

DOCKETED

Docket Number:	18-MISC-04
Project Title:	Vehicle Grid Integration Roadmap Update
TN #:	224655
Document Title:	Presentation - Vehicle-Grid Integration Roadmap - Kickoff Webinar
Description:	September 6, 2018
Filer:	Eli Harland
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	9/6/2018 1:46:45 PM
Docketed Date:	9/6/2018

Vehicle-Grid Integration Roadmap Update

Kickoff Webinar

September 6, 2018





Housekeeping

- Webinar only format
- Everyone is on mute
- Please use the raise hand function to ask a question or make a comment
- Will take questions throughout presentation
- Meeting is being recorded and will be posted afterward.



Webinar Agenda

- VGI Roadmap Team Introductions
- Background, Overview and Approach
- Four-track Framework
- Proposed Roadmap Goals and Issues/Barriers
- Public Comment
- Next Steps



Major Drivers

- Executive Order B-48-18 for ZEVs sets ambitious goals for charging infrastructure and increased affordability and accessibility which necessitate investments in strategies that integrate and electrify transportation.
- Executive Order B-32-15 and subsequent Sustainable Freight Action Plan sets targets to transition the freight sector to zero-emission technology.
- 2017 IEPR describes significant, recent advances in VGI and recommends updating the 2014 VGI Roadmap.
- SB 350 transportation electrification investments and state and local incentives
- Expanding market and changing consumer preferences
- Accelerated in clean energy mandates and DERs

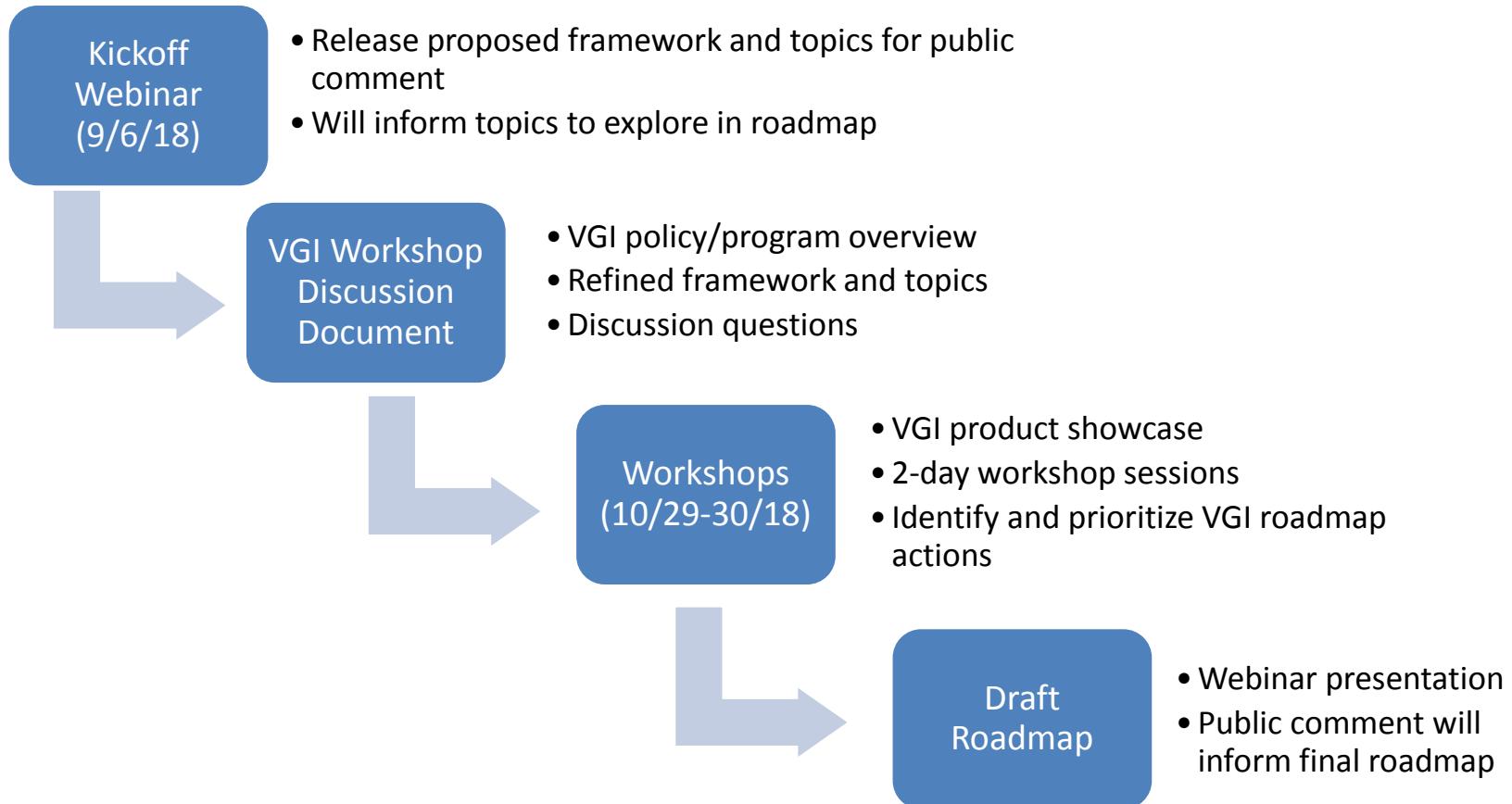


Roadmap Objective

- Develop and prioritize specific actions assigned to responsible entities that are necessary to overcome the highest-priority barriers to advancing VGI technology adoption to enable electric vehicle-based grid services.
- Leverage existing interagency relationships and processes, and foster stakeholder participation.



