### Wednesday 16th September (All times CET) updated 4 Sept

#### 09.30–11.45 Workshop arranged by IN4climate.NRW

IN4climate.NRW – creating innovations for a decarbonised industry  (>> see programme page)

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<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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<tr>
<td>09.30</td>
<td>Opening: Prof. Dr. Stefan Lechtenböhmer, Wuppertal Institut</td>
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<tr>
<td>09.40</td>
<td>IN4climate.NRW: Joining forces for a climate-neutral industrial sector. Dr. Michael Walthier, IN4climate.NRW</td>
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<tr>
<td>09.50</td>
<td>The importance of joining forces to reach the common goal – industry perspective. Christoph Reissfelder, HeidelbergCement and Dr. Hans-Jörm Weddige, thyssenkrupp</td>
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<td>10.20</td>
<td>Developing a climate-neutral industry – a joint task for industry and society – international agencies perspective. Rainer van Loon, Energieagentur.NRW, Klara Helstad, Swedish Energy Agency and Thomas Gourdon, ADEME</td>
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<tr>
<td>10.45</td>
<td>Virtual panel discussion. All speakers</td>
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<tr>
<td>11.30</td>
<td>Wrap up. Prof. Dr. Stefan Lechtenböhmer, Wuppertal Institut</td>
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#### 12.00–13.30 (parallel session)

**PANEL 4. Technology, processes and systems**

**Session III: New technologies and processes**

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<tr>
<td>09.57-20</td>
<td>Requirements Engineering and Morphological Analysis of Adaptive Control Strategies for Flywheel Energy Storage Systems in Industrial Applications</td>
<td>Raoul Laribi</td>
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<tr>
<td>09.09-20</td>
<td>Double Transmission Double Expansion technology as method for reducing energy losses associated with oversizing of industrial compressed air systems</td>
<td>Jacek Leszczynski</td>
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<tr>
<td>09.10-20</td>
<td>Assessing promising energy efficient technologies for industry still in R&amp;D – application of the EDUAR&amp;D methodology for the case of high temperature electrolysers</td>
<td>Oliver Lösch</td>
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<td>09.15-20</td>
<td>Value chain-wide energy efficiency potentials of additive manufacturing with metals – some preliminary hypotheses</td>
<td>Andreas Pastowski</td>
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#### 13.30–14.00 Chat room/rest

#### 14.00–15.30 (parallel session)

**PANEL 3. Energy management – in real life**

**Session III (session title TBD)**

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<tbody>
<tr>
<td>09.10-20</td>
<td>Integrating Energy Efficiency in investment process - Experience from Scania CV Green Field foundry Project</td>
<td>Anders Svensson</td>
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<tr>
<td>09.08-20</td>
<td>Quantifying non-energy benefits for energy-intensive industry – A case study of heat recovery measures in a Swedish oil refinery</td>
<td>Sofie Marton</td>
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<tr>
<td>09.15-20</td>
<td>Energy management in the Norwegian sawmill industry</td>
<td>Marcus Olsson</td>
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<td>09.30-20</td>
<td>Identification of optimal measurement points for energy monitoring of industrial processes: the case of milk powder production</td>
<td>Riccardo Bergamini</td>
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#### 15.30–16.00 Chat room

#### 12.00–13.30 (parallel session)

**PANEL 5. Business models and finance in the age of digitalisation**

**Session I: Innovative financing**

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<tr>
<td>09.54-20</td>
<td>EFFORCE: how blockchain technology can revolutionize energy efficiency investments</td>
<td>Jacopo Visetti</td>
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<td>09.55-20</td>
<td>Innovative approach to use standards in new business models blockchain ready</td>
<td>presented by Eliote Piantoni</td>
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<tr>
<td>09.56-20</td>
<td>Guaranteed and insured energy saving to boost EE investment by SMEs</td>
<td>presented by Daniele Fomi</td>
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<tr>
<td>09.57-20</td>
<td>De-carbonisation, guaranteed: Realising affordable, equitable and long-term financing for industrial SME projects</td>
<td>Winfried Braumann</td>
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#### 13.30–14.00 Chat room/rest

#### 14.00–15.30 (parallel session)

**PANEL 5. Business models and finance in the age of digitalisation – Session II: Providing support for financial institutions at the European Level**

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<tr>
<td>09.55-20</td>
<td>The Energy Efficiency Financial Institutions Group (EEFIG) as a catalyst for deep decarbonisation</td>
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<tr>
<td>09.56-20</td>
<td>EU Taxonomy on sustainable economic activities - assessing the impact on corporate and industrial energy efficiency investments</td>
<td>Bettina Dorendorf</td>
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<tr>
<td>09.57-20</td>
<td>Designing and implementing a capacity building program dedicated to the financial community aiming to boosting energy efficiency investment in the industry</td>
<td>Apolline Abauzit</td>
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#### 15.30–16.00 Chat room

#### 12.00–13.30 (parallel session)

**PANEL 6. Deep decarbonisation of industry**

**Session I: The impact on the energy system and the need for infrastructure**

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<tr>
<td>09.09-20</td>
<td>Needs of electricity, hydrogen and carbon infrastructure for greenhouse gas neutral heavy industry clusters in the EU 2050</td>
<td>Frank Merten</td>
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<td>09.02-20</td>
<td>100% Renewable Energy for Austria's Industry: Alternative Energy Sources and Infrastructure Requirements</td>
<td>Roman Geyer</td>
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<tr>
<td>09.05-20</td>
<td>The ZERO project: towards zero CO2-emissions in the Norwegian and Swedish industry – process solutions including associated infrastructure</td>
<td>Jan Kjærstad</td>
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<tr>
<td>09.06-20</td>
<td>Electrification of primary steel production based on ΣIDERWIN process: simulation on the European power system in 2050</td>
<td>Morgan Barberousse</td>
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#### 13.30–14.00 Chat room/rest

