Can Solar Boost Farm Profits

SCG and MVCB Grower Field Day Presentation
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Background

- Managing farm input costs is more important than every
- Energy systems have remained largely unchanged and will only become a greater input cost to farm businesses
- We are on the cusp of a significant transition
- NW Victoria in particular can benefit from solar PV costs reductions
- Solar is being integrated today with attractive returns
- One of a number of ways to manage / control costs

Today

- The region's obvious solar resource advantage
- Solar Update
- Drivers for solar
- Practical Issues

- **What can you do next?**

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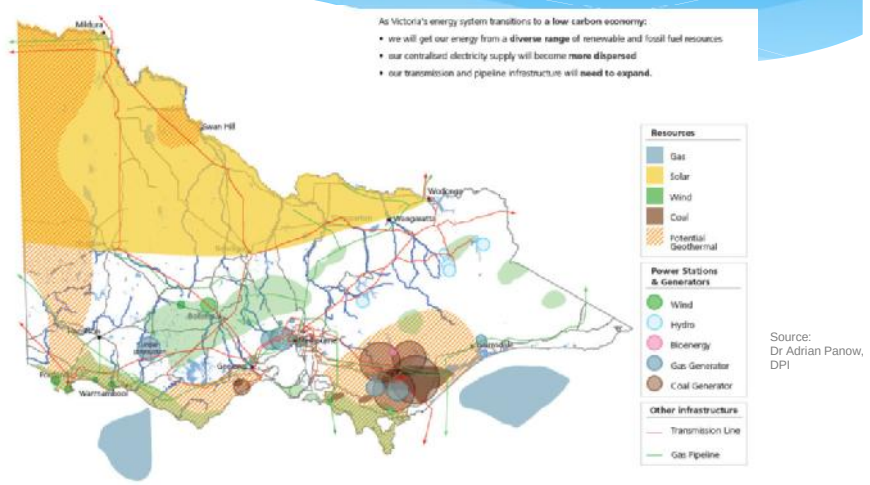
Victoria's Energy Infrastructure & Resources



Source:
Dr Adrian Panow, DPI

Historical Barriers

1. **Cost of the technology**
2. **Cost of the technology**
3. **Cost of the technology**
   (includes technology, plant and project financing costs)
4. Grid connection and integration
5. Lack of local precedent / experience

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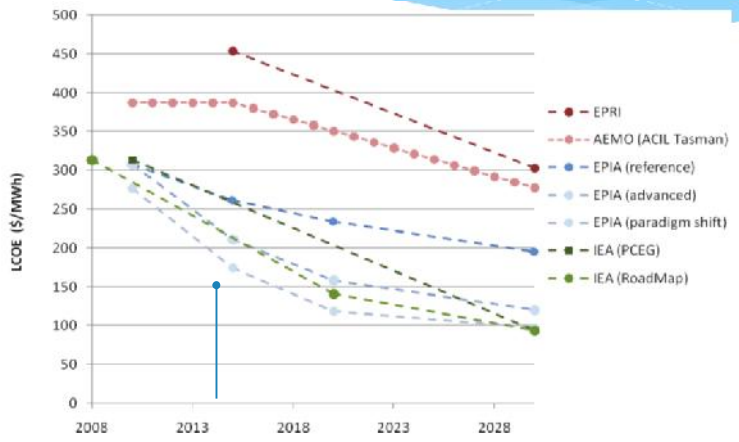
Solar PV – LCOE Projections



Drivers for Solar

- Technology costs have fallen significantly
- PV systems now cost <20% of their 2005 costs
- PV systems now cost almost half of what they did 2-3 years ago
- Global expansion rate is exponential
- Massive learnings and resulting cost reductions
- Grid power costs continue to rise
- Reasonable returns for systems installed "behind the meter"

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Drivers for Solar on Farm

- Cost competitive against retail prices for SME's
- Hedge against rising power costs = control / manage farm input costs
- Avoid augmentation / upgrade costs (sunk costs)
- System upgrades – pay for them but don't own anything
- Rooftop deployment remains the least cost deployment
- Load matching, behind the meter installations deliver best returns
- PV is now a cost offsetting exercise / offset grid power costs

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Numbers

- PV systems now cost $2.00 to $2.50 per watt installed
- Massive number of suppliers and equipment manufacturers
- You get what you pay for – performance and warranties important
- Payback periods are typically 7-10 years
- Returns depend on retail rates, system size and load matching
- Greater utilisation (@time of generation) equals better ROI

Challenges

- Capital cost - $ up front – potential solution in offtake / leasing model
- Connection process - improving
- What do you need / where do you start – size, equipment, suppliers?
- Optimising use – changing operational patterns

Practicalities

- Operations, power use, locations and load profiles?
- Load flexibility?
- Integration - buildings and land and connection points?
- A number of possible solutions.

Next Steps

- Understand your usage, equipment and patterns
- Analyse your data to determine time of use and flexibility
- Get accurate information from credible people – CEC accreditation
- Determine PV load matching and potential savings
- Review investment case and benefits to business

Outcomes

- Good understanding of system costs and returns
- Awareness of how a solar system practically ties in
- Credible, reliable, experienced people to work with – Start with CEC accredited designers and installers
- A system that is designed to matches loads and optimise returns
- A system that will boost farm profits for many years!