



Barr River hydro scheme

Monthly report – July 2024

1 Summary

Good operational performance but slightly behind the long term average on the back of low rainfall.

2 Monthly generation & revenue

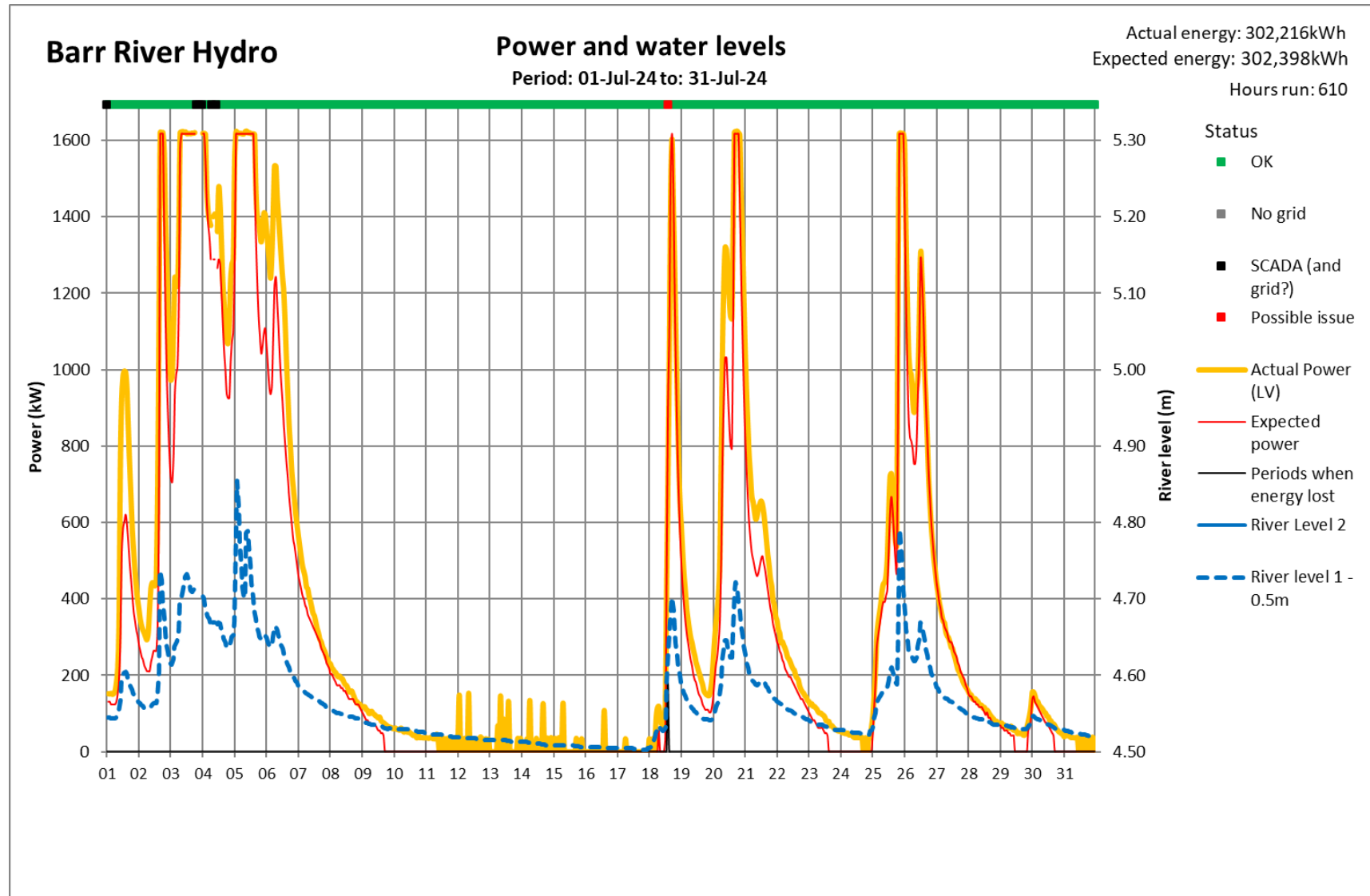
Parameter	Value
Actual generation (FIT meter), kWh	302,216
Average generation in month, kWh	351,584
Forecast generation in month (P50), kWh	195,146
Actual relative to forecast	154.9%
Rainfall relative to 1991-2020 average by month	70%
Calculated generation ¹ kWh	302,398
Actual relative to calculated generation, kWh	-182
Actual relative to calculated generation, %	-0.1%
Approximate revenue in month ²	£73,285

¹ Calculated generation is based on river level data and seeks to establish the expected generation with no performance issues.

² Export revenue based on reported export and estimated GDUoS charges.

