

2030 - 300GW



AREI

Africa Renewable Energy Initiative
Initiative Africaine pour les Énergies Renouvelables



Green Hydrogen
opportunities for
Africa

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Hydrogen trading considerations

12 October 2022

Regional Market Analysis: Africa and its Regions

IRENA's new **Regional Market Analysis: Africa and its Regions**, published in collaboration with the AfDB.

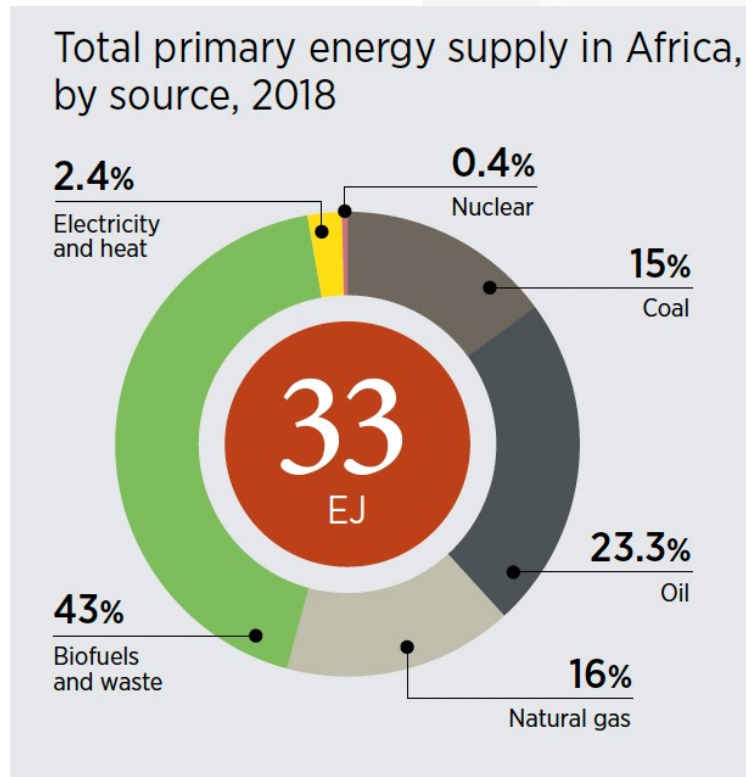
Key messages:

- Sustainable, renewable energy is fundamental to Africa's future.
- Transitioning Africa's energy sectors to renewable energy holds vast potential to benefit national economies and job creation, and environmental quality
- A comprehensive policy package, such as an African Green Deal, could support African countries in the transitioning of their energy sectors

