

Save on Solar, Herne Hill, 5 May 2011

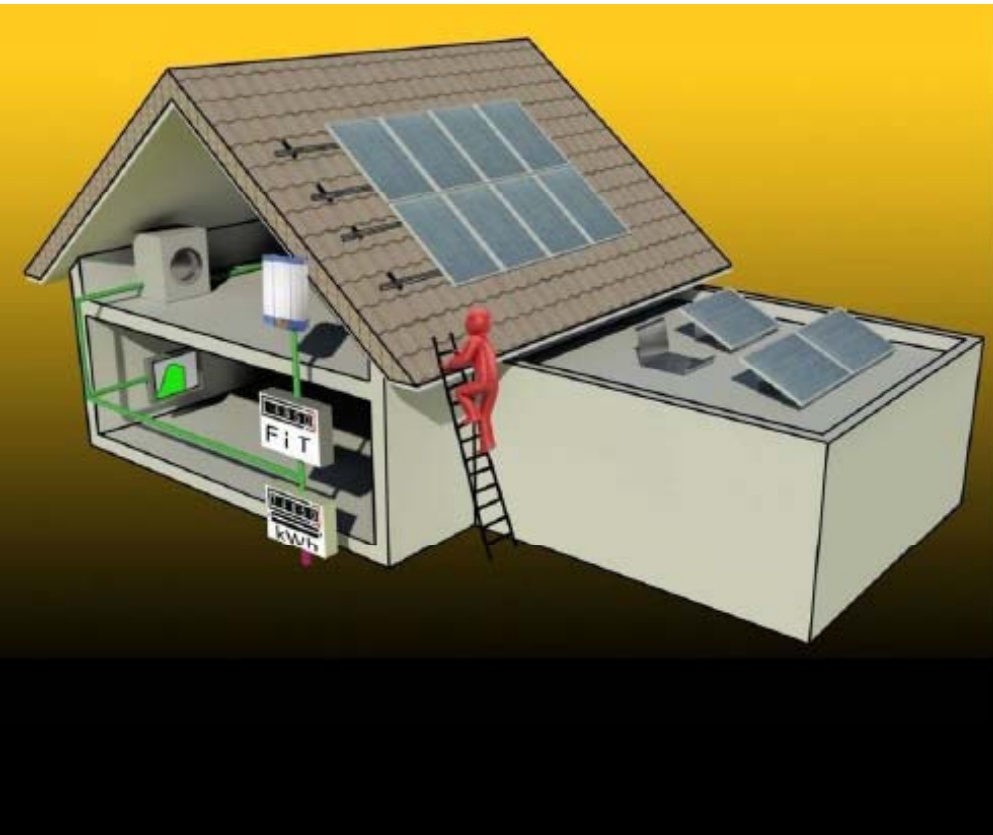


Meeting

Prince Regent

from 7.30 pm

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The kit

Solar cells produce direct current electricity from sun light

First practical application of photovoltaics was to power orbiting satellites and other spacecraft

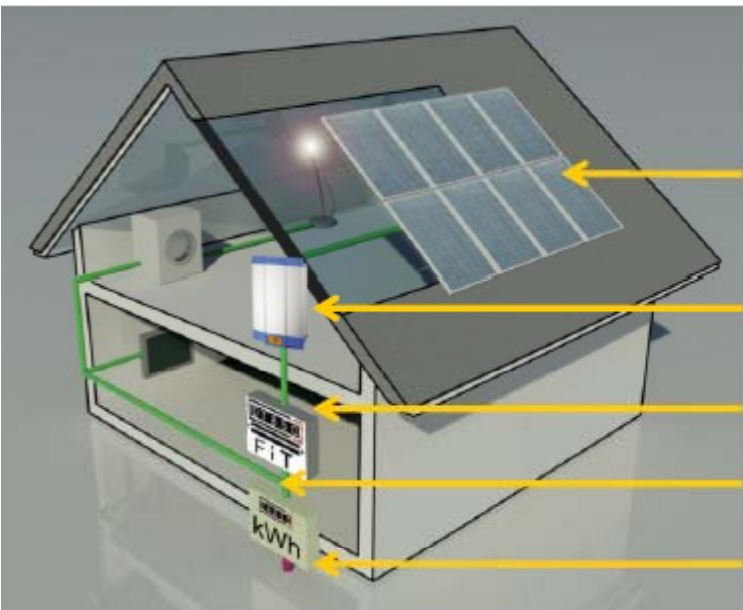
Most photovoltaic modules are used for grid connected power generation

