

# 1<sup>st</sup> Hydrogen Power System Integration Symposium

organized by **energynautics**

11 OCT 2022

THE HAGUE  
NETHERLANDS



## PRELIMINARY PROGRAM AS OF 25 JULY 2022

Important: This preliminary program is subject to changes. It is strongly recommended to check back regularly.

### WORKSHOP AMBASSADORS

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### MEDIA PARTNER

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### PARTNER

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### ORGANIZER

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# TIMETABLE 1<sup>ST</sup> HYDROGEN POWER SYSTEM INTEGRATION SYMPOSIUM

MONDAY, 10 OCTOBER 2022	
1st Hydrogen Power System Integration Symposium	
08:00 – 09:00	FOYER 2.0 <b>REGISTRATION</b>
09:00 – 09:15	ROOM 2.1 <b>OPENING: WELCOME AND INTRODUCTION</b>
09:15 – 11:00	ROOM 2.1 <b>SESSION 1: KEYNOTE SESSION</b>
	<i>COFFEE BREAK</i>
11:20 – 13:00	ROOM 2.1 <b>SESSION 2: ENERGY ISLANDS</b>
	<i>LUNCH (60 MIN)</i>
14:00 – 15:40	ROOM 2.1 <b>SESSION 3: SECTOR COUPLING</b>
	<i>COFFEE BREAK (20 MIN)</i>
16:00 – 17:40	ROOM 2.1 <b>SESSION 4A: E-REFINERY – ELECTRIFICATION OF INDUSTRY</b>
17:45-18:30	ROOM 2.1 <b>SESSION 5: PODIUM DISCUSSION &amp; CLOSURE</b>
18:30	<b>NETWORKING EVENT (LOCATION TBA)</b>

## TUESDAY, 11 OCTOBER 2022

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**08:00 – 09:00 Registration**

**09:00 – 09:15 Welcome**

**09:15 – 11:00 SESSION 1 – KEYNOTE SESSION**

> Session Chair **T. Ackermann (Energynautics, Germany)**

**09:15 – 10:45 Presentations (15 min. each)**

- **The Future of Hydrogen in the Netherlands**  
Jörg Gigler (Director TKI Nieuw Gas, Netherlands)
- **Role of Hydrogen in Mobility – the Policy Perspective – tbc**  
Els de Wit (TBA, Netherlands)
- **Conceptual design and system integration of a 1GW Green Hydrogen Factory**  
Andreas ten Cate (ISTP, Netherlands)
- **Role of Hydrogen in the Port of Rotterdam - tbc**  
Randolf Weterings (TBA, Netherland)
- **IEA – tbc**  
NN (Company, Country)
- **Overview on Hydrogen in the US – tbc**  
NN (EPRI, USA)

**10:45 – 11:00 Discussions**

### **11:00 – 11:20 COFFEE BREAK**

**11:20 – 13:00 SESSION 2 – ENERGY ISLANDS**

> Session Chair **Eckehard Tröster (Energynautics, Germany)**

**11:20 – 12:40 Presentations (20 min. each)**

This session is about the role of hydrogen on energy islands, a new concept to integrate large-scale offshore wind into the power systems. Energy islands are currently under development in the North-Sea and will play a key role in collecting, transforming, and distributing the power from gigawatt scale offshore wind power plants. Transforming wind power with electrolyzers into hydrogen is one of the key components of energy islands, as hydrogen can be transported via pipelines to the consumers onshore thereby reducing the impact of offshore wind on the electrical power system. But what should be the share of electrolyzers on the energy island? And should we get rid of the electrical connection completely? These and many other questions related to hydrogen and the energy island concept will be addressed in this session.

- **TBA 1**  
NN (Company, Country)
- **H<sub>2</sub>opZee – tbc**  
Autor (DOB Academy, Netherlands) (Submission-ID Emob-xyz)
- **TBA 3**  
NN (Company, Country)
- **TBA 4**  
NN (Company, Country)

**12:40– 13:00 Discussions**

## 13:00 – 14:00 LUNCH BREAK

14:00 – 15:40	SESSION 3 – SECTOR COUPLING
> Session Chair	TBA
14:00 – 15:30	<b>Presentations (18 min. each)</b>
<p>Sector coupling, both in the sense of integration of energy supply sectors as well as electrification of end-use sectors like transport, heating and industry can be a major factor in the decarbonization of the energy system. Sector coupling has the potential to become a major source of flexibility in the energy system, ranging from energy storage technologies to power-to-X applications and demand-response solutions. This session explores some of the inherent challenges and possibilities of sector coupling with a special focus on the future role of hydrogen.</p>	
<ul style="list-style-type: none"><li>• <b>Sector Coupling, Hydrogen and Grids – tbc</b> João Peças Lopes (UP, Portugal)</li><li>• <b>Shell</b> Yin Sun / Martijn Lunshof (Shell, Netherlands)</li><li>• <b>Enel – tbc</b> NN (ENEL, Italy)</li><li>• <b>EPRI</b> Eamon Lannoye / Aidan Tuohy / Maria Capparos (EPRI, Ireland)</li><li>• <b>TBA</b> NN (NN, Spain)</li></ul>	
15:30 – 15:40	<b>Discussions</b>

## 15:40 – 16:00 COFFEE BREAK

16:00 – 17:40	SESSION 4: DELFT E-REFINERY INSTITUTE – ELECTRIFICATION OF THE CHEMICAL INDUSTRY PROCESSES
> Session Chair	TBA
16:00 – 17:15	<b>Presentations (25 min. each)</b>
<p>The energy transition has far-reaching implications for high-consumption industries, e.g. for chemical companies. Researchers in the Delft e-Refinery Institute focus their research on the electrochemical conversion of sustainable electricity, water and air into fuels and chemical building blocks, from the molecular scale to large-scale system integration. Implementing e-Refinery will serve three important challenges that the society is facing: CO2 neutral fuels, seasonal energy storage and a defossilized chemical industry. This session explores the potential impact from a power system perspective.</p>	
<ul style="list-style-type: none"><li>• <b>Flexible Industrial Processes , What Does it Mean for the Design of New Electrochemical Processes</b> Andrea Ramirez Ramirez (TU Delft, Netherlands)</li><li>• <b>Electrification of Separation Technologies for Synthetic Fuels</b> David Vermaas (TU Delft, Netherlands)</li><li>• <b>TBA</b> Milos Cvetkovic (TU Delft, Netherlands)</li></ul>	
17:15 – 17:40	<b>Panel discussion</b>

<b>17:45 – 18:30</b>	<b>SESSION 5 – CLOSING SESSION</b>
> Session Chair	TBA
<b>17:45 – 18:25</b>	
<b>Title TBA</b>	
• <b>Panelists:</b>	
- TBA	
<b>18:25– 18:30</b>	<b>Closure</b>

## **18:30 – 20:00 Networking Event**