

VALLEY HYDRAULICS (AES)

Chatburn, BB7 4JY, United Kingdom | Jamie Shaw | 1 Nov 2021



SYSTEM OVERVIEW

 237 PV modules

 3 Inverters

 119 Optimizers



FINANCIAL OVERVIEW

System Price

£ 0

Levelized Cost Of Energy (LCOE)

0 £/kWh

SIMULATION RESULTS



Installed DC Power

88.88 kWp



Max Achieved AC Power

69.94 kW



Annual Energy Production

72.33 MWh



CO2 Emission Saved

16.85 t



Equivalent Trees Planted

774



Max Achieved DC Power

82.70 kW



DC/AC Oversizing

110%



Max Active AC Power

75.00 kW



Performance Ratio

86%



Performance Index

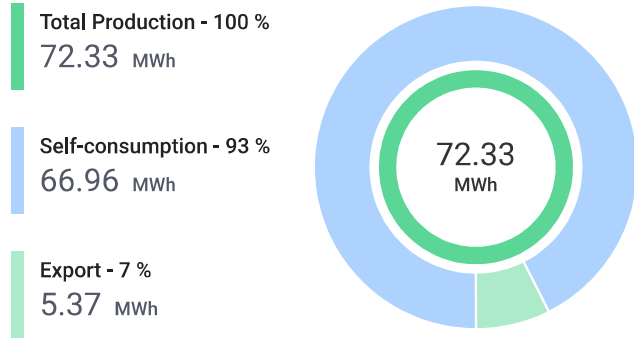
814 kWh/kWp

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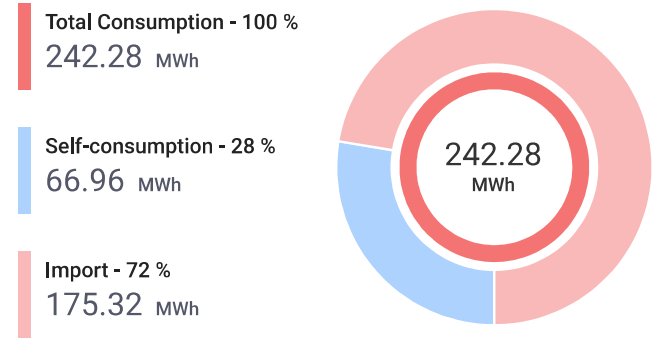
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SYSTEM PRODUCTION



CONSUMPTION

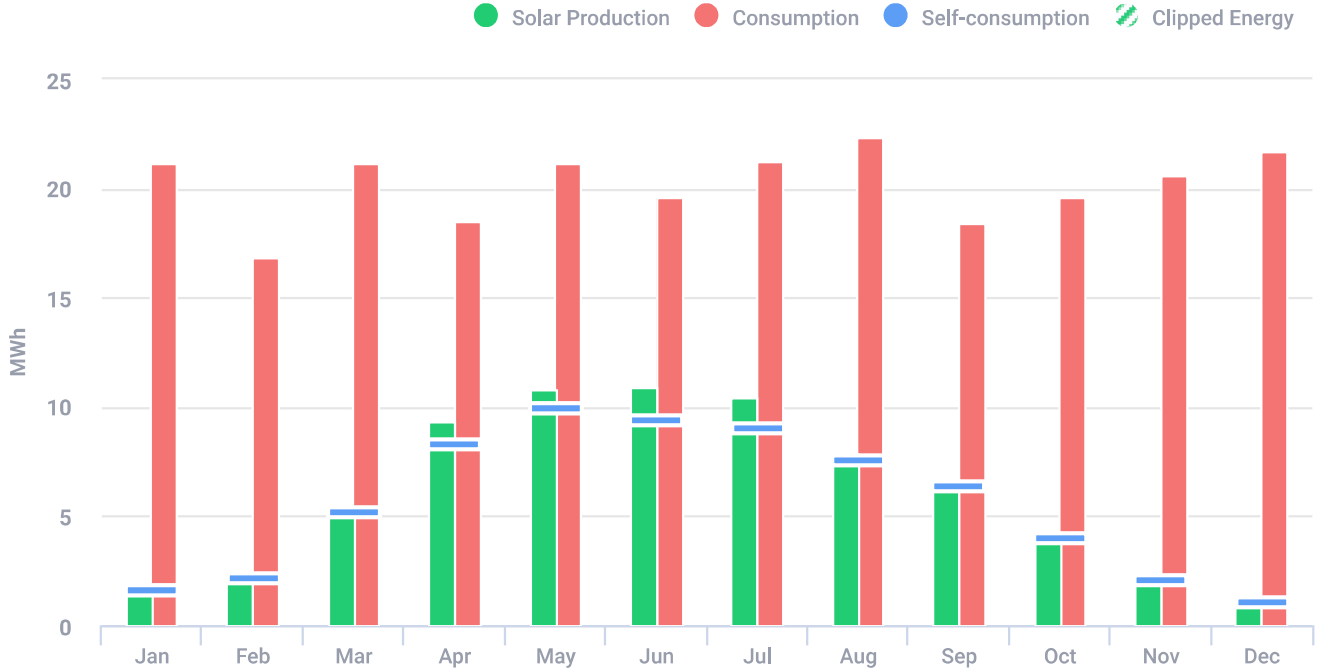


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ESTIMATED MONTHLY ENERGY



Total clipped energy: 0.13%

Month	Solar Production (kWh)	Consumption (kWh)	Self-consumption (kWh)	Clipped Energy (kWh)
Jan	1,617	21,143	1,617	-
Feb	2,253	16,811	2,227	-
Mar	5,217	21,159	5,200	-
Apr	9,298	18,467	8,321	2
May	10,812	21,199	10,011	7
Jun	10,868	19,622	9,414	7
Jul	10,458	21,270	9,032	79
Aug	7,899	22,353	7,595	-
Sep	6,672	18,411	6,377	-
Oct	4,061	19,558	3,993	-
Nov	2,082	20,562	2,079	-
Dec	1,095	21,724	1,095	-

PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
129	Longi Solar, LR4-60HBD-375M	48.4 kWp			162°	11°

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PV MODULES (CONTINUED)

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
108	Longi Solar, LR4-60HBD-375M	40.5 kWp			161°	10°
Total: 237		88.9 kWp				

BILL OF MATERIALS (BOM)

Items	Quantity
SE25K	3
P801	119
LR4-60HBD-375M	237
	1
	3
	1

ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 x SE25K 25.07kW 100%	∞ 2 x strings	18 x P801 (2:1)	36
1 x SE25K 23.07kW 92%	∞ 1 x string	16 x P801 (2:1)	32
	∞ 1 x string	17 x P801 (2:1)	34
1 x SE25K 34.56kW 138%	∞ 1 x string	15 x P801 (2:1), 1 x P801 (1:1)	31
	∞ 1 x string	16 x P801 (2:1)	32
	∞ 1 x string	18 x P801 (2:1)	36

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SYSTEM LOSS DIAGRAM



*This value is calculated based on custom input

SIMULATION PARAMETERS



LOCATION & GRID

Time zone	GMT (London)
Weather station	Bradford (36.03 km away)
Station altitude	218 m
Station data source	Meteonorm 7.1
Grid	400V L-L, 230V L-N



LOSS FACTORS

Near shading	Enabled
Albedo	0.20
Soiling/Snow	2.4%
Incidence angle modifier (IAM), ASHRAE b0 param.	0.05
Thermal loss factor U _c (const) Flush mount	20
Thermal loss factor U _c (const) Tilted	29
LID loss factor	2%
System unavailability	0%