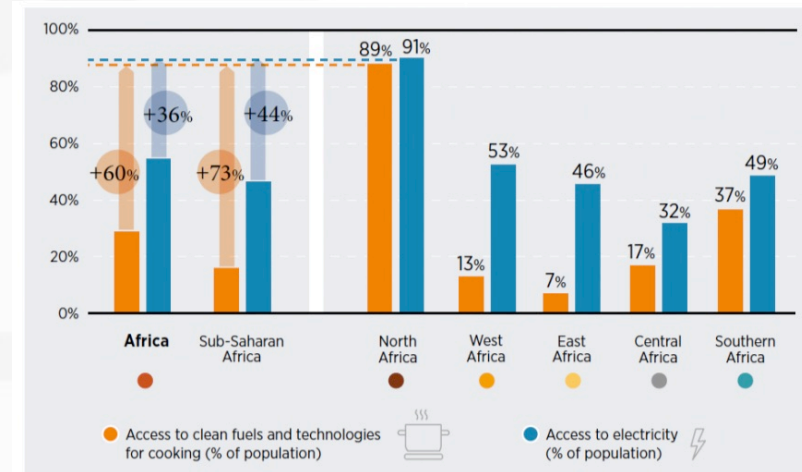


Africa's Energy Landscape

Total Primary energy supply in Africa, 2018

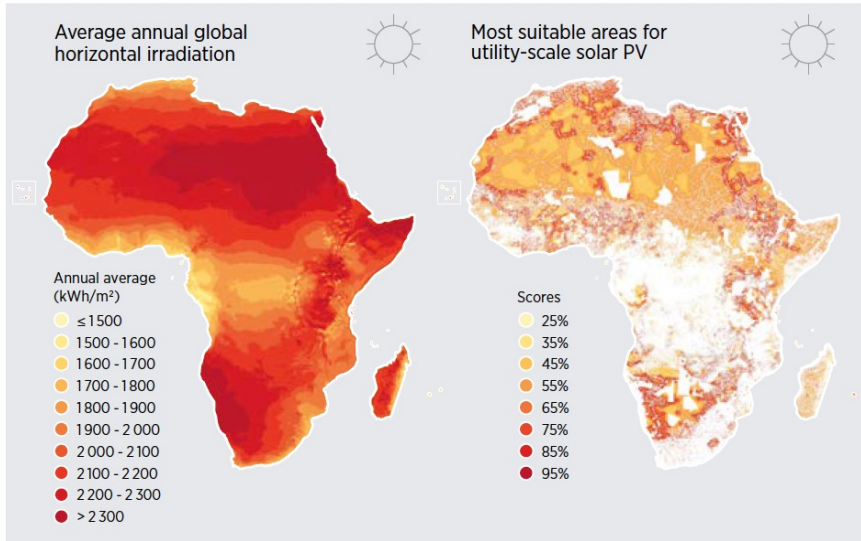


Access to electricity and clean cooking in Africa, 2019

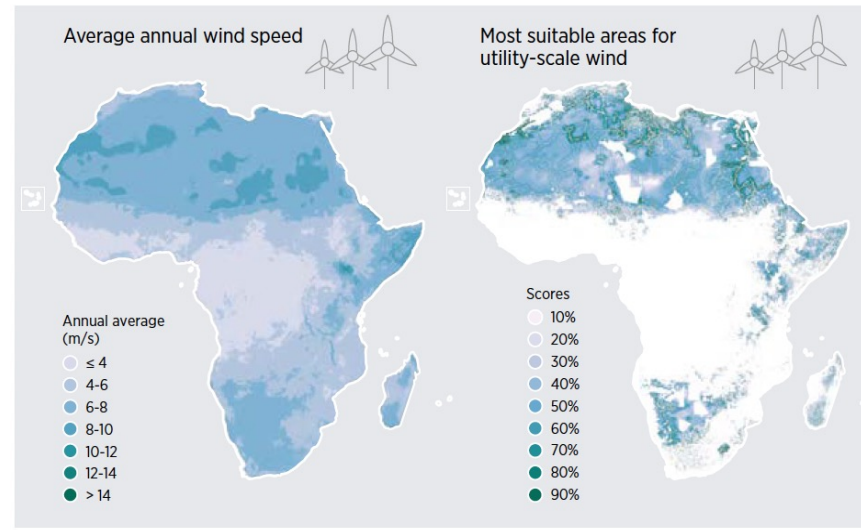
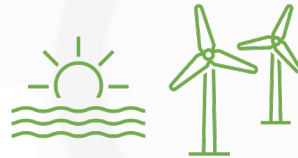


Sub-Saharan Africa in 2010 555 million people without access to electricity 33% access to electricity 746 million people without access to clean cooking 12% access to clean cooking
Sub-Saharan Africa in 2019 570 million people without access to electricity 46% access to electricity 906 million people without access to clean cooking 16% access to clean cooking

