



# Global Hydrogen Review 2025

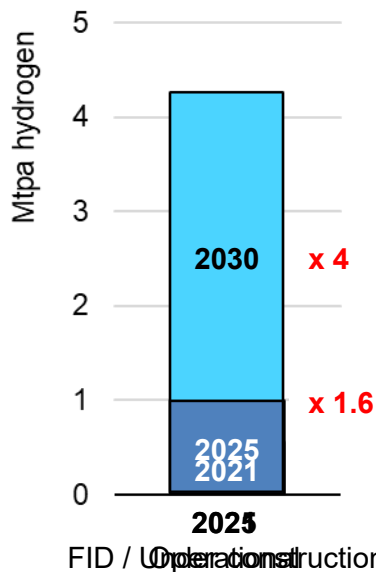
Amalia Pizarro

HyPA Quarterly, 9 April 2026

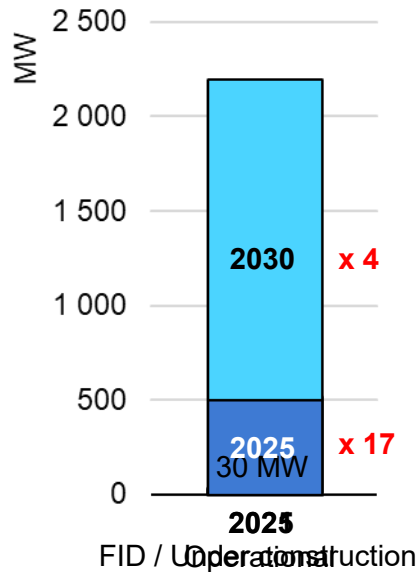


# Is the glass half-full or half-empty for hydrogen?

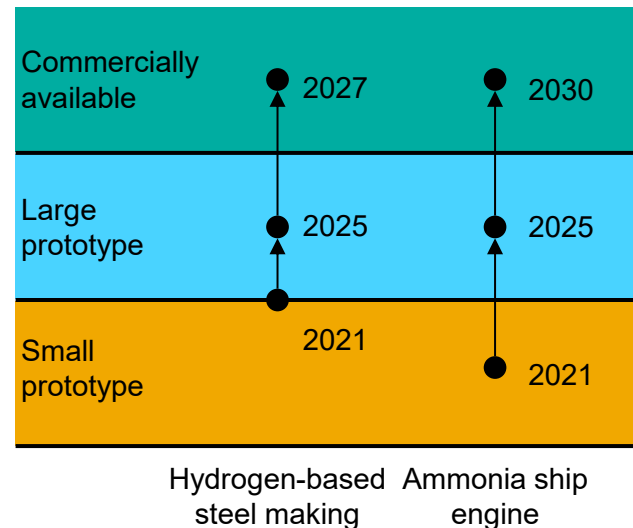
### Low-emissions hydrogen production



### Largest electrolyser in operation



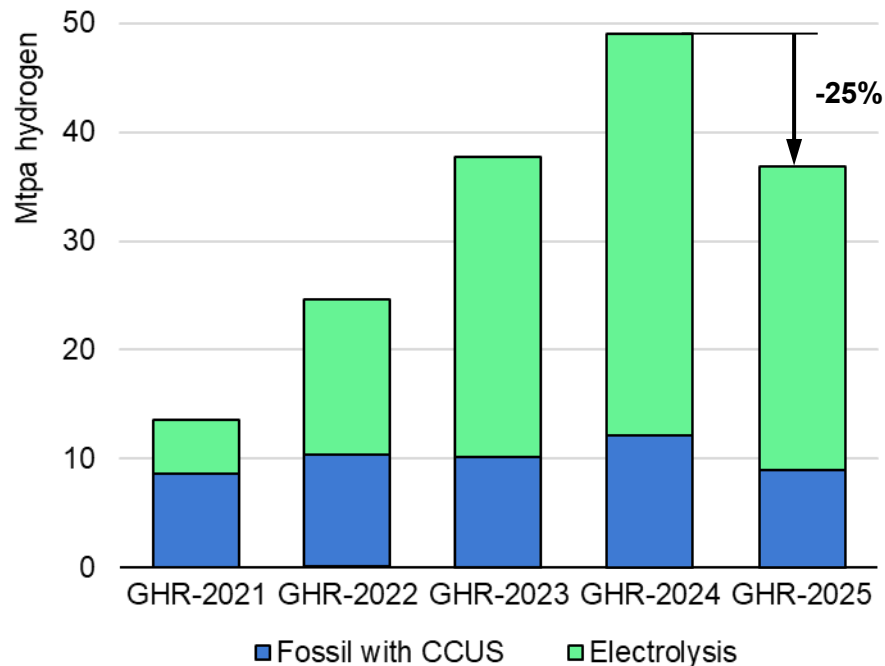
### Technology development of key hydrogen applications



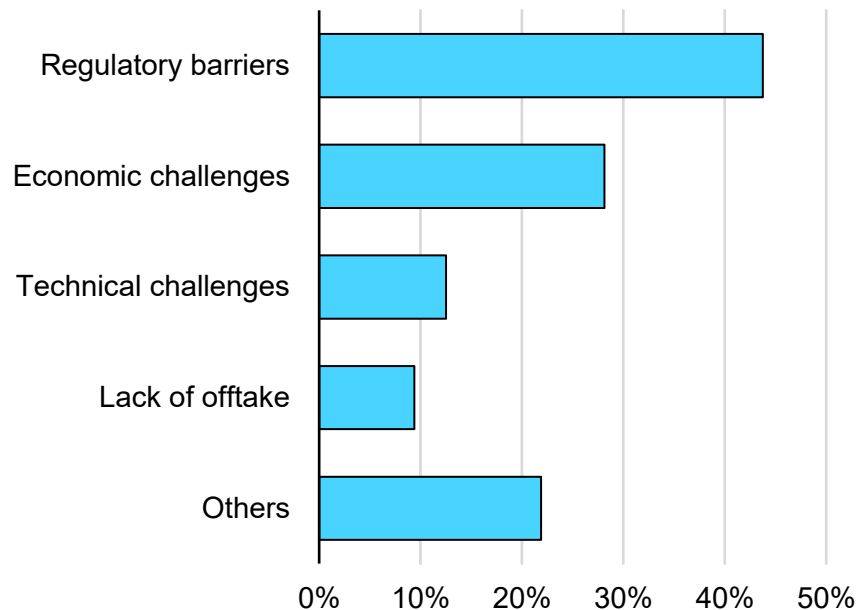
**With projects having at least reached FID, low-emissions hydrogen production could reach 4 Mt by 2030, resembling the fast expansion of other clean energy technologies in recent years.**

