

## **Waterstof Industrie Cluster: Minutes meeting 08/12/2021 (digital meeting)**

### **Agenda:**

#### New members

10.00 -10.30: IOK, ALD, ArcelorMittal, BEP Europe, Smart Hub Vlaams Brabant

#### Guest speakers

10.30 -10.50: The Belgian federal hydrogen strategy (An Stroobandt, cabinet vdStraeten)

10.50 -11.10: Hydrogen activities & plans in Northrhein Westfalia (Frank Koch, EnergieAgentur.NRW)

#### News from cluster members

11.10 - 11.40: Fluxys - Blue Gate Antwerp - Inovyn – Haesaerts – VoltH2 – Von Karman Insitute-Everfuel

#### WIC info

11.40 - 12.00

### **Presentation new members:**

- **IOK:** Katrien Elst  
IOK is the waste management company active in the “Kempen”, in the North East of the province of Antwerpen.  
They are analysing the feasibility of a hydrogen installation connected to a wind turbine in the site of Beerse-Oost, with the hydrogen to be used in trucks and ships.
- **ALD Automotive:** Ann Larosse  
ALD automotive is a leasing company that offers fleet management and long-term vehicle leasing solutions to companies in 43 countries.  
They have setup the “H2 Pilot” i.e. a lease formula for FCEV in collaboration with Toyota, Hyundai and DATS24.
- **BEP Europe:** Joke Goethals  
BEP Europe (part of Burke E. Porter Machinery Company) develops test systems for automotive products.  
They are analysing the options to extend their activities to Hydrogen Fuel cell EV testing.
- **ArcelorMittal:** Philippe Alboort  
ArcelorMittal has a clear decarbonisation roadmap towards 2050. Different pathways will be combined to reach carbon neutrality. Hydrogen will play a role both in the blast furnace pathway, but especially in the DRI-EAF route that will be initiated using methane but will be converted to hydrogen later on, when the hydrogen is more available and affordable.
- **Smart Hub Vlaams Brabant:** Pierre Faché  
Smart Hub Vlaams Brabant is a regional agency in the province of Vlaams Brabant that facilitates collaboration between companies, government and universities in the province.  
Also for several hydrogen initiatives (Project WaterstofRegio, Hydrogen panels of KULeuven..) they play a facilitating role in connecting, supporting and promoting the regional partners.

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**Discussion/Q&A @ presentation An Stroobandt, adjunct head of cabinet @ BE Federal ministry of Energy**

The Belgian federal hydrogen vision, published end of October, is presented.

Four pillars are proposed:

- **Belgium as an import and transit hub for hydrogen (carriers).**
  - Certification is an important aspect here and the federal government is working on having a trustable system in place by 2025.
- **Belgium as a leader in H2 technology.**
  - Strong networks available with WIC and cluster Tweed (😊!)
- **A robust H2 market** a.o. via open access pipeline network of hydrogen. First steps foreseen by having an additional 160km of H2 pipelines by 2026 (RRF).
- **Investing in collaboration** with regional governments, stakeholders, Europe and Global players (cfr import).

Low carbon technologies are seen as an important transition technology (CCS & pyrolysis).

**Some questions from the audience:**

- Is there a strategy at federal level to promote the use of Belgian hydrogen technologies (electrolyzers) for green hydrogen production abroad when this green hydrogen will be imported in Belgium (cf. bilateral agreements between BE and Namibia for instance). Germany is supporting heavily its industry in this type of agreements, but this is not mentioned explicitly in the BE strategy. NB: as a side note, the electrolyzer target for Belgium is very low. Why so low ?
- Why has nothing been mentioned concerning hydrogen refuelling stations? Is that because this is a regional responsibility?
- Partnerships on production side, and on infrastructure/offtake side are indeed key. Germany is definitely a strategic partner in the hydrogen transition. Great to see this being positioned as fundament of the federal strategy implementation.

**Discussion/Q&A @ presentation Frank Koch, EnergieAgentur NRW**

EnergieAgentur NRW is a regional development agency in the region Northrhein Westfalia.

- Within EnergieAgentur, the “Fuel Cell and Hydrogen, E-Mobility Network NRW” focuses on promotion of fuel cell & hydrogen mobility solutions.
- NRW already has H2 production and infrastructure today (SMR production- by product-pipeline network).
- Typical demand figures for H2 and Liquid H2 derivatives are given for 2050: 139TWh/year liquids and 104TWh/year H2 of which more than 80% will be import.
- A number of objectives for 2025-2030 are listed for transport application of H2, e.g.
  - for public transport: 500 FC buses in 2025; 3800 in 2030;
  - for trucks: 400 FC trucks in 2025; 11000 FC trucks in 2030, with appropriate filling infra
  - Several vessels & infrastructure available for inland navigation in 2030.
- Objectives for hydrogen infrastructure are given:
  - 240 km of H2 pipeline, 1-3 GW electrolysis in 2030

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Some questions from the audience:

- What is the timeline/roadmap in Germany for H<sub>2</sub>-applications in buildings (decentral - or central heating, domestic hot water, ...). Is this also planned for 2040-2050? Or is there a belief to use H<sub>2</sub> earlier in the building environment? Perhaps make the difference in boilers for H<sub>2</sub>NG-mix versus boilers for 100%H<sub>2</sub>?