Africa's Energy Landscape

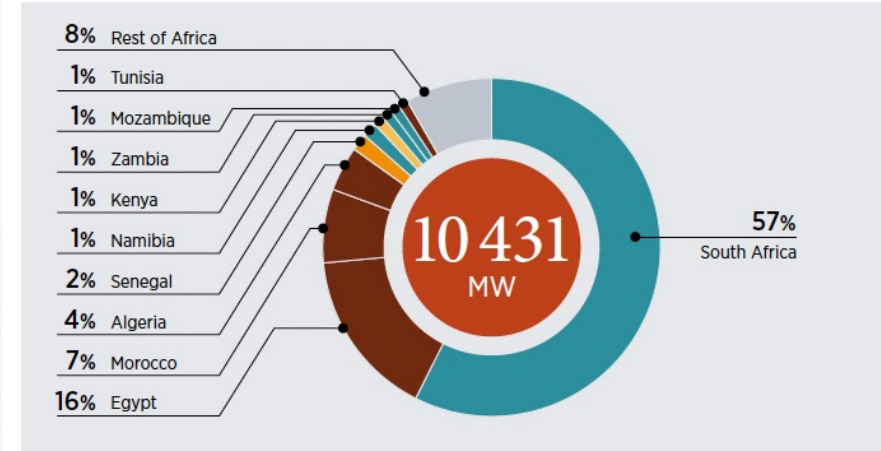


Large renewable energy resources besides hydropower

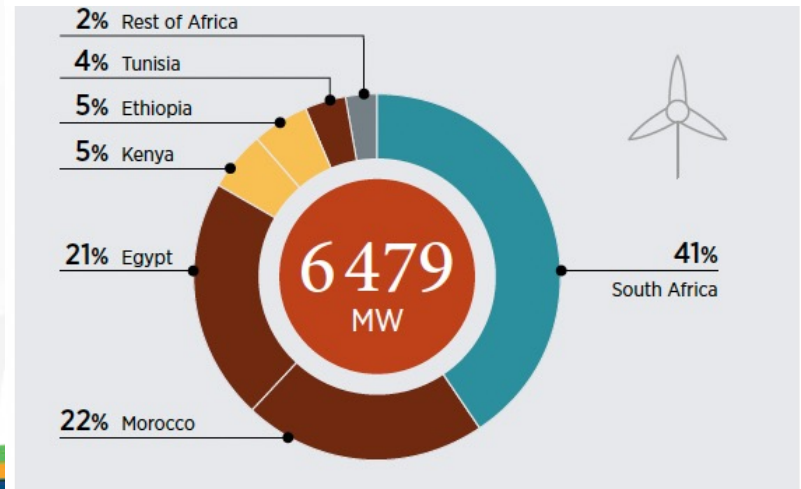


...but actual deployment lags behind potential and is concentrated in a few countries

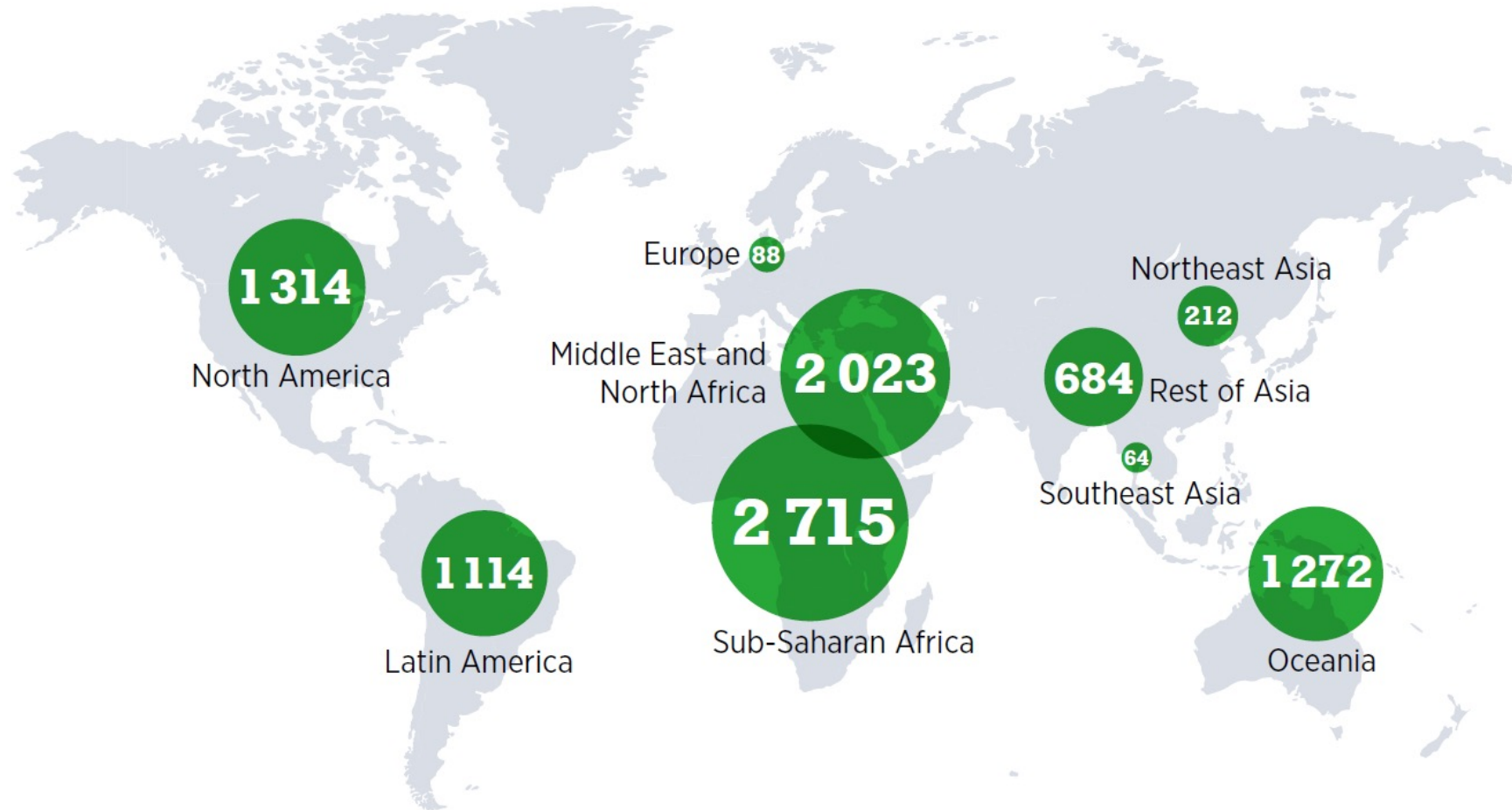
Africa's installed solar generation capacity, 2020



