

Harnessing Renewables for a Sustainable Future: Exploring CCU, Power-to-X and Solar-to-X Innovations

Making sustainable fuels, chemicals and materials solely from renewable energy, water and abundantly available resources is a promising pathway for climate change mitigation. Join us for an exciting exchange at the crossroads of R&I, policy and investment around CCU, power-to-X and solar-to-X technologies!

Thor Central, Thor Park 8000, 3600 Genk (BE), June 4-5, 2024

Tuesday, June 4, 2024

Time	Session
11:30	Registration and welcome lunch
12:30	Setting the scene
13:00	Societal challenges meet deep tech solutions: What is possible today?
14:15	Coffee break
14:30	Solar-to-X: Where are we now?
15:45	How to transfer innovation from the lab to the fab: Some key ingredients
16:45	Short break
17:00	Breakout sessions
18:00	Dinner
20:30	Last public bus leaving from EnergyVille to the city center

Wednesday, June 5, 2024

Time	Session
09:30	Welcome coffee
10:00	Coffee with money: fundraising strategies for scaling-up
10:45	The devices of tomorrow
11:45	Which technology will meet its expectations? Fair benchmarking and standards
12:30	Lunch and exhibition
13:30	Outlook: What else is needed? Insights from industry and governmental initiatives
14:25	Closing remarks
14:30	How does it work in practice? Visit the labs of EnergyVille
15:30	End of the program

[Open EIC Challenge “Solar-to-X”](#): To make progress towards synthetic fuels and chemical technologies integrating all necessary conversion steps into a single device, solely and directly driven by solar energy.

[Location: EnergyVille, Genk \(Belgium\)](#): Energy R&D innovation hub, located at the former mining site of Waterschei.

Confirmed speakers and panelists

- Maximilian Fleischer (Siemens Energy)
- Nicola Armaroli (CNR - Italian National Research Council)
- Lipsa Nag (Marble Studio)
- Fabien Ramos (European Commission, DG CLIMA)
- Phillipe Schild (European Commission, DG RTD)
- Vera Grimm (German Federal Ministry of Education and Research)
- Carina Faber (European Innovation Council)
- Francesco Matteucci (European Innovation Council)
- Ekke Van Vliet (European Innovation Council)
- Dennis Krämer (DECHEMA)
- Hannah Johnson (Toyota Motor Europe)
- Csaba Janaky (Echemicles)
- Philipp Engelkamp (Ineratec GmbH)
- Gill Scheltjens (D-CRBN)
- Ennio Capria (European Synchrotron Radiation Facility)
- Miet Van Dael (VITO)
- Tom Aernouts (imec-IMMOMECE)
- Eric De Coninck (ArcelorMittal)
- Bill Tumas (National Renewable Energy Laboratory)
- Moritz Schreiber (TotalEnergies)
- Ifan Stephens (Imperial College London)
- Luis Sanz Tejedor (European Patent Office)
- Nicolas Pluméré (Technical University of Munich)
- Pau Farras (University of Galway)
- Rachel Armstrong (KU Leuven)
- Iker Aguirrezabal (University of Basque Country)
- Michael Eikerling (Forschungszentrum Jülich)
- Joanna Kargul (CENT, Warsaw University)
- Muriel Matheron (CEA)
- Laura Torrente Murciano (University of Cambridge)
- Francesca M. Toma (Helmholtz-Zentrum Hereon)
- Talat Çorak (Agrirossa)
- Sylvain Cros (Institut Polytechnique de Paris)
- Deepak Pant (VITO)
- Frédéric Chandezon (CEA)
- Kristof Verbeeck (ArcelorMittal Belgium)
- Guus Keder (Fenix Ventures)
- Virgil Andrei (University of Cambridge)
- Joachim John (IMEC)
- Anne-Marie Sassen (European Innovation Council)

Detailed schedule

Tuesday, June 4, 2024

Time	Session
11:30	Registration and welcome lunch
12:30	Setting the scene Joachim John (IMEC): <i>Welcome by EnergyVille</i> Carina Faber (EIC): <i>The EIC and its solar-to-X strategy</i>
13:00	Societal challenges meet deep tech solutions: What is possible today? Session chair: Han Huynhthi (ENGIE) Challengers: <ul style="list-style-type: none"> • Vera Grimm, <i>German Federal Ministry of Research and Education</i>, “Accelerating the pace of solar-to-X technology development through innovation, collaboration and creative thinking” • Fabien Ramos, <i>European Commission – DG CLIMA</i>, <i>Tbc</i> • Phillipe Schild, <i>European Commission – DG RTD</i>, “Thinking beyond conventional technologies” Solution pitchers: <ul style="list-style-type: none"> • Hannah Johnson, <i>Toyota Motor Europe</i>, “Sun-To-X project: Towards the realisation of a green, carbon-free liquid fuel” • Philipp Engelkamp, <i>Ineratec</i>, <i>Tbc</i> • Talat Çorak, <i>Agrirossa</i>, “Methane and ammonia from manure” • Gill Scheltjens, <i>D-CRBN</i>, “Plasma-based CO production from captured CO₂” • Sylvain Cros, <i>Institut Polytechnique de Paris</i>, “SIFASOL - Forecasting solar energy production” • Deepak Pant, <i>VITO</i>, “Electrochemical Production of C1 Chemicals as a platform for bioconversion to organic acids (Learnings from VIVALDI Project)” • Kristof Verbeeck, <i>ArcelorMittal Belgium</i>, “The Steelanol demonstration plant”
14:15	Coffee break

