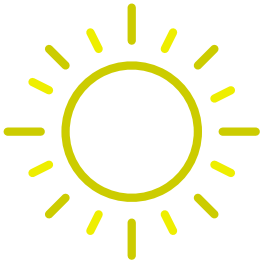
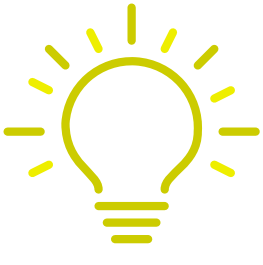
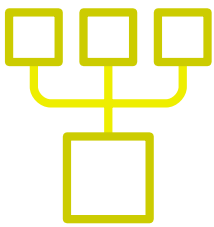
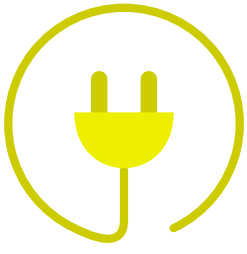
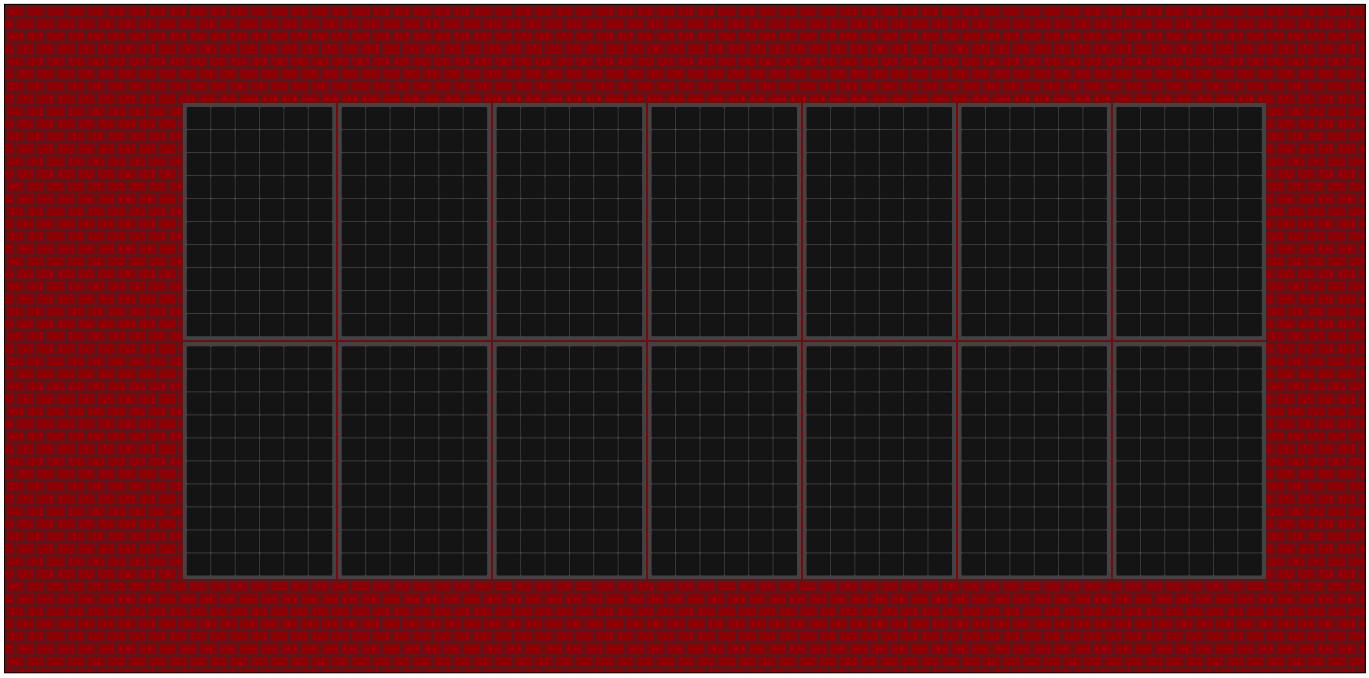
Solar Solutions

