



May 27-29, 2009 | San Francisco, CA

Final Agenda

Thursday | May 28, 2009

8-8:15 Chairman's Opening Remarks
Paul Frankel, *Managing Director*, California Clean Energy Fund
Innovations (CALCEF)

8:15-9:00 Keynote Address:

Allan Schurr, *Vice President—Strategy & Development*, IBM Global
Energy and Utilities Industry

<p><i>Policy Drivers for Vehicle-to-Grid Developments</i></p>

9:00-9:30 Presentation:
Cutting Carbon via a Revolution in Electric Transportation
California has been at the forefront of policies favorable to plug-in electric vehicles, accelerated by the passage of AB32. Its efforts to set carbon emission standards tougher than the federal mandates is no longer contested by Washington and policy directions set at CalEPA and CARB have now effectively moved into the White House. With oil prices at least momentarily crashed, carbon control is the main driver for adoption of electric vehicle-friendly policies at state level. This discussion with California environmental officials will explore the next stages in policy design impacting the PHEV movement.

Presenters:

Jack Colbarn, *Director of Strategic Incentives*, Bay Area Air Quality
Management District

Dan Pellissier, *Deputy Secretary for Energy Policy Coordination*,
Cal/EPA

9:30-10:00

Presentation:

Phoenix from the Ashes? Thoughts on Vehicle Electrification in Michigan

The current collapse of the “Big Three” automakers in Detroit may actually help to accelerate a long-delayed technology shift. The State of Michigan is taking aggressive measures to support the shift to the new plug-in electric vehicle model, including subsidizing advanced battery plants. In this presentation from the eye of the storm, Chairman Isiokur will provide insights on regulatory and policy measures that might assist the re-invention of the auto industry.

Presenter:

Orjiakor Isiogu, *Chairman*, Michigan Public Service Commission

10:00-10:30

Morning refreshment & networking break

10:30-11:15

Presentation:

The Evolution of the Grid-to-Vehicle/Vehicle-to-Grid Concept: What Are the Key Hurdles Looking Forward?

10 years ago at the University of Delaware, Dr. Tomic and Professor Willett Kempton performed the first Vehicle-to-Grid studies. Since that time she has done extensive studies on the potential of PHEV fleets as a distributed storage resource for the grid. Many utilities and municipalities around the world are now starting their own V2G test-beds. In this presentation Dr. Tomic will review the history of the V2G model and assess the critical policy, economic and technical obstacles looking forward.

Presenter:

Dr. Jasna Tomic, *New Fuels Program Manager*, CalStart

11:15-1:00

Luncheon:

Forming V2G Teams

1:00-2:00

Panel Discussion:

Utility and ISO Perspectives on the Scaling Up of PHEVs and Charging Infrastructure

- Revenue potentials and prospects for rate-based investment from a shift to Plug-in Electrics
- PHEVs as a weapon in fighting climate change: latest thinking on carbon footprints and renewables generation
- Ancillary benefits of the distributed storage model: what is a realistic timeline, and what kinds of experiments and initiatives are underway?
- Role of on-site generation (home, office)
- Utility charging and billing models and platforms

Moderator:

Dr. Jasna Tomic, *New Fuels Program Manager*, CalStart

Panelists:

Dave Hawkins, *Manager, Special Projects Engineering*, California ISO

Paul Heitman, *Senior Program Engineer*, Converge Technologies

Mark Kapner, *Senior Strategy Engineer*, Austin Energy

Ed Kjaer, *Director, Electric Transportation*, Southern California Edison

2:00-2:30

Afternoon refreshment & networking break

2:30-3:30

Panel Discussion:

Shifting Gears: Auto Makers Re-Tool for a New Operating System

- Where are automakers with respect to putting PH or EV models on the road?
- Perspectives on tax incentives, accelerated depreciation and ‘junkier’ rebate policies as drivers for PHEV adoption
- What are the warranty issues for major auto makers around hybrid and Internal Combustion Engine conversions?
- How do auto makers see the technical, economic and marketing viability of plug-ins as a grid resource? What is a realistic time frame?
- How does the stimulus funding affect their business models and supply chain?

