

Attractiveness of green hydrogen derivatives – a high-level, qualitative comparison*

	Green Ammonia	E-Methanol	E-SAF/ E-Diesel	E-LNG
CO ₂ required to build molecule	5	1	1	1
Toxicity	1	4	3	5
Environmental impact of leak (land/sea)	1	3	3	5
Explosion risk of leak	4	5	5	1
GHG impact of leak	5	5	5	1
Gravimetric energy density (air)	1	1.5	5	4.5
Volumetric energy density (sea & land)	1	1.5	5	3
Maritime fuel readiness	1	3	5	4
Road/rail fuel readiness	1	2	5	2
Aviation fuel readiness	1	1	5	1
Existing (grey) infrastructure	3	3	5	4
Cost of production (green power/green H₂)	5	3	1	2
Cost vs fossil fuel equivalent	5	4	1	2
Demonstration project	1	5	2	2
Can process to E-SAF/E-diesel	1	3	–	2
Can build e-polymers and plastics	2	5	5	1
Can process to nitrogen e-fertilizer	5	1	1	2
Can be re-converted to green H ₂	5	3	1	2
Suitable for low/reduced carbon thermal power generation	2	3	5	5
Fuel cell feedstock for low/reduced carbon heat and power	4	5	1	2
Total (unweighted)	49	61	63	50.5
Total (2x cost elements weighted double)	59	68	65	54.5

*High level, generic approach, based on sbh4 consulting's qualitative and quantitative experience and expertise. All projects are unique and must be evaluated across safety, environmental, operational, technical, financial, economic and risk aspects according to the project parameters. Concept and model can be adjusted by other experts to refine towards their perceptions and views.