HySupply – Australian update

Australian Hydrogen Conference

Sydney, 26-27 May 2021

Australian Government
Department of Foreign Affairs and Trade

Australian Government
Department of Industry, Science, Energy and Resources

Baringa
Brighter together

UNSW SYDNEY

HySupply Partnership

BDI
Bundesverband der Deutschen Industrie e.V.

acatech
DEUTSCHE AKADEMIE DER TECHNIKWISSENSCHAFTEN

Key Partners

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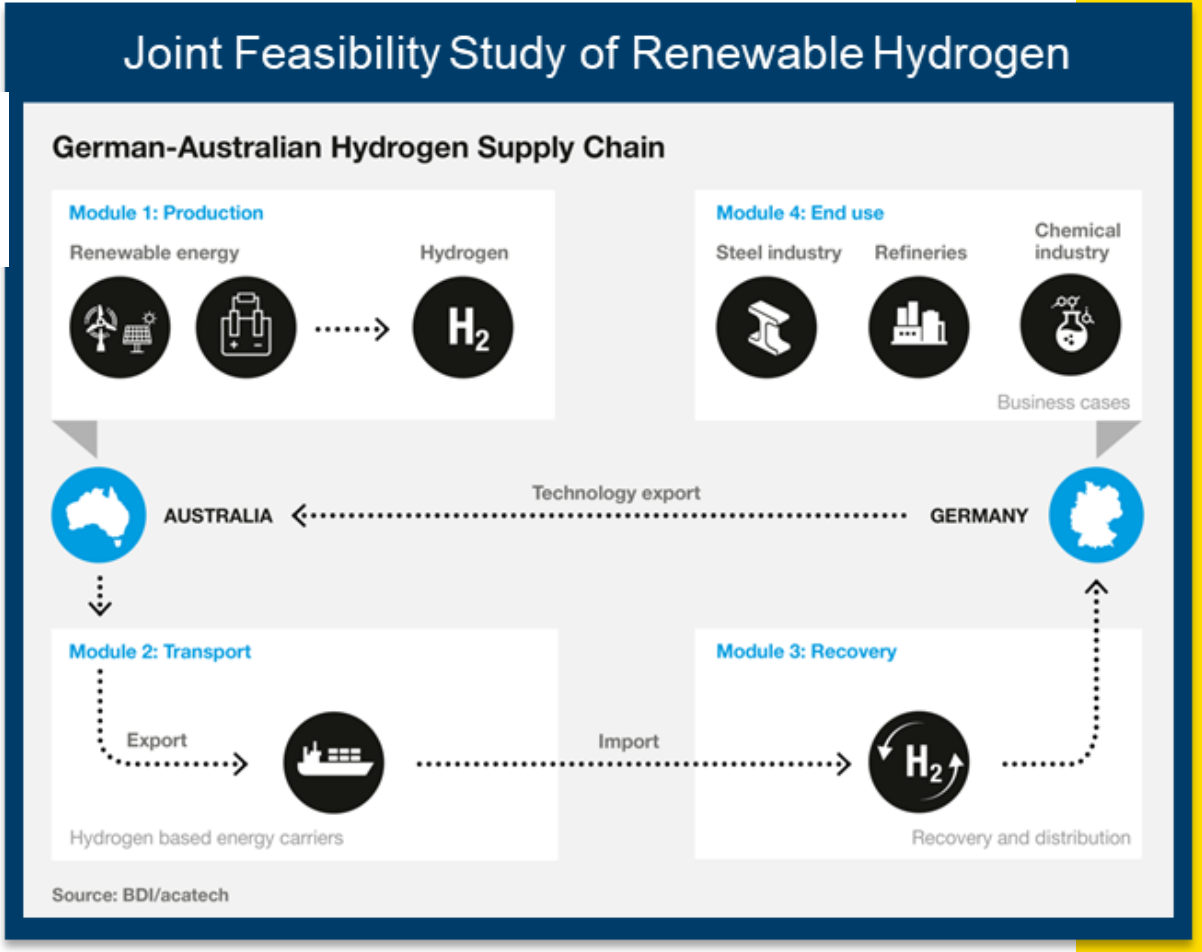
Lead and Administrating Organization



