

International Conference on
Smart Energy Systems and 4th Generation District Heating
 25-26 August 2015 - Copenhagen



PRELIMINARY PROGRAMME (Changes may occur)

Version May 2015

OVERALL PROGRAMME

Tuesday 25 August 2015

08:30 Registration and breakfast		
09:00 Welcome by Henrik Lund/Brian Vad Mathiesen		
09:15 Keynote: Xiliang Zhang: <i>The future of District Heating and Cooling in China</i>		
09:45 Keynote: Anders Eldrup: <i>(Title to be confirmed)</i>		
10:15 Questions and discussion		
10:40 Coffee break		
11:10 Track 1: Smart Energy Systems Session keynote: E. Ahlgren J. Duquette A.R. Razani W. Mazairac B. Nastasi	11:10 Track 2: Future district heating production and systems Session keynote: L. Gustavsson D. Maya-Drysdale D. Balic O. Gudmundsson V. Wilk	11:10 Track 3: Energy planning and planning tools Session keynote: B. Möller D. Sokolov E.E. Iakimetc L. Grundahl R.S.C. Lambert
12:50 Lunch		
12:50 <i>Steering Committee Meeting (4DH SC members only)</i>		
14:05 Track 4: Low-temperature district heating grids Session keynote: M. Köfinger DHC+ Student Award Winner 1 G. Vigants M. Kotenko S. Mohammadi	14:05 Track 5: Low-temperature district heating and buildings Session keynote: J. Boldt J.E.V. Rebollar DHC+ Student Award Winner 2 K. Qvist D. S. Larsen	14:05 Track 6: Organisations, ownership and institutions Session keynote: D. Blumberga S. Djørup K. Hasberg S. Fritz DHC+ Student Award Winner 3
15:45 Coffee break		
16:15 Track 7: Smart Energy Systems Session keynote: A. Dyrelund C. Damien W. Mazairac J.Z. Thellufsen L. Zhang	16:15 Track 8: Future district heating production and systems Session keynote: I. Weidlich G. Krajačić O. Martin-Du Pan K. Hansen P. Gilski	16:15 Track 9: Energy planning and planning tools Session keynote: S. Werner S. Petrović C. Bevilacqua F. Sáfián R. Büchele
17:55 Wrap-up		
19:30 Conference dinner		
19:50 Special guest speaker		

Wednesday 26 August 2015

08:15 Coffee		
08:40 Track 10: Smart Energy Systems Session keynote: J. Desmedt L. Brand B. Fricke M. Berberich N. Kabalina	08:40 Track 11: Future district heating production and systems Session keynote: G. Krajačić M.G. Prina L. Gustavsson G. Lennermo J. Kalina	08:40 Track 12: Energy planning and planning tools Session keynote: R.-R. Schmidt H.I. Topal E. Barakhtenko W. Xiong T. Novosel
10:20 Coffee break		
10:50 Track 13: Smart Energy Systems Session keynote: J. NW. Chiu P. Sorknæs T. Farrell J. Desmedt D. Schüwer	10:50 Track 14: Future district heating production and systems Session keynote: U. Persson D. Bothe J. Ziemele C. Marguerite R. Lund	10:50 Track 15: Low-temperature district heating grids / and buildings Session keynote: J.E. Thorsen M. Brand C. Engel X. Yang J.C. Flores
12:30 Lunch		
12:30 <i>Scientific and Industrial Committee Meeting (members only)</i>		
13:45 Keynote: Speaker from DG Energy (<i>name and title to be confirmed</i>)		
14:15 Keynote: (<i>to be confirmed</i>)		
14:45 Questions and discussion		
15:15 Coffee break		
15:45 Closing ceremony The 3rd International DHC+ Student Awards Best Paper Awards (Kamstrup and Danfoss)		
16:30 Wrap-up		

See content of each track on pages 2 and 3

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SPECIFICATION OF CONTENT OF TRACKS

Tuesday 25 August 2015

11:10 - 12:50

Tracks 1-3

Track 1: Smart Energy Systems

Session keynote E. Ahlgren:

Assessing impacts of a regional collaboration on large-scale excess heat utilization

J. Duquette:

Assessing the Impact of Wave Energy Integration in a Remote Canadian Community Equipped With a District Energy Grid

