

Driving demand for green hydrogen

Dr James Walker, Team Lead - Renewable Gases, IRENA



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IRENA serves 172 member countries

- » We were established in 2011
- » Our headquarters are in Masdar City, Abu Dhabi, UAE, and the IRENA Innovation and Technology Centre is located in Bonn, Germany
- » We support member countries to address the opportunities and challenges of the energy transition



Mandate

To promote the widespread adoption and sustainable use of **all forms of renewable energy** worldwide



Bioenergy



Geothermal
Energy



Hydropower



Ocean
Energy



Solar
Energy



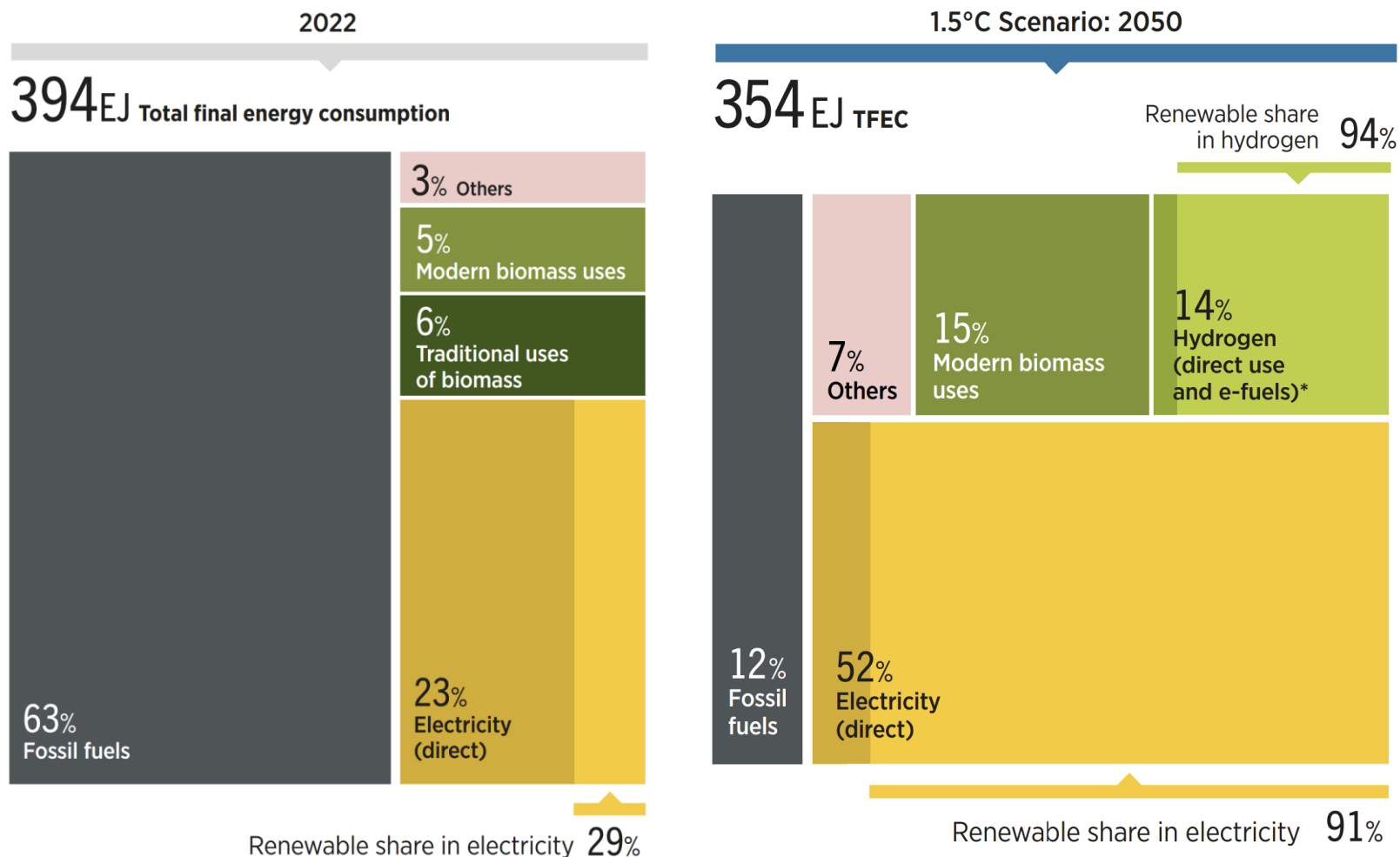
Wind
Energy



Setting the scene: hydrogen and derivatives in the energy transition

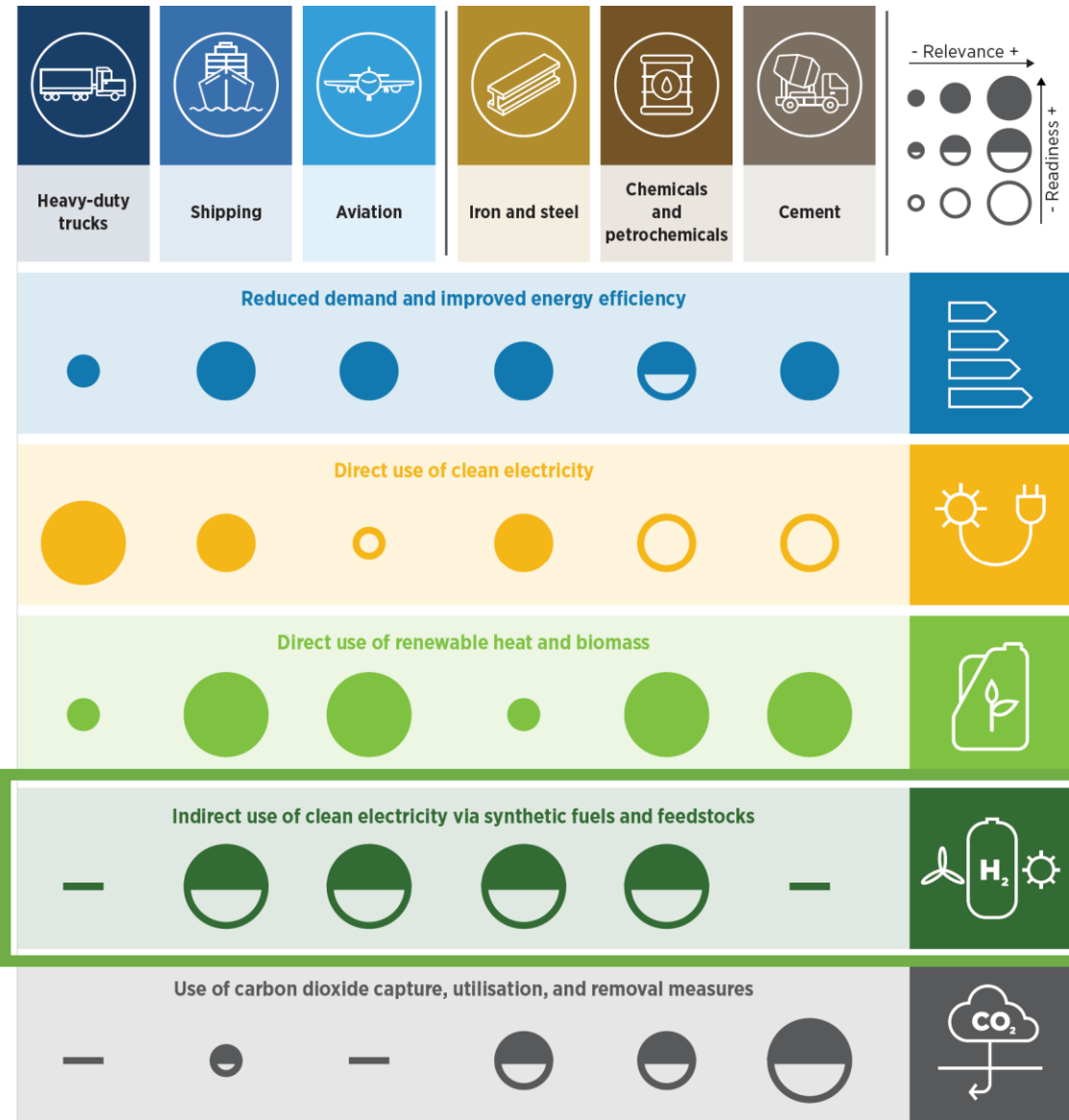
Renewable power becomes the most important energy carrier in climate target-aligned pathways towards 2050