# Signs of consolidation in the hydrogen industry

Pipeline of low-emissions hydrogen production projects, 2030



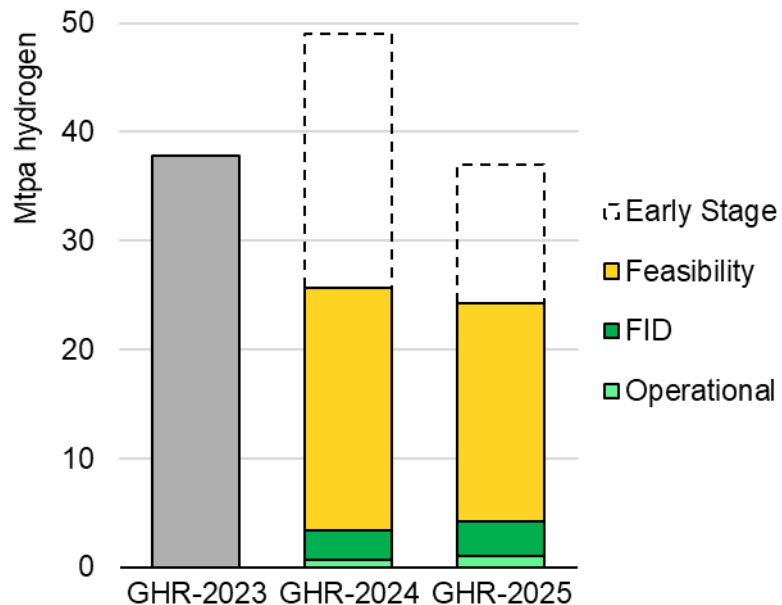
Share of cancelled projects by reported reasons



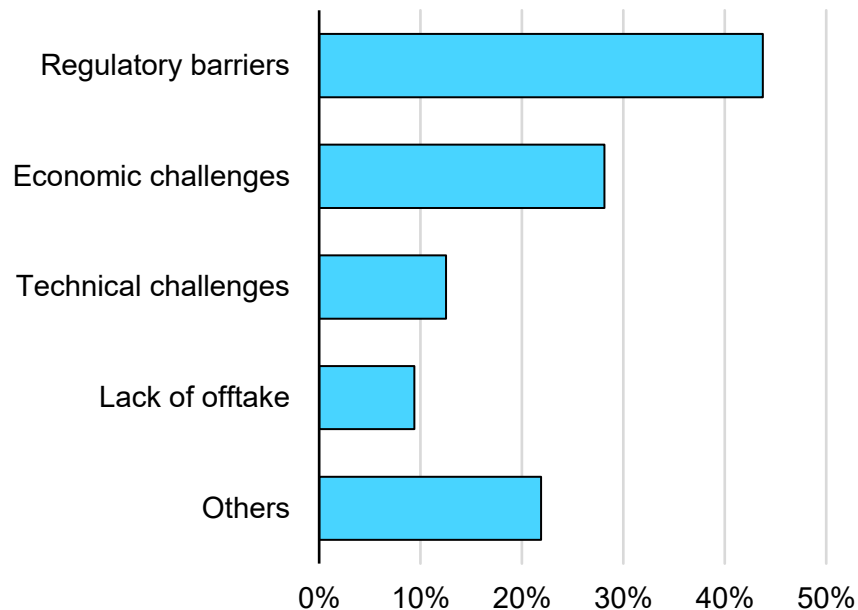
**Delays and cancellations mainly affected early-stage projects. Regulatory barriers, economic and technical challenges and lack of offtake were key reasons.**

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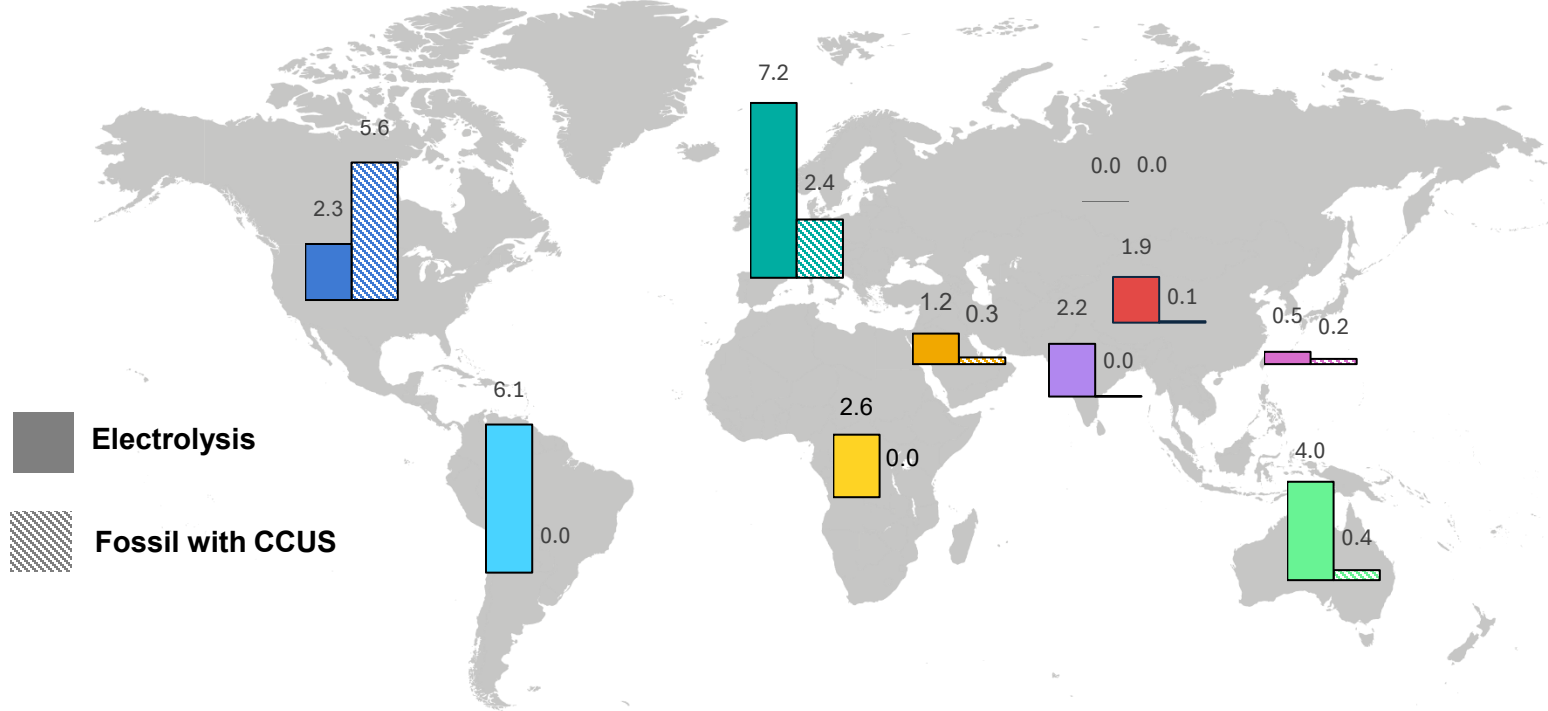
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# Announced projects for low-emissions hydrogen are spread

