Minutes of Meeting

Green eMotion External Stakeholder Forum

21.11.2013

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Location: Fira, Gran Via, Barcelona, Spain ….

Presentations are available on the Green eMotion stakeholder sharepoint site
You must be a stakeholder forum member to have access to the GeM sharepoint site - to get access, contact:
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Meeting Topic: The forum meeting was organised with the intention of giving an overview of some areas of the Green eMotion project while also focusing on Smart Grid topics and giving External Stakeholders the opportunity to present.

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	Topic
	Welcome and opening of the conference – Dr. Heike Barlag, GeM project Co-ordinator
	Welcome from Barcelona City: Anna Majo - Strategic Sectors Director, Barcelona Municipality
	Words from the Co-Chair - Carlo Mol, Programme Officer, Flemish Living Labs, Electric Vehicles He went over the negative and positive quotes in the press regarding EVs in the last 6 months. Manufacturers backing electric vehicles despite slow sales. Asked the question are taxpayers and private investors creating effective EV infrastructure? Need for collaboration among organization and countries in Europe to get to EV "critical mass" All projects need to work together to ensure standards and interoperability.
	General update on Green eMotion - Dr. Heike Barlag – GeM Project Co-ordinator She gave an overview of the project and the demonstration regions involved including current, new and external sites and the work being carried out in them. Some example are roaming happening between

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	Malmo and Copenhagen, roaming between Italy and Spain, smart grid and load management In Barcelona-Malaga, ITRES tool kit by Imperial College London. The ITRES tool kit helps to identify work which needs to be done to reinforce grids. There has been Innovation in interoperability. D=she then went on to give an overview of the big picture of what GeM is doing and the GeM Building blocks.
	Towards a connected EV world: The GeM Marketplace connecting European demo regions – Volker Fricke, IBM World is more connected than ever before, billions of devices connected. What are the service requirements of EV drivers? Find a parking spot, charge point or charge anywhere in Europe with the one card. How do we link all these services to make the user experience seamless? IT communications helps integrate all these services. GeM B2B Marketplace enables all stakeholders to come together and enable mass market adoption. He then went through the process of logging into the GeM Marketplace. Looked at the GeM building blocks as well as a run through of work package 3 timelines. Marketplace is now open to include external demo regions. To join please contact: gem@de.ibm.com
	First experience of roaming between Green eMotion demonstration regions – Giovanni Coppola, Enel He talked about the need to be able to charge anywhere in Europe using the one card and getting the one electricity bill. He gave an overview of the emobility framework and of how roaming works for an Endesa customer on the Enel system and also the user interface and the platform used. Talked about how the overview of the end to end bilateral roaming and how it was designed and what was needed to make it actually work. He then presented a video on roaming being physically demonstrated. Next steps is to replicate this in all demonstration regions of Green eMotion.
	The links between eMobility and storage batteries – policies and applications for the overall energy storage picture – Alfons Westgeest – Eurobat Overview of what Eurobat does and what manufacturers are members, and the publications from the organisation in 2013. Growing market for batteries in industrial and automotive storage. It's a collaborative learning curve with all sectors playing a part in advancing it. Outline of the types of existing batteries and the potential for new types in the longer term. Lithium-ion still in an early stage of development in ESS applications.

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	Demand growing for ESS grid storage energy. Outline of the benefits that energy storage can have for the grid. He then gave an example of 5 different countries and the route they were taking regarding energy storage. Gave an overview of the recommendations that Eurobat have for the development of energy storage.
	The challenge of international electric motoring - Peter Manolescue, Vodafone Sideways approach – standards are something that they are passionate about. He stressed that GeM has to be looking big; Vodafone is similar – think big and really big. Why silo thinking is dangerous, people get attached to their idea and think it is the best. That is why standards are so important, without standards big markets do not develop. Gave examples of technology which failed and ones which succeeded: Mobile phones, personal computers and wireless internet. Opportunity to create the standard that everybody will sign up for with electric vehicles. Stressed that Vodafone was there to help and outlined the full suite of services that they offered.
	Real life data on the use of Plug in Hybrid Electric Vehicles from GeM and external demonstration regions – Cristina Corchero, IREC and Carlo Mol, Flemish Living Labs EVs Cristina Corchero: She gave an overview of the locations that charging was mainly done, average distance travelled per month on pure electric monitored. Overview of the average charging occurrences per day, times of day of charging, Charge time duration and energy consumption. Carlo Mol: Overview of a number of labs and the results on Plug in Hybrid data that they have collected. Differences in the use of electric mode, some never used electric mode at all. In the Netherlands Fuel consumption varied from 1-2 liters to 8 litres per 100km. The average consumption was 1 -2 liters per 100km. Co2 emissions tend to be higher than manufacturers figures Government give incentives for PHEV. They want to increase the no of km driven on electric mode.
	COTEVOS Project: Concepts, Capacities and Methods for testing EV systems and their interoperability within smart grids – Eduardo Zabala, Tecnalia He gave an overview of what the project will look at over its duration. Testing interoperability. How can they improve interoperability? Ensure interoperability between CP and EV within the market model paper. Identify