Export meter	Value
Export, kWh	297,706
Variance to generation, kWh	-4,510
Variance to generation, %	-1.5%

3 System reporting



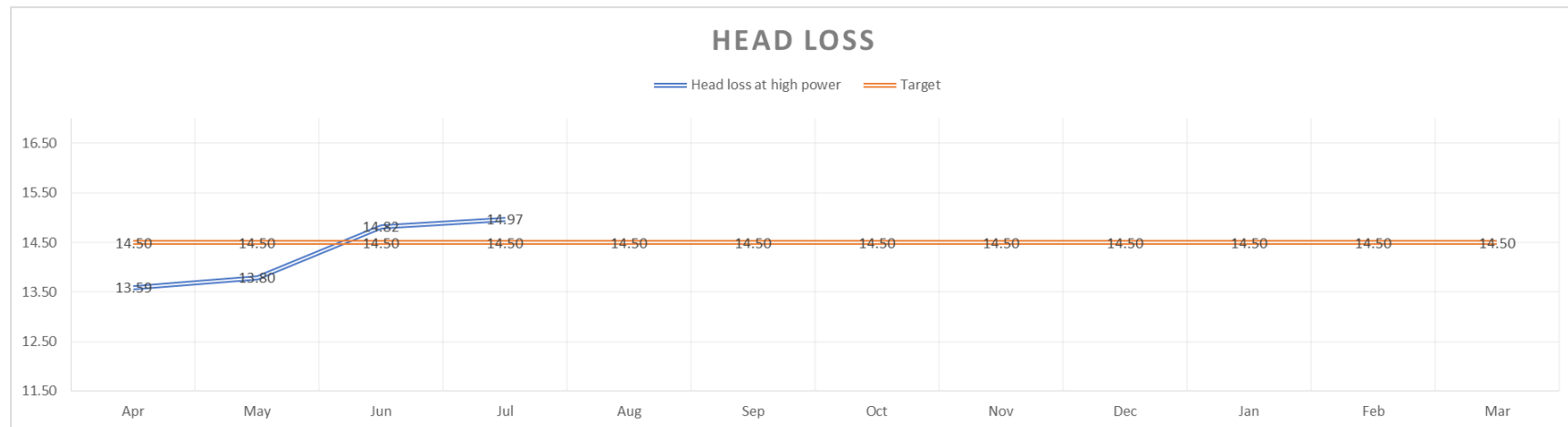
3.1 Scheme anomalies to calculated generation

Date/time	Details	Action required
	None significant	

3.2 Other system events

Date/time	Details	Action required
Intermittent, early month	Blank data return. No further impact.	Thought to be in relation to some of the grid anomalies. Will be monitored for any further issues.

3.3 Head loss – limited generation above 1400kW, hence limited data points. Monitor when more generation nearer full power.