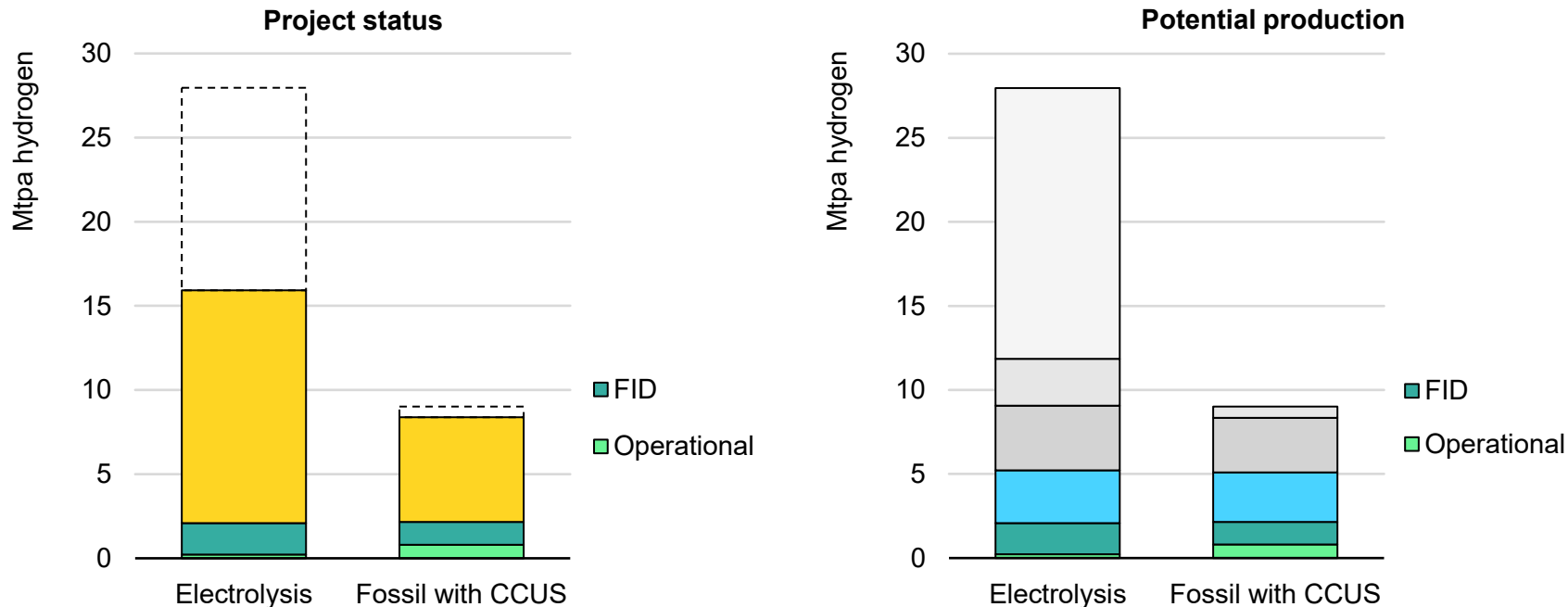
Announced low-emissions hydrogen projects around the world (million tonnes), 2030



**A larger number of announced projects are in Africa, Latin America and, while the majority of operational capacity is in China, Europe and the United States**

