

SAN DIEGO REGIONAL ELECTRIC VEHICLE INFRASTRUCTURE WORKING GROUP

MEETING NOTICE AND AGENDA

Date: Thursday, May 17, 2012

Time: 1:00 p.m. to 2:30 p.m.

Location: California Center for Sustainable Energy
8690 Balboa Ave, Suite 100
San Diego, CA 92123-1502

Staff Contact: David Almeida
Tel: (858) 244-1190
Email: david.almeida@energycenter.org

AGENDA HIGHLIGHTS

- REVI FORMATION DOCUMENTS
- PEV CHARGING AT MULTI UNIT DWELLINGS
- CITY OF SAN DIEGO PEV CHARGING SYSTEMS INFORMATION BULLETINS

In compliance with the Americans with Disabilities Act (ADA), CCSE will accommodate persons who require assistance in order to participate in San Diego REVI meetings. If such assistance is required, please contact CCSE at (858) 244-1177 at least 72 hours in advance of the meeting.



SAN DIEGO REVI

Thursday, May 17, 2012

ITEM #		RECOMMENDATION	
1.	WELCOME AND INTRODUCTIONS		
+2.	SUMMARY OF THE MARCH 15, 2012 MEETING		
	A) The San Diego Regional Electric Vehicle Infrastructure Working Group (REVI) is asked to review and approve the March 15, 2012 meeting summary.	APPROVE	
	B) and C) As information items, an updated member list and a summary of key barriers from REVI members are provided.	INFORMATION	
3.	ANNOUNCEMENTS AND PUBLIC COMMENTS		
	Members of the public shall have the opportunity to address San Diego REVI on any issue that is not on this agenda. Public speakers are limited to three minutes or less per person. REVI members may provide information and announcements under this item.		
CONSENT			
+4.	PLUG-IN ELECTRIC VEHICLE READINESS WORKSHOP	INFORMATION	
	In partnership with the statewide PEV Collaborative, CCSE will host a PEV infrastructure readiness workshop for local governments from 10am-4 pm on Thursday, June 14, 2012. The workshop will focus on key community actions related to PEV readiness, including zoning/ parking, permitting/inspection, building codes, and training/ education programs. The workshop flyer is attached.		
REPORTS			
+5.	SAN DIEGO REVI FORMATION DOCUMENTS	APPROVE	
	REVI members discussed and submitted comments on the draft mission statement, goals, and charter: a summary is included with this item. Staff worked with the Chair to revise each document based on input received. The REVI is asked to review, recommend any final revisions, and approve the formation documents.		
	A) Draft Mission Statement B) Draft Goals C) Draft Charter		

ITEM #		RECOMMENDATION
+6.	<p data-bbox="290 359 867 388">PEV CHARGING AT MULTI UNIT DWELLINGS</p> <p data-bbox="290 432 1117 667">Significant challenges have been identified for installing PEV charging at multi-unit dwellings, such as condos, apartments, and townhomes. Joel Pointon, SDG&E, has been leading workhops to address this issue and will provide the REVI with an overview of existing challenges. After his presentation, Mr. Pointon and staff will propose ways the REVI can help address this barrier. A summary of barriers and a fact sheet from SDG&E are attached.</p>	INFORMATION
+7.	<p data-bbox="290 722 963 785">CITY OF SAN DIEGO PEV CHARGING INFORMATION BULLETINS</p> <p data-bbox="290 833 1117 1213">The City of San Diego issued Information Bulletin (IB) 187: How to Obtain a Permit for EV Charging Systems in March 2012, and is currently finalizing an IB on EV charging system compliance with the Americans with Disabilities Act (ADA). Jacques Chirazi, City of San Diego Mayor’s Office, and Karen Prescott, National Electrical Contractors Association (NECA), will provide an overview of the bulletins. IB 187 is attached. Local government and agency members will be asked to provide staff with any EVSE guidance materials and/or policies that exist at their own jurisdictions/agencies prior to the next REVI meeting to identify options to consistently address these issues across jurisdictions in the region.</p>	INFORMATION
8.	<p data-bbox="290 1268 493 1297">NEXT MEETING</p> <p data-bbox="290 1339 1117 1436">Topics will include barriers to siting EVSE on public streets and staff will return with follow-up materials from the multi-unit dwelling and information bulletin discussions.</p>	INFORMATION
9.	<p data-bbox="290 1486 656 1516">MATTERS FROM MEMBERS</p> <p data-bbox="290 1558 1117 1621">REVI members are encouraged to discuss additional topics of general interest.</p>	INFORMATION
10.	<p data-bbox="290 1671 505 1701">ADJOURNMENT</p>	

+ next to an item indicates an attachment

3200800

MARCH 15, 2012, MEETING SUMMARY

ITEM #1: WELCOME AND INTRODUCTIONS

Chair Susan Freedman, San Diego Association of Governments (SANDAG), called the meeting to order at 2:08 p.m. and welcomed everyone to the kickoff meeting of the San Diego Regional Electric Vehicle Infrastructure Working Group (REVI). Introductions were made.

ITEM #2: ANNOUNCEMENTS AND PUBLIC COMMENTS

Chair Freedman announced that in addition to an electronic distribution list (e-list) being created to communicate to REVI members, an e-list would be developed for any stakeholders interested in receiving REVI meeting notices and materials. She requested that anyone who wanted to become part of this e-list provide their contact information to one of the SANDAG or California Center for Sustainable Energy (CCSE) staff in the room. She also stated that REVI meeting agendas would be posted on three regional Web sites—those of CCSE, SANDAG, and the San Diego Regional Clean Cities Coalition.

