

CELSIUS Summit: The Power of Networks

PROGRAMME



Day 1: Monday November 27, 2017

Svenska Mässan – Gothia Towers, Mössans Gata 24

09:00 **Registration and welcome coffee**

09:30 **Talk show**

Welcome and introduction

- Moderator: Pernilla Warberg

CELSIUS/Gothenburg

- Ann-Sofie Hermansson, Gothenburg Municipal Board
- Katrina Folland, City of Gothenburg
- Jonas Cognell, Göteborg Energi AB

Transnational perspective

- Ann-Sofi Gaverstedt, Swedish Energy Agency
- Paul Voss, EuroHeat & Power
- Zoulun Chen, UN Environment and District Energy in Cities Initiative

City perspective

- Donna Gartland, Codema – Dublin's Energy Agency
- Jeff Laidler, Energetik – City of Enfield
- Astrid Madsen, City of Rotterdam

Other initiatives

- Carsten Rothballer, ICLEI and Heat Road Map 4
- Kristina Lygnerud, IVL and ReUseHeat
- Lily Riahi, UN Environment and District Energy in Cities Initiative

DE Advice

- Håkan Knutsson, SweHeat & Cooling
- Birger Lauersen, Danish Heating Association

Future of DE

- Erik Ahlgren, Chalmers
- Samia Belaziz, City of Lyon
- Fabien Challeat, City of Lyon
- Claudia Webbe, London Borough of Islington
- Alan Dutton, City of Stoke-on-Trent
- Anna Richardson, City of Glasgow

12:00 **Lunch break & open networking**

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Day 1: Monday November 27, 2017 cont.

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13:15

Round-table discussions

1. Citizen engagement and pricing

- Moderator: Bengt Göran Dalman, BG Dalman AB

2. Seasonal and short-term thermal storage and solar DH

- Moderators: Håkan Andersson, Skanska and Torsten Luetten, SavoSolar

3. Network planning, connecting heat producers and CHP

- Moderators: Lars Larsson, Borlänge Energi AB och Lars Bern, Business Region Gothenburg

4. District Cooling

- Moderators: Bernt Andersson, Golden Forest and Anna Svernlöv, Göteborg Energi AB

5. First Session: Heat Mapping: Which policies shape Heat Synergy Regions

- Moderator: Carsten Rothballer, ICLEI

Second session: Heat Mapping: how to finance Heat Synergy Regions

- Moderator: Carsten Rothballer, ICLEI

6. Innovations for tomorrow

- Moderators Erik Ahlgren, Chalmers and Håkan Knutsson, SweHeat & Cooling

7. First session: DHC Policy

- Moderator: Simon Wyke, Greater London Authority

Second session: Smart Home Field Test, Cologne

- Moderator: Thorsten Schneiders and Simon Rehm, University of Applied Sciences of Cologne

8. Circular energy/economy and investments

- Moderators: Andy van den Dobbelaar, TU Delft and Lars Holmquist, Göteborg Energi AB



