 Day Race. It demonstrated that e-mobility can definitely be used to travel across national borders. Four teams started in London, travelled through the Channel Tunnel, on their way up North visiting all seven countries represented in the E-Mobility NSR consortium: Belgium, Denmark, Germany, the Netherlands, Norway, Sweden and the UK.

The EV challenge started in London, following an event in the prestigious Reform Club. This setting was chosen as it was the starting point of Phileas Fogg, the main character in Jules Verne's famous novel first published in 1873 'Around the World in 80 Days', who bet that new means of transportation had made it possible to achieve this challenge. At that time, steam powered vehicles were about to replace horses. Today, society may face another tipping point in history with the first mass market electric vehicles being available to substitute traditional means of transportation.

Based on the novel's idea, in the Reform Club, Robert Llewellyn, actor, comedian, writer and UK's premier e-mobility specialist, placed a bet against Professor

Stuart Cole, Emeritus Professor of Transport, Wales Transport Research Centre at the University of Glamorgan that Oslo could be reached within 80 hours. Mr Llewellyn won this bet after Frank Manders of 80 Day Race Team completed the 2201 kilometre journey from London to Oslo with a Tesla Model S in 78 hours and 14 minutes. Dutch e-mobility promoter NL|Mobility was the second Dutch team to complete the journey.

Several partners along the route organized pitstops where the drivers and their cars could recharge their batteries (see pictures). Despite web-based information portals existing, the teams still had to do some forward planning, especially in order to locate publicly-accessible charging stations along their route, and they encountered a number of challenges along the way. Yet all teams handled the challenges that came their way very well and also experienced some pleasant surprises (free charging at many stops) on their trip and attracted much attention to cross-border electric travel, electric mobility in general and the E-Mobility NSR project itself.



www.storify.com/E-mobilityNSR/ev-rally-londen-oslo



Pitstop at Hamburg



Rally teams back on the road

RELEVANCE OF SPATIAL ASPECTS AND MULTI-LEVEL POLICY MAKING FOR THE TRANSITION TO ELECTRIC MOBILITY

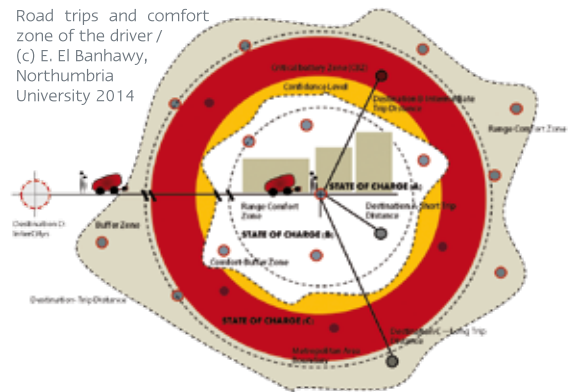
Spatial aspects and multi-level policy-making were two relatively new and unexplored themes in the field of e-mobility. Delft University of Technology issued a report comprising two thematic discussion papers that illustrate the various challenges and opportunities involved in a transition from a fossil-fuelled to an electric mobility.

SYSTEMIC POLICY MIX TO SUPPORT ELECTRIC MOBILITY DEVELOPMENT AND ADOPTION

The success potential of electric vehicles (EVs) depends on a multitude of factors. During the stage of introduction and growth, financial incentives and the introduction of environmental and industrial standards play an important role. In the maturity stage, more structural factors become important, in particular the physical and the built environment. The physical environment relates to the landscape, such as the natural landscape relief. The term built environment

refers to the human-made surroundings that provide the setting for human activity, ranging from buildings to other infrastructure and parks. The built environment is often expressed in terms of dwelling types, urban density, the mix of uses, accessibility and street patterns.

However, not much is known about the spatial influence on the large-scale transition to EVs. In this first brief discussion paper, the researchers investigated which spatial aspects are required, or at least preferred, for a large-scale transition to EVs. A number of characteristics in which EVs, both full electric (FEV) and plug-in hybrids (PHEV), differ from cars with an internal combustion engine (ICE) are identified and explored whether and how



these are affected by the physical or built-up urban environment. These spatial aspects are then compared on the basis of collected data for the seven E-Mobility NSR partner countries.

