World Hydrogen Leaders

Large-scale Electrolysis

VIRTUAL CONFERENCE
WEDNESDAY 28TH OCTOBER 2020
There has never been a more urgent time to mobilise and accelerate electrolyser production. The EU has set ambitious targets to install **40 gigawatts of electrolyser capacity** by 2030. However, clean hydrogen is currently not scaling fast enough to achieve this. This momentous scale-up represents **€25-30 billion in total investments in electrolyser capacity**. In practice, how do we scale electrolysis and unlock the cost curve? This virtual conference will share leading industry perspectives on the incredible task at hand. Find out how the large-scale production of electrolysers can create cost savings, where cutting-edge engineering can optimise resource-use and how renewable energy will efficiently and reliably power utility-scale electrolysis plants.

“Excellent congress! Well done to Nadim and all of you at Green Power Global for bringing together all the speakers. Clearly the movers and shakers in the emerging H2 economy!”

PHILIP LEIJTEN
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<td>09.45 CET</td>
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| 09.50 CET | **Panel Discussion** Accelerating the roll out of large scale electrolysis**              | - Matching electrolysis sizes to future markets: The CAPEX and OPEX gains  
- Exploring the qualities large-scale electrolysis: Hydrogen pressure and consumption  
- Determining how large production units will be effectively managed  
- Responding to capacity variations with fewer electrolyser stacks: Can the required flexibility be achieved?  

Moderator: **Yuang-Sheng Yu**, Senior Analyst, **Lux Research**  
**Roland Hequet**, President John Cockerill Hydrogen, **John Cockerill**  
**Pierre Schoeling**, Technology Expert – Electrolysis & Fuel Cell, **ENGIE**  
**Lennart van der Burg**, Business Development Manager, **TNO** |
| 10.40 CET | **Break**                                                                                   |                                                                                             |
| 10.45 CET | **Industry Case Study: Presenting a First Design of a GW Electrolyser System**             | - Revealing the roadmap towards GW-scale green hydrogen production  
- Key take always from the first GW-scale feasibility and engineering studies  
- What’s next? Next generation electrolyser systems and co-electrolysis  

**Lennart van der Burg**, Business Development Manager, **TNO** |
| 11.15 CET | **Break**                                                                                   |                                                                                             |
| 11.20 CET | **Smartenergy Presentation: Large-scale electrolysers: Project development for a 50MW project** | - The choice of the fitting electrolyser technology  
- The right sizing between PV capacity and electrolyser power  
- Essential driving factors of the business case  
- Transport and logistics for large green hydrogen volumes  

**Christian Pho Duc**, Managing Director H2 Projects, **SMARTENERGY** |
| 11.40 CET | **Panel Discussion: The green hydrogen electrolysis plant: Large-scale project challenges and opportunities** | - Integrating renewable energy sources, GW electrolysis and compression: What are the obstacles and how can they be overcome?  
- Beyond small-scale pilots: How do we scale the technology for large-scale electrolysis?  
- Evaluating key requirements to optimise construction and operation of utility-scale electrolysers  
- To what extent will the development of hydrogen infrastructure and transport delay widespread adoption of large electrolysers?  
- Leveraging electrolysis for ancillary services to the grid to regulate demand  
- Revealing lessons learned from a large-scale electrolyser plant case study  

Moderator: **Paola Carvajal**, Consultant, **Inter-American Development Bank**  
**Yann Ardouin**, Director Product Management & Innovation, **Howden**  
**Christian Pho Duc**, Managing Director H2 Projects, **SMARTENERGY**  
**Lincoln Bleveans**, Assistant General Manager Power Supply, **Burbank Water & Power**  
**Robert van Tuinen**, Director of Strategy, **Groningen Seaports** |
| 12.30 CET | **Networking Roundtables**                                                                  | Join the 'Networking Lounge' in our conference platform Airmeet where you can participate in virtual roundtable discussions with other delegates and speakers. Just like in-person networking, you will be able to move around the different tables to join themed discussions relating to large-scale electrolysis. |
| 12.50 CET | **Lunch**                                                                                  |                                                                                             |
| 13.30 CET | **Hydrogen investment trends for large-scale electrolysis**                                | This session will analyse the current trends of investment in hydrogen, with a focus on opportunities for large-scale electrolysis implementations  

