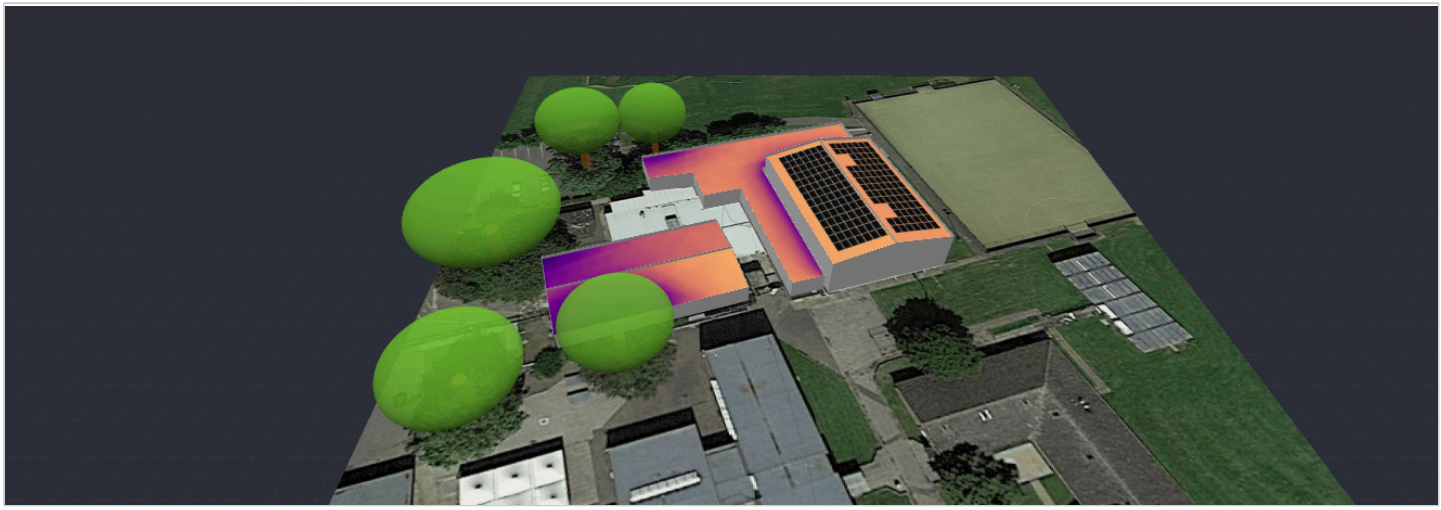
ONE LEISURE RAMSEY

Ramsey, PE26 1DP, United Kingdom | 9 Jan 2025

Drakes RENEWABLES



SYSTEM OVERVIEW

188 PV modules | 1 Inverter | 94 Optimizers

FINANCIAL OVERVIEW

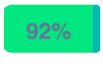
Net Payments	Lifetime Bill Savings (NPV)	System Profit (NPV)	Internal Return Rate (IRR)	Payback Period
£ 63,262	£ 466,539	£ 403,277	35.34 %	3.1 years

SIMULATION RESULTS

Installed DC Power	Max Achieved AC Power	Annual Solar Energy Production	Annual CO2 Emission Saved	Annual Equivalent Trees Planted
84.60 kWp	66.60 kW	79.87 MWh	15.45 t	709

ANNUAL CONSUMPTION AND PRODUCTION RESULTS

Production 79.88 MWh



To Building 73.49 MWh (92%)
To Grid 6.38 MWh (8%)

Consumption 404.12 MWh



From Solar 73.49 MWh (18%)
From Grid 330.63 MWh (82%)

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PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
90	Longi Solar, LR5-54HTH-450M Scientists	40.5 kWp			73°	9°
98	Longi Solar, LR5-54HTH-450M Scientists	44.1 kWp			253°	9°
Total: 188		84.6 kWp				

ESTIMATED BILL SAVINGS YEAR 1

Annual

Current Annual Bill	Annual Bill with SolarEdge	Net Bill Annual Savings	Bill Offset
£ 103,536.13	£ 83,942.09	£ 19,594.04	18.92 %

Estimated Net Lifetime Bill Savings

£ 466,539

Utility Provider: **Eon** | Utility Rate: **HDC at Ramsey (0.2562 £/kWh)**

Export Rate: **Scottish Power (0.12 £/kWh)**

Feb	2,791	2,791	-	-	36,104	2,791	33,313
Mar	6,113	6,109	4	-	39,315	6,109	33,205
Apr	9,506	9,259	248	-	34,291	9,259	25,032
May	11,565	10,591	974	6	34,234	10,591	23,643
Jun	12,246	11,140	1,106	1	32,203	11,140	21,063
Jul	11,610	9,350	2,261	4	22,133	9,350	12,783
Aug	9,558	8,321	1,237	-	22,894	8,321	14,573
Sep	7,358	6,859	499	-	24,771	6,859	17,912
Oct	4,178	4,122	56	-	29,383	4,122	25,261
Nov	2,015	2,015	-	-	32,645	2,015	30,631
Dec	1,335	1,335	-	-	49,634	1,335	48,299