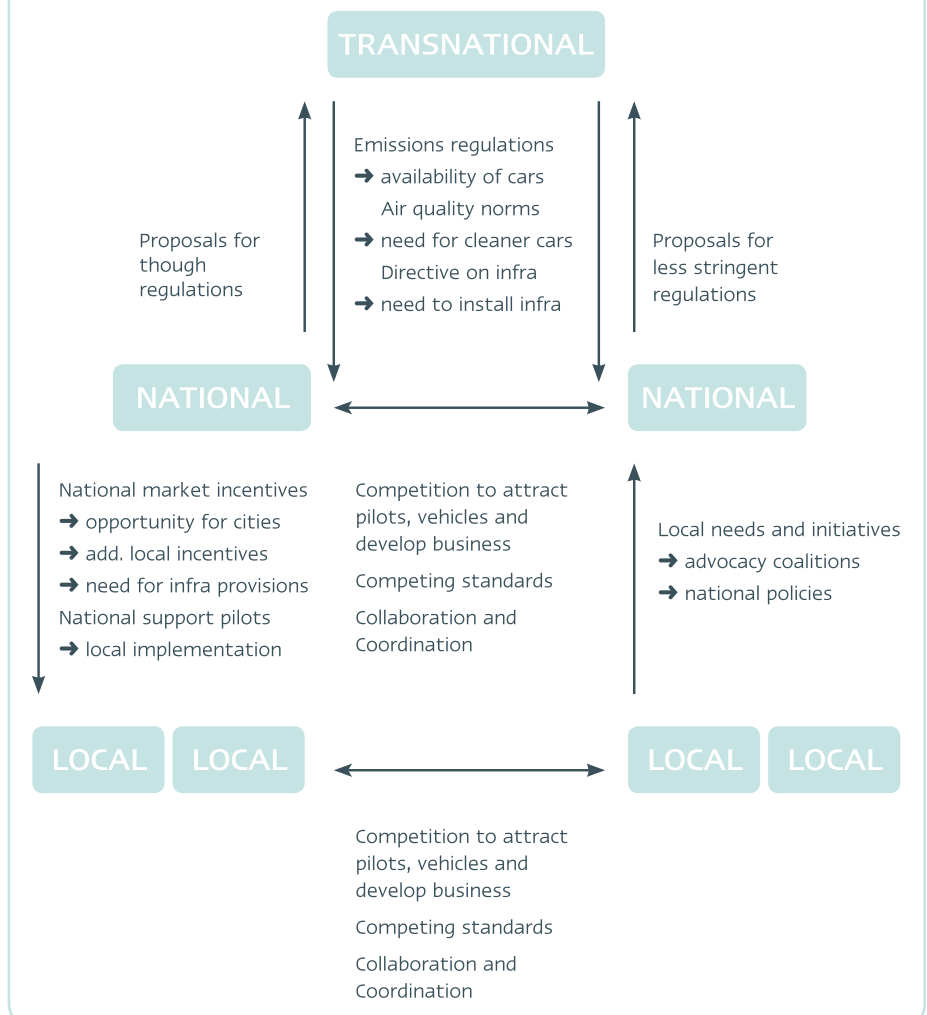
SPATIAL ASPECTS OF THE TRANSITION TO EVS

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Source: Bakker, S.; Maat, K., Trip, Jan Jacob (2013), Transition to electric mobility: spatial aspects and multi-level policy-making, Delft University of Technology, May 2014, www.e-mobility-nsr.eu/info-pool.

INDICATIVE SCHEME OF MULTI-LEVEL DYNAMICS IN POLICY-MAKING REGARDING ELECTRIC MOBILITY



CITY ACTION PLANS RECOMMEND INDIRECT MEANS TO FACILITATE EV FREIGHT TRANSPORT

As part of the work Package on “Promoting Efficient and Effective Urban Freight Logistics Solutions in Enhancing Regional Accessibility”, TU Delft, Hamburg University of Applied Sciences and FDT – The Association of Danish Transport and Logistics Centers developed Action Plans for supporting EVs in freight transportation for the metropolitan cities of Amsterdam/NL, Copenhagen/DK and Hamburg/GER.

