

STEPS Workshop: Critical Barriers and Opportunities for PEV Commercialization in California

Infrastructure for Light-Duty Vehicles, Freight, and People Movement

April 26, 2016

8:45am - 5:00pm, with reception to follow

[The ARC \(Activities and Recreation Center\)](#) Ballroom, UC Davis

The [California Energy Commission \(CEC\)](#) and [UC Davis Institute of Transportation Studies \(ITS-Davis\)](#) will conduct joint workshops on April 25 and 26, 2016 with a goal to:

- **Present and discuss insights on the status of PEV infrastructure in California, critical barriers, and recommendations to accelerate commercialization.**

This April 26 workshop at UC Davis is hosted by the [Sustainable Transportation Energy Pathways \(STEPS\)](#) team, with funding generously provided by the CEC and US DOE:



Funding for this research was generously provided by the CEC, through the [National Center for Sustainable Transportation](#).

Thank you to all of our sponsors, presenters, and stakeholders at today's workshop.

8:45 – 9:00	Registration & coffee
9:00 – 9:15	<p>Welcome and Introduction: Workshop objectives and overview of the day</p> <ul style="list-style-type: none"> ○ <i>Janea Scott</i>, Commissioner, California Energy Commission ○ <i>Tyson Eckerle</i>, Deputy Director, ZEV Infrastructure, GOBiz ○ <i>Paul Gruber</i>, Executive Director, STEPS Program, ITS-Davis
9:15 – 11:15	<p>Session 1: Electrification of <i>Light Duty Transportation</i> in California Assessment and critical barriers to meet current and future PEV infrastructure needs Facilitator: <i>Paul Gruber</i></p> <ol style="list-style-type: none"> 1. Present status of PEV infrastructure: markets, stakeholders, and needs through 2025-2030 <ul style="list-style-type: none"> ○ <i>Mike Nicholas</i>, Researcher, PH&EV Center, ITS-Davis (15 min) 2. The role of infrastructure in PEV adoption <ul style="list-style-type: none"> ○ <i>Gil Tal</i>, Researcher, PH&EV Center, ITS-Davis (10 min) 3. PEV infrastructure: background, technologies and costs <ul style="list-style-type: none"> ○ <i>David Greene</i>, Senior Fellow, Howard H. Baker, Jr. Center of Public Policy University of Tennessee (5 min) ○ <i>Jake Ward</i>, Program Manager, US DOE (10 min) 4. Market dynamics: players, roles, and profitability <ul style="list-style-type: none"> ○ <i>Jamie Hall</i>, Manager, Advanced Vehicle and Infrastructure Policy, General Motors (10 min) ○ <i>Colleen Quinn</i>, VP Government Relations, ChargePoint (10 min) 5. Electric utility perspective on PEV infrastructure requirements <ul style="list-style-type: none"> ○ <i>Dean Taylor</i>, Principal Advisor, Air and Climate Group, Southern California Edison (10 min) 6. State government: policies, planning, and incentives <ul style="list-style-type: none"> ○ <i>Leslie Baroody</i>, Senior Light-Duty EV Infrastructure Specialist, California Energy Commission (10 min) 7. From idea to action: Readiness planning and implementation activities across the state <ul style="list-style-type: none"> ○ <i>Phil Sheehy</i>, Technical Director, ICF International (10 min) <p>Q&A/Comments after each presentation</p>
11:15 – 12:15	<p>Session 2: Electrification of <i>Freight and People Movement</i> in California Assessment of infrastructure needed and barriers to commercialization Facilitator: <i>Sam Lerman</i>, Air Resources Engineer, California Energy Commission</p> <ol style="list-style-type: none"> 1. California's objectives and progress on Sustainable Freight, market and stakeholders (10 min) <ul style="list-style-type: none"> ○ <i>Sydney Vergis</i>, Manager, Goods Movement Program Section, CARB 2. Panel: Electrification of freight (trucks, ports) (30 min) <ul style="list-style-type: none"> ○ <i>Marshall Miller</i>, Senior Development Engineer, UC Davis ○ <i>James Burns</i>, CSO, TransPower ○ <i>Michael Coates</i>, CEO, Mightycomm