**Massimiliano Cervo**, Hydrogen Coordinator, **CACME** |
14.10 CET From cottage industry to industrial scale electrolysis: Market readiness assessment

- Assessing the current readiness of technologies and markets to achieve the exponential growth expected for electrolyser manufacturing
- How and where can we unlock the cost curve of production as electrolysis scales up?
- Evaluating the status of the frontrunner technologies: PEM vs. AE
- Analysing the challenges or opportunities to drive down capex and opex for AEM and SOEC
- How is NEL leading the vital ramp-up of production required for the hydrogen energy transition?

David Bow, Senior Vice President Business Development, Nel Hydrogen

14.40 CET Panel Discussion: The centralised vs. decentralised debate: Evaluating large-scale production vs. distributed modular business models

- Evaluating where large-scale electrolysis will and won’t be economically feasible
- Analysing how modular small-scale electrolysis models can achieve economies of scale
- Identifying locations or offtakers where centralised production models would thrive
- Leveraging existing land approvals, network connections and access to water from power station sites
- How will the viability of each model change as demand for hydrogen increase over time?

Roland Kaeppner, Executive Director Hydrogen & Green Fuels, NEOM
Sebastian Scholz, Program Manager Hydrogen Transformation, Thyssenkrupp Steel Europe
Andrew Stuart, President & CEO, Hydrogen Optimized

MEET THE EXPERTS

A group of international hydrogen experts will join the virtual conference, giving you different insight and perspectives.

You will gain a complete understanding of the technology and engineering challenges and commercial opportunities that will be enabled by the hydrogen energy transition.

CHRISTIAN PHO DUC
Managing Director H2 Projects
SMARTENERGY

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Director of Strategy
Groningen Seaports

YUANG-SHENG YU
Senior Analyst
Lux Research

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15.30 CET End of Conference
INTERESTED IN PRESENTING?

THOUGHT LEADERSHIP
Communicate key messages, demonstrate your knowledge, experience and expertise

LEAD GENERATION
Meet prospects, build relationships and grow your network

BRANDING
Position your brand in front of the largest global community of hydrogen professionals.

Get Involved!
PLEASE CONTACT:

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$999.99 USD
includes all recordings/presentations for the live conference and access to networking lounge AND receive a subscription for a full year’s access to our WORLD HYDROGEN LEADERS PLATFORM
(See next pages for full details and the list of the World Hydrogen Monthly Conferences)

OPTION 2
Gain full access to the
WORLD HYDROGEN LARGE-SCALE ELECTROLYSIS CONFERENCE
$399.99 USD
includes all recordings/presentations for the live conference and access to networking lounge.
Why have over 600 Energy Executives joined the World Hydrogen Leaders platform in the past 4 months?

1. To access in-depth online Hydrogen Conferences see the side listing for past and upcoming conferences that you can access. In total over 200 separate presentations, panels and interviews are accessible.

2. We create new hydrogen experts through the 18 hour Hydrogen “Zero to Hero” Online training course, now in its 4th edition we have had over 120 graduates to date who have enriched their careers by attending the live workshops.

3. We have run and developed another 7 hydrogen online training courses including Hydrogen & China, Hydrogen Policy, Wind & Hydrogen, Green Hydrogen, Geopolitics of Hydrogen. These are all scheduled to be run in 2020 and Q1 2021. All members can attend at reduced rates.

4. We recently held the World Hydrogen Congress digitally and had 1300 attendees listen to 85 of the World’s leading hydrogen authorities. We are now working on the World Hydrogen Congress – Live to take place in a hybrid format in September 2021 to take place in the Vienna Congress Centre and have secured 16 sponsors and are planning the agenda of around 200+ senior speakers. All members can attend at reduced rates.

5. We have developed 2 Hydrogen Reports (Hydrogen Policy and Hydrogen Shipping) and members access the quarterly reports going forwards. We will shortly be releasing the China Hydrogen Vehicle Index to track the impact of that key growing market.

6. We now provide a much anticipated weekly analysis of the hydrogen news - This Week in Hydrogen - to our members