ITEM #3: CALIFORNIA ENERGY COMMISSION GRANT REQUIREMENTS

Chair Freedman discussed the California Energy Commission (CEC) requirements including a plug-in electric vehicle (PEV) readiness plan and the formation of a working group of diverse stakeholders. The working group was to include representation from at least four regional and local governments. The REVI was established by SANDAG Board Resolution 2012-18 that acknowledged the CEC award, in-kind match provided by SANDAG, CCSE as the project partner, and the local governments and regional organizations involved in PEV planning. (The resolution was included in the meeting agenda.) She also explained that the grant application was prepared with collaboration from SANDAG, CCSE, the City of San Diego, and San Diego Gas & Electric (SDG&E). David Almeida, CCSE, would serve as staff support to the REVI. The CEC grant had a two year timeframe that would begin as soon as the SANDAG-CEC contract was executed.

ITEM #4: REVI PROJECT OVERVIEW

Mr. Almeida presented an overview of PEV planning and the REVI project. He described efforts completed to date through the EV Project and Clean Vehicle Rebate Program, as well as a new complimentary regional grant from the U.S. Department of Energy (DOE); and how the REVI could leverage these efforts moving forward. He also presented information on work being done in other regions in California through the same CEC and DOE grant opportunities and that each region would be sharing information through monthly conference calls.

Mr. Almeida was asked to address Item #7: Project Deliverables, Timeline and Meeting Schedule during this presentation. He presented a non-exhaustive list of barriers to PEV readiness and how the REVI would be addressing these and/or others in upcoming meetings. (These items were included in the meeting agenda.)

Andy Hoskinson, Ecotality, Area Manager for the EV Project, would be able to update the group on electric vehicle service equipment (EVSE) installations at each REVI meeting.

Dave Weil, University of California San Diego, requested that the documents produced through the EV Project be distributed to the REVI e-list.

ITEM #5: REVI MEMBER RESPONSIBILITIES

Chair Freedman discussed how the membership list was created, that it is still a work in progress, and distinguished between voting members and advisory members. (The member list was included in the meeting agenda.) She explained that the CEC grant called for heavy participation from local jurisdictions, regional public agencies, and the local utility, SDG&E. REVI members also included universities, workforce training partners, and EVSE companies. Chair Freedman stated that while voting members would formally count toward quorum, the contribution of advisory members would be critical to the discussions that would be taking place. She also emphasized that the REVI does not have authority over any jurisdiction or agency; rather that the group would be producing best practice documents and a regional plan that the REVI members could then take back to their individual policy-making groups.

Chair Freedman made the members aware of a general guidelines document in the agenda that provided an overview of basic rules of order for committees. She also explained that CCSE and SANDAG were the two parties being held accountable to the CEC for establishing the REVI and meeting their contract requirements. Therefore, for at least the near term, Mike Ferry, CCSE, would serve as Vice Chair and she would serve as Chair. She also commented that they were open to including term limits or other language in the REVI's charter if the group was interested.

ITEM #6: SAN DIEGO REVI FORMATION DOCUMENTS

Mr. Almeida presented the draft versions of the REVI mission statement, goals, and charter that were included in the meeting agenda. He asked all members to review the documents carefully and submit comments via email. Mr. Almeida stated that CCSE would be working to incorporate the comments and present revised versions at the next REVI meeting, at which time the documents would need to be formally approved by the voting members.

A discussion followed with most suggestions addressing the mission statement and goals. A summary of comments is included as an Attachment to Item 5 in this meeting agenda dated May 17, 2012.

ITEM #7: PROJECT DELIVERABLES, TIMELINE, AND MEETING SCHEDULE

Mr. Almeida presented this item during Item #4.

ITEM #8: UPCOMING MEETINGS

Mr. Almeida polled the group and it was agreed to continue holding meetings on the third Thursday, every other month, and to start the meetings at 1:00 p.m. The next meeting would be held on Thursday, May 17, 2012. Chair Freedman emphasized that meetings would be two hours or less and kept to schedule. Before adjourning, Mr. Almeida announced that he would be sending follow-up emails to the group that included seeking comments on the REVI formation documents.

ITEM #9: ADJOURNMENT

The meeting was adjourned at 3:30 p.m.

REVI MEMBERSHIP LIST

MEMBERS

Brendan Reed

City of Chula Vista
(representing South County)

Gretchen Crowson

City of Del Mar
(representing North County Coastal)

Kathy Valverde

City of Santee
(representing East County)

Kathy Winn

City of Escondido
(representing North County Inland)

Peter Livingston

County of San Diego

Jacques Chirazi

City of San Diego

Susan Freedman, Chair

San Diego Association of Governments

Chris Schmidt

Caltrans, District 11

Michelle White

San Diego Unified Port District

Paul Manasjan

San Diego Regional Airport Authority

Joel Pointon

San Diego Gas & Electric

Mike Ferry, Vice Chair

California Center for Sustainable Energy

Dave Weil

University of California, San Diego

Greg Newhouse

Miramar College, Advanced Transportation Technology and Energy Program

Randy Walsh

Meissner Jacquét Investment Mgt. Services

Karen Prescott

National Electrical Contractors Association

Micah Mitrosky

International Brotherhood of Electrical Workers (IBEW)
Local 569

ALTERNATES

Tbd.