Africa's installed wind generation capacity, 2020

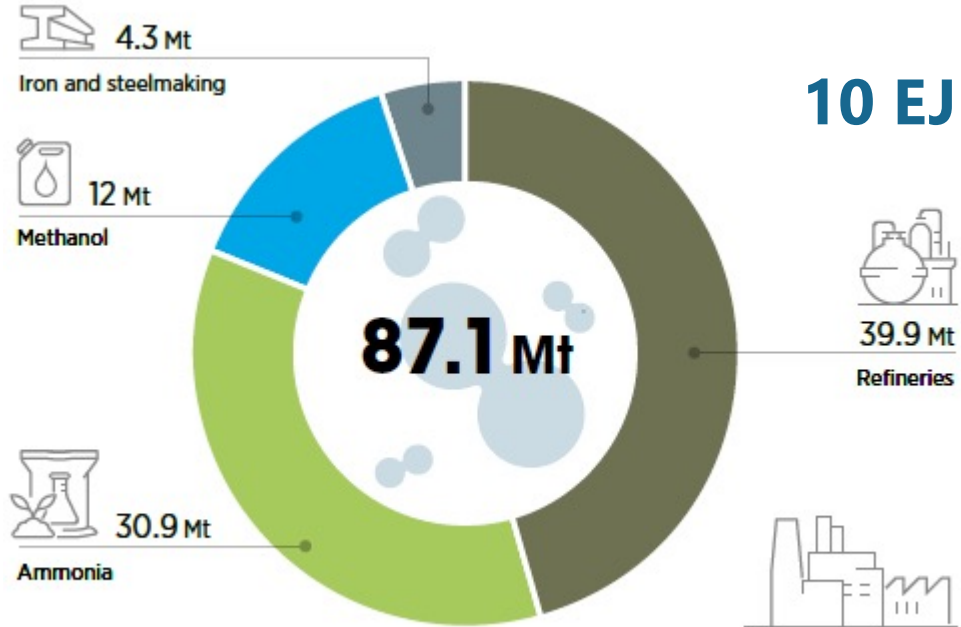


Technical potential for producing green hydrogen under USD 1.5/kg by 2050, in EJ

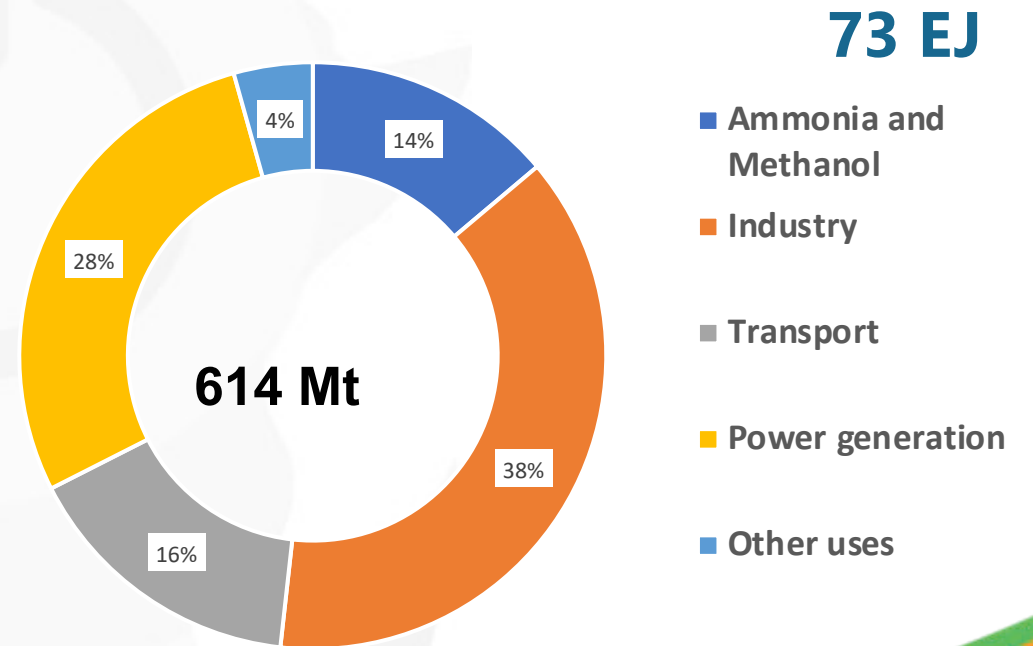


