



# Energy Storage Solutions 2009

Tuesday 8th and Wednesday 9th December 2009, London, UK

Revealing the latest technologies in large format energy storage to fully realise the potential of renewable energies and electric vehicles

*The first ever European Event to bring together the power generation and automotive industries to focus on energy storage solutions*

## KEYNOTE SPEAKERS:

**Pedro Valverde,**  
Head of Engineering,  
EDP

**Chris Bennett,**  
Future Transmission  
Network Management,  
NATIONAL GRID

**Peter Lang,**  
Technical Development  
Engineer, EDF

**Lars Johanson,**  
Senior Battery  
Engineer,  
THINK GLOBAL

**Massimo Schiavetti,**  
Renewable Energy  
Research, ENEL

**Ralf Nickel,**  
Global Purchasing  
Manager, Hybrid  
Energy Storage,  
GENERAL MOTORS

**Neil Lannen,**  
Head of Projects,  
AIRTRICITY

**Christian Dick,**  
Chief of Research,  
ISEA/EON ENERGY  
RESEARCH LABS

**Knud Pederson,**  
Vice President R&D,  
DONG ENERGY

**Mike Seaton,**  
Head of Renewable  
Technologies,  
AIRTRICITY

**Jorg Wind,**  
Vice President  
Research,  
DAIMLER

**Peter Radgen,**  
Technology Policy,  
New Technologies,  
E.ON

Organised by:

**ARENA**  
INTERNATIONAL EVENTS GROUP

## EVENT HIGHLIGHTS INCLUDE

- Understand the **latest updates to policy and legislation** ensuring future compliance
- Listen to **international case studies on the current energy storage trials** uncovering the latest industry research and findings
- Meet the leading **storage technology providers** and determine the right solution for your requirements

## SPEAKER COMPANIES INCLUDE:

- AIRTRICITY
- EDF
- GM
- E.ON
- NATIONAL GRID
- EDF
- EDP
- THINK GLOBAL

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# Programme Day One

Tuesday, 8th December 2009

08:30 *Coffee and registration*

09:00 **Opening remarks from the Chair**

## Developing the political setting to facilitate inward investment and development

09:10 **Opening keynote session: Evaluating the status of the large format energy storage market to determine growth and identify opportunities**

- Identifying opportunities for the automotive and utility sectors to work together
- Outlining the barriers to industry growth and developing strategies to overcome them
- Assessing market penetration to date
- Pin pointing future industry growth and areas of investment in new technologies

**Peter Lang, Technical Development Director, EDF**

09:40 **Demonstrating the importance of and the government's commitment to energy storage in order to meet emissions reduction targets**

**Our speaker from CENER, and advisor to the EU government, will reveal exactly how energy storage fits in with emissions reduction targets.**

- How this will be prioritised and driven by the government?
- How will this be implemented into policy, what financial assistance will be given?
- How will the government demonstrate this commitment?

**Monica Aguado, Lead Researcher, Energy Storage, CENER**

10:10 **Assessing the impact of current and future policy and legislation on the implementation of energy storage for both the utility and electric vehicle markets**

- Evaluating how an energy storage strategy fits into current policy
- Understanding the European governments commitment to encouraging energy storage as a key enabler to renewable energy targets
- Establishing how energy storage for both utilities and the automotive sector will fit into future policy
- Revealing the government strategy to drive inward investment into commercialisation of energy storage

**Peter Radgen, Energy Storage Specialist, E.ON**

10:40 **Q&A session**

11:00 *Morning refreshments and networking*

11:30 **Identifying opportunities to integrate the utility and automotive sector to maximise energy storage benefits**

- How much do these two industries have in common?
- Identifying the shared challenges and opportunities to learn from each other
- Evaluating the points of integration for the industries and how far away they are, including:
  - Vehicle to grid
  - Vehicle to home
  - Battery recycling schemes
  - Charging infrastructures

**Lars Johanssen, Chief Engineer, THINK GLOBAL**

12:00 **Panel Session: Evaluating strategies for driving investment in to the European energy storage market to further development and speed the commercialisation of storage technologies**

- Highlighting the commercial challenges for the industry
- Debating alternative strategies for driving investment including:
  - Government investment
  - Private investment
  - Industry tax credits
- Establishing what needs to change to enable the affordable commercialisation of storage technologies
- Evaluating the timeline for industry commercialisation and the possible points of key developments