Australian stakeholders

Key Partners

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+

GlobH2E

ATSE
Australian Academy of Technology & Engineering

origin

FMG Fortescue
The New Force in Iron Ore

CSIRO

Scimita VENTURES

Australian Government
Australian Renewable Energy Agency

ARENA

SIEMENS energy

cefc

NERA
NATIONAL ENERGY RESOURCES AUSTRALIA

MAN
MAN Energy Solutions

YARA

Australian National University

GPA

AUSTRALIAN HYDROGEN COUNCIL

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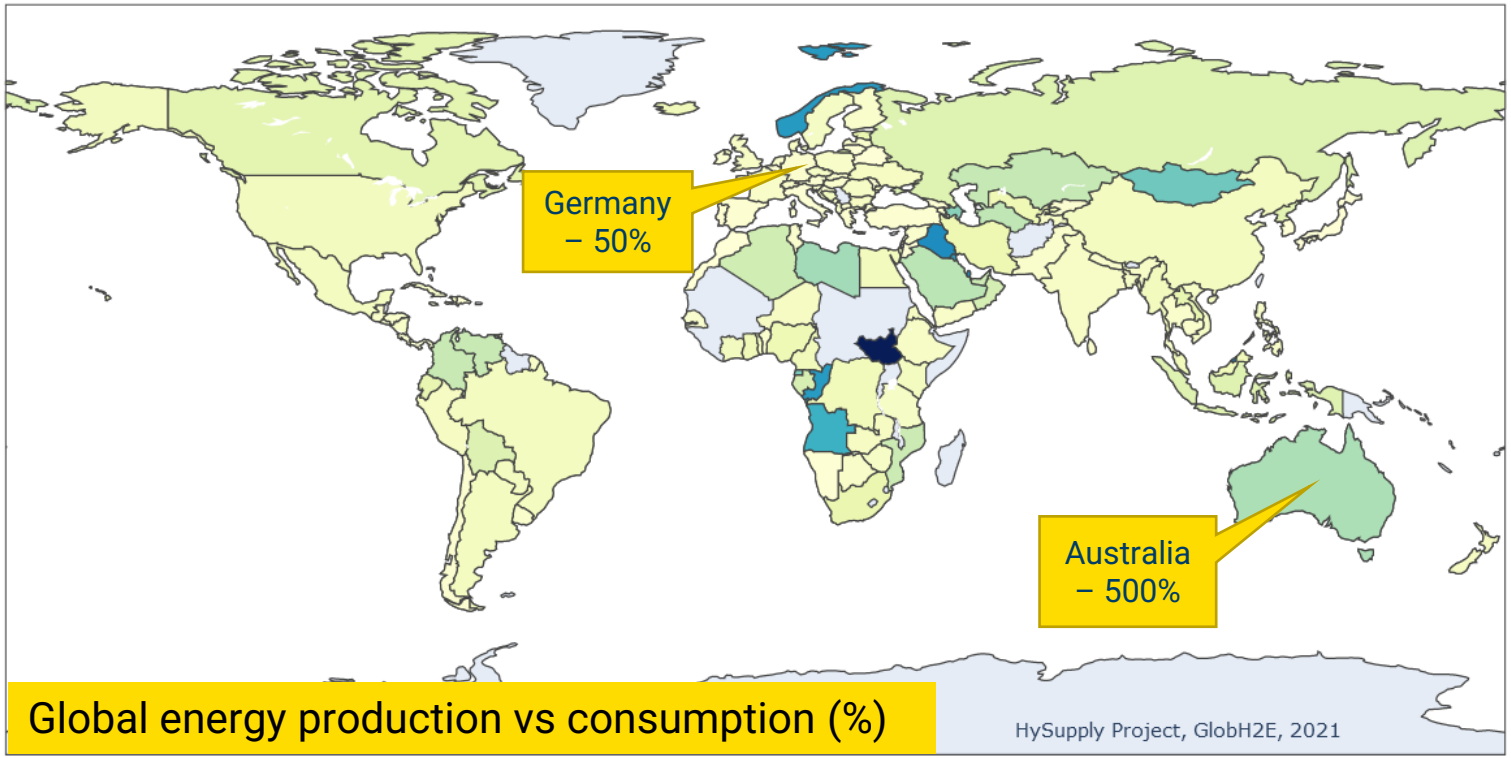
Current global energy trade

