2ND INTERNATIONAL CONFERENCE ON
ENERGY SYSTEMS INTEGRATION

LONDON

MARCH 25 -26, 2019

PRESENTED BY

ESIG · UKERC UK Energy Research Centre · CESI National Centre for Energy Systems Integration · EERA European Energy Research Alliance · Imperial College London

25 Monday

The transformation of our energy systems is happening quickly and the importance of integrating across systems is recognized. The conference theme is "100%: The Role of Energy Systems Integration," and we encourage you to think of achieving 100% in all its possible meanings.

Registration & Breakfast

Session 1: System Operator Perspective

System operators are and will be at the sharp end of delivering 100% solutions. Innovative market design, operating and planning paradigms will need to be developed.

- **Vera Silva,** CTO, GE Grid Solutions
- **Fintan Slye,** Director, National Grid System Operator
- **Gordon Van Welie,** CEO, ISO New England
- **Ulrich Janischka,** TransnetBW, Germany

Session 2: Demand

Society uses energy in many different forms. Electrification and flexibility of loads are often proposed as pathways to 100%.

- **Trieu Mai**, NREL
- **Christian Gahm**, Universität Augsburg
- **Chris Williams**, Tata Steel
- **Bri Mathias Hodge**, University of Colorado, Boulder

Luncheon

"Towards 100% inverter-based electricity grids, the MIGRATE project"
Speaker: Thibault Prevost, RTE-France

Session 3: Transport

The transportation sector is undergoing a change with the introduction of electric vehicles, new ownership models, and the possibility of 100% autonomous cars. These all have enormous potential impacts on the energy system.

- **Cathy McClay**, National Grid System Operator
- **Gernot Liedtke**, DLR Institute of Transport Research
- **Chris Clack**, Vibrant Clean Energy
- **Phil Blythe,** Newcastle University

Session 4: A global perspective

The drive towards 100% is a global phenomenon. There are similarities and differences between systems that are important to understand and leverage.

- **Pierre-Olivier Pineau**, HEC Montreal
- **Wang Zhongying**, Acting Director General, Energy Research Institute, National Development and Reform Commission China
- **John Holmes**, Smart Villages in Africa
- **Mansoor Hamayun**, Bboxx

26 Tuesday

Session 5: Buildings & Cities

Energy use in buildings and cities is very significant, especially regarding heating and cooling. As we transition to 100%, the manner in which we approach efficiency and smartness in these infrastructures will change.

- **Mackay Miller,** National Grid (US)
- **Paul Denholm,** NREL
- **Wouter van Bolhuis,** Groningen Municipality
- **Ranjit Bharvirkar,** Regulatory Assistance Project

Session 6: Transitioning to 100%

The technical and economic challenges of 100% were highlighted in previous sessions. However, the challenges of transitioning politically and societally are just as challenging.

- **Rick Weston**, Regulatory Assistance Project
- **Linda Steg**, Groningen University
- **Jonathan O'Sullivan**, EirGrid
- **Mark McGranaghan**, VP, EPRI

Closing remarks

"What 100% means for my research career?"

Speaker: Madeleine McPherson, University of Victoria, Canada

Lunch

ESI Research Roadmap – Working Session

In order to achieve 100% a degree of integration between the energy vectors and across scales will be required. The transition will also require a coordinated regulatory and market framework with political and societal support. Within this future paradigm there are a multitude of research challenges across the full range of disciplines. ESIG is undertaking a research road mapping exercise to support the transition.

This will be a working session on the research roadmap – details to follow.