

ANSI Electric Vehicles Standards Panel (EVSP)
Selected Electric Vehicle Standards Activities and Related Coordination Initiatives
(Yellow highlighted items added / Blue highlighted items substantially edited - since last update)

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Organization / Initiative	Description	URL	Next Milestone Date(s)
AAA	<p>In an effort to reduce range anxiety for owners' of electric vehicles such as the Nissan Leaf, AAA announced it will offer North America's first mobile charging roadside assistance trucks. The announcement was made Monday during a press conference at the Plug-In 2011 Conference and Exposition.</p> <p>The roadside assistance trucks will be equipped with the capability to provide Level 2 and Level 3 charging for auto club members when their EV's batteries become discharged. The trucks will be able to provide 10-15 minutes of charge time, which should provide enough juice for the EVs to travel three to 15 miles to a charging station to top off the charge, according to AAA.</p>	<p>July 19, 2011 news item http://wot.motortrend.com/aaa-mobile-charging-trucks-to-help-reduce-range-anxiety-for-evs-98547.html#ixzz1SkPAjUam</p>	
ACEA – European Automotive Manufacturers' Association	ACEA has delayed their 2017 and beyond recommended charge coupler position to the European Commission until August.		
<p>ANSI (American National Standards Institute)</p> <p>Electric Vehicles Standards Panel</p>	<p>The American National Standards Institute Electric Vehicles Standards Panel (ANSI EVSP) is releasing its <i>Standardization Roadmap for Electric Vehicles – Version 1.0</i>. The roadmap assesses the standards, codes, and regulations, as well as conformance and training programs, needed to facilitate the safe, mass deployment of electric vehicles and charging infrastructure in the United States.</p> <p>The <i>Standardization Roadmap</i> is supplemented by the <i>ANSI EVSP Roadmap Standards Compendium</i>, a searchable spreadsheet which inventories standards that are directly or peripherally related to each issue identified in the roadmap, while also identifying related issues to which the standards potentially apply.</p>	<p>www.ansi.org/evsp</p>	<p>Scheduled for release on / about April 23, 2012</p>
<p>ANSI</p> <p>ANSI Workshop: Standards and Codes for Electric Drive Vehicles</p>	ANSI convened the April 5-6, 2011 workshop on behalf of the U.S. Department of Energy and the Idaho National Laboratory to explore current and needed standards, codes, and conformity assessment programs that will help drive the market for grid-connected electric vehicles, charging infrastructure, and support services.	<p>Workshop report and proceedings at www.ansi.org/edv</p>	
<p>ANSI</p> <p>ANSI – ESO Conference: Transatlantic Standardization Partnerships on E-Mobility/Electric Vehicles, Energy, and Security</p>	<p>This October 12, 2011 event brought together high-level U.S. and European government officials, corporate executives from the automobile industry, and experts from key standards developing bodies to share perspectives on efforts underway to develop a common approach and schedule for joint electric vehicle standardization activities. Moderated by Ms. Kathryn Hauser, U.S. Executive Director of the TransAtlantic Business Dialogue, the session opened with Mr. Michael Froman, Deputy National Security Adviser for International Economic Affairs, and EU Trade Commissioner Karel De Gucht addressing the political imperative for transatlantic cooperation in this field and the importance of this initiative in the context of the Transatlantic Economic Council. Mr. De Gucht called on participants to form a transatlantic e-mobility standardization roundtable to lead transatlantic standardization. Mr. Steve Biegun, Vice President of International Government Affairs for Ford Motor Company, and Mr. Franciscus van Meel, Head of Electromobility Strategy at Audi AG, presented the business case for transatlantic harmonization of technical standards, and stressed that harmonized transatlantic standards would facilitate economies of scale for mass production and boost the competitiveness of businesses in the transatlantic market. Mr.</p>	<p>See conference proceedings at: http://www.ansi.org/meetings_events/wsw11/ANSIESOConference_proceedings.aspx?menuid=8</p>	

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	<p>Jack Pokrzywa, Director, Ground Vehicle Standards for SAE International, and Mr. David Dossett, President of CENELEC, addressed progress being made on the technical level to ensure interoperability, manage regional differences, and address the formidable complexities of this new industry. The panelists then engaged in a dialogue about lessons learned, challenges that lie ahead and next steps to ensure continued progress harmonizing standards for electric vehicles.</p>		
<p>APEC Regulatory Cooperation Advancement Mechanism</p>	<p>A May 2011 ARCAM dialogue in Montana confirmed that many APEC economies are actively promoting, or considering promoting Electric Vehicles as a means to achieve critical objectives related to environmental sustainability, energy security and economic growth.</p> <p>It was proposed to commission a study to demonstrate the business case for interoperability of standards in the context of electric vehicle charging infrastructure in the APEC economies.</p> <p>Interoperability standards could provide many benefits for deploying electric vehicle charging infrastructure such as</p> <ul style="list-style-type: none"> • Minimization of financial risks for local investments • Enabling product market competition • Facilitating of upgrade paths for specific technologies <p>A workshop will be held in March 2012 to review the study's outcomes and develop strategies to promote adoption of interoperable standards. Co-sponsors are China, Korea and Chinese Taipei.</p>		
<p>ATIS (Alliance for Telecommunications Industry Solutions)</p>	<p>ATIS is exploring two use cases related to charging a PEV from someone else's private home and charging from a public charging portal. ATIS will explore these use cases with respect to both connected vehicle and smart grid standardization. In particular, ATIS will investigate the role that telecom operators can provide in these use cases with respect to cellular and fixed wide area communications, service layer capabilities such as security, quality of service (QoS), priority, device provisioning, management, and charging. This investigation will include the identification of any gaps in information and communications technology (ICT) standardization needed to satisfy these use cases.</p>		
<p>Canada – Government of Electric Vehicle Technology Roadmap for Canada (Sep 28-30, 2009)</p>	<p>This Roadmap is intended to provide the strategic direction to ensure the development and adoption of EVs in Canada, while building a robust industry.</p> <p>The Roadmap provides the perspective of numerous stakeholders, mainly industry, as to how EVs for highway use should evolve in Canada over the next nine years and what should be done to secure this evolution. The Roadmap covers a wide range of topics related to the production and deployment of 500 000 or more EVs in Canada by 2018. The topics include energy storage, components for EVs, vehicle integration, business models and opportunities for EVs, government policies, regulatory and human resource issues, and public awareness and education.</p> <p>Included in this Roadmap are two types of personal and commercial vehicles that rely exclusively or primarily on electric traction:</p> <ul style="list-style-type: none"> • battery EVs that have only electric traction and are almost always charged from the electricity grid • EVs that have an internal combustion engine (ICE) in addition to an electric traction motor. The ICE can charge the vehicle's battery by powering a generator while the vehicle is in motion, and may also provide traction. 	<p>http://canmetenergy-canmetenergie.nrcan-rncan.gc.ca/eng/transportation/hybrid_electric_vehicles/evtrm.html</p>	