Largely an outcome of the availability of easily extracted low-cost fossil fuels



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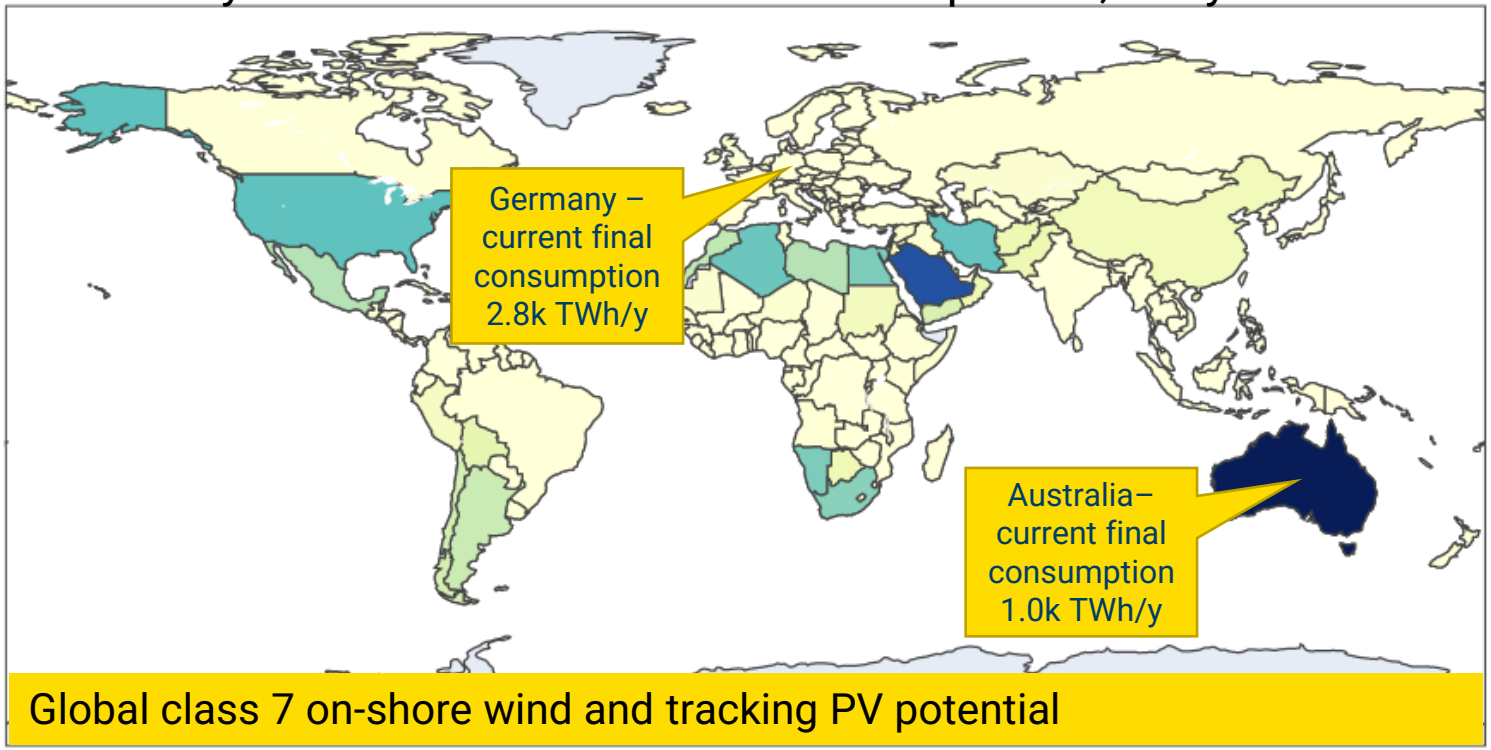
A mostly renewable world more self reliant

However, some countries still seem certain to require energy imports … including Germany and some others in Europe, Japan, Korea

