



Report on a European Commission Workshop European Commissions' and Member States' R&D Programmes for the Electric Vehicle

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1.) Objective

Seeking to understand the landscape of ongoing initiatives at national levels in Europe related to development of fully electric vehicles and the required infrastructure, the European Commission on 26 June 2009 held an expert workshop in Brussels. The main focus of the discussion was the exchange of information between national authorities and the European Commission which also included the views and strategies of the involved industrial sectors expressed, e.g. the European Roadmap on the Electrification of Road Transport¹ jointly edited by the European Technology Platforms European Road Transport Research Advisory Council (ERTRAC), European Technology Platform on Smart Systems Integration (EPoSS), and SmartGrids. The intention was to identify the research that needs to be undertaken at EU level and to search out how the European Commission can support, through its work programmes, the move towards the electrification of vehicles, road transport and mobility. Participants of the discussion were about 30 coordinators of electro-mobility related programs from European Member States, representatives of the DGs of the European Commission involved in the Green Cars Initiative, and delegates of the European Technology Platforms. The results of the workshop are summarized in the document at hand.

2.) Background

The European Economic Recovery Plan² proposes actions to develop technologies for the manufacturing, construction and automotive sectors, which have recently seen a demand plummet as a result of the global economic crisis and which face significant challenges in the transition to the green economy. For the automotive sector, the Commission has launched the Public Private Partnership Green Cars Initiatives, involving research on a broad range of technologies and smart energy infrastructures essential to achieve a breakthrough in the use of renewable and non-polluting energy sources, safety and traffic fluidity. Research on electric vehicles has been defined as an essential component in this research package. The total budget of 1 billion EUR shall be made available jointly by the European Commission, the industry and the member states. The European Commission will in the years 2010 to 2013 use the established instruments of the 7th Framework Programme for this purpose.

The European industries from the automotive, energy and ICT sectors represented by the European Technology Platforms ERTRAC, EPoSS and Smart Grids have identified R&D priorities in six technology fields of major importance for the electrification topic: energy storage systems, drive train technologies, vehicle system integration, power grid integration, safety, and integration into the transport system. A common roadmap setting milestones and

¹ ERTRAC, EPoSS, SmartGrids, European Roadmap for the Electrification of Road Transport (2009).

² Commission of the European Communities, A European Economic Recovery Plan, 26 November 2008, endorsed by the European Council on 11-12 December 2008.

suggesting actions in terms of R&D, business development and regulatory frameworks for each of these technology fields has been drafted. According to this roadmap, the involved industries believe that by the year 2020 five million plug-in hybrid and electric vehicles will be put on the roads in Europe. Together with some other stakeholders, e.g. from the logistics sector, key representatives of the technology platforms are members of a Ad-Hoc Industrial Advisory Board that is governing the European Green Cars Initiative³.

In view of the potential impact of electric vehicles on reducing green house gas emissions and on raising security of energy supply, various governments of the European Member States created strategy plans and started activities to support electro-mobility recently. Many of the stimulus measures for the related industries that have been launched in response to the economic crisis are linked to research and development for the vehicles, technologies and infrastructures for the electrification of road transport. Examples include

- **France:** In October 2009, the French Ministry for Ecology, Energy, Sustainable Development and the Sea, presented a national 14-point plan designed to accelerate the development and subsequent commercialization of electric vehicles and plug-in hybrids in France⁴. The government intends for its strategy to lead to the production of two million EVs and PHEVs (combined) by 2020. Among the budget indications of the plan are a public investment of 1.5 billion EUR to establish a network of 1 million charging points by 2015 and the building of a 625 million EUR lithium-ion battery plant at a plant owned by Renault with a public contribution of 125 million EUR. Earlier in 2009, the French government had published a “pacte automobile” which made a budget of 50 million EUR available for a “fonds démonstrateur” which is funding the prototype development for electric vehicles. Furthermore, the French government is supporting the purchase of cars with less than 60g/km CO₂ emission by providing a subsidy of 5000 EUR per vehicle.
- **Germany:** a National Development Plan for Electro-Mobility⁵ was drafted jointly by the departments of Economics, Transport, Environment, and Education & Research. Its goal is one million electric (EV) and plug-in hybrid electric (PHEV) vehicles onto Germany’s roads by 2020. Calls for the first implementation phase (2009-2011) with R&D funding opportunities at the total amount of 500 million EUR were launched as part of the second German economic stimulus package in spring 2009. Topics to be covered include energy storage systems, vehicle technologies, vehicle-to-grid interfaces and demonstrations and field operational test. The second (2012-2016) and third implementation phases (2017-2020) will be dealing with market launch and business development.
- **U.K.:** In 2008 the presented the results of a study that investigated the scope for the transport sector to switch to vehicles powered through electricity from the grid in the period until 2030⁶. The report was commissioned to provide a better understanding of the contribution EVs and plug-in hybrid electric vehicles (PHEVs) can make to the long-term reduction of the UK’s CO₂ emissions. It includes a number of recommendations in terms of R&D priorities and support measures. The Low Carbon Vehicles Innovation Platform of the Technology Strategy Board promoting research, development and demonstration launched a series of calls including a specific competition for the electrification of road