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	<p>Other EVs that are not considered in the Roadmap include fuel-cell-based vehicles, vehicles with two or three wheels, low-speed and off-road vehicles, military vehicles, and vehicles such as trolley buses that are powered from the grid while in motion.</p> <p>Of note . . .</p> <p>Codes, standards, regulations and infrastructure readiness</p> <ul style="list-style-type: none"> • Review national, provincial/territorial and municipal regulations that impact the manufacture and use of EVs in Canada. Ensure that the regulations support EV development without compromising safety and other concerns. • Harmonize North American standards and practices concerning the integration of EV components, including charger interfaces. • Develop harmonized standards for the conversion of used vehicles to electric traction. • Amend building codes and other regulations to require that at least the rough-in for outlets for charging EVs is included in all new buildings. Provide model codes and regulations. • Develop action plans for infrastructure readiness. 		
Car-2-Car Communication Consortium / ETSI TC Intelligent Transportation Systems	The Intelligent Transport community within ETSI is discussing the European mandate with the Car-To-Car Consortium (C2C CC) in order to investigate the work that may be required to answer the communications aspects in reply to the mandate M/468.		
<p>CEN-CENELEC / Focus Group on European Electro Mobility</p> <p>Final Report to CEN and CENELEC Technical Boards in response to Commission Mandate M/468 concerning the charging of electric vehicles</p>	<p>CEN, the European Committee for Standardization, and CENELEC, the European Committee for Electrotechnical Standardization, formed a Focus Group of stakeholder interests, including representatives of national standardization bodies/organizations and European associations, and including observers from the European Commission services, international and European standards committees and others. In June 2011, the Focus Group finalized its Report on European Electro Mobility in response to a European Commission/EFTA mandate. A second edition was published in October 2011 with minor amendments, following Technical Board discussion.</p> <p>The mandate to the European Standards Organizations had the objective of developing new standards or reviewing existing standards in order to:</p> <ol style="list-style-type: none"> a) Ensure interoperability and connectivity between the electricity supply point and the charger of electric vehicles, including the charger of their removable batteries, so that this charger can be connected and be interoperable in all EU Member States; b) Ensure interoperability and connectivity between the charger of electric vehicle- if the charger is not on board- and the electric vehicle and its removable battery, so that a charger can be connected, can be interoperable and re-charge all types of electric vehicles and their batteries; c) Appropriately consider any smart-charging issue with respect to the charging of electric vehicles; d) Appropriately consider safety risks and electromagnetic compatibility of the charger of electric vehicles in the field of Directive 2006/95/EC (LVD) and Directive 2004/108/EC (EMC). <p>A European level Coordination Group has been established to ensure that the recommendations contained in the report are implemented. David Dossett is chair. Coordination with the ANSI EVSP is</p>	<p>Report available at:</p> <p>www.cen.eu/go/eMobility</p> <p>See presentation by David Dossett, MBE, President, CENELEC from October 12, 2011 ANSI-ESO Conference</p> <p>http://publicaa.ansi.org/sites/apdl/Documents/Meetings%20and%20Events/2011%20World%20Standards%20Week/ANSI-ESO_Conference/Dossett-eMobility_ANSI-ESO_WSW.pdf</p>	

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	being pursued including the planning of a TransAtlantic E-mobility Standardization Roundtable in autumn 2012.		
China Charging Standards	As of last year China has issued 42 EV related standards with 28 additional new standards being drafted. What standards that have been translated indicate no harmonization with either IEC or SAE.		
DOE (U.S. Department of Energy) One Million Electric Vehicles by 2015 (February 2011 Status Report)	This February 2011 DOE report provides an analysis of advances in electric vehicle deployment and progress in meeting President Obama's goal of putting one million electric vehicles on the road by 2015. The analysis shows that while the goal is ambitious, it is also achievable based on steps already taken as part of the Recovery Act and additional policy initiatives proposed by President Obama -- including improvements to existing consumer tax credits, programs to help cities prepare for the growing demand for electric vehicles, and strong support for research and development to continue reducing the cost of electric vehicles.	Press release http://energy.gov/articles/doe-releases-new-analysis-showing-significant-advances-electric-vehicle-deployment Report http://energy.gov/news/documents/1_Million_Electric_Vehicle_Report_Final.pdf	
DOE Transportation Electrification Demonstration Projects	This is a nationwide effort to mine data to assist in the widespread deployment of EDV charging stations. The project includes the deployment of 13,000 electric vehicles, the installation of 22,000 charging stations, and funding of programs for first responders on how to handle accidents involving EDVs. Data collected in the project will include vehicle and charger performance, charging patterns and public charger use, the impact of various rate structures on charging habits, and the impact of vehicle charging on the electric grid.		
DOT (U.S. Department of Transportation)	DOT is working with NEMA on traffic communication standards. IEEE has work on this too.		
Electric Drive Transportation Association	EDTA is an industry association dedicated to advancing electric drive as a foundation for sustainable transportation. Its members include major vehicle manufacturers, utilities, battery, charging and component suppliers, trade associations, universities and research institutions, government agencies, non-profit organizations, fleet-users, retail outlets and consumers. Since 1989, EDTA has led efforts to provide federal support for electric drive research, demonstration and manufacturing, and to provide significant incentives for the purchase of electric vehicles and chargers, and the promotion of EV infrastructure development in the U.S. EDTA sponsors the National Plug-in Vehicle Initiative (NPVI), launched in October, 2009 to address market and institutional barriers to widespread adoption of plug-in electric vehicles. The NPVI assembled 200 industry professionals and advocates, representing 62 companies and organizations in a unique inter-industry collaboration to create <i>GoElectricDrive.com</i> . EDTA sponsors an annual conference, as well as national and international educational and media events.	www.electricdrive.org www.goelectricdrive.com	EVS26 May 6-9, 2012 in Los Angeles, CA http://events.ntpshow.com/evs26/public/enter.aspx