Potentially new renewables ‘electrostate’ exporters, likely some old ones



Global class 7 on-shore wind and tracking PV potential

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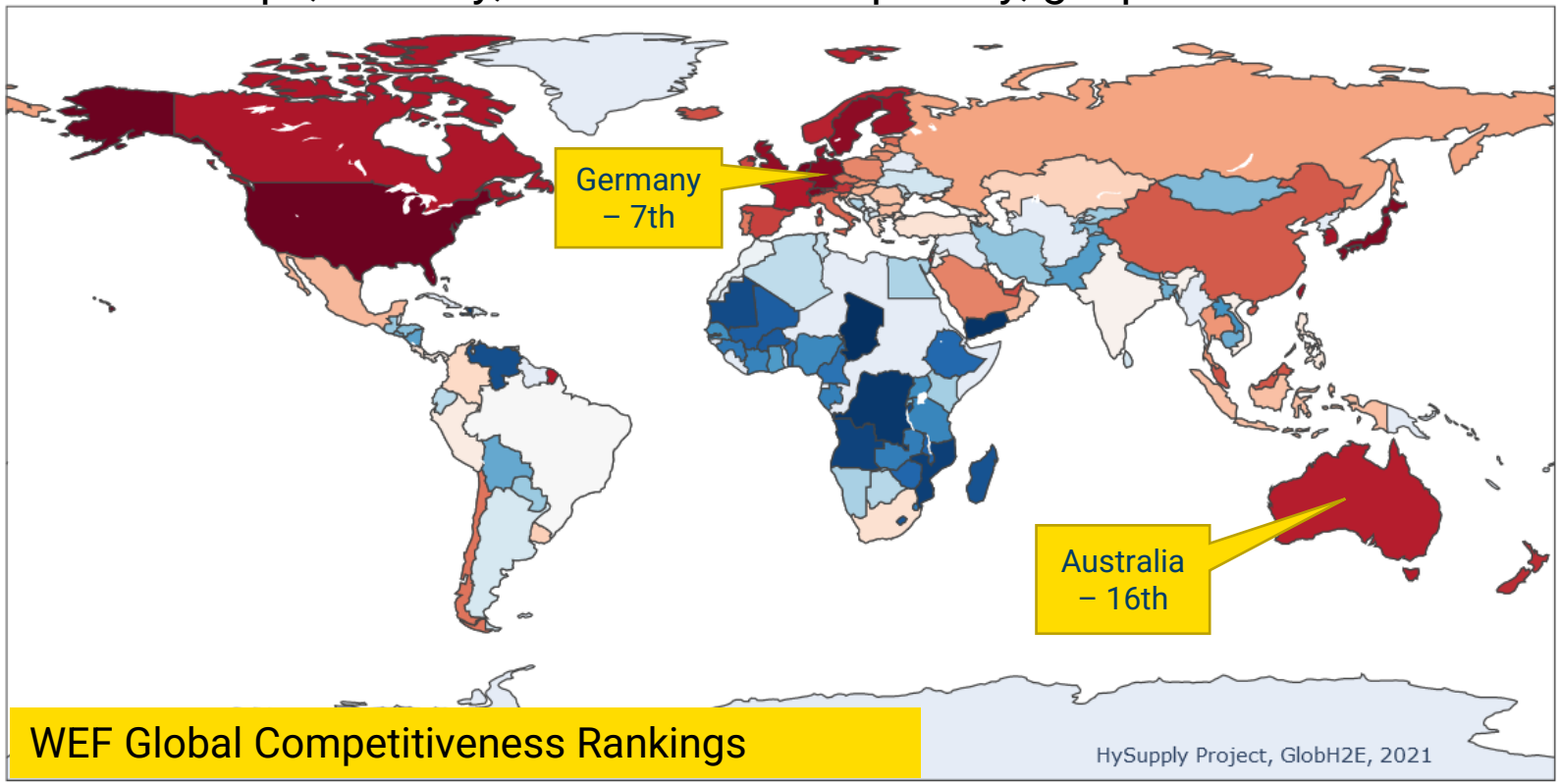
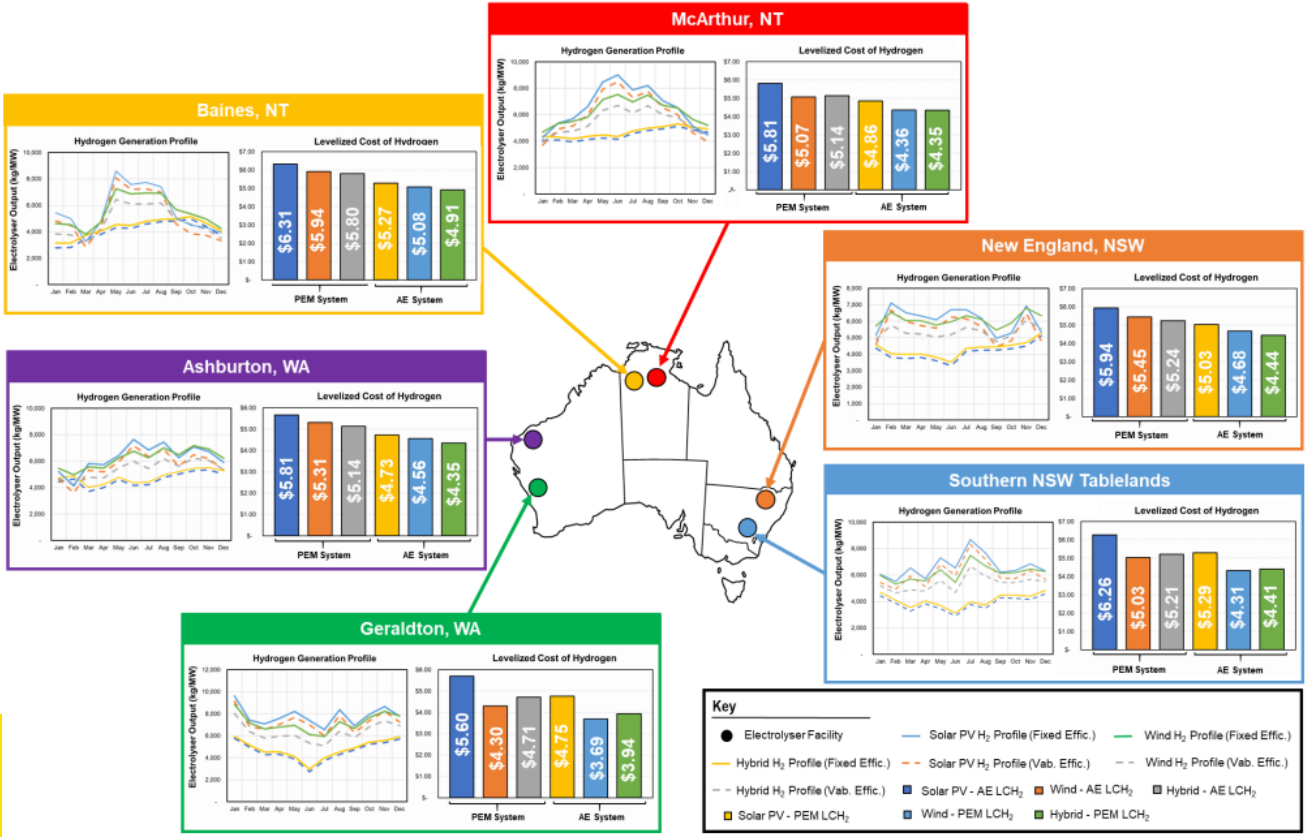
Trade relationships generally multi-faceted

