

Current Affairs

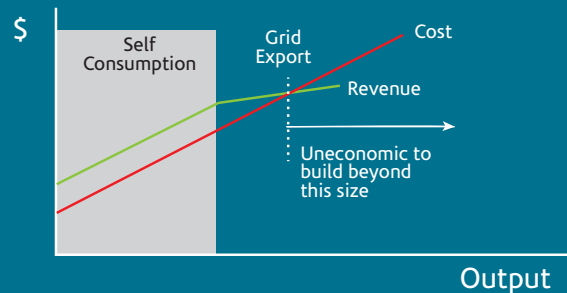
News and views from Ergo Consulting Ltd

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Renewables

We have been fortunate to work with several clients recently on renewable energy projects. This primarily involved solar but also other types of renewables such as hydro, wind and other emerging technologies. Some of the learnings worth sharing are:

- It may be worth reassessing previously rejected options – with technology advancements and falling costs, the financial benefits of investing in renewable energy may now look more favourable.
- Coupling battery storage with solar is becoming increasingly economic and will continue to be so as battery technology improves and prices fall – market disrupters have created healthy competition in this sector.
- Under the current electricity supply model it is still more beneficial for households to self-consume renewably generated power than export – but change is happening fast as peer to peer trading models gain traction.
- Deciding on the scale and phasing of investment in solar capacity is not straightforward, especially if the site area available is unconstrained. While the forecast load profile is the right basis for sizing at present, where larger generation capacity could be installed, judgement is required as to if and how energy export and trading arrangements may change (see chart).
- For larger systems the potential for supplying other grid services such as black start and voltage and frequency



support are becoming more likely. A recent report from Transpower identified 13 such services that could emerge in the future, enhancing the economics of battery storage.

- For solar projects, flat or constant load profiles are the most difficult to work with. The scope for innovation, with potential to change processes or modify the drivers of energy use, needs to be fully explored in order to maximise the return from investments in solar capacity.
- There is increasing capability and interest in the NZ market for projects involving solar power.

Nigel Stevenson
Director, Control Systems



Ergo step challenge - donation to Kidscan

In the first week of February Paul Bancroft (right in the photo) presented Kidscan HQ in Rosedale on the Northshore with a cheque for \$500. This was on behalf of Ergo – Paul was a member of The Hot Steppers, the winning team of Ergo's Spring step challenge.

Kidscan plays a very important role in ensuring under-privileged kids get basic items from things we all take for granted such as shoes, socks, rain coats and even

toothbrushes and toothpaste. The items are distributed through schools who have applied for support. Kidscan currently have a waiting list of more than 18 schools wanting assistance.

Stevie Wheatley, the fundraising co-ordinator, received our cheque on behalf of the charity. Kidscan relies on volunteers to package the items and stack them on pallets in readiness for shipping, often looking to local businesses for help and assistance.



Desert rat

Chris Turney was back at Santos' Moomba gas processing plant in the Australian desert in January and February. He spent six months there more than 10 years ago, supervising the installation and commissioning of the upgrade of the MV network. The plant uses its own gas to generate power (up to 20MW) to supply the 12MW average load. There is no grid connection available.

This trip was to look at options for installing a new Gas Turbine Alternator (GTA). On a tight timeframe of four weeks, an installation specification was created and costed for five possible options. Each was judged against the following criteria with different weightings:

- Black Start – the ability to start a dead plant
- Common Modes of Failure – must be independent of other generators

- Compatibility – similar technology to existing plant if possible
- Cost Effective – no gold plating
- Future Proofing – should not limit future options in the plant
- Limit impact on plant during construction – no risk of trips or outages
- Maintainability – must be isolatable without taking out excessive plant
- Predictable outcome – should be built in a way that will provide certainty of outcome
- Short programme – time is a consideration and a short programme is preferred.

The best option, while not the most cost effective, provided the best solution for a small margin in cost.



New Staff

We are continuing to grow strongly with eight people joining our team since the turn of the year.

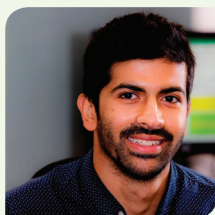
Nivlesh Harakh

Nivlesh is a CAD Trainee at Ergo Consulting. This is his first year doing CAD and electrical work and he also has some experience with mechanical engineering.



Pranav Meelu

Pranav joined Ergo as a Graduate Engineer, having previously worked in the aviation industry. Pranav graduated from the University of Auckland with a Master of Engineering specialising in control and power systems.



Jonny Lung

Jonny is based in our Christchurch office. He was previously a design engineer at Connetics where he gained experience in 33/11 kv substation and underground reticulation design on distribution networks (Orion and Aurora) and private HV networks.



Kenny Dunn

Kenny is a Senior Engineer, project manager and is Section Lead for Project Management in Power Systems. He has worked in the power industry for 10 years with Vector as a project manager, and before that with SKM/Jacobs.



Jagmeet Singh

Jag re-joined Ergo, having been with us in 2014/6. He graduated from Auckland University in 2013 and joined Ergo in May 2014 from N2P Controls. He left us in June 2016 to pursue a masters course at Auckland University and he now has a Master of Engineering in Bi-directional Inductive Power Transfer.



Jacob Smith

Jacob is a recent graduate from the University of Canterbury and started with Ergo in February, specialising in power systems.



Frank Kassai

Frank has been in the electrical industry for over 25 years. He has 14 years' experience in baggage handling systems and considerable experience in process control for the freight, food and beverage sectors, including for Heinz, ABB and other major industrial firms.



Sarel Peens

Sarel has relocated to NZ from South Africa and joins as a Senior Engineer. He has 13 years' experience in power system studies, power line designs, substation primary and secondary design, project execution and project management.

