



focus on **climate & energy**

Climate & energy for cotton farming businesses

Jon Welsh (CottonInfo) and Janine Powell

What is the research?

The farming game is full of risk with growers inadvertently making management decisions to minimise risk and maximise productivity every day.

As farming systems become more complex and the administrative burden grows, cotton farmers are not spending the time (and sometimes do not have the skills) to undertake high level climate, investment or business analysis for their cotton enterprises.

To make informed decisions, these analyses are essential. From 2017-2020, the following tasks will be undertaken by CottonInfo's Jon Welsh, in partnership with economist Janine Powell:

- Regular climate risk analysis via CottonInfo e-news, webinars and workshops;
- Feature editions of climate e-news at winter and summer cropping decision points;
- Gross margin analysis of dry-land and irrigated cotton;
- Resource efficiency analysis; limited irrigation water scenarios, incorporating renewables and battery storage into irrigation systems, robotics in agriculture and, measuring practice change scenarios through dynamic gross margin analysis; and
- Energy efficiency extension for irrigators.

How will this project benefit me?

- Improved decision making through better understanding climate risk management;
- Increased productivity through adopting energy efficiency, innovative and proven technologies;
- Increased understanding of profit drivers and sensitivity of the dry-land and irrigated cotton gross margins.

Why is it important?

Independent reviews and feasibility research are essential for growers and advisors considering practice change or capital investments in cotton farming businesses.

Equipment suppliers often develop in-house feasibility with limited transparency on calculations/assumptions for a willing and sometimes unsuspecting consumer. Within CottonInfo, comprehensive peer review of documentation and transparency with assumptions and references underpin all published analyses.



What are the key findings/results to date?

Case studies on irrigation pumping and incorporating renewables (2014-2017) have been encouraging with benefit-cost analyses identifying potential productivity gains for groundwater irrigators. With the cyclical nature of policy, equipment and power prices it is prudent to revisit the application of new technologies such as solar PV and battery technology to irrigation. Future studies will focus on more than irrigation (see next steps).

What are the next steps?

This three year project includes:

- Updating Australian cotton industry gross margins for irrigated, semi-irrigated and rain-fed cotton;
- Conducting sensitivity testing and detailed risk analyses on profit drivers in a cotton gross margin;
- Identifying alternative energy sources and innovation opportunities for surface water irrigators;
- Conducting benefit-cost Analyses on two irrigation case study farms applying solar/wind/battery technology; and
- Conducting benefit-cost analysis on farm robotics and/or hybrid farm tractor technology applied to a cotton/grains production in a whole farm model.

Where do I go for more information?

Contact:

Jon Welsh - CottonInfo

Climate and Energy Technical Specialist

0458 215 335, jon@agecon.com.au

This project was funded by the Cotton Research and Development Corporation.



Australian Government
**Cotton Research and
Development Corporation**

