

# 12th International Symposium on District Heating and Cooling

September 5<sup>th</sup> –September 7<sup>th</sup>, 2010  
Tallinn, ESTONIA



## **Scientific Committee**

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Carl Fogelholm, Helsinki University of Technology

Svend Frederiksen, Lund Institute of Technology

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Tiit Rahkema, Estonian Power and Heat Assotsiation, Estonia

Edgars Vigants, Assotsiation of Latvian District Heating Companies, Latvia

## PROGRAMME

<b>Time</b>	<b>Sunday September 5<sup>th</sup>, 2010</b>	
19:00-21:00	Registration, Welcome, Clarion Hotel Euroopa, Lääne – Euroopa	
	<b>Monday September 6<sup>th</sup></b>	
08:00-09:00	Registration	
09:00-10:40	<b>OPENING SESSION (Lääne – Euroopa)</b>	
1.	<b>Opening</b> Minister Juhan Parts, Ministry of Economic Affairs and Communication	
2.	"The prospects for DH&C seen from the EU Commission point of view" Eva Hoos, European Commission, Directorate-General for Energy	
3.	"The prospect of district heating and district heating research in Germany" Jürgen Gehrman, Forschungszentrum Jülich	
4.	<b>District Heating in Estonia</b>	
10:40-11:00	Coffee break	
11:00 -12.30	<b>SESSION</b> Conceptions and studies in District Heating and Cooling <i>Lääne-Euroopa room</i>	<b>SESSION</b> Efficiency Issues of District Heating and Cooling <i>Põhja–Euroopa room</i>
1.	Integration of an IP based low-power sensor network in district heating substations <i>J. Gustafsson, H. Mäkitaavola, J. Delsing J. van Deventer</i>	Primary energy efficiency and systems engineering <i>M. Berner, R. Ulseth, J. Stang</i>
2.	On the radial contact pressure of parallel buried pipes for district heating <i>I. Weidlich, M. Achmus</i>	Enhanced district heating and cooling systems – realisation of the low-ex concept <i>S. Bargel, C. Pollerberg, A.Knels, L. Huang, D. Müller, C.Dötsch</i>
3.	Analysis on flat station concept. Preparing DHW decentralised in flats <i>J. E. Thorsen</i>	Application of exergoeconomics to the optimization of building heating systems connected to district heating networks <i>C. Snoek, S.C. Kluiters</i>
4.	Improved temperature performance of radiator heating system connected to district heating by using add-on-fan blowers <i>P.-O. Johansson, J. Wollerstrand</i>	SlimNet: an innovative integral approach for improving efficiencies of district heating networks <i>M.W.P. van Lier</i>
12:30-13:30	Lunch	
13:30-15:20	<b>SESSION</b> District Heating in Areas of Low Density <i>Lääne-Euroopa room</i>	<b>SESSION</b> District Heating Systems: Pipes Properties <i>Põhja–Euroopa room</i>
1.	A direct heat exchanger unit used for domestic hot water supply in a single-family house supplied by low energy district heating <i>M.Brand, J. E. Thorsen, S.</i>	District heating pipes 200 mm below surface in a street with heavy traffic <i>A. Fransson, S.-E. Sällberg</i>

	<i>Svendsen, C. Holm Christiansen</i>	
2.	Challenges on low heat density district heating network design <i>M. Rämä, K. Sipilä</i>	Study on the heat loss reduction method from the secondary pipelines in the apartment complex <i>B.-S. Park, Y.-E. Kim, S.-H. Park, Y.-H. Im, H.-J. Kim, D.-H. Chung, M. Chung</i>
3.	Design of low temperature district heating network with supply water recirculation <i>H. Li, A. Dalla Rosa, S. Svendsen</i>	Heat loss of flexible plastic pipe systems, analysis and optimization <i>EJ.H.M. van der Ven, R.J. van Arendonk</i>
4.	Steady state heat losses in pre-insulated pipes for low-energy district heating <i>A. Dalla Rosa, H. Li, S. Svendsen</i>	Comparison of competitive (semi) flexible piping systems by means of heat loss measurement <i>I.M. Smits, J. Korsman, J.T. van Wijnkoop, E.J.H.M. van der Ven</i>
5.	Transient thermal conductivity of flexible district heating twin pipes <i>C. Reidhav, J. Claesson</i>	Effective width - the relative demand for district heating pipe lengths in city areas <i>U. Persson, S. Werner</i>
15:00-15:20	Coffee break	
15:20-16:45	SESSION Renewable District Heating and Cooling <i>Lääne-Euroopa room</i>	SESSION The Aspects of District Heating: CHP <i>Põhja-Euroopa room</i>
1.	Integrating renewable energy into large-scale district heating systems <i>P. Begerow, S. Holler</i>	Analysis for the operation behaviour and optimization of CHP system in district heating and cooling network <i>Y.H. Im, H.-C. Park, B.-S. Park and M. Chung</i>
2.	Solar district heating (SDH): technologies used in large scale SDH plants in Graz – operational experiences and further developments <i>M. Schubert, C. Holter, R. Soell</i>	Improved primary energy efficiency of district heating networks by integration of communal biomass-fired combined heat and power plants with biomass pyrolysis <i>T. Kohl, N.A. Pambudi, T. Laukkanen and C.-J. Fogelholm</i>
3.	Bioenergy combines in district heating systems: prospects for a future growth -industry? <i>E. Axelsson, A. Sandoff, C. Overland</i>	CHP or power station?: question for Latvia <i>D. Blumberga, G. Kuplais, F. Romagnoli, E. Vigants</i>
4.	Sea water district cooling feasibility analysis for Tallinn <i>A. Hani, I. Britikovski, H. Voll, T.-A. Kõiv</i>	LCA of combined heat and power production at Hellisheiði geothermal power plant with focus on primary energy efficiency <i>M. R. Karlsdottir, O. P. Palsson, H. Palsson</i>
19:00-22:00	Symposium Dinner, <i>The House of Brotherhood of Blackheads</i>	