15:00

Coffee Break



15:15

Matchmaking: express networking activity



17:00

End of Matchmaking

Award Ceremony, Monday November 27, 2017

Park Lane, Kungssportsavenyn 38

18:30

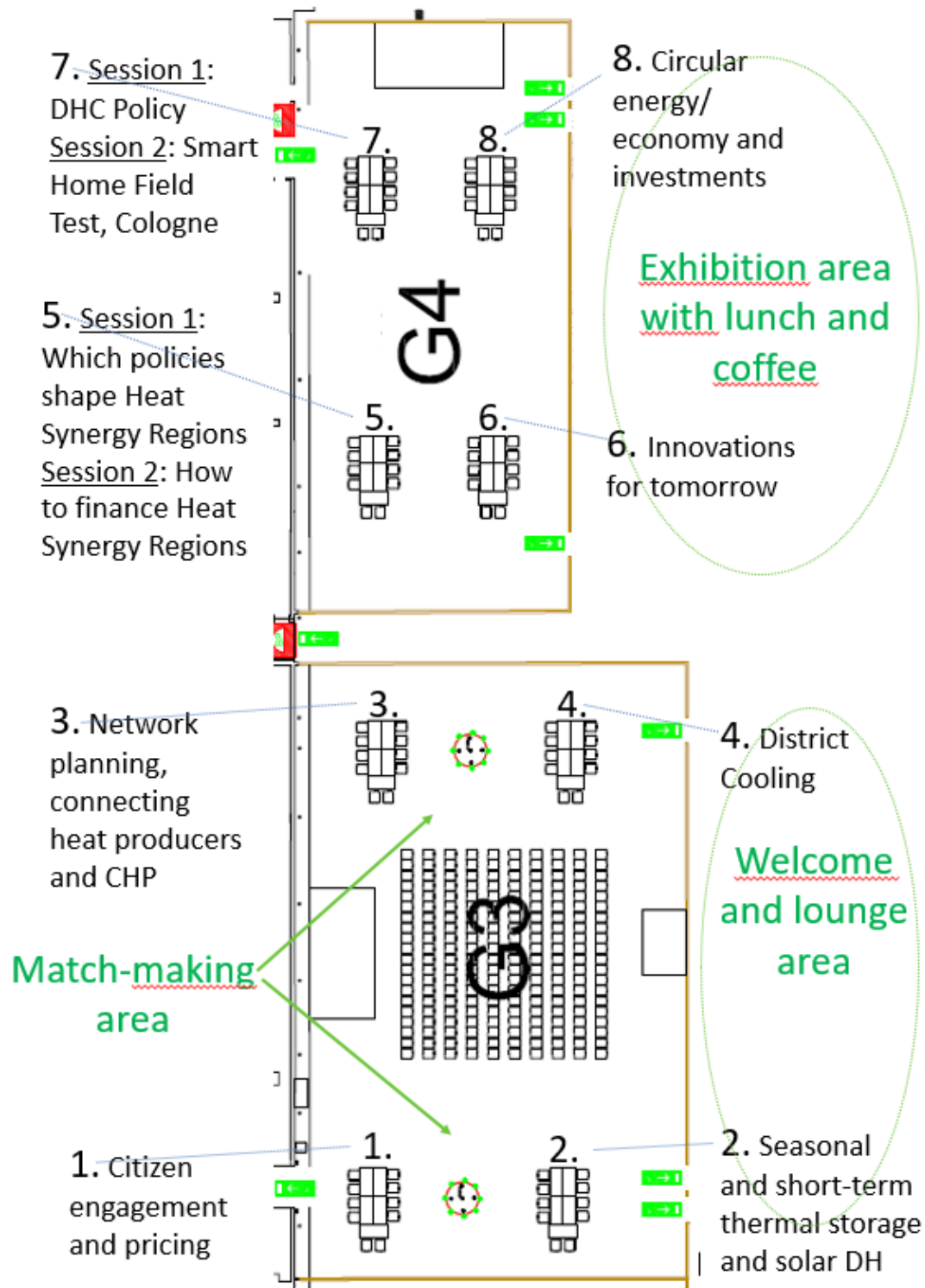
CELSIUS Summit dinner and awards

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Map with Round-table Discussion Topics



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CELSIUS Summit Partners



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Day 2: Tuesday November 28, 2017

09:00 Welcome

- Moderator: Pernilla Warberg

09:15 Key-note address: DHC infrastructure paradigm shift to circular energy

- Speaker: Peter Dahl, Sinfra

10:00 Coffee Break

10:30 Panel discussions

Subject 1: Waste energy from fossil fuels

- Moderator: Elisabeth Undén, City of Gothenburg
- Lars Holmqvist, Göteborg Energi AB
- Andy van den Dobbelsteen, TU Delft
- Boris Lubinski, IEA-DHC & AGFW



Subject 2: Biomass, DH and sustainability

- Moderator: Jonas Connell, Göteborg Energi AB
- Henrik Brodin, Södra
- Henrik Thunman, Chalmers
- Elisabeth Undén, City of Gothenburg
- Karl Sandstedt, Göteborg Energi AB



11:30 Key-note address: On the edge of DHC research and development

- Speaker: Brian Vad Mathiesen, Aalborg University

12:15 Lunch break & open networking

13:30 Conclusion

- Workshop reflection by moderator: Pernilla Warberg
- CELSIUS 2.0, speaker: Mats Bergh, Johanneberg Sciene Park
- Closing remarks, speaker: Ulf Kamne, City of Gothenburg

14:00 Study visits

- STENA Danica – District Heating to Ships
- Fossil-free Energy Districts (FED) and HSB Living Lab
- Heat pumps and CHP
- Göteborg Energi AB DH control room

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Erik Ahlgren is professor in Energy Systems Technology at Chalmers University of Technology, Sweden. His research is addressing systems aspects of biofuels, district heating, rural electrification and energy and climate policy. He has studied engineering physics at KTH, Sweden, did his PhD on solid oxide fuel cells at Risø/DTU, Denmark, and a postdoc on hydrogen energy at Kyoto University, Japan.

