



250KW Solar PV Proposal for Company

Prepared by Bianca Janossy T: 01225 920 199, M: 07886 034 0149 biancaj@beehiveenergy.co.uk

On behalf of PVCommercial.com T: 0843 886 6116 E: info@pvcommercial.co.uk

Customer Support: 0843 886 6116



Wednesday, 28 October 2015

Dear Mr Staff Member,

Thank you for this opportunity to provide a Solar PV quotation. Solar PV represents a fantastic opportunity to install your own renewable source of energy on site, lowering your energy bills, reducing your carbon emissions, whilst generating a year-round innovative income stream to support your main business via index linked payments for 20 years through the government Feed in Tariff scheme.

We provide Ground Mount, Rooftop, Pontoon and our new Solar Roof Installations nationwide with an exclusive funding option (Operating Rental Agreement for up to 10 years) or you may decide on a cash, self-finance or free installation on a Power Purchase Agreement.

If you have any questions or would like to proceed with this proposal please contact us.

Regards

Bianca Janossy

Renewable Energy Solutions Consultant

Tel: 01225 920 199 Mob: 07886 034 019 Email: biancaj@beehiveenergy.co.uk



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Solar PV Roof Top Proposal

Rooftop Installation Summary

Total Installed Solar PV Capacity	250.00 KV	Wp	CO2 Savings (Kg)
Electricity Generated	186,575.00 KV	Wh	2
Solar PV system cost	£262,500.00		1,615 Tons (CO2)
Total In-house Savings and Earnings over 20 years	£1,005,675.36		If you are part of the CRC scheme then you will save an additional
Return on Investment (as a multiplier of the initial Investment)	2.83		£26,485.89



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IMPORTANT: The above figures above and on this proposal are to provide a general overview of the capacity KWp that can be fitted to the roofs whilst evaluating costs of install and the discovery of your CO2 savings and financial savings and returns. All of which are subject to a site survey which will initiated once you have decided which payment option you wish to proceed with.



Client Details Company Limited Company Contact Staff Member Position Facilities Manager Email sm@limitedcompany.co.uk Tel 01234 567 890 Mobile 09876 543 210

Site Details		
Site Name	Industrial Estate	
Address	Energy Street	
Town	Birmingham	
Postcode	B56 1DY	

Agent	Agent Name
. 8	1.00

The Below details are used to calculate your system performance and benefits

Financial Specifications			
Tax Relief	20.00%		
VAT	20.00%		
Energy Price Inflation	5.00%		
R.P.I. (Inflation)	3.584%		
Years to Calculate	20		

Cash Payment Terms				
Deposit	15%			
Upon DNO Delivery	70%			
On Completion	15%			

Financial Benefits	
F.I.T.p/kWh	0.0921
Export Tariff	£0.0485

Solar PV Details				
Shading Factor	1			
Orientation° (Azimuth)	9			
Inclination°	15			
Irradiance (PVGIS SAF or MCS)	878			
Size System kWp	250.00			
kWh Generation	186,575.00			
System Loss	14%			
System Degradation	0.70%			
Solar Price / Watt	£1.05			

Onsite energy usage			
Electricity Used	80.00%		
Electric Price per kWh	£0.11000		
Annual KWh consumption	1,000,000		
Onsite solar supply KWh used	149,260		

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Solar PV installation visuals



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OPTION 1 - Solar PV Financial Performance - Cash/Self Finance