³ www.green-cars-initiative.eu

⁴ Ministère de l’écologie, de l’énergie, du développement durable et de la mer (France), Lancement du plan national pour le développement des véhicules électriques et hybrides rechargeables, Dossier de Presse, 2009.

⁵ Die Bundesregierung (Germany), Nationaler Entwicklungsplan Elektromobilität (2009).

⁶ Department for Business Enterprise and Regulatory Reform and Department for Transport (U.K.), Investigation into the Scope for the Transport Sector to Switch to Electric Vehicles and Plugin Hybrid Vehicles (2008).

transport that provides up to £10m for business led collaborative research and development to support projects in all areas relevant to the development of enabling system and sub-system technologies to deliver more cost effective and higher performing all-electric and hybrid vehicles for mass market applications.

- **Spain:** the Pilot Project MOVELE of the Institute for Diversification & Energy Saving (IDAE) and the Spanish Ministry of Industry, Tourism and Trade. Being the initial phase of a bigger plan for one million electric cars on its roads by 2014 the initiative is meant to show the technical, economic and energy feasibility of electric mobility in urban and periurban areas. In 2009-10 10 Mio Euros shall be spent for supporting the procurement of 2000 electric cars, mainly by fleet operators, and of 500 public charging stations in selected cities.
- **Sweden:** The Swedish Government in March 2009 presented a bill on “Climate and energy policy for a sustainable future”, according to which in 2030, Sweden should have a vehicle fleet that is independent of fossil fuel⁷. Currently, the transport system in Sweden is almost completely dependent on fossil fuel and is dominated by road transport. Its emissions make up one third of the total emissions in Sweden. Swedish industry is expected to be in the vanguard of the transition, by e.g. developing hybrid vehicles, electric cars and biofuel. A Joint Vehicle Research Programme, run as a Public Private Partnership by Vinnova, the Swedish Road Administration, and the Swedish Energy Agency shall help to adapt the Swedish automotive industry to meet future demand in the areas of safety, environment and traffic fluidity. Following a strategy proposal for sustainable growth, about 90 m Euro shall be made available annually in 2009-2013 for innovation activities. Sweden in early 2008 also signed a Memorandum of Understanding for a joint R&D programme on plug-in hybrid electric vehicles with the U.S. Department of Energy⁸.
- **Italy:** the programme Industria 2015 by the Ministry of Economic Development. Part of this programme are funding opportunities for sustainable mobility, particularly the electric vehicle. The funding budget of 180 m Euro has been distributed in early 2009⁹.
- **Austria:** The Austrian Climate and Energy Fund of the Ministries for Environment and for Transport, Innovation and Technology has a total budget of about 150 million EUR p.a.. For 2009, three funding programmes have been launched for the topics energy research, automotive R&D and market preparation. A major focus is put on R&D and demonstration activities for electro-mobility. Furthermore there are several instruments of the Federal Ministry of Transport, Innovation and Technology (BMVIT) for the development of automotive technologies that apply to the EV topic. The total funding is 60 million EUR¹⁰.

Links between the various national R&D programmes if there are any have so far been either bilateral (e.g. the German-French working group on electro-mobility) or focussed on a single aspect (e.g. standardization, grid infrastructures, transport, cities and regions). Therefore, Instruments like dedicated ERA-NETs have been suggested by various stakeholders to improve coordination. It should however be noted that some member states cooperate at an international scale on the EV topic, e.g. through membership in the International Energy Agency (IEA) ¹¹Implementing Agreement “Hybrid and Electric Vehicles”: France, Italy, Belgium, Denmark, Netherlands, and Sweden.