Samia Belaziz has been a political representative for Villeurbanne city, the biggest commuter town in France, for many years. When the Metropole de Lyon, encompassing Villeurbanne city, was created in 2015 she became its political representative for renewable energy and district energy. Since then she has worked for the sustainability of the Metropole district energy systems, especially to improve communication with the end users. In February 2017 she was honoured to introduce the DHC days organized in partnership with CELSIUS project and hosted by the Metropole de Lyon.

Mats Bergh, president/CEO of Johanneberg Science Park, holds a M. Sc. degree in Electrical Engineering and a Ph.D. degree in Semiconductor Electronics, both from Chalmers University of Technology. Through his different previous positions, Mats has gained a broad experience including defense and space industry, automotive and transport, engineering, telecommunications, energy and urban development. He has been Director at Chalmers university of technology with special focus on develop industrial collaborations, fundraising organization and activities. Prior to his current position Mats was Vice President of RISE Holding, an owner company of several Swedish research institutes and a part of the Swedish Ministry of Finance. Always working with the perspective of sustainable community development is of utmost importance.

Henrik Brodin is Business Development Manager of biofuels at Södra and he is Program Director of *A Fossil Free Södra*. The Södra Group production will be fossil-free in 2020 and all transportations in 2030. In his role as the Program Director for *A Fossil Free Södra*, Henrik works with the practical conversion, strategies, collaboration but also business policy issues related to fuels as well as RED2. Henrik's main focus is on how to use the forest most efficiently to both produce sustainable products and generate fossil-free energy. He holds a Master in Business Administration and was previously Commercial Manager for the Södra Group's energy business.

Fabien Challeat has been the engineer in charge of district energy systems at the Metropole de Lyon since 2013. Coming from the private sector, his expertise has enabled the Metropole to successfully take full competency over district systems in 2015. Amongst five others DH systems, he is the project manager on the Metropole side for "Centre Metropole" district system, its main heating and cooling system.

Zoulou Chen is Senior Advisor in the program of District Energy in Cities Initiative under UN Environment and mainly focuses on the development of DES projects, including rapid assessment, deep dive and feasibility studies in cities of developing countries such as China, India, Malaysia, Morocco, Egypt and Maldives. He holds a Bachelor degree in Heating, Ventilation and Air-Conditioning from the Harbin Institute of Technology (HIT) and a Ph.D. in Building Science from the South China University of Technology (SCUT). Between 2007 and 2009, he finished his Ph.D. dissertation as a visiting student in the University of Colorado at Boulder (UCB) under the Chinese central government scholarship. He has worked as a senior engineer for the Design and Research Institute of SCUT since 2010, and also as a supervisor of Master students and Doctor of Engineering candidates for the National Key Lab of Subtropical Building Science of SCUT. His main working fields include district energy planning, district heating and cooling system consulting, design and operation, high efficient data centre and green building consulting. Since 2010, he has played a leading role on over 35 different HVAC system design

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projects in commercial buildings and more than 25 district energy system consulting and designs all over China. He optimized the energy systems for over ten data centres to improve energy efficiency. As a certified green building engineer of LEED AP (BD+C), he consulted over 20 projects for green building design and finished over 50 energy conservation designs for standalone buildings.

Jonas Cognell is now a Senior Program Manager and Assisting Coordinator for the Celsius Project. Prior Jonas has been working since 2008 as Director of Renewable Electricity at Göteborg Energi. He was earlier responsible for the AMR (Automatic MeterReading) services for District Heating, District Cooling, and Gas and Electricity and prior to that he managed with electricity contracts and portfolios for large customers. Jonas has a Master's Degree in Electrical Engineering.(M.Sc.EE).

Peter Dahl is CEO at Sinfra, which is a procurement organization for 180 utility companies in Sweden. FVU is an innovation bridge, a way in on to the market for innovative technology. FVU is operating in cooperation with the Swedish Energy Agency. The turn over within the Sinfra frame contracts is about 60 million Euros per year. The vision and what drives Peter is to find commercial ways to make the energy transition possible faster. Bringing suppliers and utility companies together to solve our complex climate problems. Simply to reach a more sustainable society faster so we can leave a better world to the next generation.