Breakdown of total final energy consumption by energy carrier in 2022 and 2050 under IRENA's 1.5°C Scenario:



- By 2050, **electricity becomes the main energy carrier**, addressing more than half of the global final energy demand.
- Hydrogen and hydrogen derivatives make up around **14% of total final energy consumption by 2050**.
- **94% of hydrogen production should come from renewables by 2050**.

A portfolio of solutions is needed. Hydrogen and derived commodities have an important role to play in key sectors

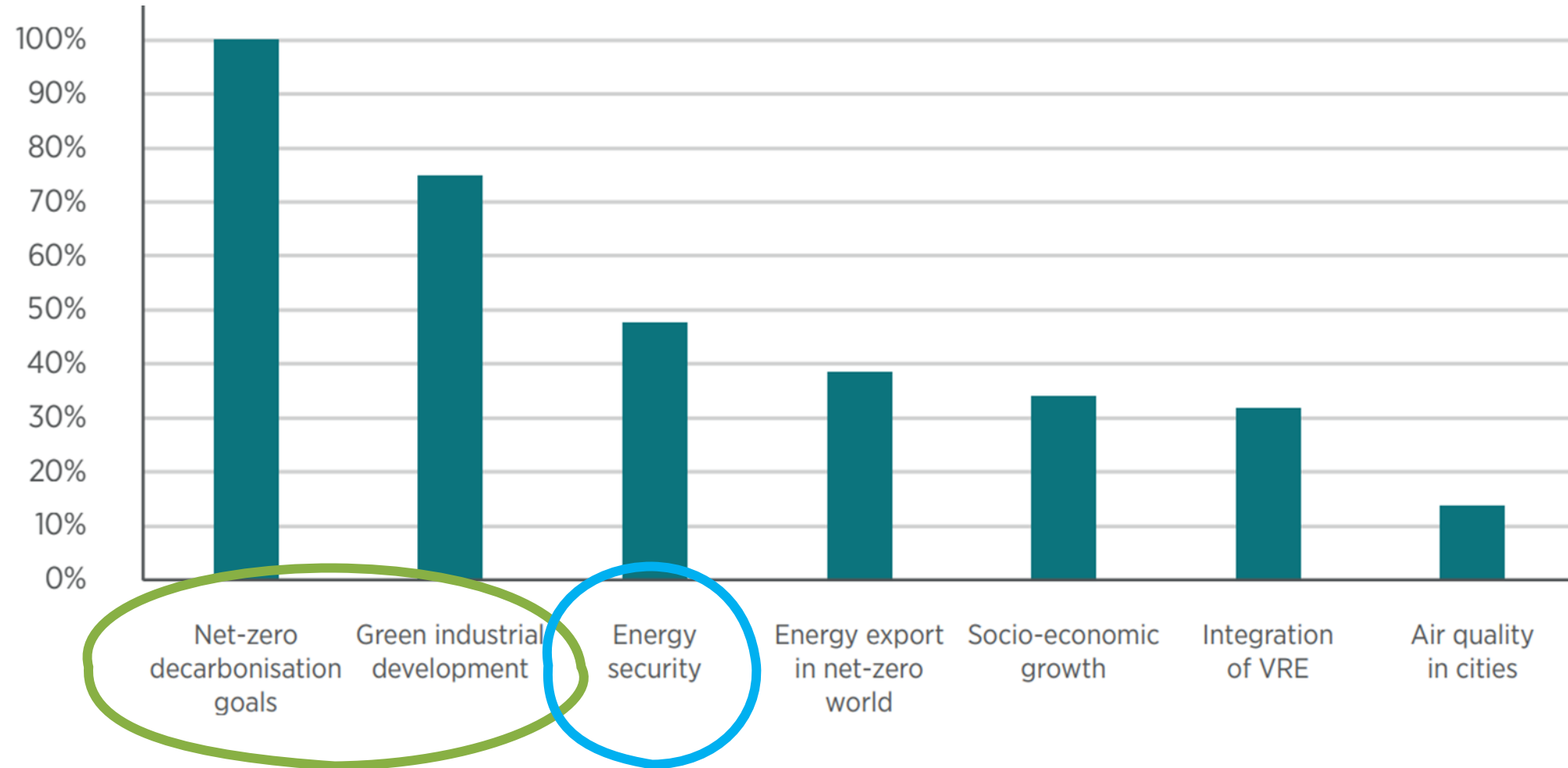


Efficiency is key in all sectors.

