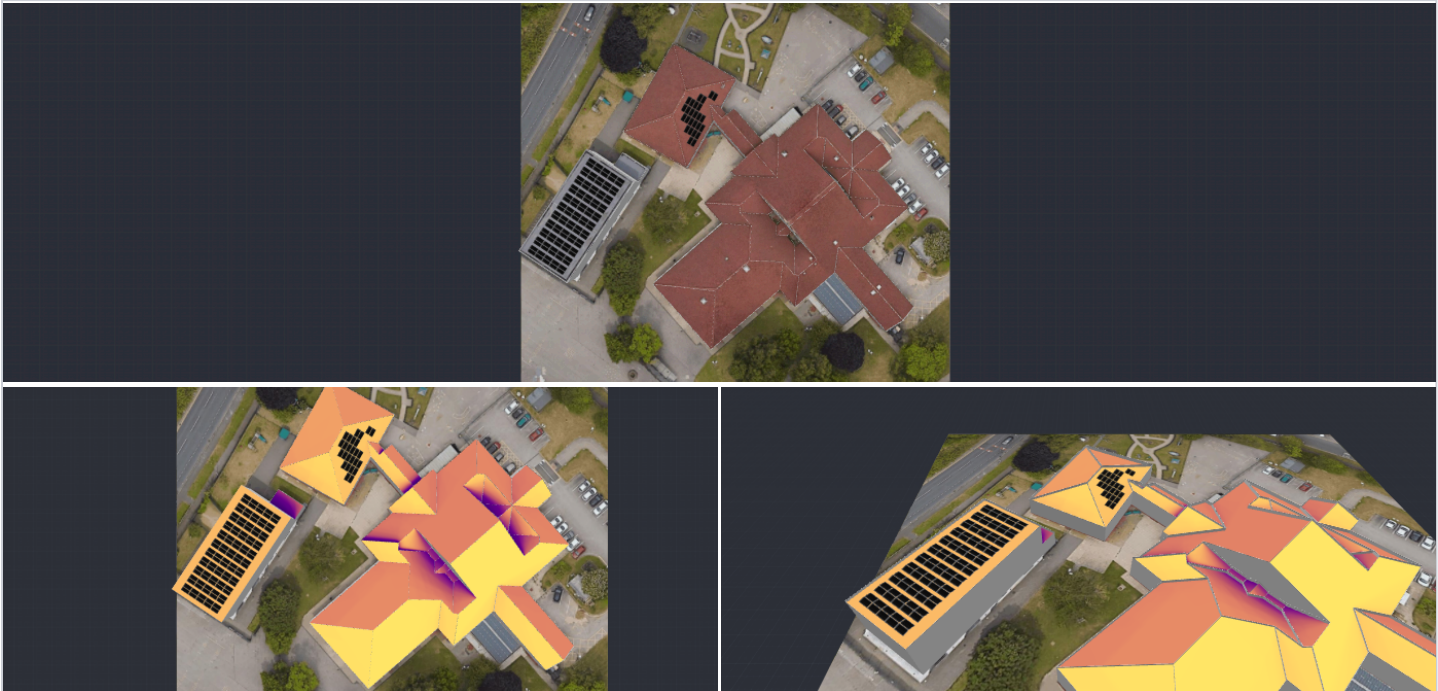


BENCHILL PRIMARY SCHOOL

Benchill Road, Wythenshawe, M22 8EJ, United Kingdom | 17 Jul 2025



SYSTEM OVERVIEW



136 PV modules



1 Inverter



69 Optimizers

SIMULATION RESULTS



Installed DC Power

62.56 kWp



Max Achieved AC Power

48.55 kW



Annual Usable Solar Production

49.61 MWh



Annual CO₂ Emission Saved

9.59 t



Annual Equivalent Trees Planted

441



Max Achieved DC Power

54.14 kW



DC/AC Oversizing

108 %



Max Active AC Power

50.00 kW



Performance Ratio

90 %



Annual Specific Production

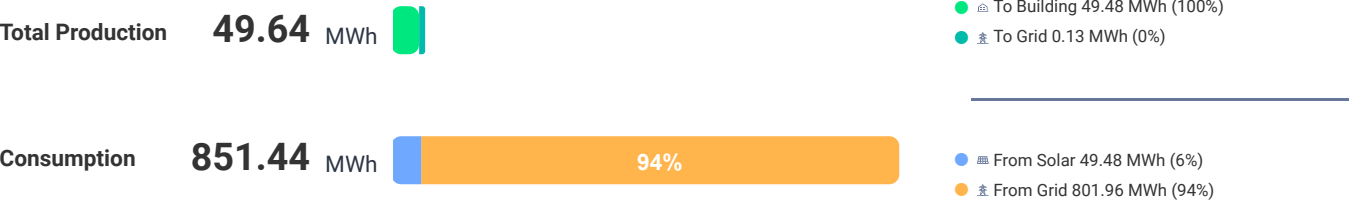
793 kWh/kWp

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ANNUAL CONSUMPTION AND PRODUCTION RESULTS

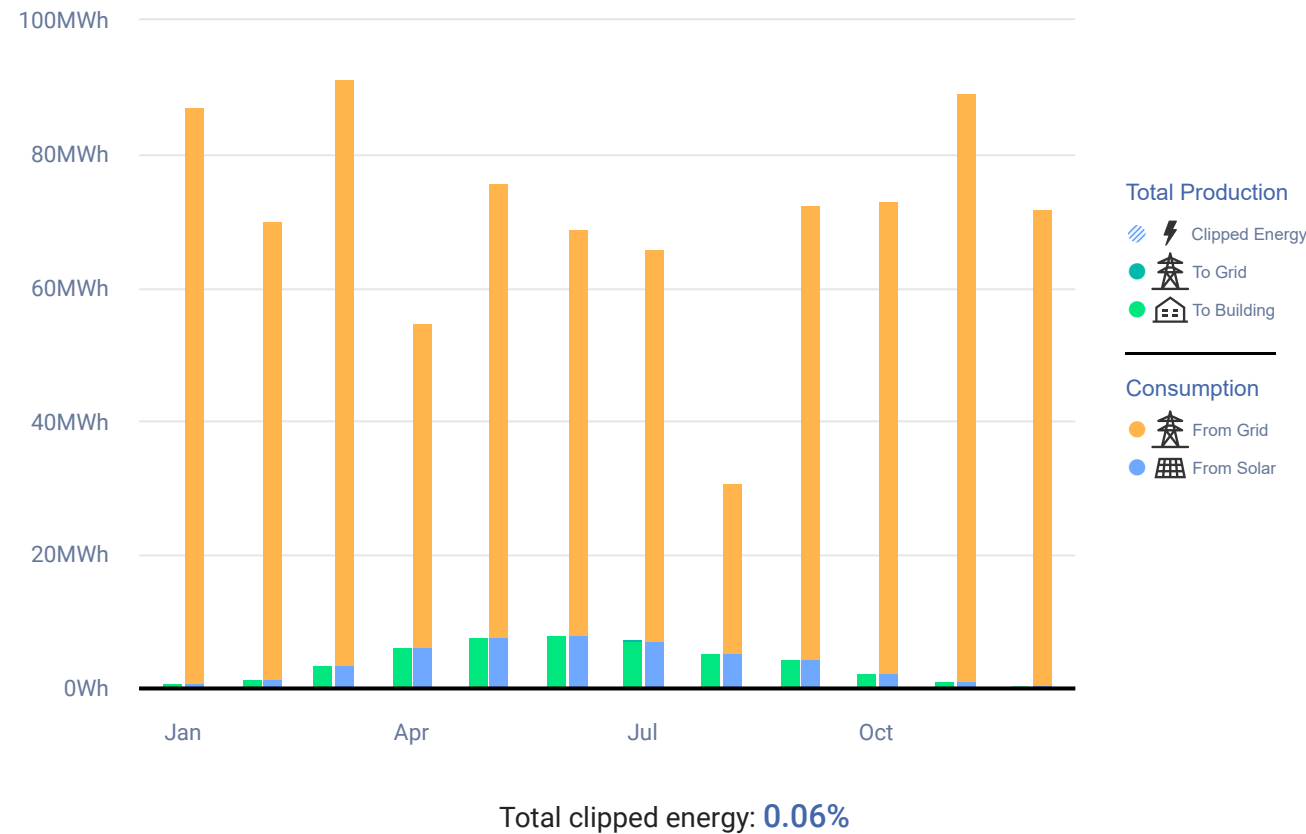


BENCHILL PRIMARY SCHOOL

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ESTIMATED MONTHLY ENERGY



Month	Production (kWh)	To Home (kWh)	To Grid (kWh)	Clipped Energy (kWh)	Consumption (kWh)	From PV (kWh)	From Grid (kWh)
