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<td><strong>Docket Number:</strong></td>
<td>20-MISC-01</td>
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<td><strong>Project Title:</strong></td>
<td>2020 Miscellaneous Proceedings.</td>
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<td><strong>Document Title:</strong></td>
<td>Staff Presentation V2ehicle-to-Building for Resilient Backup Power</td>
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<tr>
<td><strong>Description:</strong></td>
<td>N/A</td>
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<td><strong>Filer:</strong></td>
<td>Ben Wender</td>
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<td><strong>Organization:</strong></td>
<td>California Energy Commission</td>
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<td>Commission Staff</td>
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Vehicle-to-Building for Resilient Backup Power

Fuels and Transportation Division and Research & Development Division
January 25, 2021
Workshop Agenda

➢ Welcome and Workshop Overview: ~9:00 – 9:05am

➢ Panel 1: Customer Demand and Market Opportunity: ~9:05 – 9:45am

➢ Panel 2: Technology Status and Development Needs: ~9:45 – 11:00am

➢ Panel 3: Policy Context and Opportunities to Accelerate Deployment: ~11:00 am – 12:15 pm

➢ Public Questions & Discussion ~12:15 pm - 12:45 pm
We Want Your Input

Goal for today is to

• Solicit your input—as market actors, technology developers and users, utilities, and from the public—on how CEC can advance and increase access to V2B technologies, markets, and programs

• Research & development needs
• Demonstration activities
• Technical or financial incentives
• Policy changes
• Convening activities
• Others
Customer Demand and Market Opportunity

- Edward Burgess, Vehicle Grid Integration Council
- Lance Noel, Center for Sustainable Energy
- Kevin Matthews, National Strategies
- Maria Sanz, Pacific Gas and Electric
- Ben Wender (moderator), CEC Research and Development Division
Panel 1 discussion questions

• Are you seeing customer demand for vehicle-to-building solutions?
• Are automakers seeing customer interest in these capabilities and are there plans to incorporate into vehicle model roll outs?
• What is the market status today and potential in the future? Are there estimates of market size or potential in the CA, the US, or globally?
• Are there lessons CA can learn from international experience?

• How can CEC advance the market readiness and customer access to V2B technologies? What are your recommendations?
Technology Status and Development Needs

- Marc-André Forget and Laurent Schmitt, Ossiaco
- Joseph Gottlieb, Rhombus Energy Solutions
- Kevin Myers and Janek Metzner, Lucid Motors
- Josh Gerber and Lee Krevat, Connect California
- Jacob Mathews, Ford
- Oleg Logvinov, IoTecha
- Jeffrey Lu (moderator), CEC Fuels and Transportation Division
Panel 2 discussion questions

• What are your perspectives on AC (onboard charger) vs DC (offboard charger) implementations?
• What is the marginal cost for implementing bidirectionality? Are there significant cost or component barriers?
• What complementary hardware is needed to connect vehicle power to building wiring? What are the hardware needs in the near term (non-grid-interactive, during outage conditions) versus the longer term (grid-interactive, interconnected)?
• How can interoperability of V2H/B products be maximized? What are the preferred connector and communication interfaces?
• Where should the CEC target greater support or policy clarity?
Policy Context and Opportunities to Accelerate Deployment

• Ryan Harty, American Honda Motor Co.
• Jackie Piero, Nuvve Corp.
• Pat Saxton, California Public Utilities Commission
• Roger Salas, Southern California Edison
• Deidre Yiu and Corey Ershow, Rivian
• Noel Crisostomo (moderator), CEC Fuels and Transportation Division
Panel 3 discussion questions

- What are practical interconnection challenges for DC V2G projects in contrast to V2H/B?
- What is the progress on identifying and scoping of AC V2G projects?
- Are automotive and electrical safety certification requirements converging as needed for V2B and V2G? What other forums warrant action?
- Given the year-round threat of wildfire to reliable electric service, what should guide CEC policy priorities?
- Should the state set quantifiable and timely targets for V2H/B on the path to V2G? What types of support (technical assistance, capital buydowns, driver education and outreach) are needed to improve project economics?
- How should CEC and CPUC coordinate action on resiliency (see Draft 2020 IEPR Ch. 6) and charging infrastructure technology (see AB 2127 Ch. 5)? How can California’s experience offer replicable insight for the U.S. DOE’s forthcoming V2G Integration Assessment?
Customer demand for power amidst heat- and storm-induced outages

Over 80 million people are within an Excessive Heat Watch/Warning or Heat Advisory today. Extreme heat will significantly increase the potential for heat related illnesses, particularly for those working or participating in outdoor activities. Remember to stay hydrated!
Housekeeping

• Workshop is being recorded

• Workshop Event Webpage: https://www.energy.ca.gov/event/workshop/2021-01/staff-workshop-vehicle-building-v2b-resilient-backup-power

• Virtual Participation through Zoom
  • Q&A period after main presentation
  • Raise Hand or Q&A feature

• Written Comments to Docket # 20-MISC-01: https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=20-MISC-01

Deadline: Tuesday, February 16, 2021 by 5:00 p.m.
Open Discussion
Q&A / Public Comments

Zoom Participants
• Use the “raise hand” feature to make verbal comments
• Use the Q&A feature to type in your question

Telephone Participants:
• Dial *9 to raise your hand
• Dial *6 to mute/unmute your phone line.

Written Comments

Deadline for comment: Tuesday, February 16, 2021 by 5:00 p.m.
Submit Comments to Docket 20-MISC-01

Electronic Commenting System
Visit the comment page for this docket at:

Comment by E-mail
E-mail: docket@energy.ca.gov
Subject Line: “Public Workshop on Vehicle-to-Building for Resilient Backup Power”

All comments due by 5:00 pm on February 16, 2021

* If answering or providing comments to the specific questions included in this presentation, please reference the slide number or question.
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Thank you for participating remotely!