

# EESAT 2009 SESSIONS & TOPICS

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## Energy Storage Technologies & Projects Update

### Electrical Energy Storage - Technical Progress and Commercialisation

— Anthony Price (UK)

### Energy Storage Deployments Scheduled for University of California at San Diego in 2009/2010

— Byron Washom (USA)

### Feedback on the Proposed *Eskom Energy Storage* Test Farm

— Pat Frampton (So. Africa)

### An Outline of Energy Storage Applications in Telecom Infrastructure in Sub-Saharan Africa

— Derek Bristow (So. Africa)

### A Review of the 2009 Energy Storage Project at American Electrical Power

— Ali Nourai (USA)

### UltraBattery for Utility-Scale Storage Applications

— Peter Coppin (Australia)

### Large Format Carbon Enhanced VRLA Battery Test Results

— Tom Hund (USA)

## Energy Storage for Renewable Applications

### A Different Model for Transporting Wind Energy to Market

— Robert Scott (USA)

### What Storage Challenges Face the Renewable Energy Industry for Photovoltaic and Wind Power

— Masaaki Shiomi (Japan)

### Energy Storage Considerations for Wind Power

— Robert Hebner (USA)

### Flywheel Energy Storage- A Smart Grid Approach for Supporting Wind Integration

— Chet Lyons (USA)

## Energy Storage Innovations

### GROW-DERS: A Practical Project Implementing Transportable Electrical Energy Storage in Power Systems

— Petra de Boer (Netherlands)

### Third Generation Redox Flow Battery; a Development Update

— Mereille Schreurs (Netherlands)

### Advanced Electrochemical Storage R&D for Renewable and Utility Applications at PNNL

— Z. Gary Yang (USA)

## Utilities Energy Storage Projects

### **Empirical Field Data from VRB Flow Batteries Installed in Remote Telecoms Applications**

— Matthew Harper (Canada)

### **Vanadium Redox Flow Battery for Remote Area Power Supply**

— Martha Schreiber (Austria)

### **Achievements of an ABSOLYTE® Valve-Regulated Lead-Acid Battery Operating in a Utility Battery Energy Storage System (BEES) for 12 Years**

— George Hunt (USA)

## Energy Storage & Li-ion Technology

### **Spray Pyrolyzed Carbon Composite Anode Materials for Lithium-ion Batteries**

— Jia-Zhao Wang (Australia)

### **Improved Oxygen Electrode for Rechargeable Lithium/Oxygen Batteries**

— Mojtaba Mirzaeian (Scotland)

### **Flexible AC Transmission Systems with Dynamic Energy Storage**

— Magnus Callavik (Sweden)

## Compressed Air Energy Storage (CAES)

### **Technical Feasibility of Compressed Air Energy Storage in an Aquifer Storage Vessel**

— Michael King (USA)

### **Evaluating Plant Configurations for Adiabatic Compressed Air Energy Storage by Dynamic Simulation**

— Daniel Wolf (Germany)

### **Understanding the Opportunities and Performance Requirements for CAES in New York**

— Rahul Walawalkar (USA)

### **Adsorption-enhanced Compressed Air Energy Storage**

— Timothy Havel (USA)

### **Turbomachinery Solutions for Advanced Adiabatic Compressed Air Energy Storage**

— Paolo del Turco (Italy)

### **Compressed Air Energy Storage to Support Wind Integration and Reduced CO<sub>2</sub> Emissions**

— Robert Schainker (USA)

### **Compressed Air Energy Storage as an Alternative to Transmission for Remote Wind Energy Resources**

— Paul Denholm (USA)

## Electrochemical Capacitors

### **The Effects of Temperature on the Performance of Electrochemical Double-Layered Capacitors**

— Isobel Fletcher (Scotland)

### **Proposal to Build Supercapacitors Using Solid Dielectrics**

— Frank Barnes (USA)

### **Nitrogen-enriched Carbons for Asymmetric Supercapacitors**

— A.J.R. Rennie (UK)

## Power Electronics

### **Charge/Discharge Control of Battery Energy Storage System for Peak Shaving**

— Yahia Baghzouz (USA)

### **Demand Response Inverter for Distributed Generation Energy Management**

— Darren Hammell (USA)

### **Large Area Silicon Carbide GTO Thyristor Development**

— Siddarth Sundaresan (USA)

## Energy Storage Economics & Benefits

### **Benefits Aggregation for Attractive Electricity Storage Value Propositions**

— James Eyer (USA)

### **Estimating the Value of Energy Storage in Utility Applications**

— Colette Lamontagne (USA)

### **Evaluating Emission Benefits from Using Advanced Storage at Commercial and Industrial Facilities in California**

— Rick Fioravanti (USA)

### **Locating Potential Sites for Pumped Hydroelectric Energy Storage**

— David Connolly (Ireland)

## Energy Storage Applications for Utilities

### **Applications of Sodium-Sulfur (NAS) Batteries in Utility-Scale Applications and Renewable Energy**

— Akimichi Okimoto (Japan)

### **Selecting the Best Battery System Suitable for Electricity Energy Storage**

— Bor Yann Liaw (USA)

### **Determination of Specification Criteria for Large Scale Battery Systems**

— Chet Sandberg (USA)

### **DC Railway Catenary Regulation Based on KESS**

— Marco Lafoz (Spain)