



Vetenskapsrådet



RESEARCH CONFERENCES

ESF-VR-FORMAS Conference

Global Change Challenges: Transforming Energy Systems

Utsikten Meetings, Nynäshamn • Sweden

3-7 October 2009

Chairs: **Kevin J. Noone**, Stockholm University, SE
& **Thomas B. Johansson**, Lund University, SE

Organising Committee:

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John Marks, Former ESF Director of Science and Strategy

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Preliminary Programme

The human impact on global climate change is now deemed to be unequivocal. However, human impacts on the global environment go well beyond changes in the physical climate, into effects on ecosystems, biodiversity and the essential goods and services provided by the environment on which we are dependent. In the next few decades, we will need to fundamentally transform a number of sectors if we are to be able to ensure the sustainable pursuit of the human endeavor. Among these sectors are energy, transportation and agriculture.

The purpose of this conference is to provide the research basis for long-term transformation of energy systems that will allow us to achieve a sustainable production of energy for future generations. The conference will begin by mapping out the current landscape for energy production and envisioning the goal for future sustainable energy systems. We will then explore the transformations necessary to realise this goal, and define the kinds of systemic-level analyses that will be necessary to support reaching this goal.

The conference will be a mix of plenary sessions and group meetings. As a prelude to the December UN climate conference in Copenhagen, it will aim to produce an openly available report detailing a) the major transformations needed, b) a picture of the desired energy systems landscape, c) a description of the necessary research, and d) suggestions for an implementation framework to enable and support it. Participants are invited to take part in this work.

Speakers and sessions will include:

Sunday, 4 October

What is the current energy landscape in which the transformations will occur, and where do we want to go?

Magnitude and needs of transformations: a look at how far we need to go and how much needs to be done

Jean Palutikof

National Climate Change Adaptation Res. Facility, Griffith, AU

Ged Davis

Global Energy Assessment Council, AT

Energy systems in the context of global environmental change: the big picture

Guy Brasseur

National Center for Atmospheric Research, Boulder, US

Leena Srivastava

Energy and Resources Institute (TERI), New Delhi, IN / Energy and Resources Institute (TERI-NA), US

Mapping the energy systems landscape: what is the starting point from which we need to proceed

Anand Patwardhan

Shailesh J Mehta School of Management, Mumbai, IN

Gary Geernaert

Institute of Geophysics and Planetary Physics (IGPP), Los Alamos, US

Eyes on the prize: envisioning future energy systems - where do we want to go?

Monday, 5 October

The devil is in the details: what are the necessary transformations (e.g., technical, governance, management, institutional, economic, market instruments, regulations)?

Details of the transformations: what are the big questions for transforming energy systems

Jose Goldemberg

University of São Paulo, BR

Break-out groups: details of transformations

Tuesday, 6 October

What research do we need to support decisions about and implementation of the long-term transformations?

Analyses of future energy systems from different perspectives e.g., global change, new economic models, new management structures

Nebojsa Nakicenovic

International Institute for Applied Systems Analysis (IIASA), Laxenburg, AT

Diana Urge Vorsatz

Center for Climate Change and Sustainable Energy Policy, Budapest, HU

Feeding into decision making: how can we help the Copenhagen negotiations?

Bo Kjellén

former ambassador for Sweden, SE

Looking back from 2050 - what research should we have started back in 2010

plenary discussion moderated by Get Davis

Wednesday, 7 October

Summary and way forward (1/2 day)

Synthesis of needed transformations and analyses and suggestions for ways forward