A.R. Razani:

Genetic algorithm Technique to optimize the configuration of heat storage in DH Network

W. Mazairac:

Large-scale multi-carrier network optimization

B. Nastasi:

Hydrogen to link Heat and Electricity in transition stage to Future Smart Energy Systems

Track 2: Future district heating production and systems

Session keynote L. Gustavsson:

Renewable-based heat supply of multi-apartment buildings with varied heat demands

D. Maya-Drysdale:

Matching heat demand with heat supply resources in district heating systems

D. Balic:

District heating as the thermal storage – support to the power system with potential for a higher integration of RES

O. Gudmundsson:

Cost of District Heating and Individual Heating Technologies

V. Wilk:

River water heat pumps for district heat supply in large cities in Austria: Study of potential and techno-economic optimization

Track 3: Energy planning and planning tools

Session keynote B. Möller:

A Pan-European Thermal Atlas of Potentials, Costs and System Properties

D. Sokolov:

Methods and Software for Parameter Optimization of Heat Supply Systems

E.E. Iakimetc:

Heat supply planning in the conditions of development of energy-efficient technologies in construction

L. Grundahl:

Comparison of heat atlas results with real-world measurements

R.S.C. Lambert:

Optimal multi-stage district heat expansion planning with real options

14:05 - 15:45

Tracks 4-6

Track 4: Low-temperature district heating grids

Session keynote M. Köfinger:

Low temperature district heating micro-networks in Austria: comparison of four case studies

DHC+ Student Award Winner 1

(presenter and subject to be clarified)

G. Vigants:

Low return temperature impact to DH system efficiency. Case study

M. Kotenko:

Minimization of losses in low temperature district heating

S. Mohammadi:

Determination of optimal supply temperature in existing district heating networks by applying new insulation series in pipes – A Thermo-economic analysis

Track 5: Low-temperature district heating and buildings

Session keynote J. Boldt:

Demonstration of 4DH solutions in a large city development area

J.E.V. Rebolgar:

Nearly Zero Carbon neighbourhood development in Kortrijk (BE), implementation and first year monitoring results

DHC+ Student Award Winner 2

(presenter and subject to be clarified)

K. Qvist:

Ultra Low-Temperature District Heating With 35 °C Supply Temperature

D. S. Larsen:

Possibilities and costs of preparing existing Danish single family houses from the 1930s for space heating with low-temperature district heating

Track 6: Organisations, ownership and institutions

Session keynote D. Blumberga:

Legislative analysis for the 4th generation district heating in Latvia. Riga case

S. Djørup:

Public Regulation of District Heating Companies in a Smart Energy System

K. Hasberg:

Development of an open heating platform – The case of Hamburg

S. Fritz:

The impact of policies in the building sector influence the economic feasibility of district heating

DHC+ Student Award Winner 3

(presenter and subject to be clarified)

16:15 - 17:55

Tracks 7-9

Track 7: Smart Energy Systems

Session keynote A. Dyrelund:

The District Energy System – a cost effective virtual electricity storage

C. Damien:

Dynamic Modelling of a District Cooling Network with Modelica

W. Mazairac:

District heating network topology optimization; a comparison between Monte Carlo methods and linear programming

J.Z. Thellufsen:

Multiple Energy System Analysis of Smart Energy Systems

L. Zhang:

Technical, Environmental, and Economical Comparison between Building substation and Group substation - Dynamic Simulations and Real Cases

Track 8: Future district heating production and systems

Session keynote I. Weidlich:

Challenges in smart energy transport using trenchless technology

G. Krajačić:

Contributing global CO2 mitigation by utilisation of food industry heat into smart Croatian DHS via Total Site heat recovery

O. Martin-Du Pan:

Heat Losses in District Heating Systems and Heat Meters

K. Hansen:

Comparing heat supply to heat savings with a levelised costs approach and an energy system approach

P. Gilski:

Influence of stray currents on district heating pipelines failure rate

Track 9: Energy planning and planning tools

Session keynote S. Werner:

European cooling demands

S. Petrović:

Ringkøbing-Skjern energy atlas for analysis of heat saving potentials in building stock

C. Bevilacqua:

A localised heat distribution model including low temperature district heating

F. Sáfián:

Is there room for renewables in 2030? – analysing the effects of a new nuclear power plant in Hungary

