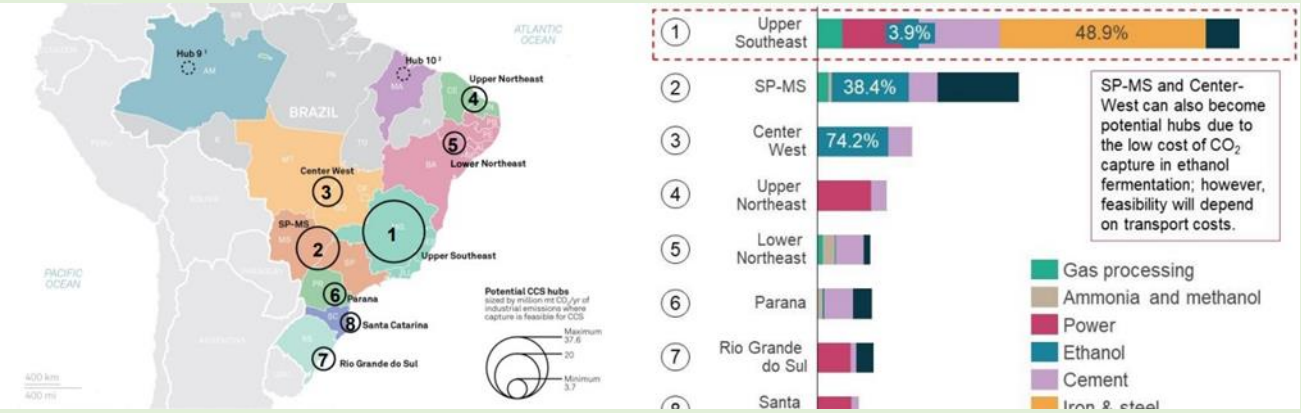
A letter from Rio de Janeiro

Brazil

Here in Rio de Janeiro, there are signs of action on the energy transition. It's been a year in which elections and the shifting of priorities have led to some unusual tectonics in the global sphere.

I was be able to bring you news from Davos; https://energycentral.com/c/cp/warm-welcome-davos-klosters at the start of the year, augmented in Perth Australia with its CCS ambitions and London at the World Hydrogen Leaders's conference in the city.

A series of elections followed in what is a global marathon race rather than a sprint emerging. In Brazil, the oil and gas interests have been encouraged. Indeed, the one of the aspects of the energy transition they seem to like is the carbon capture, storage combination with hydrogen. It's happening in my home area, with 'HyNet' and their 'through blue to green' mantra and in delivering CCS and Hydrogen training for over five years key stakeholders tend to like bringing my company just in as things are ready to take off.



The Brazilian government has s moved quickly on the regulatory front, and are moving ahead of other parts of the world.

Relevance of CCS worldwide

Essential tool for decarbonizing hard-to-abate industries

- Certain industries such as **cement and steel**, require significant power and heat, not met with current renewables technology
- **CCUS** is the **only** current available solution to make deep emission cuts from **hard-to-abate** industries.

Can tackle emissions from existing energy infrastructure

- The use of CCS allows countries to balance transition with energy security and economic growth with fossil fuels
- CCUS can be retrofitted to existing high-emission industrial facilities.

Effective path to negative-emissions production

- CCUS is an enabler of least-cost low-carbon hydrogen production
- Applying CCS to bioenergy (BECCS) can lead to a carbon negative source of energy

CCS underpins many of the current net-zero pathways

- S&P Global's ACCS[1] scenario considers 6.4 $MMtCO_2e$ of CCS capacity added to 2050.
- In IEA's NZE[2] scenario, CCS projects could reduce global CO2 emissions by almost a fifth and reduce the cost of tackling the climate crisis by 70%.

Political changes here may also have helped with a new climate focussed regime with net zero poster prominent, and global investors available to see to back the transition I've already shared with you events further north of here, in Ceara, where ammonia and integrated offshore wind approaches are making a headway.

