

Milestone D4.1 – Attachment D:

- Page 1 - Energy availability v's consumption (solar and grid) and water applied (ML/ha)
- Page 2 - Pump to solar capacity operating threshold

Weather site data	January to June 2018 (for 2018 harvest)	July 2018 to December 2018 (for 2019 harvest)
Available bright sunshine hours	1737	2369
Pump operational threshold (W/m ²)	400	400
Available bright sunshine hour equal to threshold	1027	1111

Pumping data	January to June 2018 (for 2018 harvest)	July 2018 to December 2018 (for 2019 harvest)
Total time pumping (hours)	398	595
Daytime pumping hrs (estimate 70%)	279	416
Night time pumping hrs (estimate 30%)	119	179
Percent of available solar hours utilised	27%	37.44 %
Grid supplied energy utilised (kWh)	4614	4308

Calculated energy mix	January to June 2018 (for 2018 harvest)	July 2018 to December 2018 (for 2019 harvest)
Average hourly pump demand (kWh)	25.13	27.31
Solar input (kWh)	5389	11944
Grid input	4614	4308
Total pump energy use (grid+solar) kWh	10003	16252
Estimated Ratio of operation Day (70%)	7002	8360.8
Night (30%)	3001	3583.2

System utilisation	January to June 2018 (final for 2018 harvest)	July 2018 to December 2018 (progressive for 2019 harvest)
Annual nominal water allocation (ML/ha)	4.5	4.5
Annual farm area (ha)	38.5	55
Annual total water allocation (ML)	173	248
Irrigation volume applied (ML)	34.85	49.07
Percent of allocation applied	20%	19.75%

Pump / solar operational threshold July to December 2018