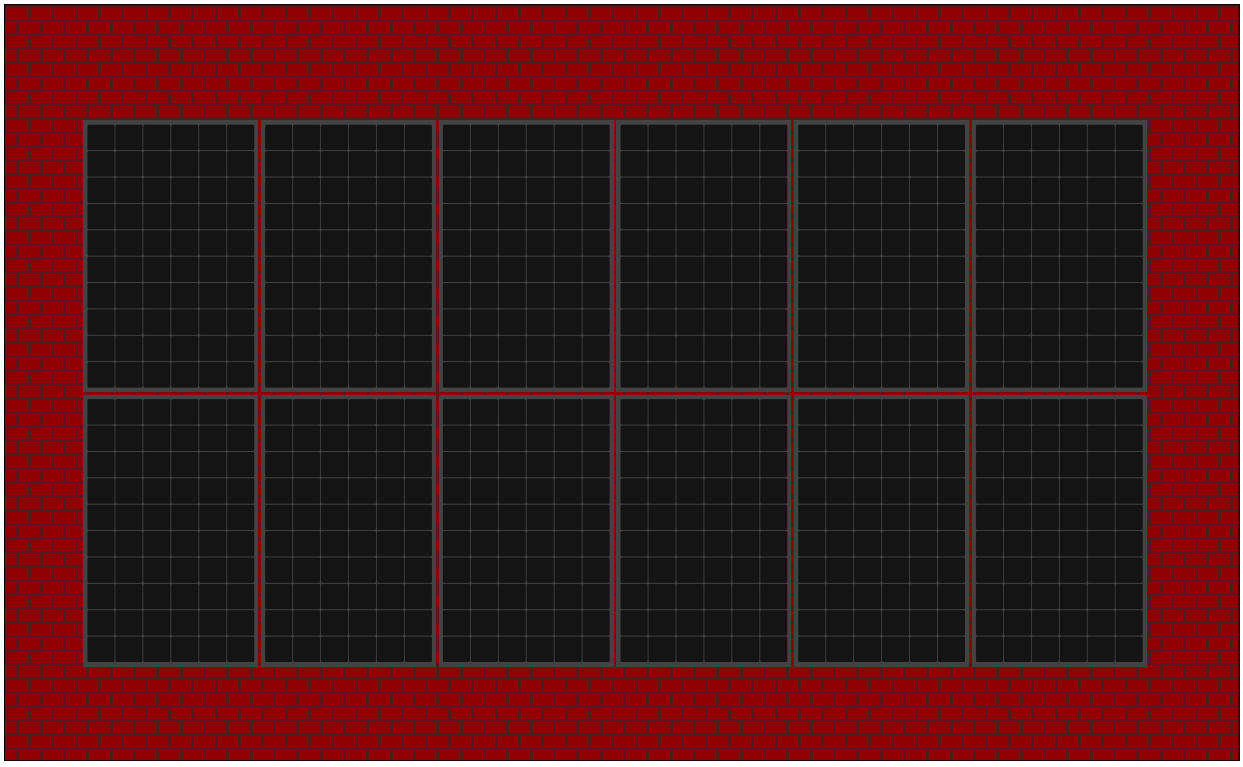





Roof Layout

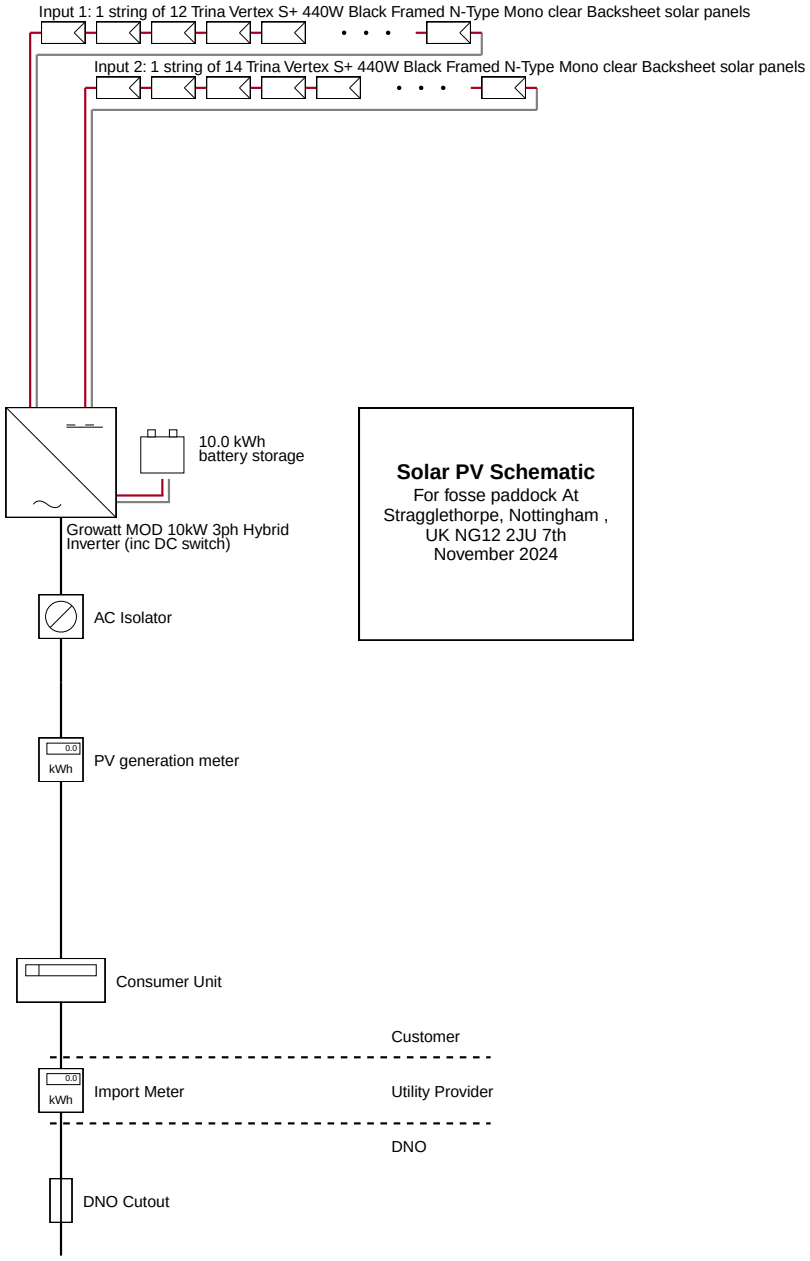
Roof South



Roof South West



Schematic diagram



Performance Estimate

Site details

Client

Address

The sunpath diagram shows the arcs of the sky that the sun passes through at different times of the day and year as yellow blocks. The shaded area indicates the horizon as seen from the location of the solar array. Where objects on the horizon are within 10m of the array, an added semi-circle is drawn to represent the increased shading. Blocks of the sky that are shaded by objects on the horizon are coloured red, and a shading factor is calculated from the number of red blocks. The performance of the solar array is calculated by multiplying the size of the array (kWp) by the shading factor (sf) and a site correction factor (kk), taken from tables which take account of the geographical location, orientation and inclination of the array.

Financial

Generation

The system is expected to generate 9941 kWh per year initially, decreasing gradually as the solar cells degrade. Over the 25 year term of this financial projection the total generation is expected to be 233584 kwh, of which 116792 kWh will be consumed on site and 116792 kWh exported.

234 MWh

Payback

After adjusting projected costs and benefits for inflation, and applying a discount rate of 4%, the initial system cost of £9,968.23 is expected to be recouped after 4 years.

4 years

Net Present Value

The total present value of future benefits and costs, using a discount rate of 4% per year, is £52,075.59. The cost of the PV system is £9,968.23. The net present value of the project is therefore £42,107.36. A positive net present value is a good indication that the project is financially worthwhile.

£42,107.36

IRR

The Internal Rate of Return is a useful measure for comparing the relative profitability of investments.

26.0 %

Disclaimer

Our financial model calculates the benefits of a solar PV installation (such as savings in electricity, or payments for exported electricity) and costs (the initial purchase cost, and any future maintenance costs if entered), over the projected lifespan of the system. Values are corrected for inflation, system degradation, and discount rate - a measure that accounts for the fact that a promise of a monetary sum in the distant future is usually considered less valuable than the promise of the same sum in the near future.

A model is only as accurate as the assumptions it makes. You should consider whether the values chosen are appropriate for your situation. There are many variables that dictate the financial return of a solar installation and we cannot forecast how they may change in the future. This financial projection shows a likely scenario for future financial returns. Actual returns may vary significantly from this forecast.

Assumptions

Inflation rate	**2%**
Cost of electricity	**37.00 p/kWh** increases with inflation
System size	**11.44 kWp** degrades at 0.5% per year
Discount rate	**4%**
Projection length	**25 years**

Income and savings

The projected income from the system over the project lifetime in payments for generated and exported electricity, along with electricity savings, are shown in the table and graph below.

These figures assume an inflation rate of 2 percent.

