FACCI WEBINAR | NSW Café Croissant Catch-Up Special Energy & Resources – Summary

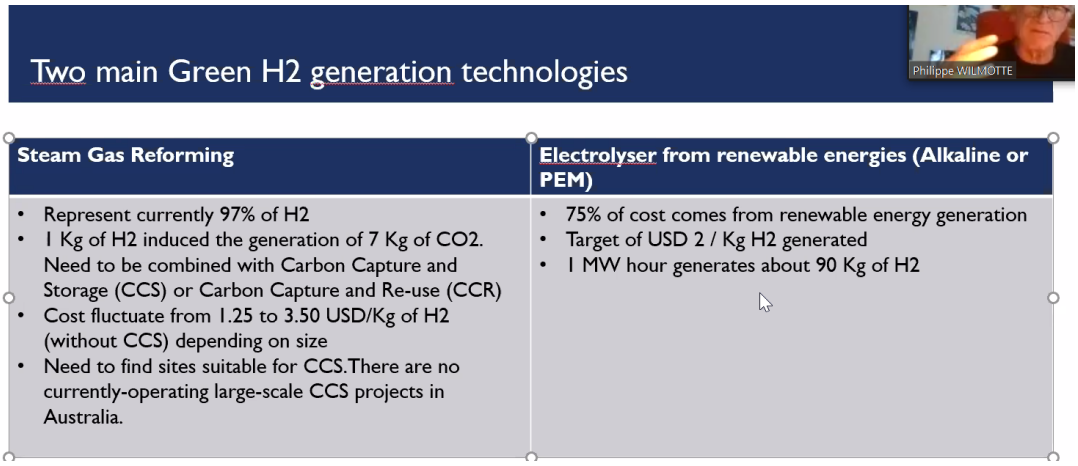
Last Friday, the energy and resources committee held an informal "café croissant" about the challenges and opportunities in the sector.

The session was animated by the presentations from Philippe Willmotte (John Cockerill) and Thomas Padovani (Padotech – Hydrogene De France).

10 members joined the discussion which was divided in 3 main topics. Here follow the notes taken during the session:

1) How to produce Hydrogen

We discussed about the main technologies to generate Hydrogen. We compared blue hydrogen (produced from Gas) and Green Hydrogen (produce from electrolysis and renewable energy)



- Steam gas reforming: does not decrease CO2 emission (No CCS have been successfully developed and the technology so far and it is not cost competitive)
- Electrolyser from renewable does not generate any CO2

In order to become competitive in large applications, several reports have set a target of 2 USD/kg of green hydrogen.

Cost of renewables as a main driver.

We then mentioned the following opening questions:

Challenge how to favour generation of clean H2 over conventional technology SGR that is still the source of CO2 emission and currently is cheaper?

