

## **CertifHy – European-wide Guarantee of Origin Scheme for Green Hydrogen**

Hydrogen – and in particular green hydrogen (green H<sub>2</sub>) – as well as technologies linked to hydrogen energy, can help Europe become #1 in renewables and reaching EU target of cutting 80%-95% of greenhouse gas emissions (GHG) by 2050. Therefore, the CertifHy Project Consortium develops the first EU-wide framework for the generation of guarantees of origin (GO) for green hydrogen with the financial support of the European Commission<sup>1</sup>. Green hydrogen GOs will boost demand and supply of green hydrogen throughout Europe by the creation of a market for green H<sub>2</sub>. It will allow to keep the benefit of green H<sub>2</sub> where it is not produced through decoupling the molecule from the green attribute. This way it is improving the business case for green H<sub>2</sub> as producers will be able to sell the attribute (GO) to consumers willing to pay a premium. We will discuss the roadmap for the implementation of a European-wide framework for green hydrogen in the workshop on 17<sup>th</sup> June 2016 at the Crowne Plaza hotel in Brussels (from 11 am to 4.15 pm) with key stakeholders from all energy sectors and policy makers. A well-established and transparent market of green hydrogen will uniquely contribute to the realization of Europe's energy transition objectives by decarbonizing the transport sector and energy-intensive industry and enhancing renewable energy use.

### **Background**

The objectives of the CertifHy project are to define a widely acceptable definition of green hydrogen, design a robust GO scheme and propose a roadmap to implement the initiative throughout the EU. The project consortium consisting of Hincio, Energy Research Centre of the Netherland (ECN), Ludwig Bölkow Systemtechnik (DE) and TÜV SÜD designs a framework for a guarantee of origin for green hydrogen within a step-by-step consultation process for European-wide usage of green hydrogen.

### **A new market for Green Hydrogen**

Hydrogen is used in large quantities as chemical feedstock in various industrial applications (including refineries) and could play an important role in transport as well. Global demand for hydrogen is foreseen to reach 50 Mtons by 2025. The market is predicted to grow globally 3,5% per year. Today most of hydrogen is produced from fossil resources. For hydrogen and its applications to be a climate-friendly alternative to fossil fuels, it is necessary to ensure the emission reduction and minimal impact on natural resources in the whole life cycle including the sustainable production of hydrogen using renewable or low-carbon energy sources. It is estimated that about 17% of all hydrogen produce could originate from renewable and low-carbon sources by 2030, representing a market of about 1.7 million tons. In order to allow green hydrogen to be traded, evidence of the green nature of hydrogen will be necessary. Advantage of the GO scheme is that it can be transferred from one to the other holder which allows the consumption of green hydrogen everywhere in Europe independently from its production place. The GO scheme of green hydrogen provides transparency of the market and empowers consumers. By doing this, it boosts commercialization of renewable and low-carbon hydrogen and creates a market pull for hydrogen from sustainable sources. While some consumers require hydrogen produced by renewable energy, others may be satisfied with a low-carbon product. A single GO system can accommodate both needs and can be established at a moderate cost.

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<sup>1</sup> CertifHy is funded by FCH JU (Fuel Cells and Hydrogen Joint Undertaking).

## Potential impact of Green Hydrogen

Green hydrogen can contribute to realizing EU energy targets by increasing energy security and increasing energy diversity, decarbonizing a wide range of industries and transport, fostering green growth and sustainability. When green hydrogen is produced from renewable electricity through electrolysis, it enhances energy security and improves environmental sustainability at the same time. With EU agreement on at least 80% GHG cut by 2050 the transport sector requires at least 60% decarbonisation. Green and low-carbon hydrogen help to realize energy transition by decarbonizing sectors whose reducing GHG emissions is otherwise difficult, such as industry, heating and cooling, transport and electricity. In the short-term, green hydrogen could replace hydrogen from Steam Reforming of Natural Gas in refineries, thereby decarbonizing traditional fuels such as diesel and gasoline. In the long-term, hydrogen contributes to energy transition as fuel for fuel cell electric vehicles (FCEV) producing zero emissions.

Last but not least, hydrogen is an energy storage enabler and facilitates the further integration of variable renewable energy sources thanks to the flexibility of electricity-to-hydrogen conversion and to the large energy storage capacity.

## Workshop "A roadmap for EU wide guarantees of origin for green hydrogen"

Designing a roadmap for the EU-wide implementation of green hydrogen is an important milestone of the output and future of the CertifHy project. We are discussing the roadmap with industry, associations and policy makers in the workshop 'A roadmap for the introduction of guarantees of origin for green hydrogen'. If you are interested in participating, please register for the workshop via email to [Magali.perrault@hinicio.com](mailto:Magali.perrault@hinicio.com)

**When:** 17<sup>th</sup> June 2016, 11am – 4.15pm

**Where:** Crown Plaza Hotel, Le Palace, Rue Gineste 3, 1210 Bruxelles

## Information

For further information, feel free to visit [www.certifhy.eu](http://www.certifhy.eu) or contact us.

Hinicio

Vanessa Wabitsch

Marketing and Communication Coordinator

✉ [vanessa.wabitsch@hinicio.com](mailto:vanessa.wabitsch@hinicio.com)

☎ +32 22 11 34 11, +32 493 69 04 08