Barr River hydro scheme

Monthly report – December 2025

1 Summary

A good month, ahead of the long-term average. River level sensor issue resolved on 16th.

2 Monthly generation & revenue

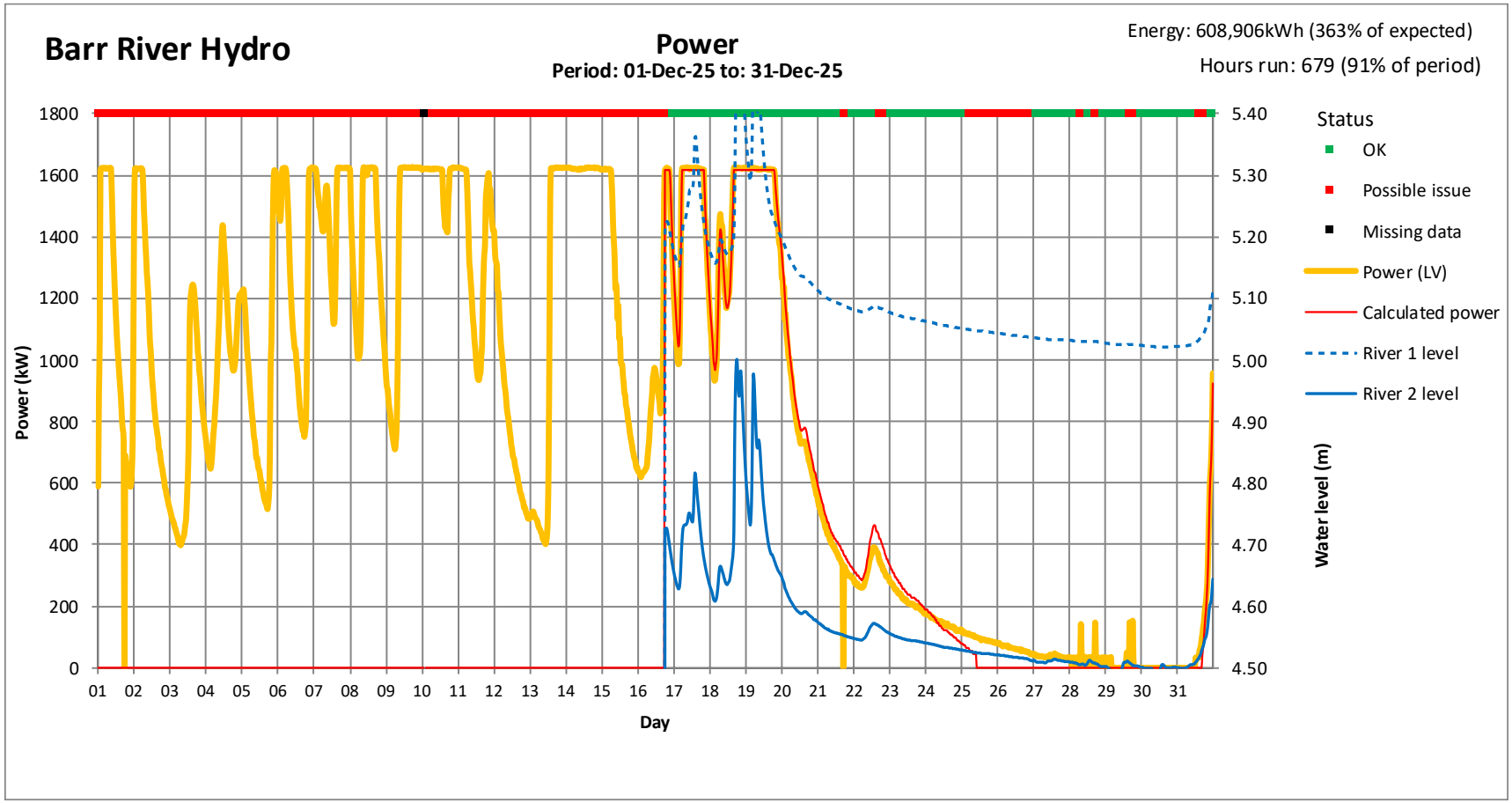
Parameter	Value
Actual generation (FIT meter), kWh	608,906
Average generation in month, kWh	555,825
Forecast generation in month (P50), kWh	620,057
Actual relative to forecast	98.2%
Rainfall relative to 1991-2020 average by month	96%
Calculated generation[1] kWh	n/a -see below
Actual relative to calculated generation, kWh	n/a
Actual relative to calculated generation, %	n/a
Approximate revenue in month[2]	£103,508

[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	602,599
Variance to generation, kWh	6,307
Variance to generation, %	-1.0%

