



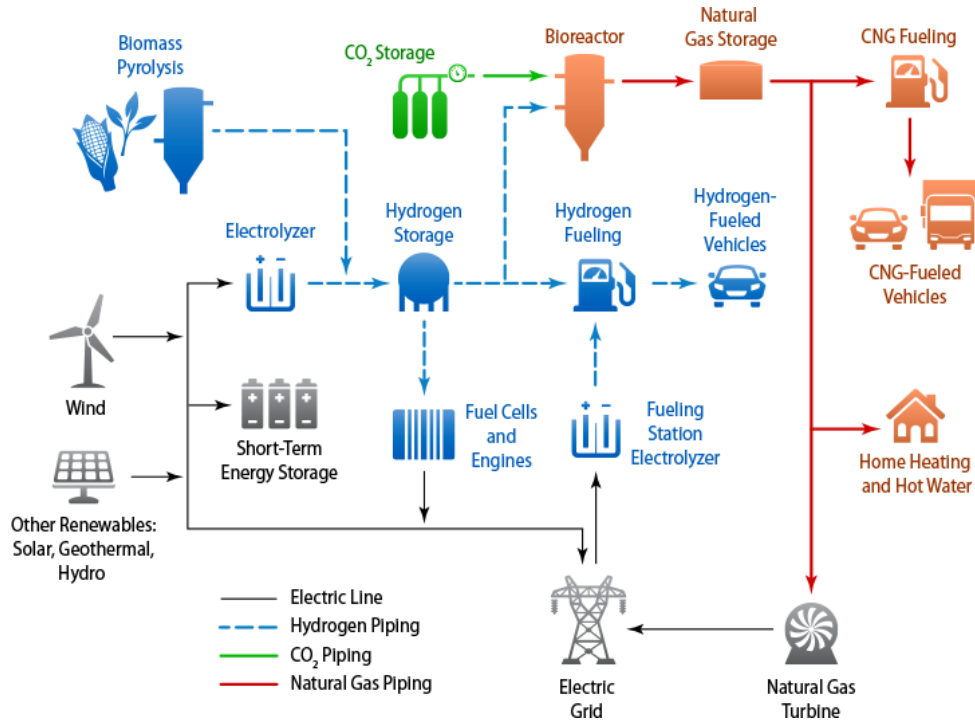
creating sustainable change through education, engineering and leadership

High Penetration of Renewable Energy in Pacific Island Nations

Training • Consulting • Engineering • Publications



The Hydrogen Market



Credit: NREL

The burgeoning hydrogen market may be a way for Pacific Island Nations to take advantage of an existing diesel supply chain, become more energy interconnected and take advantage of a neighbour's cheaper supply or growing demand

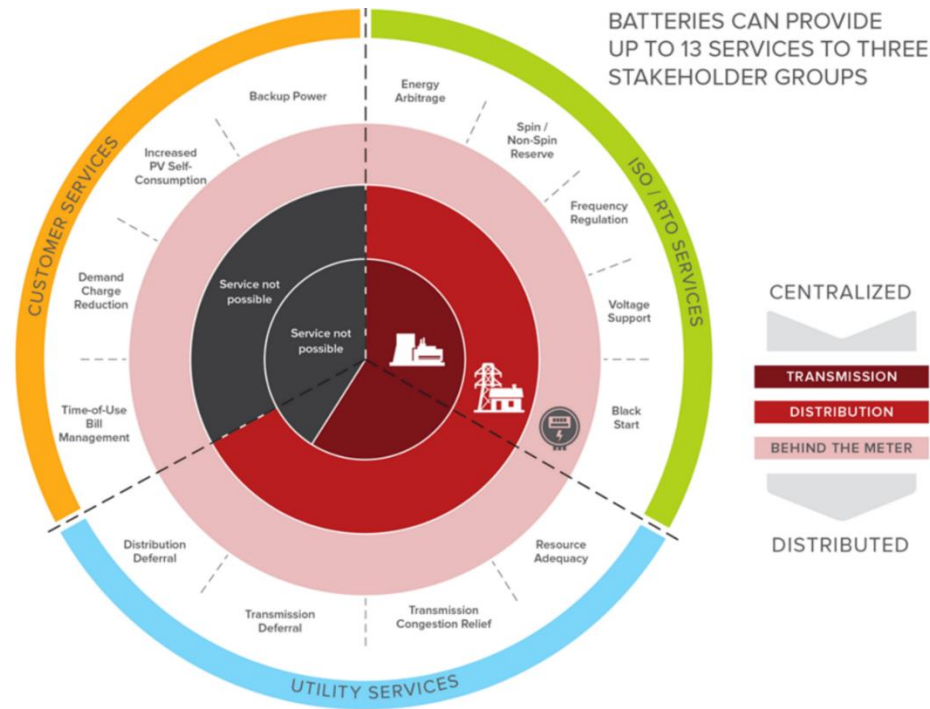
Suggested Action: Piggy back off of research being done in Australia through ARENA to understand the road map for the hydrogen market. Tailor this road map to suit each PIC individually.