Cash Cost: £262,500.00

Year	Annual Output KWh	Fit Rate (Fit + Inflation)	Feed In Tariff Income	Export Rate + Inflation	Export Generation KWh	Export Income	Saving Rate + Energy Inflation	Electricity Used KWh	In-House Electric Savings	Combined Savings/Earnings	System Balance (End of Year)
1	186,575.00	0.0921	£17,183.56	£0.0485	37,315.00	£1,809.78	£0.11000	149,260.00	£16,418.60	£35,411.94	-£227,088.07
2	185,268.98	£0.0954	£17,674.82	£0.0502	37,053.80	£1,861.52	£0.11550	148,215.18	£17,118.85	£36,655.19	-£190,432.87
3	183,972.09	£0.0988	£18,180.13	£0.0520	36,794.42	£1,914.74	£0.12128	147,177.67	£17,848.97	£37,943.84	-£152,489.04
4	182,684.29	£0.1024	£18,699.88	£0.0539	36,536.86	£1,969.48	£0.12734	146,147.43	£18,610.23	£39,279.59	-£113,209.45
5	181,405.50	£0.1060	£19,234.49	£0.0558	36,281.10	£2,025.78	£0.13371	145,124.40	£19,403.96	£40,664.24	-£72,545.21
6	180,135.66	£0.1098	£19,784.39	£0.0578	36,027.13	£2,083.70	£0.14039	144,108.53	£20,231.54	£42,099.63	-£30,445.59
7	178,874.71	£0.1138	£20,350.01	£0.0599	35,774.94	£2,143.27	£0.14741	143,099.77	£21,094.41	£43,587.69	£13,142.11
8	177,622.59	£0.1178	£20,931.80	£0.0621	35,524.52	£2,204.54	£0.15478	142,098.07	£21,994.09	£45,130.43	£58,272.54
9	176,379.23	£0.1221	£21,530.22	£0.0643	35,275.85	£2,267.57	£0.16252	141,103.38	£22,932.14	£46,729.93	£105,002.46
10	175,144.57	£0.1264	£22,145.75	£0.0666	35,028.91	£2,332.40	£0.17065	140,115.66	£23,910.19	£48,388.34	£153,390.80
11	173,918.56	£0.1310	£22,778.88	£0.0690	34,783.71	£2,399.08	£0.17918	139,134.85	£24,929.96	£50,107.92	£203,498.72
12	172,701.13	£0.1357	£23,430.11	£0.0714	34,540.23	£2,467.67	£0.18814	138,160.91	£25,993.22	£51,891.00	£255,389.72
13	171,492.22	£0.1405	£24,099.95	£0.0740	34,298.44	£2,538.21	£0.19754	137,193.78	£27,101.83	£53,740.00	£309,129.72
14	170,291.78	£0.1456	£24,788.95	£0.0767	34,058.36	£2,610.78	£0.20742	136,233.42	£28,257.73	£55,657.46	£364,787.18
15	169,099.74	£0.1508	£25,497.64	£0.0794	33,819.95	£2,685.42	£0.21779	135,279.79	£29,462.92	£57,645.98	£422,433.16
16	167,916.04	£0.1562	£26,226.60	£0.0822	33,583.21	£2,762.19	£0.22868	134,332.83	£30,719.51	£59,708.31	£482,141.47
17	166,740.63	£0.1618	£26,976.39	£0.0852	33,348.13	£2,841.16	£0.24012	133,392.50	£32,029.70	£61,847.26	£543,988.72
18	165,573.44	£0.1676	£27,747.63	£0.0883	33,114.69	£2,922.39	£0.25212	132,458.75	£33,395.77	£64,065.78	£608,054.50
19	164,414.43	£0.1736	£28,540.91	£0.0914	32,882.89	£3,005.94	£0.26473	131,531.54	£34,820.10	£66,366.94	£674,421.44
20	163,263.53	£0.1798	£29,356.87	£0.0947	32,652.71	£3,091.87	£0.27796	130,610.82	£36,305.17	£68,753.91	£743,175.36
	Total Bene	fits:	£425,802.11			£47,937.48			£502,578.90	£1,005,675.36	

Investment Returns			
System Cost Ex. VAT	£262,500.00		
Inc VAT	£315,000.00		
Gross Benefits	£1,005,675.36		
Net Benefits	£743,175.36		
Payback Years	7		
Return On Investment as a multiple of the original investment over the 20 years	2.83		
ROI (as av. annual %)	14.16%		

Ask Your Accountant about claiming this expense on your Annual Investment Allowance

Payment Terms + VAT				
Deposit	£39,375.00			
On DNO Completion	£183,750.00			
On Job Completion	£39,375.00			

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Benefit Proportions:

42.34%

4.77%

49.97%

Option 2 Operating Rental Agreement Solar PV Financial Performance

Our first to market **Operating Rental Agreement (O.R.A)** (Operating Lease for tax purposes) allows you to purchase Solar PV, Combined Heat & Power (CHP) or a Biomass boiler with no upfront costs. The total financial benefits from an installation i.e. energy savings and government financial incentives received by you are then used to make monthly repayments. The repayments are paid in arrears and are customised to meet your total financial benefits over a period of 8 +/- years, this period is variable so that it can meet the financial performance of your system. What's more this is all secured against the Feed-In Tariff and or RHI.