A.: In Germany industry and mobility are the main focus. Politicians are fond of the all-electric world not understanding that this is impossible as the grids are not sufficient. So for residential heat supply the heat pump is the favourite. Nevertheless, there are some "real labore" on the way addressing residential heating based on H<sub>2</sub>, too. As we will have H<sub>2</sub> in the pipeline network one day, it makes absolutely sense to work on that topic. And the das association has started a project where they test 20 % H<sub>2</sub> in the gas grid. 90 % of NG pipelines in germany can handle pure H<sub>2</sub> too. In Germany, 20 % are seen as being uncritical so that changes in the equipment have to be made. Over that, you must do something at the burners and the meters as the heat value changes so that a customers would pay too much.

**News from the cluster members:**

- **Fluxys market study (Cedric Van Hoonacker)**

- Fluxys has done a RFI for hydrogen supply and demand- for industry, power generation and mobility- for the period until 2035, to "shape" the required infrastructure developments in Belgium.
- Estimated demand and supply are relatively in line with each other.
- The RFI remains open, so new initiatives are welcome!
- Outcome of the Market consultation will be published after CREG review (<https://www.fluxys.com/en/products-services/empowering-you/customer-interactions/consultations-in-belgium---transmission/fluxys-belgium-market-consultation-54>).

Question from the audience: Any possibility to mix H<sub>2</sub> with NG for household gas?

- A. Fluxys is also working on that subject as well. Recently, a market consultation took place where H<sub>2</sub> blending into Natural Gas was proposed. You will find more info on the link above.

- **Blue Gate Antwerp, RFI (Maarten Bettens)**

- An RFI has been published to explore the options for an alternative fuel hub on the BluleGate site in Antwerp.
- The deadline for input is January 14.

- **Inovyn hydrogen investment plans (Matthias Schnellmann)**

- Ineos recently announced €2B investments in hydrogen for the coming decade.
- Several projects are presented (production of green H<sub>2</sub>, methanol, ammonia in Norway, Belgium and Germany, ; a barge between Antwerp and Jemeppe in BE...)

- **H<sub>2</sub>-Trucks from CMB @ Altea/Haesaeerts (Luc Haesaerts)**

- Haesaerts, as a daughter company of Altea (new cluster members!) are experts in the transport of chemicals and gases. They have branches in Belgium & Luxemburg.

- They will start to test two CMB hydrogen trucks (dual fuel combustion) from 2022 on. The trucks have been released specifically for transport of chemicals.
- **VoltH2 Vlissingen project (Bas Lavalaye)**
  - VoltH2 (new cluster member!) develops clean Hydrogen Production Infrastructure in Western Europe. They are currently working on different sites in the Netherlands, Belgium, France and Germany. The first projects to be realised are in Vlissingen, Terneuzen and Antwerp.
  - For the project in Vlissingen, the environmental permit for an installation of 25MW has been granted in October. The preparation for the permit has been done by Sweco.
- **Von Karman Institute: CHyPS project & BEHyFE project (Peter Simkens)**
  - VKI announces two new projects that have been approved recently:
    - the CHyPS project that will develop a modelling tool for ship engines fuelled with hydrogen and methanol, and the storage system for these fuels, with a focus on liquid hydrogen
    - the BEHyFE-project creates a Belgian network for academic hydrogen expertise, with 16 PhD students at all BE universities that carry out doctoral research on a number of selected topics covering the entire hydrogen value chain.
- **Everfuel: Project Heinenoord (Wouter Van der Laak)**

#### **WIC/WaterstofNet news**

- The WaterstofNet/WIC teams changes: Yannick Ief tour organisation, a vacancy will be published this week; Tom Verlinden will also join the team as project developer.
- The status & activities of the different WG's of the WIC are presented.
- The inventory of H2 related research at Flemish universities has been finalised (version Nov 2021) and will be sent around.
- EU news: launch of the Clean Hydrogen Partnership (follower of the FCHJU) and roll out of the Fit for 55 package.

#### **Next events**

- WIC meetings have been scheduled for 2022:
  - Feb 3
  - May 12
  - Sept 8
  - Dec 1
- Webinars
  - To be planned → suggestions for the topics are welcome
- Meet & Greet
  - To be planned → participation is mandatory once you're registered 😊
- WIC conference (postponed from 22/11)
  - To be planned; second half March?