*(representing South County)**

Mo Lahsaie

City of Oceanside
*(representing North County Coastal)**

Scott Munzenmaier

City of La Mesa
*(representing East County)**

Tbd.

*(representing North County Inland)**

Tbd.

County of San Diego*

Tbd.

City of San Diego*

Allison King

SANDAG

Tbd.

Caltrans, District 11

Jenny Lybeck

San Diego Unified Port District

Brett Caldwell

San Diego Regional Airport Authority

Greg Haddow

SDG&E

Colin Santulli

CCSE

Jim Ruby

UCSD

Tbd.

Workforce Partnerships/Community College training

Tbd.

Andy Berg

NECA

Tbd.

REVI MEMBERSHIP LIST

ADVISORY MEMBERS

Mike Grim
City of Carlsbad

Ed Walton
City of Coronado

Diane Langager
City of Encinitas

Chris Helmer
City of Imperial Beach

Mike Watt
San Diego Air Pollution Control District

Mike Cully
Car2go

Chris Parry
Department of Defense

Claire Spielberg
Metropolitan Transit System

Ray Pe
City of National City

John Helminski
City of Poway

Dan King
City of Solana Beach

Lyn Dedmon
City of Vista

Andy Hoskinson
Ecotality

Charlie Botsford
Aerovironment

Colleen Quinn
Coulomb Technologies

David Wang
General Electric

**Alternates representing local governments operate in an Advisory capacity unless the Voting member is absent.*

Staff Contact: **David Almeida**, (858) 244-1190, david.almeida@energycenter.org

May 10, 2012

KEY ISSUES AND BARRIERS

Input from REVI Members

Below is a collection of opinions and comments from REVI members describing the key issues they have identified as critical to PEV deployment in the San Diego region and the major barriers they have encountered during the installation of PEV charging stations.

The remarks were recorded during follow-up sessions by both SANDAG and CCSE staff. These issues are categorized under permitting, parking, installations, training/certification, and EVSE planning and billing options. The input relates to Items 4 and 7 from the March 15, 2012 meeting.

Permitting

- San Diego cities/jurisdictions are not on the same page when it comes to obtaining permits for EVSE. For instance, one contractor may need a full-site permit or just structural permit for EVSE. Need a streamlined process that is standardized across jurisdictions
- There is a need to correspond EVSE permit fees across the 19 jurisdictions. Permits for EVSE installation/inspection range from \$98 to ~\$400.
- ADA Compliance – Need for a clear understanding of the regulation.

Parking

- While parking occupancy at PEV designated spots for prolonged periods is not much of an issue now, issues will certainly arise in the future. Rate options and policies for parking delinquency will need to be discussed.
- Signage

Installations

- Need better understanding of locational considerations such as distance of power supply in relation to the EVSE units
- Costs to install, host, O&M

Training /Certification

- Who gives the "qualified" stamp or certification for EVSE installers? Problem is identifying the installers who have completed sub-standard installations (e.g. not following code). Further, what is the procedure for holding them accountable?

EVSE Planning and Billing Options

- Cities taking a “Proactive Planning Outlook” – Passing "pre-wiring" EVSE specifications required for new buildings and integrate EVSE into the master community plan. As for the city operations for installing charging stations, what is the long-term O&M for those chargers? Is it possible to have a third party managing the system where there is no additional cost to the city? In other words, the asset would be "cost neutral" for the city.
- How will EVSE technology eventually merge (e.g. battery storage, come together, and how does the San Diego County fits into hosting charger sites?
- While Level 2 charging is adequate for now, there will be a need for a DC fast charger network/highway for full PEV deployment.
- Rather than using a kWh rate, the PEV user should be charged by the amount of time they are connected to station. Under this proposed billing system, the PEV user can buy time tickets, like parking tickets and when their time expires, a signal will be sent to parking authority and hopefully the PEV user (via text) that their charging time is expired or close to expiration.
- What are the daytime charging effects to the grid? This is especially important for this summer with possibility of the San Onofre Nuclear Generating Station not being operational.



Save the Date

Is Your Community Plug-in Electric Vehicle Ready?

Attend a free workshop that will give local governments the tools they need to get their communities ready for plug-in electric vehicles (PEVs), including:

- Building codes
- Zoning and parking policies
- Permitting and inspection
- Training and education
- Outreach to local residents and businesses

Receive a toolkit with specific actions you can take to make your community a model for PEV readiness and a compilation of resources to streamline the process

Hear local building officials share their experiences

- Gain insight to become a PEV leader in your area
- Kick the tires and take a spin in the vehicles now showing up in driveways and garages in your community
- Learn about the charging infrastructure being installed
- Hear drivers talk about “living” with a PEV
- Learn about financial incentives for infrastructure and fleet purchases
- Hear businesses talk about the needs and benefits of workplace charging, and their experience with installations

Who should attend?

- City managers
- County administrative officers
- Planners
- Code officials
- Building inspectors

Six workshops in convenient statewide locations:

Central Valley

May 15, 2012 10 a.m. - 4:00 p.m.

Hosted by: San Joaquin Valley APCD

Location: Fresno

Central Coast

May 17, 2012 10 a.m. - 4:00 p.m.

Hosted by: Central Coast Clean Cities

Location: Santa Barbara

Sacramento

May 18, 2012 10 a.m. - 4:00 p.m.

