

Own 844kW PV

Figures based on RPI increase of 2.5% and energy price increase of 2.5% (per annum)

5.1%

Year	FIT (value per kWh)	Retained performance	Estimated energy generation (kWh)	100%	Energy exported back to grid	FIT total payment for year	Surplus energy sold to grid @ 4.85p per kWh for other FCBC sites	Annual benefit	O&M COSTS	Benefit
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Assumptions		99.50%	791672			0.0485			
0									-£717,400.00
1	£0.0227	100.0%	791672	791672	£17,970.95	£38,396.09	£56,367.05	-£6,600.08	£49,766.97
2	£0.0233	99.5%	787714	787714	£18,328.13	£39,159.21	£57,487.34	-£6,765.08	£50,722.26
3	£0.0238	99.0%	783775	783775	£18,692.40	£39,937.50	£58,629.90	-£6,934.21	£51,695.69
4	£0.0244	98.5%	779856	779856	£19,063.91	£40,731.26	£59,795.17	-£7,107.56	£52,687.61
5	£0.0251	98.0%	775957	775957	£19,442.81	£41,540.80	£60,983.60	-£7,285.25	£53,698.35
6	£0.0257	97.5%	772077	772077	£19,829.23	£42,366.42	£62,195.65	-£7,467.38	£54,728.27
7	£0.0263	97.0%	768217	768217	£20,223.34	£43,208.45	£63,431.79	-£7,654.07	£55,777.72
8	£0.0270	96.6%	764376	764376	£20,625.28	£44,067.22	£64,692.50	-£7,845.42	£56,847.07
9	£0.0277	96.1%	760554	760554	£21,035.20	£44,943.06	£65,978.26	-£8,041.56	£57,936.70
10	£0.0283	95.6%	756751	756751	£21,453.28	£45,836.30	£67,289.58	-£8,242.60	£59,046.98
11	£0.0291	95.1%	752967	752967	£21,879.66	£46,747.29	£68,626.96	-£8,448.66	£60,178.30
12	£0.0298	94.6%	749202	749202	£22,314.52	£47,676.40	£69,990.92	-£8,659.88	£61,331.04
13	£0.0305	94.2%	745456	745456	£22,758.02	£48,623.97	£71,381.99	-£8,876.37	£62,505.61
14	£0.0313	93.7%	741729	741729	£23,210.34	£49,590.37	£72,800.70	-£9,098.28	£63,702.42
15	£0.0321	93.2%	738020	738020	£23,671.64	£50,575.98	£74,247.62	-£9,325.74	£64,921.88
16	£0.0329	92.8%	734330	734330	£24,142.12	£51,581.17	£75,723.29	-£9,558.88	£66,164.41
17	£0.0337	92.3%	730659	730659	£24,621.94	£52,606.35	£77,228.29	-£9,797.86	£67,430.43
18	£0.0345	91.8%	727005	727005	£25,111.30	£53,651.90	£78,763.20	-£10,042.80	£68,720.40
19	£0.0354	91.4%	723370	723370	£25,610.39	£54,718.23	£80,328.62	-£10,293.87	£70,034.75
20	£0.0363	90.9%	719754	719754	£26,119.40	£55,805.76	£81,925.15	-£10,551.22	£71,373.93
									£1,199,270.78

Own 398kW PV

Figures based on RPI increase of 2.5% and energy price increase of 2.5% (per annum)

13.3%

Own 398kW PV

Figures based on RPI increase of 2.5% and energy price increase of 2.5% (per annum)