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EPRI Infrastructure Working Council (IWC)	<p>The National Electric Transportation Infrastructure Working Council (IWC), sponsored by EPRI, is a group of individuals whose organizations have a vested interest in the emergence and growth of the electric vehicle (EV) and plug-in hybrid and electric vehicle (PHEV) industries, as well as the electrification of truck stops, ports, and other transportation and logistic systems. Infrastructure Working Council members include representatives from electric utilities, vehicle manufacturing industries, component manufacturers, government agencies, related industry associations, and standards organizations. Infrastructure Working Council committees meet several times a year to address the main areas of electric vehicle, plug-in hybrid and electric vehicle, truck stop, and port electrification infrastructure research and development</p>		Next IWC meetings June 27-28, 2012 in Chicago, IL
GeoEVSE Forum	<p>The GeoEVSE Forum is a government-industry collaboration committed to establishing a repository of public electric vehicle supply equipment (EVSE) location data for use by consumers and industry.</p>	http://www.afdc.energy.gov/afdc/vehicles/geoevse.php	
German Standardization Roadmap for Electromobility	<p>Working Group 4 “Standardization and Certification” of the National Platform for Electromobility set up by the German Federal Government has developed a “German Standardization Roadmap for Electromobility” on the basis of cross-sectoral cooperation within German industry. This roadmap, published at November 30th, 2010, provides an overview of existing structures and decisions made within the standardization landscape and addresses essential requirements and recommendations for action needed for e-mobility to see a breakthrough in Europe and the rest of the world.</p> <p>A benchmark paper summarizes the central demands put forward in the standardization roadmap. It identifies the framework conditions required for standardization, defines specific recommendations for action, and points out what further action is needed. The benchmark paper advocates that “standardization must be quick and international.”</p> <p>The Electromobility Office at DIN will help support and structure the entire process, with the aim of introducing technical standardization within the international context at an early stage, thus sustainably strengthening the German economy.</p> <p>On October 19, 2011, representatives from the German Federal Ministry of Economics and Technology, and the standards organizations DIN and DKE, met with representatives of NIST, ANSI and SAE for a roundtable discussion to promote bilateral and international cooperation in standardization in the area of electric vehicles (among other topics).</p>	http://www.elektromobilitaet.din.de/cmd.jsessionid=F752FE51BB0E6F29AAC9BDE6062A3F84.1?level=tpl-home&languageid=en	
GSA (U.S. General Services Administration) Electric Vehicle Pilot Program	<p>To further the president’s goals of reducing the country’s dependence on oil imports by one-third by 2025 and putting 1 million advanced technology vehicles on the road, the U.S. General Services Administration launched the government’s first Electric Vehicle Pilot Program. The pilot is a targeted investment to incorporate electric vehicles and charging infrastructure into the federal government’s vehicle and building portfolios as a first step to growing the number of electric vehicles in the federal fleet over time. The initial government investment in electric vehicles will support the burgeoning EV market. The electric vehicle pilot supports a presidential memorandum that requires all new federal vehicle purchases to be clean, alternative-fueled vehicles by 2015. The memorandum and Electric Vehicle Program will aid federal agencies in implementing Executive Order 13514 on federal sustainability, which requires a 30 percent decrease in petroleum consumption.</p> <ul style="list-style-type: none"> One hundred sixteen plug-in electric vehicles will be leased to 20 agencies, including the 	<p>Joint White House, DOE, GSA press release (May 24, 2011)</p> <p>http://energy.gov/articles/obama-administration-takes-major-step-toward-advanced-vehicles-new-fleet-management</p>	

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	<p>departments of Energy, the Navy, and the Treasury.</p> <ul style="list-style-type: none"> • The vehicles will be in five cities: Washington; Detroit; and Los Angeles, San Diego, and San Francisco, Calif. • GSA will work with agencies to install charging infrastructure in federal buildings in the five pilot cities. • The pilot will integrate electric vehicle technology and charging infrastructure into the federal fleet and federal buildings to the best ways to use the technology in the federal fleet. • The 116 electric plug-in vehicles being deployed in the pilot are expected to annually save almost 29,000 gallons of gas, reduce greenhouse gas emissions by 257 metric tons, and save taxpayers almost \$116,000 in fuel costs. 	<p>GSA EV pilot program page http://www.gsa.gov/portal/content/281581</p>	
<p>ICC (International Code Council) / International Green Construction Code</p>	<p>The International Code Council (ICC) has developed an International Green Construction Code that includes both mandatory and elective provisions requiring a minimum percentage of parking spaces in commercial buildings reserved for low emission, hybrid and electric vehicles.</p>	<p>http://www.iccsafe.org/cs/IGCC/Pages/default.aspx</p> <p>See Bruce Johnson presentation ANSI EDV workshop</p> <p>http://publicaa.ansi.org/sites/apdl/Documents/Meetings%20and%20Events/EDV%20Workshop/Presentations/Johnson-ANSI-EDV-0411.pdf</p>	
<p>IEA (International Energy Agency)</p> <p>Technology Roadmap Electric and Plug-in Electric Hybrid Vehicles updated June 2011</p>	<p>The IEA, at the request of the G8, is developing a series of roadmaps for some of the most important technologies needed for achieving a global energy-related CO₂ target in 2050 of 50% below current levels. Each roadmap develops a growth path for the covered technologies from today to 2050, and identifies technology, financing, policy and public engagement milestones that need to be achieved to realise the technology's full potential. These roadmaps also include special focus on technology development and diffusion to emerging economies, to help foster the international collaboration that is critical to achieving global GHG emissions reduction.</p> <p>The <i>Electric and Plug-in Hybrid Vehicle (EV/PHEV) Roadmap</i> for the first time identifies a detailed scenario for the evolution of these types of vehicles and their market penetration, from annual production of a few thousand to over 100 million vehicles by 2050. It finds that the next decade is a key "make or break" period for EVs and PHEVs: governments, the automobile industry, electric utilities and other stakeholders must work together to roll out vehicles and infrastructure in a coordinated fashion, and ensure that the rapidly growing consumer market is ready to purchase them. The roadmap concludes with a set of near-term actions that stakeholders will need to take to achieve the roadmap's vision.</p>	<p>http://www.iea.org/publications/free_new_Desc.asp?PUBS_ID=2156</p>	
<p>IEC (International Electrotechnical</p>	<p>IEC/TC 23H, EV connector and inlet standards</p>	<p>See G. Nieminski Presentation ANSI</p>	

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Commission)	IEC/TC 69, EV charging standards	EDV workshop http://publicaa.ansi.org/sites/apdl/Documents/Meetings%20and%20Events/EDV%20Workshop/Presentations/Nieminski-ANSI-EDV-0411.pdf	
IEC	<p>At its October 24, 2011 meeting, the IEC Standardization Management Board formed Strategic Group 6 on Electrotechnology For Mobility to encompass the complete domain of automotive electronics, including the global supply chain, requirements of electrical utilities, electronic components, etc. The group is chartered as follows:</p> <p>To provide IEC SMB and Technical Committees with a strategic vision and assistance to address standardization needs on systems and products to be used for interfacing plug-in electric vehicles with electricity supply infrastructure. This encompasses:</p> <ul style="list-style-type: none"> - To analyse market and industry developments, - To identify gaps and overlaps in the standards, - To make sure that appropriate standards are timely delivered and to support TC/SCs activity, - To define a means for coordination of cross TC/SCs activities and collaboration with other Standardization Organizations (notably with ISO and regional standardization bodies), - To monitor the practical application of collaborations already in place, in particular ISO/IEC Agreement. <p>More generally, in the context of the revised ISO/IEC Agreement concerning standardization of electrotechnology , to make recommendations to IEC SMB and TCs in order to ensure that:</p> <ul style="list-style-type: none"> - IEC 's electrotechnical expertise is best utilized and contributes on a more pro-active way to the standardization of new requirements, products and systems, - Experts from the automobile sector are appropriately involved in IEC Technical work, - IEC rules and deliverables fit the needs of the automobile sector especially with regard to the use of standards in their regulatory context. <p>The U.S. National Committee (USNC) of IEC nominated as its representatives:</p> <ul style="list-style-type: none"> - Kevin Lippert, Eaton Corporation (Primary) - Alan Manche, Schneider Electric (Alternate) <p>Subsequently, the USNC was invited to nominate two additional representatives, one from the auto industry and one from electric utility industry. These additional representatives are:</p> <ul style="list-style-type: none"> - Britta K Gross, General Motors Corp. - Gary K Stuebing, Duke Energy Corp. 		

