

# ENABLING HYDROGEN VALUE CHAIN

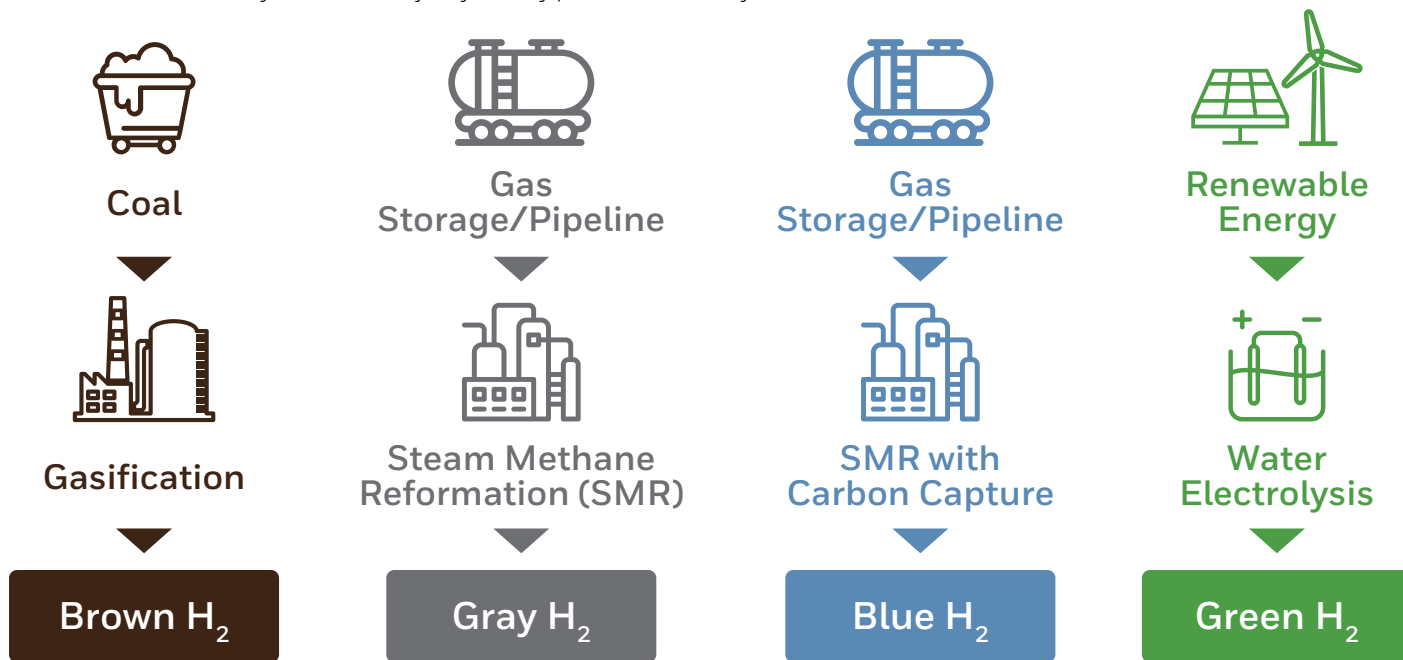
Leading Measurement Solutions for Enhanced Safety,  
Reliability and Efficiency



