



Global Hydrogen Review 2022

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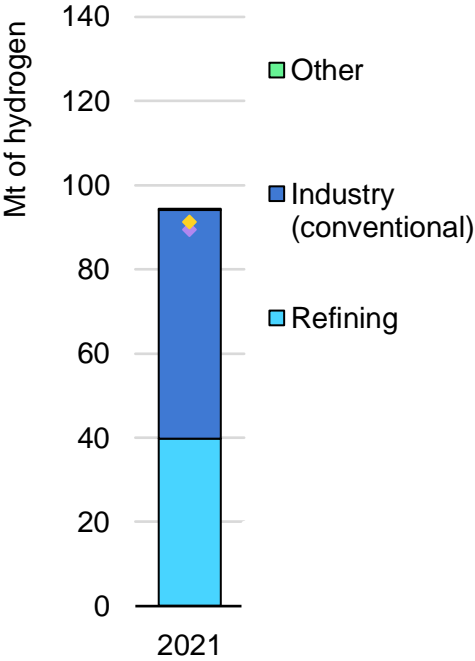
Hydrogen Advisor IEA & Gasunie, Chair IPHE

Wind Meets Gas, 6 October 2022

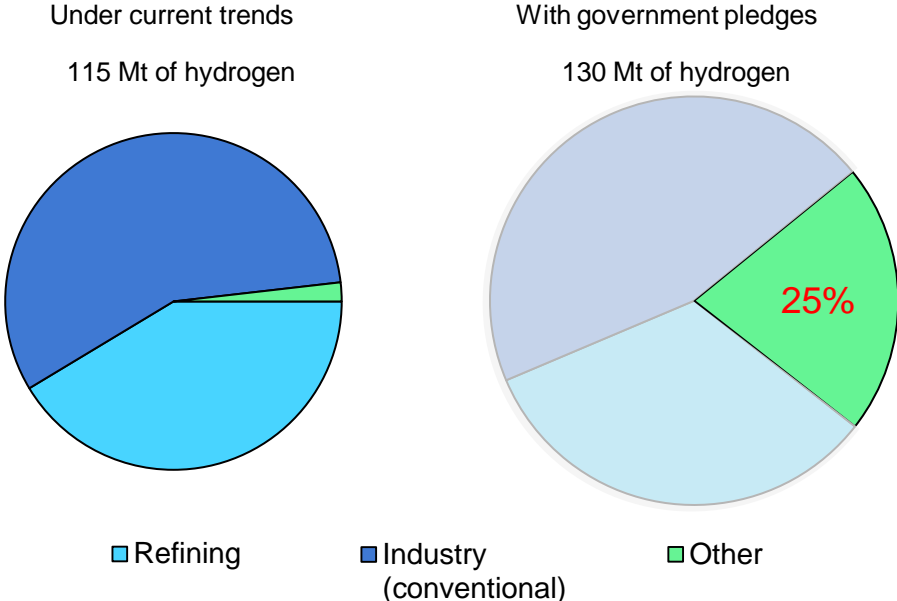
- Hydrogen is widely recognised as an important option in supporting climate ambitions; it can also help enhance energy security
- Net-zero pledges are boosting hydrogen interest, further bolstered by the global energy crisis:
 - Nine new national strategies were adopted last year
 - Large projects are starting to reach FID and major players are signing off-take agreements
 - Growing international cooperation to develop hydrogen trade
- Adoption of low-emission hydrogen as energy vector is at an early stage and needs regular and effective tracking

