



LEVERAGING DE-RISKING INSTRUMENTS AND INTERNATIONAL CO-ORDINATION TO CATALYSE INVESTMENT IN CLEAN HYDROGEN

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Policy Frameworks in the Asia-Pacific”

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Current use in ammonia fertiliser production and refineries Future use in steel, shipping, aviation, trucks, storage

Existing industry → 100 Mt of hydrogen produced and consumed per year as an **industrial feedstock** (refineries & ammonia production)



2% **clean hydrogen**
(1% green, 1% blue), 98% grey hydrogen

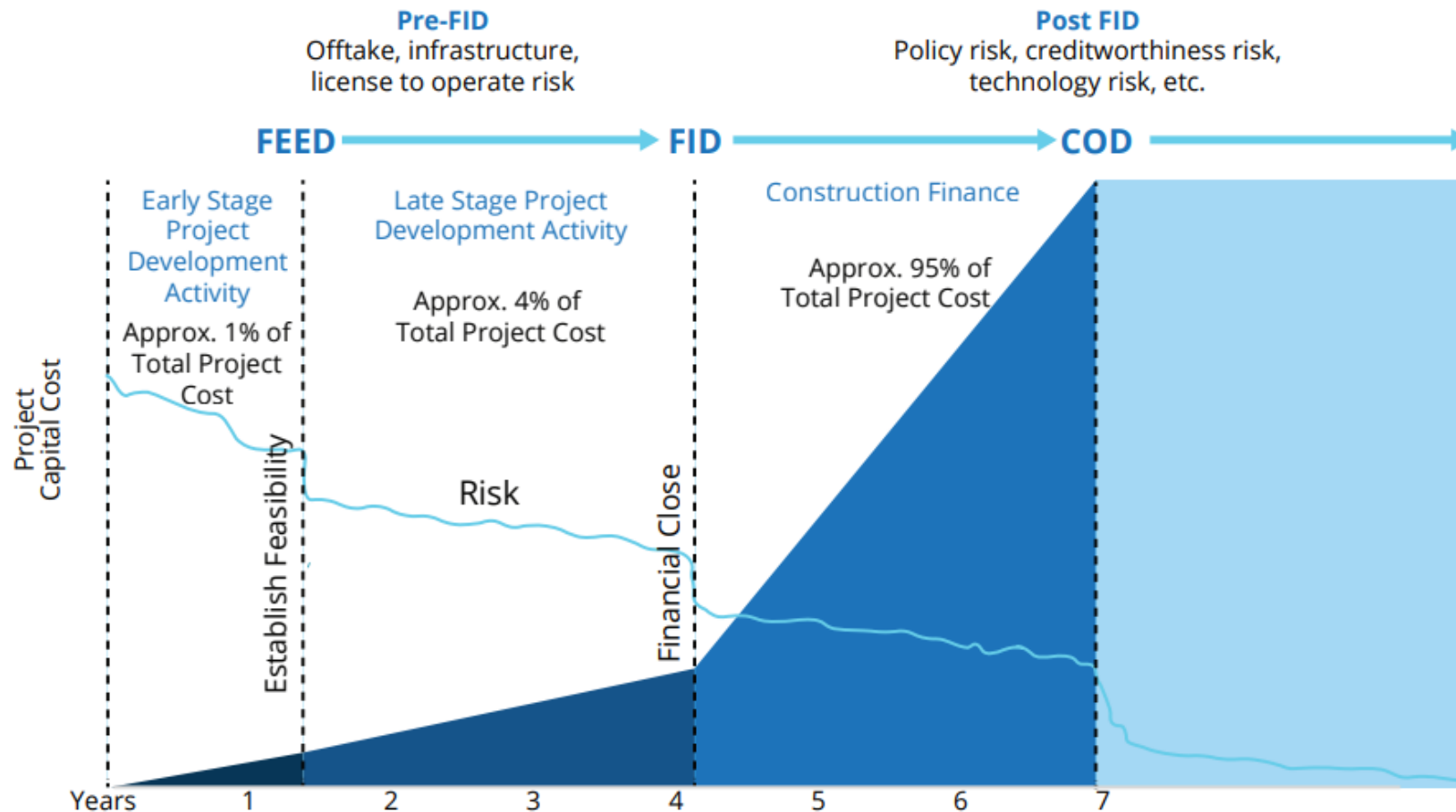
900 Mt of **CO₂ emissions/yr.**
and upstream methane

