

BELCHFORD COMMUNITY SOLAR CO-OPERATIVE LTD

# BUSINESS PLAN

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1/7/2014

## **1. BUSINESS OVERVIEW**

The sole planned activity of BCSC is the ownership and management of solar PV arrays on the new barn at Glebe Farm, Lowfield Lane, Belchford, Horncastle, Lincs LN9 6LS.

Basically the barn is:

- Roof faces within 30 degrees of south
- The barn was specifically designed and built with additional roof strengthening to incorporate solar PV panels.
- There are no shading issues
- A three phase supply and Western Power Distribution have indicated that the capacities proposed are permissible
- Has an Energy Performance Certificate
- Pre-registered with Ofgem in December 2013 to obtain a preferential FIT rate
- Lease negotiations which will be complete before the end of the share issue. The installation will not go ahead without the Lease being signed.
- A pre – planning application has already been approved by East Lindsey District Council.

## **2. OPERATION OF THE PV PANELS**

Solar panels are rated under laboratory conditions for a peak output for a specific intensity of sunlight. However, the sunlight available to the panels in a given location depends on a number of factors including season, weather, latitude, time of day, angle and direction that the panels face.

The combined energy yield of the installation in this project is predicted to be 41400 kWh per annum (without taking degradation of the panels over time into account) based on SAP figures. The assumptions in the financial models for this project do however allow for this degradation, based on the panel manufacturer's data and warranties.

The photovoltaic panels will be roof mounted on the barn roof. As the panels age, performance will decrease and the inverters may need replacing. However modern panels are extremely reliable and are expected to continue to generate electricity throughout the 20 year life of the Co-operative, and beyond, with little need for human intervention and with few disruptions.

Inverters are expected to have a life span of around 15 - 18 years and costs of replacing them during the project are included in the finance model. The manufacturers' warranties will be sought along with insurance covering damage from weather incidents such as lightning and business interruption that might arise as a result. The arrays will also be insured against theft and vandalism.

The installation and associated works will be managed by Genfit, an MCS-accredited installer with MCS accredited panels under contract to BCSC. The solar array and associated equipment will be owned by BCSC and the Co-operative board will be responsible for the ongoing monitoring of the technical and financial performance of the solar arrays.

It is expected that Glebe Farm will notify the Co-operative of any issues that arise as they become aware of them but remote monitoring will be in place so that directors will be alerted as and when maintenance is necessary.

### **3. MICROGENERATION CERTIFICATION SCHEME**

To be eligible for the FIT both the installer and the equipment need to be registered on the Microgeneration Certification Scheme (MCS). BCSC will ensure that the installations are fully MCS compliant and eligible to receive the FIT.

### **4. ELECTRICITY SALES AND FIT SCHEME**

The farm will be able to use the electricity generated by the panels, provided they require electricity when the panels are producing it and will not be charged for this electricity though amounts will be capped at existing levels. Surplus electricity will be exported to the grid.

The Co-operative will receive the FIT Generation Tariff for all electricity generated by the panels, and will be paid the FIT export Tariff or the market rate for all electricity exported to the grid.

The FIT rate for the site in question is guaranteed for BCSC until 28 December 2014 as long as the systems are installed, commissioned and the FIT application is made on or before this date. BCSC pre-registered for the FIT in December 2013, under the pre-registration scheme which is only available to community solar PV schemes such as BCSC, at the following rates:

- 12.57p/kWh for installations between 10kW and 50kW

This increases with RPI on an annual basis for 20 years.

The full projections of income, expenses and returns over the 20 years of the project can be seen on the spreadsheet at the end of the business plan.

## **5. FINANCIAL PROJECTIONS**

At the end of the 20 year window of FIT payments, the lease for the barn roof includes a clause which leaves the co-op the option of terminating the lease and either de-commissioning the installation or handing it over to the landlord, or renegotiating a new lease to allow the Co-op to continue to operate the panels.

## **6. SEED ENTERPRISE INVESTMENT SCHEME – TAX RELIEF**

BCSC has applied for and received approval from HMRC for Seed Enterprise Investment Scheme (SEIS) tax relief for all of the 57000 shares that are issued, as this is the maximum permitted under this scheme. In the event that more than 57000 of the shares allocated have been applied for by parties that are eligible for SEIS tax relief, each SEIS eligible member will be able to claim tax relief on the correspondingly slightly reduced proportion of their shares.