⁷ Ministry of Enterprise, Energy, Communications, Ministry of Environment (Sweden), Memorandum (2009).

⁸ Argonne National Laboratory, U.S.-Sweden Joint PHEV Research (2008).

⁹ www.industria2015.ipi.it

¹⁰ Austrian Agency for Alternative Propulsion Systems (2009).

¹¹ www.ieahev.org

3.) Workshop Structure

The workshop was opened by a presentation on the European Green Cars Initiative given by Thierry van der Pyl, Director Components and Systems with DG Info, European Commission. It was followed by a talk given by Günter Lugert (Siemens), chair of the executive committee of the European Technology Platforms EPoSS that together with the ETPs ERTRAC and SmartGrids published a roadmap on electrification of road transport recently. The potential impact of electric vehicles on reducing green house gas emissions was pointed out in a keynote talk given by Ian Hodgson of DG Environment, European Commission.

Three consecutive presentation sessions provided the platform for the bi-directional flow of information on plans, programmes and initiatives for the electric vehicle:

- **European Green Cars Initiative – Opportunities in 2010:** Presentations on intentions, 2010 work programmes and future perspectives given by all involved Directorates General (DG Info, DG Research, DG TREN) and the European Investment Bank.
- **National Programmes for the EV:** Presentations by coordinators of select strategy plans and national programmes with a clear relation to the electric vehicle topic were given by representatives of Germany, Austria, the Netherlands and Poland.
- **Other cooperation activities:** Presentations were given by the ETP SmartGrids and Polis, a network of cities and regions.

Eventually, the participants of the workshop discussed how the move toward electrification of vehicles, road transport and mobility can be supported in a Pan-European and comprehensive way, and what the European Commission could do for this through its Green Cars Initiative.

4.) Participants

Participants in the workshop were senior experts and department heads from the member states' governments that represent a link between the national and the European Commission's programmes towards the electric vehicle. Furthermore, representatives of each of the ETPs EPoSS, ERTRAC, and SmartGrids attended as well as delegates from other cooperation activities related to the Electric Vehicle topic, e.g. trade associations like EUCAR and CLEPA which had published a joint position paper as input to the Green Cars Initiative prior to this workshop¹². All DGs involved in the Green Cars Initiative were represented.

It should be noted that during the preparation phase of the workshop, some member states were hesitant to nominate a representative, mainly for two reasons:

- In many member states the EV programmes are jointly run by several departments of the Government (Economics, Energy, Transport, Environment, Research..), such that it is not obvious who is in charge of the European affairs. The lack of central coordinators even intensified this situation, particularly when people identified as experts had to decline due to other obligations (like e.g. in the case of Italy and U.K.).
- Support for the EV topic is a prominent part of many member states' economic recovery plans, which in the times of crisis may be perceived as measures for the protection of the national economies. Coordination by the European Commission is not always understood as an added benefit in such situations. Thus, some member states may have felt less of a need for a dialogue that expected.

¹² CLEPA/EUCAR, R&D Priorities for the Greening of Road Transport and Vehicles (2009).

5.) Results of the workshop discussions

Following the structure of the workshop sessions, in the below short summaries of the presentations and the subsequent discussions are given. The slides of all presentations are available for download from the EPoSS website.¹³

Opening Session

Thierry van der Pyl (DG Info) in his opening statement pointed out that an exchange of information on R&D programmes between the European Commission and the member states would be generally appreciated by all involved authorities in order to avoid duplication of efforts and for achieving synergies. The question what role the member states expect the European Commission to play would be a key part of that dialogue. He admitted that a new R&D programme like the Green Cars Initiative might raise concern because any new support measure of the EU is a sensitive political issue. At the same time, from the pan-European perspective he called for an exchange of information on priorities for the EV topic in order to search out what could be done together, and what should not. Eventually he offered the EU's instruments for the needed coordination, i.e. work programmes, ERA-Nets aiming at coordinated calls (in terms of timing and topic) of the involved member states' governments and the European Commission, and Joint Programming being the most harmonized way of coordination that may require a high level of confidence.

Günter Lugert (Siemens) who presented the European Roadmap for the Electrification of Road Transport that had been edited jointly by EPoSS, ERTRAC and SmartGrids, expressed the industry's opinion that any joint action of the member states and the European Commission on the EV topic would be beneficial for the competitiveness of the involved sectors. Referring to a recent study that expects the global market for plugin-hybrid and electric vehicles to be 10 million units per year in 2020¹⁴, and points to China's ambitions to become the world leader for this technology, and making reference to the funding and loan programmes announced by the U.S. Government, Günter Lugert was calling the EU to keepup with the global trend and increase the spending on the electrification topic.