Advancing technology and growing market

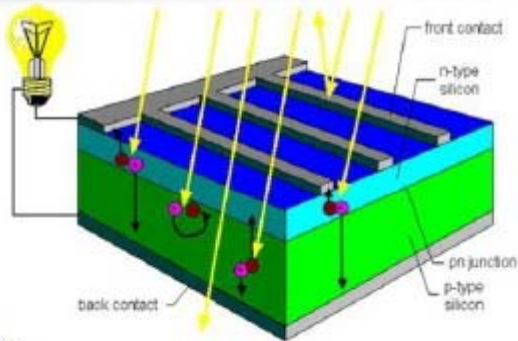
Feed in Tariff helps to promote the technology

> Urban energy farmer

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- PhotoVoltaic (PV) modules
Generate electricity due to sunlight
- Inverters DC to AC
- Every generated kWh is counted for FiT
- Use it yourself..
- ...Or sell it to the grid



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The roof and installation

Optimum: south facing at 30° angle

Small loss of efficiency: south-east or south-west facing at 25° - 60° angle

Avoid: shading trough trees, gables, neighbouring buildings, antennas etc. Can cause big drop in efficiency

Forms: roof mounted, energy roof, flat roof, in field, suntrac

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The money

Feed in Tariff (FIT) or Generation Tariff

FIT is adjusted in line with Retail Price Index (RPI) which was 4.8%.in April 2011

Installation has to be completed by 31st March 2012

Installation has to MCS certified (Micro-generation Certification Scheme)

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Yearly Tariff Period	Installations registered in FIT Year 1 (01 April 2010 - 31 March 2011)		Installations registered in FIT Year 2 (01 April 2011 - 31 March 2012)
Description	Tariff received until 31 March 2011	Tariff received between 01 April 2011 and 31 March 2012*	Tariff received until 31 March 2012*
Solar Photovoltaic with total installed capacity of 4kW or less, where installed on a <u>new building before first occupation</u>	36.1 pence per kilowatt hour	37.8 pence per kilowatt hour	37.8 pence per kilowatt hour
Solar Photovoltaic with total installed capacity of 4kW or less, where installed on a <u>building which is already occupied</u>	41.3 pence per kilowatt hour	43.3 pence per kilowatt hour	43.3 pence per kilowatt hour
Solar Photovoltaic with total installed capacity greater than <u>4kW but not exceeding 10kW</u>	36.1 pence per kilowatt hour	37.8 pence per kilowatt hour	37.8 pence per kilowatt hour
Solar Photovoltaic with total installed capacity greater than <u>10kW but not exceeding 100kW</u>	31.4 pence per kilowatt hour	32.9 pence per kilowatt hour	32.9 pence per kilowatt hour
Solar Photovoltaic with total installed capacity greater than <u>100kW</u>	29.3 pence per kilowatt hour	30.7 pence per kilowatt hour	30.7 pence per kilowatt hour
<u>Stand-alone (autonomous) solar photovoltaic</u> (not attached to a building and not wired to provide electricity to an occupied building)	29.3 pence per kilowatt hour	30.7 pence per kilowatt hour	30.7 pence per kilowatt hour

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Example for PV installation in Herne Hill

System size	2.5 kwp
Cost of pv solar system	8,500 £
IRR	13.20%
Total earnings over 25 years	34,287 £

Year		1	2	3
Energy yield	[kwh]	2,250	2,244	2,239
Feed in tariff (generation tariff)	[£/kwh]	0.433	0.444	0.455
Earnings from selling electricity	[£/year]	974	996	1,018
Cost of electricity for households	[£/kwh]	0.12	0.12	0.13
Savings on energy bill	[£/year]	270	276	282
Runnings costs (maintenance, admin, insurance)	[£/year]	200	205	210
Earnings + Savings - Running costs		1,044	1,067	1,091
Accumulated earnings+savings-running costs (returns) p.a.		1,044	2,111	3,202
Returns per year in percent		11.93%	12.20%	12.46%