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	Underwriters Laboratories (UL) is organizing an electronic Technical Advisory Group (e-TAG) for the USNC. Contact Sonya Bird, e-TAG Secretary – USNC TAG for IEC SMB/SG6, sonya.m.bird@ul.com .		
IEC	IEC/TC 40 discussed UN regulations affecting shipment of batteries. Will affect new innovations. IEC/TC 21, Others identified in the MOU with ISO.		
IEC Smart Grid Standardization Roadmap (SMB Smart Grid Strategic Group (SG3), June 2010; Edition 1.0)	<p>The aim of this document (is to draft a strategic, but nevertheless technically oriented, reference book which represents the standardization requirements for the IEC Smart Grid Roadmap based on the recent work of IEC SG3. As a living document, this roadmap will be subject to future changes, modifications and additions, (i.e. completion of the mapping of a Generic Reference Architecture for Smart Grid) and will be incorporated into future editions.</p> <p>This roadmap presents an inventory of existing (mostly IEC) standards, and puts them into perspective regarding the different Smart Grid applications. Gaps between actual standards and future requirements are analyzed and recommendations for evolution are presented. Nevertheless, different national and international groups have delivered input which, after review and discussion in SG3, has been integrated in this version of the Roadmap.</p> <p>Electromobility is discussed in sections 4.3.11 (pp. 92-96), 6.2.21 (pp. 119-120), 6.2.26 (p. 121) and 6.2.35 (p. 126).</p>	http://www.iec.ch/smartgrid/downloads/sg3_roadmap.pdf	
IEC-e8 / Strategic Roundtable	<p>An initiative of the International Electrotechnical Commission (IEC) and e8, a global organization of the world's leading electricity companies, brought together major stakeholders to accelerate the global roll-out of EVs. (Note: e8 is now known as the Global Sustainable Electricity Partnership.)</p> <p>A January 19, 2011 roundtable was held in Washington DC to determine priorities for the development of EV-related standards, to define future needs, and to accelerate the broad adoption of the relevant international standards that will enable global interoperability and connectivity.</p> <p>Participants included high-level representatives of major car manufacturers, including BMW, Ford, Mitsubishi, Nissan, Renault and Toyota, electrical equipment manufacturers such as Eaton, General Electric, Hubbell and Schneider and utilities such as AEP, Duke, EDF, Electrobras, Hydro Quebec, Kansai Electric Power, State Grid Corporation of China and TEPCO. Others included EPRI (Electric Power Research Institute) as well as ISO (International Organization for Standardization).</p> <p>All stakeholders confirmed that the IEC's existing and proposed International Standards for EV charging (on the charger side: plug, socket and cord; on the vehicle side: connector and inlet) satisfy their global needs. Four charging modes have been retained, covering AC and DC charging.</p> <p>All participants underlined their preference for using IEC, ISO and ITU (International Telecommunication Union) international standards.</p>	http://www.iec.ch/new/slog/2011/nr0411.htm	
IEEE	IEEE publishes the IEEE 1547 series of Standards for Interconnecting Distributed Resources with Electric Power Systems and the IEEE P2030.1 Draft Guide for Electric-Sourced Transportation Infrastructure.	See T. Basso Presentation from ANSI EDV workshop	IEEE Transportation and Electrification Conference and

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	<p>P2030.1 is concentrating on issues related to the interconnection of the electric vehicle to the electric grid. This includes understanding the operations between the vehicle and the grid (at the point of charge), the acronyms involved by the automotive and power industry (many times the terms are similar, but mean very different things to each) and the ability to connect global standards so that progress in interoperability can be obtained.</p> <p>At this time, P2030.1 is working on the roadmap, cyber security, battery swapping (both at the individual and fleet end) and communications technology between the vehicle dashboard and the charging points, GPS, etc. One of the items needing additional clarification is the technical information on the service equipment (the charging interface that integrates the energy conversion from the grid to the vehicle). There are electrical specifics needed in terms of inrush current, cable capacity, output waveform, total harmonic distortion, etc that need to be better understood in order to provide a more detailed discussion on the integration issues.</p> <p>The battery swapping issue needs further discussion so that any energy conversion aspects can be detailed as well.</p> <p>Cyber Security aspects are very timely, especially if there are integration issues between the car, potential interruptions due to remote signals, and/or the communications requirements needed.</p> <p>Also being investigated is the concept of EV as source, which may require additional communications with the local ISO (independent system operator) and the ancillary services option. This area also impacts the privacy discussions that are very active as well as the data ownership interests.</p> <p>In addition, IEEE is currently working with the some of the international automotive manufacturers association in order to bring them into the discussion so that the p2030.1 document can truly reflect an international viewpoint.</p>	<p>http://publicaa.ansi.org/sites/apdl/Documents/Meetings%20and%20Events/EDV%20Workshop/Presentations/Basso-ANSI-EDV-0411.pdf</p> <p>P2030.1:</p> <p>http://grouper.ieee.org/groups/scc21/2030.1/2030.1_index.html</p>	<p>Expo (ITEC2012), June 18-20, 2012 in Dearborn, MI</p> <p>http://itec-conf.com/</p>
<p>ISO (International Organization for Standardization) / IEC</p> <p>Revised Memorandum of Understanding (MOU) between ISO and IEC on Automobile Electrotechnics</p>	<p>International standardization of electrotechnology for road vehicles (i.e., the related equipment including electrical and electronic systems and components) is the scope of this agreement. The agreement creates a framework of cooperation between ISO/TC 22, road vehicles, and relevant IEC TCs/SCs.</p> <p>International standardization of electrotechnology for road vehicles concerns two fields of applications:</p> <ul style="list-style-type: none"> - On-board equipment and performance of road vehicles, - Interface between externally chargeable vehicles and electricity supply infrastructure. <p>Annex A of this agreement lists ISO and IEC (TCs and SCs) standardization activities in the field of electrotechnology for road vehicles. Annex B of this agreement lists current modes of cooperation.</p>	<p>http://www.iso.org/iso/pressrelease.htm?refid=Ref1402</p>	
<p>NAFTC (National Alternative Fuels Training Consortium) (NAFTC) / Advanced Electric Drive (AED) Vehicle Education Program</p>	<p>The Advanced Electric Drive Vehicle Education Program, funded by the U.S. Department of Energy, provides information, educational opportunities, and outreach activities for multiple audiences to educate America on next generation vehicles. These audiences include: consumers, first responders, secondary school educators and students, charging infrastructure engineers and installers, automotive technicians, and fleet operators.</p>	<p>http://www.naftc.wvu.edu/aedvehicleeducationprogram</p> <p>See A. Ebron presentation ANSI EDV workshop</p> <p>http://publicaa.ansi.org/sites/apdl/Documents/Meetings%20and%20</p>	