4x – 6x **increase in hydrogen demand**
by 2050

**Green hydrogen is a key enabler in decarbonizing
hard-to-abate sectors**



Clean Hydrogen Project Life Cycle



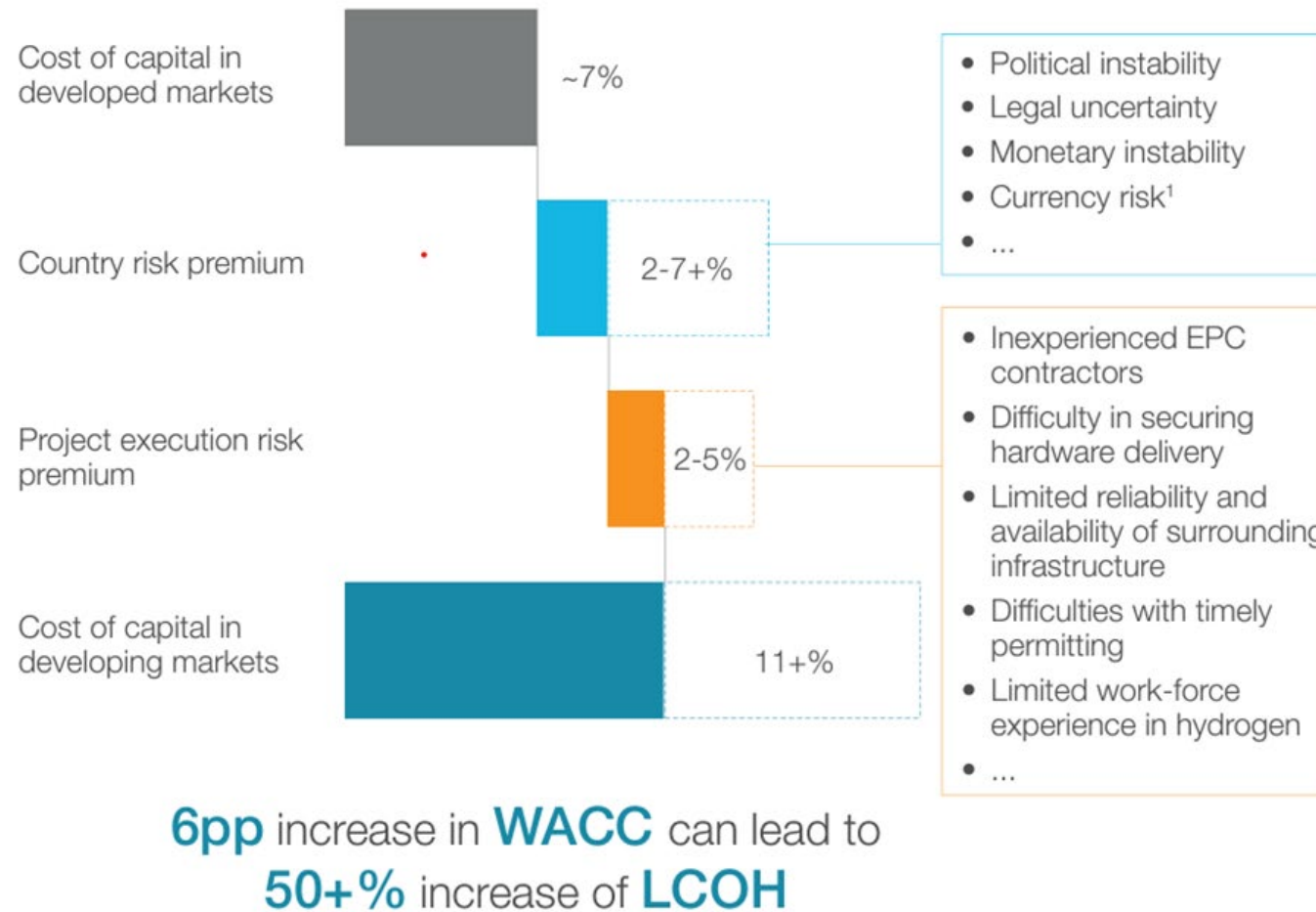
- Risks change over the project lifecycle, calling for different mitigation instruments at each stage
- Concessional finance in the early stages of project preparation is crucial to attract debt investor
- Clean hydrogen projects keep critical post-FID risks centered on EPC overruns, offtake default, technology nonperformance, withdrawal of regulatory incentives, and exchange risks

FEED: Front-End Engineering Design; FID: Final Investment Decision; COD: Commercial Operations Date; EPC: Engineering, procurement, and construction

Source: ESMAP/OECD/Global Infrastructure Facility/Hydrogen Council (2023)