Demand is growing, with positive signals in key applications

Hydrogen demand, 2019-2021

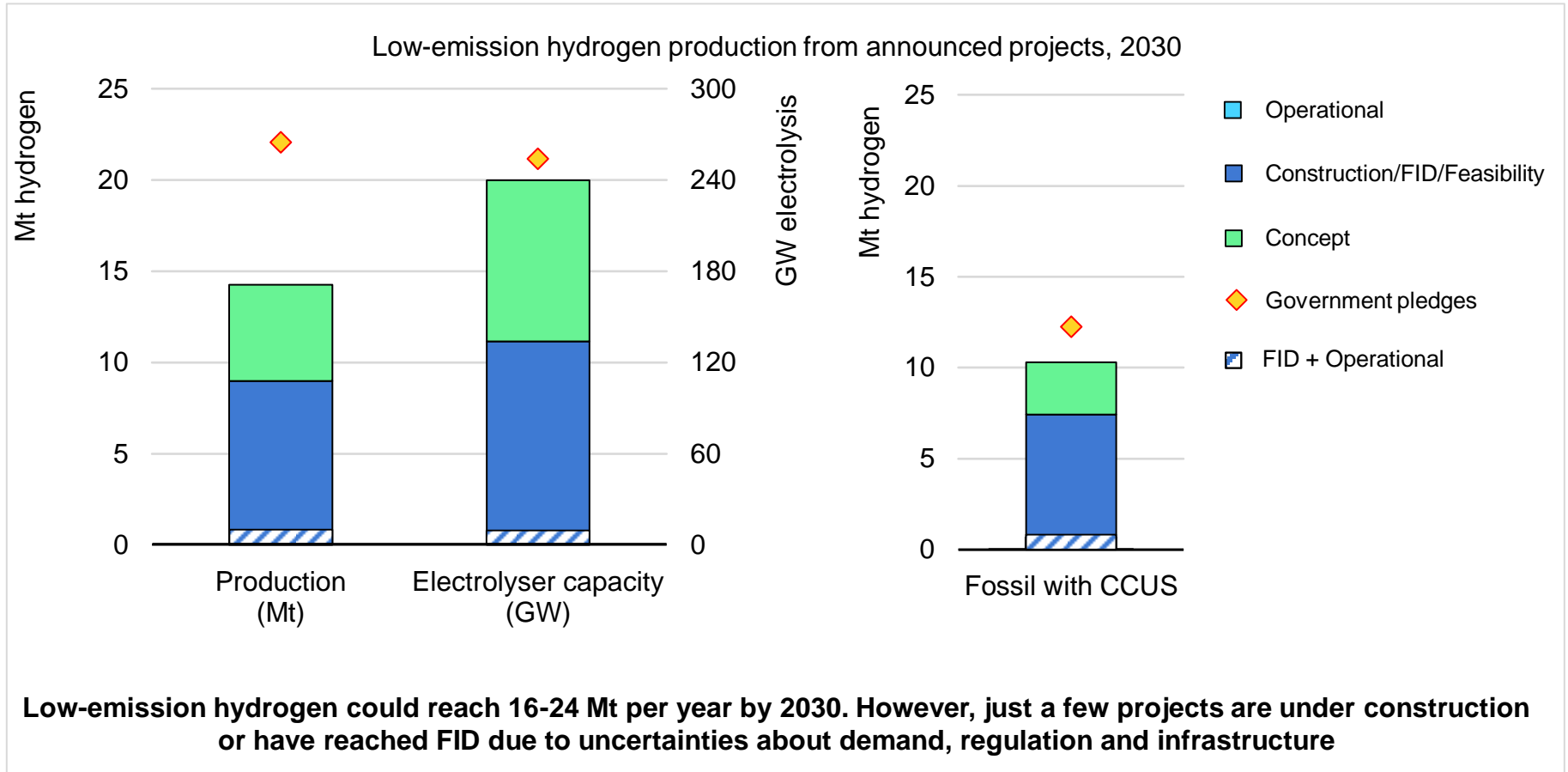


Hydrogen demand, 2030

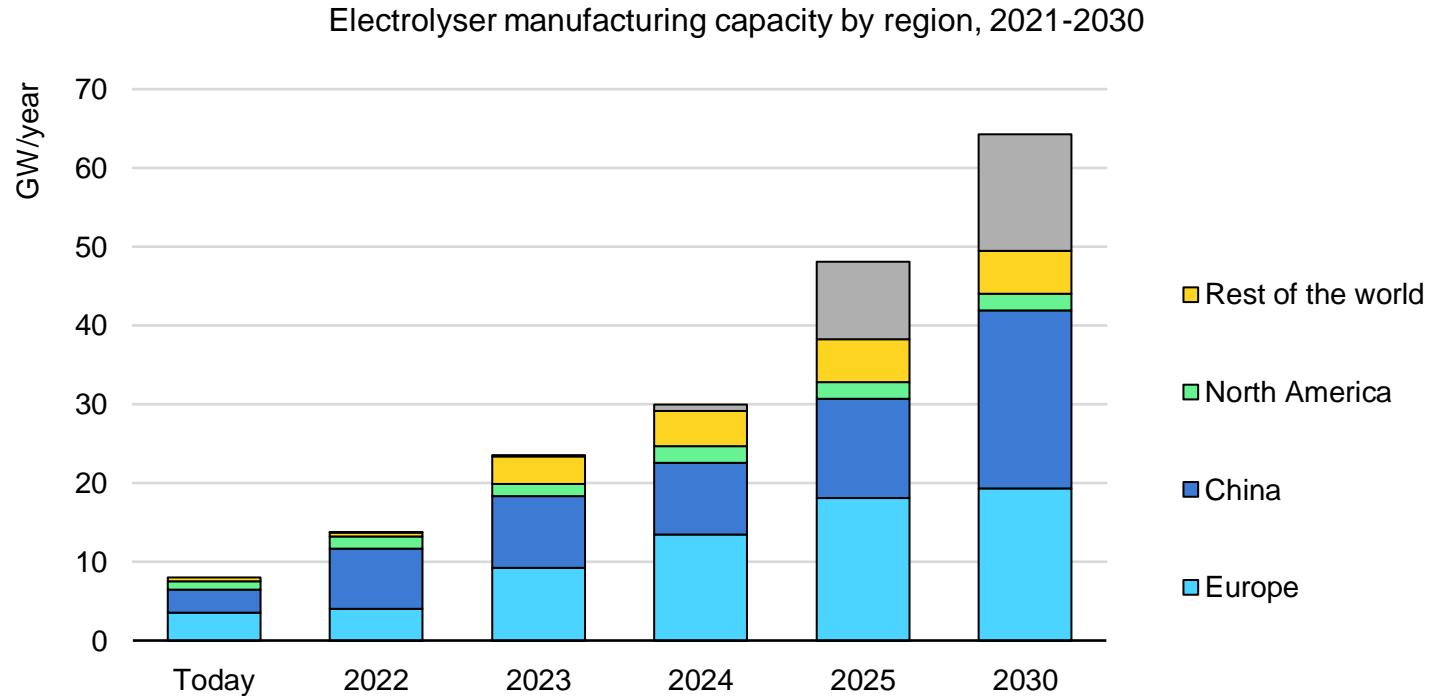


There are plans to increase hydrogen use in heavy industry, transport and power generation, but ambitious policies are needed for hydrogen to play its role in meet government climate pledges

