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TASMANIA

28 July 2023

Tasmania's energy market - what comes next?

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Agenda

- David V Goliath and the role of your peak body
- What's happening to Network tariffs?
- The current Tas Wholesale Market
- What is price risk and how can you manage it
- Energy considerations for irrigated systems
- Solar considerations
- Battery math for grade sixers

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Tassie has some pretty impressive farming ops

…. But don’t ever forget …

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..Compared to a State Gov owned and regulated network ….

To be really heard and to exert meaningful influence, that results in real change, you need to band together and leverage your voice.
E.g. with TFGA and other like-minded organisations

Otherwise, the burden for the clean energy transition will be unfairly shared …

Frustration is growing!

Image Source: https://reneweconomy.com.au/angry-farmer-ploughs-home-blunt-warning-for-australias-transmission-plans-99391/

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Moves are afoot to improve equity outcomes

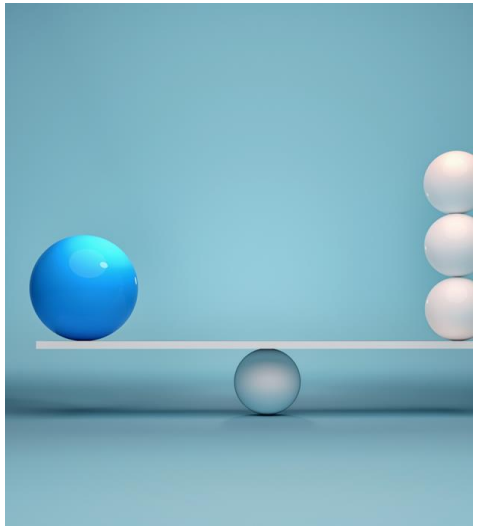
Farmers offered up to $30,000 Per Turbine Per Annum

ABC Landline: The renewable energy rush dividing rural communities:

"Farmers offered $15,000 to $30,000 per turbine per annum", "Divisive of small communities".

Image/Source: https://iview.abc.net.au/video/RF2304Q010S00

New state schemes are aiming to compensate landowners for hosting transmission lines, more equitably.



What makes up my electricity bill?

