



EREC's position paper on Hydrogen and Renewables

- Hydrogen is only as clean as the technology producing the hydrogen-

EREC and its members, the European renewable energy industry and research associations

- EPIA (European Photovoltaic Industry Association),
- ESHA (European Small Hydropower Association),
- ESTIF (European Solar Thermal Industry Federation),
- EUBIA (European Biomass Industry Association),
- EUREC Agency (European Renewable Energy Research Centres Agency) and
- EWEA (European Wind Energy Association)

welcome the public debate on hydrogen but would like to strongly emphasise that hydrogen is not a primary energy resource and that it is not inherently clean.

Hydrogen is only as clean as the technologies producing the hydrogen. Today 98 % of hydrogen is generated from fossil fuel sources, which will remain the case if no intervention occurs. EREC therefore urges that great care is taken not to mislead the public into thinking that energy transported as hydrogen is intrinsically clean or “green”. Hydrogen is “green” only if the technologies producing the hydrogen use renewable energy sources. Just as energy does not become less polluting by being carried as electricity, hydrogen cannot claim to improve the environmental impact or sustainability of the sources that produce it.

Furthermore, it clearly needs to be stated that hydrogen technologies are only one of many storage solutions such as pumped hydro, different types of batteries, flywheels, which are currently available to buffer peaks and troughs in the loads and outputs of electricity. The headlong rush to promote hydrogen as the energy storage medium of choice risks sidelining other promising or already available technologies.

EREC dismisses the argument that hydrogen is a necessary first step for a de-carbonisation of the current energy system. EREC and its members see a distortion in the argumentation that renewable energy sources need hydrogen to develop in the short to

medium-term. On the contrary, it is hydrogen that is dependent on the availability of large amounts of renewable energy – much more than the 22.1 % included in the Renewable Electricity Directive – if hydrogen and fuel cells are to have the desired positive impact on the environment and global sustainability.

As far as intermittency is concerned, we are currently far away from such a large -scale penetration of intermittent renewables that this would create a problem. Much more renewable energy generating capacity must be built before it makes sense to use renewables for electrolysis, or to gasify biomass to produce hydrogen. Extrapolating from the current rate of growth of these generating technologies, it is clear that their penetration of the European grid is some decades away from being large enough to create instability. A balanced renewable energy mix between hydro, wind, biomass, PV and solar thermal power can more easily solve the intermittency challenge.

Therefore, EREC and its members call policy makers to commit to stronger action to extend the use of Europe's abundantly available renewable energy resources and to rapidly develop the technologies necessary to exploit them on a large scale. Notable among such actions could be the drafting of a European Renewable Heat Directive that would reduce the greenhouse gas emissions of space heating, which are responsible for a great proportion of per capita carbon emissions, and in parallel stimulate solar thermal and biomass markets. The environmental case for developing hydrogen and fuel cell technologies is limited if it happens ahead of the availability of large-scale renewable energy inputs.

In addition to this, EREC proposes that the EU introduces a definition of *green* or *renewable hydrogen* in line with the already existing definitions for electricity produced from renewable energy sources. In the absence of a distinction between green hydrogen and hydrogen based on non-renewables, the EU risks discrediting hydrogen's possibilities of contributing to sustainable development.

EREC calls that a precondition and necessary first step towards a sustainable energy future is the removal of existing barriers currently restricting the large -scale development of renewable energy technologies, e.g. barriers to grid access as well as regulatory and infrastructure issues that put renewable energy technologies at a competitive disadvantage with conventional power sources and distort competition. The large -scale penetration of renewables will then allow the use of modern and truly sustainable and green hydrogen.

In conclusion, EREC invites the European Union to work for a hydrogen economy based on renewable energy sources in order to position Europe at the forefront of green hydrogen technology development. Such action would help Europe build on its position

as a world leader in the renewable energy sector. At the conference: "The Hydrogen Economy, a bridge to sustainable energy" held in Brussels on 16th June, President Romano Prodi announced a declared goal of "achieving a step-by-step shift towards a fully integrated hydrogen economy, based on renewable energy sources, by the middle of this century". EREC strongly supports that vision.

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