

Waterstof Industrie Cluster: Minutes meeting 18/11/2020 (digital meeting)

Present in the call:

Benjamin Huybs,	Nike	Yves CARELS	Alstom
Vincent Mattelaer	Toyota Motor Europe	Wim Van Den Mosselaer	Siemens Energy
Lynn Eyckmans	De Vlaamse Waterweg	Jacob Hubrechts	Atlas Copco
Guido De Roo	POM W-VL	Hans Magits	Atlas Copco
Marleen vd Linden	Holthausen Clean Technology	Huylebroeck Koen	Fluxys
Ben Cornelis	E-trucks	Jan Van Den Bulcke	Fluxys
Lothar Mussmann	Umicore	Leander Hanegreefs	Fluxys
Marcel Meeus	Umicore	Bart De Caesemaeker	Vlaio
Fabrice Stassin	Umicore	Sébastien Piret	Colruyt
Gert Nelissen	Borit	Ludo Sweron	Colruyt
Wouter Koster	Ballast-Nedam	Peter Simkens	VKI
Nick Valckx	Agfa	Dirk Abel	Renewi
Paul Schroé	MBZ	Koen VLAEMINCK	Engie
Aerts Jean	Spie	Koen Van den Brande	Polders Investeringsfonds
Peter Smets	Spie	Wouter Everaerts	Denys
Sven Van Lievendael	Spie	Patrick Berre	Denys
Richard Dikkers	Oiltanking	Bruno Geltmeyer	Denys
Cathy De Graeve	Oiltanking	Ruud Bouwman	VDL
Sven Duchatelet	Solenco Power	Maxime Peeters	PoA
Marc HEYLEN	Altran	Cyril Daenens	Perpetum Energy
Pieter Jacqmaer	Infrabel	Jean-Paul MOSSOUX	Tractebel
Steven Keyzer,	OCAS	Dimitri VAN DEN BORRE	Tractebel
Adrien Theunissen	Besix	Filip VUYLSTEKE	Altran
Johan De Rouck	Besix	Frank Gerard	PMV
Daniel Van De Gucht	Besix	Pascal Meyvaert	Nippon Gases
Roy VAN SON	Air Liquide	Vanhoorne, Kristof	Luminus
Tijl Van Criekingen	Air Liquide	Yannick Van den Broeck	WN
Filip Van den Borre	Dept Omgeving	Andrea Hennis	Student WN
Yannick SIJSSENS	Tessenderlo Group	Jan Vliegen	WN
Philippe QUENON	Tessenderlo Group	Davine Janssen	WN
Ricardo Wervenbos	Berkman	Isabel François	WN
Rob Cornelissen	POM Limburg	Adwin Martens	WN
Roy Campe	CMB		
Louis Vercauter	CMB	Udo Huisman (gast)	Gasunie
Axel Seifert	Plastic Omnium		
Jan Rongé	K.U. Leuven		

Agenda:

- 10.00 – 11.00** : Presentation H2 projects and ambitions Gasunie
- 11.00 – 11.30** : New cluster members
- 11.30 – 12.00** : Developments in the WIC
- 12.00 – 12.15** : Q&A and closure

Discussion/Q&A @ presentation Gasunie

Gasunie (Udo Huisman) presents its general strategy for the future and more specifically the transition towards a CO₂-neutral energy supply.

A future, dedicated H₂ network is planned, mostly based on the existing natural gas pipelines. A first conversion of an existing pipeline has been done in Zeeland, between Dow and Yara (cfr.

Presentation in cluster meeting in 2019).

Shifting to a hydrogen network also requires storage of hydrogen, which will be done in a first test in the Hystock project, in underground salt caverns. A 1MW electrolyser installation is already set up, fed with solar energy. Testing of storage in the cavern will start in 2022.

In the NorthH₂ project, Gasunie, Shell and Groningen Seaport will build a large hydrogen production facility in Eemshaven, with energy supply from the Northsea wind farms. The capacity will increase the coming decades up to a projected 50GW in 2050.