Delivered price is key, but not the only consideration - existing trade relationships, stability, demonstrated capability, geopolitical considerations….



Forthcoming – *State of Play* report and open-source value-chain models



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State of Play: The Case for an Australian Hydrogen Export Market to Germany

HySupply: Australia Germany Hydrogen Value Chain Feasibility Study
May 2021

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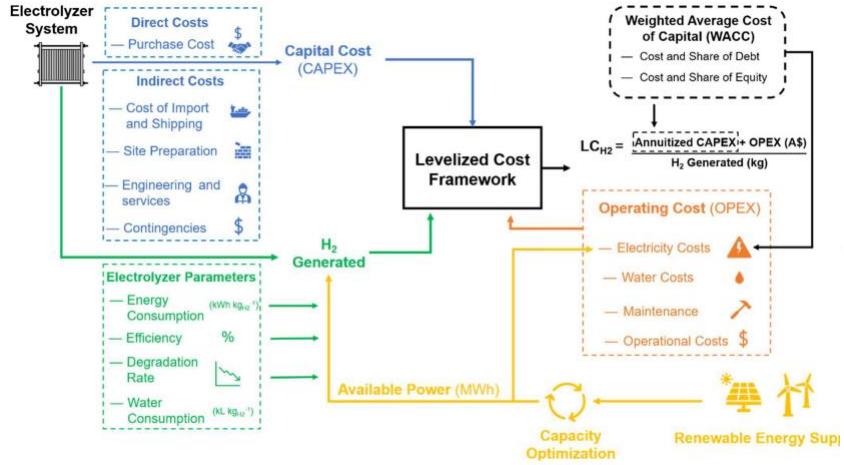
Green H2 production costs