**Present in the call:**

Patrick Vanschoubroek	Actemium	Paul Schroé	MBZ
Christophe Galimont	Air Liquide	Geert Van Overloop	Naval
Tijl van Crieelingen	Air Liquide	Vincent Schouten	Nedstack
Suzy Valgaeren	Air Products	Marco Van Straten	NEWES
Siegbert Verhulst	Air Products	Arie Meekerck	NEWES
Maxim Verdoodt	ALD Automotive	Stijn Goeminne	Perpetum
Ann Larosse	ALD Automotive	Cathy De Graeve	Oiktanking
Luc Haesaerts	Altra/Haesaerts	Jan Winters	Polders Investeringsfonds
Koenraad Mols	ArcelorMittal	Koen Van den Brande	Polders Investeringsfonds
Philippe Alboort	ArcelorMittal	Guido De Roo	POM West-Vlaanderen
Roger De Vos	Atlas Copco	Maxime Peeters	Port of Antwerp
Hans Magits	Atlas Copco	Gilles Decan	Port of Antwerp
Nathalie Vanneste	BTC-Europe/BASF	Dirk Declerck	Port of Ostend
Joke Goethals	BEP Europe	Maarten Van Haute	Q8
Stijn Vanrysselberghe	BEP Europe	Rik Vaesen	Remeha
Adrien Theunissen	Besix	Luk Wuyts	Sea Tank Terminal
Daniel Van De Gucht	Besix	Mark Philips	SGS
Ronald Carette	Besix	Wim Van Den Mosselaer	Siemens Energy
Maarten Bettens	Blue Gate Antwerp	Johan De Blicck	Siemens
Gert Nelissen	Borit	Pieter Jan Jordaens	Sirris
Nicole Van Klaveren	Bureau Veritas	Bram Cloet	Sirris
Marco Van Der Hoeven	Bureau Veritas	Pierre Faché	Smart Hub Vlaams Brabant
Erik-Jan Nap	Bureau Veritas	Francisco Lopez	Solenco Power
Jasper Smets	Chevron Phillips Chemicals	Joris Van Dyck	Solenco Power
Jonas Cautaearts	Colruyt	Jean-Marc Chamberland	Solvay
Ludo Sweron	Colruyt	Jean Aerts	Spie
		Bart Van Renterghem	Storm
Johan De Clippeleir	Covess	Jeroen Soenen	Sweco
Denis Thomas	Cummins	Tom Van Den Noortgaete	Sweco
Wouter Everaerts	Denys	Tim Maeyens	Terranova Solar
Patrick Berre	Denys	Philippe Quenon	Tessengerlo Group
Philippe Desrumaux	Drive systems	Frank MARTENS	Total Energies
Thomas Cools	Eneco	Vincent Mattelaer	Toyota Motor Europe
Koen VLAEMINCK	Engie	Dimitri Van Den Borre	Tractebel

Jeroen Schmidt	Eriks	Tom Cnop	Tractebel
Kenneth Roman	Eriks	Sven Goethals	Tractebel
Tom Bakker	Eriks	Marcel Meeus	Umicore
Wim Debast	Eriks	Fred Hage	Uniper
Bianca Kretschmann-Adam	E-trucks Europe	Paul Olivier	Uniper
Ben Cornelis	E-trucks Europe	Quinten Van Avondt	Universiteit Antwerpen
Wouter van der Laak	Everfuel	Patrice Perrault	Universiteit Antwerpen
Lut Bollen	EWI-Vlaanderen	Ruud Bouwman	VDL
Filip Van Caneghem	Farys	Peter Simkens	VKI
Cedric Van Hoonacker	Fluxys	Sven De Tollenaere	VIVES
Michel Van den Brande	Fluxys	Sam Schotte	VIVES
Leander Hanegreefs	Fluxys	Thomas Bogaers	Vollenhoven
Leon Cappaert	FPIM	Daniel Goedhuis	Volth2
Stephan Laux	Fuel Cell Power	Bas Lavalaye	Volth2
Herman Van Damme	G&V	Koen Baele	WDP
Sven Audenaert	Hima	Adwin Martens	WaterstofNet
Hans Rymenants	Hitachi Energy	Chris Lefrère	WaterstofNet
Pieter Jacqmaer	Infrabel	Samira Farahani	WaterstofNet
		Stefan Neis	WN
Peter Gysen	Intertek	Davine Janssen	WaterstofNet
Katrien Ver Elst	IOK	Isabel François	WaterstofNet
Alain Hanneuse	Inovyn	Jan Vliegen	WaterstofNet
Matthias Schnellmann	Inovyn	Peter Van Laer	Ziero
Jan Grommen	Jan De Nul		
Kris Martens	Karel de Grote	An Stroobandt	Guest BE Federal government
		Frank Koch	Guest EnergieAgentur NRW
Martin Dorsman	Kelvion	Yannick Van den Broeck	Vlaamse overheid
Lesya Nadzon	Linde		
Pieter den Hooglander	Linde		
Kristof Vanhoorne	Luminus		
Jonas Dillen	Luminus		

Isabel François  
December 8, 2021