Other vectors and fuels will be needed in several sectors and applications.

Many processes can be electrified directly.

In 2024, stakeholders highlighted decarbonisation as the key priority for their hydrogen strategy development. Does this ranking hold today?



Policy tools to facilitate demand for clean hydrogen and derivatives

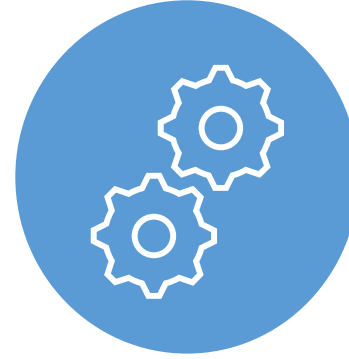
Strategic barriers need to be addressed to facilitate development of hydrogen and derived commodity value chains



Institutional



Economic



Technological



Social

A range of policy tools are available to drive hydrogen deployment, and enhance demand in key sectors



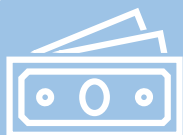
Policy integration

Green hydrogen policies need to be well aligned with climate, industry and energy objectives and strategies.



Target setting

Targets should be ambitious, but need to be regularly reviewed and monitored. Sectoral targets and mandates play a role.



Focused support

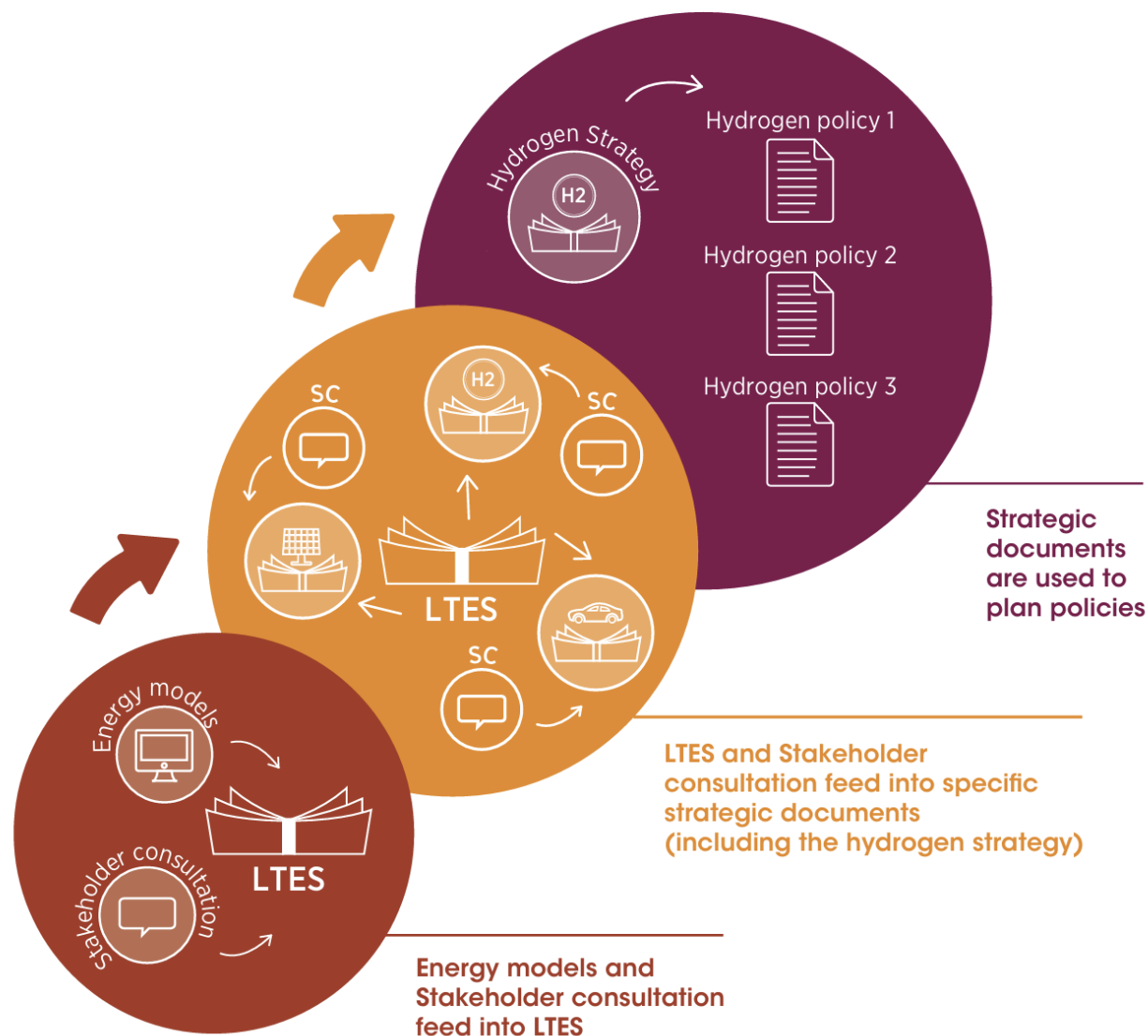
Public sector support (direct subsidies or incentives, auctions, public procurement) can boost market maturity.



