



# Hydrogen's role in Shell's journey to net-zero



# Net-zero emissions from own operations by 2050 or sooner

Changing in step with society and our customers

**A net-zero  
emissions energy  
business by 2050  
or sooner**



**Net Carbon Footprint  
ambition 1.5°C**



**Net-zero emissions  
from own operations**

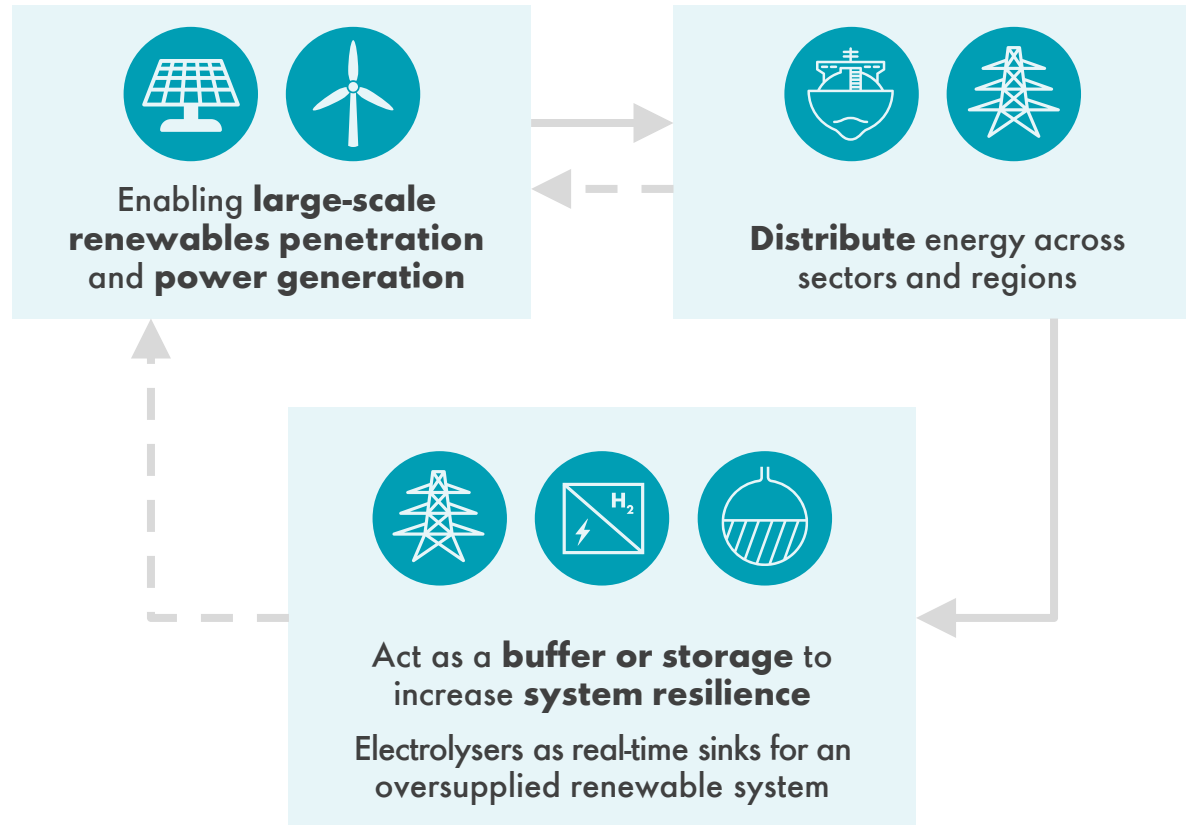


**Partnering for  
decarbonisation  
of energy use**

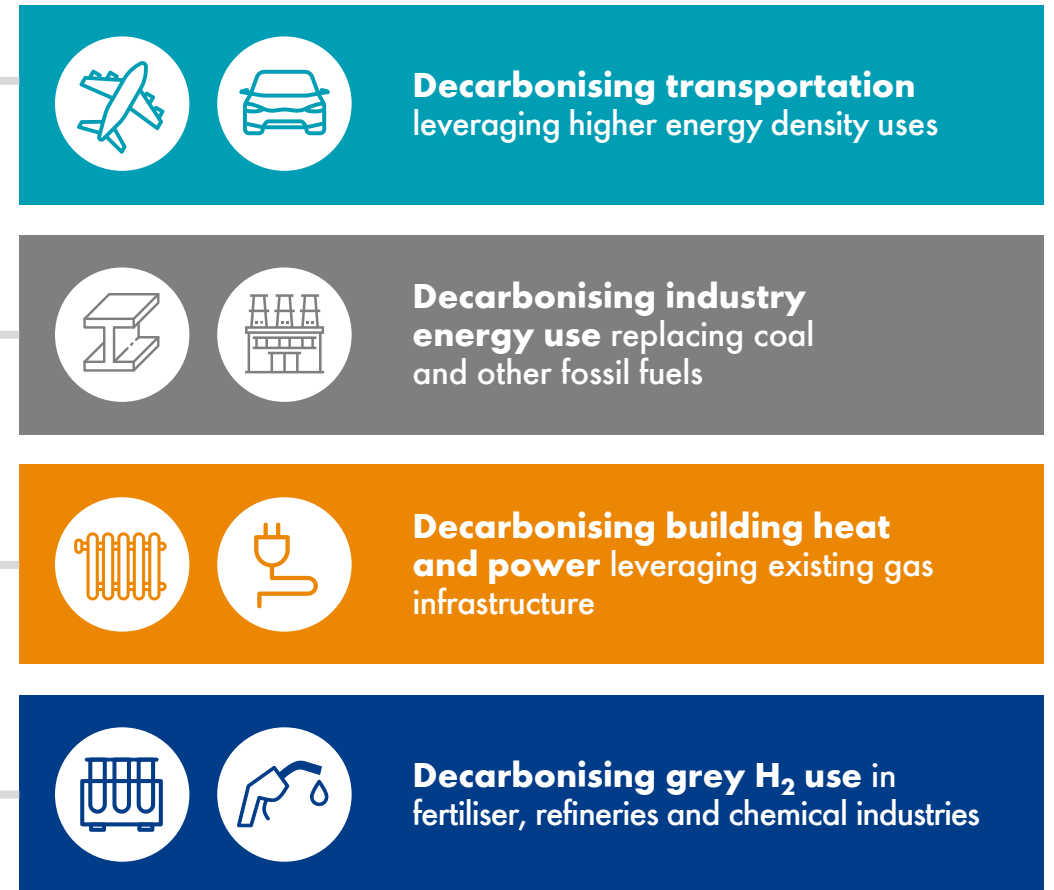


# Hydrogen in the future energy system

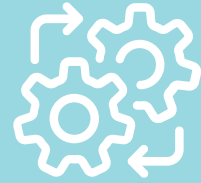
Enable deep renewables penetration, distribution and system resilience



Decarbonise hard-to-abate end-uses



# Shell has critical capabilities to succeed in the hydrogen business



Leader in process safety



Decades of experience in hydrogen



Continued investments in innovation, research and development



Extensive network of strong partners and customers



Widely recognized for project execution capabilities



Integrated offer from production to supply



Credible partner in a coalition to work with governments

# Our strategy



## Providing hydrogen for mobility

- Building a HRS network for long-haul heavy-duty road transport for trucks and buses.
- HRS for light duty and medium duty vehicles.
- Optimise supply and distribution of clean hydrogen.
- Evaluate hydrogen opportunities for shipping.
- Work with other sectors, including aviation, to identify long term hydrogen solutions.



## Providing hydrogen for industry

- Orchestrate large scale hydrogen supply and demand through sector coupling.
- Maximise scale up of green hydrogen.
