

STORAGE WEEK

3 Connected Meetings Covering Opportunities in the Fundamental Reshaping of the Power Industry via Energy Storage

July 13-16, 2009, San Diego CA
San Diego Marriott La Jolla, La Jolla, CA

THURSDAY, JULY 16, 9-5PM

STORAGE AT THE 'EDGE': OPPORTUNITIES ON THE CUSTOMER SIDE OF THE METER

9:00-9:15 **Chairman's Introductory Remarks**

9:15-10:00 *Presentation:*

Value Propositions of Customer-Sided Energy Storage

Advanced storage technologies are emerging into the marketplace just as the electricity industry is in the midst of major transitions into Smart Grids, electric vehicles, and increased Renewable Portfolio standards. Storage technologies have been proposed as an effective tool for the future utility grid. However, to date, the proposed applications have been targeted toward utility-scale applications. Advanced storage technologies have essentially the same characteristics at 20 KW that they have at 20 MW. Hence, this presentation will examine the value propositions and economics of smaller, customer-sided energy storage applications. This presentation will discuss new applications that are being proposed, such as "community storage," customer-sided storage as a component of smart grids, solar-storage applications and how electric vehicles may serve as a tool on the grid and not just an additional load.

Presenter:

Richard Fioravanti, *Director, Storage Applications and Support*,
KEMA, INC.

10:00-10:30 **A Compelling Value Proposition for Distributed Grid-Connected Storage**

- An overview of the distributed, grid-connected storage market, including its main drivers
- An understanding of the potential grid-scale impacts of distributed energy storage
- An understanding of the value proposition for customer sited storage, including tangible analyses of the value of storage as a stand-alone entity and as integrated with distributed renewable resources. The presentation will also address the key drivers that impact the value of storage, and will show the impact of many of these drivers including different tariff structures, different load shapes, and different incentives, including the ITC
- A high-level view of policy developments in CA and the need for and impact of appropriate state level and federal tax incentives and policy intervention going forward
- A clear understanding of what is required to accelerate the adoption of energy storage in CA and the US

Presenter:

Janice Lin, *Managing Partner*, STRATEGEN CONSULTING LLC;
Director, THE CALIFORNIA ENERGY STORAGE ALLIANCE

10:30-11:00 *Networking Break*

11:00-12:00 *Panel Discussion:*

Integrating Storage into 'Edge' Services in the Home, Business and Community

- Benefit of on-site storage for local and system-wide efficiencies (i.e., generation, transmission, application)
- Need for open "end-to-end" standards: plugs, charging, communication
- Public charging services: value propositions, free versus pay
- Storage as the potential 'smart hub' of the Home Area Network
- Firming solar and wind micro-generation
- Differences in value proposition of on-site storage for the building owners versus the utility
- Role of third parties, such as ESCO, demand response, new aggregators, "sustainable energy utilities"
- Who has access to all the energy system data that will be generated?

Moderator:

Eric Hsieh, *Manager of Government Relations*,
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

Panelists:

Elliot Boardman, *Executive Director*, PEAK LOAD MANAGEMENT ALLIANCE

Todd A. Headlee, *Chief Executive Officer*, SILENT POWER, INCORPORATED

Milton Holloway, *President and Chief Operating Officer*, CENTER FOR THE COMMERCIALIZATION OF ELECTRONIC TECHNOLOGIES

Ryan Wartena, *Chief Technology Officer*, ICEL SYSTEMS

12:00-1:30 *Group Luncheon*

1:30-2:30 *Panel Discussion:*

Storage in the 'Grid-to-Vehicle' and 'Vehicle-to-X' Business Models

Emerging consensus suggests "Vehicle 2 Grid" is a long way off. What may be more immediate is V2Business and V2Home:

- Update on smart grid infrastructure and design of the charging interface
- Will existing Smart Grid protocols or platforms be adapted for this purpose?
- Battery price point projections
- Battery re-use for stationary storage by utility substations
- Lead acid/carbon vs. Lithium Ion: the race is on

Moderator:

Sam Jaffe, *Senior Research Analyst*, ENERGY INSIGHTS

Panelists:

COLLETTE LAMONTAGNE, *MANAGING CONSULTANT*, Navigant Consulting

Mark Kapner, *Senior Strategy Engineer*, AUSTIN ENERGY

John Petersen, *Partner*, FEFER PETERSEN & CIE

Martin Schroeder, *Senior Program Manager, Rail & Energy Programs*, AMERICAN PUBLIC TRANSPORTATION ASSOCIATION

Bill Vogel, *Founder, Senior Vice President Strategic Development*, TRILLIANT, INC.

2:30-3:00 *Presentation:*

Thermal Storage

Thermal storage via ice represents an immediate and extremely cheap way for customers to lower their bills while helping to shave peaks. Utilities have shown a strong interest, and the technique is rapidly scalable. This presentation will provide an overview of the value proposition and players in distributed thermal storage.

Presenter:

Frank Ramirez, *Chief Executive Officer*, ICE ENERGY

3:00-3:30 *Networking Break*

3:30-5:00

Panel Discussion:

Storage, Smart Grid, and Next: The Micro-Grid?

- Benefits of creating a microgrid for campus, neighborhood or block
- Contribution of storage to realizing those microgrid benefits, including additional
- revenue potential from arbitrage back to the main grid
- Utility /regulatory barriers to microgrids – “wires rule,” rate-decoupling
- Status of power controls and software
- Pilot microgrid sites

Moderator:

Clint Wheelock, *Managing Director*, PIKE RESEARCH

Panelists:

Tom Hall, *Director Facilities Planning and Development*,
LOS ANGELES COMMUNITY COLLEGE DISTRICT

Christopher Kuhl, *Sales Applications Engineer*, ZBB Energy

Alan McDonnell, *President*, NON-SYNCHRONOUS ENERGY ELECTRONICS, LLC

5:00 Conference Adjourns