



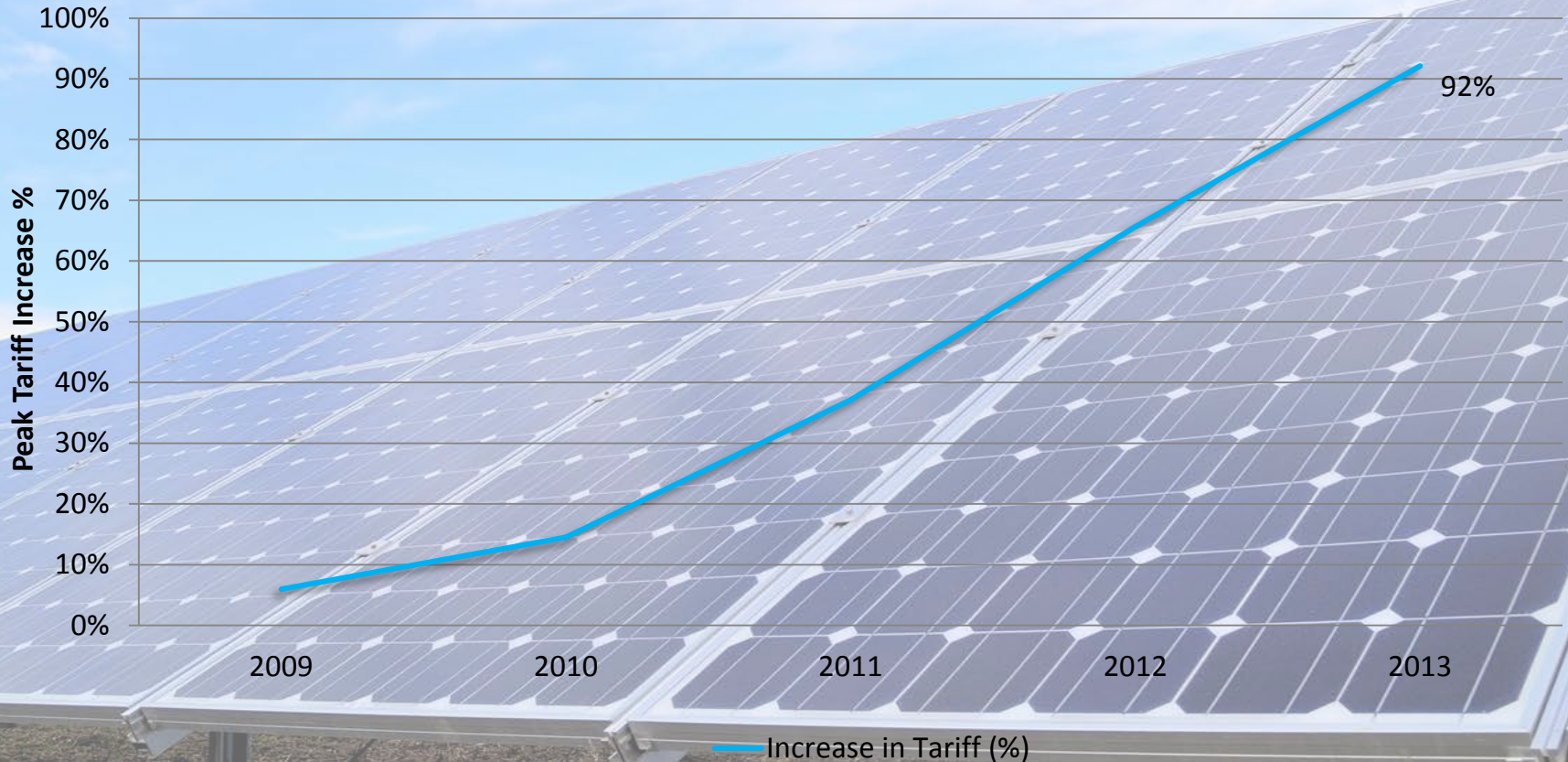
226kW Solar Array Powering the Future

Presented by Cohen Vanderlinde
For REROC "Off the Grid" conference, 2013

Pricing Increases – 2008 to 2013

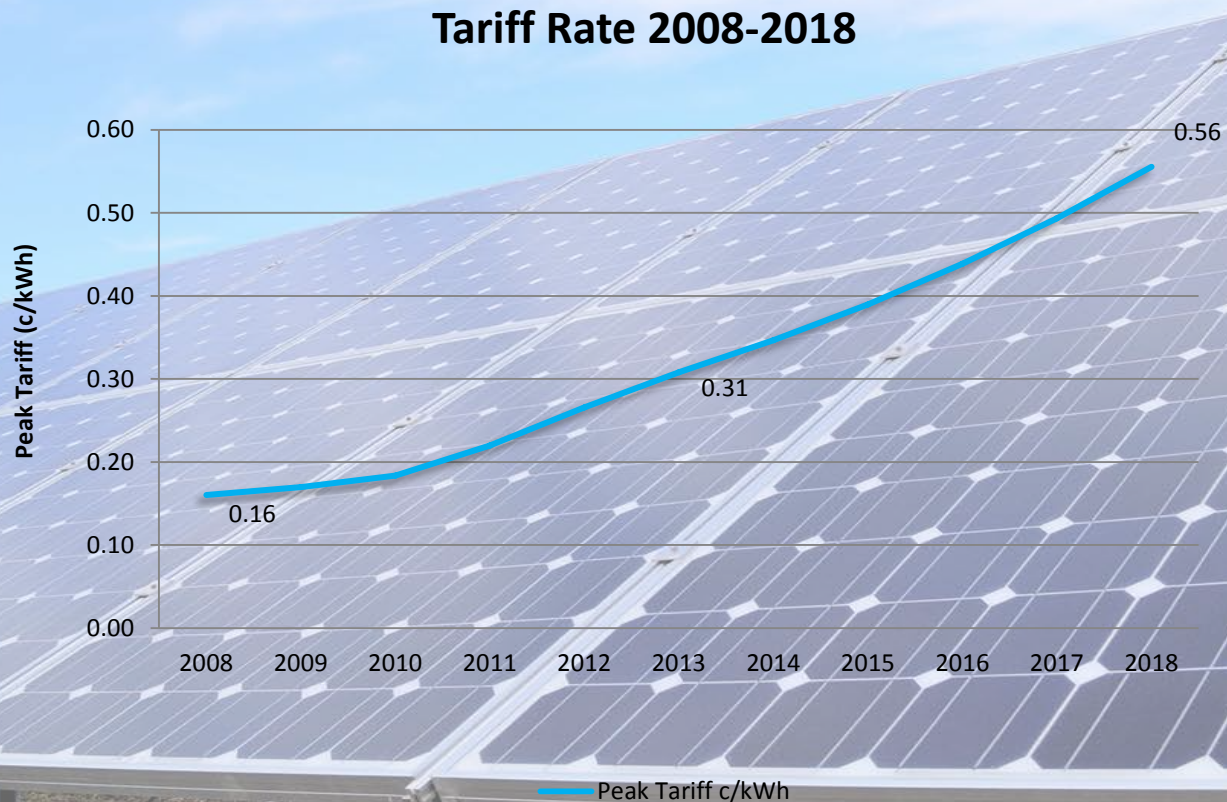
