Hydrogen Colour Chart

ZERO/VERY LOW CARBON

Green hydrogen: Made through electrolysis using renewable electricity. Electricity is used to split water into hydrogen and oxygen.

Blue hydrogen: Grey, brown or black hydrogen but with the carbon dioxide stored deep underground through 'carbon capture and storage' (CCS).

Pink Hydrogen: Produced like green hydrogen through electrolysis but solely using energy from nuclear power.

Yellow Hydrogen: Produced like green hydrogen through electrolysis but solely using energy from solar power.

MEDIUM TO HIGH CARBON EMISSIONS

Turquoise Hydrogen: Produced through pyrolysis. In pyrolysis instead of polluting CO2 gas a solid carbon by-product is produced. The feedstock is methane of even waste plastics. Pyrolysis works by heating products to an extremely high temperature in an inert atmosphere. The emissions relate to the fuel needed to provide heat for the process.

HIGH CARBON EMISSIONS

Grey Hydrogen: Hydrogen made from natural gas in a process called steam reformation with no CCS.

VERY HIGH CARBON EMISSIONS

Black Hydrogen: Made from Coal (in a process like grey hydrogen) with no CCS. Even more carbon intensive than grey hydrogen.

Brown Hydrogen: Made from Lignite (in a process like grey hydrogen) with no CCS. Even more carbon intensive than black and grey hydrogen. Lignite is compressed peat and generates a lot of carbon dioxide when combusted.