Hosted by: Sacramento Area COG

Location: Sacramento

San Diego Area

June 14, 2012 10 a.m. - 4:00 p.m.

Hosted by: California Center for Sustainable Energy

Location: San Diego

Los Angeles Area

June 19, 2012 10 a.m. - 4:00 p.m.

Hosted by: South Coast AQMD

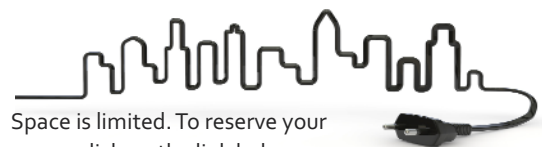
Location: Diamond Bar

Bay Area

TBD: June 2012 10 a.m. - 4:00 p.m.

Hosted by: Bay Area AQMD

Location: San Francisco



Space is limited. To reserve your space, click on the link below:

<http://pevreadinessworkshops.eventbrite.com/>

Staff Recommendation: MISSION STATEMENT

To facilitate and develop a San Diego regional plug-in electric vehicle (PEV) readiness plan that identifies, reduces or resolves barriers to the widespread deployment of private and public electric vehicle supply equipment (EVSE); thereby showcasing the San Diego region as a national leader in PEV readiness.

ORIGINAL DRAFT MISSION STATEMENT

To promote the San Diego region as the national leader in plug-in electric vehicle (PEV) adoption by preparing the region for the wide-scale rollout of PEV and electric vehicle supply equipment in a manner that further enhances our quality of life, promotes sustainability, and offers more mobility options for people and goods.

Staff Recommendation: REVI GOALS

1. To develop a regional ~~PEV Coordinating Council~~ *electric vehicle infrastructure working group* to create a regionally-accepted comprehensive PEV Readiness plan ~~which~~ *that* leverages initial PEV Readiness/EVSE planning already undertaken and addresses emerging barriers and complexities, through clear and easy to read best practices and recommendations for the major components of San Diego's regional PEV readiness plan.
2. To develop an on-going, coordinated, institutional body that functions as a strategic clearinghouse and outreach entity, to efficiently and effectively communicate best practices *across* all 19 jurisdictions and *to* diverse stakeholders involved in PEV readiness.
3. To provide consistent messages across jurisdictions, agencies, dealerships, consumers, companies, *educational institutions, EVSE installers*, and others about PEVs and EVSE.
4. *To identify funding opportunities, tax benefits and other potential incentives to promote PEVs and EVSE in the region.*

ORIGINAL DRAFT GOALS

1. To develop a regional PEV Coordinating Council to create a regionally-accepted comprehensive PEV Readiness plan which leverages initial PEV Readiness/EVSE planning already undertaken, and addresses emerging barriers and complexities, through clear and easy to read best practices and recommendations for the major components of San Diego's regional PEV readiness plan.
2. To develop an on-going, coordinated, institutional body that functions as a strategic clearinghouse and outreach entity, to efficiently and effectively communicate best practices, to all 19 jurisdictions and diverse stakeholders involved in PEV readiness.
3. To reduce petroleum consumption in San Diego County.
4. To provide consistent messages across jurisdictions, agencies, dealerships, consumers, companies, and others about PEVs and EVSE.

Staff Recommendation: CHARTER
Displaying Revisions to Original Draft

PURPOSE

The purpose of the San Diego Regional Electric Vehicle Infrastructure Working Group (REVI) is to *facilitate and develop a regional plug-in electric vehicle (PEV) readiness plan that identifies, reduces and/or resolves barriers to the widespread deployment of private and public electric vehicle supply equipment (EVSE) across the San Diego region.* ~~provide input on key activities associated with promoting the San Diego region as the national leader in plug-in electric vehicle (PEV) adoption.~~ *The* REVI shall help the San Diego region prepare for wide-scale deployment of PEV and electric vehicle supply equipment (EVSE) *undertake this effort* in a manner that *maximizes the benefits of PEVs while* further enhancing our quality of life, *protecting our environment*, promoting sustainability, and offering more mobility options for people and goods. *The* REVI was established in February 2012 by the San Diego Association of Governments (SANDAG) Board of Directors through Board Resolution 2012-18. *The* REVI will *function as a coordinating body for the sharing of information on PEV readiness planning; the dissemination of best practices and EVSE deployment materials to stakeholders from the San Diego region, other regions and the state; and the development of policy* ~~provide policy direction and guide efforts to collaborate with regional stakeholders on possible approaches~~ *that reduce or remove barriers to region-wide* to address regional PEV readiness.

RESPONSIBILITIES

The REVI should provide input and direction to the development of a regional PEV readiness plan and associated fact sheets detailing components of the plan. REVI planning activities should align with the objectives of the SANDAG Regional Transportation Plan and Sustainable Communities Strategy and the California Climate Change Scoping Plan. *The* REVI shall provide periodic progress reports to the SANDAG Regional Energy Working Group *and San Diego Regional Clean Cities Coalition.* *The REVI shall* ~~and~~ prepare a PEV readiness plan *and fact sheets* for ~~consideration by~~ *dissemination to the 19 jurisdictions of San Diego County and the SANDAG* its Board of Directors.

MEMBERSHIP

REVI is a staff working group comprised of regional stakeholder organizations. It should include Voting and Advisory Member organizations. REVI will have a maximum of 20 Voting Members. Each member organization should designate a primary and alternate representative. REVI Voting Members are asked to commit to attending *ing* meetings consistently.