Talking about option for the reduction of CO₂-emissions from transport in Europe Ian Hodgson (DG Environment) addressed another important motivation for electro mobility besides ensuring competitiveness for the European industry: the reduction of green house gas emissions, which the electric vehicle can enable for two reasons: (a) the electric power train in a well-to-wheel analysis is more energy efficient than the internal combustion engine and thus causes less CO₂-emissions, and (b) even more importantly, if powered by electricity from renewable sources like wind or solar, the electric vehicle can be driven almost CO₂-free. According to Ian Hodgson, the European Commission has implemented four legislative measures to support the move towards reduction of CO₂-emissions in the transport domain:

- the regulation on CO₂ from passenger cars¹⁵
- the fuel quality directive 7.a¹⁶
- the renewable energies directive¹⁷
- the encouragement for reduction of full life-cycle emissions

¹³ www.smart-systems-integration.org/public/electric-vehicle/ec-workshop-r-d-programmes-ev

¹⁴ Roland Berger Strategy Consultants, Power Train 2020 - China's ambition to become market leader in E-Vehicles (2009).

¹⁵ Regulation (EC) No. 443/2009.

¹⁶ Directive 2009/30/EC.

¹⁷ Directive 2009/28/EC.

In the case of a plug-in hybrid or electric vehicle these legislations apply to either the vehicle or the grid, thus a full (well-to-wheel) consideration of the CO₂ emissions is needed in order to assess whether a vehicle does match the requirements stated in this legislation. It is an open question whether a “macroscopic” emission trading system between the energy and the automotive sector or a “microscopic” solution that based on smart metering allows the customer to choose from available energy sources will be the way to implement the connection of the electric vehicle to CO₂-free power sources.

European Green Cars Initiative – Opportunities in 2010

The objective of the European Green Cars initiative is to support R&D on technologies and infrastructures that are essential for achieving breakthroughs in the use of renewable and non-polluting energy sources, safety and traffic fluidity. Despite its name the Green Cars Initiative is not only for passenger cars. Under the Green Cars Initiative, the topics include research on trucks, internal combustion engines, bio-methane use, and logistics. However a main focus is on the EV. The total budget of the European Green Cars Initiative is 5 billion EUR of which 4 billion are loans provided through the European Investment Bank, and the PPP European Green Cars Initiative is making available a total of one billion EUR for R&D through joint funding programmes of the European Commission, the industry and the member states. These financial support measures will be supplemented by demand-side measures, involving regulatory action by Member States and the EU, such as the reduction of car registration taxes on low CO₂ cars to stimulate car purchase.

For a rapid implementation of the PPP European Green Cars Initiative, the instruments of the 7th Framework Programme were chosen, and an Ad-Hoc Industrial Advisory Group was established as a high-level forum for a strategic dialogue between the European Commission and the involved industrial sectors. Due to the horizontal character of the topic, various services of the European Commission work tightly together in this PPP: Particularly DG Research, and DG Information Society and Media are in charge of launching the respective calls for proposals. Their representatives Mihaela Williams, Hughes van Honacker (both DG Research) and Griet van Caenegem (DG Info) explained the topic of the 2010 calls for the Green Cars Initiative¹⁸:

- GC.SST.2010.7-1 to 7-7 "**European Green Cars Initiative - RTD Pillar**"
in the Sustainable Surface Transport (SST) work programme
Call Identifier: FP7-SST-2010-RTD-1; Deadline: 14.01.2010
- GC.SST.2010.7-8 "**Green Cars - Integrated EU demonstration Project on Electromobility**"
in the Sustainable Surface Transport (SST) work programme
Call Identifier: FP7-TRANSPORT-2010-TREN-1; Deadline: 14.01.2010
- GC.SST.2010.7-9 "**Materials, Technologies and Processes for Sustainable Automotive Electrochemical Storage Applications**"
in the Sustainable Surface Transport (SST) work programme
Call Identifier: FP7-2010-GC-ELECTROCHEMICAL-STORAGE; Deadline: 14.01.2010
- GC.ICT.2010.10-3 "**ICT for the Fully Electric Vehicle**"
in the Information and Communication Technologies (ICT) work programme
Call Identifier: FP7-2010-ICT-GC; Deadline: 03.11.2009

¹⁸ www.cordis.europa.eu

The loan programmes of the European Investment Bank were presented by Olivier Debande. These include¹⁹

- the Risk-Sharing Finance Facility (RSFF), and
- European Clean Transport Facility (ECTF); a loan instrument which has been specifically designed for lowering greenhouse gas emissions in the transport industry.

