

# CHALMERS ENERGY CONFERENCE

Electricity for tomorrow  
March 28-29 2012

## WEDNESDAY MARCH 28 PRELIMINARY PROGRAMME

9:30 **REGISTRATION**

10:00 **INTRODUCTION AND SETTING THE SCENE**

*Chair: Helena Malmqvist, ABB*

### Introduction and welcome

Karin Markides, President Chalmers &  
Thore Berntsson, Director Chalmers Energy Area of Advance

### Global, European and Swedish challenges

#### How can electricity make a difference?

Tomas Kåberger, Chalmers Energy Area of Advance

### Overview electrification of road transport

Mats Alaküla, Lund/Volvo

### Use and recycling of critical materials in electrified vehicles

Maria Ljunggren Söderman, Department of Energy and Environment,  
Chalmers and IVL Swedish Environmental Research Institute

### The future of wind power

Flemming Rasmussen, Risö, Denmark

12:00 **LUNCH**

13:20 **RENEWABLE POWER  
GENERATION**

### Wind + Offshore

*Chair: To be announced*

### Wind power research at Chalmers

Ola Carlson, Department of Energy and Environment,  
Chalmers

### Offshore Wind Power

Göran Dahlén, WPD

### Current research issues on the wind

Thomas Abrahamsson, Department of Applied Mechanics,  
Chalmers turbine mechanics

### Wind power from a component industry perspective

Stefan Karlsson, SKF

**ELECTRIFICATION OF ROAD TRANSPORT  
Vehicles and Powertrains**

*Chair: Bo Egardt, Department of  
Signals and Systems, Chalmers*

### Vehicles and powertrains

Ali Rabiei, Department of Energy and Environment,  
Chalmers

### Optimization for electromobility

Nikolce Mugorski, Department of Signals and Systems,  
Chalmers

### Challenges when developing PHEVs and BEVs

To be announced

### Safe efficient vehicle solutions (SEVS) – results from an interdisciplinary scenario study

Else-Marie Malmek, Malmeken AB and Anders Grauers,  
Department of Signals and Systems, Chalmers

14:40 **COFFEE**

15:00 **Solar + Ocean**

*Chair: Maria Grahm, Department of Energy and Environ-  
ment, Chalmers*

### PV power - Technologies and trends

Marika Edoff, Ångströmlab Uppsala

### Polymer PV - Status and challenges

Mats Andersson, Department of Chemical and Biological  
Engineering, Chalmers

### Ocean Energy Overview - Status and Challenges

Oskar D Fängström, Pöyry SwedPower

### The Sotenäs Project – Introducing wave energy at commercial scale

Mats Leijon, Uppsala Universitet

### Electromobility

*Chair: Fredrik Persson, Göteborg Energi*

### Plugin and electric buses

Edward Jobson, Volvo Buses

### Effects of plug-in electric vehicles on electrical distribution systems

David Steen, Department of Energy and Environment,  
Chalmers

### Driving patterns matter

Sten Karlsson, Department of Energy and Environment,  
Chalmers

### PrimoveCity - Electric Mobility in Public Transporta- tion

Christian Köbel, Bombardier, Germany

16:20 **COFFEE**

16:40 **Grid Integration**

*Chair: Massimo Bongiorno, Department of Energy and  
Environment, Chalmers*

### Wind power integration

Lennart Söder, KTH

### Grid connection of Renewable Energy

Per Halvarsson, ABB Power Systems, FACTS

### Integration of wind power to regional and local grids - issues and challenges

Peiyuan Chen, Department of Energy and Environment,  
Chalmers

### Energy Storage - batteries and fuel cells

*Chair: Per Jacobsson, Department of Applied Physics,  
Chalmers*

### Lithium batteries - the next generation part 1

Kristina Edström, Uppsala Universitet

### Lithium batteries - the next generation part 2

Patrik Johansson, Department of Applied Physics, Chalmers

### Fuel cells - when comes the next hype?

Anna Martinelli, Department of Chemical and Biological  
Engineering, Chalmers

17:40 **SUM UP AND DISCUSSION**

*Chair: Maria Grahm, Department of Energy and Environ-  
ment, Chalmers*

### SUM UP AND DISCUSSION

*Chair: Per Jacobsson, Department of Applied Physics,  
Chalmers*

18:00 **CONFERENCE DINNER**

THURSDAY MARCH 29

PRELIMINARY PROGRAMME

9:00	<div>EMERGING TECHNOLOGIES - INTERNATIONAL PERSPECTIVES</div> <div>Chair: Lars Holmquist, Göteborg Energi</div> <div>Smarter power grid operations with synchrophasors</div> <div>Jay Giri, Alstrom Grid, USA</div> <div>Concentrated Solar Power (CSP) - Technologies and challenges</div> <div>Manuel Romero, IMDEA Energy, Spain</div> <div>Fusion - Technologies and challenges</div> <div>Friedrich Wagner, Max-Planck Institut für plasmaphysik, Germany</div>	
10:10	COFFEE	
10:30	<div>NEXT GENERATION NUCLEAR POWER</div> <div>Generation IV, the role of nuclear</div> <div>Chair: Teodora Retegan, Department of Chemical and Biological Engineering, Chalmers</div> <div>Multi-physics modelling of nuclear reactor systems</div> <div>Christophe Demaziere, Department of Applied Physics, Chalmers</div> <div>ELECTRA-FCC, an R&amp;D centre for Generation IV systems in Sweden</div> <div>Janne Wallenius, KTH</div> <div>The noble art of catching nuclear rowdies - today and in the future</div> <div>Ane Håkansson, Uppsala Universitet</div> <div>Nuclear power after Fukushima</div> <div>Ingemar Engkvist, E.ON</div>	<div>ELECTRIFICATION OF ROAD TRANSPORT</div> <div>Vehicles and Powertrains</div> <div>Chair: Bo Egardt, Department of Signals and Systems, Chalmers</div> <div>The role of smart grid</div> <div>Bo Normark, Power Circle</div> <div>Smart grid network and communication</div> <div>Marina Papatriantafilou, Department of Computer Science and Engineering, Chalmers</div> <div>Ensuring Reliability and Economic Efficiency Through Scheduling of Smart-Grid Resources</div> <div>Christopher Saunders, Department of Energy and Environment, Chalmers</div> <div>The future role of energy consumers: The value of flexibility</div> <div>Magnus Brolin, SP</div>
11:50	LUNCH	
12:50	<div>TOMORROW, POLICY INSTRUMENTS, BUSINESS MODELS &amp; PRINCING</div> <div>Chair: Tomas Kåberger, Chalmers Energy of Advance</div> <div>Sustainable energy future</div> <div>Filip Johnsson, Department of Energy and Environment, Chalmers</div> <div>Business models and pricing, electricity</div> <div>Lars Holmquist, Göteborg Energi</div> <div>Business models, electromobility</div> <div>Mats Williander, Viktoriainstitutet</div> <div>The role of policy in the transformation of the energy system</div> <div>Staffan Jacobsson, Department of Energy and Environment, Chalmers</div>	
14.10	COFFEE	
14:30	<div>SUM UP AND DISCUSSION</div> <div>Chair: Tomas Kåberger, Chalmers Energy of Advance</div>	