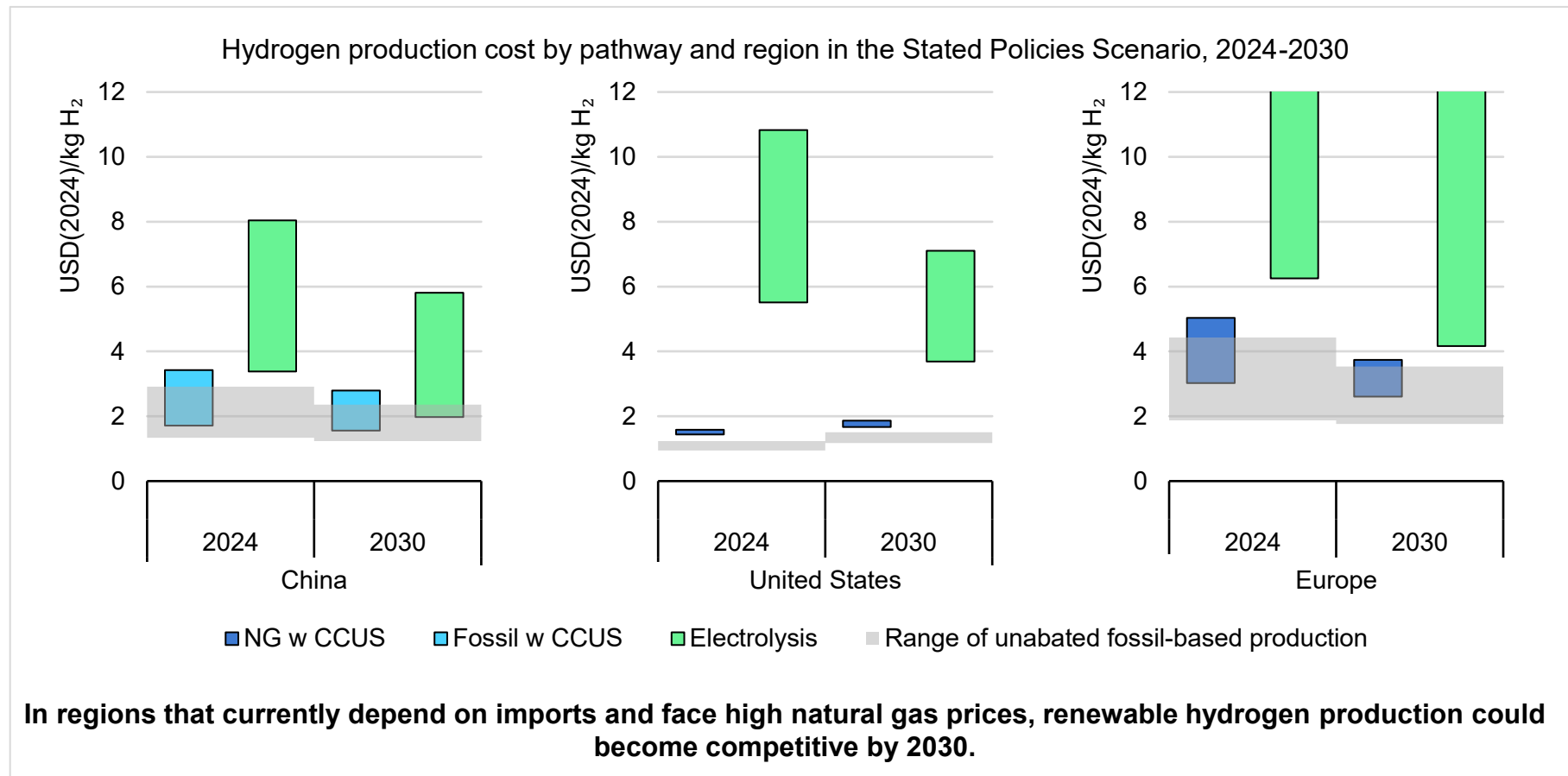
# The time to complete projects by 2030 is shrinking

Low-emissions hydrogen production from announced projects, 2030

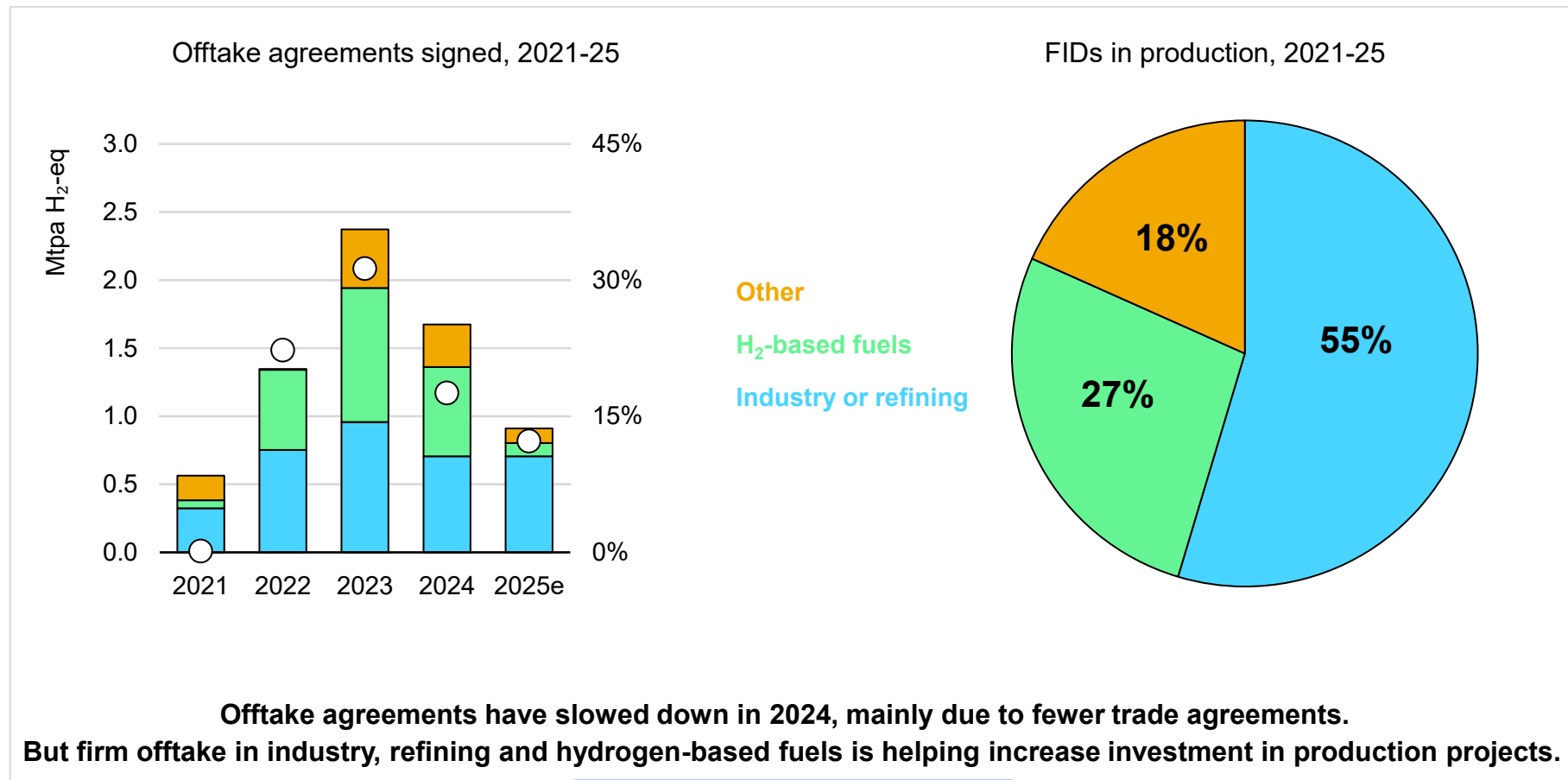


**In addition to the 4 Mtpa of projects being in operation or having reached FID, a further 6 Mtpa have a strong potential to become available by 2030, taking into account project size, location and targeted end uses.**

