



REAQUA
SOLAR PUMPING



Livestock

Lorentz pumps via network of ~200 dealers Aust/NZ

Irrigation

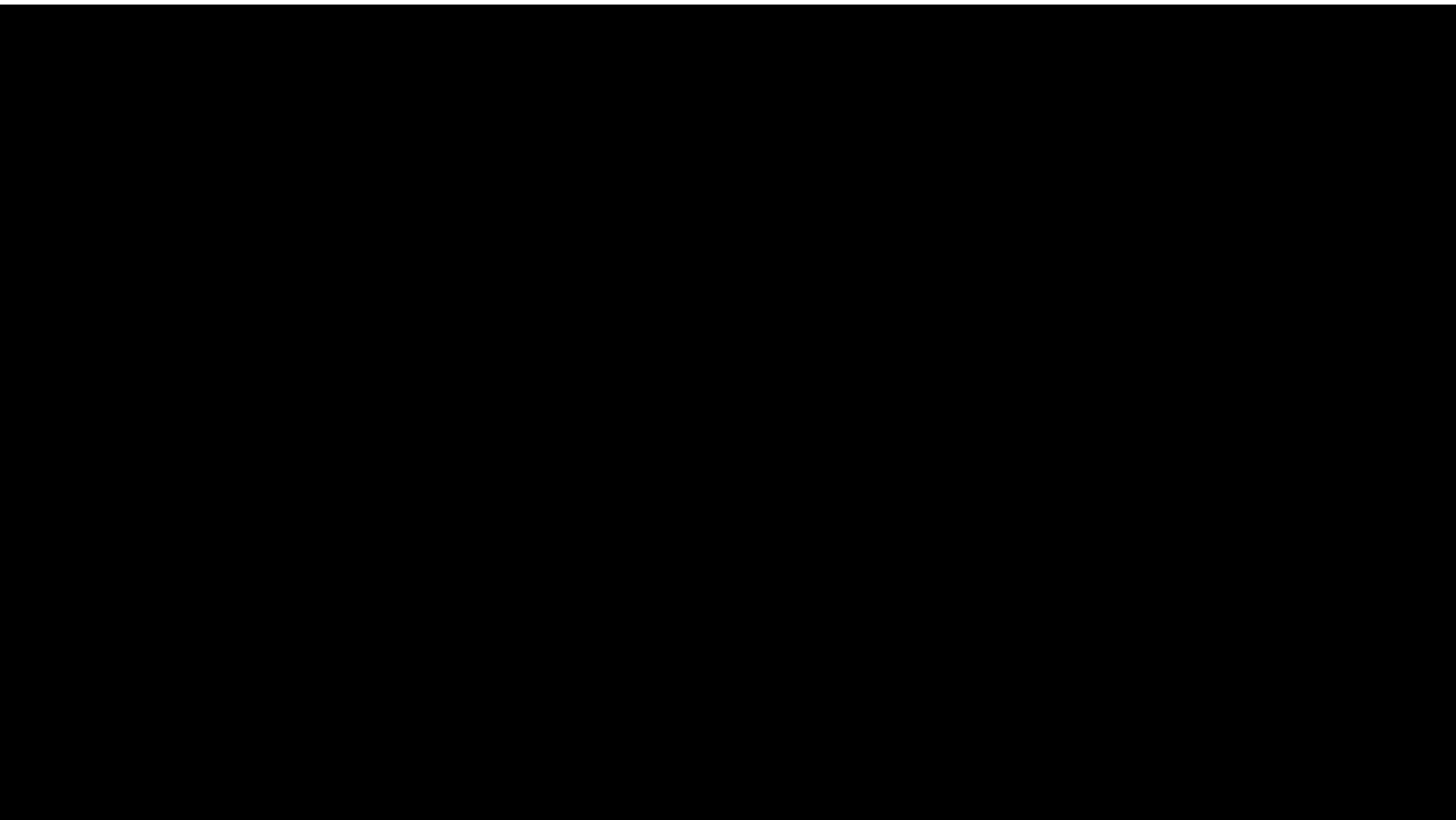
In-house Designed & Engineered

REAQUA

SOLAR PUMPING

- In house electrical & mechanical engineering
- Accredited electrical installers
- Hands on pump & irrigation expertise
- Global backing of Lorentz