Your company will reduce its carbon foot print, save money and receive a large financial benefit at absolutely no additional operating cost to what you are currently spending.

Your Benefits:-

- Huge reductions in your energy costs
- 20% tax relief on your repayments
- Guaranteed Government financial incentives
- Carbon Reductions
- Additional Corporate Integrity by going green
- Once repaid you own the asset (pepper corn payment)
- No upfront costs
- Savings and Earnings from the system pays for itself
- Raise additional funds if required

	Finance lease	Operating lease
Who owns the asset	Leasing company	Leasing company
Who takes residual value risk	Not Applicable	Leasing company
Who is responsible for maintenance and repairs	Lessee	Leasing company if a maintenance contract is taken otherwise it is the lessee
Length of lease	Most of economic life	Part of economic life
Balance sheet treatment	On balance sheet	Off balance sheet

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Example:-

A 50KW Solar PV system costing £80,000.00 will deliver approximately £8,500 annual benefits, broken down to monthly equals £708.33 per month. So an agreement would be made on £700.00 per month. The term/years this is set over depends on your company credit profile.

Following is a guideline to the repayments for your site, the length and the interest will vary from case to case. If you see a positive £value in Top Up then this means the systems performance due to location and or energy usage means you still have to make a donation for the repayments, a negative number means additional savings.

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Cash Price £262,500 +VAT System Performance		6 Years		8 Years			10 Years			
Combined Savings/ Earnings	System Balance	O.R.A. Repayments	Client Top Up	Client Top Up with tax reclaim	O.R.A. Repayments	Client Top Up	Client Top Up with tax reclaim	O.R.A. Repayments	Client Top Up	Client Top Up with tax reclaim
£35,411.94	-£227,088.07	£57,865.50	£22,453.57	£14,961.21	£47,407.50	£11,995.57	£6,715.36	£41,296.50	£5,884.57	£1,951.82
£36,655.19	-£190,432.87	£57,865.50	£21,210.31	£13,717.95	£47,407.50	£10,752.31	£5,472.11	£41,296.50	£4,641.31	£708.57
£37,943.84	-£152,489.04	£57,865.50	£19,921.66	£12,429.31	£47,407.50	£9,463.66	£4,183.46	£41,296.50	£3,352.66	-£580.08
£39,279.59	-£113,209.45	£57,865.50	£18,585.91	£11,093.55	£47,407.50	£8,127.91	£2,847.71	£41,296.50	£2,016.91	-£1,915.83
£40,664.24	-£72,545.21	£57,865.50	£17,201.26	£9,708.91	£47,407.50	£6,743.26	£1,463.06	£41,296.50	£632.26	-£3,300.48
£42,099.63	-£30,445.59	£57,865.50	£15,765.87	£8,273.52	£47,407.50	£5,307.87	£27.67	£41,296.50	-£803.13	-£4,735.87
£43,587.69	£13,142.11	£347,193.00	£115,138.59	£70,184.44	£47,407.50	£3,819.81	-£1,460.39	£41,296.50	-£2,291.19	-£6,223.93
£45,130.43	£58,272.54				£47,407.50	£2,277.07	-£3,003.13	£41,296.50	-£3,833.93	-£7,766.67
£46,729.93	£105,002.46				£379,260.00	£58,487.46	£16,245.84	£41,296.50	-£5,433.43	-£9,366.17
£48,388.34	£153,390.80							£41,296.50	-£7,091.84	-£11,024.58
£50,107.92	£203,498.72							£412,965.00	-£2,925.80	-£42,253.24
£51,891.00	£255,389.72	Before and After Income Tax and Reliefs								
£53,740.00	£309,129.72	Total ORA	£347,193.00	£302,238.85	£379,260.00		£337,018.38	£412,965.00		£373,637.57
£55,657.46	£364,787.18	Monthly Payments	£4,822.13	£4,197.76	£3,950.63		£3,510.61	£3,441.38		£3,113.65
£57,645.98	£422,433.16	Annual ORA Interest	5.377%	2.523%	5.560%		3.548%	5.732%		4.234%
£59,708.31	£482,141.47	Net Benefits	£658,482.36	£548,712.32	£626,415.36		£531,676.42	£592,710.36		£514,080.88
£61,847.26	£543,988.72	ROI (as a multiplier)	1.9	2.3	1.7		2.0	1.4		1.7
£64,065.78	£608,054.50	ROI (as ave. ann. %)	9.5%	11.6%	8.3% 9.9%		7.2%		8.5%	
£66,366.94	£674,421.44	Please note After Income Tax and Reliefs above are guidelines, you must seek out your own tax advice								

