Milestone 4.3 Attachment F

Provide evidence of energy efficiency (relationship between monitored irrigation/crop data and energy consumption)

This analysis considers direct cost and savings related to efficiency gains from the pumping drive unit and the input value of solar generation.

Re Milestone 3.3 information - Data to end June 2018 is based on whole of season estimate (Season 2017/2018 for harvest June to December 2018) and crop demand and growth estimates are therefore a 12 month period – irrigation is for the start of the project in January 2018 – irrigation over this period is relevant in this instance as no irrigation occurred in the winter, spring and early summer months of 2017 due to excessive rainfall events.

Re Milestone 4.3 information - Data to end December 2018 is based on the winter, spring and early summer period of 2018 (Season 2018/2019 for harvest June to December 2019). The crop estimate is a yield based on the current progress of the crop and crop demand, growth estimates and economic analysis are therefore specific to the current 6 month period.

It is probable that with onset of summer and higher growth rates that there will be a realigning of production costs as harvestable product increases against input costs.

	Date	Farm avaerage Growth cm	Estimated tc/ha/100cm at harvest	Estimated tc/ha progressive	Area irrigated ha 2019 crop	Estimated tc/farm	Season crop water demand (mm)	Applied Irrigation (mm)	Irrigation as % of crop water demand
Milestone 3.3 - final crop estimate for 2018 harvest	30-Jun-18	190	45	45	38.5	3311	938	90	9.6
Milestone 4.3 - progressive crop estimate for 2019 harvest	31-Dec-18	100	45	45	55	2475	382	90	23.56

2018 final

	Date of last reading	Total irrigation Hours	Total Motor kWh	Mains kWh	Average Mains kWh/hr	Solar kWh saving	Average Solar kWh/hr	VSD eff kWh saving	Average VSD kWh/hr	Ergon Tariff 20 $/kWh	Total cost Mains supply	Cost per tonne cane (tc)
New pumping system mains input	**30-Jun-18**	398	10003.0	4614	11.6					0.27718	$1,278.91	$0.39
New pumping system solar input						5398	13.6					$0.00
New pumping system VSD input								5510.0	13.8			$0.00
Old pumping system — Based on audit prior to replacement		398	15522.0	15522.0	39.0					0.27718	$4,302.39	$1.30

2019 progressive

	Date of last reading	Total irrigation Hours	Total Motor kWh	Mains kWh	Average Mains kWh/hr	Solar kWh saving	Average Solar kWh/hr	VSD eff kWh saving	Average VSD kWh/hr	Ergon Tariff 20 $/kWh	Total cost Mains supply	Cost per tonne cane (tc)
New pumping system mains input	**31-Dec-18**	595	16252.0	4308	7.24					0.26442	$1,139.12	$0.46
New pumping system solar input						11944	20.1					$0.00
New pumping system VSD input								6953.0	11.7			$0.00
Old pumping system — Based on audit prior to replacement		595	23205.0	23205.0	39.0					0.26442	$6,135.87	$2.48