ENERGY EFFICIENCY WATCH

EEW4 External Event Report

Title of the event:	**Industrial efficiency event: Why Decarbonisation and not energy efficiency?**
Date & location:	22-23 November 2022, Antwerp
Organiser(s):	Borg & Co/Eceee
Summary	The conference featured two plenaries, each with a commission representative from DG-GROW and CINEA respectively, as well as speakers from industry and academia. The Energy Efficiency Watch project was represented with two presentations. Several conference presentations highlighted the need for supporting narratives, although they did not always use these words. See for instance, presentations by the North Rhine Westphalia energy agency (in4climate.nrw) as well as the presentation. The event had 90 participants. Apart from the pre-conference workshop (reported as a separate event) we also integrated a workshop on financing with four representatives from DG-ENER, EiB and CINEA (2 people) led by Rod Janssen who is very active in the EEFIG industry working group. eceee's Zero Carbon Industry featured three parallel thematic panels to outline the drastic transformation needed to achieve a zero-carbon industrial structure. In each of three parallel panels four sessions with a total of 12 presentations were held. Thus, in total 36 presentations were held in the panel sessions, in addition to plenaries and workshops. 1. Decarbonising processes 2. Energy management & innovation 3. Policy drivers for change Decarbonising processes. Decarbonising our industrial sector to contribute to meeting our long-term energy and climate goals is a major challenge. We need to unlock current production practices and transform these to new factories that are less energy and resource intensive; allow to switch to decarbonised energy vectors or facilitate the capture of CO_2 emissions. The topic is challenging as industrial plants are capital-intensive and have long lifetimes.

"The project EEW4 has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 847153"
The publication reflects only the author's view and that the European Commission is not responsible for any use that may be made of the information it contains

ENERGY EFFICIENCY WATCH

	The panel deals with technologies and strategies and implications for policy, industry and research. One of the key questions is to what extent the industry can be electrified and how green molecules can replace the current fossil-based ones. **Energy management & innovation.** It has long been pointed out in various sectors that there is an untapped potential for improving energy efficiency through implementing cost-effective measures. Parts of this potential can be understood by recognising that organisations may lack resources for working effectively with energy efficiency. Improving energy efficiency in an organisation is an activity that, like most activities, needs to be well organised and managed. EnMS is evolving and now ISO has created a new standard (ISO 50005) to provide practical guidance to enable organisations to initiate and improve energy management systems through phased implementation. At the same time, there is a need for innovation because business-as-usual is not going to solve our concerns. Innovation can take place in many forms but this panel will focus on supply chain management and the role of digitalisation. **Policy drivers for change:** While there is much industry can do, there is a need for the right enabling frameworks. This panel discusses industrial policies and programmes, including revised directives and new policy initiatives. It also compares government-led and civil society-led voluntary programmes and analyses financing schemes. This panel aims to assess whether these frameworks manage to connect the economics of business with the reality of climate change. In particular, it examines whether the frameworks make the paradigm shift from fostering incremental improvements to enabling drastic transformation.
Objective & main programme point	Europe's industrial context has changed considerably over the last couple of years. The EU has increased its climate ambition to achieve full climate neutrality by 2050, the COVID19 pandemic has perturbed consumer demand and supply chains and, Russia has caused an unprecedented energy crisis. Industry is a very important element in European economies, generating wealth and employment and plays a key role in achieving Europe's long-term climate and energy objectives. However, while the improvement of the companies' processes and operations is a permanent endeavour, there is a common understanding that more drastic transformations are needed to achieve deep decarbonisation. At the same time, industry must remain competitive – within Europe and globally – and become leaders of developing zero-carbon technologies and techniques. The EU has stepped up its ambitions with the European Green Deal, the 'Fit for 55' package and REPowerEU to urgently address the current energy cost and energy security concerns. Achieving energy efficiency improvements, reducing GHG emissions and decarbonising industry becomes a higher priority. Energy efficiency is key in this change, but a deep transformation goes beyond improved efficiency. Efficiency will have to be paired with new decarbonised processes, electrification, and investments in renewables to power the change in a sustainable way.