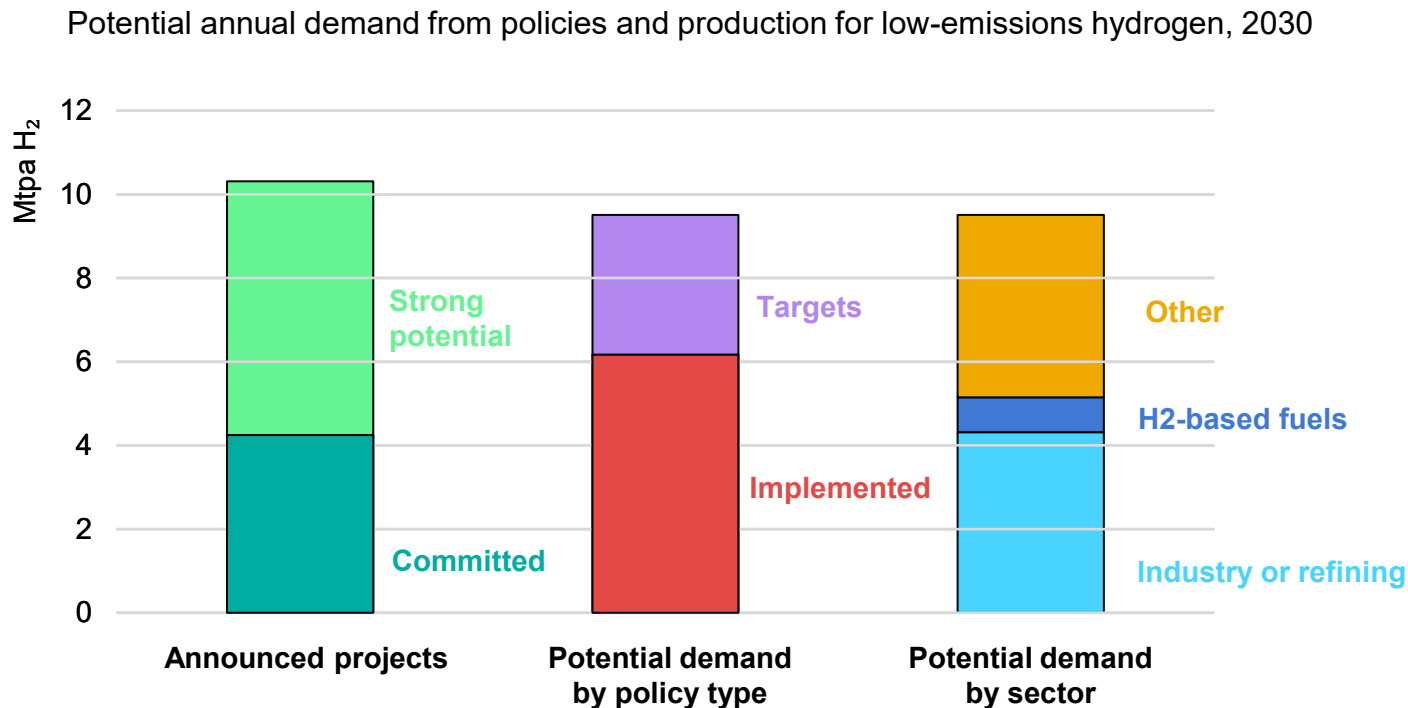
# Production cost gap can start closing by 2030



# Offtake agreements critical to underpin investments



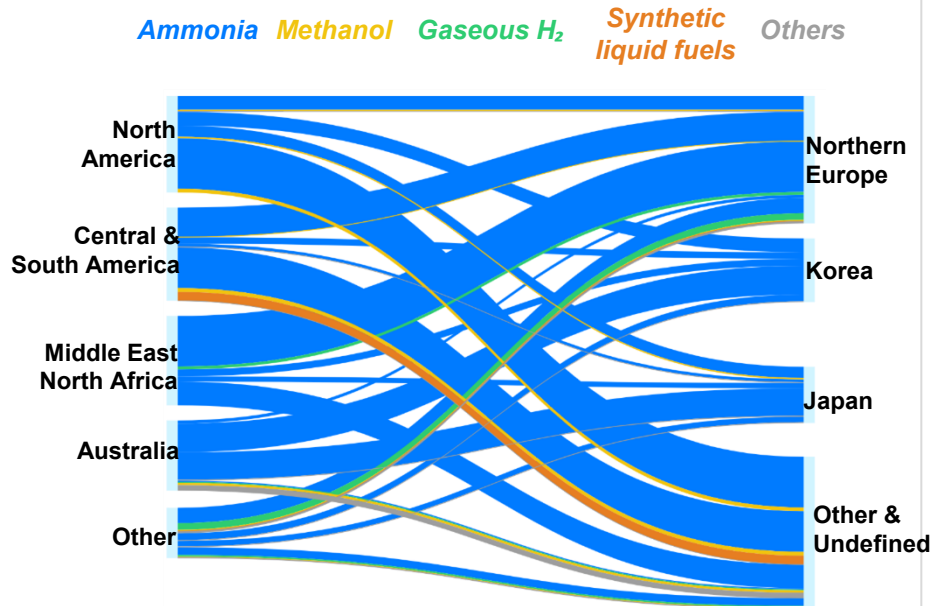
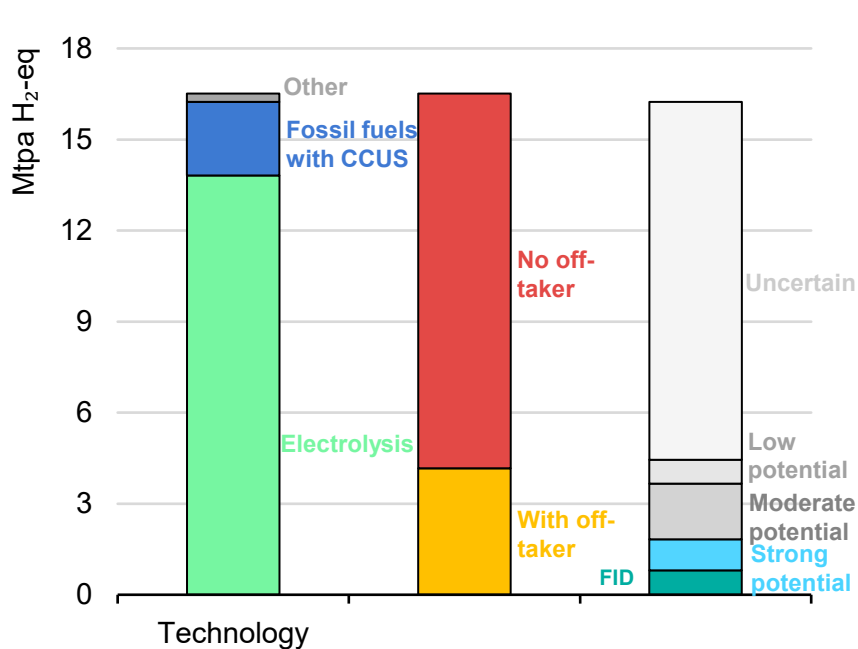
# Implementation of demand policies can unlock investment in supply