The SEIS relief is ordinarily 50% of the value of the shares, which an eligible individual can claim back against the tax they owe for the financial year in which the shares are allocated (or the previous year). Shares must be held for 3 years or the tax relief would be lost and HMRC would seek to claw back any relief that had already been claimed.

In the case of SEIS, in the unlikely event that when someone eventually withdraws their shares they are worth less than they paid for them, this loss can be set, (minus the initial 50% relief), against income for tax purposes in that year (or the previous year). For further details about the SEIS scheme you are advised to consult the HMRC website: [www.hmrc.gov.uk/seedeis](http://www.hmrc.gov.uk/seedeis). Prospective members who are interested in taking advantage of this tax relief should take their own advice as to whether they are eligible or not.

The Board has been given pre-approval for the scheme under SEIS. However, the Directors are not in a position to guarantee the eligibility of BCSC for any individual. Details of the progress of BCSC application will be posted on the website [www.belchford.coop](http://www.belchford.coop)

## **7. ASSUMPTIONS ON ENERGY GENERATION**

The Projections are based on the following principal assumptions:

- 1) That annual production levels of solar PV installation will be in line with the estimates made, averaging 41400kWh per annum. In the event that the predicted energy production falls below the projected levels the revenues of the co-operative will be reduced. In the case of a technical fault, this should be covered by warranties and/or insurance, including for losses incurred as a result.
- 2) Current expectations relating to the global energy market, the UK electricity industry, UK government policy, and the desirability for and promotion of electricity from renewable sources, will remain fairly consistent and reasonably favourable to the solar PV installations over the next 20

years, resulting in continuing demand for electricity and related Environmental Attributes produced by the solar PV installation.

3) Prices at a reasonably similar level to those currently obtainable will be achieved through the life of the Solar PV installations (after allowance for annual inflation).

Any of the assumptions not being realised is likely to result in adjustments to the Projections within the overall Project plan. Projections and assumptions such as those above are inherently less reliable over longer time spans.

## 8. NOTES ON FINANCIAL PROJECTIONS

1) Inflation on income is set as 3% and expenditure at 2.5% per annum over the 20 year period.

2) Income is based on the FIT, which is guaranteed for the full 20 years of the project and on the generation not used within the building being sold to the grid or deemed whereby the Co-op will be paid 65% of the generation total which is assumed to be exported.

3) Glebe Farm will be permitted to use as much of the generated power as they wish at no cost though capped at existing levels.

4) Depreciation of equipment is straight-line over the 20 year period and creates a fund to pay back members' capital. Once three years have passed, it is the intention that capital will be returned to members year by year as cash flow allows, subject to maintaining a contingency reserve within the Co-operative. (Eligibility for SEIS is lost if capital was returned before three years had passed).

5) Insurance costs are set at £371 per annum – this is based on an estimate.

6) Administration costs of the co-operative are set at £300 per annum. This covers maintenance of membership database, phone, email and postal support of members, preparation of AGM papers and annual return, FCA and other regulatory fees. BCSC will produce annual accounts and as a small business will apply for the exemption from audit.

7) Interest on cash in bank is set at nil in the financial model.

8) All profits are allocated to depreciation charge or distributed to members so the projections do not predict a liability for Corporation Tax. Note that members are likely to be liable for Income Tax on their interest from investment.

9) Normal monthly cash expenditure is expected to be small and will be amply covered by the generation and FIT income. The Projections anticipate that BCSC will be cash positive each year from the commencement of operations.

10) Projections are based on the 20 year FIT period although working life of PV panels should be at least 25 years and probably significantly longer.

11) There is a small community fund built into the project. How this will be allocated is yet to be determined but could include help to the 'fuel poor' in the village or any other village activity.