From 2008 to 2013, prices increased by 92%

Increase in Tariff (%)



Pricing Increases – 2008 to 2018

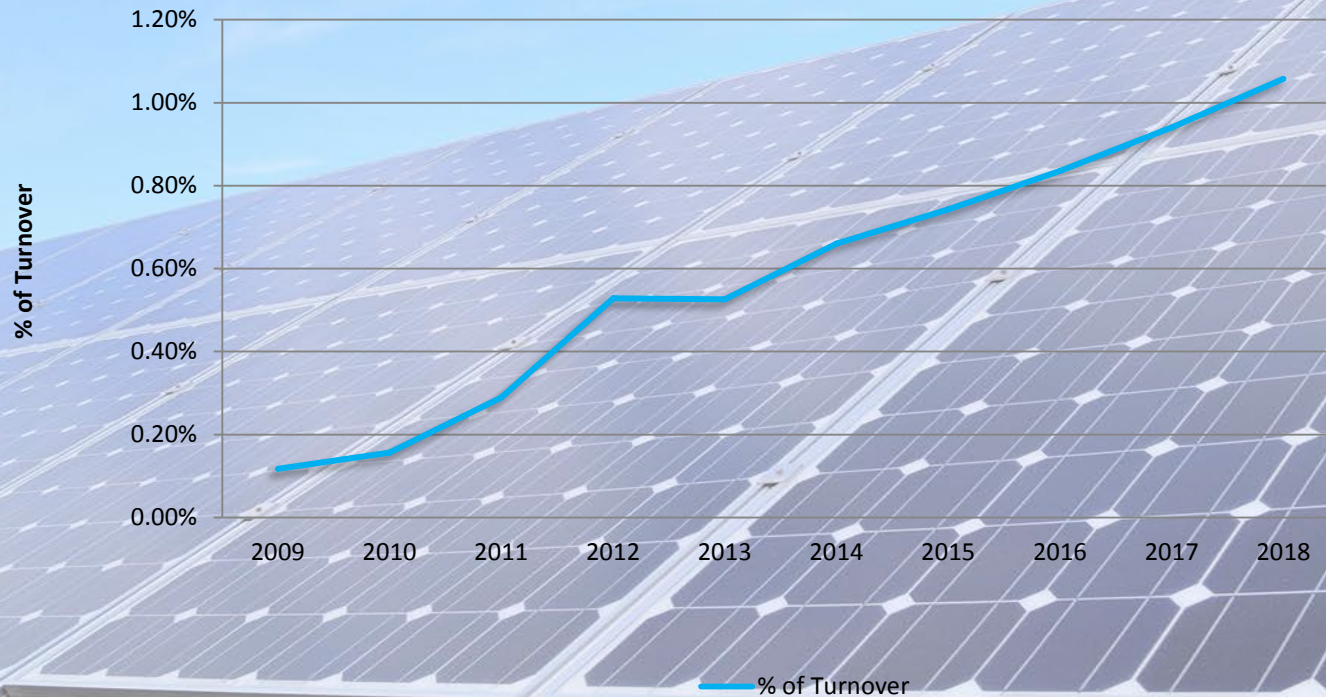
Assuming prices increase as projected, within 5 years we will be paying over 50c/kWh.