**Policies to create demand for low-emissions hydrogen are now being implemented, but at a slow pace. Further action is possible in existing using and new applications ready to adopt in the short term**

# Trade is a major driver behind many announcements, but uncertain

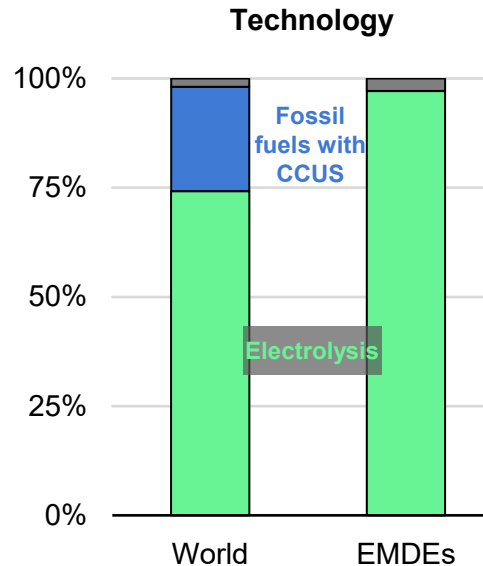
Low-emissions hydrogen production from announced projects intended for exports, 2030



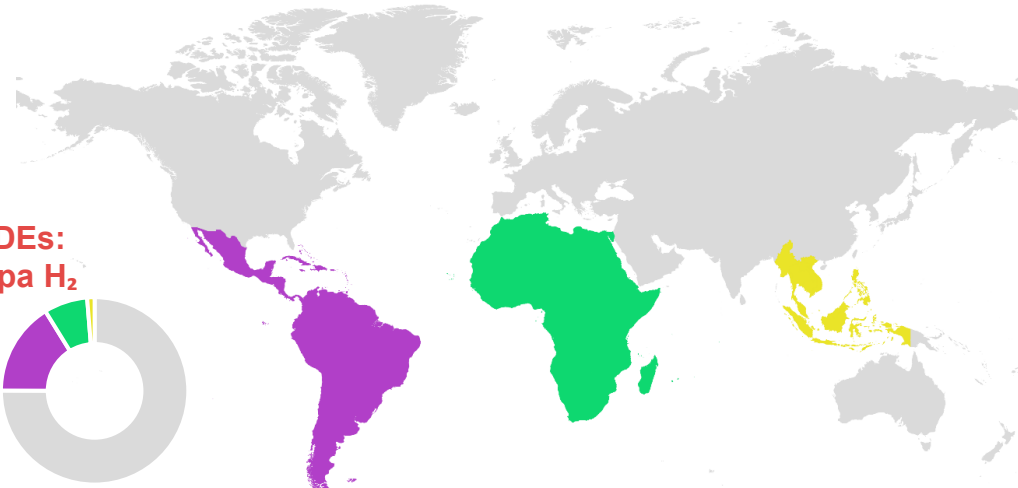
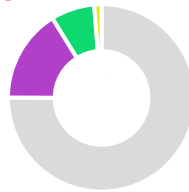
**Around 45% of announced low-emissions hydrogen projects by 2030 target exports, but only one-quarter have identified off-takers and less than 5% have secured investment**