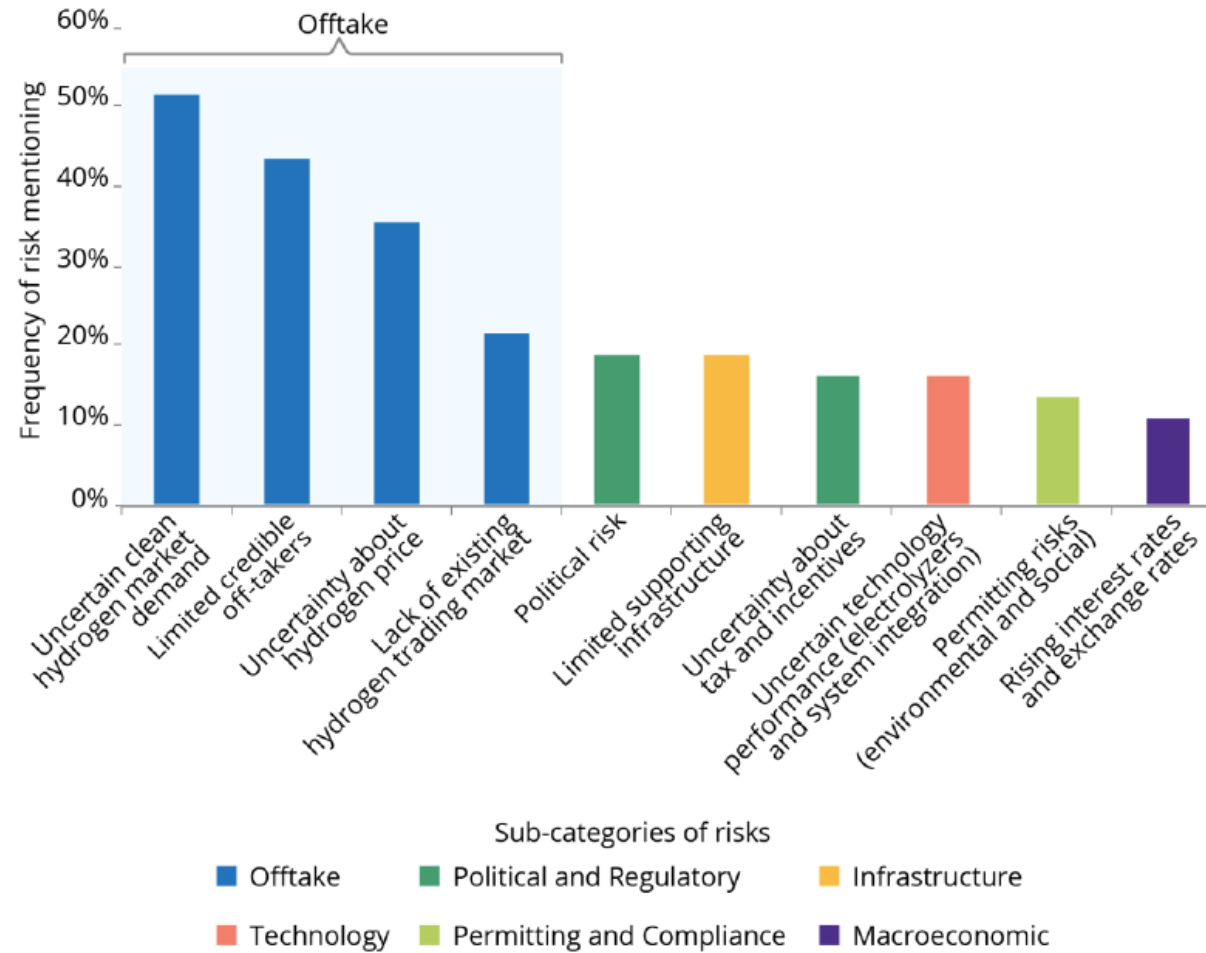


Drivers for the cost of capital for hydrogen projects in developed vs developing countries





Identified key risks based on OECD/World Bank investor survey



Source: ESMAP/OECD/Global Infrastructure Facility/Hydrogen Council (2023)



Mapping of de-risking instruments: Results of investor survey

← Highest risk for investors

	Uncertain clean hydrogen demand	Uncertainty about hydrogen price	Country risk	Uncertainty about tech. performance	Licensing, permitting, completion risks	Interest and exchange rates
Buyer credit guarantees						
Contractors-all-risk insurance						
Contracts for Difference						
Credit default swaps						
Foreign currency guarantee						
Interest rate swaps						
Liquidated damages						
Loan loss reserve						
Offtake guarantee						
Partial credit guarantee						
Performance guarantees						
Political risk investment/foreign investment insurance						
Syndicated loan						

Not relevant

Very relevant

- Offtake guarantees and Contracts for Difference are well-placed to address offtake risk (both market demand and clean hydrogen price).
- Political risk investment insurance is key to address country risk
- Several instruments exist to address interest and exchange rates



How can international co-ordination scale clean hydrogen financing?