3 System reporting



3.1 Scheme anomalies to calculated generation

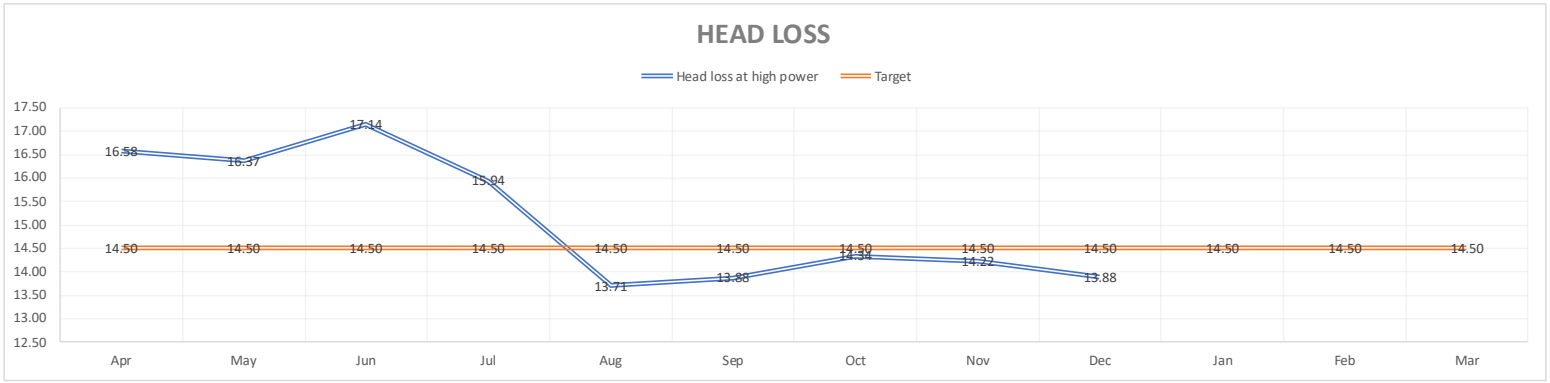
Date/time	Details	Action required
21/11/2025	Grid issue. Short stoppage.	n/a
27/11/2025 – 16/12/2025	River level 2 sensor failure. Unable to calculate expected power. Operating as expected, so likely no generation here.	Douglas changed fuses 16/12/2025.

Ongoing	From the graph, the scheme appears to be slightly under generating during times when river level is dropping. Not a performance issue.	This is a monitoring issue, due to the influence of multiple intakes. The performance is being measured against the water level at one intake but affected by that at all intakes. GHC are reviewing the power curve to see if this anomaly can be removed.