# How fast can emerging economies turn ambitions into deployment?

Share of low-emissions hydrogen production from announced projects, 2030



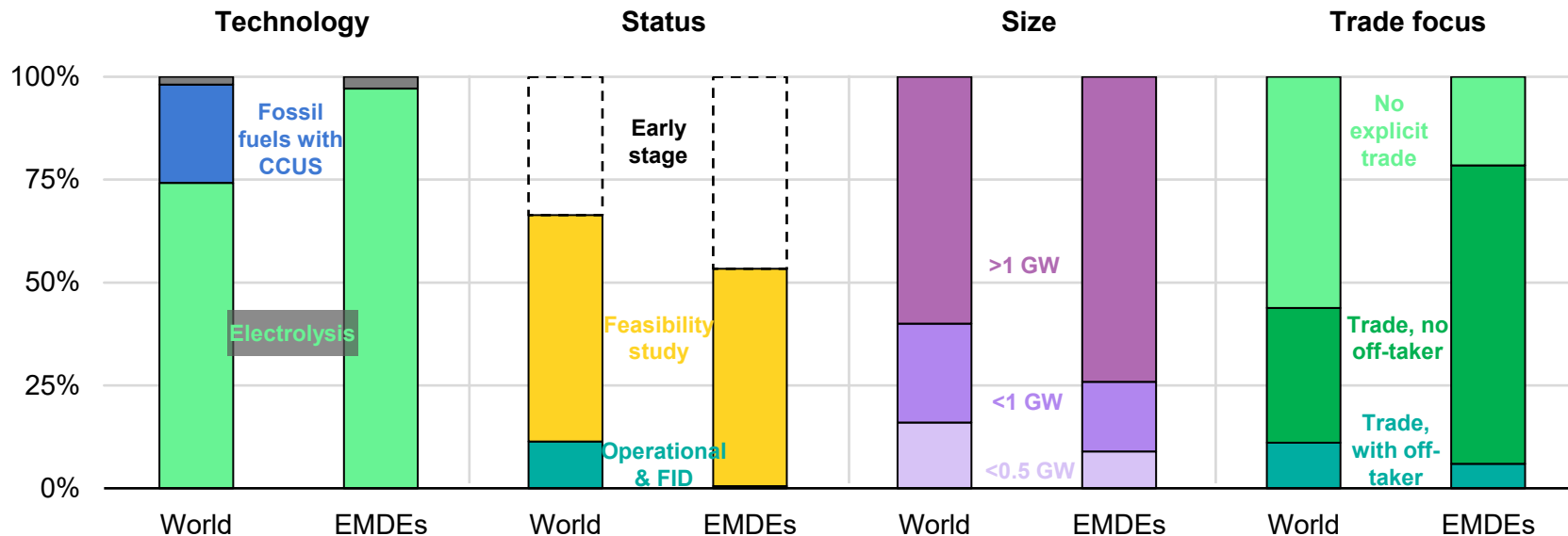
**EMDEs:  
9 Mtpa H<sub>2</sub>**



**Projects in EMDEs focus almost exclusively on electrolysis, are larger and mainly export-oriented, but remain at earlier stages of development, with limited committed investment**

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Share of low-emissions hydrogen production from announced projects, 2030

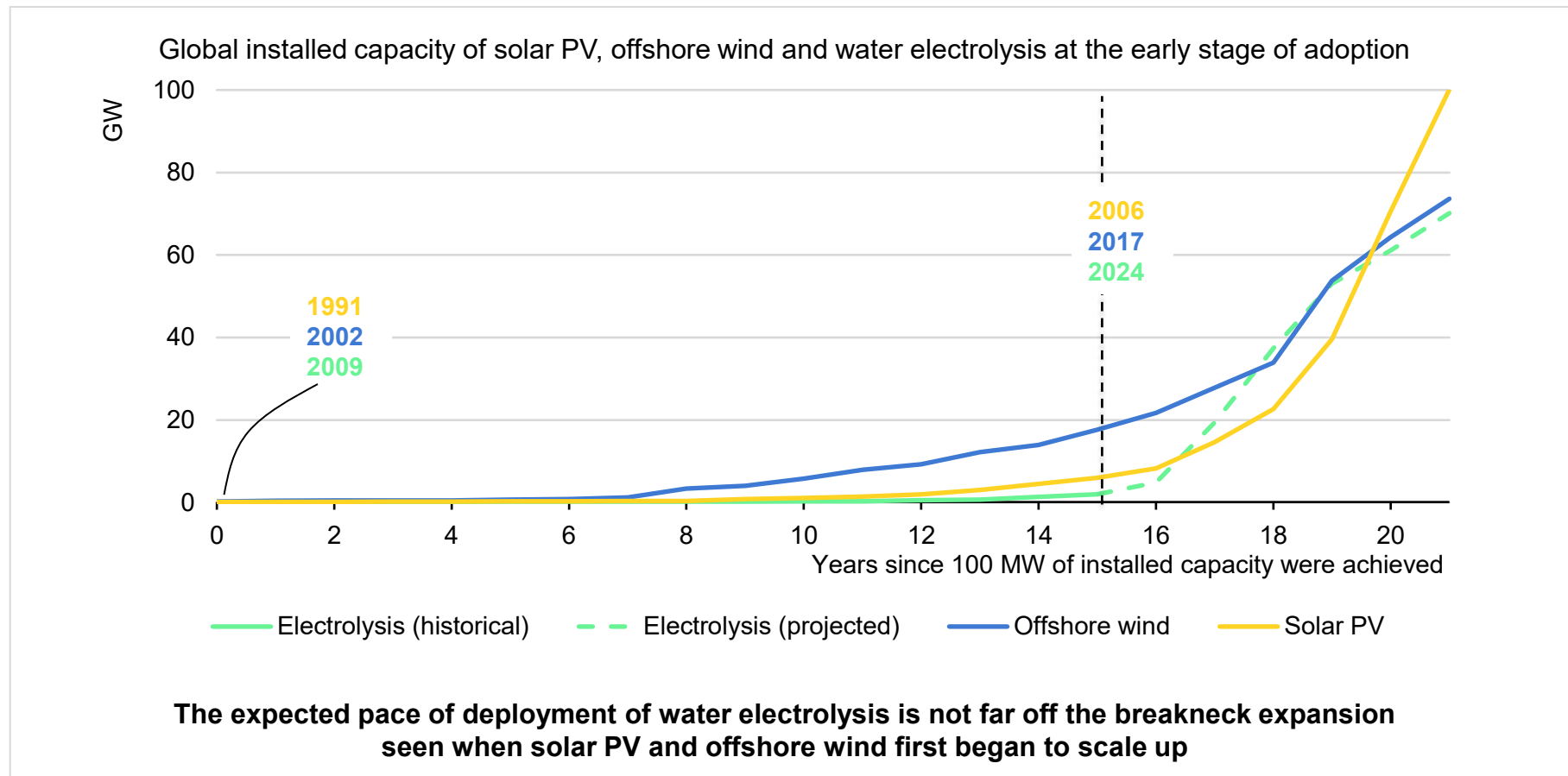


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- **Maintain support schemes for low-emissions hydrogen production**, with a focus on shovel-ready projects that target existing applications.
- **Accelerate demand creation** for low-emissions hydrogen and hydrogen-based fuels through regulations and support schemes in key sectors.
- **Expedite deployment of hydrogen infrastructure** by removing barriers and leveraging early opportunities.
- **Enhance public support to reduce technology risk** and facilitate project financing.
- **Support emerging and developing economies in moving up the value chain** for low-emissions hydrogen-based products.

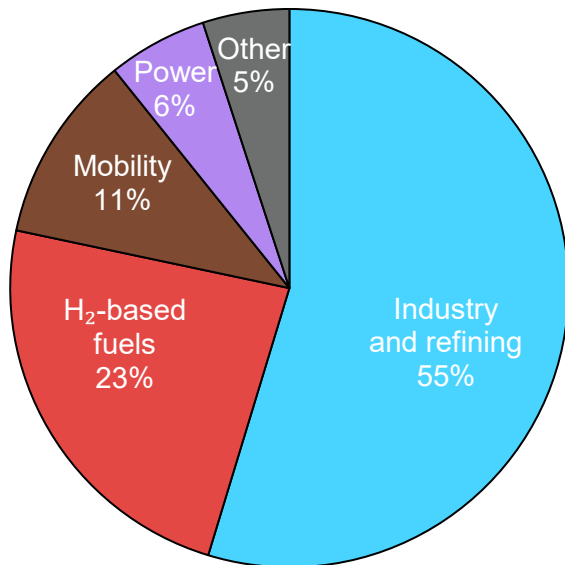
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# Has the hydrogen bubble burst?