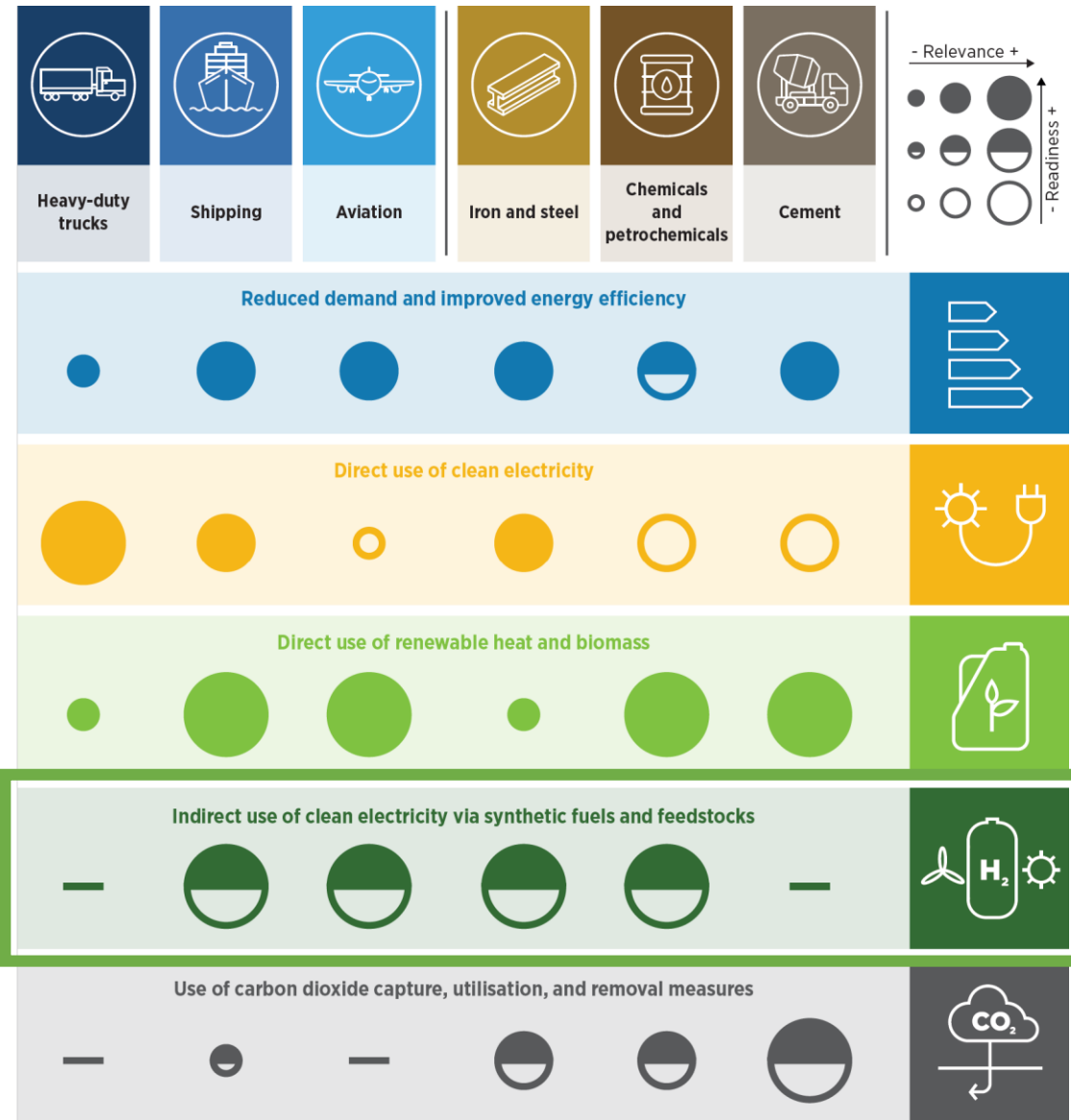
International collaboration

Regional and international collaboration is vital. Sharing knowledge on best practices enhances progress.

Integrating hydrogen strategies in broader energy transition frameworks is key



Hydrogen and derivatives are vital decarbonisation vectors for many sectors. Sectoral targets can encourage uptake