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	from what is already in place and what is important to test and look at the best measures to test. Consider any smart-charging issue with respect to the charging of EVs He gave an overview of the technologies that will be covered. OEMs and DSO to set the means and see what is necessary. EU - US co-operation on EVs and grid connectivity. He also outlined the vision for the project. He also named some of the organisations and projects that COTEVOS will be collaborating with.
	Intercharge: International interoperable charging – Thomas Daiber, Hubject Showed a video on the Hubject project. Founded in March 2012 by six pioneering companies, straight forward approach. Roaming is already happening in other industries. Example the banking industry already have solved roaming issue. Berlin 3 or 4 different suppliers of charging so not just a European problem, there are islands of mobility not yet connected. Gave an overview of the evolution of interoperable charging systems. Showed the number of charge points in Germany connected to their inter-charge system. All posts have a logo to show the post is part of their network.
	Standards for electromobility: an update – Silvio Weeren, IBM He gave an overview of eMI³ - 50 members now – trying to achieve standardization in the EV eco system. He then outlined the organisation's structure as well as the goals for the group such as recent achievements including a new role for fast charging in use cases and an improved common understanding of roles vs actors and companies. Other work being done around defining and standardizing a communication protocol between EVSE and backend systems. eMI³ is focussed on aligning key interfaces to drive mass uptake of EV's. You can now join through ERTICO
	Smart grid functionality as a facilitator to mass market adoption of EVs – Enrique Moronjo, Iberdrola He gave a brief overview of smart grids and the levels of participants involved. There are regulatory issues critical for smart grids to evolve. Technology is re-shaping the market. The EV is a revolution in transportation but for the utility it is just another load. Overview of future industry structure, main goal of the EV is to make transportation sustainable the electric system is secondary. He believes that with a smart charging strategy there is no need for further investment in the grid regardless of EV penetration and charging power.

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	He then gave an overview of smart grid functionalities and the communication between the various elements. 3 ways of controlling charging these are demand response, demand side management and vehicle to grid. He then stressed the importance of a regulatory framework and the areas that need to be reviewed.
	Trialling intellingent grid re-arrangement in Ireland – Senan McGrath, ESB ecars Overview of the current load demand in Ireland, he stresses that the electricity market is ready for high penetration of EVs if they are charged during the night time demand valley. Gave a view of the generation mix in Ireland and showed how the carbon content of electricity has declined over time. He also presented the large increase in wind investment over the last number of years. He talked about a study that ESB have undertaken as part of EPRI where a number of houses in an estate were given EVs and their impact on electricity demand and the grid were monitored. He also looked at best case and worse case scenarios for load demand in Ireland with a high penetration of EVs charging. He also gave an overview of a project which controlled charging using a "Home Area Network" Also covered were the end to end EV service that was being implemented in Ireland. He finished by discussing future smart grid plans in Ireland.
	Controlling EV charging based on grid demand – Eleonora Sammartino, Enel She gave an overview of what smart charging means – moving EV grid loads off peak and reducing peak time loads. Then looked at the actors involved in smart charging: the customer with the service provider, the EVSE is the controller, the manager of the EVSE operator which is connected to the DSO – the interface between different stakeholders and actors. Looked at two methods of smart charging in GeM field trials: charge scheduling and fine tuned smart charging. She gave an overview of the results and conclusions found from the trials including: • EV OEMs should consider to improve embedded EV power electronics • Increase of noise injected in LV grid when EVs gets load-modulated could lead to grid reinforcements in massive scenario • Smart charging should lead to pricing incentives for the final customer

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Barcelona – Malaga – Local impact of high level EV penetration and fast charging and using second life battery to support the grid

First he looked at fast charging with batteries. He presented a diagram which outlined the steps in adding battery back up power to charging. DC fast chargers with batteries at Malaga Bus depot. Batteries are charging when not in use with PV cells and also peak shaving. Battery charges when the prices are lowest and discharges when prices are high. PVs are charging the cars during the day, at 4.30 all the cars are already charged from PVs, surplus energy from PVs when the cars are charged are then stored in the second life batteries

Monitoring real life data of Evs, They are Looking at the grid when a different no of cars charging or charging with or without batteries

Harmonics – test of 15 vehicles charging at the same time, no problem until cars reach almost 100% of the charge, it seems that there may be a problem with harmonics

Core Green eMotion values as a foundation of seamless mobility – Norbert Vierheilig, Siemens

Overview of Green eMotion demonstrations regions and what is being demonstrated in each. Task T10.7 in Green eMotion is look at how the knowledge gained in the project will be used once it has ended. He proposed that there will be three marketplace scenarios after 2020: Bilateral Market Agreements, Multicentre Marketplace and Single European Marketplace. He asked people in attendance what they felt would be the marketplace to survive.

He then went on to speak about some of the items that will be valuable once the project ends. These were data collection, standardisation and policy guidelines and regulations. He then outlined the timeline for activities within T10.7 including the process for approaching external demonstration regions and how roaming agreements can be set up.