£30,071.00

Total Export Payments

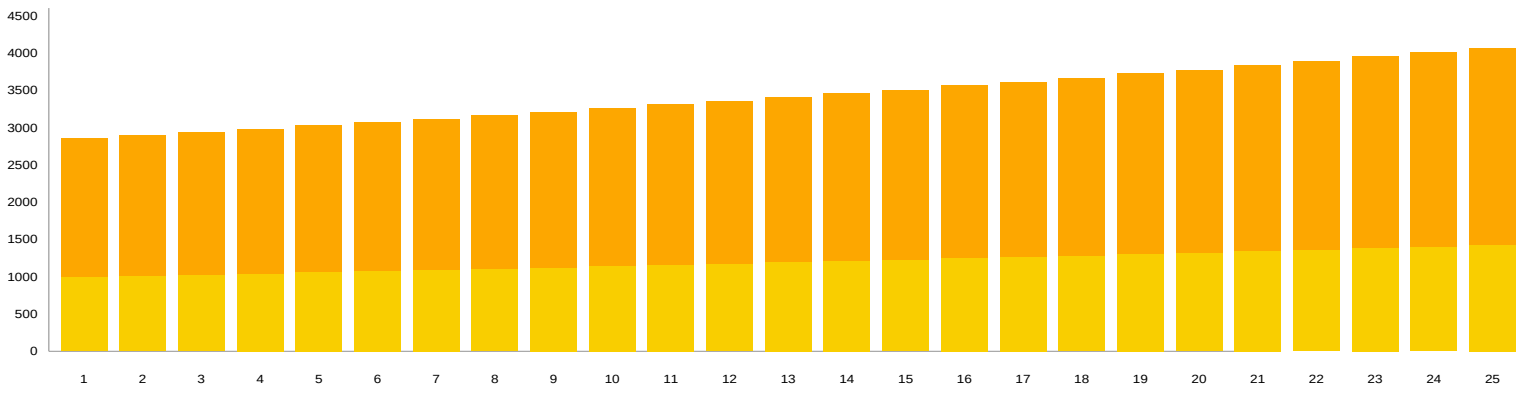
over 25 years

£55,631.00

Electricity savings

over 25 years

	Export payments	Electricity savings	**Total**
Year 1	1002	1853	**2854**
Year 2	1016	1880	**2897**
Year 3	1032	1908	**2940**
Year 4	1047	1937	**2984**
Year 5	1063	1966	**3028**
Year 6	1078	1995	**3073**
Year 7	1094	2025	**3119**
Year 8	1111	2055	**3166**
Year 9	1127	2086	**3213**
Year 10	1144	2117	**3261**
Year 11	1161	2148	**3309**
Year 12	1178	2180	**3359**
Year 13	1196	2213	**3409**
Year 14	1214	2246	**3459**
Year 15	1232	2279	**3511**
Year 16	1250	2313	**3563**
Year 17	1269	2348	**3616**
Year 18	1288	2382	**3670**
Year 19	1307	2418	**3725**
Year 20	1326	2454	**3781**
Year 21	1346	2491	**3837**
Year 22	1366	2528	**3894**
Year 23	1387	2565	**3952**
Year 24	1407	2604	**4011**
Year 25	1428	2642	**4071**



The bottom line

The table and graph below show the discounted costs for the project (including the initial capital required for the installation), against the total discounted benefits from income and savings on electricity bills.

The system pays for itself in 4 years.

	Discounted benefits	Cumulative benefits	Discounted costs	Cumulative costs	**Cashflow**
Year 1	2797	2797	0	9968	**-7171**
Year 2	2725	5523	0	9968	**-4446**
Year 3	2655	8178	0	9968	**-1790**
Year 4	2587	10765	0	9968	**797**
Year 5	2521	13286	0	9968	**3318**
Year 6	2456	15742	0	9968	**5773**
Year 7	2393	18134	0	9968	**8166**
Year 8	2331	20466	0	9968	**10498**
Year 9	2271	22737	0	9968	**12769**
Year 10	2213	24950	0	9968	**14982**
Year 11	2156	27106	0	9968	**17138**
Year 12	2101	29207	0	9968	**19239**
Year 13	2047	31254	0	9968	**21286**
Year 14	1994	33248	0	9968	**23280**
Year 15	1943	35191	0	9968	**25223**
Year 16	1893	37084	0	9968	**27116**
Year 17	1844	38928	0	9968	**28960**
Year 18	1797	40725	0	9968	**30757**
Year 19	1751	42476	0	9968	**32508**
Year 20	1706	44182	0	9968	**34214**
Year 21	1662	45844	0	9968	**35876**
Year 22	1619	47463	0	9968	**37495**
Year 23	1578	49041	0	9968	**39073**
Year 24	1537	50578	0	9968	**40610**
Year 25	1498	52076	0	9968	**42107**