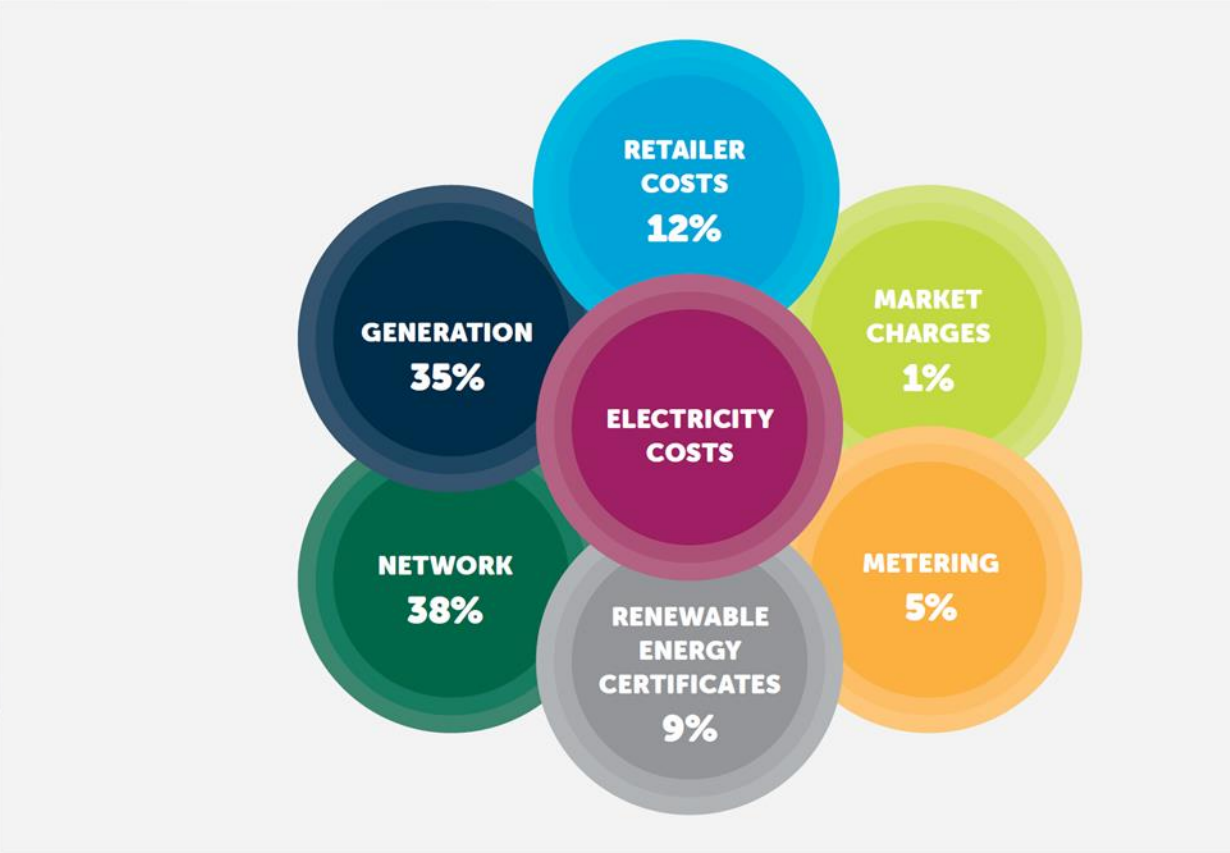


Figure 10 Cost components of a typical residential electricity bill (2022-23)

- **Generation** costs on the Forward market have increased significantly from ~5c/kWh in 2020 to ~10c/kWh in 2023
- **TasNetworks** costs may also see significant increases from 1 July 2024 (R24 - 5 Year Price Reset)

Energy challenges for agribusiness …

- Tasmania's agribusiness sector is being increasingly exposed to electricity costs.

- More pivots = more energy
- Access to new irrigation scheme's means water provided to the farm gate already contains a significant component of "**embedded energy**" and hence energy costs/ml, even before being delivered to the crop.

Energy challenges for agribusiness …

- **TasNetworks** Tariffs shifting the emphasis away from c/kWh Tariffs (TAS75) towards "**Maximum Demand**" based monthly charges.
- Demand tariffs (TAS82, 88, 89 & 98) behave more like **fixed costs.**
- Demand Tariff costs are **difficult to avoid,** even with significant solar investments!

> The maximum demand figure applying to peak periods during the monthly billing cycle is an average of the four highest peaks in demand recorded for the customer over the course of the month during the peak periods which apply to TAS88.

- **Example TAS88** monthly charge calculation – (**30Min** Integration Period): **50kW** pump (run just 4 by 30mins) * **59.771c**/kW/day * 30 day month = **$896.57**
- *Whether the pump is run for just 3 hours in the month or continuously for all 30 days of the month makes virtually no difference to the network cost (only the commodity costs will increase).*

TasNetworks

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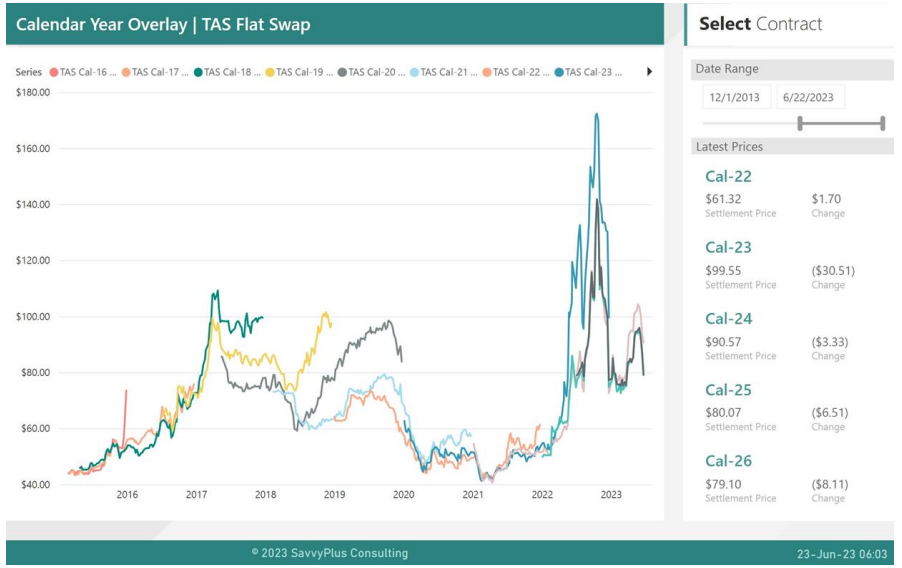
Energy challenges for agribusiness …