Impact on Profitability

If Kotzur Pty Ltd maintained the status quo, its profitability would suffer, especially due to competition from imports.

Electricity Costs as % of Turnover (2009 - 2018)

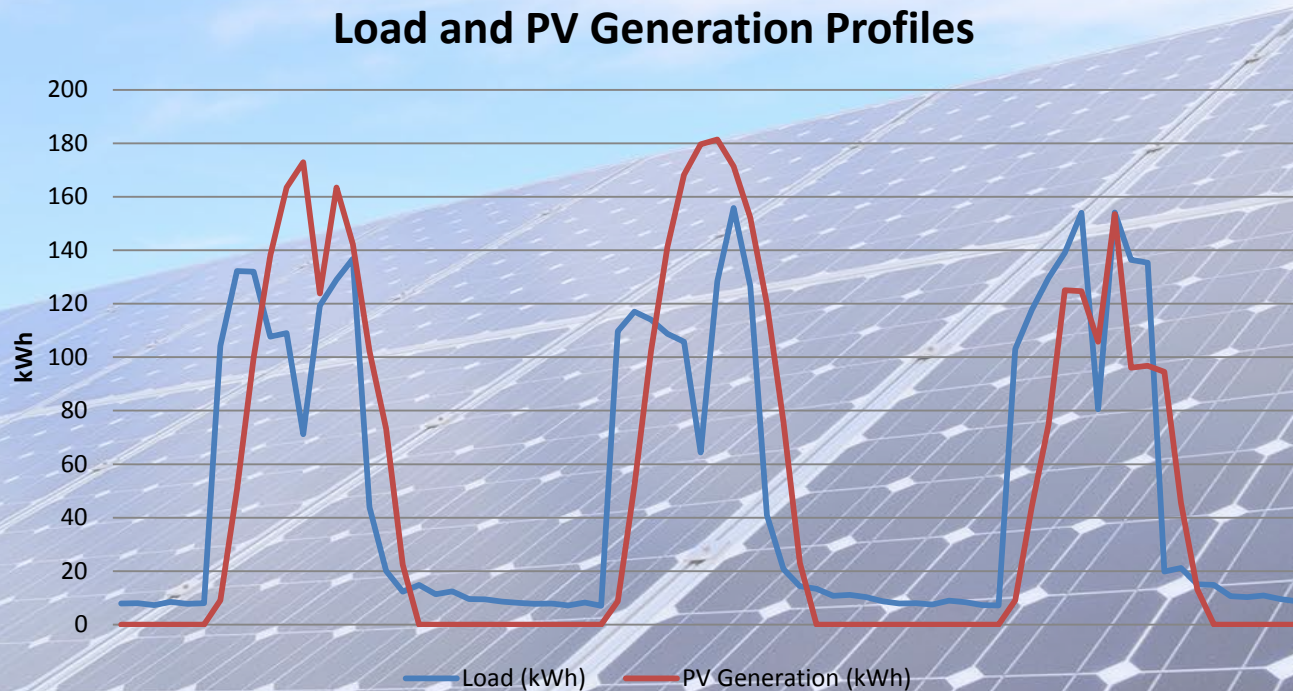


Why Solar Power?

