

## ST CRISPINS SECONDARY SCHOOL

London Road, Wokingham, RG40 1SS, United Kingdom | 26 Feb 2025



## SYSTEM OVERVIEW



398 PV modules



2 Inverters



201 Optimizers

## SIMULATION RESULTS



Installed DC Power

183.08 kW<sub>p</sub>

Max Achieved AC Power

133.20 kW



Annual Solar Energy Production

171.26 MWh



Annual CO2 Emission Saved

33.12 t



Annual Equivalent Trees Planted

1,521



Max Achieved DC Power

174.01 kW



DC/AC Oversizing

131 %



Max Active AC Power

133.20 kW



Performance Ratio

87 %



Annual Specific Production

935 kWh/kW<sub>p</sub>

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## ANNUAL CONSUMPTION AND PRODUCTION RESULTS

Production **172.50** MWh 

-  To Building 120.35 MWh (70%)
-  To Grid 50.91 MWh (29%)
-  Clipped Energy 1.23 MWh (1%)

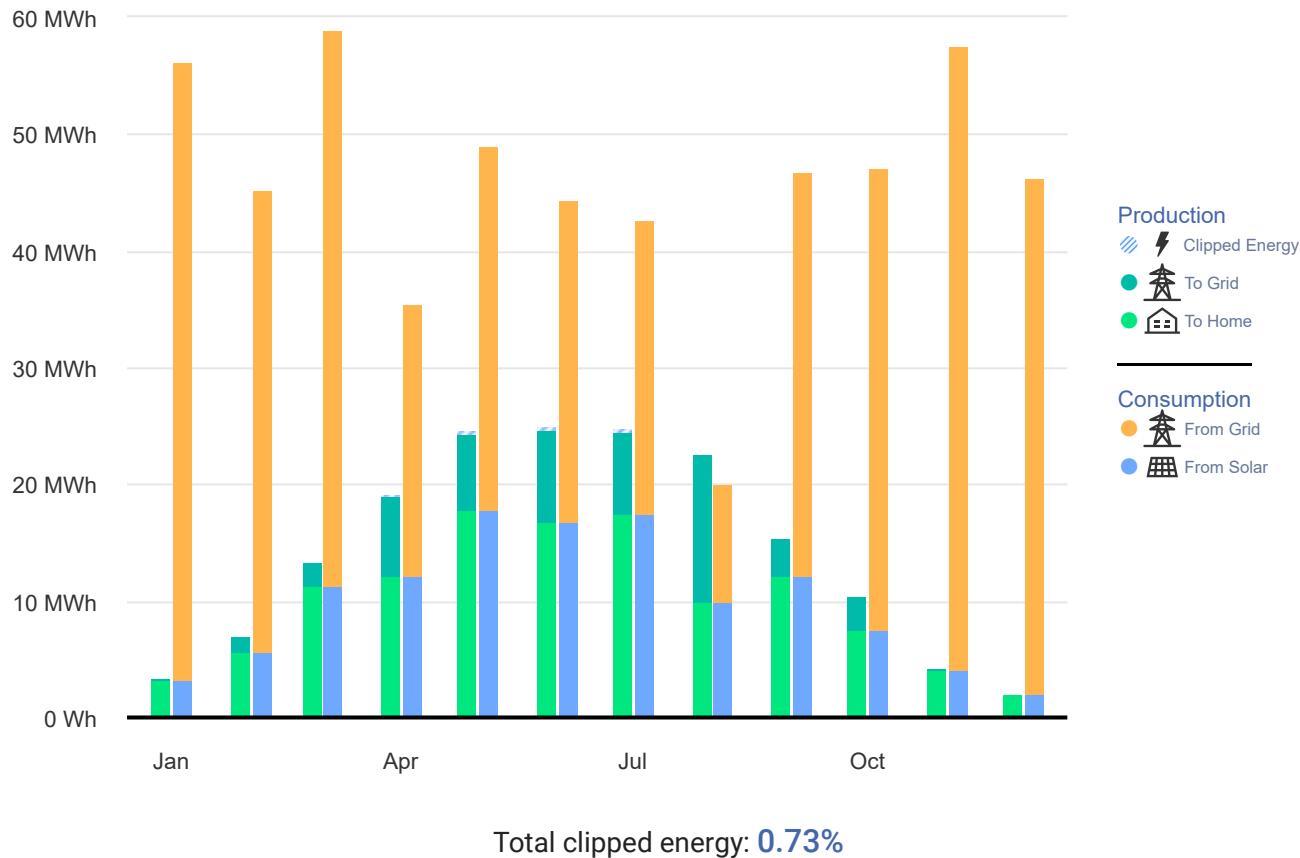
Consumption **549.81** MWh 

-  From Solar 120.35 MWh (22%)
-  From Grid 429.46 MWh (78%)

