

<b>Production Type</b>	<b>Process</b>	<b>Inputs</b>	<b>Requirements</b>	<b>Carbon emissions</b>
Natural gas reforming	Steam/solar-thermal reforming	Natural gas + steam + oxygen	High temperature	Yes (less with solar-thermal) (reduced by carbon capture and storage)
	Partial oxidation	Natural gas + oxygen	High temperature	Yes (reduced by carbon capture and storage)
Gasification	Coal gasification	Coal + steam + oxygen	High temperature and pressure	Yes (reduced by carbon capture and storage)
	Biomass gasification	Biomass + steam + oxygen	High temperature and pressure	Very little (if plant-based biomass)
Electrochemical	Electrolysis	Water	Electricity (from renewable sources eg. solar)	No emissions
	Electrolysis	Water	Electricity (from fossil fuels)	Yes (reduced by carbon capture and storage)
	Photo-electrochemical	Water	Electricity (from solar energy)	No emissions
Thermochemical		Water	High temperature (eg. from solar energy)	No emissions
		Methane	High temperature (eg. from solar energy)	Yes (reduced by carbon capture and storage)
Biological	Biophotolysis	Water	Algae + sunlight	No emissions