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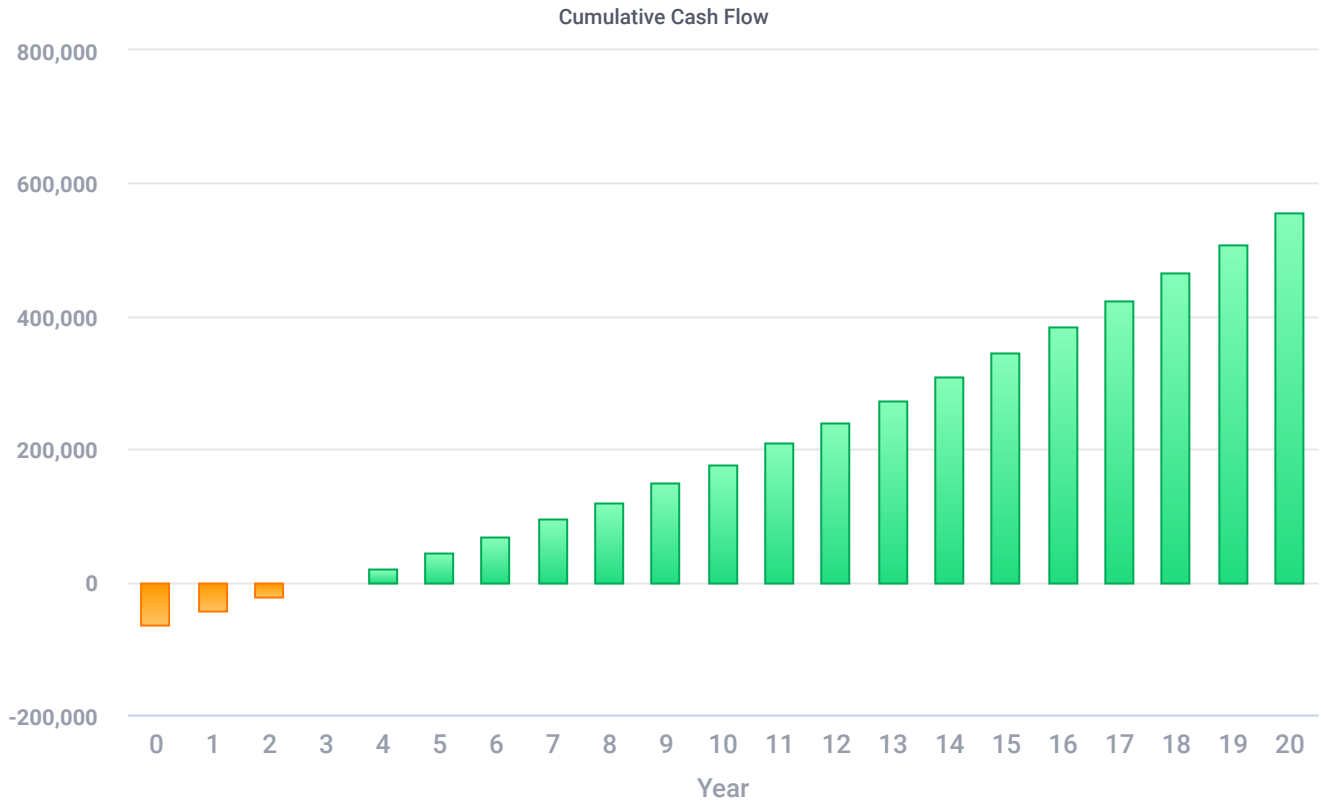
DETAILED FINANCIAL ANALYSIS

System Price	Maintenance Cost (NPV)	Returns from Incentives (NPV)	Net Payments	Lifetime Bill Savings (NPV)
£ 63,262	£ N/A	£ N/A	£ 63,262	£ 466,539

System Profit (NPV)	Internal Return Rate (IRR)	Return Of Investment (ROI)	Levelized Cost Of Energy (LCOE)	Payback Period
£ 403,277	35.34 %	637.47 %	£/kWh 0.053	3.1 years



YEARLY CASH FLOW

# Year	System Price	Net Bill Savings	Annual Cash Flow	Cumulative Cash Flow
0	£ -63,262.00	£ 0.00	£ -63,262.00	£ -63,262.00
1		£ 19,594.04	£ 19,594.04	£ -43,667.96

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Drakes RENEWABLES

YEARLY CASH FLOW (CONTINUED)