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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	3,474	3,312	162	-	56,301	3,312	52,989
Feb	7,018	5,584	1,433	-	45,239	5,584	39,655
Mar	13,310	11,362	1,947	15	58,917	11,362	47,555
Apr	19,075	12,097	6,978	81	35,459	12,097	23,362
May	24,261	17,790	6,471	355	48,957	17,790	31,166
Jun	24,605	16,819	7,786	390	44,453	16,819	27,634
Jul	24,597	17,495	7,102	340	42,603	17,495	25,108
Aug	22,553	9,980	12,573	81	20,008	9,980	10,028
Sep	15,450	12,132	3,318	2	46,774	12,132	34,642
Oct	10,417	7,477	2,940	-	47,196	7,477	39,719
Nov	4,361	4,182	179	-	57,542	4,182	53,360
Dec	2,141	2,118	23	-	46,357	2,118	44,239

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## PV MODULES

#	Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
82	JA Solar, JAM72S20-460/MR (1500V)		37.7 kWp			198°	10°
49	JA Solar, JAM72S20-460/MR (1500V)		22.5 kWp			199°	10°
165	JA Solar, JAM72S20-460/MR (1500V)		75.9 kWp			199°	10°
27	JA Solar, JAM72S20-460/MR (1500V)		12.4 kWp			198°	10°
75	JA Solar, JAM72S20-460/MR (1500V)		34.5 kWp			198°	10°
Total: 398			183.1 kWp				

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## ESTIMATED BILL SAVINGS YEAR 1

Annual

Current Annual Bill	Annual Bill with SolarEdge	Net Bill Annual Savings	Bill Offset
£ 151,471.55	£ 114,751.51	£ 36,720.04	24.24 %

## Estimated Net Lifetime Bill Savings

£ 1,146,957

Utility Provider: **UK Power** | Utility Rate: **St Crispin's Secondary School (0.2755 £/kWh)**Export Rate: **Barker Sample Export Rate (0.07 £/kWh) (9/2022 - 8/2027)**

	Current Monthly Bill	Monthly Bill with SolarEdge	Net Bill Monthly Savings	Bill Offset
Jan	£15,511.02	£14,587.22	£923.80	5.96%
Feb	£12,463.41	£10,824.57	£1,638.84	13.15%
Mar	£16,231.75	£12,965.09	£3,266.66	20.13%
Apr	£9,768.83	£5,947.78	£3,821.05	39.11%
May	£13,487.55	£8,133.37	£5,354.18	39.7%
Jun	£12,246.85	£7,068.08	£5,178.77	42.29%
Jul	£11,737.03	£6,420.07	£5,316.96	45.3%
Aug	£5,512.10	£1,882.57	£3,629.52	65.85%
Sep	£12,886.37	£9,311.75	£3,574.62	27.74%
Oct	£13,002.55	£10,736.80	£2,265.75	17.43%
Nov	£15,852.78	£14,688.03	£1,164.75	7.35%
Dec	£12,771.33	£12,186.17	£585.15	4.58%
<b>Total:</b>	<b>£151,471.55</b>	<b>£114,751.51</b>	<b>£36,720.04</b>	

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## BILL OF MATERIALS (BOM)

Items	Part Number	Quantity	Price (£)	Total (£)
 SE66.6K Synergy Manager		2		
 P850 (Waiver conditions apply)		201		
 JAM72S20-460/MR (1500V)		398		

## ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
 1 xSE66.6K Synergy Manager	87.44kW   131% Oversizing		
	1 x string	 18 x P850 (Waiver conditions apply) (2:1)	 36
	2 x strings	 16 x P850 (Waiver conditions apply) (2:1)	 32
<b>Left Unit</b>			
	1 x string	 16 x P850 (Waiver conditions apply) (2:1)	 32
	2 x strings	 17 x P850 (Waiver conditions apply) (2:1)	 34
 1 xSE66.6K Synergy Manager	86.57kW   130% Oversizing		
	1 x string	 15 x P850 (Waiver conditions apply) (2:1), 1 x P850 (Waiver conditions apply) (1:1)	 31
	1 x string	 17 x P850 (Waiver conditions apply) (2:1)	 34
	1 x string	 17 x P850 (Waiver conditions apply) (2:1), 1 x P850 (Waiver conditions apply) (1:1)	 35
<b>Left Unit</b>			
	1 x string	 15 x P850 (Waiver conditions apply) (2:1), 1 x P850 (Waiver conditions apply) (1:1)	 31
	1 x string	 16 x P850 (Waiver conditions apply) (2:1)	 32
	1 x string	 17 x P850 (Waiver conditions apply) (2:1), 1 x P850 (Waiver conditions apply) (1:1)	 35

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## SYSTEM LOSS DIAGRAM



## SIMULATION PARAMETERS



## LOCATION &amp; GRID

Time zone	GMT (London)
Weather station	Bracknell (4.11 km away)
Station altitude	73 m
Station data source	Meteonorm 8.2
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%