Location matters

Cost reductions needed

- Renewables costs down, CF up
- Electrolysers costs down, efficiency up
- Improved integration (CF optimisation) for both off-grid and NEM / SWIS / DKIS projects
- Low cost (de-risked) finance



Designing Optimal Integrated Electricity Supply Configurations for Renewable Hydrogen Generation in Australia

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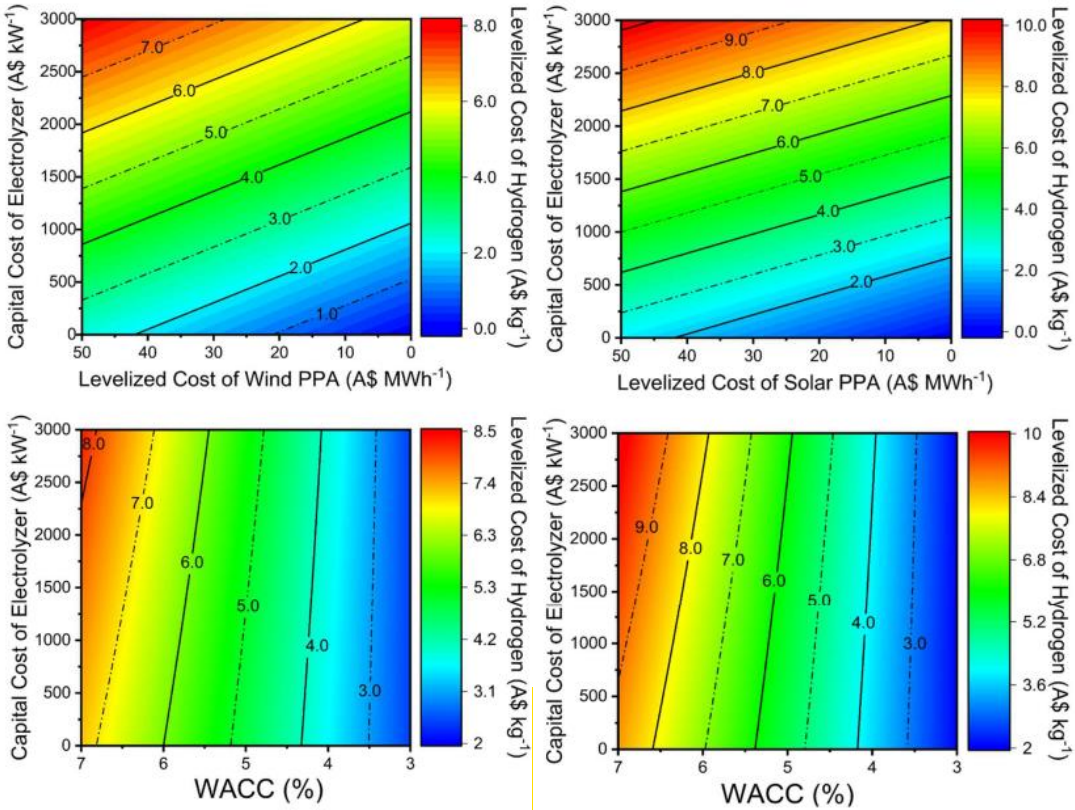
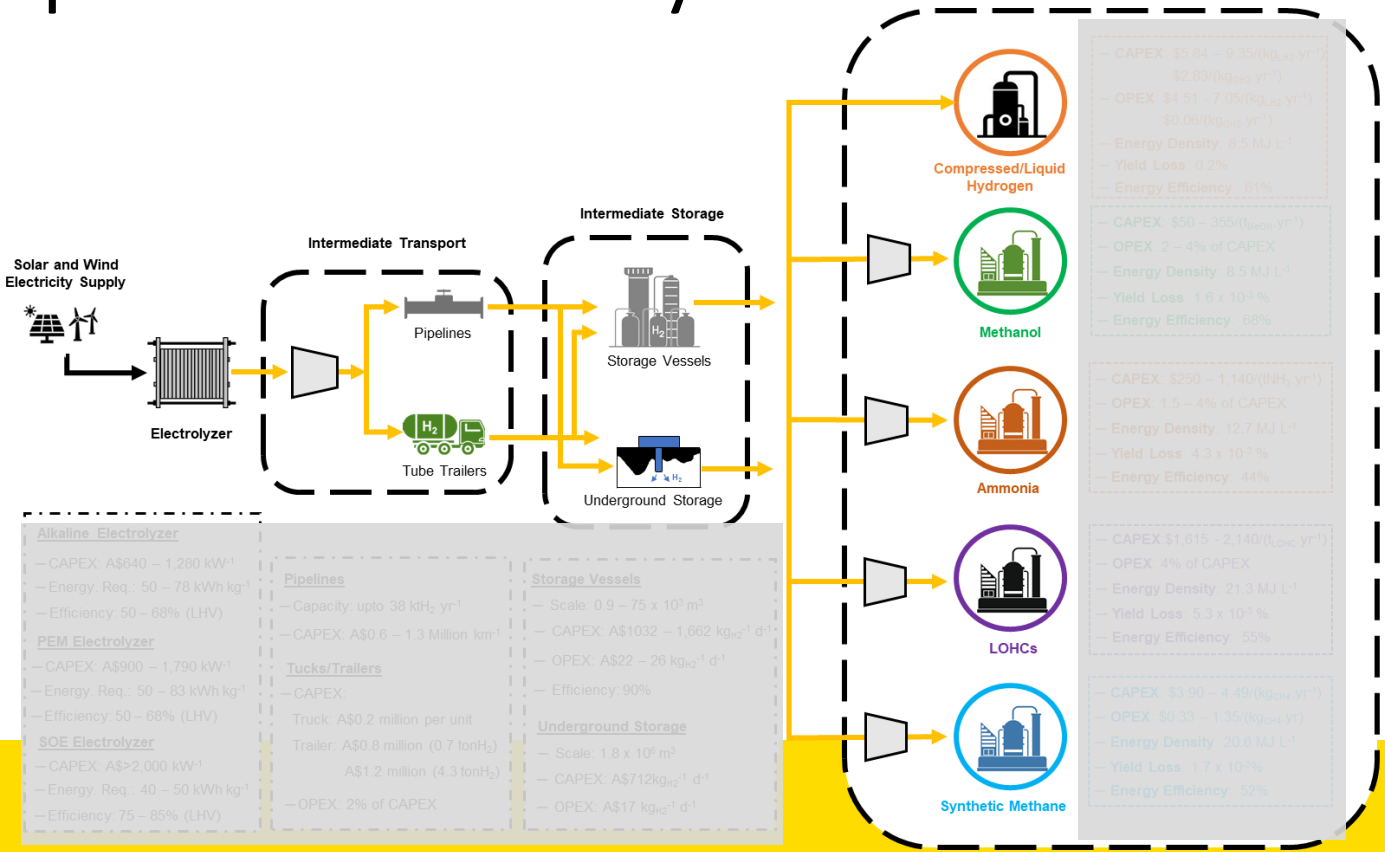
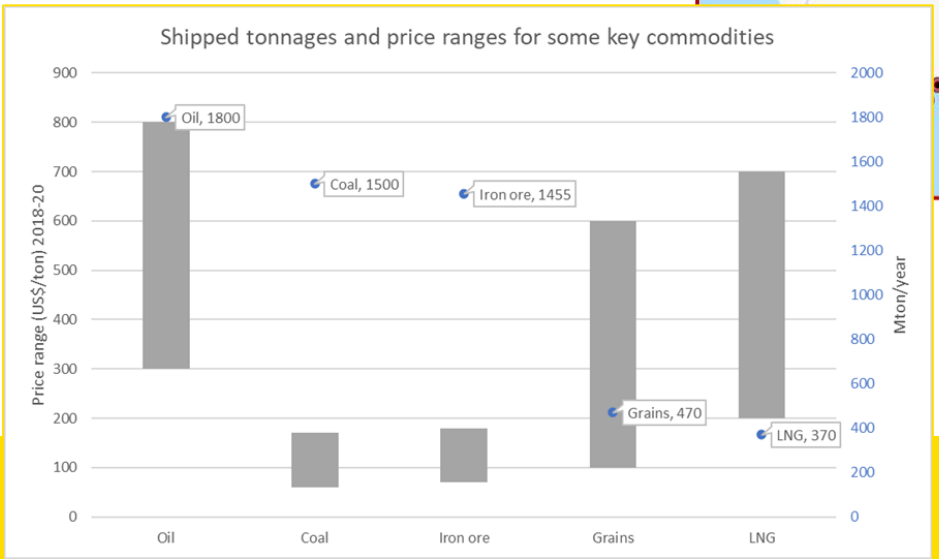