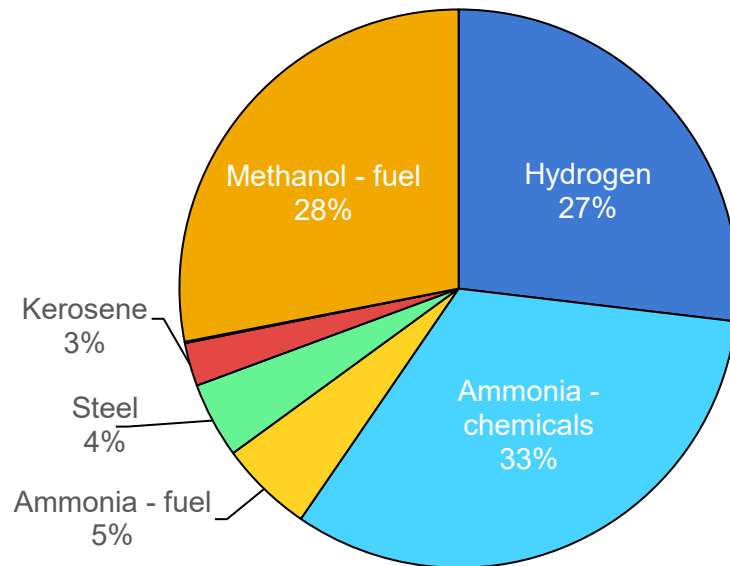


# How can low-emissions hydrogen demand take off?

Annual investment in low-emissions hydrogen production by intended use, 2025 (USD 7.9 billion)



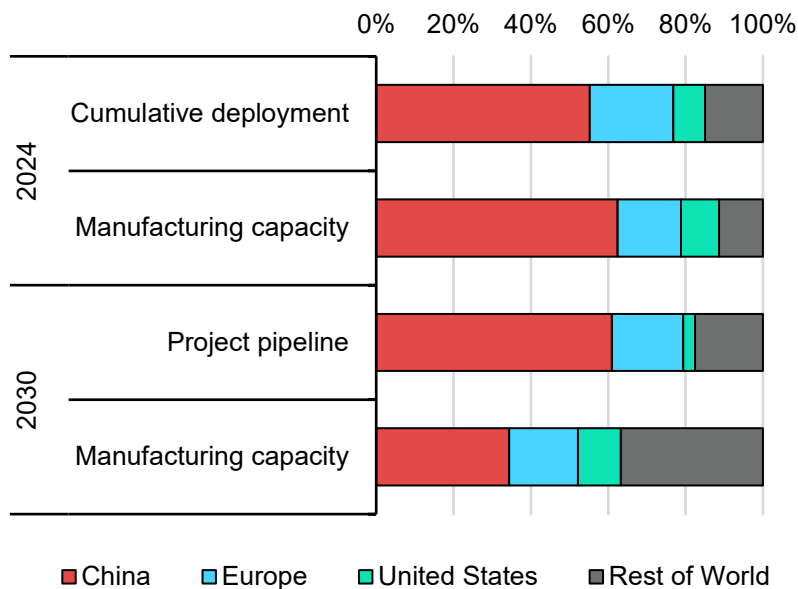
Cumulative firm offtake agreements of low-emissions hydrogen by end product, 2021-2025 (1.6 Mt)



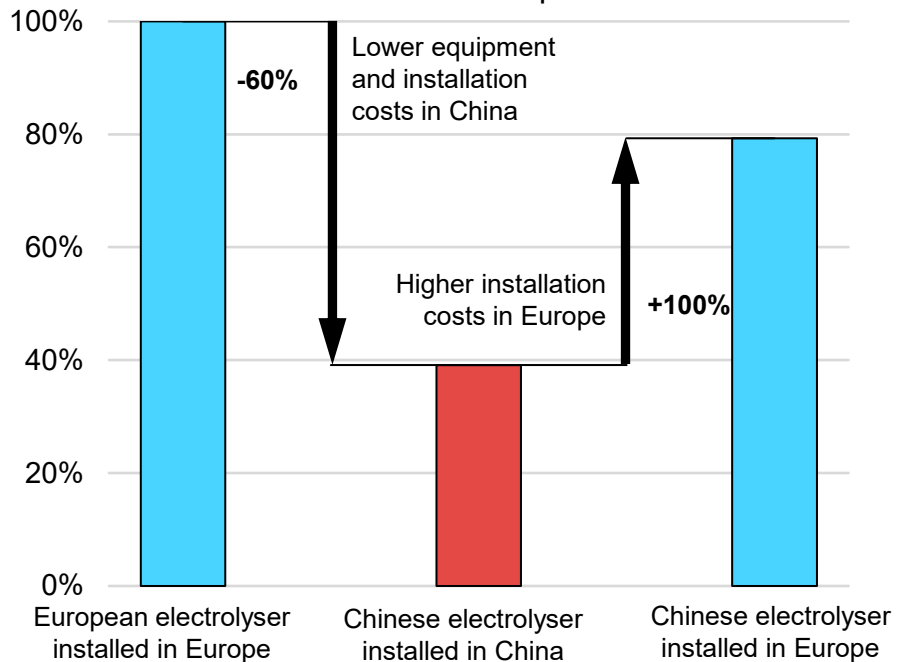
Traditional hydrogen applications represent “low-hanging fruit” that could stimulate demand for low-emissions hydrogen in the near term

# Impact of lower electrolyser costs in China should not be overstated

Electrolyser manufacturing and deployment



Electrolyser CAPEX relative to electrolyser manufactured and installed in Europe



**Installing Chinese electrolysers in Europe reduces the total CAPEX by only around 20% due to local costs as installation. Savings in hydrogen production costs are even lower, with electricity being a major cost component.**