National Programmes for the EV

The first speaker in this session was Udo Buennagel from the German Federal Ministry for the Environment who presented the National Development Plan Electromobility, which had been edited jointly by four ministries (Economics, Transport, Environment, Education& Research). According to Mr. Buennagel this plan shall for the next tens years contribute to climate protection, grid stability and extended use of renewable energy, safeguard market leadership of the German automotive and supply industries, maintain competitiveness by innovation along the new value chain for electromobility, leverage new urban mobility and road transport concepts based on less fossil fuels, and raise public awareness and acceptance of change. One of its milestones is to put one million plugin hybrid and pure electric vehicles on Germany's roads by 2020. The plan was put up for discussion with industry leaders and stakeholder groups at a National Strategy Conference held in Berlin in November 2008²⁰. It comprises a number of recommendations for R&D topics and framework measures, and shall be implemented in three phases: Preparation of Technology (2009-11), Scaling Up (2012-16), and Mass Market (2017-20). The measures of the first phase are: R&D Network Electromobility (Fraunhofer Gesellschaft), R&D in battery cell technologies, Power grid for electromobility, Production technologies for Li ion cells and batteries, Vehicle technologies, ICT solutions for charging, billing and grid integration, Field operational tests for passenger cars and vans, Public electromobility (busses, bikes, charging spots), Safety test center for batteries, Pilot plant for battery recycling, and Diesel hybrid busses. For this first phase, a total of 500 million EUR R&D funding was made available through the German Economic Stimulus Package in early 2009.

Subsequently, the R&D programmes and institutions for the development and market introduction of electric vehicles in Austria were presented by Andreas Dorda from the Austrian Ministry of Transport, Innovation and Technology, who pointed out the strategic goals for Austria:

- Reduction of the negative social and ecological effects of transport: reduction of accidents, pollutants, GHG emissions and noise.
- Securing the competitiveness of a key sector of the Austrian economy through innovation in order maintain the level of employment.
- Increase of the energy efficiency of the transport system and sustainable replacement of fossil fuels with electricity from renewable sources.
- Implementation of user-friendly, multimodal electric transport solutions

He pointed out the consequences of the current changes in drivetrain technologies like electrification and introduction of hybrid propulsion systems for Austria where 175.000 people are employed in the automotive sector and where companies like BMW, Opel, AVL and Magna have extensive in drive train technologies. Dorda, who also is heading the Austrian Agency for Alternative Propulsion Systems²¹, emphasized the need for strategic partnerships between government, industry and research that would be necessary to overcome the "chicken-egg" problem.

¹⁹ www.eib.org/products/loans/special/

²⁰ www.elektromobilitaet2008.de

²¹ www.a3ps.at

The vision and strategies of EV action plan of the Netherlands was summarized by Alexander Hablé from the Dutch Ministry for Transport: In 2009-2011 the Netherlands will be one of the international try out spots of electromobility in Europe, in 2012-2015 they will have an early market, and in 2015-2025 a full market. According to Mr. Hablé the Netherlands are an ideal test ground because electric driving is popular, distances are short, and a suitable infrastructure is available. The measures of the Dutch government include fiscal incentives: no purchase and road tax, low fiscal income tax (10% instead of 14 or 25%), local incentives, e.g. parking, and a subsidy programme for first movers. Furthermore, a common public private working party of car manufacturers (OEMs and new ones), utilities, NGOs, Research and governmental as well as local authorities shall be established. Topics deserving particular attention from the Dutch point of view are related to safety: New testing, type approval and admitting procedures for electrical vehicles, and how to avoid the risk of show stopping.

The subsequent discussion made clear that from the member states' point of view clear regulations for the CO2 assessment of electric vehicles are expected from the EU. Moreover, standardization (regarding e.g. plugs, vehicle-to-grid, billing) is seen as a task that could be facilitated by the help of the European Commission. Furthermore, safety rules for the electric vehicles should be harmonized Europe wide. In general, the representatives of the member states agreed that a platform for information exchange among them and with the European Commission on the abovementioned topics would be able to provide added benefit to them.

