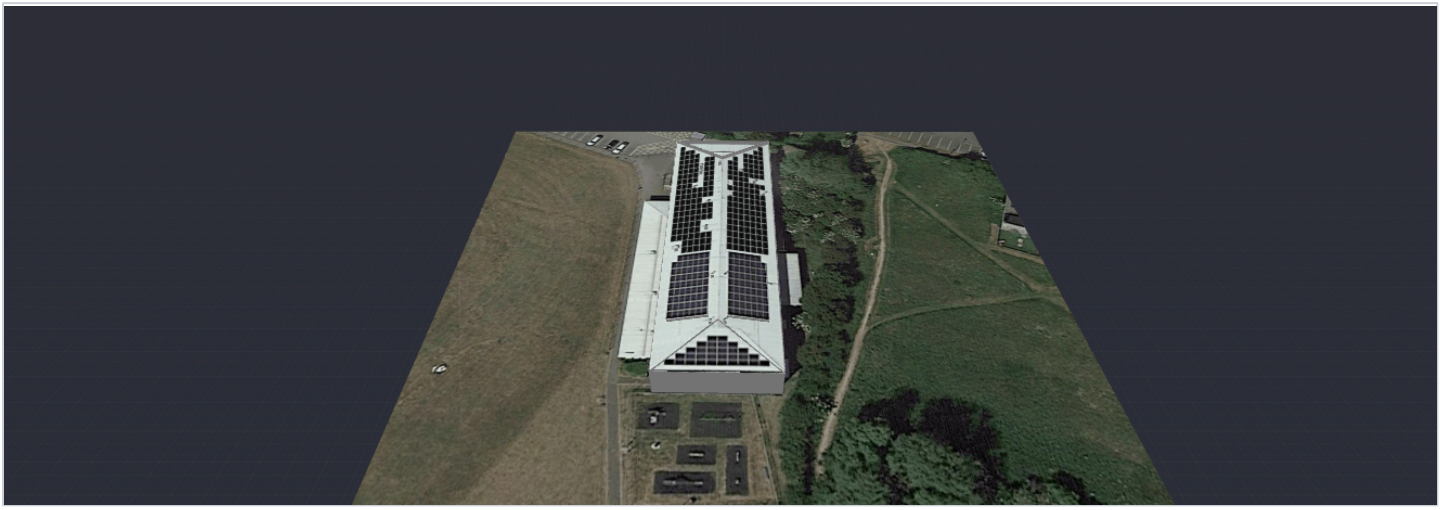
ONE LEISURE HUNTINGDON

Saint Peters Road, Huntingdon, PE29 7DA, United Kingdom | 9 Jan 2025

Drakes RENEWABLES



SYSTEM OVERVIEW

226 PV modules | 2 Inverters | 113 Optimizers

FINANCIAL OVERVIEW

Net Payments	Lifetime Bill Savings (NPV)	System Profit (NPV)	Internal Return Rate (IRR)	Payback Period
£ 73,630	£ 394,052	£ 320,422	27.46 %	3.9 years

SIMULATION RESULTS

Installed DC Power	Max Achieved AC Power	Annual Solar Energy Production	Annual CO2 Emission Saved	Annual Equivalent Trees Planted
101.70 kWp	66.60 kW	94.72 MWh	18.32 t	841

ANNUAL CONSUMPTION AND PRODUCTION RESULTS

Production 95.78 MWh



- To Building 44.26 MWh (46%)
- To Grid 50.46 MWh (53%)
- Clipped Energy 1.06 MWh (1%)

Consumption 152.34 MWh



- From Solar 44.26 MWh (29%)
- From Grid 108.08 MWh (71%)

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17.5 MWh

PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
110	Longi Solar, LR5-54HTH-450M Scientists	49.5 kWp			272°	11°
116	Longi Solar, LR5-54HTH-450M Scientists	52.2 kWp			92°	11°
Total: 226		101.7 kWp				



ESTIMATED BILL SAVINGS YEAR 1

Annual

Current Annual Bill	Annual Bill with SolarEdge	Net Bill Annual Savings	Bill Offset
£ 40,198.36	£ 22,464.62	£ 17,733.74	44.12 %

Estimated Net Lifetime Bill Savings

£ 394,052

Utility Provider: **Eon** | Utility Rate: **HDC at Huntingdon (0.26388 £/kWh)**

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

Feb	3,370	2,905	465	-	13,484	2,905	10,579
Mar	7,309	4,211	3,097	-	13,455	4,211	9,243
Apr	11,285	4,528	6,757	34	11,629	4,528	7,101
May	13,576	5,018	8,558	335	11,423	5,018	6,405
Jun	14,399	5,231	9,168	323	10,562	5,231	5,331
Jul	13,706	5,893	7,813	308	13,251	5,893	7,358
Aug	11,285	4,761	6,524	117	11,374	4,761	6,613
Sep	8,774	3,731	5,043	3	10,967	3,731	7,236
Oct	5,022	2,817	2,205	-	11,656	2,817	8,839
Nov	2,503	1,731	772	-	11,051	1,731	9,320
Dec	1,553	1,505	47	-	15,713	1,505	14,207