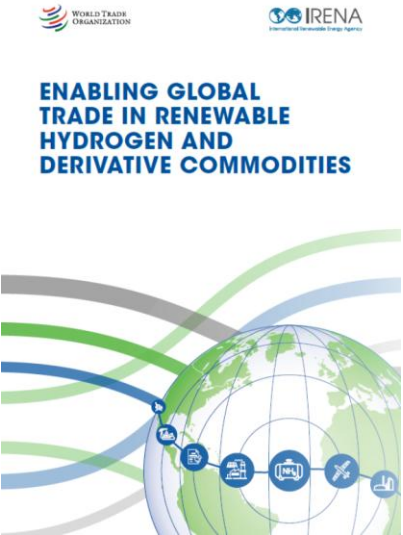


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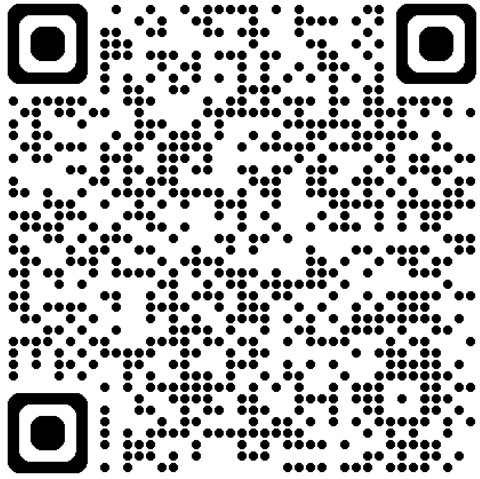
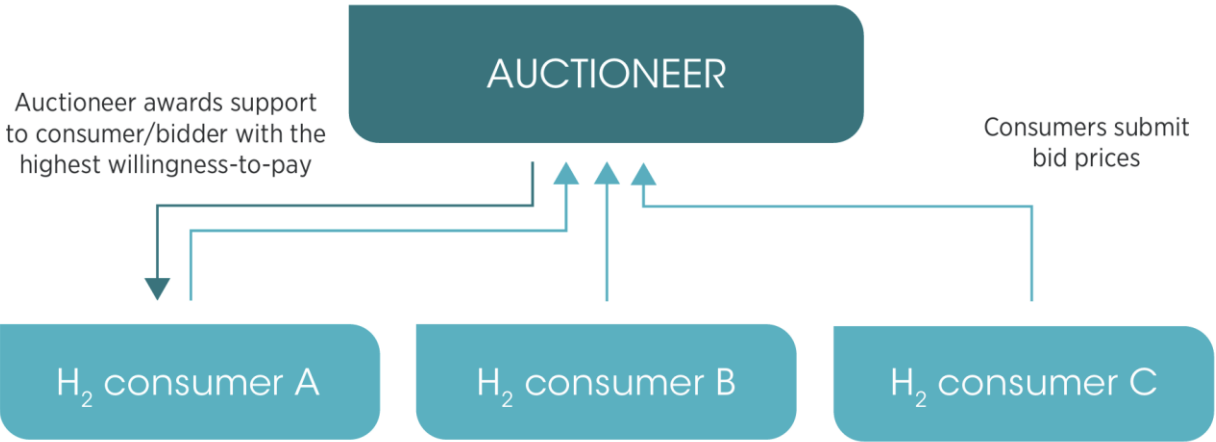
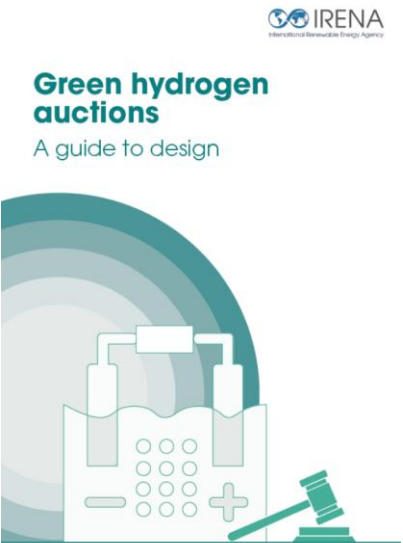
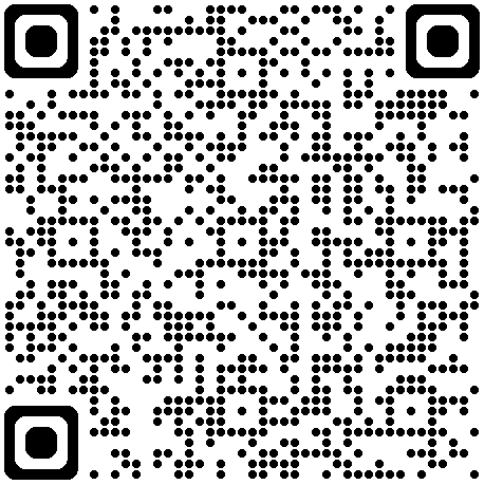
Many processes can be electrified directly.

Focused support from policy makers can also facilitate demand for clean hydrogen and derivatives



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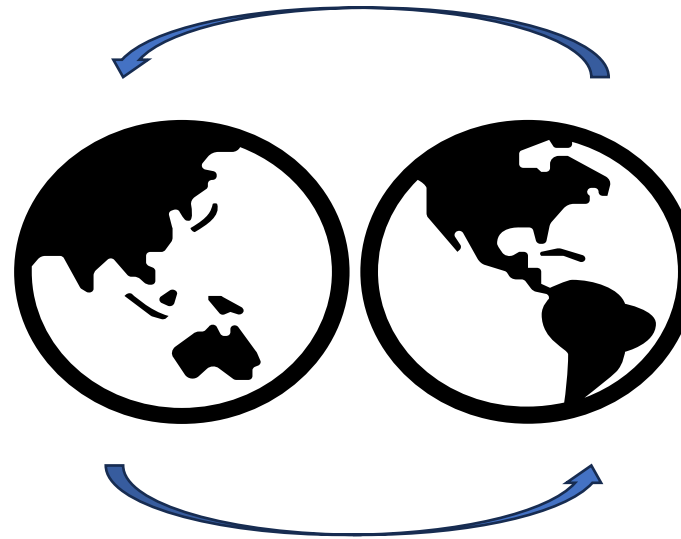
► **Calibrate government support and procurement** to facilitate demand, de-risk off-take and drive supply chain development.



International collaboration enables lessons to be shared across borders for rapid uptake of best practices

8

▶ **Harness international cooperation**, and use the fora available to identify best practices, increase efficiency, and ensure equitable growth.



Thank you



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