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		Events/EDV%20Workshop/Presentations/Ebron-ANSI-EDV-0411.pdf	
<p>NECA (National Electrical Contractors Assn)</p> <p>NECA 413 / National Electrical Installation Standard (NEIS)</p> <p>Standard for Installing and Maintaining Electric Vehicle Supply Equipment (EVSE)</p>	<p>NECA has developed this standard for the electrical contracting industry. NECA has also developed an EVSE Workshop for electrical contractors. NECA expects to offer the Workshop through its nationwide chapters to allow its members to become proficient in supporting the implementation of the EV market, but with an emphasis on safety and code compliance.</p> <p>This standard describes the procedures for installing and maintaining AC Level 1, AC Level 2 and fast charging DC (initially known in the industry as AC Level 3) Electric Vehicle Supply Equipment (EVSE). This standard covers Electric Vehicle Supply Equipment (EVSE) that complies with applicable local, state and federal regulations, codes and standards for AC Level 1, AC Level 2 and fast charging DC EVSE intended for transferring energy between premises wiring systems and electric vehicles (EVs). Important elements of this standard address site assessment and analysis of existing electrical services to ensure capacity and safe loading of existing premises wiring systems.</p>	www.neca-neis.org	
<p>NEMA (National Electrical Manufacturers Assn)</p> <p>Electric Vehicle Supply Equipment /Systems Section</p>	<p>The NEMA EVSE / Systems Section represents manufacturers of products or assemblies installed for the purpose of safely delivering and managing electrical energy between an electric vehicle and an electrical source.</p> <p>Section Purpose:</p> <p>NEMA supports the development of the electric vehicle supply equipment (EVSE) market and leads effort to educate the market on the features and values of the electric vehicle supply equipment infrastructure around the world.</p> <p>Section Objectives:</p> <ul style="list-style-type: none"> • Develop consistent positions for domestic and international codes and standards, ensuring safety and interoperability of equipment • Build support for the electric vehicle supply market through marketing programs and business information, • Organize a unified industry position on legislative and regulatory issues • Develop collaborative efforts such as training programs, with members of the EVSE supply channel, including contractors and installers, • Align efforts with major stakeholders in the EV market, including auto manufacturers, utilities, and the federal government and • Drive business and advancements in technology through global strategies for an electric vehicle supply equipment sector <p>Section Goals:</p> <ul style="list-style-type: none"> • Demonstrate and promote EVSE technologies and best practices necessary for electric vehicles 	<p>http://nema.org/prod/b/e/evse/</p> <p>See A. Kriegmann presentation ANSI EDV workshop</p> <p>http://publicaa.ansi.org/sites/apdl/Documents/Meetings%20and%20Events/EDV%20Workshop/Presentations/Kriegman-ANSI-EDV-0411.pdf</p>	

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	<p>and related infrastructure</p> <ul style="list-style-type: none"> • Promote federal incentives that ensure widespread and rapid adoption of an electrical vehicle infrastructure • Establish the NEMA EVSE Section as the information leader and respected resource for the market • Lead industry efforts on EVSE systems relevant to power management and control, including communications with building energy management system, as well as EVSE-to-EVSE communication 		
<p>NEMA EVSE Section (contd.)</p>	<p>Representatives from NEMA led a meeting on July 20, 2011 to discuss standards harmonization requirements for electric vehicle supply equipment systems (EVSE) in North America.</p> <p>During the meeting, representatives from Underwriters Laboratories (UL), Canadian Standards Association (CSA), Association of Standardization and Certification (ANCE), and various Canadian, Mexican, and U.S. stakeholders focused on how to rapidly harmonize the following UL standards with CSA Technical Information Letters (TIL):</p> <p>UL Requirements for EV's</p> <ul style="list-style-type: none"> • UL 2231 Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: Part 1 General Requirements, and Part 2 Particular Requirements for Protective Devices for Use in Charging Systems • UL 2251 Safety of Plugs, Receptacles and Couplers for Electric Vehicles • UL 2594 Outline of Investigation for Electric Vehicle Supply Equipment <p>CSA Requirements for EV's</p> <ul style="list-style-type: none"> • TIL D 33 Interim Certification Requirements for Charging Circuit Interrupting Devices/Line Isolation Monitors rated up to 250v ac for use in Electrical Vehicle Supply Equipment • TIL A 35 Interim Certification Requirements for Electric Vehicle cord sets and power supply cords • TIL I 44 Interim Certification Requirements for off board charging system equipment for recharging the storage batteries of electric vehicles with inputs and outputs rated 600 V or less. • TIL A 34 Interim Certification Requirements of Electric Vehicle connectors/couplers and receptacles/plugs for use in a conductive charging system. <p>The group agreed that there is an urgent need for these standards and decided to immediately organize three ad-hoc working groups of technical experts to review and harmonize the requirements of the UL and CSA documents by the end of August 2011. Once this activity is completed, the SDOs will expedite the approval of the drafts so by the end of 2011, the harmonized documents will be available for certification purposes in all three countries. The success of this effort will depend in large part on having active industry participation.</p>	<p>http://www.nema.org/media/pr/20110726a.cfm</p>	

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New York City	<p>On July 12, 2011, New York City announced the addition of 70 new electric vehicles to the City's fleet and launched new City efforts to provide New Yorkers with the facts about electric vehicles.</p> <p>The City's electric vehicle program is made possible due to a partnership with the New York State Power Authority and funding from the U.S. Department of Transportation – each helped fund a portion of the cost differential between the purchase of an electric vehicle and gas-powered vehicle – and the U.S. Department of Energy, which provided a grant to the charger manufacturer Coulomb to provide the public charging stations installed throughout the city.</p> <p>The City's electric vehicle information site, Drive Electric NYC, available at www.nyc.gov, provides users with the primary facts about electric cars: how they drive, how they are unique and how they are similar to and differ from conventional vehicles. The site also includes a map of public charging stations in the city, a cost calculator link to help potential owners understand the total cost of an electric vehicle versus a conventional vehicle – including fuel costs – and describes how electric cars work in everyday use. The site also documents the environmental benefits of electric cars. The site is part of the recently updated <i>PlaNYC</i>, which includes an initiative to facilitate the adoption of electric vehicles. The City is also collaborating with the cities of Boston and Philadelphia as part of the Northeast Regional Electric Vehicle Partnership to improve conditions for electric vehicles and alleviate barriers to early electric vehicle adoption through low-cost, high-impact actions.</p>	http://www.nyc.gov/portal/site/nycgov/menutem.c0935b9a57bb4ef3daf2f1c701c789a0/index.jsp?pageID=mayor_press_release&catID=1194&doc_name=http%3A%2F%2Fwww.nyc.gov%2Fhtml%2Fom%2Fhtml%2F2011b%2Fpr248-11.html&cc=unused1978&rc=1194&ndi=1	
NFPA / U.S. Infrastructure requirements for electrical vehicle charging system installations	<p>NFPA 70[®], the National Electrical Code[®] is adopted throughout the U.S. and is adopted as part of, or incorporated into, all U.S. model building codes and residential construction codes. It is the basis for NOM 1, the electrical installation code of Mexico, and it closely correlates with the Canadian Electrical Code-volume 1. It provides a uniform standard for residential, commercial, and industrial electrical installations for EV charging equipment in North America. Electrical Vehicle Charging Systems have been covered under Article 625 of the National Electrical Code since 1996. The 2011 edition of the NEC[®] was revised to recognize plug-in hybrids.</p>	http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=70 See M. Earley presentation ANSI EDV workshop http://publicaa.ansi.org/sites/apdl/Documents/Meetings%20and%20Events/EDV%20Workshop/Presentations/Earley-ANSI-EDV-0411.pdf	
NFPA Fire Protection Research Foundation / Electrical Vehicle Charging and NFPA Electrical Safety Codes and Standards	<p>This October 2011 report supported by the Fire Protection Research Foundation assessed the implications of electric vehicle charging for NFPA electrical safety codes and standards. As indicated in the Project Summary, the specific tasks of the report are to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Assess charging station specifications to determine the implications for electrical infrastructure <input type="checkbox"/> Review NFPA standards and prepare a straw-man assessment of gaps and inconsistencies <input type="checkbox"/> Present interim findings to the NEC EV task force and revise the straw-man based on this input <input type="checkbox"/> Prepare and present a final report of all tasks at the NFPA/SAE Electric Vehicle Summit 	http://www.evsafertraining.org/Resources/Research.aspx	

