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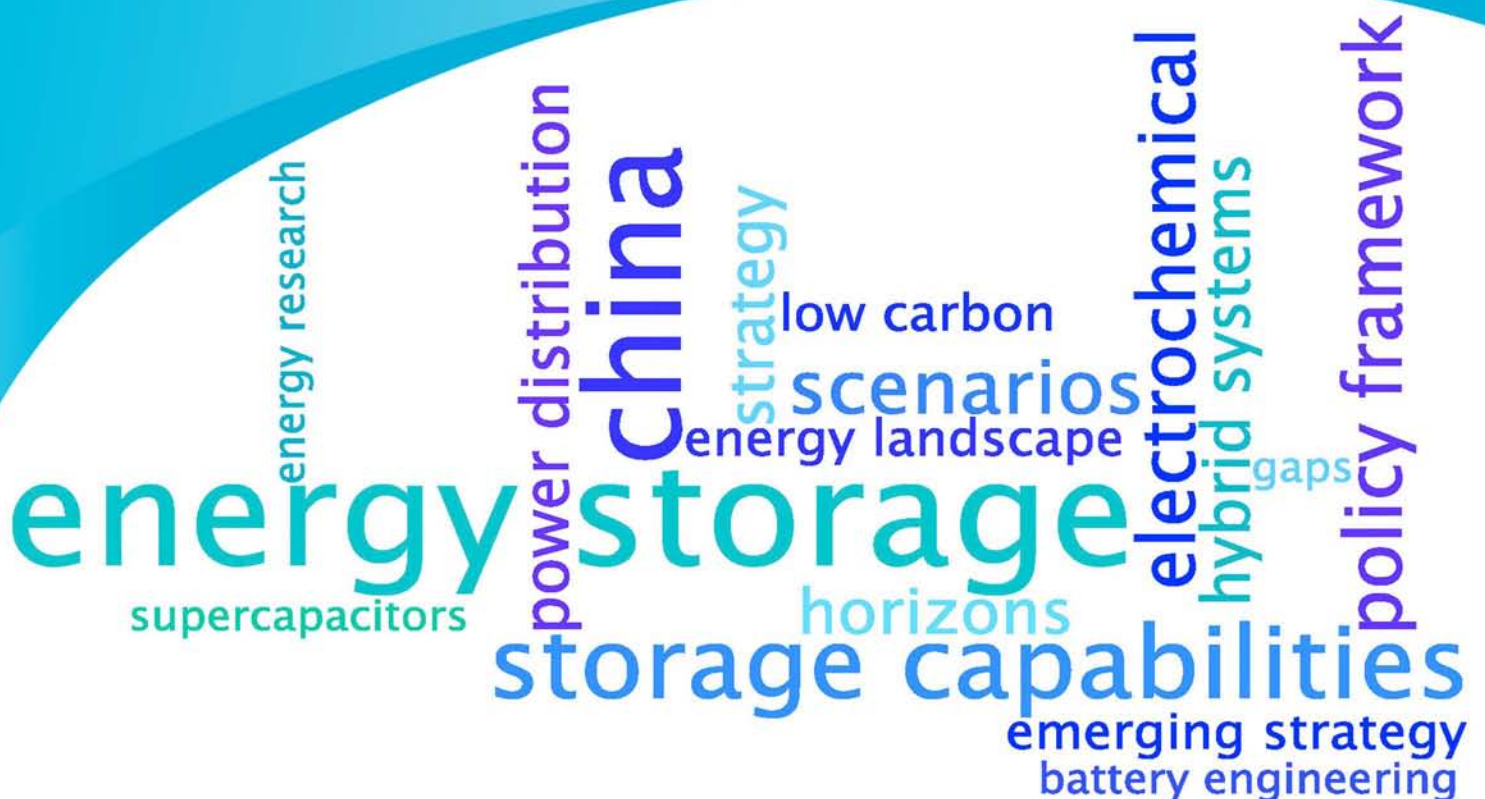


中国科学院
CHINESE ACADEMY OF SCIENCES

The Royal Academy of Engineering/Chinese Academy of Sciences The Future of Energy Storage Technology and Policy

3 Carlton House Terrace
London
SW1Y 5DG

27-28 January 2011



The Royal Academy of Engineering/Chinese Academy of Sciences The Future of Energy Storage Technology and Policy

The Chinese Academy of Sciences and The Royal Academy of Engineering, in collaboration with the Energy Technologies Institute and the UK Energy Research Centre, are jointly organising a dual site Workshop to explore the science, technology and national policy needs for development and implementation of electrical energy storage. The meetings will consider the broad landscape and national energy policy in China and the UK, before focusing in more detail on the emerging portfolio of solutions around electrical energy storage to address issues such as power intermittency and electric vehicles. The Workshop will also consider alternatives to electrical storage methodologies.

This Workshop will cover:

- Current national energy landscape and research strategy, highlighting the deployment of renewables, and the electrification of transport.
- Academic and industrial capacity in the field of electrical energy storage science, engineering and technology
- National strategy and policy options around the role and implementation of electrical energy storage technology.

This one and a half day meeting is structured to address the above themes as indicated in this programme. One Workshop will be held in each country. The format includes keynote briefings, highlights of academic research, technology and research posters and themed discussion groups. The outcome will be a joint strategy publication from both Academies highlighting key strategic and prioritised needs in energy storage research, summarising existing expertise and identifying areas for bilateral cooperation.