Year Ending	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024-2028	2029-2033	Totals
Electricity Inflation (p/kWh)	13	13.39	13.79	14.21	14.63	15.07	15.52	15.99	16.47	16.96	18.55	21.50	
FIT inflation (p/kWh)	12.57	12.88	13.21	13.54	13.87	14.22	14.58	14.94	15.32	15.70	16.91	19.14	
FIT export inflation	4.64	4.76	4.87	5.00	5.12	5.25	5.38	5.52	5.65	5.79	6.25	7.06	
Energy kWh Produced	41400	41152	40905	40659	40415	40173	39932	39692	39454	39217	192585	186876	782461
<b>Income</b>													
Income from FITS (£)	5204	5302	5402	5504	5608	5713	5821	5931	6043	6156	32567	35755	125005
Income from export (£)	1306	1331	1356	1382	1408	1434	1461	1489	1517	1545	8175	8975	31378
Income from energy used (£)	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Income (£)</b>	<b>6510</b>	<b>6633</b>	<b>6758</b>	<b>6885</b>	<b>7015</b>	<b>7147</b>	<b>7282</b>	<b>7419</b>	<b>7559</b>	<b>7702</b>	<b>40742</b>	<b>44729</b>	<b>156383</b>
<b>Expenditure</b>													
Genfit £52000/legal Fees £3500/W Cap £1500													0
Depreciation	2850	2850	2850	2850	2850	2850	2850	2850	2850	2850	14250	14250	57000
Maintenance	450	461	473	485	497	509	522	535	548	562	3028	3426	11495
Business Rates	90	0	90	92	95	97	99	102	104	107	576	652	2015
Insurance	371	380	390	400	410	420	430	441	452	463	2496	2824	9477
Admin of Co-op	300	308	315	323	331	339	348	357	366	375	2019	2284	7663
Export meter charge	60	62	63	65	66	68	70	71	73	75	404	457	1533
Community Fund	300	308	315	323	331	339	348	357	366	375	2019	2284	7663
<b>Total Expenditure (£)</b>	<b>4331</b>	<b>4368</b>	<b>4496</b>	<b>4537</b>	<b>4579</b>	<b>4623</b>	<b>4667</b>	<b>4712</b>	<b>4759</b>	<b>4807</b>	<b>24791</b>	<b>26177</b>	<b>96846</b>
<b>Operating Profit</b>	2179	2265	2262	2348	2436	2525	2615	2707	2800	2895	15951	18553	59536
Plus Interest on Cash in Bank	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Net Profit/Loss</b>	<b>2179</b>	<b>2265</b>	<b>2262</b>	<b>2348</b>	<b>2436</b>	<b>2525</b>	<b>2615</b>	<b>2707</b>	<b>2800</b>	<b>2895</b>	<b>15951</b>	<b>18553</b>	<b>59536</b>
Total Annual Return to Members	2179	2265	2262	2348	2436	2525	2615	2707	2800	2895	15951	18553	59536
<b>Members Return on Investment</b>	<b>3.82</b>	<b>3.97</b>	<b>3.97</b>	<b>4.12</b>	<b>4.27</b>	<b>4.43</b>	<b>4.59</b>	<b>4.75</b>	<b>4.91</b>	<b>5.08</b>	<b>5.60</b>	<b>6.51</b>	<b>5.22</b>
<b>Cashflow</b>													
Opening cash	0	2850	5700	5000	5000	5000	5000	5000	5000	5000	25000	25000	116536
Profit + depreciation	5029	5115	5112	5198	5286	5375	5465	5557	5650	5745	30201	32803	116536
Loans	0	0	0	0	0	0	0	0	0	0	0	0	0
Less interest to members	-2179	-2265	-2262	-2348	-2436	-2525	-2615	-2707	-2800	-2895	-15951	-18553	-59536
Cash before cap return to members	2850	5700	8550	7850	7850	7850	7850	7850	7850	7850	39250	39250	150550
Cap return to members (Minimum retain in Bank)	0	0	-3550	-2850	-2850	-2850	-2850	-2850	-2850	-2850	-14250	-19250	-57000
<b>Closing cash</b>	<b>2850</b>	<b>5700</b>	<b>5000</b>	<b>5000</b>	<b>5000</b>	<b>5000</b>	<b>5000</b>	<b>5000</b>	<b>5000</b>	<b>5000</b>	<b>25000</b>	<b>20000</b>	<b>93550</b>
<b>IRR Calculations</b>													
Overall cash flow	2179	2265	5812	5198	5286	5375	5465	5557	5650	5745	30201	37803	116536
<b>IRR</b>	<b>10.20%</b>												
<b>Examples of member returns eg</b>	<b>£1,000</b>												
Share of Total Equity	1.7543%												
<b>Member Cash Flow</b>	<b>-1,000</b>												
<b>IRR with SEIS at 50%</b>	<b>17.10%</b>												
	38.2	39.7	102.0	91.2	92.7	94.3	95.9	97.5	99.1	100.8	530	663	2044
	38.2	539.7	102.0	91.2	92.7	94.3	95.9	97.5	99.1	100.8	530	663	2544