Hydrogen present and future

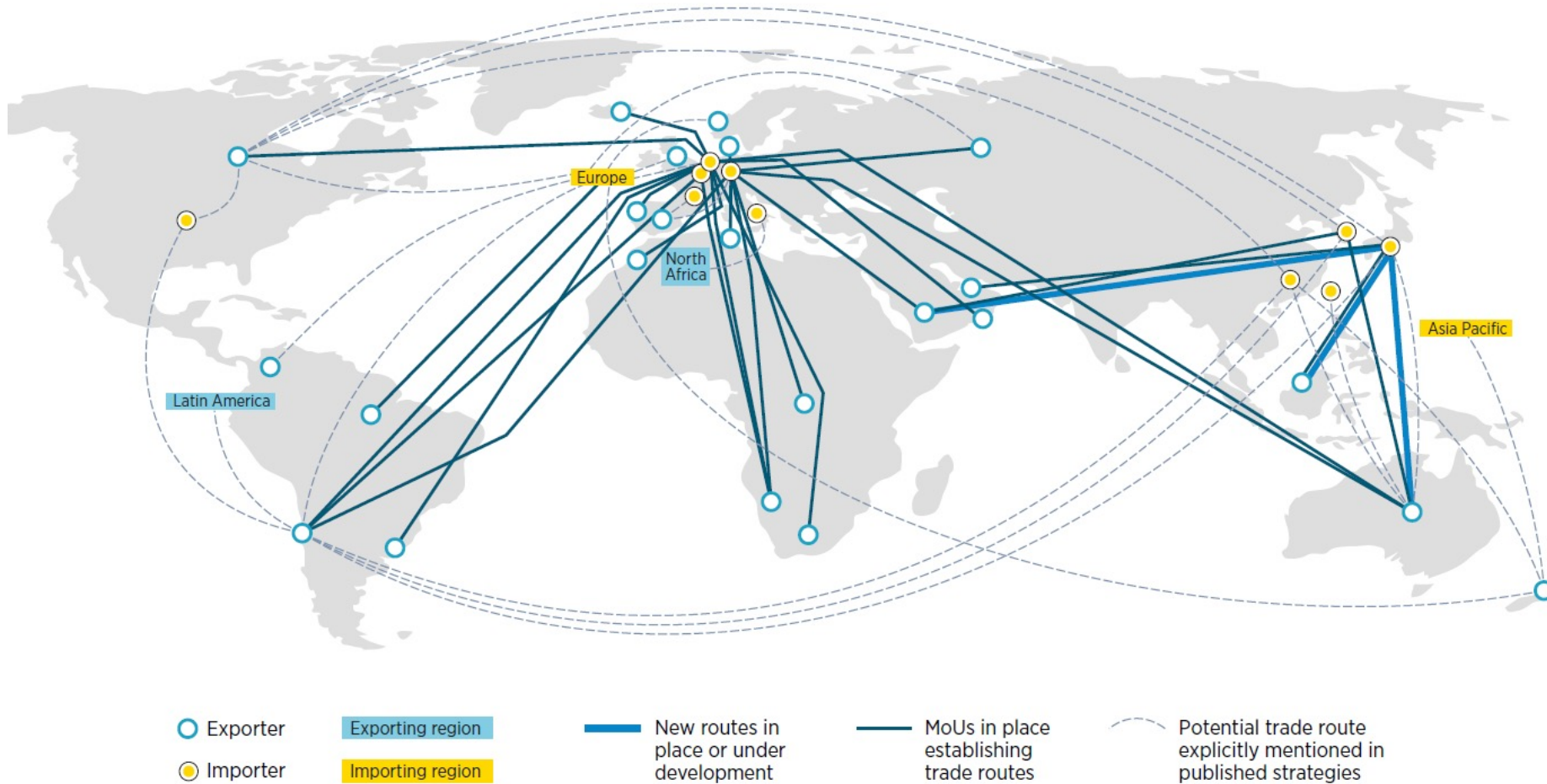
Hydrogen demand, 2020



Hydrogen use in 2050 - WETO



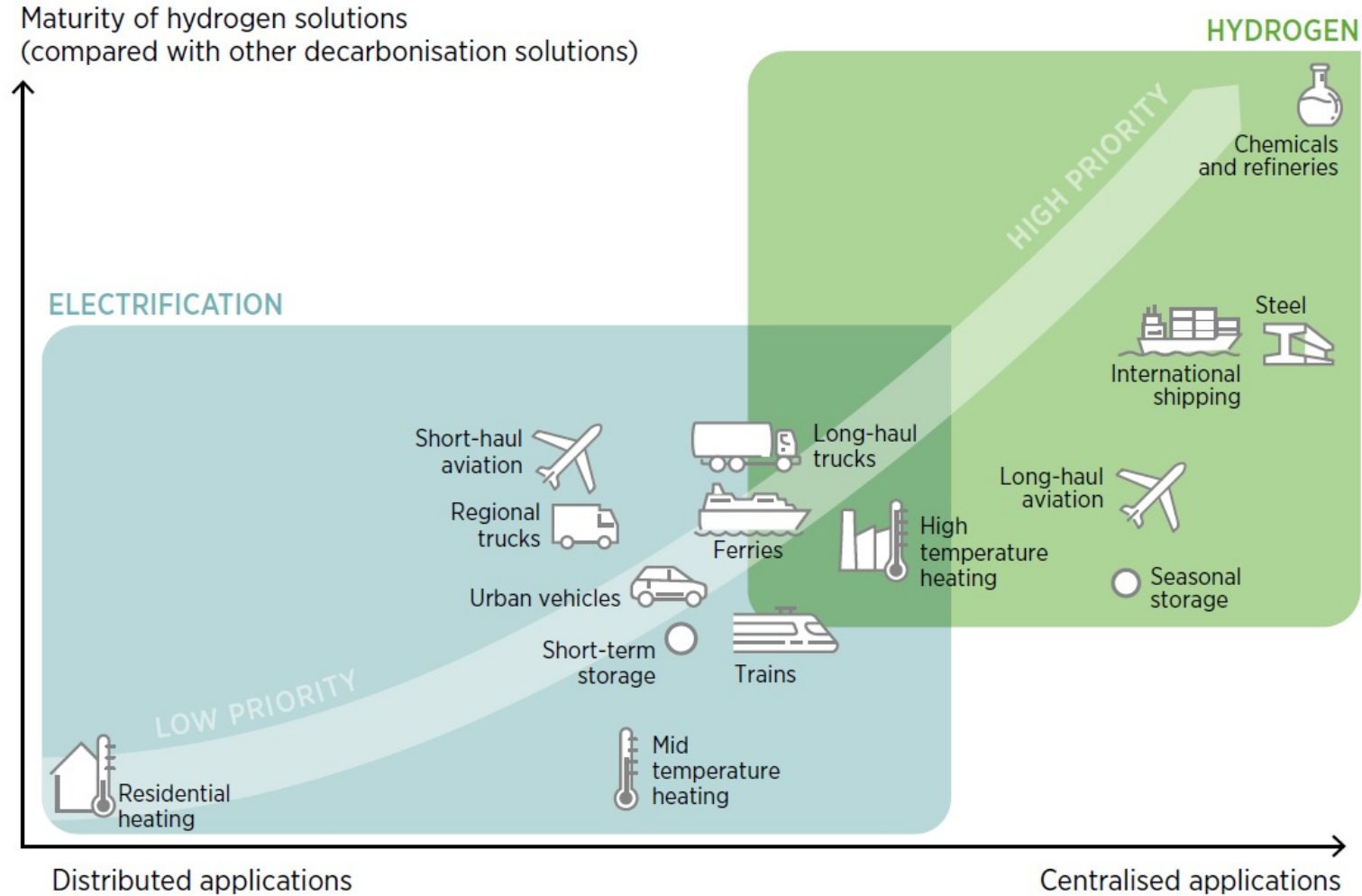
The expanding network of hydrogen trade routes, plans and agreements






























































Hydrogen Strategies (November 2022)



Green hydrogen policy priority (“Where?”)

