



## Transatlantic Workshop on Electric Vehicles and Grid Connectivity

### Workshop Goals and Objectives

**Vehicle electrification** is an integral part of global efforts to maintain mobility while reducing oil imports and carbon emissions, enhancing our mutual energy security and coping with the challenge of global warming. Governments, businesses and laboratories on both sides of the Atlantic are working to refine vehicle and battery technology to support high-volume production of electric vehicles (EVs, including all-electric vehicles and plug-in hybrids). They are also investing in the development of a more robust, 'smart' grid with demand management and storage technologies and in boosting electricity generation from renewable energy. If production of EVs is expanded and smart grid technology put in place, the potential for displacing petroleum used for transport by with power from renewable and other fuels is greatly enhanced. The benefits would be limited only by the availability of clean electricity supplies and the pace of EV uptake by businesses and consumers.

**Substantial challenges** remain, however, for large-scale production and consumer acceptance of EVs. Consumer and business demand will critically depend on electric vehicle range, system reliability and vehicle cost. These in turn will depend on continued technological development and compatible technical standards. Batteries have been the limiting factor to date, but public and private sector resources are being expended globally to improve batteries for vehicle use – and manufacturers are confident that the technology will be adequate for limited production (hundreds of thousands per year) within a few years. As the technology and manufacturing processes improve to support volume production (millions per year), convenient access to electricity, the intelligent management of electricity use and the efficiency, environmental impact and cost of electricity production/delivery will become more important.

**Near-term actions** can help us meet these challenges together. Governmental bodies can contribute to dismantling the market barriers to EVs for manufacturers and help insure that public and private investments being made to support battery, electric drive and vehicle production are productively channeled. The development of compatible regulation, standards and financial incentives would allow investors, vehicle manufacturers and component suppliers to invest with confidence in new electric drive technologies. Examples include battery test standards (so manufacturers can plan and purchase with confidence) and vehicle-grid interface standards (to insure universal grid compatibility and enable 'smart charging'). The sooner these are in place, the faster EVs will be taken up by suppliers, manufacturers and consumers. Governmental bodies can also encourage sharing of pre-competitive information and data that will help focus vehicle development and infrastructure implementation activities, such as vehicle and charger use patterns which can help identify electric range requirements for consumers and businesses, optimal locations of charge points, and the potential value of EVs to the grid for electric energy storage.

## Workshop Venue, Organization and Expectations

The **EU-US workshop**, conducted under the auspices of the Smart Grid-EV Working Group of the EU-US Energy Council, will bring together equipment suppliers and manufacturers, utilities, policymakers, standards organizations, and government agencies to discuss mutually beneficial near-term actions to accelerate the introduction of EVs to the market – with a particular focus on government policy and cooperative efforts to spur vehicle demonstration and deployment.

The workshop, jointly organized by the Belgian presidency of the European Union, the European Commission, Swedish government and the United States Department of Energy, will be held in Brussels in November 2010 and limited in size to facilitate input from policymakers and focus on specific topics for collaboration. The first session will be devoted to government policy and vision, with facilitated discussion on common environmental goals, presumed technology and expectations. The remainder of the workshop will include presentations and facilitated discussions on key technical and policy issues, such as consumer requirements, the interface between electric vehicles and smart grids, and priorities for vehicle demonstration and deployment. The outcome will be a proposed scope of cooperation with specific areas of technical collaboration identified.

### **Session A: Vision and Policy to Support Electromobility (9:00-10:00)**

*Moderator:* Professor Joeri Van Mierlo (**VUB**)

#### **Welcome**

Frank Bostyn, Cabinet of Ingrid Lieten, Flemish Minister for Innovation, Public Investment, Media and Poverty Reduction

#### *Speakers:*

Thomas White, Deputy Chief of Mission to the EU (**US Department of State**)

*The Role of Electromobility in US Energy Policy*

Daniel Johansson, State Secretary, **Ministry of Enterprise, Energy and Communications**

*The Role of Electric Vehicles in Sweden's Energy Policy*

Jean-Eric Paquet (**EC DG-MOVE Director**)