An increasing project pipeline for low-emission hydrogen production



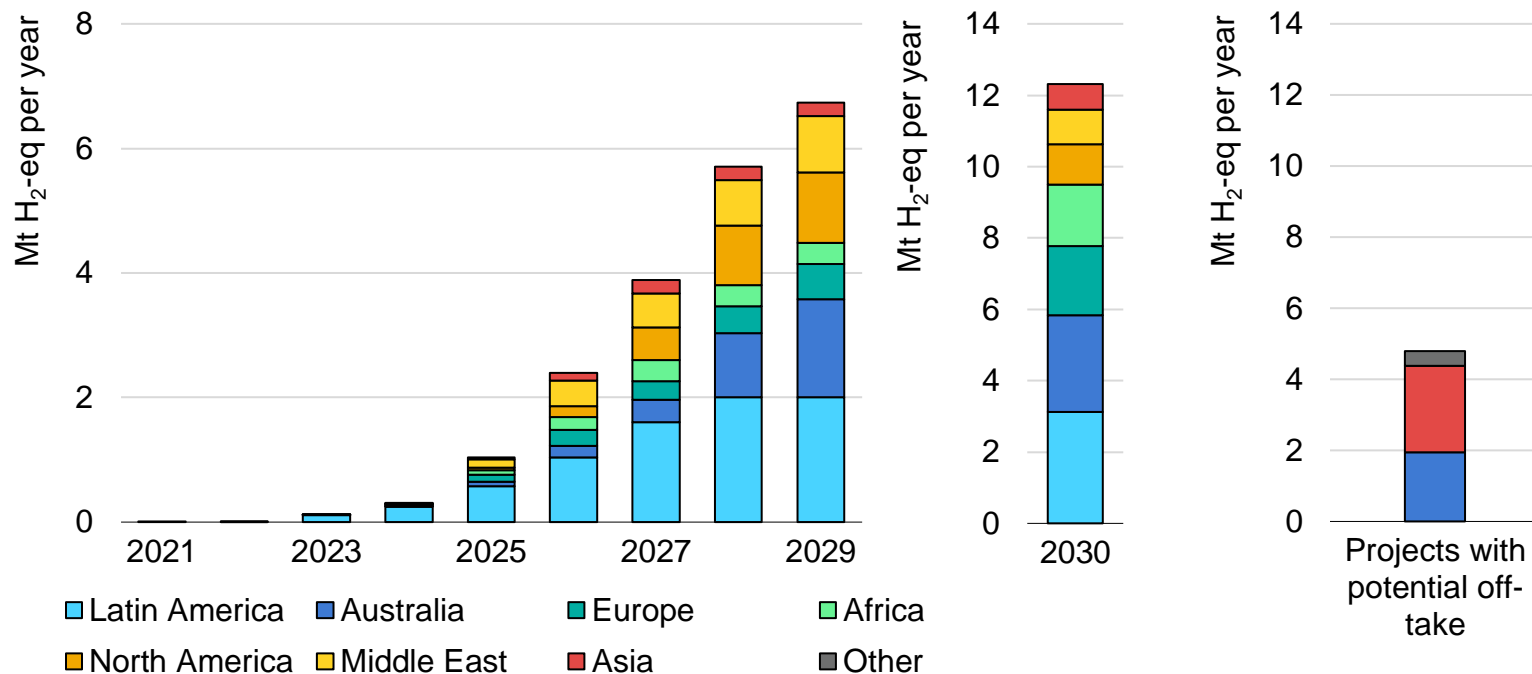
A new energy economy: the case of electrolyser manufacturing



Electrolyser manufacturing capacity could exceed 60 GW per year by 2030. This would be more than enough to support planned electrolyser projects and government targets.

Hydrogen trade can kick start soon, but barriers remain

Planned hydrogen exports by year and exporting region, 2020-2030



Annual exports could reach 12 Mt of hydrogen by 2030, but off-take agreements are lagging behind. Key challenges remain in regulation, infrastructure, demand creation, value for exporters and trade rules

Repurposing gas infrastructure: opportunities and challenges

Selected options to repurpose natural gas infrastructure for hydrogen and ammonia

Infrastructure	Option	Advantages	Disadvantages
Gas pipelines	Full repurposing to hydrogen	Lower costs than new pipelines	Technical feasibility depends on pipeline material
	Build new hydrogen pipeline	Optimal material choice and design for hydrogen	Higher costs than repurposing

1. Move from announcements to policy implementation
2. Raise ambitions for demand creation in key applications
3. Identify opportunities for hydrogen infrastructure & ensure that short-term actions align with long-term plans
4. Intensify international cooperation for hydrogen trade
5. Remove regulatory barriers

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