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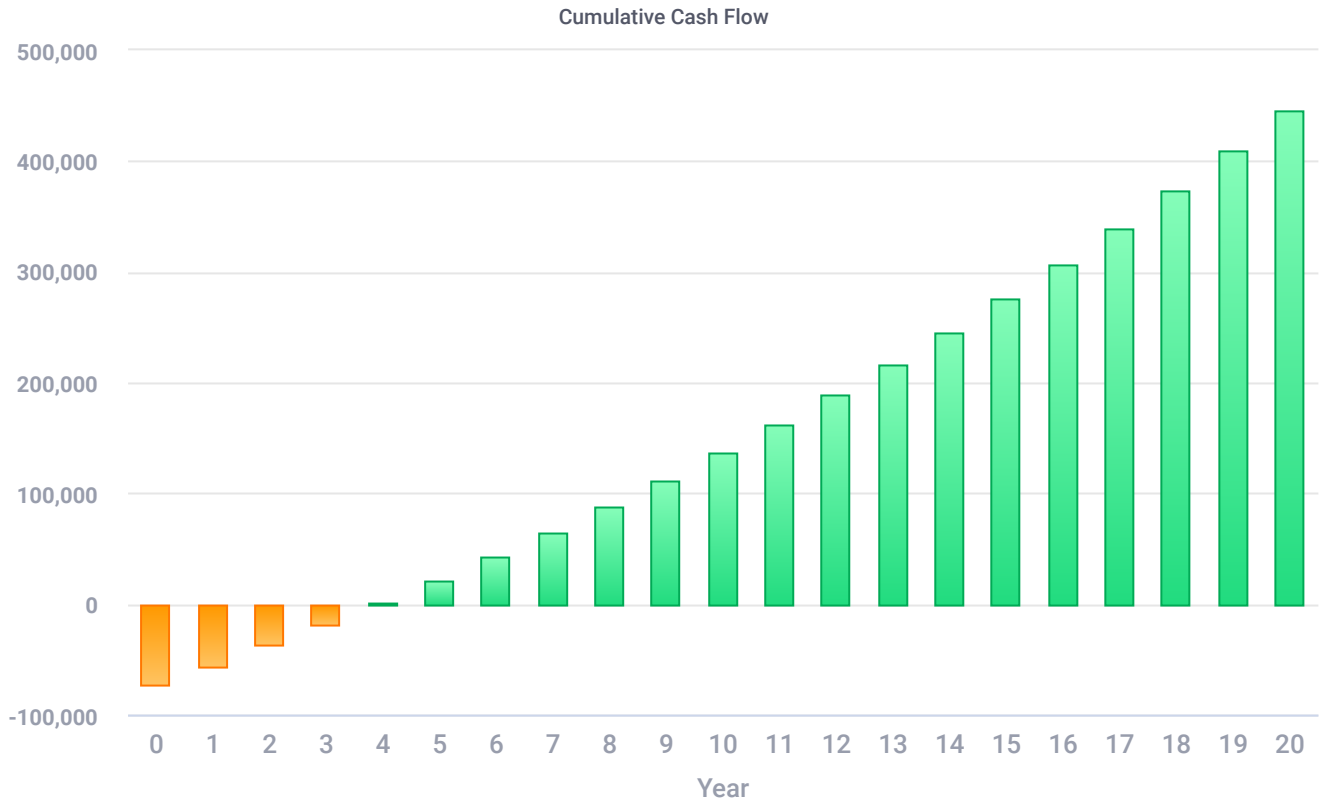
DETAILED FINANCIAL ANALYSIS

System Price	Maintenance Cost (NPV)	Returns from Incentives (NPV)	Net Payments	Lifetime Bill Savings (NPV)
£ 73,630	£ N/A	£ N/A	£ 73,630	£ 394,052

System Profit (NPV)	Internal Return Rate (IRR)	Return Of Investment (ROI)	Levelized Cost Of Energy (LCOE)	Payback Period
£ 320,422	27.46 %	435.18 %	£/kWh 0.052	3.9 years



YEARLY CASH FLOW

# Year	System Price	Net Bill Savings	Annual Cash Flow	Cumulative Cash Flow
0	£ -73,630.00	£ 0.00	£ -73,630.00	£ -73,630.00
1		£ 17,733.74	£ 17,733.74	£ -55,896.26

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YEARLY CASH FLOW (CONTINUED)