# Year	System Price	Net Bill Savings	Annual Cash Flow	Cumulative Cash Flow
2		£ 20,480.69	£ 20,480.69	£ -23,187.27
3		£ 21,408.62	£ 21,408.62	£ -1,778.64
4		£ 22,379.82	£ 22,379.82	£ 20,601.18
5		£ 23,396.25	£ 23,396.25	£ 43,997.43
6		£ 24,460.00	£ 24,460.00	£ 68,457.43
7		£ 25,573.32	£ 25,573.32	£ 94,030.74
8		£ 26,738.60	£ 26,738.60	£ 120,769.34
9		£ 27,958.19	£ 27,958.19	£ 148,727.53
10		£ 29,234.64	£ 29,234.64	£ 177,962.17
11		£ 30,570.59	£ 30,570.59	£ 208,532.76
12		£ 31,968.71	£ 31,968.71	£ 240,501.46
13		£ 33,431.88	£ 33,431.88	£ 273,933.35
14		£ 34,963.19	£ 34,963.19	£ 308,896.53
15		£ 36,565.73	£ 36,565.73	£ 345,462.26
16		£ 38,242.92	£ 38,242.92	£ 383,705.18
17		£ 39,998.19	£ 39,998.19	£ 423,703.37
18		£ 41,835.18	£ 41,835.18	£ 465,538.55
19		£ 43,757.68	£ 43,757.68	£ 509,296.23
20		£ 45,769.68	£ 45,769.68	£ 555,065.90
Total:		£ 618,327.90	£ 555,065.90	

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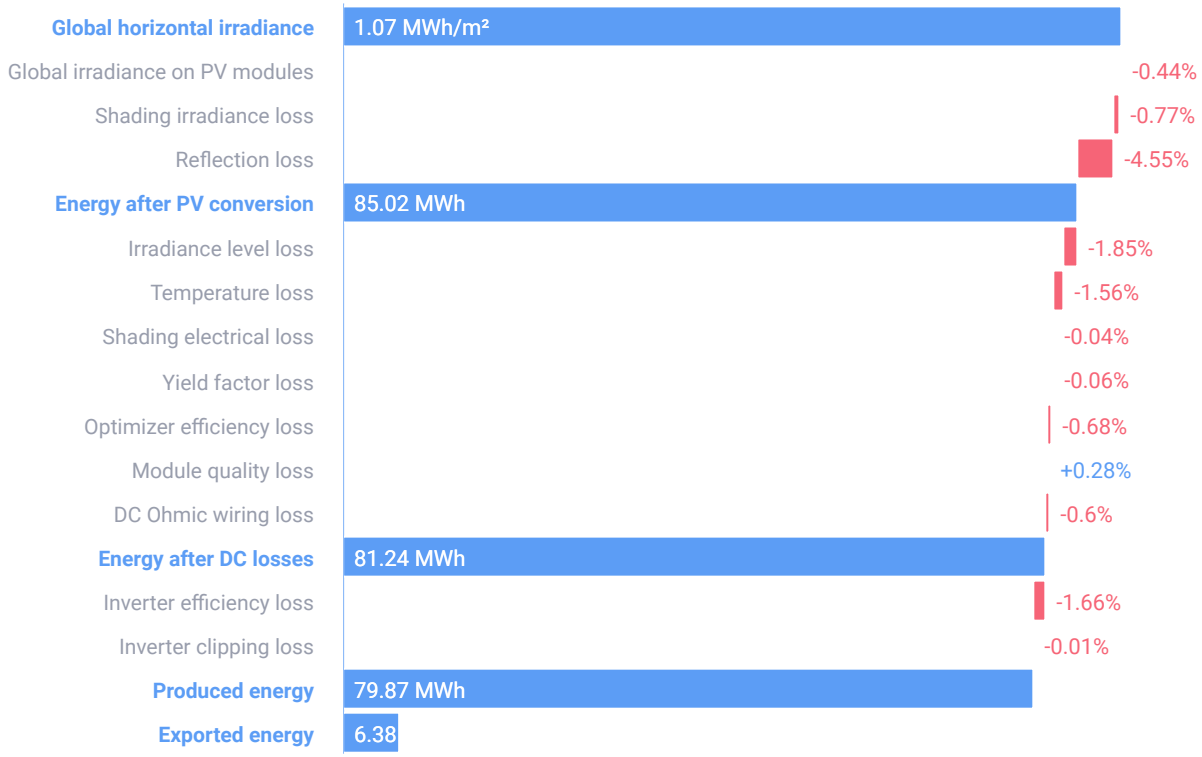
Drakes RENEWABLES

ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE66.6K Synergy Manager Center Unit 73.69kW | 111% Oversizing			
	3 x strings	16 x P850 (Waiver conditions apply) (2:1)	32
Left Unit			
	1 x string	16 x P850 (Waiver conditions apply) (2:1)	32
	2 x strings	15 x P850 (Waiver conditions apply) (2:1)	30

SYSTEM LOSS DIAGRAM



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SIMULATION PARAMETERS

LOCATION & GRID

Time zone	GMT (London)
Weather station	Wittering (RAF) (30.53 km away)
Station altitude	84 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%