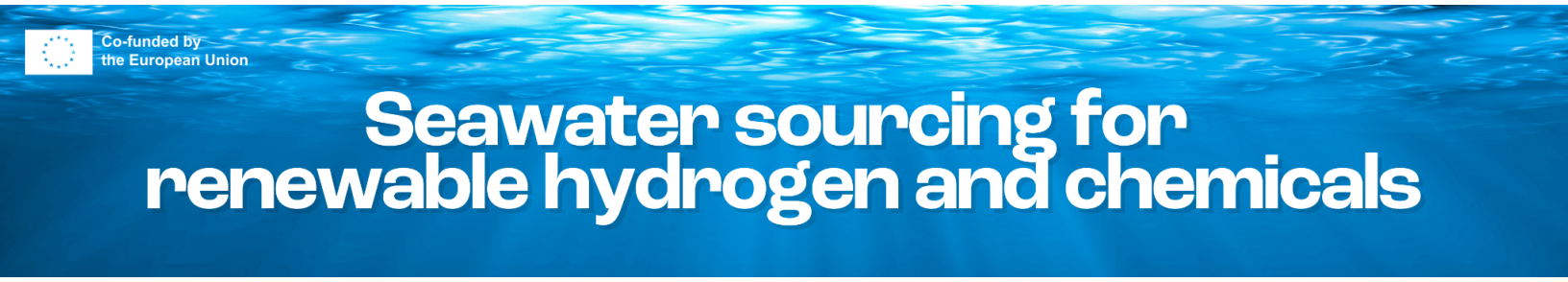

Workshop: seawater sourcing for renewable hydrogen and chemicals

In a joint workshop, the European Innovation Council, the Directorate-General Research and Innovation, the Clean Hydrogen Joint Undertaking, Hydrogen Europe Research, the EuroTech Universities Alliance and the EU-funded project ANEMEL will deep dive the pressing question of **minimizing water impact** for the future large-scale production of **renewable fuels** and **valuable minerals** in all regions.

The production of renewable fuels of non-biological origin (RFNBO) or the sustainable supply of valuable minerals is a highly promising pathway to climate mitigation. However, most of the conversion or extraction technologies necessitate fresh or highly pure drinking water as feedstock that, due to regular aridness, is becoming a scarce worldwide resource.[1]

The goal of this workshop is to explore the use of seawater sources with a multidisciplinary expert group from industry, academia and policy. Desalination methods will be discussed, as well as highly innovative techniques where seawater serves as direct feedstock for water electrolysis or as a source for valuable minerals. Circular concepts will be explored, where water is co-captured from the air, together with carbon dioxide, and where the necessary energy is provided by the subsequent production of certain e-fuels. As well exploiting desalination concentrate, so-called brine, for minerals recovery or using seawater and carbon dioxide for co-electrolysis will be discussed.

The workshop will contribute to build a white paper and an ambitious agenda on low-impact water sourcing for RFNBOs and chemicals to inspire future funding topics and set up data-driven policies.

📅 **Date:** 8 and 9 June 2023, Lunch-to-lunch conference
📍 **Location**: DG RTD, Atrium, Rue du Champ de Mars 21, Brussels (Map)
💬 **Format**: Plenum talks (everybody on the same level) & discussions in dedicated groups

[1] For more information, please refer to the SUNERGY Strategic R&I Agenda, Appendix.

Co-organised by:

European Innovation Council · ANEMEL · EuroTech Universities Excellence in Science and Technology · Hydrogen Europe Research · Clean Hydrogen Partnership · European Commission

Co-funded by the European Union

Seawater sourcing for renewable hydrogen and chemicals

Tentative Agenda	
Thursday, June 8, 2023	
11:30 - 12:00	**Welcome and Registration**
12:00 - 13:00	**Lunch & Welcome by the organizers**
13:00 - 13:20	**Opening Talks on trends and drivers for seawater utilization** - Dr. Philippe Schild (DG RTD): Seawater as a source for energy applications - Prof. Chrysi Laspidou (Water Europe): The water - energy nexus
13:20 - 13:40	**Marie-Laure Thielens (Engie): *Industrial Desalination Technologies***
13:40 - 14:00	**Vincenzo Antonucci (CNR-ITAE): *Direct Seawater Electrolysis Technologies***
14:00 - 14:20	**Stig Irving Olsen: *Life-cycle assessments for seawater sourcing technologies***
14:20 - 15:00	**How does it work in practice? Project pitches to showcase the state-of-the-art** - Prof. Cédric Tard (École Polytechnique): XSeaO2 - Prof. Pau Farras (U Galway): Anemel - Antonino Arico (CNR-ITAE): Anione - George Brik (CEO): Hydrovolta
15:00 - 15:20	**Coffee Break**
15:20 - 15:40	**Patrik Jones (Imperial College): *Seawater-based Microbial Biotechnology***
15:40 - 16:00	**Alberto Figoli (CNR-ITM): *Brines Exploitation***
16:00 - 17:00	**Working groups: which way to go?** *Technological pathways for seawater usage energy and materials applications* (Dr. Carina Faber, Prof. Joanna Kargul) *Value chain considerations and exploitation pathways for seawater usage* (Dr. Francesco Matteucci, George Brik) *Environmental Impact of Future Technologies* (Prof. Stig Irving Olsen, Dr. Joachim John)
17:00 - 17:10	**Summary from the working groups**
17:10 - 18:00	**Get together**

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Seawater sourcing for renewable hydrogen and chemicals

Tentative Agenda	
Friday, June 9, 2023	
09:00 - 09:30	**Welcome Coffee**
09:30 - 10:00	**Opening Talks on trends and drivers for seawater utilization** - Jan Mertens (ENGIE): CirculAIR or CirculOCEAN? Emerging technologies - Converging on the oceans - Bertrand Vallet (DG RTD): Desalination in the context of EU water research and innovation activities - Joanna Kargul (UWarsaw): SUNERGY technological roadmap
10:00 - 10:20	**Guillem Gilabert (DuPont):** ***Membrane-based brine mining and subsea desalination***
10:20 - 10:40	**Mattew Suss (Technion, MIT):** ***Desalination Fuel Cell Technology***
10:40 - 11:00	**Dimitris Xevgenos (TU Delft):** ***Circular Desalination***
11:00 - 11:20	**How does it work in practice? Project pitches to showcase the state-of-the-art** - Bill Ireland: Seafuel - Vasily Artemov (EPFL): Aqueous Batteries - Matteo Fasano: MEloDIZER
11:20 - 11:40	**Coffee Break**
11:40 - 12:20	**Panel discussion: Which technological pathways to support?**
12:20 - 13:20	**Working groups: which way to go?** *Technological pathways for seawater usage energy and materials applications* (Dr. Carina Faber, Prof. Joanna Kargul) *Value chain considerations and exploitation pathways for seawater usage* (Dr. Francesco Matteucci, George Brik) *Environmental Impact of Future Technologies* (Prof. Stig Irving Olsen, Dr. Joachim John)
13:20 - 13:40	**Summary from the working groups and Goodbye**
13:40 - 14:30	**Goodbye Lunch**

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