**Alex Savidis, Storage Research Leader, NAREC**

**Cyriacus Bleijs, Electric Vehicles Programme Manager, EDF**

**Philip O'donnell, Generation Analysis Manager, EIRGRID**

12:30 *Lunch and networking*

## Maximising utility and automotive industry specific opportunities

13:30 **Utilising energy storage as an enabler for industry progression and increased revenue streams**

- Understanding energy storage as an enabling technology
- Utilising energy storage to maximise the benefits of price volatility
- Increasing security of supply with source located energy storage
- Evaluating whether with appropriate energy storage renewable energy could ever be a viable sole energy source

**Anthony Price, UK Lead, ENERGY STORAGE ASSOCIATION**

14:00 **Sponsored session: Utilising smart storage and control technologies to maximise the benefits of storage and prevent energy leakage**

- Fully understanding the capabilities of smart storage to optimise the benefits for your application
- Predicting the reduction in energy leakage to determine the actual benefits
- Evaluating alternative cost models for smart storage and control
- Demonstrating the integration of smart storage and control with the grid and other grid technologies

**Speaker to be confirmed**

14:30 **European case study: Revealing the latest developments and strategies from the market leader in energy storage trialling**

- What technologies are currently being trialled and seen as the leader in technology?
- Evaluating the different testing techniques and determining measurement criteria
- Comparing development status between the US and Europe to evaluate levels of progression
- Identifying the next steps in the trials and predicting and implementation time scale

**Massimo Schiavetti, Renewable Energy Research, ENEL**

15:00 **Q&A session**

15:20 *Afternoon refreshments and networking*

16:00 **Exploring alternative cost models and funding mechanisms in order to maximise the financial gain from energy storage**

- Exploring the opportunities within your organisation to fund energy storage
- Investigating the emerging possibilities of price volatility
- Reviewing the current levels of price volatility and how this may change to take commercial advantage
- Evaluating alternative cost models across the world – what provides the most financial gain and supports the investment of energy storage

**Knud Pedersen, Vice President of Research and Development, DONG ENERGY**

16:30 **Understanding the grid perspective of network storage integration to develop future-proof storage strategy and systems**

- Revealing the challenges for grid operators for utility storage
- Understanding the responsibility of grid operators to integrate the electric vehicle market
- Evaluating the grid and network requirement for future energy innovations
- Assessing the changing loads on the grid and the impact on energy storage requirements

**Chris Bennett, Future Transmission Networks Manager, NATIONAL GRID**

17:00 **Q&A session**

17:20 *Closing remarks from the Chair*

17:30 *End of day one*

08:30 *Coffee and registration*

09:00 **Opening remarks from the Chair**

## **Overcoming industry wide technical challenges**

### 09:10 **Technical Round table discussion session: Evaluating the latest battery storage technologies in terms of cost, lifecycles, safety and potential applications**

To ensure you receive the most relevant information for your business needs, during this session delegates will have the opportunity to attend their choice of 2 of the following sessions evaluating the latest in battery technologies.

Each of these round tables will be led by an industry expert who will provide a round-up of the latest technologies and will then lead a discussion on the potential applications and assist you in addressing the specific challenges you face.

#### **Roundtable 1**

##### **Lithium Ion Batteries**

**Jorg Wind, Vice President, Research, DAIMLER**

#### **Roundtable 2**

##### **Lithium Sulphur Batteries**

**Speaker to be confirmed**

#### **Roundtable 3**

##### **Sodium Sulphur (NaS)**

**Phil Bowley, Head of Electrical Engineering, RWE**

#### **Roundtable 4**

##### **Lead Acid Batteries**

**Speaker to be confirmed**

11:15 *Morning refreshments and networking*

### 11:45 **Understanding the market penetration of electric and plug-in hybrid vehicles to establish development of batteries and infrastructure**

- Understanding the trends in electric vehicle purchasing during the recession, is demand going up – or down?
  - Exactly how much further must the market be penetrated to make the cost of batteries a commercially viable proposition?
  - Evaluating the development timeline of electric vehicle batteries
  - Examining the development of a European charging infrastructure and how this could impact both the utility and automotive sector
- Ralf Nickel, Global Purchasing Manager, Hybrid Energy Storage, GENERAL MOTORS**

### 12:15 **Establishing the potential for increases in safety provision for automotive and utility scale applications to safeguard investment and resources**