- Retirement of coal fired power plants and replacement with wind and solar farms means overnight is fast becoming the new “Peak” rate time.
- Solar (Productive) hours of 11am – 3pm is becoming the new Off-Peak time.
- Intermittent renewable generation means volatility is now a market feature, not the exception.



- Automated pivot control will be valuable in the future, as both Network and Commodity price signals change.

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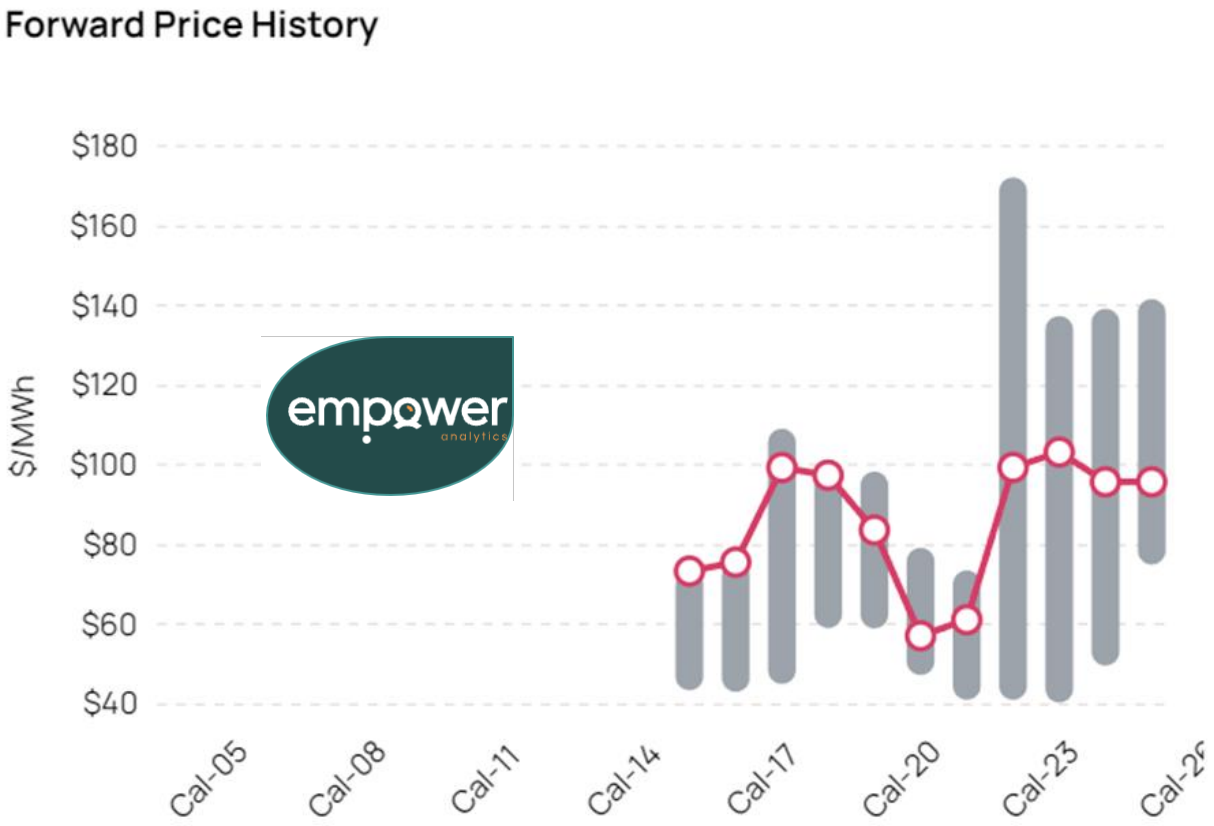
What is Price Risk?

- Forward prices for the same year can change materially over time.
- Timing of purchasing is the single biggest determinant for setting price, yet most customers leave it to the last minute rather than monitoring the market.