- Develop blue hydrogen to help accelerate the energy transition and pave way for green hydrogen production.



## How we intend to grow

- Work closely with our customers.
- Collaboration with industry partners to develop end-to-end solutions.
- Liaise with government and regulators to further policy support.
- Leverage own hydrogen demand to initiate market growth.
- Lower costs to reach economic viability.
- Show Safety.

# Our key markets



## Europe

- A combination of supportive policy, access to renewable energy and increasing demand makes Europe a key market for Hydrogen growth.
- Shell was a founder of the H2Accelerate consortium aiming to roll out a network of heavy duty hydrogen trucks across Europe by 2030.
- Leverage own hydrogen demand to initiate market growth for hydrogen production through development of electrolyzers near assets in north-west Europe.

## North America

- Increasing infrastructure to enable the advancement of hydrogen fleets and vehicles in California.
- Shell has just received NOPA for \$40.8 million funding to expand our hydrogen fuelling station network in California by building 48 light duty refuelling stations in addition to upgrading 3 stations for heavy duty vehicles.
- The support of Toyota and Honda in providing new vehicles to market will help ensure the success and ongoing viability of these new stations.

## Asia

- Building a 20MW electrolyser in China with JV partners.
- Liaise with government and regulators to further policy support and reduce costs for customers, car manufacturers and fuel providers.

# Our hydrogen projects