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Year		1	2	3	4	5	6	7	8	9	10	11	12
Energy yield	[kwh]	2,250	2,244	2,239	2,233	2,228	2,222	2,218	2,211	2,205	2,200	2,194	2,189
Feed in tariff (generation tariff)	[£/kwh]	0.433	0.444	0.455	0.466	0.478	0.490	0.502	0.515	0.528	0.541	0.554	0.568
Earnings from selling electricity	[£/year]	974	996	1,018	1,041	1,065	1,089	1,113	1,138	1,163	1,190	1,216	1,244
Cost of electricity for households	[£/kwh]	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.16
Savings on energy bill	[£/year]	270	276	282	289	295	302	308	315	322	330	337	345
Runnings costs (maintenance, admin, insurance)	[£/year]	200	205	210	215	221	226	232	238	244	250	256	262
Earnings + Savings - Running costs		1,044	1,067	1,091	1,115	1,139	1,164	1,190	1,216	1,242	1,270	1,297	1,326
Accumulated earnings+savings-running costs (returns) p.a.		1,044	2,111	3,202	4,317	5,455	6,619	7,809	9,025	10,267	11,536	12,834	14,159
Returns per year in percent		11.93%	12.20%	12.46%	12.74%	13.02%	13.30%	13.58%	13.89%	14.20%	14.51%	14.83%	15.15%

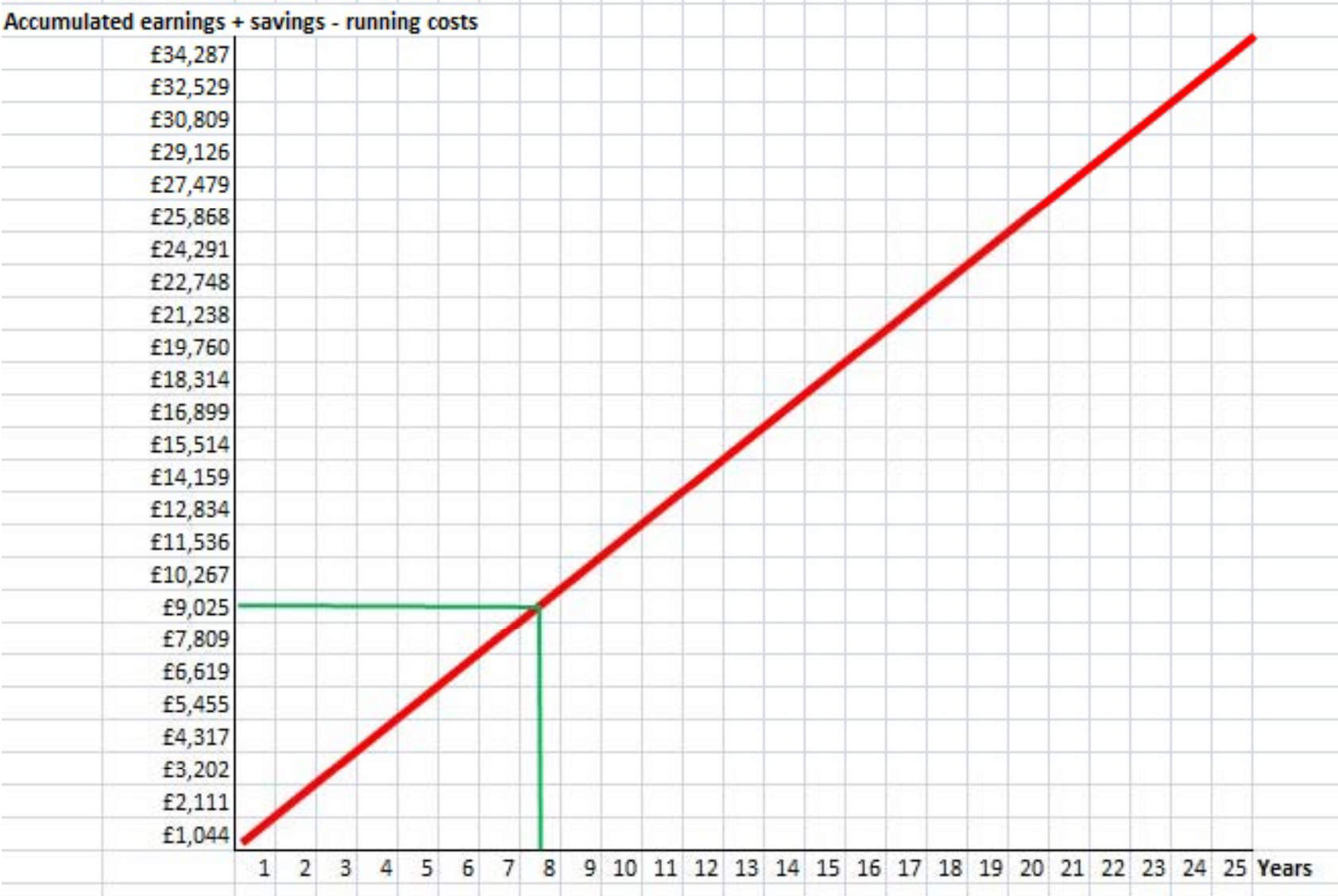
Year		13	14	15	16	17	18	19	20	21	22	23	24	25
Energy yield	[kwh]	2,183	2,178	2,173	2,167	2,162	2,156	2,151	2,145	2,140	2,135	2,129	2,124	2,119
Feed in tariff (generation tariff)	[£/kwh]	0.582	0.597	0.612	0.627	0.643	0.659	0.675	0.692	0.710	0.727	0.745	0.764	0.783
Earnings from selling electricity	[£/year]	1,271	1,300	1,329	1,359	1,390	1,421	1,453	1,485	1,518	1,553	1,587	1,623	1,659
Cost of electricity for households	[£/kwh]	0.16	0.17	0.17	0.17	0.18	0.18	0.19	0.19	0.20	0.20	0.21	0.21	0.22
Savings on energy bill	[£/year]	352	360	368	377	385	394	403	412	421	430	440	450	460
Runnings costs (maintenance, admin, insurance)		289	276	283	290	297	304	312	320	328	336	344	353	362
Earnings + Savings - Running costs		1,355	1,385	1,415	1,446	1,478	1,510	1,543	1,577	1,612	1,647	1,683	1,720	1,758
Accumulated earnings+savings-running costs		15,514	16,899	18,314	19,760	21,238	22,748	24,291	25,868	27,479	29,126	30,809	32,529	34,287
Earnings per year in percent		15.48%	15.82%	16.17%	16.53%	16.89%	17.26%	17.64%	18.02%	18.42%	18.82%	19.23%	19.66%	20.09%