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DAY 1 - Thursday 27 January 2011

National strategy briefings

- 9.30am **Welcome and Ministerial Address**
Mr Greg Barker, Minister of State, Department of Energy and Climate Change (tbc)
- 9.40 am **Welcome address**
Chinese Government representative
- 9.50am **The Future Energy Landscape in the UK – Fifty Year Horizons, Scenarios With and Without Storage Capabilities**
Professor David Mackay FRS, Chief Scientific Advisor to Department of Energy and Climate Change
- 10.10am **Approaches to the UK Government Policy Framework**
Professor Brian Collins FEng, Chief Scientific Advisor to Department for Business, Innovation and Skills and Department for Transport
- 10.30am **The Future Energy Landscape in China**
Professor Zhou Dadi, Energy Research Institute, National Development and Reform Commission
- 10.50am **The Future Picture of Energy - A View from China**
Professor Liu Ke, National Institute of Clean & Low-Carbon Energy
- 11.10am **Discussion**
- 11.25am **Refreshment break**
- 11.50am **Emerging Strategy in UK Power Distribution**
Mr Nick Winser FEng, Executive Director, National Grid
- 12.10pm **Overview: UK Electrical Energy Storage Research Gaps and Needs**
Mr Andrew Haslett FEng, Director of Strategy Development, Energy Technologies Institute
- 12.30pm **Overview: Electrochemical Energy Storage Technologies in China**
Professor Huang Xuejie, Institute of Physics, Chinese Academy of Sciences.
- 12.50pm **Discussion**
- 1.05pm **Lunch and poster session**

Research and Technology Frontiers

An open poster session, including the following invited posters:

Poster 1 - **Electronic Vehicles: Battery Engineering, Hybrid Systems, Redox Flow Batteries**

Poster 2 - **Electrical Energy Storage in Alternative Energy Carriers**

Poster 3 - **Advances in Battery Chemistry**

Poster 4 - **Supercapacitors**

A full list of posters provided by attendees will be available prior to the workshop

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Technology Presentations

- 2.45pm **Key Technologies in CAS-EV Development and Industrialization**
Professor Fan Jianping, Director, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences
- 3.05pm **Investigation and Application of Redox Flow Battery for Energy Storage**
Professor Zhang Huamin, Dalian Institute of Chemical Physics, Chinese Academy of Sciences
- 3.25pm **Progress in Sodium Sulfur Battery for Large Scale Energy Storage Applications**
Professor Wen Zhaoyin, Shanghai Institute of Ceramics, Chinese Academy of Sciences
- 3.45pm **City Intelligent Energy Network in SARI-Research, Development and Demonstration**
Professor Huang Weiguang, Shanghai Advanced Research Institute, Chinese Academy of Sciences
- 4.05pm **Demand Analysis for Large-scale Energy Storage Technology in Power Systems**
Professor Lai Xiaokang, China Electric Power Research Institute. Research Fellow Engineer/Director
- 4.25pm **Discussion**
- 5.00pm **Reception**

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DAY 2 - Friday 28 January 2011

Future Strategy Workshop

9.30am **Introduction to Mapping Future Strategy (Professor Nigel Brandon FEng)**

9.45am **Workshops**

Two parallel workshops will be offered with delegates electing to participate in one:

A Transport Applications – Covering Policy, Society, Technology and Industrial Implementation

B Grid Applications – Covering Policy, Society, Technology and Industrial Implementation

11.15am **Refreshment break**

11.45am **Panel session**

12.15am **Feedback on recommendations and concluding remarks**

12.45pm **Announcement of arrangements relating to the China workshop (Prof Jinghai Li)**

1.00pm **Lunch**

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Chinese Academy of Sciences (CAS) is a leading academic institution and comprehensive research and development center in natural science, technological science and high-tech innovation in China. Its mission is to conduct research in basic and technological sciences; to undertake nationwide integrated surveys on natural resources and ecological environment; to provide the country with scientific data and advice for governmental decision-making, and to undertake government-assigned projects with regard to key S&T problems in the process of social and economic development; to initiate personnel training; and to promote China's high-tech enterprises by its active involvement in these areas.

As Britain's national academy for engineering, The Royal Academy of Engineering brings together the country's most eminent engineers from all disciplines to promote excellence in the science, art and practice of engineering. Its strategic priorities are to enhance the UK's engineering capabilities; to celebrate excellence and inspire the next generation; and to lead debate by guiding informed thinking and influencing public policy.

STEERING GROUPS

UNITED KINGDOM

Professor Richard Williams OBE FREng, University of Leeds (UK Chair)
Professor Nigel Brandon FREng, Imperial College, London
Mr Andrew Haslett FREng, Director of Strategy Development, Energy Technologies Institute
Mr Nick Winser FREng, Executive Director, National Grid.
Dr Hayaatun Sillem, The Royal Academy of Engineering (RAEng Co-ordinator)

CHINA

Professor Jinghai Li, Vice President, Chinese Academy of Sciences (China Chair)
Professor Liqun Chen, Institute of Physics, Chinese Academy of Sciences
Professor Xiaokang Lai, Chinese Electric Power Research Institute
Professor Huamin Zhang, Dalian Institute of Chemical Physics, Chinese Academy of Sciences
Professor Zhaoyin Wen, Shanghai Institute of Ceramics, Chinese Academy of Sciences
Ms Dongyao Wang, Chinese Academy of Sciences (CAS Co-ordinator)

If you would like to attend please RSVP to:

Mr Cuong Dang, International Officer

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