£68,753.91 £1,005,675.36 £743,175.36

OPTION 3 - Free on a PPA Solar PV Financial Performance

A Solar PV system on a PPA delivers electricity savings (approx. 20 to 30%). The systems maintenance and management is the responsibility of the PPA provider. We install the system with zero costs to yourself on a Power Purchase Agreement, meaning you will purchase all_the energy that you use from the solar pv array for between 20 to 25 year period (negotiable), this is known as the PPA rate normally around 6.5pence per KWh.

A 20 or 25 year rooftop lease will be issued on your premises, if you have a mortgage or a landlord, permission must be obtained for the lease document this is a legal cost you must cover. Should you wish to move premises within the lease period you may pass on the lease and power purchase agreement to the new owner after permission has been given from the fund and the new owner agrees to the relevant agreements.

OPTION 3 - Free on a PPA Solar PV Financial Performance

Power Purchase Agreement				
PPA rate pence/kWh	0.065			
Yr 1 Saving	£6,716.70			
Over 20 years	£286,736.88			

PPA Savi	ngs			
Year	Saving	Year	Saving	
1	£6,716.70	11	£16,340.09	
2	£6,669.68	12	£17,507.29	
3	£6,623.00	13	£18,718.58	
4	£6,576.63	14	£19,975.91	
5	£6,530.60	15	£21,281.31	
6	£6,484.88	16	£22,636.90	
7	£6,439.49	17	£24,044.89	
8	£6,394.41	18	£25,507.57	
9	£6,349.65	19	£27,027.35	
10	£6,305.20	20	£28,606.72	
	PPA	£286,736.88		

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Which option suits your business best?

Comparison against other methods	Purchase with Cash or Finance	Free Installation on a Power Purchase Agreement (PPA)	PVCommercial Operating Rental Agreement (ORA)	
Free Daytime Electricity	YES	NO, you will be charged approx. 6 pence per Kwh used	YES	
Receive the Feed In Tariff	YES	NO	YES	
Receive Export Payments	YES	NO	YES	
Upfront Payment	YES	NO	NO	
20/25 years Roof Top Lease	NO	YES	NO	
Cash flow positive from day one	NO	YES	YES	
Add new Technologies at a later date	YES	NO	YES	
			BEST DEAL	

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Process and Contract Details

Contract Type

Flexible Install Capacity via an Incremental Operating Rental Agreement. The contract shall be agreed on a price per Watt installed as when actually installing we may find we cannot fit panels in certain locations due to excessive shading and or obstacles not picked up on satellite imagery. The kWp sizes shown against actual installed size may therefore vary and hence the cost. This is the most practical way to operate a contract of this size.

Equipment

Solar Panels: Solvis 250w (European) – 10 years manufacturing – 12 years 90% output power – 25 years limited 80% output power

Inverter: Sollis Inverter (10 Year Warranty)

Mounting System: Clenergy roof mounting

Attached to the email containing this proposal are all the product details, if you would like to use



Warranty / Insurance

The system comes with a standard 2 year workmanship warranty, this can be extended at a cost. On large installations we would recommend an Insurance backed warranty, thus protecting you if we should go out of business and that also covered you from loss of earnings from the system due to product failure or other causes. This type of cover reduces risk on your investment.