Voting Members

Under the terms of the grant to establish REVI, Voting Member organizations shall include staff representing SANDAG, California Center for Sustainable Energy (CCSE), local governments from geographic sub-regions of the County, Unified Port of San Diego, San Diego Regional Airport Authority, San Diego Gas & Electric, University of California San Diego, and Miramar College.

At the formation of REVI, the Chair and Vice Chair shall be represented by staff from SANDAG and CCSE respectively. Every twelve months, REVI Voting Members can nominate and elect a new chair and vice chair if desired.

Local Government Membership

All 19 jurisdictions of San Diego County are invited to be Advisory Members. In addition, the six SANDAG designated sub-regions are asked to provide one Voting Member each: North County Coastal, North County Inland, East County, South Bay, the City of San Diego and the County of San Diego. If the local government Voting Member cannot attend a REVI meeting, that Voting Member should designate an alternate from its sub-region to serve as the Voting Member for the meeting in question. *Members are encouraged to share information on the REVI and reducing PEV readiness barriers at their individual jurisdictions.*

Advisory Members

In addition to required participants, REVI seeks broad stakeholder involvement. Advisory Members participate in meeting discussions and plan development but do not influence quorum or vote on agenda items. Representatives from the military; labor, social and business groups; original equipment manufacturers (OEMs) of EV supply equipment; public transit agencies; and other organizations are asked to participate in an advisory capacity. In addition, several members of the Board of the San Diego Regional Clean Cities Coalition are represented on the REVI, serving on behalf of their own organizations.

MEETING TIME AND LOCATION

REVI meetings are to be held *on the third Thursday of* every other month (bimonthly) *at 1:00 p.m.* for approximately two hours at the California Center for Sustainable Energy, 8690 Balboa Ave., Suite 100, San Diego, CA 92123-1502. CCSE is a central location within San Diego County. ~~During the first REVI meeting, members will identify a standard meeting date and time for future meetings.~~

DURATION OF EXISTENCE

~~The administration of REVI is funded through a two-year grant from the California Energy Commission. Prior to the end of the grant in March 2014, REVI Members will determine the need for continuing the REVI and if so, potential funding mechanisms.~~

~~3/8/2012~~

~~5/10/2012~~

Staff Recommendation: CHARTER
Clean Version (with Revisions Accepted)

PURPOSE

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COMMENTS ON DRAFT REVI FORMATION DOCUMENTS

The following is a summary of comments received at the first REVI meeting and over the past two months from REVI members. They are categorized by Mission Statement, Goals, and Charter.

A. MISSION STATEMENT

General Comments

The main mission should focus on preparing our region in the best way possible, not being a national leader. National leadership would be a byproduct of our successful efforts and should be secondary to getting things right in the region.

Language Suggestions

- Add “quality of environment” to the Mission Statement
- Replace “region” with “regional infrastructure strategy.”
- Change “adoption” to “deployment” - and at the end after “enhances our quality of life”, etc., adding “maximizes the benefits of electric vehicles”.

Suggested Alternate Mission Statement

To establish the San Diego region as the national leader in plug-in electric vehicle (PEV) adoption by tracking, coordinating, facilitating, developing, encouraging and streamlining the implementation of a robust private and public electric vehicle supply equipment infrastructure.

B. GOALS

General Comments

- Keep goal language as is.
- Keep language High Level/Flexible/Vague so that it is adaptable to changes in
 - Market
 - Region’s priorities
 - Opportunities

Specific to a Goal

GOAL 1

- Provide more detail about barriers such as “identify, reduce/resolve.”

GOAL 2

- Function as the San Diego regional EVSE Infrastructure Development coordinating body.

GOAL 3

- Petroleum reduction goal too broad; should use other verbage such as “natural and synthetic fuel consumption;” should not be for an indirect benefit to REVI purpose; should be removed all together.

GOAL 4

- Consistent Messaging: be inclusive of all stakeholders. Additional types identified were high schools, colleges, educational institutions, installers.

Additional Suggested Goals

- Environment: A goal must address environmental issues, including air quality and energy consumption.
- Outline best practices for EVSE infrastructure development and disseminate consistent message among key stakeholders and general public.
- Identify and network with similar Working Groups across the country in order to research, identify, implement and share Best Practices for EVSE Infrastructure Development Working Groups.
- Bring creativity, resourcefulness, ingenuity and intelligence to build a Best In Class Working Group on the cutting edge of EVSE market development and deployment to develop a regional PEV
- Identify, integrate and leverage existing market intelligence, market resources and existing and future planning documents into decision-making process of the Working Group.
- Design an EVSE Readiness Score Card to determine existing level of PEV Readiness in the San Diego region and to inform larger comprehensive PEV Readiness plan.
- Create and undertake a process to identify opportunities and barriers to implementation of a robust private and public electric vehicle supply equipment infrastructure.
- Craft a methodology to prioritize efforts of the Working Group for maximum impact in accomplish goals in both near term and future.
- Establish San Diego as a premier test market for new products and innovative practices.
- Develop regional PEV Readiness Plan.
- To ensure the growing electric vehicle industry is a “triple-bottom line” industry in our region that addresses “people, planet, profit” by 1) creating good-paying, middle-class jobs with benefits; 2) supporting the state’s greenhouse gas reduction targets outlined in AB 32; 3) reducing air pollution and 4) creating economic value for local businesses.
- Identify infrastructure expansion targets to meet the needs of a growing PEV population. Provide guidelines so the equipment and communications installed by the various organizations works together as an integrated system.