The set of documents indicate that policy measures such as granting direct financial subsidies may be successful in the short term, but if they become too costly, then they are hard to sustain. Over a longer term, basic in-direct support in the form of access restrictions, emission zones, urban consolidation centres and night distribution schemes stand a higher chance of being successful in furthering the introduction of freight electric vehicles.



e-freight bike replacing a truck in Hamburg, 2014



„Toll's Electric Vehicle“ by Toll Group/https://www.flickr.com/photos/105603959@N08/13616240414/in/photostream/

One of PostNord's 50 EVs, © PostNord E-Mobility NSR int. conference 2013

DOWNLOAD THE ACTION PLANS FROM

www.e-mobility-nsr.eu



PROJECT BOOKLET FEATURING PROJECT RESULTS PUBLISHED



The latest results booklet offers a compact overview of the INTERREG IVB North Sea project “North Sea Electric Mobility Network”, in short E-Mobility NSR, and its achievements over the past three years of transnational collaboration. The project fulfilled all its deliverables on time and within budget. With its eleven partners, the international consortium has established networks and collaborated with local authorities, government offices, universities, NGOs, SMEs and further stakeholders, and has, through its work, contributed to a better awareness of e-mobility in the NSR.

However, electric vehicles remain in their infancy. The electrification of the transport sector is an ongoing, dynamic transformation process where certain variables and contexts still change rapidly. This is true for both the development and deployment of electric vehicles (EVs) and the charging infrastructure as well as for certain policy developments. Decision-making needs to consider flexible solutions that can adapt to ever-changing environments. Finally, in terms of sustainability, perhaps not all mobility needs should be satisfied solely with a vehicle – patterns in user behaviour already indicate today that alternative ways of getting from A to Z are becoming more and more popular and efficient, facilitated largely by smart IT solutions.

Read up on project results, request a hardcopy from lead partner HAW Hamburg, or download the booklet from the information pool on the project website at

WWW.E-MOBILITY-NSR.EU



FINAL PROJECT MEETING SHOWCASING RESULTS OF E-MOBILITY NSR



„Hamburg Rathaus“ (bit.ly/1vFnJE4) by baden03 (https://www.flickr.com/photos/onemovingpart/) / CC BY-NC SA 2.0 (https://creativecommons.org/licenses/by-nc-sa/2.0/)

1 SEPT
2014

HAMBURG

SAVE THE DATE



The final project meeting, held in Hamburg on 1 September 2014, will highlight the results of the project “E-Mobility North Sea Region”, discuss the incentives being made available to cities in order to pursue e-mobility, and will outline what issues may have to be addressed in future projects. In a public event prior to the project meeting, the most important project results achieved

over the past three years of transnational collaboration will be presented to an audience consisting of government bodies, private businesses, and academia. The topics dealt with at the public seminar will focus on topics such as stakeholder behaviour, charging infrastructure, smart grid solutions, raising awareness as well as urban freight logistics. In addition to project results presented

at the event, Carsten Westerholt, North Sea Regions Programme Secretariat, Viborg/DK, will address the future aims and objectives for the upcoming INTERREG North Sea programme period, followed by the key note lecture from Dr Martijn van der Steen on the future of electric mobility. As always, all slides will be freely accessible on the project website after the event.

The E-Mobility NSR Consortium thanks all its

COLLABORATING PARTNERS & STAKEHOLDERS

who have accompanied and supported the project over the past three years!



Hamburg University of Applied Sciences (DE)



FDT – Association of Danish Transport and Logistics Centres (DK)



Faculty of Business and Law, London Metropolitan University (UK)



Lindholmen Science Park (SE)



Delft University of Technology (NL)



Universiteit Gent (BE)



WFB Wirtschaftsförderung Bremen GmbH (DE)



Høje-Taastrup Municipality (DK)



Zero Emission Resource Organisation - ZERO (NO)



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