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How can you manage Price Risk?

- Sometimes it comes down to personality:
  - **Bob** treats his accountant as a, "*Once per year cost to be minimised*" and changes accountants frequently.
  - **Mary** treats her accountant as, "*An integral part of her small business team*", meets regularly, questions and learns together.
- Choose your approach consciously.
- Don't leave it until the last minute to re-contract.
- Stay abreast of market conditions at least quarterly.
- Consider splitting your portfolio/term to stagger exposure (Dollar Cost Averaging).

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Energy considerations for irrigated systems

- Despite all the advances in technology, Variable Frequency Drives, WiFi, etc., **GRAVITY** remains the no. 1 determinant of your irrigation costs. It can take generations to plan around it!

Richard Bowden with his son Scott, who hopes farm improvement skills will help his council work. *(ABC News: Phoebe Hosier)*

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Solar considerations

- Agri-business reliance on maximizing the use of “Off Peak” energy has also meant that they have been significantly lesser beneficiaries of the solar revolution, than other businesses.
- The poor “time correlation” has meant that many of those who have invested in solar for irrigation have seen the majority of power exported to the grid, for a relatively modest sum.
- Payback periods have often exceeded 10 years.

Tasmanian multi-faceted business

Third Party proposed a $10M stand alone battery & micro hydro development and a $24M solar development.

Key Findings: Battery would be outside of warranty several years before payback achieved. Hydro turbine would fully deplete annual water allocation in a matter of days. Financial impacts of ongoing network tariff costs not adequately considered. *Project fatally flawed.*

"We retained Goanna to provide an independent assessment of the economics, risks and payback period for a large scale solar installation. I only wish we had got the report before installing the system." (2015)

George, Primary Producer, Tasmania

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Battery math example …for grade sixers

- Residential Tariff 31 light and power ~**30c/kWh**
- Solar Feed in Tariff ~**11c/kWh**
- **Battery Arbitrage Opportunity** (30 – 11 = **19c/kWh**)
- Battery size, assume **13.5kWh's**
- Annual charge and discharge cycles, assume Tas = **200**
- **Battery value 13.5kWh's * 200 days * 19c/kWh = $513 pa**
- Battery cost (fully installed), assume **$12,350**
- **Simple Payback Period = ~24 Years**
- Battery warranty ~10 Years

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Top three take home messages

1. Band together on **energy advocacy.**

2. Acquire and maintain your knowledge of energy market **conditions and energy savings initiatives** (consider independent advice where the $ warrant it).

3. Develop your own strategy, execute and review outcomes.

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Tools, resources & training

- What are the top 3-4 tools/resources/training producers need to know about?
  1. **Independent advice**
  2. **Energy retailers** have invested a lot to provide useful energy efficiency information, check out their websites.
  3. **Tas Gov** has a range of energy and energy efficiency support programs worthy of consideration.

We are truly independent and exist to help you!

TRACY WHITE
MANAGING DIRECTOR

Co-Founder of Goanna, Tracy is committed to providing high quality business solutions and unbiased advice to our clients.

MARC WHITE
PRINCIPAL CONSULTANT

Goanna's corporate representative, Marc specialises in negotiating large electricity contracts and providing independent due diligence advice on renewable energy investments/PPA's.

ROMAN MEISTER
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Roman specialises in Metering Strategy and Renewables, EV's, Embedded Networks, Electricity On-selling, Tenant Billing, and Compliance reporting.

ROMAN DOMANSKI
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Roman heads up our Policy and Regulatory team. He has over 30 years' experience in policy, regulation and advocacy in the energy sector.

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Carl is the MD of Empower Analytics Consulting. Carl and the Empower Analytics team provide Goanna's Business Intelligence client services platform, along with Energy Trading & Risk Management services.

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Russell leads the Natural Gas, LPG, CNG and LNG supply negotiations team. Russell's focus is on reducing the cost of gas transportation and gas commodity charges for businesses.

MARTIN BULLEN
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Martin specialises in developing energy management strategies, energy efficiency and EE project management.

JOHN DEVEREAUX
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John specialises in the regulation of energy networks and the development of efficient network tariffs, having represented and advocated for Small Business and industry sectors from Agriculture to Aged Care.

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Thank you!

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