Alan Dutton has a role with the Stoke-on-Trent Council as part of the Cabinet structure and enjoys helping the people he represents. Previous work include the Director of an International Construction Company, which designed Air and Ground Source Heating Systems, Ventilation and Air Conditioning, an apprenticeship as an electrician and a pop music career.

Katrina Folland works for the Gothenburg City Hall; she is the coordinator of the CELSIUS project, which the City and the energy company have led together since 2013. Katrina has coordinated several of Gothenburg's actions for setting up goals, strategies for energy use, energy production, transportation and being a smart city. She has been representing Gothenburg in the national and EU context regarding Smart cities, innovation and Horizon 2020 and her perspective on DHC is the overall city-perspective.

Donna Gartland is an Executive Energy Planner at Codema - Dublin's Energy Agency, which is a not-for-profit company established in 1997. Donna is responsible for Energy Policy and Planning and works with the Dublin municipalities to develop energy and carbon emission saving projects, specialising in District Energy systems. Donna created the first heat demand maps in Ireland and is author of the national level 'Guide to DH in Ireland'. Currently Donna is working with the municipalities to establish the first District Heating systems in the region, with support from the EU Interreg North-West Europe project 'HeatNet'. Donna is also currently pursuing a PhD focusing on the potential impact of implementing large scale District Heating in Ireland.

Ann-Sofi Gaverstedt is Program Manager for international affairs at the Swedish Energy Agency. Ann-Sofi is managing the Heat Networks Sustainability by Sweden program, which is a governmental and industry lead initiative aiming to promote collaboration and facilitate knowledge sharing to accelerate the development of heat networks. The Heat Networks program is presently established in the UK and the ambition is to broaden its activities and scope to include other European markets as well as China and Canada. Ann-Sofi has experience from energy, climate and business cooperation from different international markets and has worked in both the private and public sectors.

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Ann-Sofie Hermansson is the Chair of the City Executive Board in the City of Gothenburg. She was the local representative in the Swedish Social Democrats in the European Parliament for seven years and prior to that a member of the Chief Guardian's Committee in Gothenburg. Ann-Sofi has also worked as a Policy Officer, a Policy Advisor and Political Writer.

Lars Holmquist graduated from Chalmers university of Technology in 1996. Since then he has been working for Göteborg Energi in various positions, as environmental engineer, R&D manager and, mostly, in Public affairs. He has gained long experience in the roles for district heating in environmental, economic and political contexts.

Ulf Kamne (Green Party) is the Deputy Mayor of the Gothenburg City Executive Board with the Environment and Climate portfolio. He is also the chair of the municipal building council. With a background in conservation and environmental consulting, Ulf has a keen interest in sustainable urban development.

Håkan Knutsson has a Master degree in Industrial Engineering and more than 25 years of experience from management positions in tech companies, suppliers to the energy utility and manufacturing industry. He is the Chairman of the Board of SweHeat & Cooling, Swedish Council of District Heating. Håkan started his own company, Indepro AB, in 2015, in consulting and innovation support. He is also active as Board Member in a number of companies.

Jeff Laidler is an experienced sustainability leader, start-up specialist and speaker. He has over 17 years' experience in the public and private sector. He has led development of a wide range of initiatives to catalyse the low carbon economy: 1) The 'Energetik' local energy company, with £58 million Council funding now secured to supply low carbon heat to over 15,000 homes and businesses in Enfield and north London: www.energetik.london. 2) Sustainable Enfield to make the borough a great place to live and work: www.enfield.gov.uk/sustainable. 3) Source East - the East of England's electric vehicle recharging network and delivery company. 4) OrbisEnergy at Lowestoft, supporting start-ups in the offshore wind industry: www.orbisenergy.co.uk. Jeff has delivered large-scale energy retrofits, supply chain development and significant carbon reduction, working in partnership with business and government at a high level across the sustainability spectrum.

Birger Lauersen holds a master of political science from Copenhagen University and has worked for the Danish District Heating Association since graduating in 1994, initially as economic advisor dealing with energy taxation, regulation, heat purchase contracts and more, and soon added international affairs to his portfolio. He has been on the board of the European district heating organisation Euroheat & Power since 1998 and was chairman of its Energy Policy Committee between 2002 and 2010 and again from 2014 to 2016. He was president of Euroheat & Power 2010-12 and is currently vice president, having held the position previously from 2008-10, and 2012-14. Privately he lives in Kolding in western Denmark and, as 64 % of Danes, enjoys the benefits of district heating in his home.