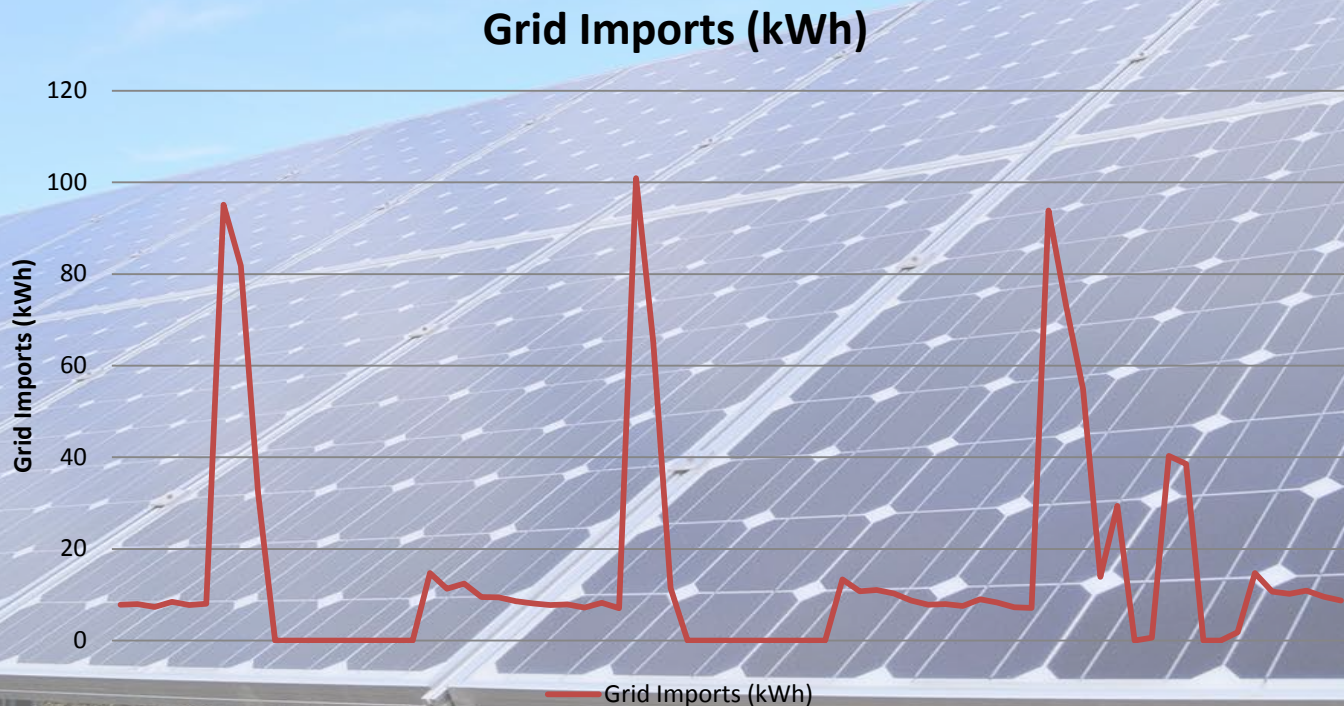
- The fuel source is free.
 - Huge roof space available.
 - Generally reliable in the Riverina.
 - Opportunity to drive sustainability improvements.
 - Historical daily energy consumption patterns matched projected daily energy generation.
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Suitability to Solar Power

Projected solar generation almost perfectly matches our demand load profile.



When combined, Kotzur Pty Ltd will only need to import energy from the grid during early mornings and late afternoons - assuming the sun is shining.



Project Details

- **Suppliers:** Solar Professionals & GPE Electrical.
- **Total registered output:** 400kW to accommodate future expansion.
- **Output:** 226kW consisting of 904 x 250w Eoply PV Panels.
- 11 x 20kW Aurora Inverters housed in a purpose built, climate controlled, dust proof room.
- Mounted flat to roof at 10° to minimize cost of adjustable mounting systems. The reduced generation capacity was compensated by adding extra PV panels.
- **Total Cost:** \$427,239
- **Estimated annual production:** 399,727kWh.

Results

- Electricity bills down 50% despite increases in staff numbers, overtime and general business activity.
- PV Generation neatly matches our demand profile- this minimises the need to import grid power.

Load Demand vs PV Output (kWh)



Based on this early information, the projected electricity cost as a percentage of turnover in 2018 is expected to fall by 66%.