Assumptions:

Inflation Annual inflation on electricity assumed at 2.5%
Energy Yield In Herne Hill we can expect to achieve 900 kwh/kwp per year.

On site consumption 100%
Degradation of solar panels assumed at 0.25% p.a.

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Ellerin

System information

General

Location	87769 Oberrieden Germany	
Commissioning	1 May 2005	1 May 2005

System information

System power	16.00 kWp	16 kWp
Modules	100 x 160 Wp	
Inverters	SMA SB 2100TL, SB 2500	
Mounting type	Pitched roof single layer	
Orientation	-8° (S)	
Pitch	45°	

Output

Output since commissioning	101,031.24 kWh
Added output included:	
May 2005	1,692.00 kWh
June 2005	2,267.00 kWh
Older	92,413.00 kWh
Total	96,372.00 kWh
(Show all additions)	
CO ₂ saved since commissioning	70,721.87 kg
Income	55,092.34 Euro



More

Contact	Ellerin, Claus
System installer	Not available

1 user is observing this system.

Output since commissioning 101,031.24 kWh [Report abuse](#)

CO₂ reductions 70,721.87kg

Income 55,092.34 Euro

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The money

Feed in Tariff (FIT) or Generation Tariff

No income tax for individuals and households

Business rates apply

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INITIAL QUOTES - overview

size	m ²				30		
	kWp	1	2	3	4		
supplier	SRE Technologies	£4,500	£8,000	£11,250	£14,000		
size	m ²		20	30	40	50	
	kWp	1	2.5	3.6	5	6.25	
supplier	Gerhard Solar Energy		£8,500				
size	m ²		20	30	40	50	
	kWp	1	2.78	4.07	5.55	7.215	
supplier	Southern Solar		£10,230	£14,175	£20,375	£24,785	
size	m ²		21	27	30	39	48
	kWp	1	2.87	3.69	4.1	5.33	6.56
supplier	Sunkit		£5,485	£6,975	£7,750	£9,957	£12,114 supply only
size	m ²						
	kWp	1.38	1.84	2.3	2.76	3.22	3.68
supplier	2020 SOLAR	£7,950	£8,833	£9,854	£10,752	£11,870	£12,852
							£13,306



And after 25 years?

Some suppliers offer recycling scheme

Until now most installations are up and running

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Contact

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