R. Büchele:

Comprehensive assessment of the potential for the application of high-efficiency cogeneration and efficient district heating and cooling

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SPECIFICATION OF CONTENT OF TRACKS

Wednesday 26 August 2015

08:40 - 10:20	Tracks 10-12
Track 10: Smart Energy Systems	
Session keynote J. Desmedt:	<i>The role and potential of distributed thermal energy storage systems for active control of district heating networks</i>
L. Brand:	<i>Prosumers in District Heating networks - problems and possibilities</i>
B. Fricke:	<i>100% renewable municipal energy supply: Chances and restrictions of solar thermal district heating</i>
M. Berberich:	<i>Solar-CHP - development of multifunctional systems combining CHP with solar thermal plant</i>
N. Kabalina:	<i>Exergy analysis of polygeneration DHC system based on the gasification of RDF</i>
Track 11: Future district heating production and systems	
Session keynote G. Krajačić:	<i>Reducing CO2 emissions and increasing the integration of renewables through the utilization of smart district heating system in the City of Velika Gorica</i>
M.G. Prina:	<i>Smart energy systems applied at urban level: the case of the municipality of Bressanone-Brixen</i>
L. Gustavsson:	<i>Effects of energy efficiency measures in buildings on different types of district heating systems</i>
G. Lennermo:	<i>Decentralised heat generation in district heating systems</i>
J. Kalina:	<i>Advanced hybrid and combined small-scale thermal energy conversion systems for efficient use of locally available resources</i>
Track 12: Energy planning and planning tools	
Session keynote R.-R. Schmidt:	<i>Feasibility of micro-DH networks in scattered urban areas using local sources: analyses of technical and non-technical barriers of a case study</i>
H.I. Topal:	<i>Thermodynamics analysis and pricing heating in a district heating system by coal-fired thermal power plant</i>
E. Barakhtenko:	<i>A Methodological Approach to the Heat Supply System Design and its Software Implementation</i>
W. Xiong:	<i>Case study of the constraints and potential contributions regarding wind curtailment in Northeast China</i>
T. Novosel:	<i>Heat demand mapping and the utilization of district heating in energy systems with a high share of renewables: Case study for the city of Osijek</i>
10:50 - 12:30	Tracks 13-15
Track 13: Smart Energy Systems	
Session keynote J. NW. Chiu:	<i>Economic Assessment of Industrial Surplus Heat Transportation</i>
P. Sorknæs:	<i>The transition of small-scale CHP into market-based smart energy systems</i>
T. Farrell:	<i>District Energy in Cities: Unlocking the Potential of Energy Efficiency and Renewable Energy</i>
J. Desmedt:	<i>The H2020 STORM project: Self-organising thermal resource management as future intelligent control of district heating and cooling networks</i>
D. Schüwer:	<i>The potential of heat and grid orientated block CHP on the minute reserve market and its impacts on CO2 emissions - prospects for the German energy market</i>
Track 14: Future district heating production and systems	
Session keynote U. Persson:	<i>Current and future prospects for heat recovery from waste in European district heating systems: A literature and data review</i>
D. Bothe:	<i>Thermo-hydraulic simulation of district heating networks</i>
J. Ziemele:	<i>System dynamics model analysis of pathway to 4th generation district heating systems in the Baltic States</i>
C. Marguerite:	<i>Selection of design scenarios for an industrial waste heat based micro-district heating network supplying low-energy buildings</i>
R. Lund:	<i>Mapping of potential heat sources for large heat pumps in Denmark</i>
Track 15: Low-temperature district heating grids / and buildings	
Session keynote J.E. Thorsen:	<i>Thermal length of heat exchangers for the next generation of DH substations</i>
M. Brand:	<i>District heating substation with electric booster supplied by 40°C warm district heating water</i>
C. Engel:	<i>Highly prefabricated, tailor made District Heating and Cooling networks</i>
X. Yang:	<i>Analysis of individual heating unit for domestic hot water production in multi-storey buildings with low temperature district heating</i>
J.C. Flores:	<i>Conceptual Study of the Integration of Decentralized Solar Heat Generation to a Low-Temperature District Heating Network via Substation Net-Metering</i>