

**Environmental Action Germany's (Deutsche Umwelthilfe e.V.) response to the EC
Public Consultation on the EU Hydrogen Strategy**

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Hydrogen must be renewable

Only hydrogen produced with 100 % renewable energy („green“ hydrogen) can be part of a sustainable energy system. Blue hydrogen, made by using fossil natural gas in combination with carbon-capture-and-storage (CCS), or other low-carbon hydrogen, should not be part of an EU-wide strategy. CCS involves high costs, is both unpopular and not safe, and later CO₂ leakages cannot be completely ruled out. Instead of burdening future generations with CO₂ storage and the associated ecological and economic costs, we must stop using fossil energy sources altogether.

Importing blue hydrogen also means that the entire value chain remains abroad, whereas domestic production of green hydrogen creates new opportunities for industries at home. Scaling up green hydrogen technologies is necessary to make green hydrogen competitive on the market. This cannot be achieved if at the same time the door is opened to technologies such as CCS. Value chains of green and blue hydrogen are different. Supporting both would slow down the up-scaling of green hydrogen.

The production of renewable hydrogen should not compete with the production of renewable electricity that could be used directly, e.g. in heating and transport. Surplus green electricity will not be available in sufficient quantities, so the expansion of renewable energies must be ramped up in parallel to establishing hydrogen production capacities.

Hydrogen only where no alternatives are available

Due to large energy conversion losses, renewable hydrogen and further products (e.g. synthetic fuels) are significantly less efficient than direct use of electricity. Hydrogen technologies must only be applied where direct electrification is not possible. These include industry, aviation and shipping. All measures to reduce demand and increase efficiency must be fully exploited, as renewable hydrogen will be in high demand. For the same reason, hydrogen must be ruled out for heating buildings and passenger car transport where heat pumps and electro-mobility offer far more efficient, cheaper and less risky solutions readily available today. Potential conflicts with the protection of ecosystems and biodiversity must be considered. When it comes to availability of resources, competition with other sectors (which also need to defossilise) must be factored in.

New gas infrastructure at European level must be compatible with climate goals

The use of gaseous energy sources will decrease in the future. Existing gas infrastructure is long-lived, in part already written off and should continue to be used where necessary. For example, existing distribution networks converted to local hydrogen hubs (networks) could link electrolyzers with industrial consumers. Existing long-distance transmission networks may also be used to transport hydrogen in the future. It is important that appropriate regulations provide certainty for investors and avoid stranded investments. In general, climate goals must be the priority when planning and expanding gas infrastructure.

Import of hydrogen

The roadmap lacks a plan regarding the demand for large imports of hydrogen. The EU and other European countries will not be able to supply sufficient quantities of green hydrogen to meet Europe's demand, even if the application is limited to certain industries, heavy-duty long-distance transport (aviation, shipping) and electricity grid management. An EU Hydrogen Strategy must include a plan for such import demand and its implications. Imports into the EU should only happen when the energy system in exporting countries is based on 100% renewable energy, or a strategy to achieve this is well advanced. The Hydrogen Strategy should also consider geopolitical implications such as possible destabilizing effects for current export countries of fossil energy and an approach on how to mitigate these effects.

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