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Items and services Included in Costs

Pre Install

- 1. Renewable advice
- 2. DNO application (Not DNO connection costs)
- 3. Energy Performance Certificate (EPC) survey
- 4. Structural Survey, to ensure the roofs will take the weight and last the duration. Scaffolding of all roofs, where necessary.
- 5. Risk Assessments and Method statements (RAMS)

Installation

- 6. Scaffolding equipment where required
- 7. Solar PV Equipment
- 8. Installation
- 9. Electrical connection to your supply
- 10. Testing with photographic evidence
- 11. Issuing of Warranty Documents
- 12. Assistance to Register for Feed In Tariff

Not included in costs

- 1. Price does not include the connection cost of the system (DNO Charges) and an application will have to be made to the provider which can take up to 6 weeks. In the event that they only give permission for a smaller wattage system the system cost will be reduced accordingly.
- 2. Ordering of an Export Meter from your current energy supplier and to arrange meter readings (Approx. £300 per annum)
- 3. Legal Costs if proceeding on a Power Purchase Agreement.
- 4. Subject to a site survey there may be additional costs, for example specialist scaffolding, AC armoured cable runs etc. These additional costs if any will be reported to you.
- 5. Ongoing Management and Maintenance, an annual fee on a pence per watt of installed solar pv is available
- 6. Insurance backed warranty



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About Us

PVcommercial.co.uk offer self-funded, finance and free solar options via our funding partners. Our team offer 10 years of Solar PV experience and 47 years corporate business experience.

Installation confidence is created by our dedicated team of renewable professionals and every installation is provided by our national EPC major contractors, thus ensuring a high level of work ethics and a bankable **2 year installation warranty** in addition to the manufacturer's product and performance warranty. Our team, operational systems and partners have to meet the rigorous scrutiny of our funding partners so that we can deliver to them a bankable commercial solar installation. We utilise the same process and partners for self-funded clients, thus insuring you receive the very best solar pv installation.

In addition to the installation of Commercial Solar, both self-funded, Operating Rental Agreement and free on a PPA we also offer residential solar scheme for councils, housing associations, schools and RSL's, these large scale installations see us facilitate thousands of solar PV installations to UK homes and schools.

PVcommecial.co.uk is a trading name of Bee Energy Solutions Ltd. In addition we manufacture Infrared Heating Panels www.BeeInfraredHeating.co.uk and own www.BeeInfraredHeating.co.uk and own www.WaterHotter.co.uk a hot water renewable heating system.

Our unique battery storage solution for domestic and commercial clients will be launched in the last quarter of 2015 and existing clients will be approached to integrate this solution into existing solar pv arrays.





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Act Now!

Delaying in proceeding with renewable technologies will affect your business, the feed in tariff is under constant scrutiny and has reduced as more solar PV has been installed across the UK.

If you would like to proceed please contact us.

Reference Documents

Your solar PV system will benefit you via the following:-

Generation tariff

The generation tariff is a payment made by the energy supplier for each kWh of electricity your installation generates. This rate tracks inflation and will change each year, but once you join you will continue to receive the tariff for 20 years. The payment received depends on the size and type of technology you are using rather than a set rate. The good news is that the biggest payments come with solar PV technology with as much as 15.44 p per kWh available. You will receive a generation tariff for all the electricity generated by your solar system even if you consume part of it.

Export tariff

The export tariff is another payment for every kWh of electricity you generate but don't use and then export to the national grid. The payment has a set price of 4.64 p per kWh. The tariff has been designed as an extra incentive to encourage people that they will still receive money for any surplus electricity they generate.

Consumption saving

A part from receiving an income from the electricity that you generate and export, you will be consuming electricity generated by your system and buying less from the grid. This will cut the cost of your electricity bills. While homeowners only receive FITs payment for first 20 years of the system, PV owner will continue benefiting from using your own electricity for a minimum of 25 years installation life.

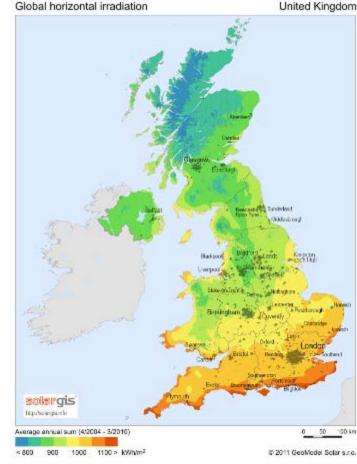
In the picture to the right, we present a map of the united Kingdom and the average solar irradiation. The more red the area the more solar irradiation it receives and the more electricity would be produced by a photovoltaic system.