Boris Lubinski works at the faculty for "Spatial and City planning" at the Technical University of Dortmund. Since 2007 he has been at AGFW – Technical and standardisation department – as an expert for energy performance calculation, cooling, trigeneration. He has built up and operate a certification scheme for assessors for PEF: Since 2010, 200 assessors certified over 1000 certificates of primary energy factors of district heating systems. Contributed this expertise to the European level in the Mandate M/480 of the EC to CEN.

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Kristina Lygnerud has a PhD in Industrial and Financial Economics from Göteborg School of Business and Economics. She has studied risk management in the Swedish District Heating sector and has customized and implemented an ERM framework at Borås Energy and Environment. Since 2015, Kristina works part time as a senior project manager at the Swedish Environment Research Institute (IVL) and part time as researcher at the University of Halmstad. At IVL, Kristina is the coordinator of an the EU project Reuseheat on low temperature heat sources and their recovery in four demonstrators. At the University, Kristina works on business model innovation in the district heating sector. A recent paper is on the risk of industrial waste heat recovery and another paper is on business model development in Swedish district heating companies in the timeframe 2008-2016. Currently, Kristina is exploring how large the “lock in effect” is amongst Swedish district heating companies in the sense that the companies are resorting to technologies necessitating fuels that in the future will become scarce (waste and biofuels).

Astrid Madsen has been working for the City of Rotterdam since 2000. She has been active on a wide range of topics; from head of department wastewater maintenance to head of department sport projects where she was responsible for the realisation of the Olympic Rowing Course in Rotterdam. In 2004 and 2009 she left the city to work abroad for Doctors without Borders. Now as programme manager energy transition she works with many stakeholders to facilitate and coordinate the transition towards a CO2 emission free built environment. Ms Madsen holds a Master of Science degree from the Twente University, The Netherlands.

Lily Riahi is the Programme Manager and Global Lead of the District Energy in Cities Initiative at UN Environment. She heads the Initiative through a public-private collaboration, funded by the Global Environment Facility (GEF), DANIDA, and the Italian Ministry of Environment, to support local and national governments meet clean air, energy, and climate targets through modern district energy solutions. Lily is also the report author of the UNEP flagship publication *‘District Energy in Cities: Unlocking the Potential of Energy Efficiency and Renewable Energy’* launched in collaboration with ICLEI - Local Governments for Sustainability, Copenhagen Centre of Energy Efficiency and UN Habitat. Lily has a proven track record in sustainability, resource mobilization, and private sector engagement. She has managed and implemented renewable energy programmes and projects over the last ten years amongst others for the REN21, the Environmental Defence Fund, ICLEI - Local Governments for Sustainability, and the German parliament where she supported the promotion of the International Renewable Energy Agency. She holds a Bachelor Degree in Political Science and Economics, with a Masters in Environmental Studies, and is the author of several energy publications.

Carsten Rothballer is Coordinator in ICLEI’s Sustainable Resources, Climate and Resilience team. Expert at ICLEI Europe since 2009 addressing climate policy issues, with project experience in training, energy planning, integrated management and infrastructure, resilience, risk assessment and international networking on climate and energy issues. He supports local governments in Germany as well as throughout Europe in the development, improvement as well as financing of Sustainable Energy and Climate Action Plans (SECAPs) and Smart City solutions. To this end, he coordinates capacity building of political and technical decision-makers in all processes of urban climate and energy management. Furthermore and in this context, he develops stakeholder engagement and public relation strategies and concepts together with public authorities and accompanies their realization through moderation or expert input. General activities include monitoring current developments in international and European energy and climate policy, conducting advocacy on behalf of local governments at the Conference of the Parties (COP) and facilitating local-national dialogues. Carsten

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worked in Brazil for several years as development worker and holds a M.A. in International Development from the University of Vienna, Austria.

Anna Richardson graduated with an MA (hons) in Geography in 2001, and an MSc in Human Resources in 2005, as well as spending several years working in the public sector, in administrative roles. She has since gained an HND in Antenatal Education, and works part time for the national parenting charity, NCT. She was elected as a councillor in Langside, Glasgow in 2015, and re-elected in 2017. She currently holds the position of City Convener for Sustainability and Carbon Reduction, and has a particular interest in active travel for all. Her vision is for a city that everyone, regardless of age or ability, is able to move around easily and safely.