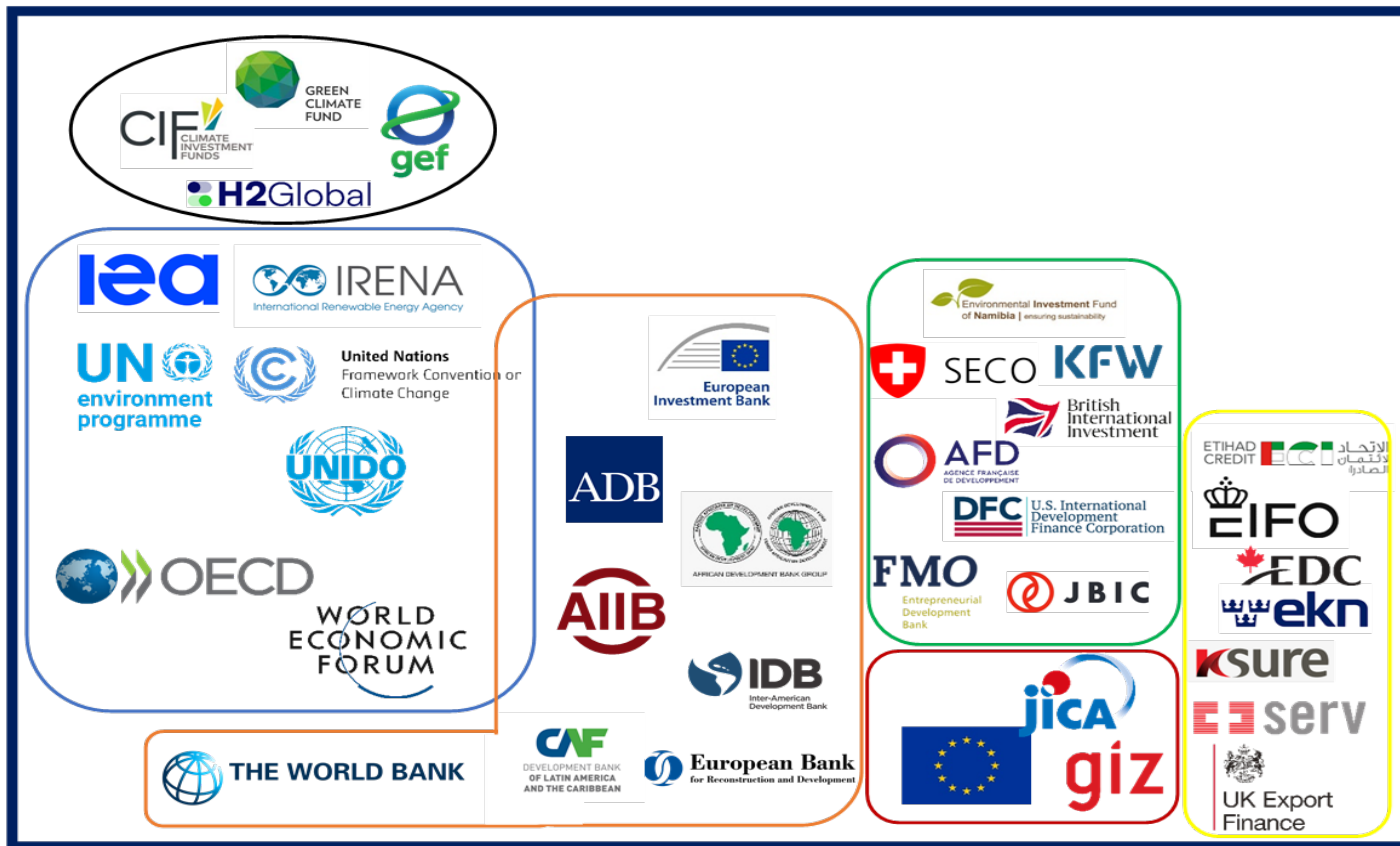
International nature
International investment focus

Domestic nature
National investment focus

Priority areas

Pure Play
Strong focus on
clean energy

Diversified
Clean Hydrogen investment
as part of mandate or
activity



- Multilateral Development Banks (MDBs)
- Development Finance Institutions (DFIs)
- International specialised Institutions