Jan	885	885	-	-	87,189	885	86,304
Feb	1,481	1,481	-	-	70,058	1,481	68,577
Mar	3,473	3,473	-	-	91,240	3,473	87,767
Apr	6,403	6,373	31	19	54,912	6,373	48,539
May	7,694	7,694	-	-	75,815	7,694	68,121
Jun	8,129	8,124	4	-	68,841	8,124	60,716
Jul	7,348	7,313	35	12	65,975	7,313	58,662
Aug	5,396	5,345	51	-	30,984	5,345	25,639
Sep	4,445	4,440	6	-	72,436	4,440	67,996
Oct	2,538	2,538	-	-	73,089	2,538	70,550
Nov	1,161	1,161	-	-	89,110	1,161	87,949
Dec	654	654	-	-	71,789	654	71,135

BENCHILL PRIMARY SCHOOL

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PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
55	JA Solar, JAM72S20-460/MR (1500V)	25.3 kWp			214°	10°
55	JA Solar, JAM72S20-460/MR (1500V)	25.3 kWp			34°	10°
26	JA Solar, JAM72S20-460/MR (1500V)	12 kWp			120°	13°
Total: 136		62.6 kWp				

BILL OF MATERIALS (BOM)

Items	Part Number	Quantity	Price (£)	Total (£)
	SE50K Synergy Manager	1		
	P850 (verify waiver conditions)	69		
	JAM72S20-460/MR (1500V)	136	0.00	0.00

ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE50K Synergy ManagerCenter Unit 54.14kW 108% Oversizing			
	∅ 1 x string	13 x P850 (verify waiver conditions) (2:1), 1 x P850 (verify waiver conditions) (1:1)	27
	∅ 1 x string	14 x P850 (verify waiver conditions) (2:1)	28
	Left Unit		
	∅ 1 x string	23 x P850 (verify waiver conditions) (2:1)	46
	∅ 1 x string	17 x P850 (verify waiver conditions) (2:1), 1 x P850 (verify waiver conditions) (1:1)	35

BENCHILL PRIMARY SCHOOL

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SYSTEM LOSS DIAGRAM



SIMULATION PARAMETERS



LOCATION & GRID

Time zone	BST (London)
Weather station	Manchester (5 km away)
Station altitude	67 m
Station data source	Meteonorm 7.1
Grid	400V L-L, 230V L-N



LOSS FACTORS

Near shading	Enabled
Albedo	0.20
Bi-Facial Albedo	0.30
Soiling/Snow	0%
Incidence angle modifier (IAM), ASHRAE b0 param.	0.05
Thermal loss factor Uc (const) Flush mount	20
Thermal loss factor Uc (const) Tilted	29
LID loss factor	0%
System unavailability	0%