Moderator:

Sherry Boschert, *Board Member, Plug In America, Author, 'Plug-in Hybrids, the cars that will recharge America'*

Panelists:

Mark Aubry, *Vice President Sales - North America, Smith Electric Vehicles*

Bryon Bliss, *Vice President, Sales and Marketing, Phoenix Motorcars*

Michael Brylawski, *Vice President, Bright Automotive*

David Patterson, *Senior Manager, Mobile Emissions, Mitsubishi*

Greg Starr, *Chairman Emeritus, Director, Zap Car*

Michael Tinskey, *Manager, Sustainability & Electrification Deployment, Ford Motor Company*

<i>Overcoming the Technical Hurdles</i>

3:30-5:00

Panel Discussion:

Electric Vehicles: Identifying the Greatest Opportunities and the Biggest Hurdles

- Consumer cars versus fleet vehicles: which will play a bigger role in scaling up PHEV production?
- How are Obama policies and the stimulus bill affecting electric vehicle developments, against the backdrop of the crisis in Detroit?
- How will the pace of innovation and commercialization in batteries affect the cost of PHEVs?
- What new business models can help offset high battery cost (Wellinghoff's cash-back model, utility ownership, Project Better Place)?
- How do demand response providers and smart grid vendors fit into the picture; how much room for new 'third party' entrants is there?

Moderator:

Paul Frankel, *Managing Director, California Clean Energy Fund Innovations (CALCEF)*

Panelists:

Dr. Stephen Clarke, *CEO, Applied Intellectual Capital*

Bill Green, *Managing Director, Vantage Point Venture Partners*

Kristen Helsel, *Director, Electric Vehicles Solutions, Aerovironment*

William Lese, *Managing Director, Braemar Energy Ventures*

Sven Thesen, *Utility Operations & Sustainability Strategy, Better Place*

Trea Vassallo, *Partner, Kleiner Perkins Caufield and Byers*

5:00-6:00 Reception

Friday | May 29, 2009

Seizing the Opportunities in V2G

8:00-9:15

Panel Discussion:

The Battery Cost Challenge: Assessing the Pace of R&D, Commercialization and Enabling Business Models

Lithium Ion seems to be in the lead as the technology-of-choice for vehicle electrification. But the situation is hardly a slamdunk. Lead acid batteries in tandem with super-capacitors may offer competitive power at much lower price points. Flow batteries may have a role to play. Zinc-air is getting buzz as well. The energy security implications of Li-On manufacturing in Asia have also drawn media attention. The stimulus package has billions for advanced batteries and domestic manufacturing, and Michigan has offered major subsidies to battery companies to site their factories in-state. Meanwhile, a few different business models have been advanced for offsetting the high costs of batteries (Wellinghoff's 'cash-back' model, Project Better Place, utility ownership). This panel will address the state of the automotive battery industry and where the best opportunities for both capital and public investment may be in the coming years, and what further public policies might be needed to maximize the many benefits of energy storage to transportation and the grid.

Moderator:

David Walls, *Director, Emerging Energy Technology*, Navigant Consulting

Panelists:

Neil Kaufman, *Sr. Vice President, Equity Research*, Ardour Capital Investments, LLC

Dr. Stephen Clarke, *CEO*, Applied Intellectual Capital

James Greenberger, *Partner*, Reed Smith, LLP (*Representative*, National Alliance for Advanced Transportation Batteries ("NAATBatt"))

Philip Misemer, *Public Interest Energy Research Program (PIER) Transportation Research Area Manager*, California Energy Commission

9:15-9:45

Presentation:

The Auto Fleet as Distributed Storage Capacity

This presentation will assess the costs and benefits of distributed energy storage provided by PHEV fleets at the substation and distribution feeder level of the power network. A framework for characterizing benefits and how these benefits would accrue to the stakeholders of rate payers, utilities, and society at large will be described. A breakdown of the economic, reliability and environmental benefits provided by distributed energy storage will be discussed. Key challenges associated with the use of PHEV fleets as distributed storage will be characterized and solutions to address these challenges will be discussed.

Presenters:

Dave Clarke, *Director, Power Systems Markets & Pricing*,
Navigant Consulting

David Walls, *Director, Emerging Energy Technology*, Navigant
Consulting

9:45-10:15

Networking break

10:15-11:15

Panel Discussion:

Charging Systems and Components: How Will It All Fit Together?

- How will key technology platforms, standards and protocols – software and hardware – be defined, and by whom?
- The value-add for third parties to host charging stations: surcharge on electricity or offer as an incentive to buy store products?
- Planting charging stations in parking lots, chain stores, malls, employment centers, campuses – leasing, business models
- Municipal charging points on streets
- On-site solar charging

Moderator:

Marc E. Gottschalk, *Partner*, Wilson, Sonsini, Goodrich & Rosati

Panelists:

Steven Heckerth, *Director of BIPV*, Stellar Energy Solutions;
Chair of the Renewable Fuels and Transportation Division,
American Solar Energy Society

Richard Lowenthal, *CEO*, Coulomb Technologies

Eric Miller, *Chief Solutions Officer*, Trilliant Inc.

Kevin Morrow, *Executive Vice President*, ETEC

Jason Wolf, *Business Development, North America*, Better Place

11:15-11:30 Chairman's Concluding Remarks