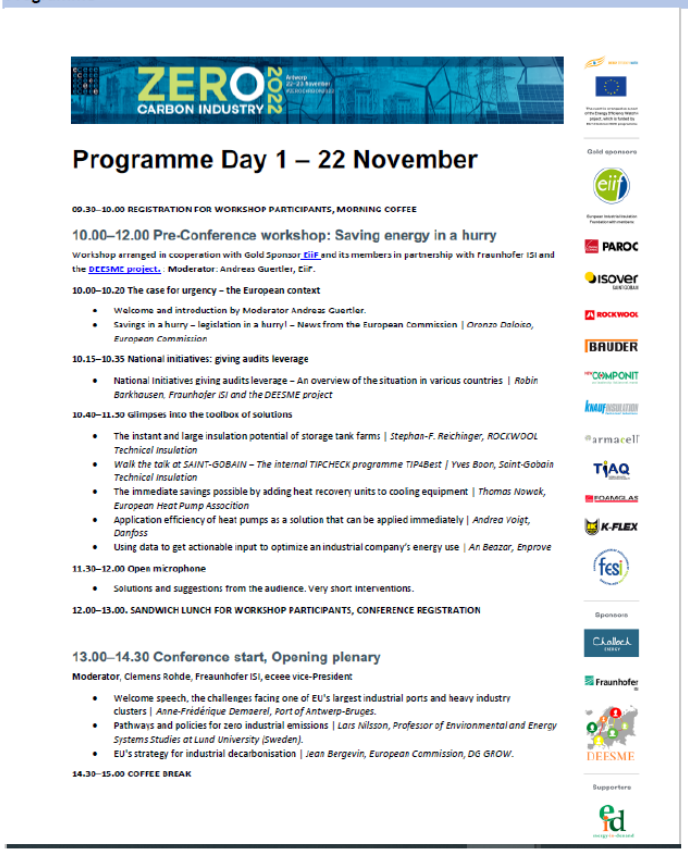
"The project EEW4 has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 847153"
The publication reflects only the author's view and that the European Commission is not responsible for any use that may be made of the information it contains

ENERGY EFFICIENCY WATCH

	The necessary changes by industry will need to be achieved rapidly to meet decarbonisation targets and the requirement to act both quickly and fundamentally will be highly challenging for each industrial company. The Zero Carbon Industry event will provide insights to the way forward.
Conclusions	Decarbonisation is a major challenge and requires profound transformations of our industrial structure. This also requires significant investments. There are a few presentations that highlight this specifically: The presentation by prof. Lars Nilsson in the opening plenary highlights the complexity in the needed presentation, globally. The Port of Antwerp in the opening plenary also look at how the whole society needs to be involved. The final presentation on H2Green Steel and the industrial transformation in northern Sweden, ends on a positive note: it illustrates how the industrial structural transformation is not only a challenge, but also an opportunity for a whole region to revitalise itself, with people moving in, new highly paid industrial jobs are created and the cities in the region get new life. The presentation from Ademe in the final plenary illustrates that we have many ways to the future, and their 2050 scenarios for France include everything from high-tech, business-as-usual scenarios relaying on technology, to “sufficiency” options for a future decarbonisation where societal shifts include recycling, and smaller dwellings.
Programme	

“The project EEW4 has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 847153”
The publication reflects only the author’s view and that the European Commission is not responsible for any use that may be made of the information it contains

Programme



ZERO CARBON INDUSTRY 2022

Programme Day 1 – 22 November

09.30–10.00 REGISTRATION FOR WORKSHOP PARTICIPANTS, MORNING COFFEE

10.00–12.00 Pre-Conference workshop: Saving energy in a hurry

Workshop arranged in cooperation with Gold Sponsor EIF and its members in partnership with Fraunhofer ISI and the DEESME project. Moderator: Andreas Guertler, EIF.

10.00–10.20 The case for urgency – the European context

- Welcome and introduction by Moderator Andreas Guertler.
- Savings in a hurry – legislation in a hurry! – News from the European Commission | *Oronzo Daloiso, European Commission*

10.15–10.35 National initiatives: giving audits leverage

- National initiatives giving audits leverage – An overview of the situation in various countries | *Robin Barkhausen, Fraunhofer ISI and the DEESME project*

10.40–11.30 Glimpses into the toolbox of solutions

- The instant and large insulation potential of storage tank farms | *Stephan-F. Reichinger, ROCKWOOL Technical Insulation*
- *Walk the talk at SAINT-GOBAIN – The internal TIPCHECK programme TIP4Best | Yves Boon, Saint-Gobain Technical Insulation*
- The immediate savings possible by adding heat recovery units to cooling equipment | *Thomas Nowak, European Heat Pump Association*
- Application efficiency of heat pumps as a solution that can be applied immediately | *Andrea Voigt, Danfoss*
- Using data to get actionable input to optimize an industrial company's energy use | *An Beazar, Enprove*

11.30–12.00 Open microphone

- Solutions and suggestions from the audience. Very short interventions.

