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# Storage and Transportation of Hydrogen

How hydrogen is stored and transported is a crucial component to the advancement of hydrogen applications and utilisations.

Hydrogen storage technologies can be broadly classified as physical or materials based. The different types of hydrogen storage each have their own advantages and limitations, and some methods are more established than others. More research and development is required to improve the energy efficiency of the storage and transportation options for hydrogen.

Physical storage options are based around hydrogen's state of matter. Hydrogen can be compressed in a gaseous state then stored and transported under pressure or it can be liquefied like natural gas to increase its energy density. To store and transport hydrogen specialised fibre reinforced polymer (FRP) pipelines and tanks are required to avoid embrittlement of steel infrastructure.

Material based options require hydrogen to be incorporated into other chemical compounds that can more easily be stored and transported. These can use existing supertankers to transport at normal temperature and pressures. However they require processing on delivery before hydrogen can be utilised.