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Year	FIT (value per kWh)	Retained performance	Estimated energy generation (kWh)	100%	Energy exported back to grid	FIT total payment for year	Surplus energy sold to grid @ 4.85p per kWh for other FCC sites	Annual benefit	Private wire savings (95% operation)	CCI savings (95%)	O&M COSTS	Benefit
assumptions		99.50%	373324				0.0485					
0												-£582,600.00
1	£0.0227	100.0%	373324		373324	£8,474.45	£18,106.21	£26,580.67	£46,944.00	3631.00	-£3,786.90	£73,368.77
2	£0.0233	99.5%	371457		371457	£8,642.88	£18,466.08	£27,108.96	£48,117.60	3721.78	-£3,881.57	£75,066.76
3	£0.0238	99.0%	369600		369600	£8,814.66	£18,833.09	£27,647.75	£49,320.54	3814.82	-£3,978.61	£76,804.50
4	£0.0244	98.5%	367752		367752	£8,989.85	£19,207.40	£28,197.25	£50,553.55	3910.19	-£4,078.08	£78,582.92
5	£0.0251	98.0%	365913		365913	£9,168.53	£19,589.14	£28,757.67	£51,817.39	4007.94	-£4,180.03	£80,402.98
6	£0.0257	97.5%	364084		364084	£9,350.75	£19,978.48	£29,329.23	£53,112.83	4108.14	-£4,284.53	£82,265.67
7	£0.0263	97.0%	362263		362263	£9,536.60	£20,375.55	£29,912.15	£54,440.65	4210.85	-£4,391.64	£84,172.00
8	£0.0270	96.6%	360452		360452	£9,726.14	£20,780.51	£30,506.65	£55,801.66	4316.12	-£4,501.43	£86,123.00
9	£0.0277	96.1%	358650		358650	£9,919.44	£21,193.53	£31,112.97	£57,196.71	4424.02	-£4,613.97	£88,119.73
10	£0.0283	95.6%	356857		356857	£10,116.59	£21,614.75	£31,731.34	£58,626.62	4534.62	-£4,729.32	£90,163.27
11	£0.0291	95.1%	355072		355072	£10,317.66	£22,044.34	£32,362.00	£60,092.29	4647.99	-£4,847.55	£92,254.72
12	£0.0298	94.6%	353297		353297	£10,522.72	£22,482.47	£33,005.20	£61,594.60	4764.19	-£4,968.74	£94,395.24
13	£0.0305	94.2%	351530		351530	£10,731.86	£22,929.31	£33,661.17	£63,134.46	4883.29	-£5,092.96	£96,585.97
14	£0.0313	93.7%	349773		349773	£10,945.16	£23,385.03	£34,330.19	£64,712.82	5005.37	-£5,220.28	£98,828.10
15	£0.0321	93.2%	348024		348024	£11,162.69	£23,849.81	£35,012.50	£66,330.64	5130.51	-£5,350.79	£101,122.86
16	£0.0329	92.8%	346284		346284	£11,384.55	£24,323.82	£35,708.38	£67,988.91	5258.77	-£5,484.56	£103,471.50
17	£0.0337	92.3%	344552		344552	£11,610.82	£24,807.26	£36,418.08	£69,688.63	5390.24	-£5,621.67	£105,875.28
18	£0.0345	91.8%	342830		342830	£11,841.59	£25,300.30	£37,141.89	£71,430.85	5525.00	-£5,762.22	£108,335.52
19	£0.0354	91.4%	341115		341115	£12,076.94	£25,803.15	£37,880.08	£73,216.62	5663.12	-£5,906.27	£110,853.55
20	£0.0363	90.9%	339410		339410	£12,316.97	£26,315.98	£38,632.95	£75,047.03	5804.70	-£6,053.93	£113,430.76
												£1,840,223.07

Column Headings Descriptions

Year	Years 1 to 20, this is the period Feed in tariffs are payable , however the installation should continue to generate quite efficiently for a further 5 to 10 years
FIT (value per kWh)	This is the price payable per Kwh generated through the Feed in Tariff scheme. It is linked to RPI,(assumed to be 2.5%) hence the increasing value over time.
Retained performance	The efficiency of Photo Voltaic panels reduces over time, and this column reflects this process
Estimated energy generation (kWh)	The amount of energy we expect the system to generate per annum
100% Energy exported back to grid	For ease of understanding and calculation, it is assumed that 100% of the Solar generation will be exported back to the National Grid, and electricity used by
	Alltami will come from landfill gas generation. In reality both solar and landfill gas generation will satisfy Alltami's energy requirement.
Annual benefit	This is the gross financial benefit expected from the solar generation
Private wire savings (95% operation)	The savings created by using our own energy and not having Transportation and Distribution costs to pay. An assumption that 95% of Alltami depots annual electrical consumption will be supplied from Brookhill. This equates to 18 days per year when through breakdown or bad weather, we may need to rely on the national Grid for supply.
Climate Change Levy (CCL)	The savings identified for not having to pay these Electricity supply charges. Calculations based on 95% of 751,000KWh @ 0.509p/kwh,
FIT total payment for year	The Feed in Tariff payment for the quantity of electricity generated
Surplus energy sold to grid @ 4.85p per kWh for other FCBC sites	This is the payment we expect to receive for exported energy at the price stated, again linked to RPI
O&M COSTS	operational and maintenance costs required to keep the installation operating at maximum efficiency
Benefit	This is the net financial benefit the Council should receive, per site/year.

N.B.