# Year	System Price	Net Bill Savings	Annual Cash Flow	Cumulative Cash Flow
2		£ 18,388.08	£ 18,388.08	£ -37,508.18
3		£ 19,070.90	£ 19,070.90	£ -18,437.27
4		£ 19,783.49	£ 19,783.49	£ 1,346.21
5		£ 20,527.29	£ 20,527.29	£ 21,873.50
6		£ 21,303.82	£ 21,303.82	£ 43,177.32
7		£ 22,114.60	£ 22,114.60	£ 65,291.91
8		£ 22,961.25	£ 22,961.25	£ 88,253.16
9		£ 23,845.37	£ 23,845.37	£ 112,098.53
10		£ 24,768.85	£ 24,768.85	£ 136,867.38
11		£ 25,733.49	£ 25,733.49	£ 162,600.87
12		£ 26,741.18	£ 26,741.18	£ 189,342.05
13		£ 27,793.95	£ 27,793.95	£ 217,136.00
14		£ 28,893.89	£ 28,893.89	£ 246,029.89
15		£ 30,043.35	£ 30,043.35	£ 276,073.25
16		£ 31,244.55	£ 31,244.55	£ 307,317.80
17		£ 32,499.98	£ 32,499.98	£ 339,817.78
18		£ 33,812.17	£ 33,812.17	£ 373,629.95
19		£ 35,183.86	£ 35,183.86	£ 408,813.81
20		£ 36,617.98	£ 36,617.98	£ 445,431.79
Total:		£ 519,061.79	£ 445,431.79	

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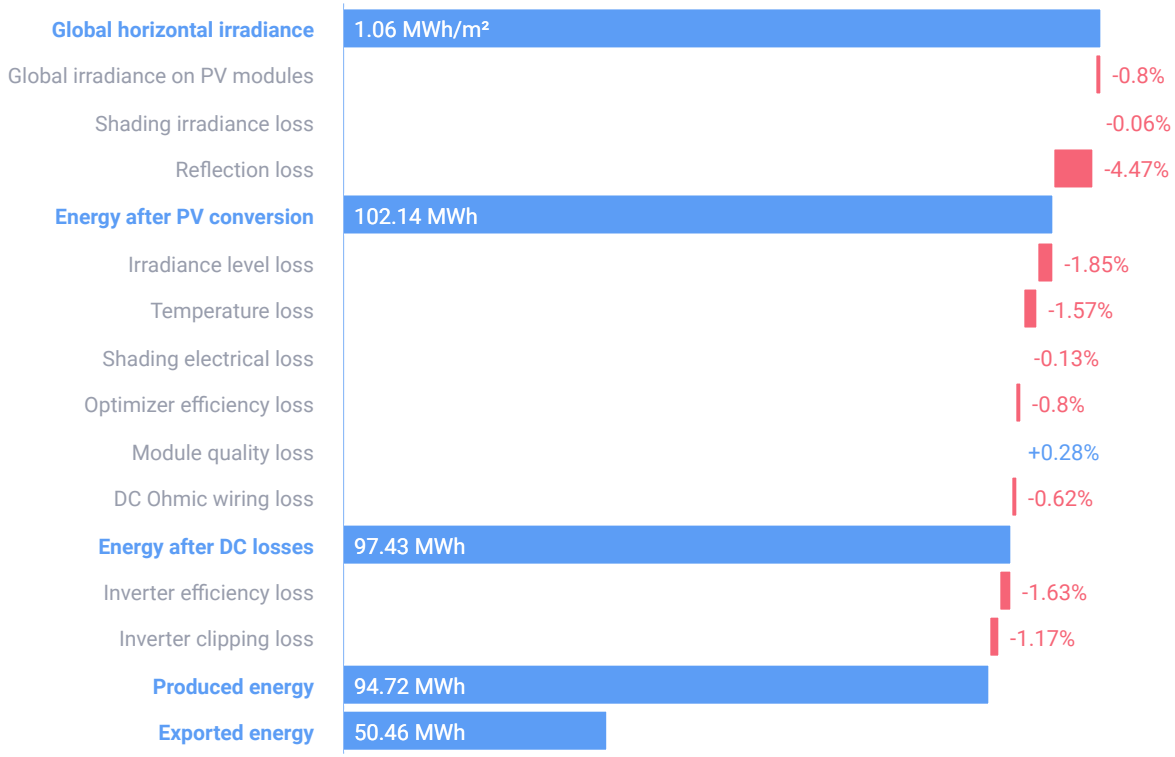
ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE33.3K 46.3kW | 139% Oversizing	2 x strings	19 x P850 (Waiver conditions apply) (2:1)	38
	1 x string	20 x P850 (Waiver conditions apply) (2:1)	40
1 xSE33.3K 43.72kW | 131% Oversizing	2 x strings	18 x P850 (Waiver conditions apply) (2:1)	36
	1 x string	19 x P850 (Waiver conditions apply) (2:1)	38

SYSTEM LOSS DIAGRAM



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SIMULATION PARAMETERS

LOCATION & GRID

Time zone	GMT (London)
Weather station	Bedford (Saws) (25.69 km away)
Station altitude	85 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%