

# Hydrogen Technology

Fueling the Future

Hydrogen provides an essential solution to decarbonize economies throughout the world.

## Why Hydrogen?

The prediction of increased hydrogen share in the global energy mix by 2050



## Energy Sources for Hydrogen



Solar



Wind



Natural Gas



Geothermal



Biomass



Nuclear



Fossil Fuels



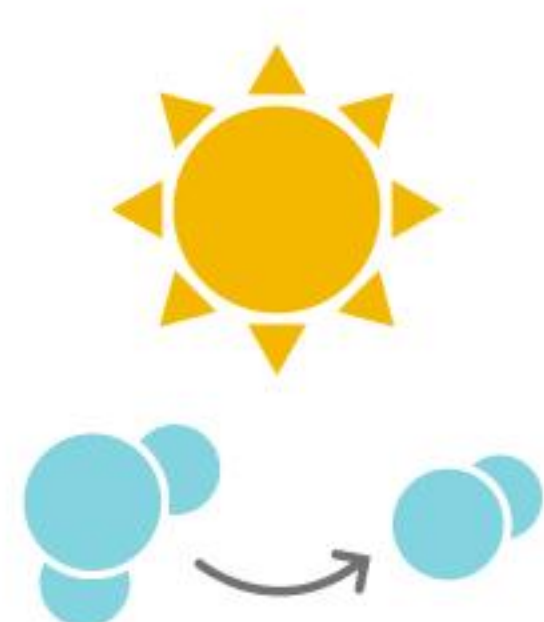
Electricity

## Methods to Produce Hydrogen

Hydrogen can be extracted from various energy sources and produced in multiple ways.



Electrolysis



Gasification



Steam Methane Reforming  
CCUS

## Storage and Distribution

Hydrogen is compressed and stored until it's needed to be used. Alternatives to compression for long distance transport include hydrogen liquefaction or its conversion to ammonia.



## Uses for Hydrogen

Many of the world's critical energy challenges can be tackled by integrating hydrogen into current technology. As a renewable energy source, hydrogen makes for a more sustainable and long-lasting alternative for every industry.



Energy Storage



Transport Fuel



Fuel Cell Vehicles



Chemicals



Combustion

## Simulation for Hydrogen Technologies



System simulation enables companies to:

- Design hydrogen-integrated technology
- Reduce development time and costs
- Improve product efficiency

Learn more about how Modelon's simulation solutions can help you!

Sources: [www.iea.org/reports/the-future-of-hydrogen](http://www.iea.org/reports/the-future-of-hydrogen)  
[www.energy.gov/eere/fuelcells/articles/infographic-hydrogen-clean-flexible-energy-carrier](http://www.energy.gov/eere/fuelcells/articles/infographic-hydrogen-clean-flexible-energy-carrier)