C. CHARTER

General Comments

If “on-going body” is part of the goals, the Charter should be consistent, rather than have a sunset of two years.

Environment should be included in the charter language, similar to goals.

Specific Language Comments

Prefer term “deployment” over “adoption” at start of charter.

In second sentence, add “maximizes the benefits of electric vehicles” to match the draft mission statement.

Agenda Item 6, Attachment 1

BARRIERS TO INSTALLING CHARGERS IN MULTI-UNIT DWELLINGS

Multi-unit dwelling (MUD) is a generic term for a spectrum of multi-unit residences including but not limited to apartment buildings, attached and detached housing units within a community, high rise buildings, mobile home communities and others. Installing an electric vehicle charging station (EVSE) in a multi-unit dwelling (MUD) presents a number of challenges. With approximately half of San Diego's residents living in MUDs and roughly 80% of PEV charging taking place at home, reducing the barriers to installing EVSE at MUDs will improve future PEV adoption.

Major Barriers Facing EVSE installations at Multi-Unit Dwellings	
Barrier	Description
Cost	Installation costs can range anywhere from \$2,000 to \$10,000. A building that has sufficient panel capacity and an existing conduit running from the panel to the PEV parking space will likely only incur charging station, permit, and electrician installation/assessment costs, resulting in a lower cost installation. On the other hand, a building with limited panel capacity, no conduit, and a parking space located a significant distance from the electrical panel, will likely incur higher installation costs. ¹
Power Supply	The charging load of PEVs range from 3.3 kW, similar to a large household appliance or Nissan LEAF, up to 6.6 kW, similar to a Ford Focus Electric. Large scale adoption of PEVs will inevitably require increases in transformer capacity. Transformers supplying multifamily buildings typically have 10% to 15% excess capacity, or overhead, which is enough to sustain a few electric vehicles. However, as PEV adoption grows and vehicles are equipped with higher charging loads, these transformers may be insufficient to handle wide scale conversion to electric vehicles. ²
Proximity to Metering Equipment	Service panels for MUDs can be located at substantial distances from where the charging station is to be installed. ³
High Rise Units	In downtown San Diego, meter rooms are often located on the upper floors of high rise units and conduit space is limited. Challenges are faced in installing additional conduit and/or encountering physical limitations (e.g., drilling through concrete floors). ⁴

¹ Peterson, David. Addressing Challenges to Electric Vehicle Charging in Multifamily Residential Buildings June 2011, UCLA Luskin School of Public Affairs.

² Ibid.

³ Bianco, James S. Power Share System for Electric Vehicle Service Equipment, 2012.

⁴ Pointon, Joel, SDG&E. Clean Cities US Department of Energy, Electric Vehicle Spring 2011 Quarterly Discussion webinar presented on March 28, 2011.

Parking	Parking is not standard across MUD building types. In some MUDs parking is bundled into the rent or sale price of the unit. In other buildings it is unbundled or paid for separately. Unbundled parking spaces can be assigned on a first-come first-serve basis, or they can be unassigned. A charging station tied to a bundled parking space could be added value to a future tenant; however, a charging station on an unbundled or unassigned spot may pose challenges for assigning costs to individual owners. Choice of spaces also must address issues with proximity to metering equipment as addressed above. ⁵
Electricity Rates and Meters for Common Areas	Parking garages/lots are typically on a common meter. This means, electricity provided in parking garages and other common areas is paid by the property manager or homeowner association (HOA) and then billed to residents through HOA fees or rent. This creates a challenge in allocating charging costs to individual owners. ⁶
Homeowner Associations (HOAs)	HOAs cannot prohibit or restrict the installation of a PEV charging station. Senate Bill 880 codified this and other provisions for charging installations in common areas. However, HOA boards may still resist installations. Lack of information regarding charging station installations remain a significant barrier.

⁵ Peterson, David. 2011.

⁶ Pointon, Joel. 2011.

Prepping for plug-in vehicles

AT CONDOS, TOWNHOMES AND APARTMENTS



Quick facts

Technologies for charging stations range from simple “plug and charge” standalone units that are open to all users, to networked units with automated user ID and payment systems.

If you own, rent or manage multi-family housing, installing plug-in vehicle charging equipment is a community project. Here are some suggested steps to help get multi-unit residential communities - such as condos, townhomes, apartment complexes and manufactured/mobile home parks - plug-in ready for electric vehicles.

1. Take a poll

See how many people in your residential community are interested in plug-in vehicles and when they might actually be in the market to buy one.

2. Explore your options

SDG&E® offers periodic workshops to help you learn about your options, including the types of plug-in vehicles and charging technologies that are available, the costs, and business models for plug-in charging. Visit seminars.sdge.com or email MultiUnit@sdge.com for information about upcoming workshops.

Technologies for **electric vehicle supply equipment - also referred to as “EVSE” or “charging stations”** - range from simple “plug and charge” standalone units that are open to all users, to networked units with automated user ID and payment systems. Electric vehicle supply equipment with more advanced communicating and scheduling features may offer: metering capabilities to track users’ use; access control; user-specific billing and service fee options; and remote control and monitoring capabilities. Single or multiple cord sets may be housed in a box mounted to a wall, pole, ceiling or floor, depending on site-specific needs.

