

Communication: Considerations on the role of hydrogen in Europe’s future energy mix

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With this Communication Europacable the voice of Europe’s leading wire and cable manufacturers, wishes to provide considerations on the possible role of hydrogen in Europe’s future energy mix, including notably as an energy carrier.

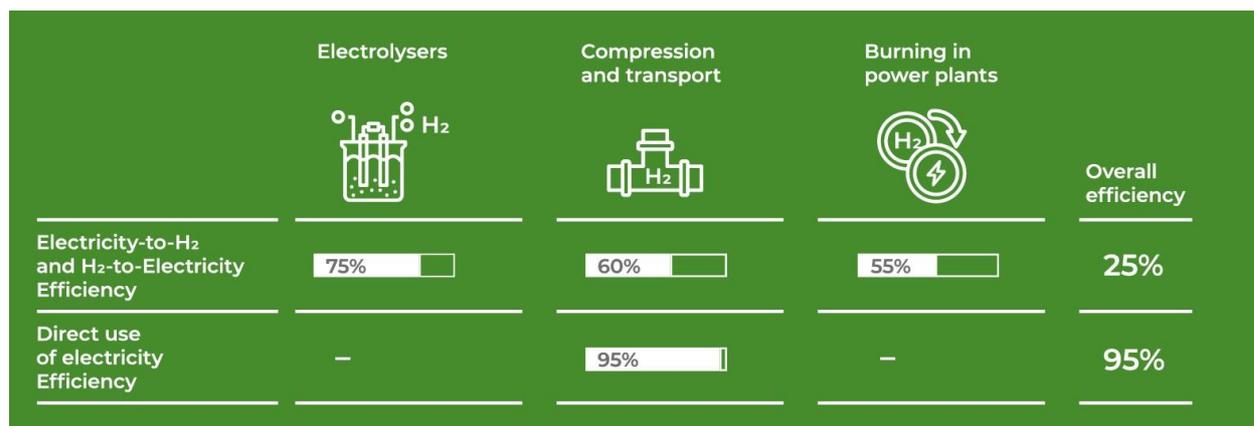
For Europe to achieve its ambitious decarbonisation targets, every mature technology will need to be applied in those areas where it contributes in the most environmentally and economically efficient manner to reducing CO2 emissions in the shortest possible timeframe. Hydrogen will have a role to play, but the question is: which one?

Hydrogen: an “energy carrier”?

Renewable based electricity and direct electrification are today considered as the most cost-effective and energy efficient tool to meet Europe’s decarbonisation ambition.

To connect renewable energy sources to the centers of consumption, Europacable firmly believes that hydrogen does not have a role to play as a means of an “energy carrier”. Where electricity is needed to power end consumer applications, the double conversion electricity-hydrogen and hydrogen-electricity make it an environmentally and economically inefficient option for power transmission. Depending on the technologies used, losses can make up to 75 %.

For example, considering hydrogen production through electrolyzers¹, compression and transport through pipelines and hydrogen usage in power plants to generate electricity to be injected in the networks:



Accordingly, the energy transmission needed for the direct and green electrification for building heating or light electric mobility, shall be transported over conventional power lines, underground and submarine cables to ensure the best possible energy efficiency.

¹ It is also worth noting that electrolyzers need clean water.

This is even more relevant, as Europe's ambition to full decarbonisation by 2050 requires immediate action: Power grids both at transmission and distribution levels need to be upgraded and expanded now, using mature and reliable technologies readily available. Europe has no time to waste to get the grids in place timely for 2050.

Hydrogen: an energy source?

With a view to Europe's future energy mix, Europacable is confident that technologies used for the generation, transmission and use of so called "green hydrogen" will mature in the years ahead. Accordingly, green hydrogen may well become an important source of energy supply for applications where direct electrification is neither technically feasible nor efficient, such as e.g., heavy duty transport, aviation, selected industrial processes or a seasonal energy storage bridge.

This said, based on today's technology and expected mid-term developments, Europacable believes that onshore hydrogen production from renewable energy sources is clearly preferable to offshore generation scenarios: high monetary costs of offshore electrolyzers both in terms of CAPEX (high investment costs) and notably OPEX (high cost for desalinators) and high efficiency costs (losses due to conversion) make offshore hydrogen generation an economically and environmentally inefficient option.

Concluding, Europacable would like to highlight that today's policy discussions, based on sound technical information, need to find the right balance between:

- Deploying the right, available and mature technologies now to prioritise Europe's direct electrification thereby meeting the EU's ambitious 2050 targets; whilst at the same time
- Creating a policy framework that stimulates the R&D and the development of new technologies, including hydrogen, so as to create new technology options to empower Europe's decarbonisation which are both, energy and cost efficient at the same time.

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About Europacable

Europacable AISBL is the voice of all leading European wire and cable producers. Europacable members include the largest cable makers in the world providing global technology leadership, as well as highly specialized small- and medium sized businesses from across Europe. Globally our members employ over 80.000 people of which more than 50% in Europe generating a worldwide turnover over € 70 billion in 2021. The product scope of our members covers the full range of energy and communication cables. Europacable is listed in the European Commission's transparency register under 453103789-92. We are a partner of CENELEC. www.europacable.eu