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NFPA Fire Protection Research Foundation / Fire Fighter Safety And Emergency Response For Electric Drive And Hybrid Electric Vehicles	<p>The NFPA Fire Protection Research Foundation's May 2010 report relates to First Responder Tactics and EVs. This document and the associated workshop were the groundwork for NFPA's first responder EV training program. It is available for free download from the NFPA website under Research, Research Foundation, and then Emergency Responder Studies.</p> <p>This publication may be helpful to the EVSP in defining EVs. The report is also full of other useful data regarding various types of electric vehicles and manufacturers of EVs.</p>	http://www.nfpa.org/assets/files/PDF/Research/FFTacticsElecVeh.pdf	
NFPA Fire Protection Research Foundation / U.S. Electrical Vehicle Safety Training Program	<p>NFPA created and is conducting an EV training program, sponsored by the U.S. Department of Energy, for training all U.S. emergency responders who respond to electrical vehicle incidents. It covers all types of electrical vehicles and is intended for fire fighters, EMS personnel, law enforcement officers, and tow operators. For example, there are 1.2 million fire fighters in the U.S. who will be offered this training.</p> <p>In addition to the DOE program, which is underway, NFPA has established partnerships with several vehicle manufacturers, including GM, Ford, Nissan and Tesla to provide national emergency responder EV training for them. Others have expressed interest.</p>	http://www.EVsafetytraining.org	
NFPA Fire Protection Research Foundation / U.S. Research on lithium ion battery hazards	<p>The Fire Protection Research Foundation of NFPA has undertaken a project to assess lithium ion battery hazards looking at different types of these batteries. The objective is to assess the fire protection hazards associated with lithium ion batteries and identify gaps in information regarding fire protection of the batteries during storage and transportation. The work does not include batteries while installed in vehicles.</p>	http://www.nfpa.org/foundation	<p>Proceedings from the Aug 30, 2011 workshop are available at:</p> <p>http://www.nfpa.org/assets/files/PDF/Research/LithiumIonBatteryProceedings.pdf</p>
NHTSA (National Highway Traffic Safety Administration of U.S. Department of Transportation)	<p>NHTSA maintains the U.S. Federal Motor Vehicle Safety Standards (FMVSS) and Regulations to which manufacturers of motor vehicle and equipment items must conform and certify compliance. NHTSA currently is in rulemaking on the silent vehicle. Research projects are also underway on crash use charging scenarios, performance.</p> <p>NHTSA will be holding an EV safety symposium at the Department of Transportation in Washington, DC on May 18, 2012 from 8:30 – 4:30 pm. The meeting is open to the public and there is no fee to attend but you pre-registration is highly encouraged because of space limitations. Notice of the meeting will be published in the Federal Register on 4/24. A pre-publication copy of the Federal Register notice containing the registration link can be found here:</p> <p>https://s3.amazonaws.com/public-inspection.federalregister.gov/2012-09786.pdf</p>	http://www.nhtsa.gov/cars/rules/standards/	
NIST / Smart Grid Interoperability Panel (SGIP)	<p>In February 2012 NIST released an updated smart grid framework for the United States. The NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 2.0 lays out a vision for transforming the nation's electric power system into an interoperable Smart Grid – a nationwide network that integrates information and communication technologies, enabling two-way flows of energy and communications to deliver electricity efficiently, reliably, and securely.</p> <p>The Smart Grid Interoperability Panel (SGIP), formed in November 2009, engages stakeholders from the</p>	http://www.nist.gov/smartgrid/upload/NIST_Framework_Release_2-0_corr.pdf	

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	<p>entire Smart Grid Community in a participatory public process to identify applicable standards, gaps in currently available standards, and priorities for new standardization activities for the evolving Smart Grid. SGIP supports NIST in fulfilling its responsibilities under the 2007 Energy Independence and Security Act.</p> <p>Within the SGIP there are working groups of experts within a particular domain. As electric vehicle to grid interaction has been determined to be a critical issue, a Vehicle to Grid Domain Expert Working Group (V2G DEWG) was created in 2009 to analyze vehicle to grid interoperability.</p> <p>The V2G DEWG provides a strategic view of interoperability needs and standards gaps related to the interaction and communications between the electric vehicle, the charging system, the power grid, and the user. The V2G DEWG has six subgroups: Road-mapping, Security, Privacy, EV as Storage, Roaming, and Regulatory, with an additional subgroup for sub-meter issues being formed. When the V2G DEWG identifies critical roadblocks or gaps in any of these areas a SGIP Priority Action Plan (PAP) is formed.</p> <p>These tactical PAPs facilitate and coordinate stakeholders and SDOs in overcoming standards related challenges. The first SGIP V2G-related PAP was PAP 11 focused on common information for EVs. This PAP was closed out in 2011 with the successful approval of the SGIP of three SAE standards; J2836, J2847, J1772™. A new PAP is in the process of being created to address fast charging issues including the need for standardized fast charge connectors and communications.</p> <p>The SGIP can redirect issues identified by the V2G DEWG that are out of scope of the SGIP to the EVSP and share with the EVSP information on electric vehicle infrastructure standardization needs and gaps. The EVSP in turn can identify standardization needs and gaps that can inform the work of the V2G DEWG and facilitate the development of SGIP PAPs.</p>	<p>V2G DEWG</p> <p>http://collaborate.nist.gov/wiki-sggrid/bin/view/SmartGrid/V2G</p>	
<p>NREL (National Renewable Energy Laboratory) / Vehicle Codes and Standards: Overview and Gap Analysis</p>	<p>This February 2010 report includes a review of codes and standards for electric vehicles.</p>	<p>http://www.nrel.gov/docs/fy10osti/47336.pdf</p>	
<p>RITA (Research and Innovative Technology Administration of U.S. Department of Transportation) / Intelligent Transportation Systems Standards Program</p>	<p>RITA's Intelligent Transportation Systems Standards Program has been contacted by DOE about EV charging stations. DOE is interested in our Electrical and Lighting Management Systems (ELMS) standard, also known as NTCIP 1213 version 2. This standard defines how to interface to, and manage, public lighting and power systems to reduce power consumption. The Smart Grid program is interested in using the ELMS standard for managing distributed power generation and for managing electrical vehicle charging stations. These new purposes for using the ELMS standard are in addition to the standard's original transportation purposes.</p> <p>NTCIP is the National Transportation Communications for ITS Protocol, a coordinated effort of AASHTO, ITE and NEMA.</p> <p>DOT has yet heard of any DOE or SDO action towards amending ELMS to support EV charging.</p>		
<p>SAE International</p>	<p>SAE standards development activity covers a wide range of PEV issues.</p> <p>The SAE was first to publish a contemporary AC charge coupler standard when SAE J1772™ was</p>	<p>News Item in re: SGIP adoption</p>	