Reduce CO² Emissions Consumption saving

Benefit from Carbon Tax Levy exemption and meet sustainability standards

Marketing Your Green Initiatives

By showing your customers you care about the environment by using renewable energy, and are willing to invest in our future you will attract more business. Also, involving your own employees in a solar energy efficiency project can bring the side benefits of making people more cost conscious and saving on operating expenses.



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Feed In Tariffs

Your proposal is based on the below table of Feed In Tariffs, the below table is taken from https://www.ofgem.gov.uk/publications-and-updates/feed-tariff-scheme-tariff-table-1-october-2015-pv-only

Tariff Description	For Eligible Installations with an Eligibility Date on or After 1 July 2015 and before 1 October 2015 (p/kWh)		For Eligible Installations with an Eligibility Date on or After 1 October 2015 and before 31 December 2015 (p/kWh)	
Solar photovoltaic with Total Installed Capacity of 4kW or less, where attached to or wired to provide electricity to a new building before first occupation	Higher rate	12.92	Higher rate	12.47
	Middle rate	11.63	Middle rate	11.22
	Lower rate	5.94	Lower rate	5.94
Solar photovoltaic with Total Installed Capacity of 4kW or less, where attached to or wired to provide electricity to a building which is already occupied	Higher rate	12.92	Higher rate	12.47
	Middle rate	11.63	Middle rate	11.22
	Lower rate	5.94	Lower rate	5.94
Solar photovoltaic (other than stand-alone) with Total Installed Capacity greater than 4kW but not exceeding 10kW	Higher rate	11.71	Higher rate	11.30
	Middle rate	10.54	Middle rate	10.17
	Lower rate	5.94	Lower rate	5.94
Solar photovoltaic (other than stand-alone) with Total Installed Capacity greater than 10kW but not exceeding 50kW	Higher rate	11.71	Higher rate	11.30
	Middle rate	10.54	Middle rate	10.17
	Lower rate	5.94	Lower rate	5.94
Solar photovoltaic (other than stand-alone) with Total Installed Capacity greater than 50kW but not exceeding 100kW	Higher rate	9.63	Higher rate	9.63
	Middle rate	8.67	Middle rate	8.67
	Lower rate	5.94	Lower rate	5.94
Solar photovoltaic (other than stand-alone) with Total Installed Capacity greater than 100kW but not exceeding 150kW	Higher rate	9.63	Higher rate	9.63
	Middle rate	8.67	Middle rate	8.67
	Lower rate	5.94	Lower rate	5.94
Solar photovoltaic (other than stand-alone) with Total Installed Capacity greater than 150kW but not exceeding 250kW	Higher rate	9.21	Higher rate	9.21
	Middle rate	8.29	Middle rate	8.29
	Lower rate	5.94	Lower rate	5.94
Solar photovoltaic (other than stand-alone) with Total Installed Capacity greater than 250kW	5.94		5.94	
Stand-alone (GROUND MOUNTS) Export Tariff	4.44 4.85		4.28 4.85	

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Annual Investment Allowance

Although not a finance option, did you know that you could offset up to £100,000 in tax when investing in energy technology through the Government's Annual Investment Allowance (AIA) scheme?

The AIA was introduced by the Government in 2008 with the intention of driving business growth. The scheme is a capital allowance incentive allowing your company to invest up to £500,000 in plant or machinery by the end of 2015 with the benefit of 100% corporation tax relief.

For example, if your company pays 20% corporation tax, you can offset up to £100,000 in tax on large investments in the first year.

Why use AIA for energy technology?

Many companies are unaware that renewable technologies, such as solar PV and LED lighting, can be purchased using your AIA.

A solar PV system will allow you to turn otherwise unused roof space into a space that can generate free green electricity for your company; reducing your energy bills and your carbon footprint.

Combining the energy bill savings of energy technology with the feed-in tariff payments for solar electricity generation & export, the added benefit of off-setting up to 20% of the cost using the AIA initiative will be an attractive option to eligible companies.

Solar PV AIA example

A company purchasing a solar PV system at a cost of £250,000 would be able to off-set £50,000 of the cost against pre-tax profits (assuming the company paid 20% corporation tax).

For more information and the latest AIA % to be claimed and amount available please visit https://www.gov.uk/capital-allowances/annual-investment-allowance

Customer Support: 0843 886 6116