- Pinpointing the current challenges when it comes to safety for the automotive sector
  - Identifying the unique challenges for utility scale storage and the similarities with the automotive industry
  - Revealing the latest thinking in safety research and future developments ready for commercialisation
  - Identifying other re-use and re-cycle opportunities within other industries and applications that won't compromise safety
- Andrei Nekrassov, Expert Research Engineer, EDF R&D**

12:45 **Q&A session**

12:55 *Lunch and networking*

### 14:00 **Evaluating the case for Distributed Energy Storage (DES) as an alternative to large format storage**

- Revealing the optimum storage technology for distributed energy storage
  - Understanding the control technologies behind DES to maximise the benefits
  - Discussing the long term applications of DES when it is only capable of short term storage
  - Exploring alternative cost models for DES and comparing with alternative storage costs
  - Evaluating the differences and benefits compared to “Bulk Storage” to identify the benefits to your strategy
- Christian Dick, Chief of Research, ISEA (E.ON RESEARCH LABS)**

### 14:30 **Case study: Revealing the results of the AEP community energy storage trial and discussing future applications**

- Following the evolution of the community energy storage system resulting from the smart grid idea
- Highlighting the key challenges faced by utilities and how these can be overcome
- Revealing AEP's next step in storage deployment
- Evaluating smart grids and their impact on distributed energy storage

**Ali Nourai, Director of Distributed Energy Storage, AMERICAN ELECTRIC POWER**

15:00 **Q&A session**

15:20 *Afternoon refreshments and networking*

### 16:00 **Clarifying developments in physical storage technologies and evaluating it as a long term possibility for Europe**

- Highlighting the key challenges of physical storage including:
    - Cost
    - Location
    - Maintenance
    - Effectiveness
  - Evaluating pumped hydro technological developments
  - Investigating the effectiveness of compressed air storage
  - Comparing and contrasting physical storage with battery technologies in terms of cost, efficiency, convenience and long term application
- Pedro Valverde, Head of Engineering, EDP**

### 16:30 **Stabilising the grid and overcoming transmission and distribution (T&D) challenges to pave the way for an energy storage infrastructure**

- Understanding the key T&D challenges with the implementation of energy storage
  - Evaluating the potential ownership structure if energy storage was to be incorporated into the grid
  - What needs to be improved on the grid in Europe to facilitate energy storage and transmission
  - Addressing the possibility of a European wide energy storage network and load sharing
- Mike Seaton, Head of Renewable Technologies and Neil Lannen, Head of Projects, AIRTRICITY**

17:00 **Q&A session**

17:20 *Closing remarks from the Chair*

17:30 *End of day two and close of conference*

## Who should attend

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This event will draw an audience from departmental Heads, Vice Presidents, Directors and Senior-level experts, Consultants and Managers, in the following company types and job areas:

- Energy Storage Manager
- Fuel Cell Development Director
- Alternative Drive Systems
- Energy Planning Director
- Battery Technologist
- Energy Storage Specialist
- Energy Storage Research Director
- Renewable Energy Storage Specialist
- Head of Engineering
- Senior Engineer
- Integration Specialist
- Head of Research and Development
- Generation Strategies Engineer
- Distributed Energy Resources
- Strategic Initiatives Director
- Market Development Director
- Head of Emerging Technology
- Programme Manager
- Chief Operating Officer

## Benefits

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- Hear international end user case studies on the latest developments in bulk storage technologies for the power generation industry
- Take part in an interactive round table discussion reviewing the latest battery technologies and applications
- Understand the challenges faced by the European energy industry when it comes to energy storage and how these can be overcome
- Discuss the latest policy and legislation updates and discover the impact this will have on the industry
- Discover why the UK market is ahead of the USA in terms of renewable energy technologies but behind with energy storage research – how will this be rectified?
- Hear American Electric Power present a case study on their “community energy storage” trial and assess future applications
- Explore funding, cost and investment models for the European energy storage business
- Review the future applications and practicality of physical storage such as pumped hydro and compressed air storage

### TESTIMONIALS – from previous energy conferences

“Good talks, useful contacts made well run conference”

**Business Development Manager,  
SIEMENS TRANSMISSION & DISTRIBUTION LTD**

“Stimulating discussions and good quality of presentations” **Regulatory Strategy Manager,  
NATIONAL GRID**

