Hydrogen plays an important role in the decarbonization of energy supply and industry processes towards CO₂ neutrality. Even in the long term, Germany will have to cover huge amounts of its hydrogen demand with imports. This hydrogen is carried to Germany in various forms (compressed, liquefied, LOHC) or as a synthetic product. Pipelines are an option for exports from countries in Europe and North Africa; for longer distances, the sea route must be used. These different transport options and transport routes require different infrastructure needs which are investigated in the BMBF funded project TransHyDE-Sys using a model-based approach.

Within the transformation process from fossil fuels to CO₂ neutrality, natural gas serves as a fallback option for many hydrogen applications. Therefore, natural gas is needed as a bridge technology to ensure the ramp-up of hydrogen until enough hydrogen is available. With the Russian war against the Ukraine the supply of natural gas has become more uncertain. TransHyDE-Sys addresses these current developments in a background paper by investigating additional infrastructure requirements.