The calculations in this spreadsheet assume an RPI of 2.5%/annum and is believed to be the minimum anticipated return. Should RPI exceed 2.5% then the income will be proportionately bigger. Over the past 6 years electricity costs have increased by an average of 6.8% /annum

Own 844kW PV

Figures based on RPI increase of 5% and energy price increase of 5% (per annum)

7.4%

Own 844kW PV

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Own 844kW PV

Figures based on RPI increase of 5% and energy price increase of 5% (per annum)

7.4%

Year	FIT (value per kWh)	Retained performance	Estimated energy generation (kWh)	100%	Energy exported back to grid	FIT total payment for year	Surplus energy sold to grid @ 4.85p per kWh for other FCBC sites	Annual benefit		RPI rise	kWh rise	O&M COSTS	Benefit
Assumptions		99.50%	791672				0.0485						
0										1.05			-£717,400.00
1	£0.0227	100.0%	791672	791672		£17,970.95	£38,396.09	£56,367.05		1.05	1.025	-£6,600.08	£49,766.97
2	£0.0238	99.5%	787714	787714		£18,775.15	£40,114.32	£58,889.47		1.05	1.025	-£6,930.08	£51,959.39
3	£0.0250	99.0%	783775	783775		£19,615.34	£41,909.43	£61,524.78		1.05	1.025	-£7,276.59	£54,248.19
4	£0.0263	98.5%	779856	779856		£20,493.13	£43,784.88	£64,278.01		1.05	1.025	-£7,640.42	£56,637.59
5	£0.0276	98.0%	775957	775957		£21,410.20	£45,744.25	£67,154.45		1.05	1.025	-£8,022.44	£59,132.01
6	£0.0290	97.5%	772077	772077		£22,368.30	£47,791.31	£70,159.61		1.05	1.025	-£8,423.56	£61,736.05
7	£0.0304	97.0%	768217	768217		£23,369.28	£49,929.97	£73,299.25		1.05	1.025	-£8,844.74	£64,454.52
8	£0.0319	96.6%	764376	764376		£24,415.06	£52,164.34	£76,579.40		1.05	1.025	-£9,286.98	£67,292.42
9	£0.0335	96.1%	760554	760554		£25,507.63	£54,498.69	£80,006.32		1.05	1.025	-£9,751.32	£70,255.00
10	£0.0352	95.6%	756751	756751		£26,649.10	£56,937.51	£83,586.61		1.05	1.025	-£10,238.89	£73,347.72
11	£0.0370	95.1%	752967	752967		£27,841.65	£59,485.46	£87,327.11		1.05	1.025	-£10,750.83	£76,576.27
12	£0.0388	94.6%	749202	749202		£29,087.56	£62,147.43	£91,235.00		1.05	1.025	-£11,288.38	£79,946.62
13	£0.0408	94.2%	745456	745456		£30,389.23	£64,928.53	£95,317.76		1.05	1.025	-£11,852.80	£83,464.97
14	£0.0428	93.7%	741729	741729		£31,749.15	£67,834.08	£99,583.23		1.05	1.025	-£12,445.44	£87,137.80
15	£0.0449	93.2%	738020	738020		£33,169.92	£70,869.66	£104,039.58		1.05	1.025	-£13,067.71	£90,971.87
16	£0.0472	92.8%	734330	734330		£34,654.28	£74,041.08	£108,695.35		1.05	1.025	-£13,721.09	£94,974.26
17	£0.0496	92.3%	730659	730659		£36,205.06	£77,354.41	£113,559.47		1.05	1.025	-£14,407.15	£99,152.32
18	£0.0520	91.8%	727005	727005		£37,825.23	£80,816.02	£118,641.26		1.05	1.025	-£15,127.50	£103,513.75
19	£0.0546	91.4%	723370	723370		£39,517.91	£84,432.54	£123,950.45		1.05	1.025	-£15,883.88	£108,066.57
20	£0.0574	90.9%	719754	719754		£41,286.34	£88,210.90	£129,497.23		1.05	1.025	-£16,678.07	£112,819.16
£1,545,453.45													

Own 398kW PV

Figures based on RPI increase of 5% and energy price increase of 5% (per annum)