	<p>3. Panel: Electrification of buses (20 min)</p> <ul style="list-style-type: none"> ○ <i>Seamus McGrath</i>, Manager - Charging Systems, Proterra ○ <i>Urvi Nagrani</i>, Director of Marketing & Business Development, Motiv Power Systems ○ <i>Marcus Alexander</i>, Manager, Vehicle Systems Analysis, EPRI ○ <i>Lisa McGee</i>, Operations Manager, San Diego Airport Parking Company <p>Q&A/Comments after each section</p>
12:15 – 1:15	Lunch
1:15 – 2:30	<p>Session 3: Ideas and solutions to overcome barriers for providing charging for PEV Freight and People Movement</p> <p>Panel Discussion Topics: Accelerating PEV freight and people movement in California</p> <p>Facilitator: <i>Sam Lerman</i></p> <p>1. Ways to accelerate electrified freight and people movement</p> <ul style="list-style-type: none"> ○ <i>Urvi Nagrani</i>, Director of Marketing & Business Development, Motiv Power Systems ○ <i>James Burns</i>, CSO, TransPower ○ <i>Dedrick Roper</i>, Grant Operations and Public Policy Manager, ChargePoint ○ <i>Seamus McGrath</i>, Manager - Charging Systems, Proterra ○ <i>Vincent Wiraatmadja</i>, Associate Attorney, Weideman Group, Inc. ○ <i>Don Anair</i>, Research and Deputy Director, Clean Vehicles Program, Union of Concerned Scientists ○ <i>Michael Coates</i>, CEO, Mightycomm <p>Q&A/Comments after this panel</p>
2:30 – 4:45	<p>Session 4: Ideas and solutions to overcome barriers for providing charging for PEV Light Duty Transport</p> <p>Panel Discussion Topics: Accelerating PEV transportation in California</p> <p>Facilitators: <i>Tim Olson</i>, Manager, Transportation Energy Office, and <i>Paul Gruber</i></p> <p>1. Better: Improving utility capabilities in rollout of infrastructure (20 min)</p> <ul style="list-style-type: none"> ○ <i>Scott Briasco</i>, Manager of Electric Transportation, Los Angeles Department of Water and Power ○ <i>Ralph Trout</i>, PM Electric Transportation, SMUD ○ <i>Greg Haddow</i>, Clean Transportation, San Diego Gas & Electric Co. <p>2. Cheaper: Reducing burden to consumers, reducing cost of infrastructure, getting the price right (30 min)</p> <ul style="list-style-type: none"> ○ <i>Kitty Adams</i>, Executive Director, Adopt a Charger ○ <i>Kapil Kulkarni</i>, Marketing Associate, Burbank Water and Power ○ <i>Lin Khoo</i>, Senior VP of Strategy, Greenlots ○ <i>Claire Dooley</i>, EV Service Product Manager, NRG EVgo ○ <i>David Hughes</i>, VP Government, EV Connect Inc. <p>3. More: Expanding market to those without reliable charging access and to new</p>

	<p>geographies (30 min)</p> <ul style="list-style-type: none"> ○ <i>Joel Pointon</i>, Principal, JRP Charge, Multi-Unit Dwelling Vehicle Charging Consulting ○ <i>Matthew Marshall</i>, Executive Director, Redwood Coast Energy Authority ○ <i>John Kalb</i>, Founder, EV Charging Pros ○ <i>Stacey Reineccius</i>, CEO, Powertree Services Inc. <p>4. Emerging: Gamechanger technologies and trends (30 min)</p> <ul style="list-style-type: none"> ○ <i>Paul Stith</i>, Solution Lead, Smart Integrated Infrastructure, Black & Veatch ○ <i>Mike Nicholas</i>, Researcher, PH&EV Center, ITS-Davis ○ <i>Bob Wimmer</i>, Director, Energy and Environmental Research Group, Toyota ○ <i>Jeremy Whaling</i>, Grid Connected Projects Manager, Honda <p>5. Better: Improving governmental role in rollout of infrastructure (20 min)</p> <ul style="list-style-type: none"> ○ <i>John Shears</i>, Research Coordinator, The Center for Energy Efficiency and Renewable Technologies ○ <i>Joanna Gubman</i>, Advisor to Commissioner Carla Peterman, CPUC ○ <i>Gil Tal</i>, Researcher, PH&EV Center, ITS-Davis <p>Q&A/Comments after each section</p>
4:45	<p>Wrap-up and recommendations</p> <ul style="list-style-type: none"> ○ <i>Roland Hwang</i>, Director, Energy & Transportation Program, NRDC ○ <i>Tyson Eckerle</i>, GOBiz ○ <i>Tim Olson</i>, CEC
5:00 – 7:00	<p>Reception at The Graduate 805 Russell Blvd, Davis, CA 95616</p>

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Sustainable Transportation Energy Pathways Program (STEPS)
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STEPS is the major multidisciplinary research consortium within the Institute of Transportation Studies at the University of California, Davis. The consortium is comprised of 40+ PhD-level faculty and researchers and graduate students from UC Davis, 25+ industry and governmental partners, and 20+ outside expert organizations. Our mission encompasses:

- Research: generate new insights and tools to understand the transitions to a sustainable transportation energy future for California, the US and the world,
- Outreach: disseminate valued knowledge and tools to industry, government, the environmental NGO community, and the general public to enhance societal, investment, and policy decision making,
- Education: train the next generation of transportation and energy leaders and experts.

The STEPS 2015-2018 program is generously supported by these sponsors:

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- Government: California Air Resources Board, California Energy Commission, Caltrans, South Coast AQMD, U.S. DOE, U.S. DOT, U.S. EPA

Our program areas and overarching research questions are:

- **Initiating Transitions 2015-2030**: What is required for early alternative fuel/vehicle transitions to succeed?
- **The Future of the Fuels and the Oil & Gas Industry**: How will changing geopolitical landscapes and disruptive technology in the oil and gas and clean technology industry impact future business models and the competition of fuels?
- **Global Urban Sustainable Transport (GUSTo)**: How will a rapidly urbanizing world affect demand for transport and energy? How can we transition to sustainable transportation in a rapidly urbanizing world with ever-growing need for mobility?
- **Modeling Analysis, Verification, Regulatory and International Comparisons (MAVRIC)**: What do improved and cross-compared economic/environmental/transportation/energy models tell us about the future of sustainable transportation?

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