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	<p>published in January 2010. This coupler is also incorporated into IEC 62196-2. Future revisions of the document will incorporate requirements for DC charging. SAE J1772™ has been included in the NIST list of smart grid standards.</p> <p>SAE is near publication of the first charger power quality specification, SAE J2894. The document focuses on characteristics of the AC service to which the charger will be connected, as well as the impact chargers can have on service quality. This document is targeted to be included in the NIST list of smart grid standards.</p> <p>SAE is working on a broad range of documents related to vehicle to grid and vehicle to off-board charger communications (the J2836 and J2847 series of documents and J2931 and J2953). These standards have been included in the NIST list of smart grid standards. The SAE task forces responsible for these standards work closely with their IEC and ISO counterparts in an effort to harmonize standards.</p> <p>SAE also has begun work on J2954, a wireless charging standard. Again the SAE task force is working closely with its ISO counterparts in an effort to harmonize standards.</p> <p>Other PEV issues addressed by SAE standards include battery design, packaging, labeling, safety, transport, handling, recycling, and secondary uses; energy transfer systems, terminology etc.</p>	<p>http://www.prnewswire.com/news-releases/sae-international-standards-among-first-chosen-for-smart-grid-catalog-of-standards-126707543.html</p> <p>See J. Pokrzywa presentation ANSI EDV workshop</p> <p>http://publicaa.ansi.org/sites/apdl/Documents/Meetings%20and%20Events/EDV%20Workshop/Presentations/Pokrzywa-ANSI-EDV-0411.pdf</p>	
<p>SAE/ NFPA</p> <p>Second Annual Electric Vehicle Safety Standards Summit</p>	<p>The purpose of the <i>Second Annual Electric Vehicle Safety Standards Summit</i> (September 2011) was to bring appropriate stakeholder groups together to further refine a shared implementation plan to ensure that fire and electrical safety standards impacting electric vehicles do not serve as a barrier to their deployment. In doing so, the intent has been to build on the success of the previous Summit (October 2010). The specific objectives of this latest event were:</p> <ul style="list-style-type: none"> • Review the significant progress since the previous Summit (October 2010) and apply the lessons-learned for future enhanced action plans; • Further clarify the relevant fire and electrical safety codes, standards and specifications which address the safety hazards associated with the widespread implementation of electric vehicles; • Review progress to fill identified gaps in these codes, standards and specifications (i.e. changes/enhancements and/or new standards), and identify new gaps that have arisen; • Review progress to fill related gaps in research, training, and communications; and • Refine and enhance the previously established action plan to fill these gaps for necessary standards development and associated support activities. 	<p>The Reports from the September 2011 and October 2010 summits can be found at:</p> <p>http://www.evsaftytraing.org/Resources/Research.aspx</p>	
<p>Standards Australia</p>	<p>In September 2008, the Council of Australian Federation (CAF) asked the Victorian Government to investigate the extent to which Australian standards will need to be developed to support the introduction of electric vehicles on Australian roads. The Victorian Government subsequently commissioned Standards Australia (working in partnership with Rare Consulting Pty Ltd) to undertake a scoping study to provide advice on the development of Australian standards for electric vehicle operation.</p> <p>The first stage of the project resulted in a September 2009 scoping study which recommended, among other things, that priority be given to the immediate development of Australian standards for electric</p>	<p>Standards workplan</p> <p>http://www.standards.org.au/OurOrganisation/News/Documents/EV%20Standards%20Workplan%2029%20</p>	

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	<p>vehicle operation in respect of:</p> <ul style="list-style-type: none"> a) the design of aftermarket electric vehicles b) the design and operation of Level 2 recharging systems c) the standardisation of user and GHG information relating to electric vehicles sold in Australia. <p>The second stage was development of a prioritised standards work program which was completed in or about October 2010 for submission to the Victorian State Government. The third and final stage is implementation/ execution of the prioritised work program to begin in early 2011.</p>	<p>October%20final.pdf</p> <p>Australian Update on Electric Vehicles Standards Development</p> <p>http://www.standards.org.au/OurOrganisation/Events/Documents/The%20Future%20of%20Electric%20Vehicles%20in%20Australia%20-%20Presentation%204%20-%20Mr%20Mark%20McKenzie.pdf</p>	
<p>TransAtlantic Economic Council (TEC)</p> <p>Work Plan for advancing transatlantic e-mobility cooperation</p>	<p>On 29 November 2011 the TEC took a number of important steps to promote the development of a transatlantic market for electric vehicles, a sector that will be critical to the job creation, innovation, and conservation goals of the EU and the United States in the coming decades. The TEC endorsed a comprehensive work plan for e-mobility, electric vehicles and related infrastructure, promoting deeper cooperation between regulatory agencies and among all relevant standards stakeholders. The work plan focuses on the development of common global rules and compatible transatlantic standards, cooperation among standard setters and regulators, and the deepening of research cooperation across the Atlantic. The plan has already produced initial results, and includes new initiatives aimed at strengthening regulatory cooperation in multilateral fora, such as the United Nations Economic Commission for Europe.</p> <p>The EU's Joint Research Center and the U.S. Department of Energy also today [29 November 2011] signed a Letter of Intent committing both sides to the development of joint testing laboratories that will foster closer regulatory alignment between EU and U.S. research and testing bodies. These testing labs will promote efficient and environmentally sustainable business solutions that meet consumer safety and transport needs. The TEC encouraged the development of additional demonstration projects in 2012. TEC principals called upon standardization bodies, as well as upon all relevant industry and government actors, to increase efforts to achieve our shared goal of realizing an interoperable e-mobility market.</p> <p>In March 2011, TransAtlantic Business Dialogue (TABD) members Audi and Ford drafted an e-mobility work plan for the proposed TEC. ACEA (the European Automobile Manufacturers Assn), the Alliance of Automobile Manufacturers and others provided input and the plan was endorsed by the TABD. On May 12, 2011 the plan was submitted to the White House and the European Commission.</p>	<p>TEC E-Mobility Work Plan</p> <p>http://www.state.gov/p/eur/rls/or/178419.htm</p> <p>TABD Input to the TEC</p> <p>http://www.tabd.com/index.php?option=com_content&view=article&id=82:e-mobility-work-plan-submitted-to-tec-co-chairs&catid=5:news&Itemid=9</p>	
<p>UCA International Users Group</p>	<p>UCA International Users Group is a not-for-profit corporation focused on assisting users and vendors in the deployment of standards for real-time applications for several industries with related requirements. The Users Group does not write standards, however works closely with those bodies that have primary responsibility for the completion of standards (notably IEC TC 57: Power Systems Management and Associated Information Exchange).</p> <p>The UCALug as well as its member groups (CIMug, Open Smart Grid, and IEC61850) draws its</p>	<p>http://www.ucaiug.org/default.aspx</p>	