To get an idea of the wide array of EVSE options that are available for residential and



commercial charging, visit Plug In America at www.pluginamerica.org/accessories, Advanced Energy at www.advancedenergy.org/transportation/evse or GoElectricDrive at GoElectricDrive.com.

3. List the challenges

To pave the way for charging stations where electric vehicles can plug in, each multi-family development has its own unique set of circumstances and challenges to address. For example:

- How well will the property layout - including the location and type of electric metering, wiring and parking spaces - accommodate the desired charging equipment?
- What existing rules in the covenants, conditions and restrictions (“CC&Rs”) would affect the installation of charging stations in common areas and private areas?
- Which assigned and unassigned parking spaces could accommodate EV charging equipment?
- What state or local regulations relate to common area use of charging infrastructure?

- Will some charging units, sidewalks, parking spaces need to meet Americans with Disabilities Act (ADA) standards for accessibility?
- How should property owners deal with initial equipment and service costs versus future tenant demands and needs?

4. Come to a consensus on the scope

The installation of EV charging equipment in a multi-unit development involves shared decisions by property owners, property managers and residents. Those affected need to reach a consensus on the basic questions of who, what, when, where and how it will be paid for. The scope of your vehicle charging project gives potential contractors a starting point and should include:

- Estimated number of spaces.
- Electric vehicle supply equipment preferences (networked/not networked).
- Suggested location(s).

5. Choose a qualified contractor

When selecting an installer for charging equipment, consider the contractor’s experience, licensing, insurance and training, such as the EVSE installation training offered through organizations like the National Electrical Contractors Association, International Brotherhood of Electrical Workers and Underwriters Laboratories.

6. Coordinate on-site evaluation

Your contractor will need to visit the site to answer any remaining questions about project requirements before designing it and providing estimates.

As part of the evaluation, the contractor should calculate power loads with the added charging stations, decide whether existing electric panels need to be upgraded or replaced, and see whether SDG&E needs to upgrade electric service or install new electric meters. The contractor should coordinate with SDG&E’s Project Management group for review of the project design and, if necessary, an on-site visit.

7. Let the installation begin

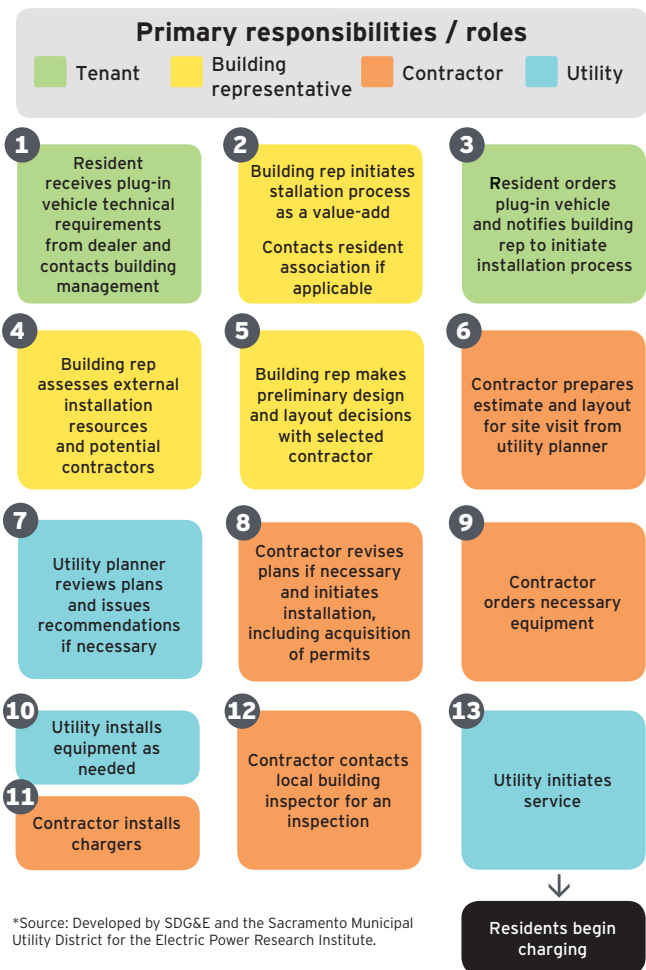
Once the contractor’s price quote is approved, the contractor will order the selected charging stations, obtain any necessary permits, place the utility service order, schedule

installation, coordinate the project and arrange for any required inspections by SDG&E and the city.

8. Spread the news

Let residents know where, when and how to use the new charging stations for plug-in electric vehicles.

How to set up plug-in charging at your condo, townhome or apartment*



Connect with more information about plug-in vehicles at sdge.com/ev or email MultiUnit@sdge.com with your questions, stories and comments about getting multi-unit communities plug-in ready.



THE CITY OF SAN DIEGO

HOW TO OBTAIN A PERMIT FOR

Electrical Vehicle Charging Systems

CITY OF SAN DIEGO DEVELOPMENT SERVICES
 1222 FIRST AVENUE, MS 301 SAN DIEGO, CA 92101-4101
 CALL (619) 446-5300 FOR APPOINTMENTS AND (619) 446-5000 FOR INFORMATION

INFORMATION BULLETIN

187

MARCH 2012

This information bulletin describes the permitting and inspection process for the installation of an Electrical Vehicle Charging System (EVCS) on an existing site or building.

EVCS installations shall comply with all applicable code requirements, City ordinances and regulations, including historical, and Land Development Code.