Some questions that have been discussed:

- 1) Pressure in H₂ net: will depend initially on the specific part of the backbone (typically 30 bar), but eventually the pressure will be about 50 bar, comparable with current natural gas pressure.
- 2) Offshore H₂ production? In the future large energy islands are planned in the North Sea, it is possible that electrolysers will be installed on the islands, with transport of H₂ to land via (often existing) pipelines. However, the decision whether this will be done is not made yet; this option is being studied compared to the electrolyser-on-shore option.
- 3) The 1,5 billion Euro mentioned for the setup of the backbone, how is this divided? Important cost contributions come from cleaning of the pipelines, some new traces and the modification of the compressor stations.
- 4) Use of the H₂? Industry but also mobility, e.g. buses in the north of The NL.
- 5) For existing industrial installations, will H₂ be mixed with NHG or used in pure form? The whole project is focused on pure H₂; the mixing option can be a transition scenario to stimulate the use of the H₂ but is not an interesting option on the long term. Some applications (fuel cells) need pure H₂.
- 6) How about the H₂ induced risk of steel embrittlement on the long term? During 2 year testing, no embrittlement has been noticed. Long term investigations are running; oxygen content and in general the purity of the hydrogen are expected to have an influence.
- 7) Diameter of Yara-Dow pipelines and of the backbone in general? 12 inch for YARA-DOW line and 48inch for most parts of the backbone.
- 8) Employment of the H₂ grid, will this be comparable to the current employment? The shift to hydrogen will (partially) compensate the dismantling of the natural gas activities.
- 9) Permitting and support of the authorities? The Hyway 27 project has been initiated to provide advice to the authorities about conversion of the natural gas grid to H₂. The safety and legislative framework for H₂ is not developed yet. The authorities are very supportive towards the H₂ backbone initiative.
- 10) Transport costs of H₂ compared to natural gas transport costs? Not clear yet; will also depend on whether transporting H₂ will be regulated such as NG; expectation is that cost will be comparable.

Presentations new members

- Vlaamse Waterweg
- Altran
- Spie
- Alstom:
 - Remarks regarding the Hydrogen train H2 train Coradia iLint:
 - 350 bar pressure will be sufficient for the H2 storage, use of LH2 or higher pressure not planned yet
 - Expected to be operated at locations where large H2 sources are available, e.g. port environment
 - Methanol might be another green source for trains, in combination with existing combustion engines
 - Both passenger trains and freight trains are candidates for hydrogen propulsion

News from the WIC/WaterstofNet:

- New employee at WaterstofNet for reinforcement of the WIC support team: Davine Janssen.
- New WIC members:
 - Altran, Alstom, Spie: cfr presentations in this meeting
 - AVIA-Van Vollenhoven: Company from Tilburg that builds refuelling stations in the South of the NL
 - Ziero: Company of region of Ghent that develops generators on H2 (combustion)
 - Perpetum Energy: Company from region Ghent that installs large solar farms
- H2-news from our governments (FL/BE/NL)
 - Flemish vision doc on H2 (Flemish government)
 - Federal government agreement, H2 related plans
 - IPCEI-status in BE and NL
 - DKTI call in the NL
- Strategic plan H2 for Flanders
 - Final version will be sent in the coming 1-2 weeks
 - Document will be officially handed over to Minister Crevits on our conference (Dec 7)
 - Cabinet visits (FL + Fed) will be organised in Jan-Feb 2021
- Overview EU initiatives/funding
 - Several new organisations have been setup: Clean H2 alliance, Clean H2 for Europe (former FCH-JU)...
 - Several funding opportunities are on their way
 - EU hydrogen week next week
- Cluster activities
 - Working group shipping started
 - WIC webinars next year; first on Jan 28, Thursday 16.00-17.30
 - Hydrogen conference on Dec 7; subscription open via WN website!
 - Cluster Meetings 2021: March 3, June 2, Sept 8 and Dec 8, Wednesdays 9.30-14.00. Hosts for the meeting (capacity +/- 50 people and H2 related activities to visit) can announce themselves @ the WIC team (Yannick, Davine or Isabel)

Isabel François, September 18, 2020