12.00–13.00. SANDWICH LUNCH FOR WORKSHOP PARTICIPANTS, CONFERENCE REGISTRATION

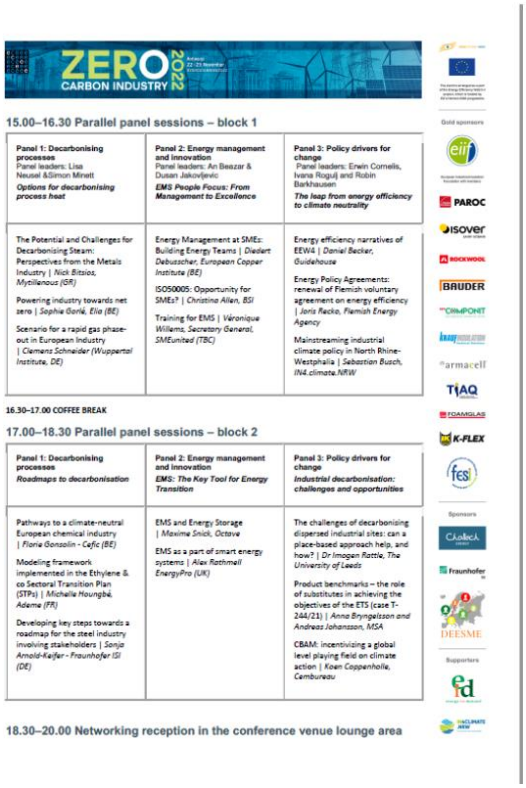
13.00–14.30 Conference start, Opening plenary

Moderator, Clemens Rohde, Fraunhofer ISI, eceee vice-President

- Welcome speech, the challenges facing one of EU's largest industrial ports and heavy industry clusters | *Anne-Frédérique Demaerel, Port of Antwerp-Bruges.*
- Pathways and policies for zero industrial emissions | *Lars Nilsson, Professor of Environmental and Energy Systems Studies at Lund University (Sweden).*
- EU's strategy for industrial decarbonisation | *Jean Bergevin, European Commission, DG GROW.*

14.30–15.00 COFFEE BREAK

"The project EEW4 has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 847153"
The publication reflects only the author's view and that the European Commission is not responsible for any use that may be made of the information it contains



ZERO CARBON INDUSTRY 2022

15.00–16.30 Parallel panel sessions – block 1

Panel 1: Decarbonising processes Panel leaders: Lisa Neusel &Simon Minett ***Options for decarbonising process heat***	Panel 2: Energy management and innovation Panel leaders: An Beazar & Dusan Jakovljevic ***EMS People Focus: From Management to Excellence***	Panel 3: Policy drivers for change Panel leaders: Erwin Cornelis, Ivana Roguj and Robin Barkhausen ***The leap from energy efficiency to climate neutrality***
The Potential and Challenges for Decarbonising Steam: Perspectives from the Metals Industry | *Nick Bitsios, Mycillaneous (GR)* Powering industry towards net zero | *Sophie Gorlé, Elia (BE)* Scenario for a rapid gas phase-out in European industry | *Clemens Schneider (Wuppertal Institute, DE)*	Energy Management at SMEs: Building Energy Teams | *Diedert Debuscher, European Copper Institute (BE)* ISO50005: Opportunity for SMEs? | *Christina Allen, BSI* Training for EMS | *Véronique Willems, Secretary General, SMEunited (TBC)*	Energy efficiency narratives of EEW4 | *Daniel Becker, Guidehouse* Energy Policy Agreements: renewal of Flemish voluntary agreement on energy efficiency | *Joris Recko, Flemish Energy Agency* Mainstreaming industrial climate policy in North Rhine-Westphalia | *Sebastian Busch, IN4.climate.NRW*