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	<p>membership from utility user and supplier companies. The mission of the UCA International Users Group is to enable utility integration through the deployment of open standards by providing a forum in which the various stakeholders in the utility industry can work cooperatively together as members of a common organization to:</p> <ul style="list-style-type: none"> • Influence, select, and/or endorse open and public standards appropriate to the utility market based upon the needs of the membership. • Specify, develop and/or accredit product/system-testing programs that facilitate the field interoperability of products and systems based upon these standards. • Implement educational and promotional activities that increase awareness and deployment of these standards in the utility industry. 		
UL (Underwriters Laboratories, Inc.)	UL standards development activity for PEVs addresses safety-related concerns for batteries; electric vehicle supply equipment (EVSE); personnel protection systems; plugs, receptacles and connectors, on-board cables, electric utility (smart) meters, etc.	<p>See K. Boyce presentation ANSI EDV workshop</p> <p>http://publicaa.ansi.org/sites/apdl/Documents/Meetings%20and%20Events/EDV%20Workshop/Presentations/Basso-ANSI-EDV-0411.pdf</p>	
<p>USCAR (United States Council for Automotive Research)</p> <p>U.S. DRIVE Grid Interaction Tech Team</p>	<p>The Grid Interaction Tech Team's mission is to support a transition scenario to large scale electrified vehicle charging with transformational technology, proof of concept and information dissemination. Collaboratively, the team will address the interests of U.S. DRIVE partners and other stakeholders to identify and support the reduction of barriers to large scale introduction of grid connected vehicles.</p> <p>Participants on the team include USCAR representatives from Chrysler, Ford and General Motors and representatives from the U.S Department of Energy (DOE), national laboratories and the new electric utility partners, Southern California Edison and Michigan-based DTE Energy.</p>	<p>http://www.uscar.org/guest/teams/63/Grid-Interaction-Tech-Team</p>	
USCAR	USCAR (Ford, GM, Chrysler) and U.S. Dept of Commerce are working on test procedures for batteries.	<p>http://www.uscar.org/guest/tlc/11/Vehicle-Electrification-TLC</p>	
Washington State / DOT Proposes Pooled Fund to Study EV Infrastructure	<p>The Washington State Department of Transportation has posted a Transportation Pooled Fund proposal to convene an executive workshop on strategies and best practices for state transportation departments to support commercialization of electric vehicles and infrastructure.</p> <p>Every major auto manufacturer is now planning or will be mass-producing an electric-drive vehicle within two years. By 2012, more than 120 new electric vehicle models will be available for retail sale. Efforts are underway at the federal and state level to incentivize and support the deployment of electric vehicles and infrastructure.</p> <p>There is currently no national forum for state transportation agencies to collaborate on funding efforts,</p>	<p>bit.ly/WSDOT-EVPF</p>	

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	<p>model policies, and best practices. A forum or community of practice is essential to help states maximize investments and ensure consistency among the states as this new technology is rapidly put into practice.</p> <p>This project will bring together executive-level representatives from different states to engage in a highly interactive series of discussions, presentations, and peer-to-peer exchanges. The proposed workshops investigate current practices and identify knowledge needs in order to help DOTs build their capacity and capabilities to work with private partners as well as federal, state, and local officials as transportation electrification efforts gain momentum around the country.</p> <p>More information is available at bit.ly/WSDOT-EVFP and by contacting Jeff Doyle, WSDOT's director of public/private partnerships, at 360-705-7023 or doylej@wsdot.wa.gov.</p> <p>The Transportation Pooled Fund is sponsored by the American Association of State Highway and Transportation Officials, the Federal Highway Administration, and the Transportation Research Board.</p>		
Zigbee Alliance / SAE Zigbee Smart Energy	<p>The ZigBee Alliance, a global ecosystem of companies creating wireless solutions for use in energy management, and Society of Automotive Engineers (SAE) International have partnered on ZigBee Smart Energy standard development.</p> <p>The groups plan to make ZigBee Smart Energy the preferred technology supporting plug-in electric vehicles (PEV) and enabling essential vehicle to grid (V2G) communication and power capabilities.</p> <p>ZigBee Smart Energy is a home area network and advanced metering infrastructure standard for the smart grid.</p> <p>The organizations said that using ZigBee Smart Energy to define how PEVs and the grid interact, whether at the consumer's home or at a remote location, will be one of the goals the two groups address.</p> <p>This initiative is anticipated to provide future PEV drivers with the real-time information needed to control their transportation energy use, manage their charging costs and receive utility incentives for participating in PEV programs.</p> <p>Work between the groups is underway with completion targeted for next year when ZigBee Smart Energy version 2.0 is scheduled for completion.</p>	<p>Feb 2, 2011 press release</p> <p>http://energy.einnews.com/pr-news/306185-zigbee-alliance-and-sae-international-accelerate-electric-vehicle-connection-to-the-smart-grid</p> <p>Zigbee Smart Energy standards</p> <p>http://www.zigbee.org/Standards/Downloads.aspx</p>	
The White House U.S. China Electric Vehicles Initiative (November 17, 2009)	<p>On November 17, 2009, President Barack Obama and President Hu Jintao announced the launch of a U.S.-China Electric Vehicles Initiative. The two leaders emphasized their countries' strong shared interest in accelerating the deployment of electric vehicles in order to reduce oil dependence, cut greenhouse gas emissions and promote economic growth. Activities under the initiative will include:</p> <ul style="list-style-type: none"> • Joint standards development. The two countries will explore development of joint product and testing standards for electric vehicles. This will include common design standards for plugs to be used in electric vehicles, as well as common test protocols for batteries and other devices. Each country currently has extensive literature and data on its own standards. Making this information mutually available and working towards common standards can help facilitate rapid deployment of electric vehicles in both countries. • Joint demonstrations. The Initiative will link more than a dozen cities with electric vehicle demonstration programs in both countries. Paired cities will collect and share data on charging patterns, driving experiences, grid integration, consumer preferences and other topics. The demonstrations will help facilitate large-scale introduction of this technology. 	<p>http://www.whitehouse.gov/files/documents/2009/november/US-China-Fact-Sheet-on-Electric-Vehicles.pdf</p>	4th U.S. – China Electric Vehicle and Battery Technology Workshop held August 4-5 at Argonne National Laboratory

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	<ul style="list-style-type: none"> • Joint technical roadmap. A U.S.-China task force will create a multi-year roadmap to identify R&D needs as well as issues related to the manufacture, introduction and use of electric vehicles. The roadmap will be made widely available to assist not just U.S. and Chinese developers, but also the global automotive industry. It will be updated regularly to reflect advances in technology and the evolution of the marketplace. • Public awareness and engagement. The United States and China will develop and disseminate materials to improve public understanding of electric vehicle technologies. Building on the success of the first-even U.S.-China Electric Vehicles Forum in September 2009, the United States and China will sponsor the event annually, alternating between the two countries. The Forum will bring together key stakeholders in both countries to share information on best practices and identify new areas for collaboration. 		
World Forum for Harmonization of Vehicle Regulations (WP. 29)	<p>In existence for more than 50 years, and with participants coming from all over the world, especially the main motor vehicle producing countries, the World Forum for Harmonization of Vehicle Regulations (WP 29) offers a unique framework for globally harmonized regulations on vehicles. The benefits of such harmonized regulations are tangible in road safety, environmental protection and trade. The Secretariat is provided by the UNECE (United Nations Economic Commission for Europe).</p> <p>In November 2011 two WGs were established, one on safety of EVs including the battery; one on environmental aspects of EV regulations. Audible warnings of EVs is also being worked through WP.29.</p>	http://www.unece.org/trans/main/welcwp29.htm	