LORENTZ 



Farm Operation

- 2,500 hectares Narromine
- 550 irrigated cotton - summer
- Dry land wheat – winter
- 3,500 meg, pumped over summer for the cotton. \$3,000 a day
- 2 bores, 15 megs a day each, one converted
- 100 litres of diesel to get out 1 meg of water



Show me the money

- Indicative price **\$900,000 + GST**
- Payback ~ 5 years
- Pump 60% water licence using solar only
- 170,000 litres diesel saved x \$1.10/litre* = \$187,000 diesel saving/year
- Payback - \$187,000 x 5 = \$935,000

Federal Government Incentives

- LOW INTEREST LOANS FOR LARGE-SCALE SOLAR PUMPING –

FARM INNOVATION FUND | NSW RURAL ASSISTANCE AUTHORITY (RAA)

- LGC & STC REBATES
- 100% TAX DEDUCTIBLE

Emission savings

Reduction in diesel use
equates to;

500 tonnes of CO₂
per year

= 40 households



Installation begins

- Hectare of land
- 500kW solar panels (1,550 panels)
- Driving an electric motor blending with a 500KVA CAT Generator



Progress



Actual performance data on a clear day

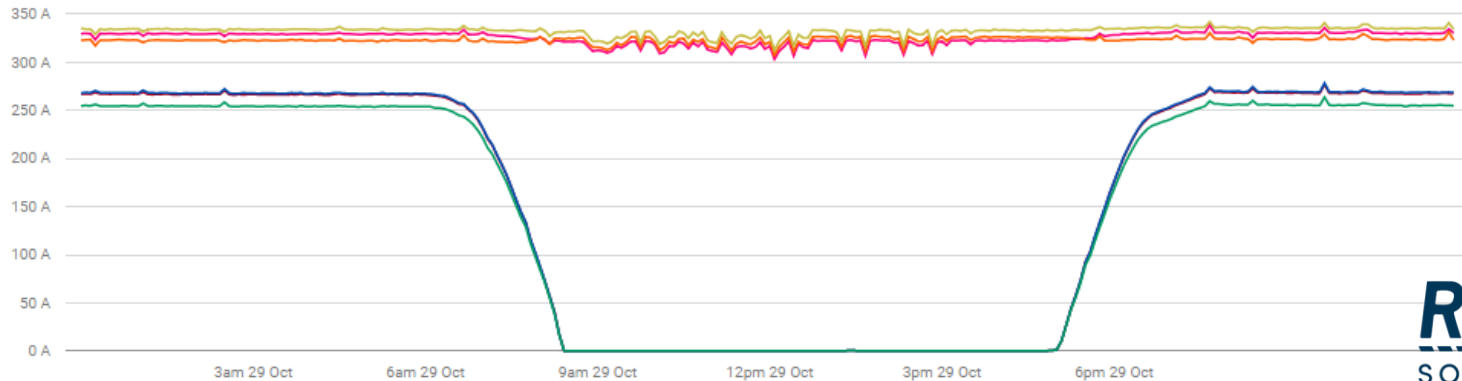
System delivers up to ~8 hrs pure solar during summer and nearly 13 hrs including blending

Long energy refers to data available in 5 minute increments. All historical data is available.

