4th International Conference on

Smart Energy Systems and 4th Generation District Heating

13-14 November 2018 · Aalborg

AALBORG UNIVERSITY
DENMARK

Call for abstracts

The Smart Energy System concept is essential for 100% renewable energy systems to harvest storage synergies and exploit low value heat sources. The Smart Energy System approach was defined in 2011 in the CEESA project. The project addressed Danish scenarios with a particular focus on renewable energy in the transport system in a context with limited access to bioenergy. As opposed to, for instance, the smart grid concept, which takes a sole focus on the electricity sector, the smart energy systems approach includes the entire energy system in its identification of suitable energy infrastructure designs and operation strategies. Focusing solely on the smart electricity grid often leads to the definition of transmission lines, flexible electricity demands, and electricity storage as the primary means to dealing with the integration of fluctuating renewable sources. However, these measures are neither very effective nor cost-efficient considering the nature of wind power and similar sources. The most effective and least-cost solutions are to be found when the electricity sector is combined with the heating and cooling sectors and/or the transport sector. Moreover, the combination of electricity and gas infrastructures may play an important role in the design of future renewable energy systems. In its research on low-temperature district heating, the Strategic Research Centre for 4th Generation District Heating Technologies and Systems enhances the understanding of supply system design, infrastructure and heat savings. In future energy systems, combinations of low-temperature district heating resources and heat savings represent a promising alternative to individual heating solutions and passive or energy+ buildings. This change in the heating system also requires institutional and organisational changes that address the implementation of new technologies and enable new markets that can provide feasible solutions to society.

We invite researchers and experts from industry and businesses to contribute to further enhancing the knowledge of Smart Energy Systems and 4th Generation District Heating.

Important Dates 2018

15 June - Deadline for submission of abstracts for speakers
(**NB** Additional upgrade to paper is optional)
14 July - Reply on acceptance of abstracts
1 September - Early registration deadline

Topics

Smart Energy System analyses, tools and methodologies

Smart Energy infrastructure and storage options

Integrated energy systems and smart grids

Institutional and organizational change for Smart Energy Systems and radical technological change

Energy savings, low-temperature district heating grids and buildings

4th Generation District Heating concepts, future district heating production and systems

Planning and organization challenges for smart energy systems and district heating

Geographical Information Systems (GIS) for Energy systems, heat planning and district heating

District heating components and systems Renewable Energy Sources and waste heat sources for district heating

Fee including materials, coffee, lunches and conference dinner:

- Normal fee: **400 EUR**
- Early registration (for presenters with accepted abstracts): **300 EUR**

4DH
4th Generation District Heating Technologies and Systems

Heat Roadmap Europe 2050

reINVEST

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Aim and Organisers

The aim of the conference is to present and discuss scientific findings and industrial experiences related to the subject of Smart Energy Systems based on renewable energy and future 4th Generation District Heating Technologies and Systems (4GDH). It is organized by the 4DH Strategic Research Centre and the RE-INVEST project in collaboration with Aalborg University. 4DH is an international research centre which develops future 4th generation district heating technologies and systems. This development is fundamental to the implementation of Smart Energy Systems to fulfil national objectives of future low carbon strategies as well as the European 2020 goals. With lower and more flexible distribution temperatures, 4GDH can utilize renewable energy sources, while meeting the requirements of low-energy buildings and energy conservation measures in the existing building stock. RE-INVEST is an international research project which develops robust and cost-effective renewable energy investment strategies for Denmark and Europe.

Photo by Peter Kristensen

Location

The conference will take place at Nordkraft in Aalborg, and the Conference Dinner will take place at Musikkens Hus.

Submission Procedure

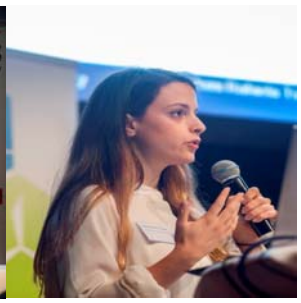
Both scientific and industrial contributions to the conference are most welcome. Submitted abstracts will be reviewed by a scientific and an industrial committee. Authors of approved abstracts will be invited to submit papers to special issues of

- ENERGY - The International Journal
- The International Journal of Sustainable Energy Planning and Management
- Energies (publishing requires a fee, see more in the submission form)

Best Presentation Awards will be given to a selected number of presenters at the conference.

Abstracts may be presented at the conference without uploading full paper, as this is not a requirement.

Please send your one-page abstract to **4dhConference@plan.aau.dk** before 15 June 2018 including this Submission Form.



Photos by Peter Kristensen

International Scientific Committee

Prof. Dagnija Blumberga, Riga Technical University, Latvia
Dr. Robin Wiltshire, Building Research Establishment (BRE), UK
Dr. Anton Ianakiev, Nottingham Trent University
Dr. Ralf-Roman Schmidt, Austrian Institute of Technology, Austria
Dr. Hanne L. Raadal, Østfold Research, Norway
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Jesper Møller Larsen, Aalborg Forsyning, Varme
Steen Schelle Jensen, Kamstrup
John Bøgild Hansen, Haldor Topsøe
Svante Bundgaard, Aalborg CSP

Conference Chairs

Prof. Henrik Lund, Prof. Brian Vad Mathiesen and Prof. Poul Alberg Østergaard, Aalborg University, Denmark

Further information

www.4dh.eu www.heatroadmap.eu www.reinvestproject.eu