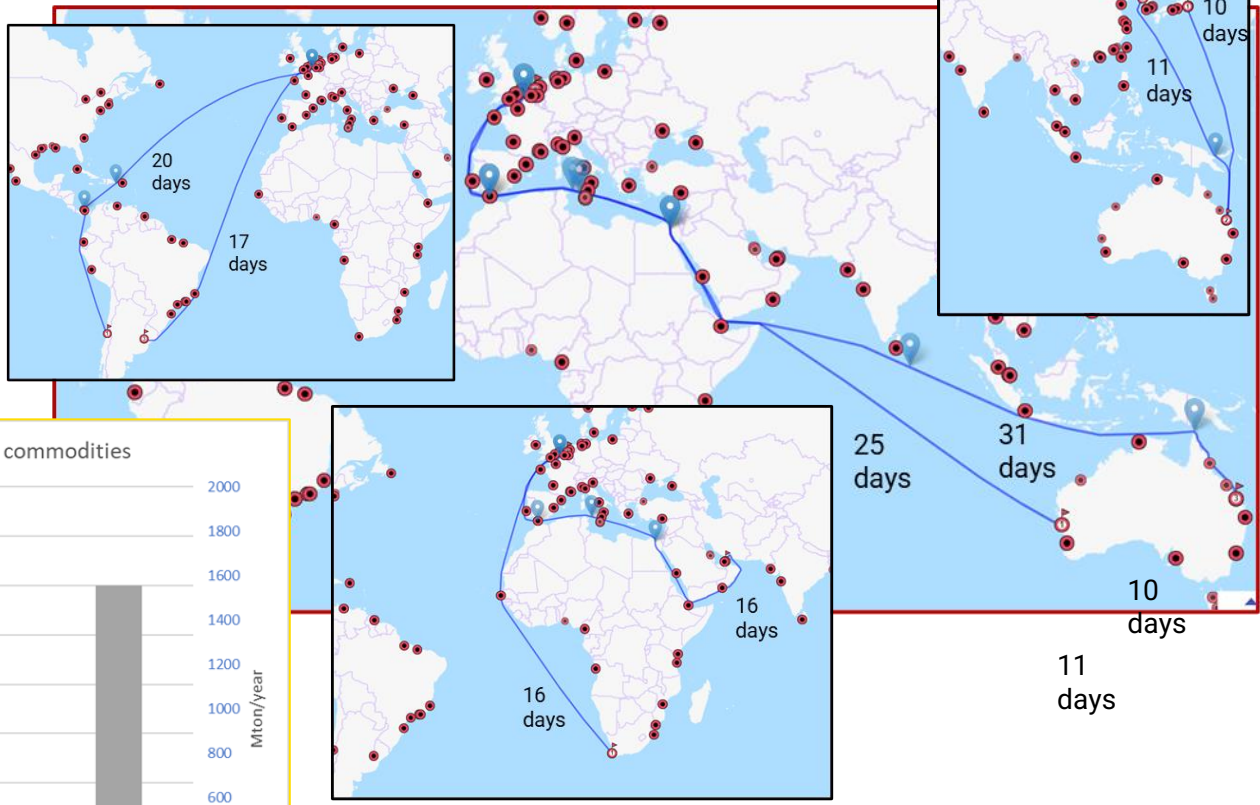
Also modelling Storage, Conversion and Transportation Pathways



Shipping hydrogen

- Advantages for hydrogen production near point of use
- Pipelines the lowest cost, albeit less flexible, option for distances up to thousands of km, subject to route constraints
- **However,** shipping delivers 80% of global trade, flexible, low cost…. *and needs clean fuels*





Much to be optimistic about… but much much more to be done

Questions, comments, suggestions all welcome

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