500Kw Solar D704206226196 Monday 29 October, 2018 < > 📅

Toggle data points Off

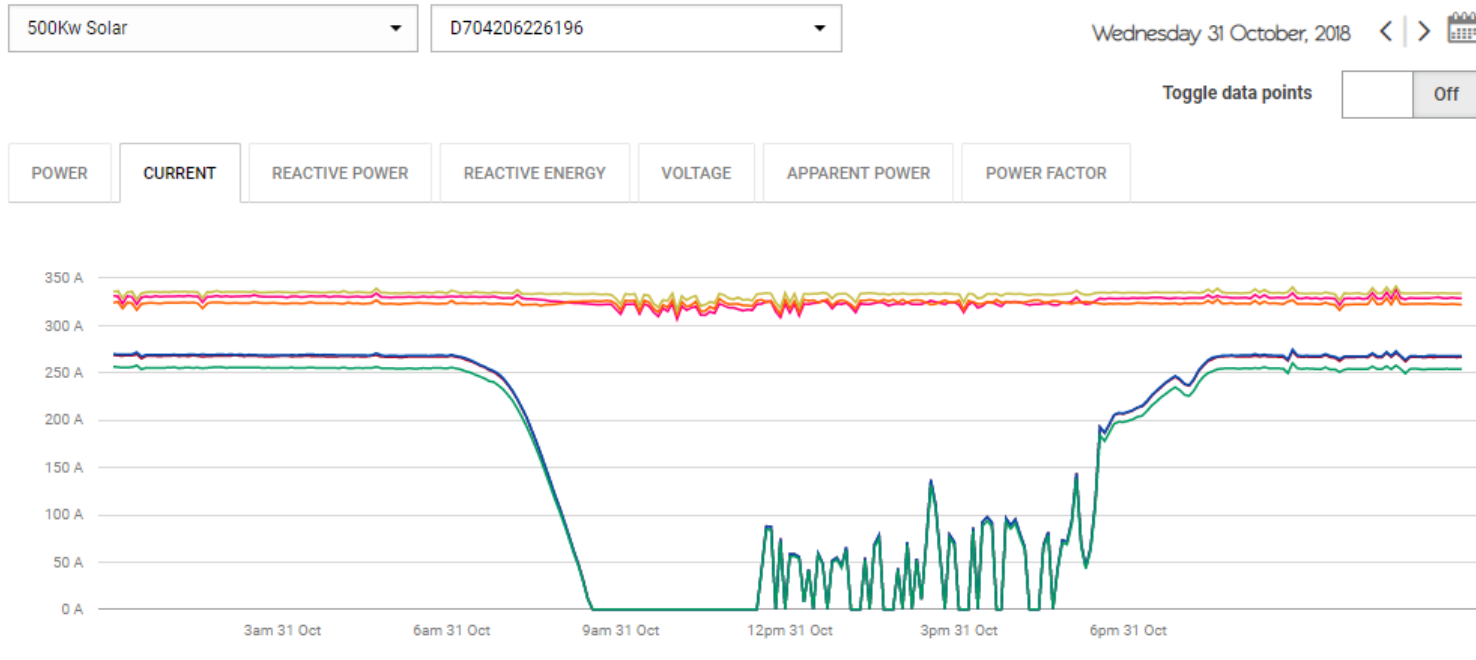
POWER CURRENT REACTIVE POWER REACTIVE ENERGY VOLTAGE APPARENT POWER POWER FACTOR



Actual performance data with some clouds

When cloud comes over, generator it is able to blend to cover power shortages

Long energy refers to data available in 5 minute increments. All historical data is available.



CSIRO partnership

- Credibility plus
- Demonstrating innovation
- 'Point of difference'

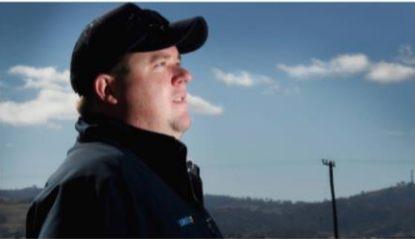
Print media - Newcastle Herald,
Country Leader, Narromine News

Radio – NSW Country Hour ABC

CSIRO and Tamworth's ReAqua integrate cloud forecasting and solar hybrid pumping technology to reduce emissions and save money

Chris Bath Latest News

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Tamworth Muffer Man
Bill is Back in the Workshop!
☎ 0267... [Show Number](#)

Clear sight: ReAqua's Pat Lee turns his eyes to the sky as CSIRO's cloud forecasting technology gets integrated with hybrid solar pumping. Photo: Gareth Gardner 310519CGCC01

CSIRO solar forecasting technology used to improve irrigation efficiency on cotton farm

Matthew Kelly Local News

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Narrromine News
AND TRIANGLE ADVOCATE

Trialling innovation



WEDNESDAY
HARDWARE
U.S. M.C.
\$19,000

THURSDAY
BINGO
IS THE GO
\$3,100

FRIDAY
MEAT
RAFFLE
\$14,000

SATURDAY
CLUB'S
WASH BILLY
\$3,100

SUNDAY
RAJ'S
RESTAURANT
\$3,100

Suitable applications for solar

- Can be installed as part of a new system or as a 'retrofit'.
- The longer you can pump the better...
- Can you modify your pumping patterns? e.g. increase storage dam capacity
- Direct to a pivot 24hr/day x 3 months a year generally won't give great payback
- Take a view on evaporation loss verses energy savings

