



# California Energy Commission

## 2011 IEPR Staff Workshop

### Technologies to Support Renewable Integration

### (Energy Storage & Automated Demand Response)

November 16, 2010



**Laurie ten Hope**

**Deputy Director**

**Energy Research and Development Division**

**California Energy Commission**



## AGENDA

- 9:00-9:10 Introduction and Opening Comments, Laurie ten Hope, California Energy Commission
- 9:10-9:40 Workshop Overview - Energy Storage and Automated Demand Response (Auto-DR), Mike Gravely, California Energy Commission
- 9:40-10:00 Managing the California Grid and Integrating 33% Renewables, Udi Helman, California Independent System Operator
- 10:00 -10:45 Research Evaluation of Wind Generation, Solar Generation, and Storage Impact on the California Grid, Dave Hawkins, KEMA, Inc.
- 10:45-11:00 SCE's Approach to Energy Storage , John Minnicucci, Southern California Edison
- 11:00-11:20 Use of Large Scale Pumped Hydro Energy Storage for Renewable Integration and Renewable Load Shifting, Doug Divine, Eagle Crest
- 11:20-11:40 Integrating Large Scale Distributed Energy Resources to Provide the Grid Megawatts of Energy, Frank Ramirez, ICE Energy
- 11:40-11:55 Importance of Energy Storage to California's Renewable Future, Janice Lin, California Energy Storage Alliance
- 11:55-12:10 Applying Large Scale Li-Ion Energy Storage Technology to Supporting Renewable Integration and Grid Services, Charlie Vartanian, A123 Systems
- 12:10-1:15 Lunch



- 1:15-1:45      Applying Large Scale Energy Storage to Support Grid Operations (Sodium Sulfur Battery Technology and Compressed Air Energy Storage) , Robert Schainker, Electric Power Research Institute
- 1:45-2S:00      How to integrate Energy Storage and Demand Response into the Wide Area Network Control of the Electric Grid  
Jeff Dagle, Pacific Northwest National Laboratory
- 2:00-2:15      Integration of Energy Storage and Automated DR onto the SMUD Gird Network , Jim Parks, Sacramento Municipal Utility District
- 2:15-2:45      Auto-DR and Renewable Integration , Mary Ann Peitte, Lawrence Berkeley National Laboratory
- 2:45-3:05      Auto-DR for Ancillary Services and Integration of Intermittent Renewable Resources: PG&E Pilots, Albert Chui, PG&E
- 3:05-3:20      Demand Response - Wholesale market triggers in response to intermittent renewables, Jeremy Laundergan, Sothern California Edison
- 3:20-4:30      Public Comments , Mike Gravely, California Energy Commission
- 4:30 – 4:45      Next Steps and Plans for Spring 2011 IEPR Workshop on Energy Storage and Automated DR Policy Recommendations  
Mike Gravely, California Energy Commission
- 4:45-5:00      Closing Remarks (IEPR Committee and CEC Staff)
- 5:00              Adjourn



3:20-4:30 Public Comments ,

Mike Gravely,

California Energy Commission



4:30 – 4:45

Next Steps and Plans for Spring  
2011 IEPR Workshop on Energy  
Storage and Automated DR Policy  
Recommendations

Mike Gravely,

California Energy Commission



4:45-5:00 Closing Remarks (IEPR Committee and  
CEC Staff)

Mike Gravely,

California Energy Commission



## Written Comments

- Must be submitted by 5:00 p.m. on November 30, 2010.
- Please include the docket number 11-IEP-1N and indicate Technologies for Renewable Integration in the subject line or first paragraph of your comments.
- Please hand deliver or mail an original copy to:

California Energy Commission  
Dockets Office, MS-4  
Re: Docket No. 11-IEP-1N  
1516 Ninth Street  
Sacramento, CA 95814-5512



5:00 Adjourn

Contacts:

Mike Gravely [mgravely@energy.state.ca.us](mailto:mgravely@energy.state.ca.us)

**916-704-4339**

Avtar Bining [abining@energy.state.ca.us](mailto:abining@energy.state.ca.us)

**916-327-1411**

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