#### 14.00–15.30 (parallel session)

**PANEL 6. Deep decarbonisation of industry**

**Session II: The impact on the energy system and the need for infrastructure**

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<th>Time</th>
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<tr>
<td>09.08-20</td>
<td>Meta-analysis of industry sector transformation strategies in German, European and global deep decarbonisation scenarios</td>
<td>Sascha Sarradi</td>
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<td>09.04-20</td>
<td>Deep decarbonisation of the German industry via electricity or gas? A scenario-based comparison of pathways</td>
<td>Tobias Pieter</td>
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<td>09.05-20</td>
<td>GHG neutral pathways for the German chemical industry</td>
<td>Florian Ausfelder</td>
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<td>09.06-20</td>
<td>Assessment of transition pathways for the Nigerian cement sector</td>
<td>Maria Yetano Roche</td>
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#### 15.30–16.00 Chat room
Thursday 17th September (All times CET) updated 4 September

### Session IV: Scenarios, roadmaps and policies for network analysis

**4-073-20**
- Networking potentials and costs for the EU-28 on the basis of Industrial excess heat and district heating
  - Carbon capture and district heating
  - Efficient utilization of industrial excess heat for process plant
  - Targets for excess heat delivery from an industrial systems
  - Effects of process decarbonisation on future energy systems

**4-053-20**
- Food and Beverage sector
  - Carbon dioxide abatement potentials for Swiss systems
  - Analysis of energy efficiency improvement and existing systems and future establishment.

**4-008-20**
- White Certificate on electrical motor driven systems
  - Evaluation of Hybrid Electric/Gas Steam
  - Generation for a Chemical Plant under Future Energy Market Scenarios

**4-102-20**
- Industrial energy audits & energy efficiency in Europe
  - Discussion and close of session (11.30)

### Session V: Optimal use of excess process heat

**12.00–13.30 (parallel session)**

**PANEL 4. Technology, processes and systems**

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<tr>
<td>Industrial energy audits in Industry and Services: challenges and opportunities</td>
<td>Enrico Biele, EnR IWG</td>
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<td>Energy audits in Europe through the lens of the National Energy Agencies</td>
<td>9.50-10.05 Petra Lackner, AEA (Austria)</td>
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<td>10.05-10.20 George Gounas, CREES (Greece)</td>
<td>10.35-10.50 Jaap Blacquière, RVO (The Netherlands)</td>
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<tr>
<td>10.20-10.35 Enrico Biele, ENEA (Italy)</td>
<td>10.50-11.05 Thomas Björkman, SEA (Sweden)</td>
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**13.30–14.00 Chat room/rest**

**14.00–15.30 (parallel session)**

**PANEL 4. Technology, processes and systems**

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<tr>
<td>Effects of process decarbonisation on future targets for excess heat delivery from an industrial process plant</td>
<td>Pontus Bokinge</td>
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<tr>
<td>Efficient utilization of industrial excess heat for carbon capture and district heating</td>
<td>Maximilian Biermann</td>
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<tr>
<td>Industrial excess heat and district heating: potentials and costs for the EU-28 on the basis of network analysis</td>
<td>Ali Aydemir</td>
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**15.30–16.00 Chat room**

### Session III: Synergy through cooperation

**14.00–15.30 (parallel session)**

**PANEL 5. Business models and finance in the age of digitalisation**

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<tr>
<td>Bridging the gap: A platform to connect small industrial efficiency projects with the capital markets</td>
<td>Jürgen Fluch</td>
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<td>Industrial production to 2050: the PEPIT0 model</td>
<td>Sylvain Sourisseau</td>
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<td>How can we best create a synergy between existing electricity-intensive industry, existing materials and energy systems and future establishments?</td>
<td>Nils Lindh</td>
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<tr>
<td>A New Model for Jointly Purchased Energy Services in Turkish Industrial Parks</td>
<td>Gokhan Kirkil</td>
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**13.30–14.00 Chat room/rest**

**14.00–15.30 (parallel session)**

**PANEL 5. Business models and finance in the age of digitalisation**

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<tr>
<td>Components of chemical company Paris climate alignment</td>
<td>Nate Aden</td>
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<td>Risk Mitigation for Industrial Excess Heat Recovery projects</td>
<td>Elsa Chong</td>
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<td>Cooling as a Service: unlocking demand for clean and efficient cooling</td>
<td>Thomas Motmans</td>
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<tr>
<td>Financial Carbon Footprint: Calculating Financial Institutions’ Impact on Climate Change</td>
<td>Jens Teubler</td>
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**15.30–16.00 Chat room**

### Session IV: How to design policies and what the challenges are

**12.00–13.30 (parallel session)**

**PANEL 6. Deep decarbonisation of industry**

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<td>Towards a climate-smart petrochemical process industry on the Swedish west coast</td>
<td>Magnus Andersson</td>
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<td>Dynamics of Cross-Industry Low-Carbon Innovation in Energy-Intensive Industries</td>
<td>Anna Tonjes</td>
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<td>How does the German manufacturing industry react to the calls to decarbonise?</td>
<td>Stefan M. Böttner</td>
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<tr>
<td>Deep decarbonisation of iron and steel industry in the age of global supply chain - Issues and solutions</td>
<td>Xiuli Zhu</td>
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**11.00–11.30 Chat room**

**15.30–16.00 Chat room**