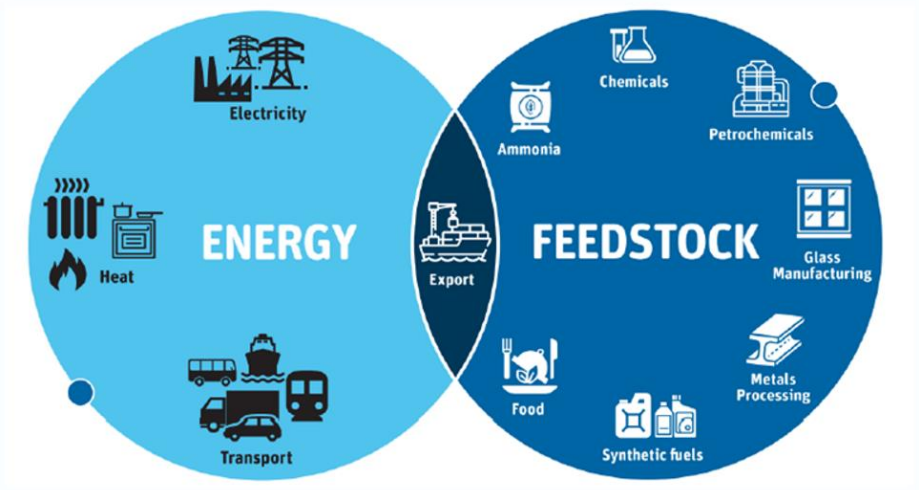
Or

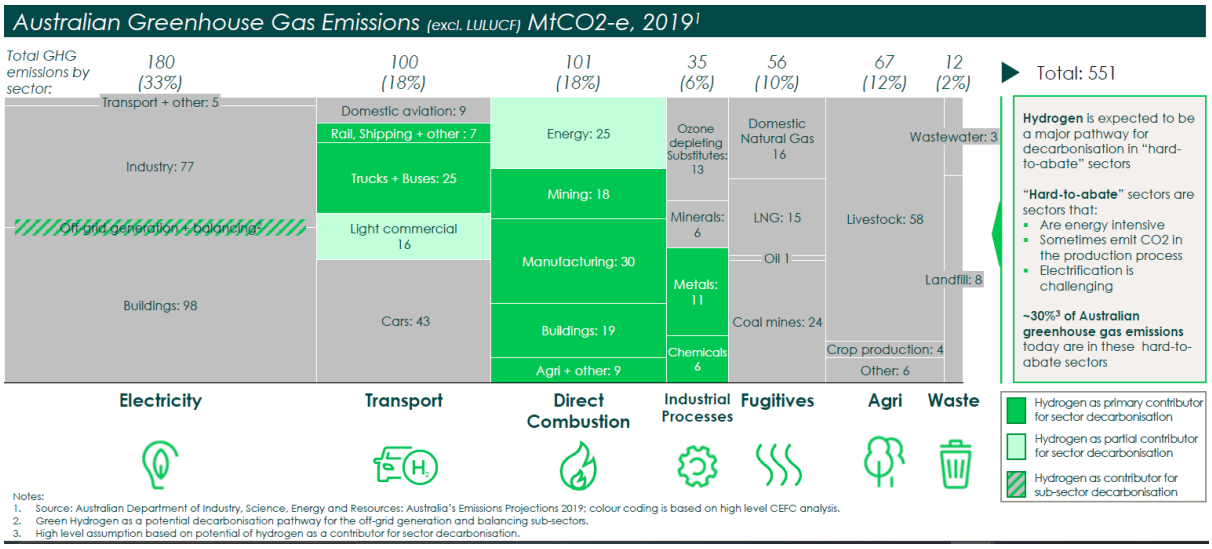
Conventional means are not environment friendly H2. Could their development pave the way for/complement a new industry that will in time favour clean H2?

2) Potential applications for Hydrogen

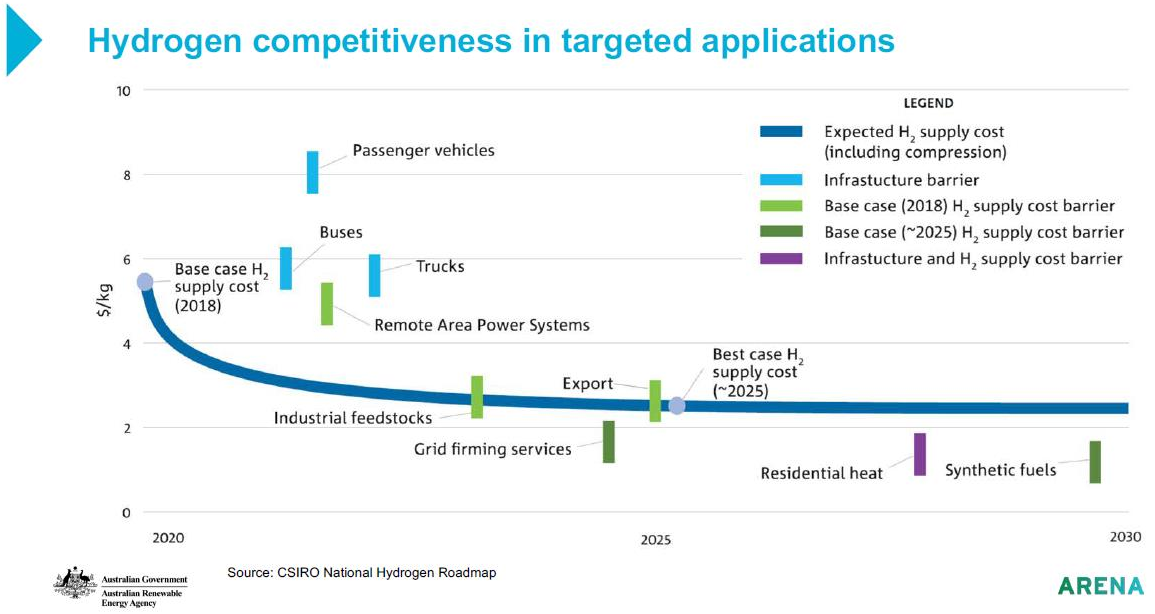
After talking about the production of Hydrogen, we exchanged about the potential applications for Hydrogen:

The following charts from CSIRO and CEFC show the foreseen applications for Hydrogen and the potential reductions impact on Australian Greenhouse Gas Emissions.





The following chart from CSIRO details target prices for Hydrogen to become competitive in those markets:



Our goal was to identify some "niche" markets in which Clean Hydrogen generation can be competitive now or in a near future. A few examples were mentioned:

. Remote Area Power Systems: Offset diesel generation in remote communities / industrial sites (mining) → Viable business case, relatively small projects but can be a first niche to generate scale and reduce CAPEX

a. Mining application: underground mines + trucks

b. Construction: CO2 emission in urban space, opportunities to reduce emission from machineries: hydrogen to run heavy machinery

c. Generate ammonia + export

3) Other opportunities and challenges in the energy space

Finally we opened the discussion with other challenges in the energy space.

Challenges	Opportunities
- General curiosity about the topic from the public but no deep understanding - Political topic: No clear view or ambition from the federal government after RET was achieved. - Developers building utility scale project (wind/solar/batteries), are spending months/years, to address the community around the site that they are targeting. Some of them have in-house resources for this, most of them rely on their BDM for this. They would need help on this - Challenge in signing long term PPA with mining sector	- Create community, improve communication - Strong declining in Coal investment. Movement toward decarbonisation is gathering speed - Government might help renewable energy projects at the development stage to de-risk investment. - Hydrogen fund: 70 mAUD$ from ARENA and 300mAUD from CEFC to support the industry

Conclusion

This first Café Croissant was a good opportunity for the Energy and resources committee to maintain and build relationships with its members. It has been a pleasure to exchange and discuss about opportunities and challenges from our different perspectives.

FACCI would like to thank **Thomas Padovani** and **Philippe Wilmotte** for their presentations during the session.

If you wish to continue the discussion, please contact Thomas Padovani at thomas@padotech.com and Philippe Wilmotte at philippe.wilmotte@johncockerill.com.

Many thanks to **Philippe Vincent**, FACCI NSW President for moderating the session.

If you are interested in the topic, here are some links for further reading:

Recent press review:

In Sweden, hydrogen has been used to heat steel in a bid to boost sustainability
https://www.cnbc.com/2020/05/01/hydrogen-has-been-used-to-heat-steel-in-a-bid-to-boost-sustainability.html

Turbines running on Natural Gas and Hydrogen in Utah
https://www.axios.com/hydrogen-hub-utah-mitsubishi-57fc90a0-f19e-4bb6-95b5-7f6665df3bdb.html

What sort of green stimulus does the world need?
https://www.bloombergquint.com/opinion/hydrogen-merits-stimulus-support-in-post-coronavirus-economy

IRENA report about Hydrogen
https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Sep/IRENA_Hydrogen_from_renewable_power_2018.pdf

Hydrogen council
https://hydrogencouncil.com/en/

Australian Chief's scientist report :
https://www.chiefscientist.gov.au/news/hydrogen-australias-future