Karl Sandstedt is a biomass specialist at Göteborg Energi AB. Karl's work ranges from operational sourcing of feedstock and contributing specialist skills in new projects to working with strategic issues in the field. This includes work in trade organisations to address current issues through the EU Clean Energy Package and RES Directive, which both have an impact on biomass to the energy sector. Karl has a background in the forest sector and he has worked to improve forest management efficiency. He was logistics manager at Sveaskog, the state-owned forest company, and he worked early in Swedish forestry to develop and implement company certification and environment management systems for the company.

Henrik Thunman is Professor and Head of Division Technology at Chalmers University of Technology and Member of the Royal Swedish Academy of Engineering Sciences. He received his Doctoral degree in 2001 and was appointed Professor in 2009. Henrik Thunman's research is focused on combustion and gasification processes, including innovative processes for reforming of gasification product gases. Since 2005 he has been responsible for scientific part of the GoBiGas project, which is a first-of-its-kind semi industrial biomethane production plant based on gasification of forest biomass.

Elisabeth Undén is Assistant Deputy Mayor for the Green Party in the City of Gothenburg Executive Board. She also holds the position as chair of the municipally owned energy company Göteborg Energi, which is the fourth largest energy company in Sweden.

Brian Vad Matiesen is Professor in Energy Planning at Aalborg University, Vice-Chair of the EU's Horizon 2020 Advisory Group for Energy (AGE) and member of the EU Commission expert group on electricity interconnection targets in the EU. His research focuses on the technological and socio-economic shift to renewable energy, large-scale integration of fluctuating resources and the design of 100% Renewable energy systems. He holds a PhD in Fuel cells and electrolyzers in future energy systems (2008) and has been one of the leading researchers behind the concepts of Smart Energy Systems and electrofuels. He is Research Coordinator of the Sustainable Energy Planning Research group, PI (Principal Investigator) of RE-INVEST, Coordinator of Heat Roadmap Europe, Deputy Head of the 4DH Research Centre as well as Programme Director for the MSc in Sustainable Cities. He has been PI, work package leader and participant in more than 50 research projects and has been editorial board member of the Journal of Energy Storage (Elsevier), Associate Editor at Energy, Ecology and Environment (Springer) and Editor at International Journal of Sustainable Energy Planning and Management. He is listed in the Thomson Reuters 2015 and 2016, among the top 1% of the most cited researchers in the world.

Paul Voss has been Managing Director of Euroheat & Power since late 2013. Previously, he was Head of Public Affairs at Danfoss District Energy, a global leader in District Heating and Cooling (DHC)

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technology, where he led the company's efforts to engage with policy-makers at global, EU, national and local level. Prior to that, held a number of Brussels-based roles in the field of energy and environment policy. As Euroheat, Paul's focus has been on establishing heating and cooling as a policy priority at EU level and positioning district heating and cooling as a key instrument for enabling its decarbonisation. He studied in Canada, France and Belgium and holds a Master's degree in European Public Policy. Paul is passionate about the climate and energy agenda and a vocal advocate of the need to address heating and cooling within this context.

Andy van den Dobbelsteen is Professor of Climate Design & Sustainability at the TU Delft Faculty of Architecture, where he teaches sustainable building design and conducts and leads research on the urban scale with the focus on sustainable energy systems. The core concept is smart bioclimatic design, where local conditions (eg climate, soil, geography) are optimally used in urban and building design, in order to achieve sustainable use of resources. Amongst others, Andy is board member of the Dutch Green Building Council and chairs the scientific advisory group of NL Greenlabel.

Claudia Webbe was elected in May 2010, and she is a Councillor (Labour Party) for the London Borough of Islington. As a Councillor for the Bunhill Ward, she pioneered with others the award winning Bunhill Heat & Power Network. Claudia is the Executive Member for Environment and Transport. She is a Board Director of the Council's trading company iCo, established to realise the income potential of the Council. Claudia has a professional background in equality and diversity, having run two independent race equality councils. As the Council's Equality Champion, she led the Council's Equality Review. She was an independent equality advisor to the Football Association and a former Trustee of National Energy Action (NEA), campaigning to end fuel poverty. Claudia was a senior advisor to the former Mayor of London, Ken Livingstone responsible for the cultural strategy, culture and the creative industries.



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