

Waterstof Industrie Cluster: Minutes meeting 03/02/2022 (digital meeting)

Agenda:

New members presentation

10.00 -10.30 Uniper, FPIM, KdG Expert, BASF and Kelvion

Guest speakers

10.30-10.45 Anne Melchers (Min. EZK, NL): Dutch National Hydrogen Program

10.45-11.00 Bart Biebuyck (CHP): Hydrogen valleys & the Clean H2 Partnership

11.00-11.15 Jorre Van Damme & Sandra Vandewiele (VLAIO): Interreg program

11.15-11.30 Ben van der Erve (Netherlands Enterprise Agency RVO): CEF programs

News from cluster members

11.30 – 11.45 Toyota, Fluxys, Hitachi Energy, Vives, VKI

WIC info

11.45 – 12.00

Presentation new members:

- **Uniper:** Paul Olivier
Uniper has an elaborated hydroegn strategy with ambition to install > 1GW electrolyser capacity by 2030 and activities on different elements of teh value chain. Uniper has existing hydrogen plants in e.g. Hamburg and Falkenhagen and is developing several large scale projects, with Hydrogen to Maasvlakte as an example in our region.
- **FPIM:** Leon Cappaert
FPIM, the Belgian investment company that is active in several energy subsectors, a.o. hydrogen. FPIM is calling for interested partners to cooperate.
- **BASF:** Sandra Wauters
BASF has the ambition to reduce their CO2 emissions with 25% in 2030 and become a net zero emitter in 2050. Hydrogen as a feedstock for ammonia production has a large contribution to the emissions today; several pathways to reduce this contribution are being investigated, i.e. CCS, methane pyrolysis or electrolysis.
- **KdG Centre of expertise-sustainable mobility:** Kris Martens
The university college KdG expert is active in the domain of sustainable fuels and drive systems. Regarding hydrogen, they have experience with hydrogen conversion of gasoline engines. They are also working on methanol for combustion engines in heavy duty transport.
- **Kelvion:** Roy Niekerk
Kelvion's core business is the development of heat exchangers. Their focus w.r.t. hydrogen is on heat exchangers applied in electrolysis and in hydrogen refuelling stations.

Discussion/Q&A @ presentation Anne Melchers (Min. EZK, NL): Dutch National Hydrogen Program

The hydrogen strategy in the Netherlands has been built up in different steps since 2018 and is an important topic in the new coalition agreement as finalised in January 2022.

Several resources and funding instruments have are available for scaling up electrolyser technology, building the H2 backbone and storage and for several projects within the IPCEI program.

The 'National Hydrogen Program' is a platform that facilitates the roll out of the hydrogen strategy in the Netherlands. It monitors and coordinates the hydrogen activities in different national programs and makes a hydrogen roadmap for the different theme groups, i.e. production, infrastructure, import & demand.

Questions:

Q: What means of import are considered in NL and why (liquid H2, Ammonia, ... ?

A: NO choice is made (yet), it will be a combination and more experience is needed.

Q: When will the Tijdelijke opschalingsinstrument be open?

A: Wait for the final results of the delegated act, since that will define the requirements for green H2.

Discussion/Q&A @ presentation Bart Biebuyck, Clean Hydrogen partnership

The strategic research priorities for the Clean Hydrogen Partnership are presented, for the different topics: H2 production, H2 distribution & storage, end uses (transport, heat& power and industry), hydrogen valleys and cross cutting subjects.

In general focus is on all R&D activities- development of technology and materials and demonstration- that lead to cost reduction, efficiency improvement & scale increase.

BY 2030, there should be 100 Hdyrogen vallyes worldwide, of which 50% in Europe...

On March 1, the call for 2022 will be launched (300M€ support!), with cut-off dates on May 31 and September 20 (depending on the topic).

Questions

Q: Is there a plan to manage public perception of this upcoming new H2 industry with storage etc?

Certainly in these times of misinformation it seems important to have the main public and civil society in on the narrative from the start and not let misguided scepticism get in the way of developments.

A: This is very important, but we should first identify what are the exact issues with perception, these are different in different countries, dependent on the experience with hydrogen (in industry).

For the new projects, the safety element will be more important. There is a 'Hydrogen safety panel' that will analyse all project proposals and a safety plan has to be added to the proposals.

At the end of April, the CHP will organise a workshop on safety.