“Good Networking and discussions in roundtable sessions led to a better understanding of the UK’s Conditions” **Manager, VESTAS WIND SYSTEMS**

## Official Publication

**ModernPowerSystems**  
COMMUNICATING POWER TECHNOLOGY WORLDWIDE

**Modern Power Systems** provides in-depth independent coverage of power plant and transmission and distribution technology. Widely read throughout the world of electricity generation, it specialises in presenting key engineering and commercial developments in an authoritative but accessible style. From advanced power plant and transmission design to repair and maintenance case studies, Modern Power Systems is unrivalled as a platform for exploring cutting edge developments in the power industry. [www.modernpowersystems.com](http://www.modernpowersystems.com)

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**Power-technology.com**, with more than 70,000 visitors a month, is the essential one-stop-shop for global energy industry professionals every day. The site comprises of the following key elements: industry projects, products and services, events, company A-Z listing, employment opportunities and the latest industry news. Members of the industry's leading energy providers, engineering companies, consulting services, nuclear power plants and electronic corporations rely on power-technology.com as their primary source of industry intelligence. [www.power-technology.com](http://www.power-technology.com)

**Energy  
BUSINESS  
Review**

**Energy Business Review (EBR)**, is the fastest growing website within the energy industry. EBR provides a high level audience with a 'one-stop-shop', where the latest opinion and forecasts of Datamonitor analysts are provided alongside the latest industry news. [www.energy-business-review.com](http://www.energy-business-review.com)

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We have a number of promotional packages available from exclusive sponsorship through to exhibition stands and inserts in the documentation, with competitive prices to suit all budgets.

If you wish to be part of this high-level event, please contact: **Paul Adams**, on **+44 (0)207 753 4259** or by email at [pauladams@arena-international.com](mailto:pauladams@arena-international.com)

# BOOKING FORM

Energy Storage Solutions 2009, Tuesday 8th and Wednesday 9th December 2009, London, UK

## Prices & Payment Information (please tick option)

Yes, i would like to register for the event:	BEFORE 14.9.2009	BEFORE 12.10.2009	BEFORE 9.11.2009	AFTER 9.11.2009
<b>Prices for Utilities and Automotive Manufacturers</b>				
<input type="checkbox"/> I would like the VIP attendee Package to include the 2 day conference and the interactive CD-Rom (saving £50)	£1548 (VAT where applicable)	£1648 (VAT where applicable)	£1748 (VAT where applicable)	£1898 (VAT where applicable)
<input type="checkbox"/> I would like to attend the 2 day conference	£1099 + VAT @ 15% = £1263.85	£1199 + VAT @ 15% = £1378.85	£1299 + VAT @ 15% = £1493.85	£1449 + VAT @ 15% = £1666.35
<b>Prices for Solution Providers and Suppliers</b>				
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<input type="checkbox"/> I cannot attend the conference but would like to receive the interactive CD-ROM	£499 (VAT where applicable)	£499 (VAT where applicable)	£499 (VAT where applicable)	£699 (VAT where applicable)

Total  Discount code if applicable   
Discounts are at the discretion of Arena International and are not cumulative

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Email us at [events@arena-international.com](mailto:events@arena-international.com)

Tel +44 (0)20 7753 4268

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### Venue Details

The two day conference will take place on Tuesday 8 and Wednesday 9 December 2009. The venue for all two days will be held at a centrally located hotel in London, UK. For further information contact our Operations department on +44 (0) 207 753 4201.

### Are you registered?

You will always receive an acknowledgement of your booking. If you do not receive anything, please call us on +44 (0) 20 7753 4268 to make sure we have received your booking.

**All total fees are subject to a 2.5% service charge**

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4 Cancellations: In the event of cancellation, 100% of the event fee is payable and non-refundable. All cancellation requests must be submitted to us in writing. If we agree to your cancellation then all cancellation fees are payable immediately after the acceptance of your cancellation in writing by us.

5 General: You, your executive/s or your agents may not transfer or assign any of the rights or obligations of this Agreement (in whole or part) without our prior consent. Any attempt to resell, assign or transfer rights without our consent will entitle us to cancel the contract without liability to you.

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Cardholder's Name:

Cardholder's Address:

\*The CSV number is the last 3 digit number on the reverse of the card

Yes, I have read and understood the terms and cancellations conditions and am happy to proceed with my registration

Signature  Date