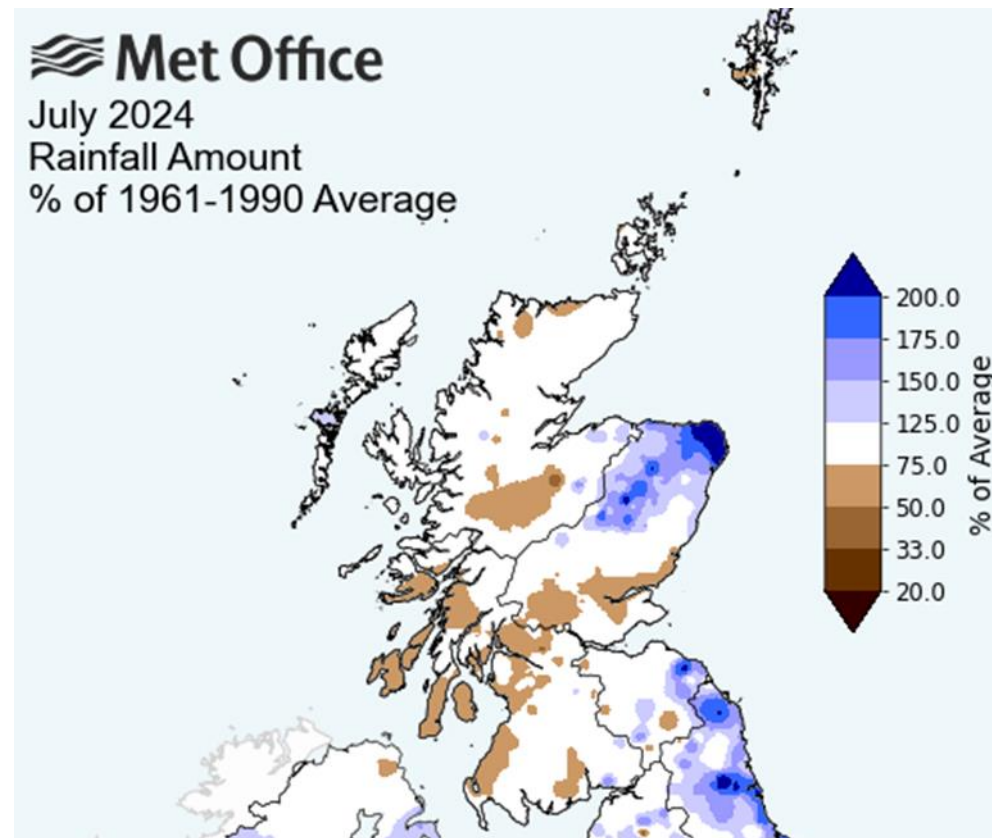
3.4 Temperatures – limited data points

Parameter	Temperature at or near full power, °C	Alert level, °C		Parameter	Temperature at or near full power, °C	Alert level, °C
Generator DE bearing	40	85		Generator winding 1	69	145
Generator NDE bearing 1	47	85		Generator winding 2	66	145
Generator NDE bearing 2	50	85		Generator winding 3	70	145
Turbine room	25	30		Power cabinet (RG1)	33	42

3.5 Vibration

Parameter	Vibration at or near full power, mm/s	Alert level, mm/s		Parameter	Vibration at or near full power, mm/s	Alert level, mm/s
Generator DE	0.50	3.0		Generator NDE	1.20	3.0

4 Rainfall



Rainfall this month (rain gauge), mm	104
Western Scotland rainfall in month with respect to 1991-2020 long term average	70%

5 Scheme annual performance summary

FY 2024/5	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Actual generation kWh	298,851	170,950	236,233	302,216									1,008,250
Average generation since commissioning	244,074	240,920	198,801	351,584	308,927	342,342	593,249	597,546	467,890	563,949	559,368	279,361	1,035,377
Forecast generation (P50)	369,360	226,766	188,561	195,146	280,601	387,431	582,631	618,214	620,057	695,941	554,678	611,047	979,833
Actual relative to forecast	80.9%	75.4%	125.3%	154.9%									102.9%
Rainfall relative to 1991-2020 average by month	174%	102%	81%	70%									107%
Calculated generation kWh	301,701	175,752	236,233	302,398									1,016,084
Variance to calculated generation kWh	-2,850	-4,802	Nil	-182	-	-	-	-	-	-	-	-	-7,834
Variance to calculated generation %	-0.9%	-2.7%	Nil	-0.1%									-0.8%
Approximate revenue	£72,485	£40,444	£56,850	£73,285									£243,063
Capacity factor (monthly)	25.6%	14.2%	20.3%	25.1%									21.3%
Industry wide RoR capacity factor	43.5%	11.4%	20.8%	18.2%									23.5%
FY 2023/4	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Actual generation kWh	240,542	57,453	111,100	374,109	360,348	431,554	434,771	406,551	667,311	502,737	582,749	241,042	4,410,267
Average generation since commissioning	247,605	424,386	286,501	165,261	174,610	297,736	672,489	693,043	368,179	594,556	547,677	298,520	4,770,561
Forecast generation (P50)	369,360	226,766	188,561	195,146	280,601	387,431	582,631	618,214	620,057	695,941	554,678	611,047	5,330,433
Actual relative to forecast	65.1%	25.3%	58.9%	191.7%	128.4%	111.4%	74.6%	65.8%	107.6%	72.2%	105.1%	39.4%	82.7%
Rainfall relative to 1991-2020 average	83%	45%	81%	152%	73%	145%	83%	74%	137%	81%	106%	92%	96%
Calculated generation kWh	243,307	59,162	112,194	377,850	418,162	438,789	445,408	428,068	672,901	536,047	620,238	250,456	4,602,582
Variance to calculated generation kWh	-2,765	-1,709	-1,094	-3,741	-57,814	-7,235	-10,637	-21,517	-5,590	-33,310	-37,489	-9,414	-192,315
Variance to calculated generation %	-1.1%	-2.9%	-1.0%	-1.0%	-13.8%	-1.6%	-2.4%	-5.0%	-0.8%	-6.2%	-6.0%	-3.8%	-4.2%
Approximate revenue	£18,747	£7,087	£14,675	£52,099	£50,104	£60,181	£148,850	£137,974	£227,701	£170,888	£205,490	£81,339	£1,182,212
Capacity factor (monthly)	20.6%	4.8%	9.5%	31.0%	29.9%	37.0%	36.1%	34.9%	55.4%	41.7%	53.5%	20.0%	31.2%
Industry wide RoR capacity factor	20.7%	5.7%	6.0%	27.5%	25.0%	36.0%	40.0%	45.0%	46.0%	43.3%	59.8%	37.2%	32.7%