3.2 Other system events

Date/time	Details	Action required
	None	

3.3 Head loss

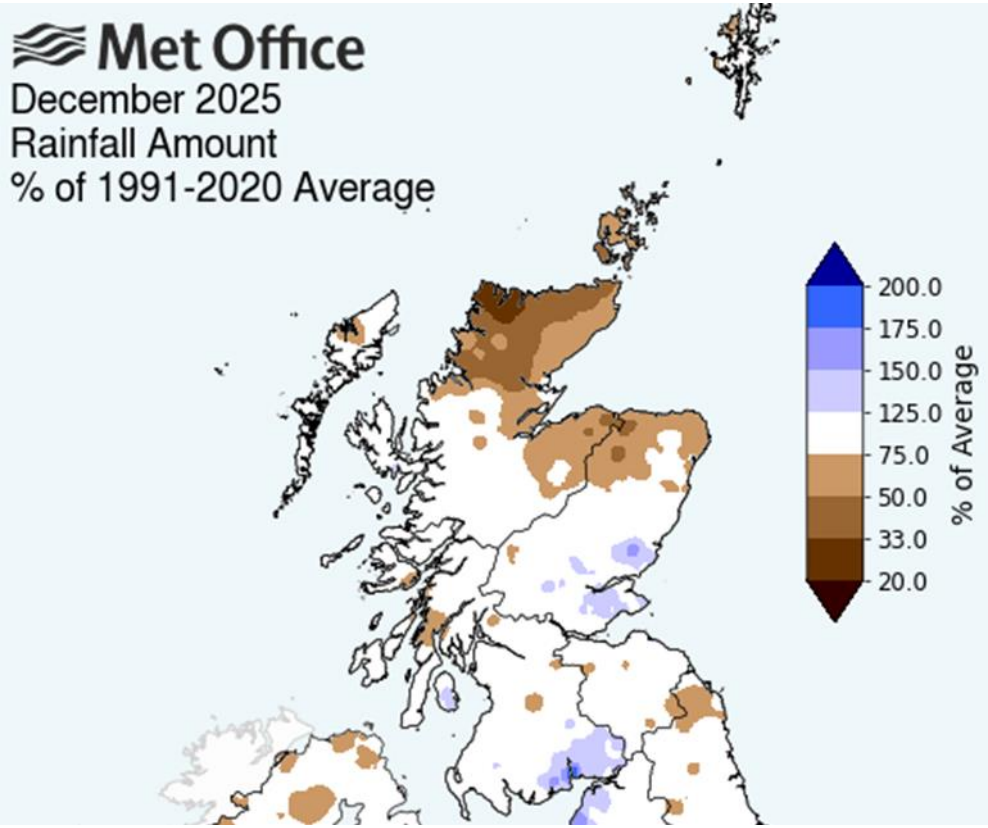


3.4 Temperatures & Vibration

Parameter	Temperature at or near full power, ^{0}C	Alert level, ^{0}C
Generator NDE1 bearing	43.5	85
Generator DE bearing	40.7	85
Generator NDE bearing 2	46.0	85
Generator windings	66.5	145

Parameter	Vibration at or near full power, mm/s	Alert level, mm/s
Generator DE	0.42	3.0
Generator NDE	1.23	3.0

4 Rainfall



Rainfall this month (rain gauge), mm	250
Western Scotland rainfall in month with respect to 1991-2020 long term average	96%

5 Scheme annual performance summary

FY 2025/6	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Actual generation kWh	66,263	120,774	475,565	337,159	294,561	539,798	429,308	570,111	608,906				3,460,602
Average generation since commissioning	262,333	217,596	211,278	335,128	418,095	302,196	524,441	539,763	555,825	506,699	511,675	283,133	3,366,654
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	3,468,767
Actual relative to forecast	17.9%	53.3%	252.2%	172.8%	105.0%	139.3%	73.7%	92.2%	98.2%				99.8%
Rainfall relative to 1991-2020 average by month	54%	107%	134%	95%	88%	125%	105%	115%	96%				91%
Calculated generation kWh	65,116	125,464	503,781	355,612	305,935	573,654	444,380	n/a	n/a				2,373,943
Variance to calculated generation kWh	1,147	-4,690	-28,216	-18,453	-11,374	-33,856	-15,072	n/a	n/a	-	-	-	-92,358
Variance to calculated generation %	+1.8%	-3.7%	-5.6%	-5.2%	-3.7%	-5.9%	-3.4%	n/a	n/a				-3.9%
Approximate revenue	£10,279	£20,713	£84,263	£59,373	£51,663	£46,508	£69,871	£96,640	£103,508				£596,101
Capacity factor (monthly)	5.7%	10.0%	40.8%	28.0%	24.4%	46.3%	35.6%	48.9%	50.5%				32.4%
Average RoR capacity factor[1]	7.9%	8.5%	22.2%	18.5%	14.0%	27.5%	41.3%	58.5%	59.0%				24.8%
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	636,431	181,760	318,014	366,415	819,629	334,946	368,598	294,450	4,328,493
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	4,748,008
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	80.9%	75.4%	125.3%	154.9%	226.8%	46.9%	54.6%	59.3%	132.2%	48.1%	66.5%	48.2%	81.2%
Rainfall relative to 1991-2020 average by month	174%	102%	81%	70%	201%	49%	67%	44%	108%	46%	78%	56%	90%
Calculated generation kWh	301,701	175,752	236,233	302,398	728,169	189,926	361,864	367,128	828,135	360,967	359,919	288,473	4,500,665
Variance to calculated generation kWh	-2,850	-4,802	Nil	-182	-91,738	-8,166	-43,850	-713	-8,506	-26,021	8,679	5,977	-172,172
Variance to calculated generation %	-0.9%	-2.7%	Nil	-0.1%	-12.6%	-4.3%	-12.1%	-0.2%	-1.0%	-7.2%	+2.4%	+2.1%	-3.8%
Approximate revenue	£73,237	£41,323	£57,663	£73,743	£157,116	£43,866	£81,703	£94,692	£212,560	£86,231	£94,994	£48,500	£1,065,335
Capacity factor (monthly)	25.6%	14.2%	20.3%	25.1%	52.8%	15.6%	26.4%	31.4%	68.0%	27.8%	33.9%	24.4%	30.5%
Industry wide RoR capacity factor	7.9%	8.5%	22.2%	18.5%	14.0%	27.5%	41.3%	59.5%	62.1%	26.3%	34.0%	17.5%	30.2%

[1] From April 2025 the average reported figure has been amended to a sample of GHC managed schemes rahter than the wider industry.