Summary of rooftop solar analysis

Location: London, United Kingdom **Date of analysis**: Dec/2021

***Recommendation**: install 6 solar panels (11.8 m^2), for a net present value of £2,979, with a payback of 16 years.*

Main economic results

Financing	NPV (£)	Payback (years)	IRR (%/year)	LCOE (c/kWh)
75% debt	2,979	16	6.33	6.1
100% equity	3,227	15	5.95	10.7

(All rows are for the same number of panels)

Additional results

A system of 6 400W panels, together with a battery of 3.3 kWh, requires an initial investment of £5,595, but provides an NPV of £3,789, with a payback of 17 years.

Main inputs and assumptions

Household and Economics

Electricity Consumption	3,900	kWh/year	Inflation	2.6%	per year
Electricity price – buy	0.188	£/kWh	Bank loan interest rate	3.1%	per year
Electricity price – sell	0.0557	£/kWh	Bank loan maturity	5	years
			Equity cost of capital	0.85%	per year

PV panels

Peak power	265	W/panel	System losses	14%	of output
Panel area	1.6	m^2/panel	Degradation with age	0.4%	Per year
Useful life	25	Years	Maintenance costs	19.9	£/year per kW
			Total cost of optimal installation	2,400	£

Some PV panel suppliers

- http://www.lightrenewables.co.uk/
- https://effectivehome.co.uk/
- https://www.eonenergy.com/solar-panels.html

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