

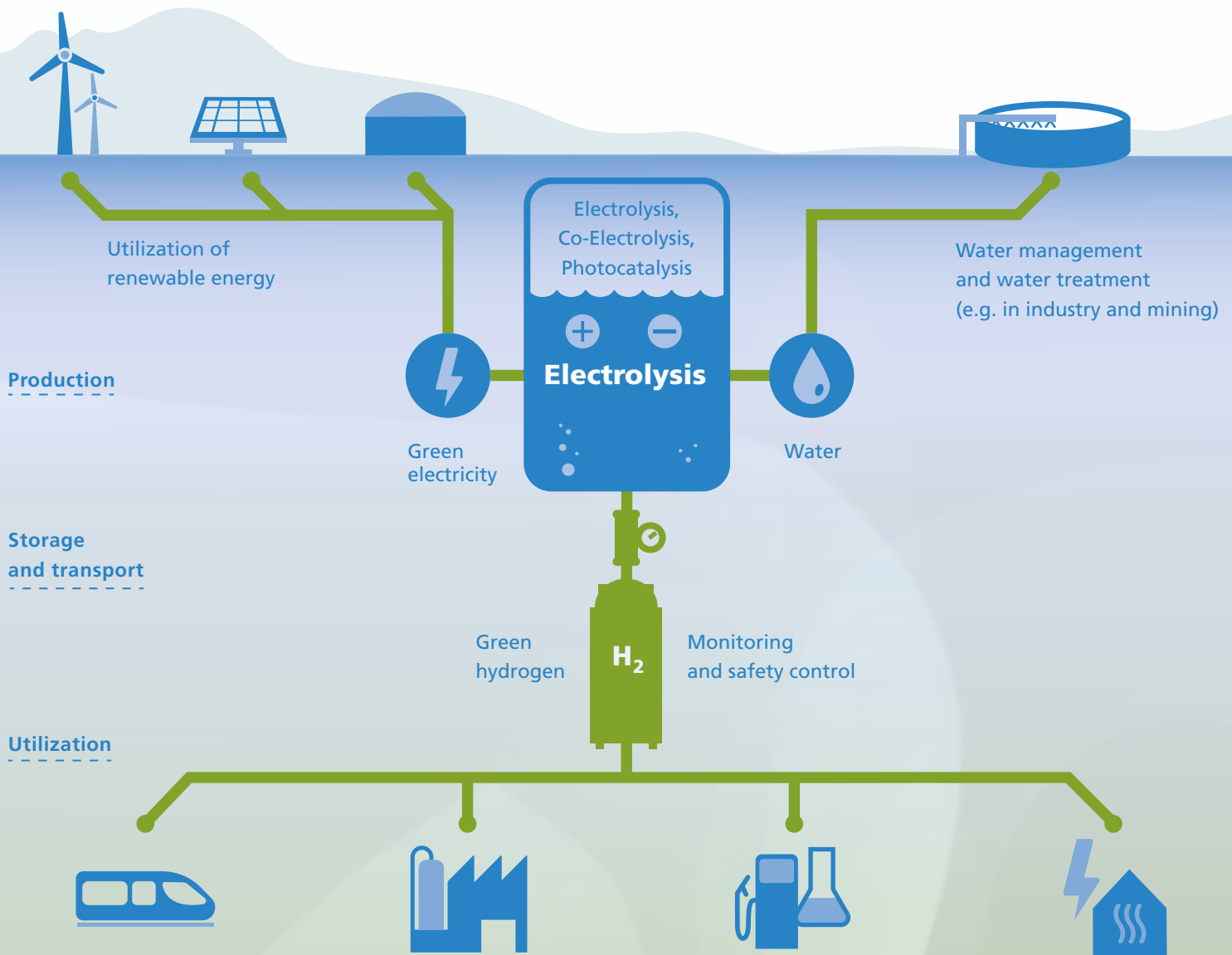
# Value chain for green hydrogen



Hydrogen will play a significant role in a future energy and economic system as an energy carrier and as a raw material. However, hydrogen is only climate-friendly, i.e. green, if it is produced from renewable energies. The most important technology for this is electrolysis, which is ideally suited for coupling with wind power and photovoltaics. The use of green hydrogen in the industrial and mobility sectors can significantly reduce CO<sub>2</sub> emissions.

[www.ikts.fraunhofer.de/en/hydrogen\\_technologies](http://www.ikts.fraunhofer.de/en/hydrogen_technologies)

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## Mobility

Hydrogen is the suitable fuel for freight transport and traffic and thus an ideal complement to e-mobility.

- Railway traffic
- Heavy vehicle traffic
- Shipping
- Air traffic
- Agriculture
- Public transport

## Low-CO<sub>2</sub> production

In CO<sub>2</sub>-intensive industries, CO<sub>2</sub> emissions can be almost completely avoided with the help of hydrogen technologies.

- Steel industry
- Lime industry
- Cement industry
- Chemical industry

## Value-added products

Using CO<sub>2</sub> from industrial processes together with green hydrogen, valuable products can be manufactured.

- Synthetic fuels
- Higher alcohols and valuable organic substances
- Waxes

## Electricity and heat

Hydrogen is an important energy carrier. By means of fuel cells, it can be used to generate electricity and heat.

- Fuel cell CHP units
- Prime-power applications
- Process sensors