Electrical Vehicle (EV) supply equipment shall be listed and labeled by an OSHA-approved Nationally Recognized Testing Laboratory ([NRTL](#))

Documents Referenced in this Information Bulletin

- California Electrical Code, Article 625, (CEC)
- [Information Bulletin 103, Mechanical, Plumbing/ Gas, Electrical Fee Schedule and Worksheet](#)
- [Circuit Card - Supplemental for Single Family Dwellings, DS-1179A](#)
- [Owner-Builder Verification, DS-3042](#)
- [General Application, DS-3032](#)

I. APPROVAL REQUIREMENTS

An Electrical Permit is required for the installation of an EVCS.

A Building Permit may be required if alterations will be made to the building or disabled accessible parking spaces serving the buildings on the site, or when new disabled accessible parking spaces are proposed.

II. DOCUMENTS AND PLANS REQUIRED

A. General Application, (DS-3032)

A General Application must be completed. If the property owner is doing the work, a separate Owner-Builder Verification form (DS-3042) must be completed and signed by the owner.

B. Plans

The following plans and calculations are required for review and approval. Plans and calculations for an EVCS installed in a residential private garage will be reviewed by the inspector during inspections. However for all other installations the plans have to be reviewed prior to permit issuance.

1. **Site plan** showing complete layout of existing parking spaces and proposed location of EVCS parking space(s), existing building and structures.

Charging units are allowed to encroach within required zone setbacks, as described in SDMC 131.0140. Any landscaping required by SDMC 142.0402, including trees shall not be removed for the installation of the charging unit.

Note: Per SDMC, Section 86.26, it is unlawful to park a vehicle so that it protrudes into the street or sidewalk. If the EV will be parked behind the City sidewalk, it is im-

portant to show the width of the sidewalk, the distance from the curb to the sidewalk, and the distance from the sidewalk to the house or garage on the site plan. Also, per SDMC Section 142.0510, an operable vehicle may be temporarily parked on a legal driveway within a required front or street side yard if the vehicle does not in any way impede access to or from more than one required parking space. The vehicle cannot be parked parallel to the property line.

2. **Floor plan** showing the ECVS when the system is located within a building.
3. **Electrical plans and calculations** prepared, signed and stamped by a California registered Electrical Engineer or the California Licensed Electrical contractor who will be installing the system.

Note: A completed City of San Diego Circuit Card (DS-1779A) will be accepted in lieu of electrical plans for installation in residential private garages; calculations shall be included on the Circuit Card. The Card shall be provided at the site for the inspection staff.

Charging an EV or plug in EV adds a significant and continuous load to electrical services and will impact the regional electrical distribution system. Therefore, it is important to provide accurate electrical load calculations.

The plans shall include the following information:

- a. Single line diagrams showing the system, point of connection to the power supply and the charging unit(s).
- b. Electrical load calculations.
- c. Electrical panel schedule

- d. Manufacturers’ data sheet for the listed charging equipment.
- e. The amperage supplied to charge the electrical vehicle.

4. Disabled Accessibility Plans showing the following:

Note: Disabled accessibility plans are not required for EVCS installed in residential private garages.

- a. The dimensioned layout of existing accessible parking spaces, including access aisles, and adjacent parking spaces used for the EV charging station.
- b. The location and layout of proposed accessible EV charging station.
- c. An elevation of the charging unit sufficient to demonstrate compliance with the reach ranges for side or front approach to the unit by persons with disabilities as required in the California Building Code.

III. OPTIONS FOR SERVICE

A. To obtain the electrical permit for installations in a residential private garage you may use our:

- 1. On-Line service at [Simple E-Permit](#)
- 2. Walk-in at the Development Services Department at 1222 1st Avenue, 3rd Floor Check-In counter. Walk-In service is also provided at our Inspection Office located at 9601 Ridgehaven Court, 2nd Floor.

B. To obtain electrical permits for installation in other locations a plan review is required prior to issuance.

- 1. Most EVCS reviews may be performed on a walk-in basis over the counter at the Development Services Center, 1222 1st Avenue, 3rd Floor. A General Application and two copies of the plans listed above are required for review and approval.

IV. INSPECTIONS

A. Access shall be provided to all equipment including the electrical service equipment that supplies power to the EVCS. Inspectors are not authorized to open energized electrical equipment. A responsible person shall be present to open any live electrical equipment for inspection.

B. In addition to all plans and calculations, the EVCS Manufacturer’s installation instructions shall be provided on site at time of inspection.

C. All plans and documents listed above must be provided for residential private garages on site at time of inspection.

D. When applicable the approved perforated set of plans must be available on site at time of inspection.

V. FEES

Residential Private Garage Installations

Inspection8 hr. x \$123 =	\$98.40
Issuance.....		= \$38
Records.....		= \$20

All other installations per unit

Electrical Plan Check5 hrs. x \$144 =	\$72
Structural Plan Check5 hrs. x \$144 =	\$72
Electrical Inspection.....	1.2 hrs. X \$123 =	\$147.60
Issuance.....		= \$133
Records.....		= \$20

Hourly charges may be added for additional plan reviews and/or inspections.

VI. UTILITY SUB-METERED EVCS

If the customer decides that the EVCS installation will be metered by SDG&E for a specialized rate, the installation shall conform to the SDG&E PEV PILOT drawings. Contact SDG&E in advance for information regarding this program. When the installation is approved, the inspector will notify SDG&E. Please coordinate the installation of the meter with SDG&E.