14:30	<p>Solar-to-X: Where are we now? Session chair: Joanna Kargul (Warsaw University)</p> <p>Keynote speech: Nicola Armaroli (CNR): “From sunlight to molecules, perspectives and challenges”</p> <p>Thematic speakers:</p> <ul style="list-style-type: none"> • Virgil Andrei, <i>University of Cambridge</i>, “Floating artificial leaves for scalable solar fuel production” • Nicolas Pluméré, <i>Technical University Munich</i>, “Biohybrid Systems for Energy Conversion” • Pau Farras, <i>University of Galway</i>, “FlowPhotoChem demonstration of solar ethylene production using an integrated process” • Muriel Matheron, <i>CEA</i>, “EASIFUEL prototype finalist for the EIC horizon Prize”
15:45	<p>How to transfer innovation from the lab to the fab: Some key ingredients Session chair: Carina Faber (EIC)</p> <p>Keynote speech: Ennio Capria (European Synchrotron Radiation Facility): “The pivotal role of the Analytical Research Infrastructure in the European ecosystem of innovation”</p> <p>Thematic speakers:</p> <ul style="list-style-type: none"> • Miet Van Dael, <i>VITO</i>, “Sustainability analysis for emerging technologies” • Tom Aernouts, <i>Imec-IMMOMECE</i>, “Emerging PV technology to power the energy transition” • Laura Torrente Murciano, <i>University of Cambridge</i>, “The need for new optimisation and operational approaches in Solar-to-X”
16:45	<p>Short break</p>
17:00	<p>Deep dives - Breakout sessions</p> <p>Techno-sustainability assessment Lead: Miet Van Dael, Co-lead: Carina Faber; Support: Liv Hvass Kure Pitches: Vida Sang Sefidi (Engie Laborelec): CONDOR; Susana Leão (LEITAT): FlowPhotoChem;</p> <p>From TRL to MRL Lead: Ennio Capria, Co-lead: Joachim John; Support: Jonas Schmaenk Pitches: Alejandro Morales (University of Liege); Carles Ros (ICFO);</p> <p>EIC Innovation training course Lead: Francesco Matteucci; Support: Laura Borre Pitches: Agarwala Hemlata (Technical University of Munich)</p>
18:00	<p>Dinner</p>
20:30	<p>Last public bus leaving from EnergyVille to the city center</p>

Wednesday, June 5, 2024

09:30	Welcome coffee
10:00	Coffee with money: fundraising strategies for scaling-up <i>Panel discussion</i> Moderator: Francesco Matteucci (EIC) Panelists: Ekke Van Vliet (EIC), Lipsa Nag (Marble Studio), Guus Keder (Fenix Ventures)
10:45	The devices of tomorrow Session chair: Carina Faber (EIC) Keynote speech: Rachel Armstrong (KU Leuven): “Towards Circular and Regenerative Green Cities” Thematic speakers: <ul style="list-style-type: none">• Iker Aguirrezabal, University of Basque Country, “Reaction robot with intimate 3-D photocatalytic functions driven by artificial intelligence”• Joanna Kargul, University of Warsaw, & Frédéric Chandezon, CEA, “SUNERGY and its Technological Roadmap: Solar-to-X in a nutshell”• Michael Eikerling, Forschungszentrum Jülich, “Accelerating Design and Integration of Electrochemical Energy Materials with Theory and Computation”
11:45	Which technology will meet its expectations? Fair benchmarking and standards Panel chair: Joachim John (IMEC) Keynote speech: Csaba Janaky (Echemicles): “Presenting the proper KPIs of CO₂ electrolysis: why, what, how, and when?” Thematic speakers: <ul style="list-style-type: none">• Moritz Schreiber, TotalEnergies, “Industrial CO₂ electroreduction to ethylene: Main technical challenges”• Ifan Stephens, Imperial College London, “Electrochemical reduction of nitrogen to ammonia”• Luis Sanz Tejedor, European Patent Office, “Observatory on patents and technology. DRIVEN by expertise, for a deeper understanding of the future of innovation”
12:30	Lunch and exhibition

13:30	<p>Outlook: What else is needed? Insights from industry and governmental initiatives</p> <p>Session chair: Anne-Marie Sassen (EIC)</p> <p>Keynote speech: Maximilian Fleischer (Siemens Energy): “The need for green molecules for a sustainable economy”</p> <p>Thematic speakers:</p> <ul style="list-style-type: none"> • Eric De Coninck, <i>ArcelorMittal</i>, “Industrial CCU success requires a review of EU policy” • Dennis Krämer, <i>DECHEMA</i>, “Artificial Photosynthesis – A Technology Assessment” • Francesca M. Toma, <i>Helmholtz-Zentrum Hereon</i>, “Solar fuel and hydrogen production strategy: a US perspective” • Bill Tumas, <i>NREL</i>, “The Solar Energy-Chemistry Nexus”
14:25	Closing remarks: Anne-Marie Sassen (EIC)
14:30	How does it work in practice? Visit the labs of EnergyVille!
15:30	End of the program