

EHA Contribution to the Public Consultation on accounting methods and conditions for the 10% renewable energy in transport target – and on the need for additional types of biofuels being listed in Annex III of the Renewable Energy Directive.

The European Hydrogen Association, EHA, representing 19 national associations and the main hydrogen infrastructure development companies, promoting the use of hydrogen as a clean energy carrier used in fuel cells in transport and stationary systems, welcomes the opportunity to contribute to Part B of the consultation on accounting methods and conditions for the 10% renewable target.

1. Which are in your view the most likely ways to produce hydrogen from renewable sources (partly or fully) by 2020?

As indicated in the EHA Strategy paper “Infrastructure 21, the Role of Hydrogen in Addressing the Challenges in the new Global Energy System”¹, both hydrogen and electricity, as energy carriers for transport, can be produced from a broad variety of energy feedstock. Furthermore, hydrogen can be converted to and from electricity at acceptable efficiency, allowing for cross-linking of the two energy vectors. Renewable electricity will be distributed over existing or reinforced electric power lines. Hydrogen can be produced from renewable electricity at any stage and scale; from large-scale central production with connected underground storage to small-scale, on-demand production at refuelling stations. The use of renewable hydrogen *and* electricity in transport is closely linked to the efficient use of renewable produced primary energy.



Source: TES (Transportation Energy Strategy) Report 2007

The growth of renewable electricity use will demand new storage capacities. In contrast to electricity, hydrogen is safely and efficiently stored in large quantities. Very few options exist that can compete with the long-term storage capacity (beyond 48 hours) possible with underground cavern hydrogen storage. Hydrogen stored in large storage systems can be re-electrified or delivered via pipeline or as liquefied hydrogen to automotive end-users.

¹ [EHA Infrastructure 21 Strategy Paper](#)

As the EU Fuel Cell and Hydrogen Joint Undertaking (FCH JU) Multi Annual Implementation Plan (MAIP) indicates, in 2015 10 - 20% of general H₂ demand should be produced via carbon free/carbon lean processes and the consumption of hydrogen produced from renewable sources of fuel cell electric vehicles in 2020 will account for 0.1% of the energy consumed by passenger vehicles road transport.

If the qualities of hydrogen, as a large scale energy storage medium and energy carrier, are fully utilized in current EU's energy and infrastructure planning the production of hydrogen as mentioned in the Consultation document

- From biomethane, e.g. by steam reforming/partial oxidation
- From a mixture of natural gas and biomethane, e.g. by steam reforming/partial oxidation
- On the basis of renewable electricity, by electrolysis
- On the basis of the electricity mix from the grid, by electrolysis
- From biomass directly, e.g. by gasification/partial oxidation or biological processes

could be greatly enhanced.

In addition the use of so called "waste" hydrogen as a by-product of industrial processes should be included in this list as well, as no additional emissions result from the production of this hydrogen. Hydrogen as a by-product will play an important role in setting up local hydrogen supply infrastructure in an economic way.

2. For each option you selected under (2), if it would be used for transport, how would you suggest to calculate its contribution to the 10% target for renewable energy in transport.

As the introduction of both fuel cell electric and battery electric vehicles are at early stages of commercialisation they need to be treated in an equal way with regards to support measures in order to kick-start markets. Therefore it would be fair if all electricity used in battery electric vehicles would be counted as renewable, also all hydrogen dispensed to fuel cell electric vehicles is counted as renewable with regards to the 10% target.

As there was only one EU Member State indicating a number for potential renewable hydrogen use, it is clear that a comprehensive awareness campaign is needed to inform Member States about the potential of renewable produced hydrogen. The campaign will also need to include a standardized calculation method. The EU-wide monitoring structure for electromobility and the use of clean energy in transport, that is currently being set by the European Regions and Municipalities Partnership for hydrogen and fuel cells, HyRaMP, could further support such an effort.

The EHA is looking forward to support the EU Commission in enlarging the role of renewable hydrogen in achieving its 10% renewable energy in transport target and to develop a sound calculation standard disseminated to all EU Member States.

Respectfully submitted,
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