Tuesday, September 7		
09:30-11:00	<b>SESSION</b> District Heating: Management and Environment <i>Lääne-Euroopa room</i>	<b>SESSION</b> District Heating and Cooling: Policy and Legislation Impact <i>Põhja-Euroopa room</i>
1.	Flexibility from district heating solutions to decrease costs of variable power production <i>J. Kiviluoma, P. Meibom</i>	Policies and barriers for district heating and cooling outside EU countries <i>A. Nuorkivi, B. Kalkum</i>
2.	Heat load variations of in district heating systems <i>H. Gadd, S. Werner</i>	Barriers to district heating development in some European countries <i>D. Henning, O. Mårdsjö</i>
3.	District heating as part of the energy system: an environmental perspective on `passive houses` and heat replacing electricity use <i>M. Fröling, I. Nyström</i>	Impact of the price of CO <sub>2</sub> certificates on CHP and district heat in the EU27 <i>M. Blesl</i>
4.	Adaptive control of radiator systems for a lowest possible return temperature <i>P. Lauenburg, J. Wollerstrand</i>	Considerations and calculations on system efficiencies of heating systems in buildings connected to district heating <i>M. Justo Alonso, R. Ulseth, J. Stang</i>
11:00-11:30	Coffee break/Poster session	
1.	Heat load reductions and their effect on energy consumption <i>C. Johansson, F. Wernstedt</i>	
2.	The next step in evolution of DH technology: Transition driven by end-user demand <i>M. Edin, N.-Å. Jönsson</i>	
3.	Verification of heat loss measurements <i>J.T. van Wijnkoop, E. van der Ven Liandon</i>	
4.	District heating and cooling with large centrifugal chiller-heat pumps <i>U. Pietrucha</i>	
5.	New economical connection solution for flexible piping systems <i>C.Engel, G.-J. Baars</i>	
6.	Competitiveness of combined heat and power plant technologies in Estonian conditions <i>E. Latõšev, A. Siirde</i>	
11:00-12:30	<b>SESSION</b> District Heating: Case Studies <i>Lääne-Euroopa room</i>	<b>SESSION</b> Optimisation and Simulation in district heating <i>Põhja-Euroopa room</i>
1.	Distribution of heat use in Sweden <i>M. Borgström, S. Werner</i>	Cutting costs of district heating systems by using optimized laying techniques <i>A.Goebel, S. Holler</i>
2.	Damages of the Tallinn district heating networks and indicative parameters for an estimation of the networks general condition <i>A. Hlebnikov, A. Volkova, O. Džuba, A. Poobus, Ü. Kask</i>	Analysis of heat transfer in heat exchangers by using the NTU method and empirical relations <i>O. Gudmundsson, O. P. Palsson, H. Palsson</i>

3.	<b>Efficiency of district heating water pumping in Finland</b> <i>A. Hakulinen, J. Lampinen, J Lavanti</i>	<b>Heat loss analysis and optimization of a flexible piping system</b> <i>J. Korsman, I.M. Smits and E.J.H.M. van der Ven</i>
4.	<b>Modelling district heating cooperations in Stockholm – an interdisciplinary study of a regional energy system</b> <i>D. Magnusson, D. Djuric Ilic</i>	<b>Free optimization tools for district heating systems</b> <i>S. Gnüchtel, S. Groß</i>
12:30-13:30	<b>Lunch</b>	
13:30-14:45	<b>Plenary session, <i>Lääne-Euroopa</i> room</b>	
14:45-15:00	<b>Symposium closing, <i>Lääne-Euroopa</i> room</b>	
16:00-19:00	<b>Sightseeing Tour to the Estonian Open Air Museum with programme</b>	