Discussion/Q&A @ presentation Jorre Van Damme & Sandra Vandewiele (VLAIO): Interreg program

The new interreg programs are explained with the different calls for 2022 and upcoming events.

Focus is on medium TRL (4-8/9) which means not fundamental research but also no large scale roll-out projects. Typically pilots, living labs and demonstrations.

The budgets for the period 2021-2027 are in the range 80-400M€ depending on the program.

The national contact points are available to help with all project proposals!

Based on the WIC strategic vision, different possibilities for projects are available (cfr table in presentation).

Discussion/Q&A @ presentation Ben van der Erve (Netherlands Enterprise Agency RVO): CEF programs

The CEF, TEN-E (Trans-European network for energy) and TEN-T (Trans-European network for transport) programs are presented.

Large budgets are available for infrastructure (pipelines, HRS..) but no vehicles (only for shipping, a certain amount of vessels is eligible). The TRL level is 6-8, focus on roll-out of existing technology.

For transport, the CEF calls are linked with the 'Alternative Fuels infrastructure Facility' directive.

Regarding hydrogen, the focus is on refuelling stations for all types of transport, incl. maritime vessels and port vehicles.

There are different cut-off dates planned for the running transport call, the next one being on June 7 and the last one for Sept 19, 2023.

Remark: Some of the topics that the Clean H2 Partnership will fund, will be complemented by CEF, so consortia will need to submit a project to the Clean H2 Partnership and a project to CEF and they will be evaluated as a set. HRS for trucks and HRS for the vessels should go to CEF while the trucks and vessels are funded by the CHP.

News from the cluster members:

- **Toyota (Vincent Mattelaer):** Toyota starts European production of 2nd generation fuel cell modules in Zaventem
- **Fluxys (Steven Van Caekeberghe) :** Fluxys launches information rounds for H2 and CO2 infrastructure in Belgium, asking industrial parties to show their interest in connecting to infrastructure with open access for hydrogen and CO2 in Antwerp, Ghent, Liège and Mons.
- **Hitachi Energy:** presents the scope of the new company 'Hitachi Energy (formerly Hitachi ABB). Their focus is on power consulting, i.e. solutions for power quality and dynamics when integrating large scale hydrogen installations to the grid and to different end-use applications.
- **Vives (Sam Schotte):** announcement of "Hydrogen Day" on April 24 in Kortrijk, website ready next week. With several speakers from the WIC.
- **Von Karman Institute (Peter Simkens):** VKI asks for Industrial Advisory board members for a project that will develop a proof-of-concept for an ultrasound driven reactor to produce green hydrogen based on the sonolysis of water, generating cavitation bubbles in a new advanced reaction medium, in which H2 is generated.

WIC/WaterstofNet news

- The WaterstofNet/WIC teams grows: Tom Verlinden joins the team, he will focus on project development.
- The status & activities of the different WG's of the WIC are presented.
- EU news: The Hydrogen and decarbonated gas package has been published. The Belgina federal government does not wait for EY approval of this directive, but launches a public consultation on hydrogen transport via pipelines.

- Comment from Bart Biebuyck: recommendation to write position paper on AFIR (ALternative Fuel Infrastructure regulation).

Next events

- The WIC meetings in 2022
 - June 9 (i.s.o. May 12 as announced); @ Engie-Laborelec (tbc)
 - Sept 8
 - Dec 1
- Webinars
 - Next: March 3 → suggestions for the topics are welcome
 - Meet & Greet
 - Next March 31 → participation is mandatory once you're registered ☺
- WIC conference (postponed from 22/11)
 - May 18!!

Present in the call:

