

Forum Programme

US–UK Scientific Forum on Sustainable Energy; electrical storage in support of the grid, March 17 to 18 2021

All times GMT (EDT -4, PDT -7)

Day 1 (17 March)

WELCOME PLENARY		Chair: Chris Llewellyn Smith, the Royal Society
16.00 12.00 09.00	Welcome	Chris Llewellyn Smith, event co-chair Steve Koonin, event co-chair
16.05 12.05 09.05	Outline of the US/UK electricity systems and the current research and demonstration programmes to decarbonise them	Pre-recorded lectures Dermot Nolan <i>UK and US electricity systems: the basics</i> Patricia Hoffman <i>Electrical storage in support of the grid</i> Lynn Gladden <i>UKRI's contribution to decarbonising the energy system</i> Nate Lewis <i>Reliable decarbonised future US electricity systems</i> <u>Panel Members:</u> Lucy Martin, Engineering and Physical Sciences Research Council Patricia Hoffman, US Department of Energy Nate Lewis, California Institute of Technology Dermot Nolan, Fingleton
PLENARY 1 – Managing a high renewables grid		Chair: Steve Koonin, National Academy of Sciences
16.30 12.30 09.30		Pre-recorded lectures Patrick Hogan <i>The Evolving Grid</i> Tony Roulstone <i>Assessing the need for future energy storage</i> <u>Panel Members:</u> Ana Barillas, Aurora Energy Professor Joseph DeCarolis, NC State University Paul Denholm, National Renewable Energy Laboratory Patrick Hogan, Utility Technology Solutions Tony Roulstone, University of Cambridge Marcus Stewart, National Grid
17.15 13.15		

10.15 BREAK		
PLENARY 2 - Storage Technologies I		Chair: Clare Grey, University of Cambridge
17.30 13.30 10.30	Batteries and electrochemical storage	Pre-recorded lectures Peter Bruce <i>Li and Na-ion batteries for grid scale energy storage</i> Venkat Srinivasan <i>Batteries for a zero-carbon grid: present status and opportunities</i> <u>Panel Members:</u> Nigel Brandon, Imperial College Peter Bruce, Faraday Institute & University of Oxford Professor Steve Davis, University of California Steve Davis, University of California, Irvine Venkat Srinivasan, Argonne Collaborative Center for Energy Storage Science
PLENARY 2 - Storage Technologies I, cont.		Chair: Steve Koonin, National Academy of Sciences
18.15 14.15 11:15	Alternative energy storage methods	Pre-recorded lectures Yulong Ding <i>Thermal Energy Storage for a net-zero future</i> Robert Schainker <i>Compressed Air Energy Storage (CAES): Executive overview</i> <u>Panel Members:</u> Yulong Ding, University of Birmingham Phil Eames, Loughborough University James Klausner, Michigan State University Robert Schainker, Electric Power Research Institute
19.00 15.00 12.00 FINISH		

Day 2 (18 March)

PLENARY SESSION 3 Storage technologies II		Chair: Bill David, University of Oxford
16.00 12.00 09.00	Hydrogen & Ammonia Production	<p>Pre-recorded lectures Katherine Ayers <i>Cost reduction of large scale electrolysis for energy applications</i> Trevor Brown <i>Ammonia: a pathway to market</i></p> <p><u>Panel Members:</u> Katherine Ayers, Nel Hydrogen US Trevor Brown, Ammonia Energy Association Paul Chirik, Princeton University Deborah Jones, University of Montpellier Thomas Mallouk, University of Pennsylvania Marcus Newborough, ITM Power</p>
16.30 12.30 09.30	Hydrogen & Ammonia Utilisation	<p>Pre-recorded lectures Jeffrey Goldmeer <i>Decarbonising our energy ecosystem with gas turbines</i> Mark Selby <i>Future fuels and fuel cells</i></p> <p><u>Panel Members:</u> Sally Benson, Stanford University Jeffrey Goldmeer, General Electric Gas Power Anthony McDaniel, Sandia National Laboratories Jane Patterson, Ricardo UK Mark Selby, Ceres Power Rob Stevens, Yara</p>
17.00 13.00 10.00	BREAK	
BREAK OUT SESSION		
17.15 13.15 10.15	Break out on cross cutting issues re techs discussed in earlier sessions eg Safety/sustainability Supply chain & markets Technical opportunities and barriers to introduction	<p><u>Breakout co-chairs</u> Alan Greenshields, Innolith Marcelle McManus, University of Bath</p> <p>Elizabeth Endler, Shell Kory Hedman, Power Systems Engineering Research Center Terry Boston, PJM Interconnection</p>

	Policy issues relating to technology introduction	Cameron Hepburn, University of Oxford Judith Judson, National Grid Mike Muskett, Technical Consultant
BREAKOUT FEEDBACK SESSION		
18.15 14.15 11.15	Feedback session	Chair: M. Granger Morgan, Carnegie Mellon University
PLENARY SESSION 4 Closing discussion		
18.35 14.35 11.35	Reflections from meeting	Steve Koonin, event co-chair Chris Llewellyn Smith FRS, event co-chair
	Concluding remarks	Paul Monks, UK Chief Scientific Adviser for the Department for Business, Energy & Industrial Strategy
19.00 15.00 12.00 Finish		