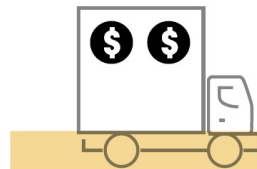
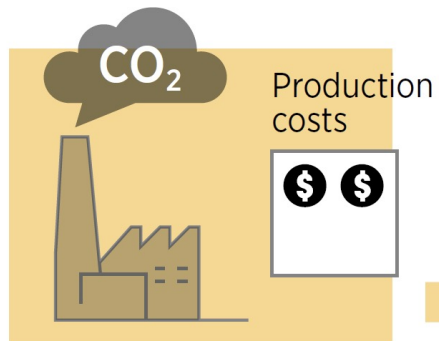


G7 producers divided on distributed end uses

Category	Canada	France	Germany	Italy	Japan	United Kingdom	United States	European Union
 Trains  Steel								
 Petroleum  Chemical								
 Other Industry  Buses								
 Ships  Private Cars								
 Power Generation  Airplanes								
 Residential Heating								

Border Carbon Adjustment Mechanisms

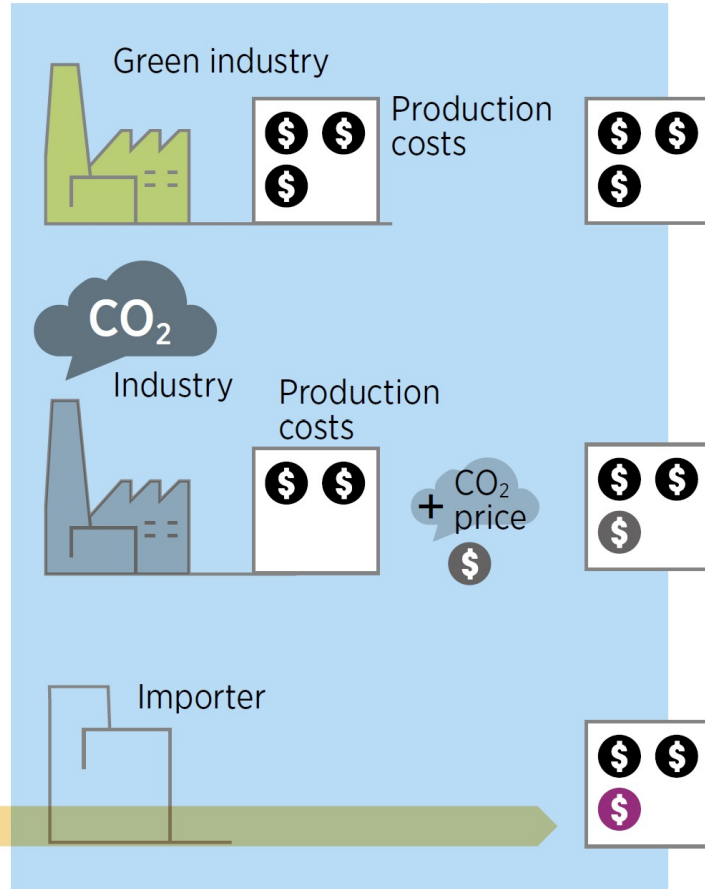
Country A
(no or lower carbon price)



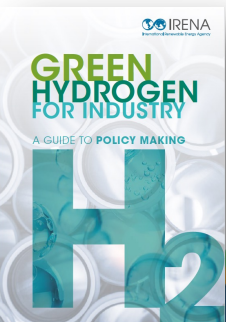
Border



Country B



Final product cost



In conclusion

- Initial oligopsony: few importers - mostly G7 - will set up hydrogen trade on the onset
- Priorities for the first movers are on HTDS, in particular for those with an interest on green hydrogen
- CBAM, import duties and other industrial policies can be expected in the Global North to keep industries within national boundaries.
- As a result, green hydrogen can be seen as an opportunity for green industrialisation



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