Cotton Farm Carbon Snapshot

Anonymised case study — irrigated cotton operation, Darling Downs, QLD. 1,420 ha planted area, dryland + drip-fed pivots.

Report ref: **TC-SR-AU-COT-001 / 2025** · Anonymised beta-user data · Indicative only

Baseline summary (FY24)

Total footprint	Emissions intensity	Indicative ACCU potential
4,820 tCO2e/yr	**0.34 tCO2e / bale**	**620–1,150 /yr**

Scope 1 / 2 / 3 breakdown

Scope	Source	Activity	tCO2e / yr	% of total
1	Diesel — tractors, harvesters	138,000 L diesel	371	7.7%
1	Soil N2O from synthetic N	210 t urea applied	1,640	34.0%
1	On-farm gas — irrigation pumps	Diesel pumps	285	5.9%
2	Grid electricity — pumping	612 MWh @ 0.71 kg/kWh	434	9.0%
3	Synthetic fertiliser (embedded)	Upstream urea + DAP	1,290	26.8%
3	Pesticides + ginning + transport	Bale freight to Brisbane	800	16.6%

Reduction pathway (modelled)

Action	Est. abatement (tCO2e/yr)	Capex band	Payback
Variable-rate N + nitrification inhibitors	410	$	< 2 yrs
Diesel -> electric pivots (grid + 250 kW solar)	520	$$	3–5 yrs
Cover cropping + reduced tillage (soil C)	220	$	2–3 yrs
Switch to renewable PPA	305	$	Immediate

ACCU pathway (indicative)

Under the Soil Carbon (2021) and Reducing Greenhouse Gases from Fertiliser in Irrigated Cotton (under development) methods, the modelled abatement of ~1,150 tCO2e/yr could support issuance of **620–1,150 ACCUs per year** once registered through a recognised project proponent. At a spot range of A$32–A$38, that is an indicative **A$19,800–A$43,700 / yr** in gross credit revenue, before aggregator fees.

Important: credits are only issued to a registered ACCU project. Terminal Carbon facilitates baseline, MRV and aggregator introduction — issuance and retirement remain with the Clean Energy Regulator.