https://www.chiefscientist.gov.au/wp-content/uploads/HydrogenCOAGWhitePaper_WEB.pdf

<https://arena.gov.au/assets/2018/08/opportunities-for-australia-from-hydrogen-exports.pdf>



Energy Storage Value Optimisation



Credit: NREL

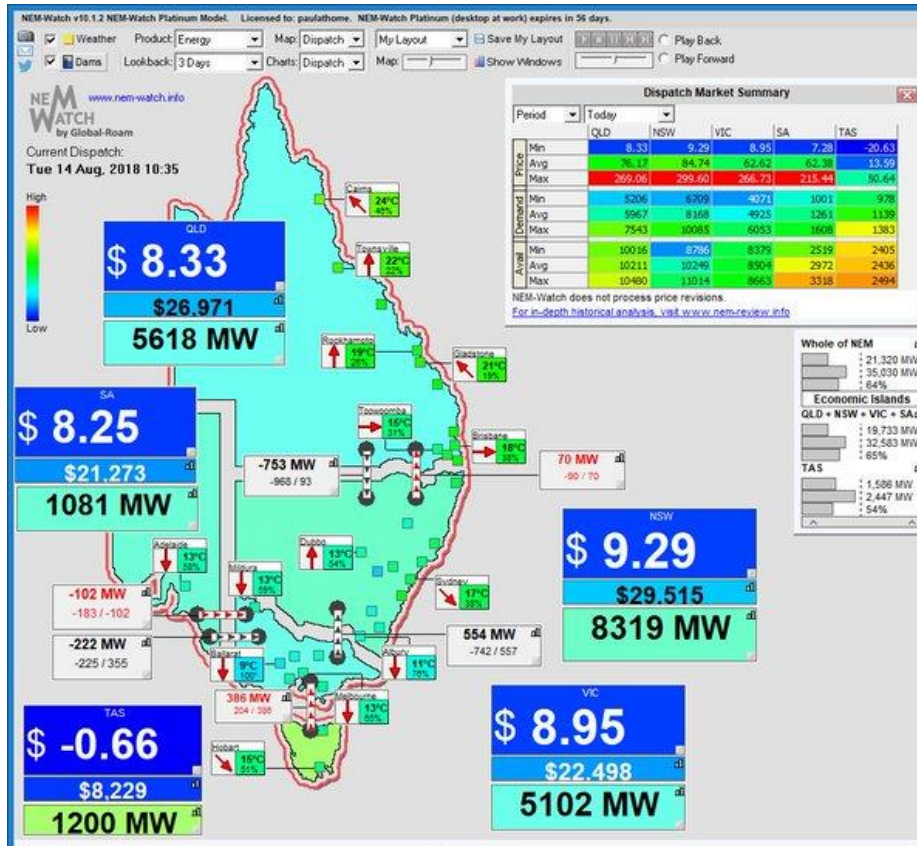
Deep Learning Algorithms in the energy space will allow assets to “attack” the right value stream at the right time and for the right duration and intensity.

For example, providing frequency stabilisation services or local voltage support may be of high value to the utility at some times, while at other times, solar arbitrage may present the greatest value.

Suggested Action: Ensure that new utility storage assets have the capability to meet multiple value streams and report on actions taken.



ICT, SCADA, Data, etc.



Credit: NEMWATCH

Data, Data and more Data. The more data you have available to you the more opportunity there is to find solutions.

Suggested Action: invest in a common Pacific Island, Open-Source Network Monitoring Infrastructure and allow the creation of API's



Lessons Learned

“I have not failed, I’ve just found 10,000 ways that wont work” – Thomas Edison



Suggested Action: Set up a Knowledge Sharing repository for all Pacific Island Nations to reference. Donor funded projects might stipulate learning outcome sharing as a requirement of contracts and research groups could manage the repository as a consortium.



Grassroots Training and Finding Champions

Through a concerted training effort, capacity will be built on the ground to develop and maintain solutions which best suit each country. Through training, champions will be found to lead these changes. Training must be part of every project and quality training must be part of a holistic transition plan to renewables and flexible grid infrastructure.

Suggested Action: Support SEAIPi in the promotion of accreditation through quality training. Support continuous professional development which will create a framework for training providers to provide solutions