*Electromobility in the Frame of EU Energy and Transport Policy*

Panel Discussion

#### **Break (10:00-10:30)**

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#### **Venue:**



*Paleis der Academiën/Palais des Académies,*

*1, Hertogstraat/rue Ducale,  
Brussels, 17 November, 2010*

#### **Organizers:**

*EU Presidency (Belgium)*

*European Commission  
(DGs ENTR, ENER, RTD and MOVE)*

*Swedish Ministry of Enterprise,  
Energy and Communications*

*US Department of Energy*

*What is the role of EVs in  
energy and transport policy?*

*Do we have common goals?*

*Are our policies consistent?*

*How can government support  
international cooperation to  
accelerate production and  
adoption of electric vehicles?*

## **Session B: Industrial Policy in Support of Electromobility (10:30-12:00)**

*Moderator:* Keith Hardy (**ANL/DOE**)

*Speakers:*

Ewelina Daniel, Policy Officer (**EC DG ENTR**)

*European Industrial Policy Supporting Electromobility*

Maurizio Maggiore, Research Programme Officer (**EC DG RTD-H**)

*EU Research Activities in support for Electric Vehicles*

Jean-Luc Di Paola-Galloni, Valeo Group Corporate Vice-President,  
Sustainable Development and External Affairs (**VALEO**)

*Integrated suppliers' approach to electromobility*

Rolf Willkrans, Director Environmental Affairs, Volvo Group  
Headquarters (**Volvo Group**)

*The Role of Electromobility in Heavy Duty Vehicles*

Panel Discussion

*Rapporteur:* Thomas Spoomans (EC, DG ENTR)

**Lunch (12:00-13:30)**

## **Session C: Smart Charging & Vehicle-Grid Connectivity (13:30-15:00)**

*Moderator:* Wiktor Raldow, Energy Conversion & Distribution systems,  
European Commission

*Speakers:*

Eric Simmon (Smart Grid Task Force, **NIST**)

*EVs, Smart Grids and Interoperability*

Keith Hardy (**ANL/DOE**)

*Opportunities for Cooperation on Technology Development to Support  
a Robust Vehicle-Grid Interface*

Gery Kissel (**GM/SAE**)

*Potential for Global Harmonization of EV Charging*

Thomas Theissen (**RWE**)

*Major utilities/grid operators perspective on integration of grids with  
Electric Vehicles*

Hannes Lüttringhaus (ELVIRE project, **Continental**)

*ICT aspects on vehicle-grid connectivity*

Karl Elfstadius, Group VP and Head of Global Smart Grid Development  
(**ABB**)

*InnoEnergy - an innovation driver for the Smart Grid*

Panel discussion

*What are the challenges to  
volume production of plug-in  
hybrid and electric vehicles?*

*What is the government role?*

- Regulatory framework
- Codes & Standards
- Incentives
- Infrastructure
- Investments/Subsidies

*Are EU and US policies  
consistent from manufacturer  
and supplier perspectives?*

*Are public and private  
investments adequate to meet  
the technical challenges and  
economic risks?*

*What is required to implement  
'smart charging' for EVs?*

*What are the incentives for  
global harmonization of  
vehicle connectivity?  
... but is it necessary?*

*Roles of government and  
utilities in the implementation  
of smart charging and smart  
grids*

Rapporteur: Jeff Skeer (DOE)

**Break (15:00-15:30)**

**Session D: Effective Policies for Vehicle Demonstration & Deployment (15:30-17:00)**

Moderator: Hugues Van-Honacker (EC DG-MOVE)

Speakers:

Dr. Christine Schwaegerl (Siemens)

*Green eMotion project*

Keith Hardy (ANL/DOE)

*US Vehicle/Infrastructure Learning Demonstration Program*

Christina Tenkhoff (NOW)

*German demonstrations project results*

Carlo Mol (VITO)

*Demonstration activities in Belgium*

Panel discussion

Rapporteur: Keith Hardy (ANL/DOE)

**Session E: Rapporteurs' Reports and Next Steps for Transatlantic Cooperation (17:00-17:30)**

**Adjourn (17:30)**

*What are the programmatic objectives of the major national and international vehicle and infrastructure demonstration projects?*

*Are there opportunities to share best practices?*

*Can we exchange information or share data between the EU and US demonstration programs?*

*As our programs prepare for launch, what assumptions are being made regarding the demand or need for public versus residential charging?*