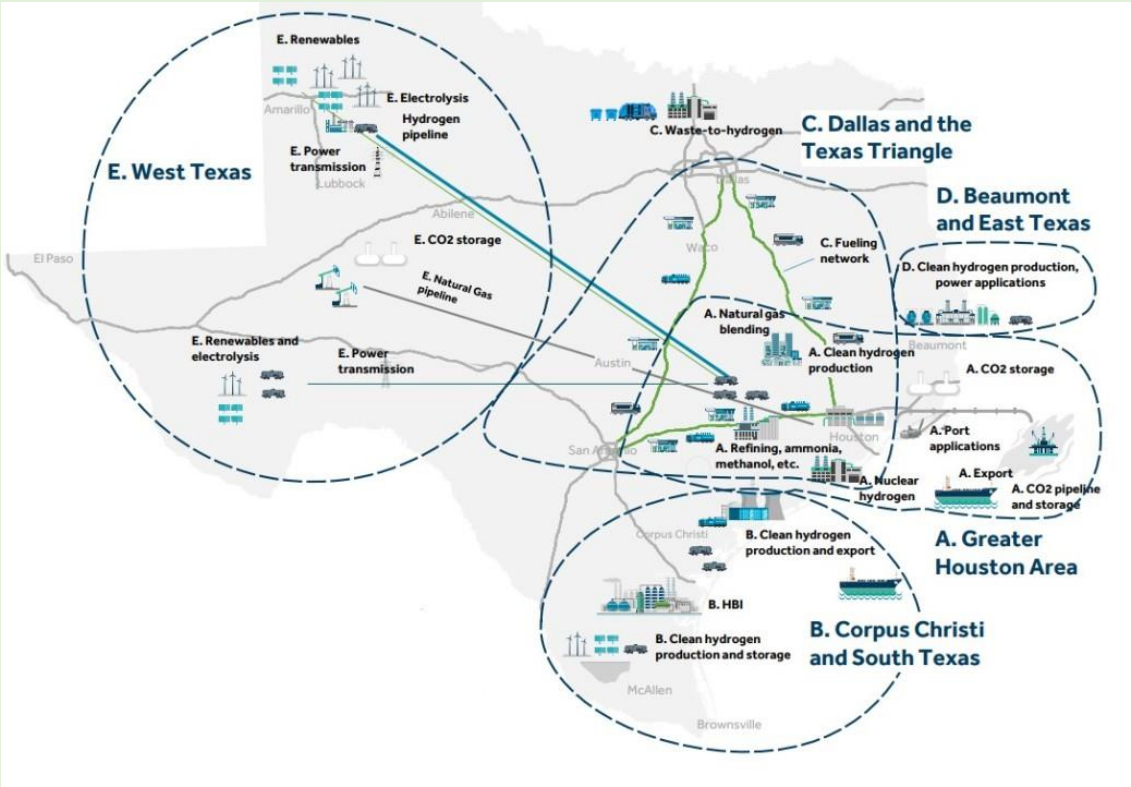
Brazil has a long history of sugar growth and production and recently announced the world's first Ethanol Hydrogen station which will be able to supply three buses and a Toyota Mirai that will circulate through local university here, and their R&D Ethanol to H2 project was officially which will create a pilot plant to house the world's first renewable hydrogen fuelling station based on ethanol, located in Cidade Universitária, in São Paulo.

Bioenergy with carbon capture and storage, (BECCS) is an allied and important technology to achieve international and Brazilian climatic goals, notably because it can provide negative emissions.

The country presents favourable conditions for the development of BECCS, given the country's mature biofuel industry and technical factors not a current barrier to the implementation of BECCS in Brazil, especially in ethanol production.

Mapeamento de projetos de hidrogênio verde no Brasil
Imagem: H2 Brasil

Heading up an agile global training company keeps us ahead of the curve and here in Rio de Janeiro, there is a chance to upskill those involved with more traditional form of global carbon capture and storage hub which has got a global dimension as parts of the jigsaw fall into the place, with very real signs of activity. Synergies with the Gulf of Mexico are also being explored.



It is useful to be in front of the key Brazilian stakeholders and those who, once more, are making the sector happen, rather than just talking about it.

Charley Rattan Associates operate at the forefront of sectoral developments, click through https://lnkd.in/eMx4PHv4 to view our Hydrogen training and advisory services

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Charley Rattan Associates