

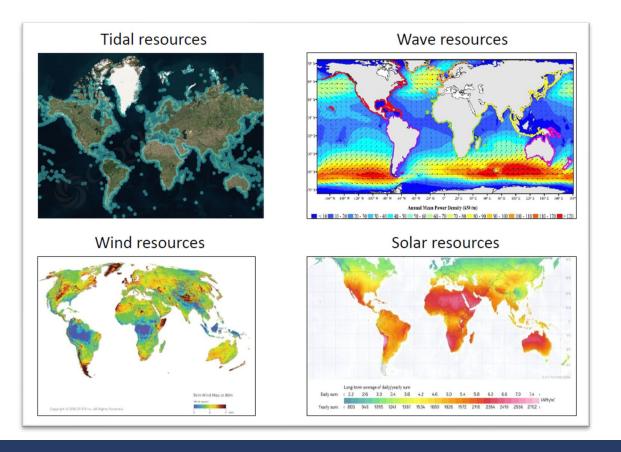
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Fraser D Pritchard

- Fraser's career has been exclusively energy sector (oil, gas, renewables, capital) with DNV, ExxonMobil, IBM, PricewaterhouseCoopers, and now with Columbus Energy Partners®, where he is a founder.
- Fraser speciality is commercialising disruptive business models and new energy technologies, and specifically how to commercialise these for the long term though corporate governance, markets development and smart capital structuring.
- He possesses unique insights into the challenges facing start-up and underperforming businesses and is passionate on troubleshooting sustainable improvements in companies and leadership to perform above peers.

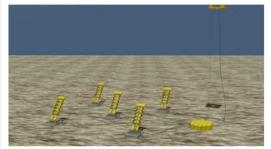




- Focus of the renewables energy sector has hitherto been on wind and solar.
- Wind and solar are the more technology mature and cheapest forms of energy.
- Wave and tidal resources add diversity to the energy system mix, as well as increased availabilities.
- Each renewable energy source has limiting factors of efficiency, availability, competitiveness.
- Our energy systems needs a suitable mix of technologies to provide redundancy and surety.

natural sources distribution

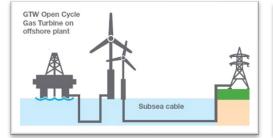


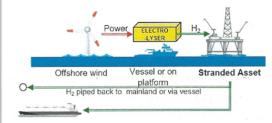




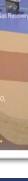








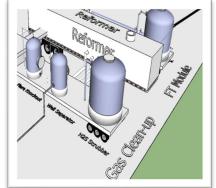


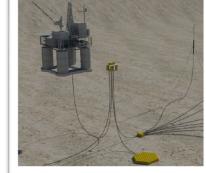








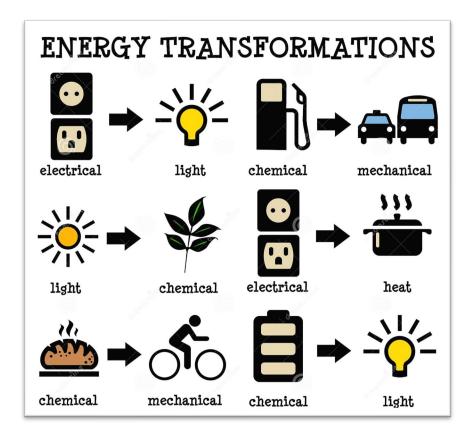






diversity of energy technologies



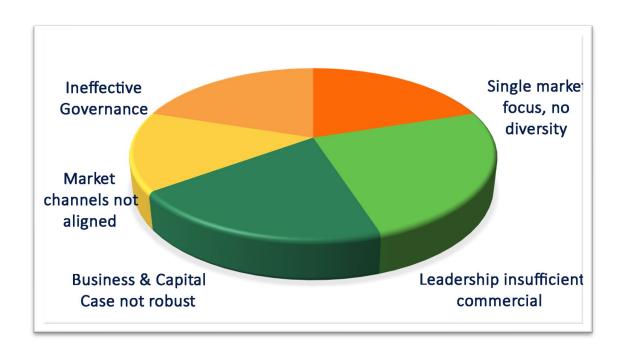


determine what is best... electrons or molecules

- All forms of energy can be converted into other forms of energy.
- The value of energy is not just about generating power but how this power fits into the wider energy system.
- Do you sell power as power directly, do you store and generate long term, or use to generate another "electron" or "molecule" commodity such as hydrogen or synthetic fuels.
- Companies needs to show all stakeholders what is the best form of energy deployment which is profitable and sustainable for all situations.
- An approach of "being a piece in the jigsaw" and "selling the right commodity" makes the business more sellable to customers and investment.







- Renewables companies generally have prioritised on the technology before commerciality.
- Majority of companies have suffered commercially due to use of wrong capital, poor markets development and skewed direction.
- Focus has been on point solutions to energy needs, and the "project" approach has restricted growth and market.
- Most companies driven by short term demands with incremental progress, hence the extended time to market.
- The "system sell" is not promoted on where the technologies can be complementary as well as disruptive.

growth and scale challenges





Expansion &
Maturity
(company need for direction, commercial delivery and focused capital)

Scale & Growth (company need for governance control, revenue diversity

and flexible capital

Replicate &
Collaboration
(company need for
partners, new
markets and
sustainable focus)

growth and scale needs for investment



- Most companies follow competition, or service a particular customer - this restricts growth and markets
- "End use application" should be promoted on where power technologies can be power additive as well as disruptive on providing products.
- Companies needs to show what are the best ways of deploying power which is profitable and sustainable for all locations and customers.
- Robust business cases will always secure investment as there is always more money than opportunities
- "Being a piece in an circular energy business" makes the company more sellable to customers and investment
- So ensure you parallel optimum technology with optimum commerciality – what to sell and where, knowing the where drives the what.



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