Roadmap Schedule & Approach





Scope and Framework

- Scope is transportation electrification broadly, with an emphasis on actions for integrating fleet, workplace, and public charging.
- Proposed framework is organized into four tracks three of which are similar to the 2014 VGI Roadmap.
- Some topics will cut across tracks and/or be dependent on one another.



Roadmap Framework

1. **Policy and Planning:** Identify interactions, barriers, and gaps of policy and planning factors to achieve widespread managed charging deployment, enhanced grid reliability. Determine gaps requiring new policy intervention.
2. **Economic Potential:** Compare costs (equipment, operational, process) required to smart charge and discharge millions of PEV to unmanaged charging. Identify cost/benefits and facilitate business model creation to spur investment.
3. **Technical Needs:** Identify VGI technologies for all vehicle classes to facilitate the actions described in the *Policy and Planning* and *Economic Potential* tracks. Delineate key areas of commercialization vs. new research.
4. **Customer Experience:** Expand the feasibility of VGI for end users, especially low-income residents, including those in disadvantaged communities, to simplify smart charging for everyone. Ensure VGI efforts emphasize access to all Californians.



Policy Track

- Improve interagency coordination on TE and VGI given uncertainties amongst market push, and demand pull factors.
- Identify the current and emergent grid needs and where feasible, quantify VGI benefits.
- Align stakeholders' interests in robust open markets for smart infrastructure investment
- Issues: timeline alignment, grid operational needs, local initiatives, defining procurement terms, ratepayer impacts, 3rd party aggregation



Economic Track

- Estimate mid & long term VGI potentials.
- Identify models for self-sustaining private development of charging and VGI markets
- Leverage VGI technologies to improve the value of ACES, smart cities, and MD/HDV.
- Issues: electric resource planning, OEM product planning, value streams, and assessment tools, fragmented qualification processes, aggregation and product designs



Technology Track

- Technology advancements to enable VGI
- Ease the customer experience through less complicated charging and payment processes
- Enabling technology to facilitate PEV market participation in utility or CAISO programs
- Issues: cyber security, standardization & interoperability, battery degradation and high power fast charging, technology transfer and commercialization



Customer Track

- Highlight smart charging benefits to low-income consumers and disadvantaged communities.
- Enhance the consumer experience.
- Increase the potential number of and readiness of future EVSE site hosts.
- Issues: geospatial air quality benefits of VGI, education and simplification of smart charging, ease installation and construction of EVSE



Roadmap Matrix Completion

Stakeholder tasks:

After today's webinar, identify:

- Goals
- Problems/Issues

In advance of 10/29-30 workshop, identify

- Actions
- Entities (government, industry, etc.)
- Prioritization



Public Comment Questions

- Spreadsheet is designed for stakeholders to use in preparing their comments.
- Staff has also prepared questions for the public to address that will help guide staff's next steps for the roadmap update:
 - Are there goals missing from the list of proposed goals in the excel workbook? If so, what is the goal and the issues/problems with achieving the goal?
 - Are there issues/problems not identified for the proposed goals? If so, which goals and what are those problems/issues?
 - Are there other changes that staff should consider making to the proposed goals and issues/barriers?
 - Staff would like to build from the momentum of the CPUC led VGI Communications Protocol Working Group. Are there specific topics that were not fully addressed/resolved in that working group that fall within the scope of the VGI Roadmap Update?



Next Steps

- Public comments due on 9/21/18 to
<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=18-MISC-04>
- Agencies:
 - Incorporate public input and finalize the goals and issues/problems.
 - Develop discussion document in advance of the 2-day roadmap workshops
- Stakeholders:
 - Prepare for the Roadmap workshops on 10/29-30/18
 - Send Eli Harland an email regarding interest in possible participation during 1) panel session at workshop and/or 2) pre-workshop smart charging and vehicle product showcase.

Roadmap Update Contacts:

Eli Harland, California Energy Commission, *VGI Roadmap Facilitation*
[\(eli.harland@energy.ca.gov\)](mailto:eli.harland@energy.ca.gov)

Stephanie Palmer, California Air Resources Board
[\(Stephanie.palmer@arb.ca.gov\)](mailto:Stephanie.palmer@arb.ca.gov)

Carolyn Sisto, California Public Utilities Commission
[\(Carolyn.sisto@cpuc.ca.gov\)](mailto:Carolyn.sisto@cpuc.ca.gov)

Peter Klauer, California Independent System Operator
[\(pklauer@caiso.com\)](mailto:pklauer@caiso.com)

For more information and to subscribe to the “vgi_communications” list, visit:
<http://www.energy.ca.gov/transportation/vehicle-grid-integration/>