Other Cooperation Activities

Pau Ray who represented the SmartGrids platform in his talk pointed out the need for coherence of the automotive and power grid roadmaps for the success of electromobility. Obviously, the product cycles are far shorter in the automotive than in the energy sector. Also, it was mentioned that the connection of the electric vehicle to the power grid needs to be smart, i.e. integrating energy and data flows and intelligent controls, in order to provide bidirectional capabilities or just the connection to renewable energies.

Polis, a network of European cities and regions, which promotes, supports and advocates innovation in local transport was represented by Karen Vancluysen who stressed the need to consider all modes of transport when talking about electrification. She also showed some best practice examples like the City of London where EVs are exempt from the congestion charges and where a delivery plan for EV has been created aiming at 10000 EV asap and 25000 charging spots in 2015²².

Wrap-Up and Future Perspectives

The discussion of the wrap up session was focussed on how the European Commission and the member states can jointly support Pan-European cooperation for the electric vehicle topic considering in a horizontal way all related issues (energy storage systems, vehicle technology, grid integration, safety, implications for mobility and transport etc.) and including all relevant stakeholders from the public and private sides. The participants in this workshops made clear that in order to remove the road blocks for electromobility in Europe, a platform for the information exchange on national EV programmes is necessary. It should be aimed at creating the interrelations between the national and the EU programmes, and at the same time it should address the interplay of the regulatory frameworks, standardization and the support measures for scaling up production, and it should integrate all involved sectors.

²² www.newride.org.uk

6.) Recommendations

The European Commission's workshop about the member states' and the European Union's R&D programs for the EV made obvious the need for pan-European coordination. The ideal platform would be one bringing together public and private sides in a horizontal way:

- the authorities of the European Commission, the member states, cities and regions, and
- the involved industry sectors and technology fields (automotive, energy, ICT, logistics)

However, the lessons learned during the preparation of the workshop are that each single of these two dimensions is a challenge by itself: Many member states are hesitant to talk at the European level about their national strategies and support measures. This may be either due to the obvious lack of central coordination in many member states and or due to uncertainty about the added value of such dialogue since from many member states' point of view, R&D programs for the EV are primarily part of recovery measures for their national economies. At the same time, a common basis for the dialogue of the involved sectors is missing, too; the Public Private Partnership for the European Green Cars Initiative is referring to the European Technology Platforms ERTRAC, EPoSS, and SmartGrids each of which can cover the EV topic as one among others only. It has been proposed to use channels of communication established for a particular subtopic to create a basis of trust, e.g. an existing ERA-Net however this may fall too short as the roadblocks for the deployment of EV can't be removed by one sector alone but are rather calling for the abovementioned horizontal approach.

Rather than considering the topic of electromobility as a whole and trying to bring together all involved parties at a new platform once, a smart approach of the European Commission would be to consider what interlinks (between sectors and authorities) are really essential for bringing forward the EV topic in Europe and to focus on facilitating their creation in the first place. From the point of view of Components and Systems, the interface between the EV and the power grid (V2G) surely would be a technology field where interlinks of the involved sectors are still missing. V2G is the "glue" between the automobile's battery and the energy source, thus it is the key for the maturity of electromobility, and it also provides the needed link between the EV and renewable or carbon-free energies. From a technical point of view, V2G is all about joint solutions of the involved industry sectors (automotive, energy, ICT) for components and systems. From a political standpoint cross-border usability of EVs needs to be supported by Europe-wide standards and harmonized regulations. Therefore it may like in no other case be agreed by the involved parties at the public and privates sides that a European-wide dialogue is of additional benefit. Thus, the conclusion of the European Commission's workshop about the member states' and the European Union's R&D programs for the EV is that the creation of the ideal public-private electromobility platform should be started by focusing on V2G as a topic that is urgently calling for such approach. It could be facilitated by another workshop entitled e.g. "European Strategies for Vehicle-to-Grid" and held jointly by DG Info, some proactive member states, as well as ETPs, coordination actions and European associations dedicated to the electromobility topic.

As first steps towards such approach on the industry a joint roadmap for the V2G topic is needed and on the public side it needs to be sorted out which departments of the member states' ministries are involved in the topic, to what extend these are open to a discussion at European level and what role they would expect the European Commission to play. It may be good for the follow-up workshop to have a discussion about models and instruments that the EU can offer to support the member states in finding joint solutions for the V2G topic.

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