

CertifHy Stakeholder Platform 1st Plenary Session

WG2 “GO Issuing”

Date: 20/11/2017

Location: FCH JU building, 56-60 Avenue de la Toison d’Or, Brussels

Minutes of Meeting

CertifHy consortium members	Participants
<ul style="list-style-type: none"> - Frederic Barth (FB) - Hinicio - Henri Bittel - Hinicio - Antti Kuronen - Grexel 	<ul style="list-style-type: none"> - Tim Brandt - Wind to Gas Wind Südermarsch - Koen De Clercq - Colruyt - Timo Eickelkamp - Uniper Energy Storage - Marek Fulde - FLD Technologies - Daneel Geysen - Group Machiels - Alexis Gertz - CNR - Maria Joao Duarte - Mitsubishi Hitachi Power Systems - Markus Maly - OMV - Marcus Newborough - ITM Power - Joost Sandberg - Akzo Nobel - Christoph Stiller - Linde Group (not present but video for chair position) - Dionisis Tsimis - FCH JU

Item	Objectives
1. Morning session	<ol style="list-style-type: none"> 1. Round table introduction of participants 2. WG2 work programme and timeline 3. Election of WG chair and co-chair

Points of discussion

Round table introduction of participants

- Frederic Barth, CertifHy WG2 coordinator, welcomes the participants.
- The participants present themselves and their motivation to participate to WG2.

WG2 work programme and timeline

- WG2’s main objective is to provide input with regards to the practical implementation of the scheme, in particular with regards to the criteria that are applied for determining the quantity of hydrogen for which CertifHy Green H2 and Low Carbon H2 GOs may be issued.
- WG2 includes the operators of the pilot plants.
- WG2 will initially focus on using the pilot plants as case studies for determining exactly how the above criteria can be applied.

Reminder of CertifHy criteria adopted in Phase 1

- Presentation of the CertifHy criteria (i) applied to past production for plant eligibility and (ii) applied to the production batch for determining the quantity of GOs that may be issued.

Role of the Working Group chair and co-chair

- The chair and co-chair validate the WG minutes of meetings and agendas drafted by the Working Group coordinator.
- The chair and co-chair sit on the Steering Group where they represent the position of Working Group 2.
- The Steering Group endorses the results of the project at each key milestone.

Introducing the chair and co-chair candidates

- Candidates for chair and co-chair presented themselves
 - o They are Tim Brandt (Wind to Gas Wind Südermarsch) Florian Schwarz (Uniper Energy Storage) represented by Timo Eickelkamp, Christoph Stiller (Linde Group) (video presentation).

- Elections took place immediately following the presentation of the candidates.
- Florian Schwarz and Tim Brandt were elected (with the same number of votes). They mutually agreed that Florian Schwarz will be the chair and Tim Brandt the co-chair.

Actions

- The WG coordinator will initiate case studies with Pilot plant operators. These will be discussed with the WG in Jan 2018.

Item	Objectives
2. Afternoon session	<ol style="list-style-type: none"> 1. Essential requirements for determining H2 quantity, carbon intensity, and renewable share 2. Options for addressing “residual mix issue” and information to be collected during the pilot for evaluating these options 3. Discussion of GO use cases

Points of discussion

Essential requirements for determining H2 quantity, carbon intensity, and renewable share

- These will mainly be provided by ISO 14040 *Environmental management -- Life cycle assessment -- Principles and framework*.
- On electricity input: electrolyzers have half hourly meters; this operational constraint should be taken into account. It could also be feasible to track based on this metering the RE and GHG of the electricity mix at that moment, however this would require a real time GO system for electricity that does not exist yet.

“Residual mix issue” - Application of GOs to hydrogen from non-participating sources

- Application of GOs to hydrogen from non-participating sources can lead to a loss of accountability for the supply/use of high carbon H2.
- This issue and possible ways to address it will be evaluated based on information collected during pilot operation of the scheme. To that end, information on the physical origin of hydrogen covered by a GO will need to be collected.

Carbon intensity threshold for “Green Hydrogen”

- Various participants pointed out that they expect users to want hydrogen with zero CO2 intensity.
- A participant noted that only one good product (GO) should be defined, such that people are not lost with all the different labels.
 - o Indeed, business will look at the carbon footprint by looking at the CO2 content of the GO. However, private consumers will not care. They will just want to have one label that everybody else uses.
- A participant pointed out that the GO certificate should not be too complicated for the user, he should not be thinking about it, it should be straightforward to him.
- A participant pointed out that an FCVs using H2 at the threshold will emit more CO2 per km than some plug-in hybrids. People may then not see the point of FCVs.
- Comments from the coordinator:
 - o Electricity from wind or solar energy (based on GOs if the electrolyser is not directly connected to a wind or solar power plant) is assumed, by convention, to have a zero-carbon footprint. Therefore, hydrogen produced from this energy source will be considered to a zero-carbon footprint as well.
 - o To be able to declare that electricity input has been renewable, GOs must be cancelled: current European Directives do not foresee other possibilities.
 - o Nonetheless, hydrogen from biomass also needs to be considered, keeping in mind that exploitation of locally available waste and biomass is one of the pillars of the energy transition.
 - o Because some biomass based pathways can have a rather large LCA carbon footprint (as experienced with biofuels), a carbon intensity limit was set for ensuring that CertifHy Green

GOs are only issued for product from pathways with low emissions compared to the benchmark. The limit of 36.4 gCO₂equ/MJ of H₂ (LHV), defined following the requirement specified by the RED for biofuels (60% below benchmark by 2018), is quite demanding and ensures, when applying the sustainability requirements of the RED for biomass for biofuels, that CertifHy GOs will only be issued for bio-based hydrogen production pathways that truly contribute to the transition to a sustainable low carbon energy system.

- Thus, the CertifHy Green H₂ definition includes both sustainable bio-based and wind/PV based hydrogen in a single category, since there is no reason to favour one over the other.
- This definition is not intended to encourage the production of Green H₂ “at the threshold” where zero carbon hydrogen would be mixed with higher carbon intensity product. This can be excluded by the requirement that each type of energy used to produce a given hydrogen production batch must have a single origin (as reflected by a GO). Clarity and transparency on the origin of the energy is a key objective of GOs.

GO use cases for mobility applications

- Presentation of the different ways GOs can be used for providing Green H₂ to the end-user for mobility applications.
- The hypothesis that dispensing of green H₂ could be activated by a button on the dispenser virtually allocating green hydrogen to the end-user (at a different price) based on GOs cancelled by the station operator raises discussions on whether or not this would be accepted by the end-user. Such a device could also be used to differentiate the two products (Low-C and Green H₂).