

# 100% Renewable UK

<https://100percentrenewableuk.org/>

## **Blue Hydrogen – an implausible alternative to renewable energy**

Blue hydrogen, that is hydrogen produced from fossil fuels (in practice usually natural gas), is hydrogen produced in circumstances where the carbon in the fossil fuel feedstock is captured and stored (carbon capture and storage, or ccs).

But this is not a substitute for energy from renewable energy, for a number of reasons. These reasons grow out of two issues. First there is the issue of hydrogen's suitability for different energy purposes and this may be rather more limited than is often claimed. See the document 'Hydrogen – can it help or hinder a 100 per cent renewable energy economy?'. But secondly it is inferior to hydrogen produced from renewable electricity through hydrolysis. For some arguments here, see the article in Recharge News:

<https://www.rechargenews.com/transition/governments-are-being-sold-a-pup-on-blue-hydrogen-from-methane-/2-1-756185>

Some shortcomings with blue hydrogen are set out in a report on hydrogen as an energy carrier by IRENA, the International Renewable Energy Agency, see pages 15-18. The link is: [https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Sep/IRENA\\_Hydrogen\\_2019.pdf](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Sep/IRENA_Hydrogen_2019.pdf)

This section talks about how, in reality, carbon capture is unlikely to be close enough to 100 per cent because carbon extraction processes become more and more expensive the higher the proportion of carbon is captured (over 85 per cent). In addition such a programme will provide support for a continued fossil fuel industry (including unabated methane leakage from extraction activities). The industry will include the possibility of production that is not subject to carbon capture and storage. There is then the issue of monitoring and accountability over the extent to which the carbon is stored in a sustainable fashion.