**Honeywell**

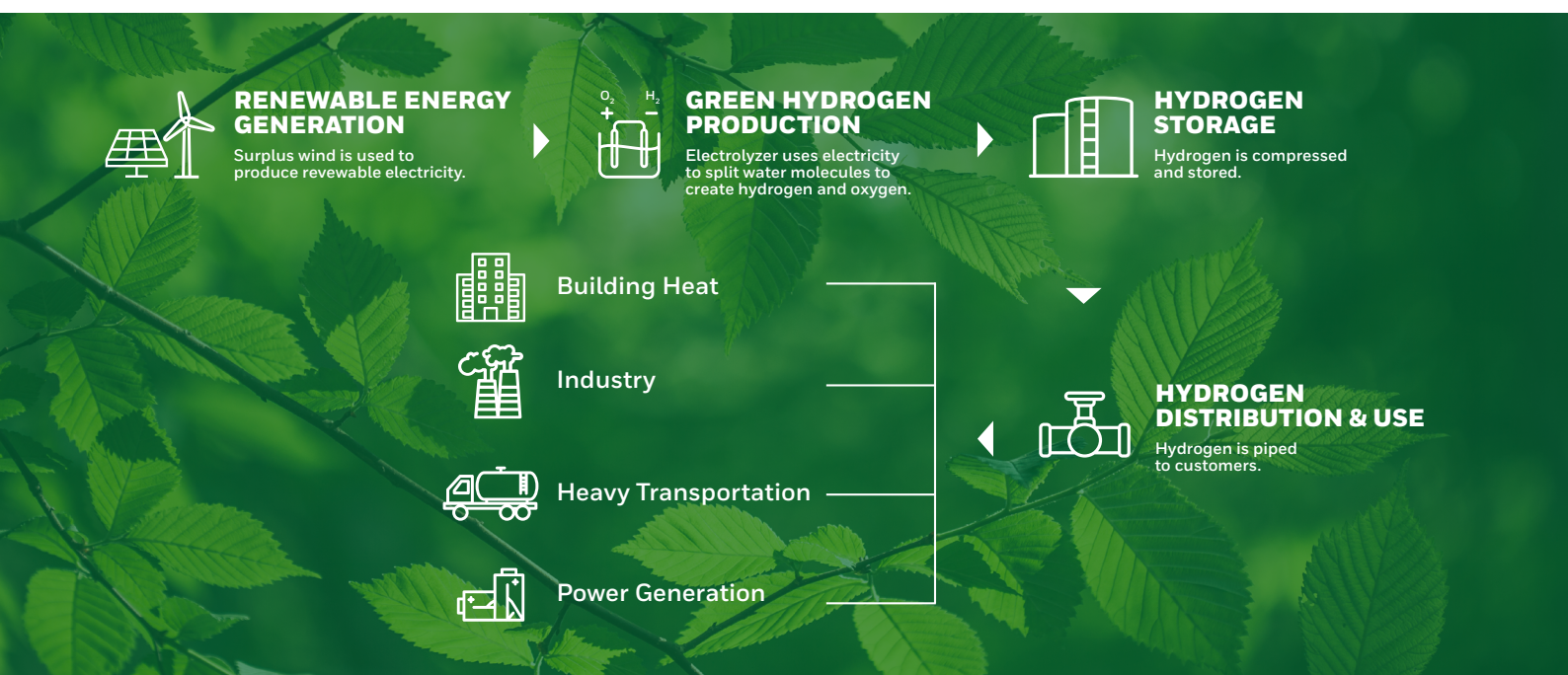
# HYDROGEN ENERGY FUEL OF THE FUTURE

Hydrogen has been an integral part of energy landscape and has been in use across array of sectors – refining, petrochemicals, fertilizer, metals, and glass industries. Demand for Hydrogen has increased over the years, vast majority mainly produced from hydrocarbons.



## GREEN HYDROGEN

The commitment to decarbonization is getting stronger. Green Hydrogen will play an important role in energy landscape to decarbonize. Governments are incentivizing adoption of hydrogen strategies. For use in industries as feedstock or heat generation for production processes, combustion processes, mobility sector to power heavy transport, blended into natural gas for heating buildings and domestic use.





# WE ARE READY ARE YOU?

Honeywell offers leading measurement solutions across hydrogen value chain, right from production and purification to transmission & distribution and end use, helping OEMs and end users improve safety, reliability, and profitability.



## Electrolyzer Systems – Production & Purification

SmartLine transmitters and VersaFlow flowmeters are field proven for Electrolyzer systems, covering measurement requirements including:

- Flow of raw water, DM and chilled water;
- Pressure and level in KOH solution tank for alkaline electrolyzers;
- Differential Pressure and temperature on discharge pumps;
- Stack temperature;
- Cooling water and water storage temperature;
- Level in phase separators and circulation vessel;
- Pressure and temperature on Hydrogen and oxygen lines, N<sub>2</sub> vessel and water pumps;
- Flow on hydrogen and oxygen lines.



## Transmission and Distribution

Honeywell brings its vast experience with process measurement solutions well suited for:

- Blending/injection skids;
- Compressor skids;
- Hydrogenation units;
- Ammonia and methanol synthesis;
- Liquification plants.



## End Use

SmartLine transmitters are used worldwide for accurate pressure, temperature and flow measurement of hydrogen applications by end users across industry verticals like:

- Hydrogen generation unit, hydrotreater, hydrocracker etc in refineries;
- Turbine cooling in large power plants;
- Production processing and heat generation in steel industry;
- Glass manufacturing etc.

## THE PORTFOLIO



### Pressure Transmitters

- Proven in use, thousands of transmitters installed globally on hydrogen service.
- Enhanced safety with dual seal design based on ANSI/NFPA 70-202 and ANSI/ISA 12.27.0.
- Integrated leak tested assemblies with SmartLine Manifolds
- World class reliability with protection against Hydrogen permeation
- Full compliance to SIL 2/3 requirements as a standard



### Temperature Transmitters

- Comprehensive portfolio to meet varied performance and measurement needs across Hydrogen value chain.
- Full compliance to SIL 2/3 requirements as standard
- Pretested and pre-assembled from factory for out of box installation.
- Streamlined regulatory compliance with assembly agency approval.
- Advanced diagnostics for improved process visibility and reduced variations.



### Flowmeters

- Flexibility of multiple technologies to suit application needs: Coriolis, Vortex Multivariable & Differential Pressure.
- Cost effective, dynamically compensated mass flow with multivariable flow transmitter.
- Bent tube and straight tube coriolis meters with secondary containment.
- Enhanced safety with fully-welded, non-wearing SS construction of vortex meters with extended Pressure and temperature compatibility and high resistance to corrosion.



### Level Transmitters

- Multiple level technology portfolio to best suit application needs: Guided Wave Radar (GWR), Non-Contact Radar (NCR), Differential Pressure (DP)
- High accuracy with world class reliability and performance.
- Advanced configuration and diagnostics to accommodate difficult installations and applications.
- Variety in materials of construction.





**Find the right Honeywell SmartLine®  
Transmitter for your application:**



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PIN-doc | 441DPH | 04/25  
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**THE  
FUTURE  
IS  
WHAT  
WE  
MAKE IT**

**Honeywell**