15.6%

Year	FIT (value per kWh)	Retained performance	Estimated energy generation (kWh)	100%	Energy exported back to grid	FIT total payment for year	Surplus energy sold to grid @ 4.85p per kWh for other FCC sites	Annual benefit	Private wire savings (95% operation)	RPI rise	CCI savings (95%)	kWh rise	O&M COSTS	Benefit
Assumptions			99.50%	373324			0.0485							
0										1.05		1.025		-£582,600.00
1	£0.0227	100.0%	373324	373324		£8,474.45	£18,106.21	£26,580.67	£46,944.00	1.05	3631.00	1.025	-£3,786.90	£73,368.77
2	£0.0238	99.5%	371457	371457		£8,853.69	£18,916.47	£27,770.15	£49,291.20	1.05	3812.55	1.025	-£3,976.25	£76,897.66
3	£0.0250	99.0%	369600	369600		£9,249.89	£19,762.98	£29,012.87	£51,755.76	1.05	4003.18	1.025	-£4,175.06	£80,596.75
4	£0.0263	98.5%	367752	367752		£9,663.82	£20,647.37	£30,311.19	£54,343.55	1.05	4203.34	1.025	-£4,383.81	£84,474.27
5	£0.0276	98.0%	365913	365913		£10,096.28	£21,571.34	£31,667.62	£57,060.73	1.05	4413.50	1.025	-£4,603.00	£88,538.85
6	£0.0290	97.5%	364084	364084		£10,548.09	£22,536.66	£33,084.75	£59,913.76	1.05	4634.18	1.025	-£4,833.15	£92,799.54
7	£0.0304	97.0%	362263	362263		£11,020.11	£23,545.18	£34,565.29	£62,909.45	1.05	4865.89	1.025	-£5,074.81	£97,265.82
8	£0.0319	96.6%	360452	360452		£11,513.26	£24,598.82	£36,112.08	£66,054.92	1.05	5109.18	1.025	-£5,328.55	£101,947.64
9	£0.0335	96.1%	358650	358650		£12,028.48	£25,699.62	£37,728.10	£69,357.67	1.05	5364.64	1.025	-£5,594.98	£106,855.43
10	£0.0352	95.6%	356857	356857		£12,566.76	£26,849.68	£39,416.43	£72,825.55	1.05	5632.87	1.025	-£5,874.72	£112,000.13
11	£0.0370	95.1%	355072	355072		£13,129.12	£28,051.20	£41,180.32	£76,466.83	1.05	5914.52	1.025	-£6,168.46	£117,393.20
12	£0.0388	94.6%	353297	353297		£13,716.65	£29,306.49	£43,023.14	£80,290.17	1.05	6210.24	1.025	-£6,476.88	£123,046.67
13	£0.0408	94.2%	351530	351530		£14,330.47	£30,617.96	£44,948.42	£84,304.68	1.05	6520.75	1.025	-£6,800.73	£128,973.13
14	£0.0428	93.7%	349773	349773		£14,971.75	£31,988.11	£46,959.87	£88,519.91	1.05	6846.79	1.025	-£7,140.76	£135,185.81
15	£0.0449	93.2%	348024	348024		£15,641.74	£33,419.58	£49,061.32	£92,945.91	1.05	7189.13	1.025	-£7,497.80	£141,698.56
16	£0.0472	92.8%	346284	346284		£16,341.71	£34,915.10	£51,256.81	£97,593.20	1.05	7548.59	1.025	-£7,872.69	£148,525.91
17	£0.0496	92.3%	344552	344552		£17,073.00	£36,477.56	£53,550.56	£102,472.86	1.05	7926.02	1.025	-£8,266.33	£155,683.11
18	£0.0520	91.8%	342830	342830		£17,837.02	£38,109.93	£55,946.94	£107,596.51	1.05	8322.32	1.025	-£8,679.64	£163,186.13
19	£0.0546	91.4%	341115	341115		£18,635.22	£39,815.35	£58,450.57	£112,976.33	1.05	8738.43	1.025	-£9,113.63	£171,051.71
20	£0.0574	90.9%	339410	339410		£19,469.15	£41,597.08	£61,066.23	£118,625.15	1.05	9175.36	1.025	-£9,569.31	£179,297.43
£2,378,786.50														

Column Headings Descriptions

Year	Years 1 to 20, this is the period Feed in tariffs are payable , however the installation should continue to generate quite efficiently for a further 5 to 10 years
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Annual benefit	This is the gross financial benefit expected from the solar generation
Private wire savings (95% operation)	The savings created by using our own energy and not having Transportation and Distribution costs to pay. An assumption that 95% of Alltami depots annual electrical consumption will be supplied from Brookhill. This equates to 18 days per year when through breakdown or bad weather, we may need to rely on the national Grid for supply.
Climate Change Levy (CCL)	The savings identified for not having to pay these Electricity supply charges. Calculations based on 95% of 751,000KWh @ 0.509p/kwh,
FIT total payment for year	The Feed in Tariff payment for the quantity of electricity generated
Surplus energy sold to grid @ 4.85p per kWh for other FCBC sites	This is the payment we expect to receive for exported energy at the price stated, again linked to RPI
O&M COSTS	operational and maintenance costs required to keep the installation operating at maximum efficiency
Benefit	This is the net financial benefit the Council should receive, per site/year.

NB

The calculations in this spreadsheet assume an RPI of 5%/annum