

## Summary Minutes Meeting 4

### **Working Group 1 'Standardisation, Certification, Creditability & Tradability' & Working Group 2 'Supply Chain Development and Risk Management'**

19.09.2022, 9 a.m. – 4 p.m.

#### **I. Background and Goal:**

- Online workshop on visioning and roadmapping green jet fuel and green methanol supply chains.
- The workshop's goal was to develop ideal scenarios for both a green jet fuel and green methanol market in 2030. To achieve this goal, expected hurdles were identified, and the steps to overcome them were determined and classified on a time axis in cooperation with participants in a so-called 'back-casting process'

*The working groups' primary goal is to provide knowledge and recommendations to the general public and the public sector within the framework of the Foundation's statutory purposes in order to support a rapid market ramp-up of green hydrogen and its derivatives.*

*For compliance reasons, the accumulated knowledge will be published on our website, and papers will be prepared in order to situate the results in a broader context. The results will also be taken into discussions with potential providers of funds regarding the future development of funding instruments like H2Global. Looking at the tender procedure concerning the first 900 Mio. Euros it cannot be excluded that the knowledge gathered in this way and made available to the public will also flow into the design of the tenders. However, this is not the primary goal of the working groups' activities. The workshop's results will thus not influence bidding procedures. Only retroactively the results can be used to benefit future windows developed as part of the bidding procedure.'*

#### **II. Results:**

Based on a discussion on schematic representations of green jet fuel and green methanol supply chains, the participants defined what a successful scenario in 2030 for both supply chains would look like. In a chronological 'back-casting process', participants then looked at related hurdles and defined the 'preconditions' that must be fulfilled in order to achieve this scenario by 2030.

An unclear definition of 'green' CO<sub>2</sub> source was identified as a major hurdle for uptake of green methanol and green jet fuel. It makes a tremendous difference for the project if only Direct Air Capture (DAC) is allowed, or if (at least in the next years) the usage of CO<sub>2</sub> from point sources is allowed.

One result of the discussion on green jet fuel was the Uncertainty regarding relevant supply chains. There are three possible major configurations:

- Production of e-Syncrude in country of origin and transport to Europe/Germany and refining to e-Kerosene in refineries near consumer
- Production of e-Kerosene in countries of origin and transport of final product to Europe/Germany
- Production of e-Kerosene in countries of origin and direct fueling of planes in country of origin without transport to Europe/Germany

It was apparent from the discussions that several technological developments along the supply chain need to occur for the large-scale production, and the subsequent cost reduction of jet fuel and green methanol.

In general, participants agreed that a lot of hurdles can be overcome through clear regulations, certification and the definition of technical standards.

Both the schematic representation of the supply chains and the results of the 'backcasting process' will be published as part of our research project on "Green Hydrogen and Power-to-X: Opportunities and Risks of the International Market Ramp-Up for Developing and Emerging Countries in Cooperation with the Private Sector" funded by the Federal Ministry for Economic Cooperation and Development (BMZ).

### III. Further procedure:

As part of the current research project "Green Hydrogen and Power-to-X: Opportunities and Risks of the International Market Ramp-Up for Developing and Emerging Countries in Cooperation with the Private Sector" funded by the BMZ, two input sessions will take place in October 2022.

- Only for Working Group 1: Online input session on the 7th of October from 2:00 – 3:30 pm by TÜV NORD. TÜV NORD will present the results of their study on "Certification and Guarantees of Origin of Imported Green Hydrogen and PtX Products".



- For Working Group 1 & 2: Online input session on the 25th of October from 2:30 – 4 pm by Fraunhofer ISE. Fraunhofer ISE will present the interim results of their analysis of techno-economic challenges for PtX in both developing and emerging countries. The analysis' full title reads as follows: "Site-specific, comparative analysis of the structural, technical, economic conditions in developing and emerging countries to identify existing challenges and suitable PtX paths or products".