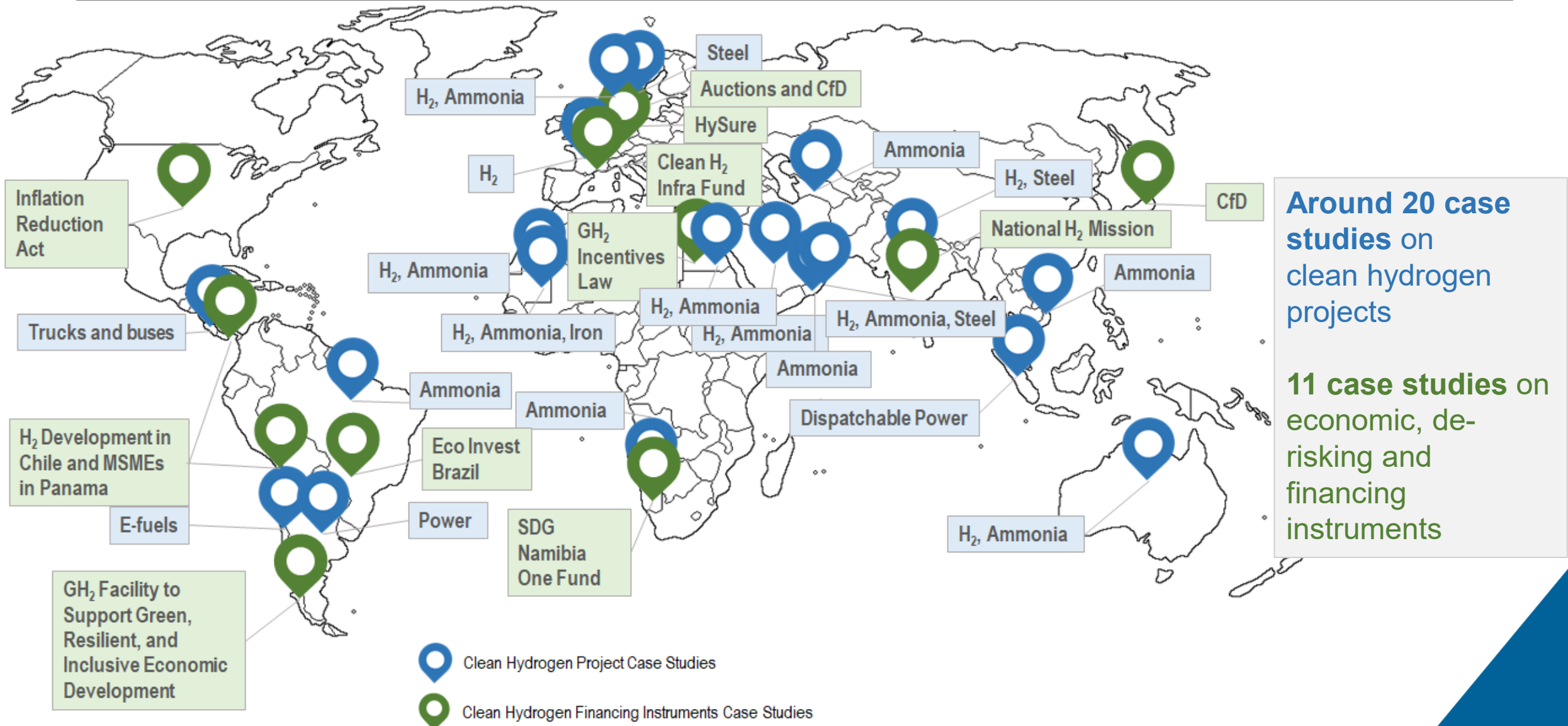
- International Organisations
- Bilateral Cooperation Agencies
- Export Credit Agencies

- Joint financing of IFIs for clean hydrogen projects
- International platform creation to channel capital flows towards viable clean hydrogen projects
- Harmonising appraisal and procurement processes for large-scale projects
- Knowledge-exchange and capacity-building on clean hydrogen financing in EMDEs

EMDEs: Emerging Markets and Developing Economies
IFIs: International financial institutions



Map of Clean Hydrogen Case Studies (2022-2024)





Key lessons from case studies

Enabling conditions

Alignment of national and regional strategies and policies

Thorough feasibility study at development stage, benefitting from hydrogen sector expertise

Risk sharing

Well-structured economic instruments
(e.g. *tax rebates, capex and opex subsidies*)

Public and private partnerships for effective risk allocation

Financing

Blended finance
(e.g. *concessional loans*)



THANK YOU

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