<u>Name</u>	<u>Company</u>	<u>Name</u>	<u>Company</u>
Patrick Vanschoubroek	Actemium	Rob Cornelissen	POM Limburg
Nick Valckx	Agfa	Guido De Roo	POM West-Vlaanderen
Guido Desie	Agfa	Maxime Peeters	Port of Antwerp
Christophe Galimont	Air Liquide	Gilles Decan	Port of Antwerp
Suzy Valgaeren	Air Products	Koen Pellaers	P&V Panels
Maxim Verdoodt	ALD Automotive	Rik Vaesen	Remeha
Ann Larosse	ALD Automotive	Allister Slingenberg	RWE
Philippe Alboort	ArcelorMittal	Georges Leysen	Sea Tank Terminal
Erik De Coninck	ArcelorMittal	Luk Wuyts	Sea Tank Terminal
Koen Mols	ArcelorMittal	Mark Philips	SGS
Sandra Wauters	BASF	Erik Teerink	SGS
Joke Goethals	BEP Europe	Johan De Blicke	Siemens
Adrien Theunissen	Besix	Pieter Jan Jordaens	Sirris
Nicole Van Klaveren	Bureau Veritas	Bram Cloet	Sirris
Jasper Smets	Chevron Phillips Chemicals	Pierre Faché	Smart Hub Vlaams Brabant
Ludo Sweron	Colruyt	Peter Wartel	Sodeco Valves
Rene Peperkamp	Croonwolter&Dros	Sven Duchatelet	Solenco Power
Eef Idema	Croonwolter&Dros	Joris Van Dyck	Solenco Power
Wouter Everaerts	Denys	Hugo Vandenborre	Solenco Power
Patrick Berre	Denys	Jean-Marc Chamberland	Solvay
Philippe Desrumaux	Drive systems	Jeroen Soenen	Sweco
Thomas Cools	Eneco	Tim Maeyens	Terranova Solar
Roxanne Vande Zande	Engie	Yannick Sijssens	Tessengerlo Group
Wim Debast	Eriks	Philippe Quenon	Tessengerlo Group
Ben Cornelis	E-trucks Europe	Sasa MARINIC	Total Energies
Lut Bollen	EWI-Vlaanderen	Vincent Mattelaer	Toyota Motor Europe
Guy Verkoeyen	Exion Hydrogen	Henri Wattel	Toyota Belgium
Filip Van Caneghem	Farys	Tom Cnop	Tractebel
Leander Hanegreefs	Fluxys	Marcel Meeus	Umicore
Jan Van Den Bulcke	Fluxys	Fred Hage	Uniper
Steven Van Caekenberghe	Fluxys	Paul Olivier	Uniper
Céline Vaessen	FPIM	Nathalie Meyer	Universiteit Antwerpen
Leon Cappaert	FPIM	Ivan Piette	Viessmann
Stephan Laux	Fuel Cell Power	Sven De Tollenaere	VIVES
Herman Van Damme	G&V	Sam Schotte	VIVES
Kitty Geens	G&V	Peter Grogard	VKI
Sven Audenaert	Hima	Peter Simkens	VKI

Wessel Hofst	Hitachi Energy	Thomas Bogaers	Vollenhoven
Hans Rymenants	Hitachi Energy	Joep Fassaert	Vollenhoven
Alireza Khakpour	Hitachi Energy	Bas Lavalaye	VoltH2
Raymond Daems	Hitachi Energy	Ferenc Petkovics	VoltH2
Dirk Scholte	Hitachi Energy	Adwin Martens	WaterstofNet
John Swinkels	Hitachi Energy	Chris Lefrère	WaterstofNet
Peter Moonen	Hitachi Energy	Samira Farahani	WaterstofNet
Pieter Jacqmaer	Infrabel	Liesbet Vanhoof	WaterstofNet
Peter Gysen	Intertek	Stefan Neis	WaterstofNet
Katrien Ver Elst	IOK	Davine Janssen	WaterstofNet
Frederik Van Praet	Jan De Nul	Isabel François	WaterstofNet
Roland Hequet	John Cockerill	Mathieu Wuyts	WaterstofNet
Kris Martens	Karel de Grote	Michel Honselaar	WaterstofNet
Martin Dorsman	Kelvion	Tom Verlinden	WaterstofNet
Roy Niekerk	Kelvion	Luc Smet	Willemen Groep
Duncan Versteeg	Kelvion	Franky Van den Berghe	Willemen Groep
Jan Rongé	KULeuven/Cokkat	Wim Devloo	Willemen Groep
Amaury Fraenkel	Luminus	Peter Van Laer	Ziero
Paul Schroé	MBZ	Hans Van Tigchelt	Ziero
Geert Van Overloop	Naval	<u>Gastprekers</u>	
Vincent Schouten	Nedstack	Anne Melchers	Min EZK
Marco Van Straten	NEWES	Bart Biebuyck	Clean Hydrogen JU
Arie Meekerk	NEWES	Jorre Van Damme	VLAIO
Maarten den Dekker	North Sea Port	Sandra Vandewiele	VLAIO
Sjoerd Boer	Oiltanking	Ben van der Erve	RVO
Axel Seifert	Plastic Omnium		
Luc Moors	Plastic Omnium		

Isabel François
February 4, 2022

Caroline (gast)
vincent (gast)