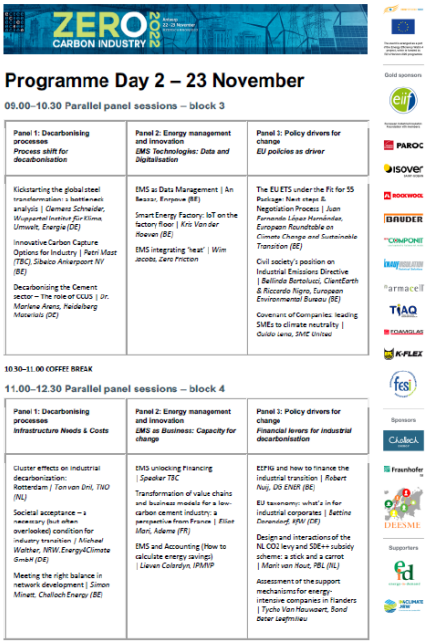
16.30–17.00 COFFEE BREAK

17.00–18.30 Parallel panel sessions – block 2

Panel 1: Decarbonising processes ***Roadmaps to decarbonisation***	Panel 2: Energy management and innovation ***EMS: The Key Tool for Energy Transition***	Panel 3: Policy drivers for change ***Industrial decarbonisation: challenges and opportunities***
Pathways to a climate-neutral European chemical industry | *Fiona Gonsolin - Cefic (BE)* Modeling framework implemented in the Ethylene & co Sectoral Transition Plan (STPs) | *Michelle Houngbé, Ademe (FR)* Developing key steps towards a roadmap for the steel industry involving stakeholders | *Sonja Arnold-Keifer - Fraunhofer ISI (DE)*	EMS and Energy Storage | *Maxime Snick, Octave* EMS as a part of smart energy systems | *Alex Rathmell EnergyPro (UK)*	The challenges of decarbonising dispersed industrial sites: can a place-based approach help, and how? | *Dr Imogen Rattle, The University of Leeds* Product benchmarks – the role of substitutes in achieving the objectives of the ETS (case T-244/21) | *Anna Byngelsson and Andreas Johansson, MSA* CBAM: incentivizing a global level playing field on climate action | *Koen Coppenholle, Cembureau*

18.30–20.00 Networking reception in the conference venue lounge area

"The project EEW4 has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 847153"
The publication reflects only the author's view and that the European Commission is not responsible for any use that may be made of the information it contains



ZERO CARBON INDUSTRY 2022

Programme Day 2 – 23 November

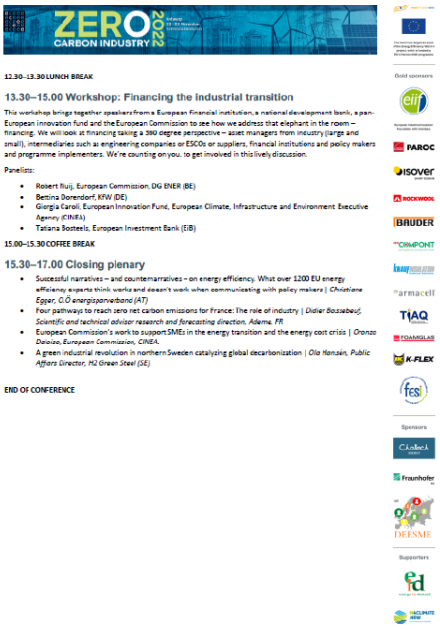
09.00–10.30 Parallel panel sessions – block 3

Panel 1: Decarbonising processes *Process shift for decarbonisation*	Panel 2: Energy management and innovation *EMS Technologies: Data and Digitalisation*	Panel 3: Policy drivers for change *EU policies as driver*
Kickstarting the global steel transformation: a bottleneck analysis | *Clemens Schneider, Wuppertal Institut für Klima, Umwelt, Energie (DE)* Innovative Carbon Capture Options for Industry | *Petri Mast ITBC, Sibelco Antwerpen NV (BE)* Decarbonising the Cement sector – The role of CCUS | *Dr. Marlene Kanz, Heidelberg Materials (DE)*	EMS as Data Management | *An Bastar, Enapuse (BE)* Smart Energy Factory: IoT on the factory floor | *Kris Van der Hoeven (BE)* EMS integrating 'heat' | *Wim Jacobs, Zero Friction*	The EU ETS under the Fit for 55 Package: Next steps & Negotiation Process | *Juan Fernando López Hernández, European Roundtable on Climate Change and Sustainable Transition (BE)* Civil society's position on Industrial Emissions Directive | *Belinda Bartolucci, ClientEarth & Riccardo Nigro, European Environmental Bureau (BE)* Covenant of Companies: leading SMEs to climate neutrality | *Guido Ianiz, SME United*

10.30–11.00 COFFEE BREAK

11.00–12.30 Parallel panel sessions – block 4

Panel 1: Decarbonising processes *Infrastructure Needs & Costs*	Panel 2: Energy management and innovation *EMS as Business: Capacity for change*	Panel 3: Policy drivers for change *Financial levers for industrial decarbonisation*
Cluster effects on industrial decarbonisation: Rotterdam | *Tom van Dril, TNO (NL)* Societal acceptance – a necessary (but often overlooked) condition for industry transition | *Michael Walther, NRW.Energy4Climate GmbH (DE)* Meeting the right balance in network development | *Simon Minett, Challoch Energy (BE)*	EMS unlocking Financing | *Speaker TBC* Transformation of value chains and business models for a low-carbon cement industry: a perspective from France | *Elise Mari, Ademe (FR)* EMS and Accounting (How to calculate energy savings) | *Lieven Colaerys, IPMVP*	EEFIGs and how to finance the industrial transition | *Robert Nuij, DG ENER (BE)* EU taxonomy: what's in for industrial corporates | *Bettina Dorendorf, KfW (DE)* Design and interactions of the NL CO2 levy and SDE++ subsidy scheme: a stick and a carrot | *Marit van Hout, PBL (NL)* Assessment of the support mechanisms for energy-intensive companies in Flanders | *Tycho Van Hauwaert, Bond Beter Leefmilieu*



ZERO CARBON INDUSTRY 2022

12.30–13.30 LUNCH BREAK

13.30–15.00 Workshop: Financing the industrial transition

This workshop brings together speakers from a European financial institution, a national development bank, a pan-European innovation fund and the European Commission to see how we address that elephant in the room – financing. We will look at financing taking a 360 degree perspective – asset managers from industry (large and small), intermediaries such as engineering companies or ESCOs or suppliers, financial institutions and policy makers and programme implementers. We're counting on you, to get involved in this lively discussion.

Panelists:

- Robert Nuij, European Commission, DG ENER (BE)
- Bettina Borendorf, KfW (DE)
- Giorgia Caroli, European Innovation Fund, European Climate, Infrastructure and Environment Executive Agency (CINEA)
- Tatiana Bosteels, European Investment Bank (EIB)

15.00–15.30 COFFEE BREAK

15.30–17.00 Closing plenary

- Successful narratives – and counternarratives – on energy efficiency. What over 1200 EU energy efficiency experts think works and doesn't work when communicating with policy makers \| *Christiane Egger, Ö.Ö energiesparverband (AT)*
- Four pathways to reach zero net carbon emissions for France: The role of industry \| *Didier Bossebeuf, Scientific and technical advisor research and forecasting direction, Ademe, FR*
- European Commission's work to support SMEs in the energy transition and the energy cost crisis \| *Oronzo Dalaiso, European Commission, CINEA.*
- A green industrial revolution in northern Sweden catalyzing global decarbonization \| *Ola Hansén, Public Affairs Director, H2 Green Steel (SE)*

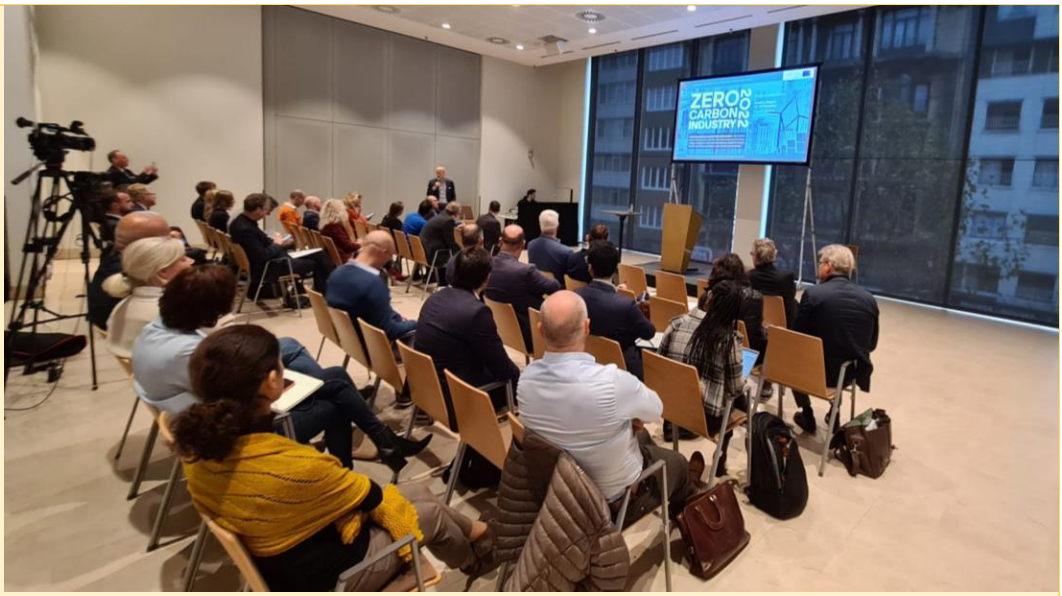
END OF CONFERENCE

"The project EEW4 has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 847153"

The publication reflects only the author's view and that the European Commission is not responsible for any use that may be made of the information it contains

ENERGY EFFICIENCY WATCH

Pictures



"The project EEW4 has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 847153"
The publication reflects only the author's view and that the European Commission is not responsible for any use that may be made of the information it contains