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# Business Plan

*Affordable sustainable energy for all*

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## Executive Summary

This is a working document setting out Bristol Energy Cooperative's (BEC) current business plan underpinning its mission of **investing in renewables, cutting carbon and building community**. The Cooperative was formed to provide key infrastructure needed for developing a fresh approach to the way energy is managed, and to work towards our vision of **affordable sustainable energy for all** through low-carbon, financially self-sustaining, community energy systems in the local region.

The introduction of the Feed in Tariff ('FiT') in 2010 and the Renewable Heat Incentive ('RHI') in 2011 provided the economic stimulus in the UK to make community energy business models financially viable. Community owned energy generation is now a sensible model for developing sustainable and resilient ways to locally manage energy.

### Changes in FiT landscape.

The financial subsidy model that has sustained Bristol Energy Cooperative from 2011 to 2015 is due to change as the Government removes our ability to pre-establish the FiT eligibility and rate for a 12 month period thus allowing certainty for fund-raising. A further change will occur in 2016 when the FiT rates will be reduced by 87% instead of the present slower reduction.

Neither of the changes will affect the projects presented for Share Offer 3 and the Board is working hard to overcome the challenges that these changes bring for future projects.

### **BEC installs renewable energy generating capacity and recycles benefit into the local economy by providing:**

- Investment income to local people,
- Discounted energy supply to host organisations and
- Subsidies for energy-efficiency programmes.

BEC achieves this through partnership with communities, business and the public sector and within the framework of Bristol Energy Network.

### **BEC is now well established as an organisation and is scaling up its operations.**

By the end of 2018 we aim to:

- Be an organisation with more than 10,000 members.
- Have 30MWp+ of renewable generation capacity - principally solar PV
- Have funded energy efficiency programmes for more than 500 households.
- Have been instrumental in setting up resident's energy tariffs & other energy cost reduction schemes.
- Be contributing CO<sub>2</sub> savings of over 20,000 tonnes per year through renewable generation and energy demand reduction.

## Organisation Background and Vision

### Legal status

Bristol Energy Cooperative is the trading name of Bristol Community Energy Limited, a Community Benefit Society registered in England under the Industrial and Providence Act 1965, Registration Number 31313R.

BEC's assets are protected by an asset lock, which prevents their disposal for private gain. This asset lock is the same as used by charities and Community Interest Companies. Members of Bristol Energy Cooperative have liability limited to the amount of their shareholding.

Cooperative businesses are a good way of combining business and social values. As a Community Benefit Society Bristol Energy Cooperative operates within the seven Cooperative Principles as agreed by the International Cooperative Alliance:

- Voluntary and Open Membership
- Democratic Member Control
- Member Economic Participation
- Autonomy and Independence
- Education, Training and Information
- Cooperation among Cooperatives
- Concern for Community

We are able to operate as a profitable trading entity and balance our trading activities with this cooperative ethos and high environmental and social standards.

### Aims and objectives

Our vision of **affordable sustainable energy for all** is being achieved through **investing in renewables, cutting carbon and building community**.

**We aim to create resilient communities through our responses to the current and future energy challenges. In particular to:**

- implement renewable energy installation and energy efficiency measures in collaboration with communities, businesses and the public sector.
- act as a 'people's power station' which generates a financial surplus to re-invest locally.
- work co-operatively with communities to make carbon reduction technologies available to all, regardless of financial resources, and support mutual action to respond to the challenges of climate change.
- provide a healthy, low risk and sustainable financial return on investment.

## **We are supporting faster conversion to low-carbon living by:**

- Cutting carbon emissions and reducing dependence on unsustainable sources of energy.
- Providing the business infrastructure for individual, community and public partners to invest in the production of local renewable energy.
- Making energy saving, energy-efficiency and fuel poverty reduction measures an integral part of a new kind of energy market across the region.

Bristol Energy Cooperative was created to take urgent practical action on climate change by commissioning renewable energy generation. The existing energy market makes it difficult for most people to easily manage their energy use in a sustainable way, and in this country there is currently no viable stand-alone financial model for systematic energy efficiency work. By recycling surplus income, locally-owned energy generation brings opportunities for cross-subsidisation of energy efficiency initiatives, thus enhancing the environmental and social impact of any investment.

We have created an organisation that is secure in its structure, financially sustainable and effective in establishing the broad network of partnerships necessary to make this new approach to energy management a reality. The core management team within Bristol Energy Cooperative has been working over the last four years to create an organisation that can make a significant contribution to the sustainable energy future for Bristol and surrounding areas.

## **History of organisation**

Bristol Energy Cooperative was formally established in 2011 by members of various energy related community groups in Bristol. A community-owned energy infrastructure was envisaged which could achieve a number of desirable environmental and social outcomes at scale. BEC received a start-up loan facility of £15,000 from Bristol City Council's Community Energy Catalyst Fund, which was used to establish the organisational structure and governance and fund the cost of the first share offer. We have started to repay the money borrowed in order that it can be recycled to other start-ups.

## **How we are managed**

We have a cooperative structure that is run in accordance with a set of Primary and Secondary Rules. BEC is managed on a day-to-day basis on behalf of its members by an executive board consisting currently of six Directors.

Operational teams, all lead by a Director, report to the Board. Each team has specialist and generalist volunteers, most of whom are members, and outside Consultants are used as necessary. There is an Annual General Meeting and other larger meetings are held as necessary. An external network of advisors provides invaluable input to our teams but as we scale up specialist tasks will increasingly be taken in house.

Since the summer 2015 BEC has developing larger projects in partnership working with Mongoose Energy, a specialist company providing project development and financing support to community energy organisations.

## **Achievements so far**

BEC has become a robust organisation with a committed management team and a well-developed network of members, advisors and partners. We have raised £250,000 through two successful share offers and established a community building PV installation programme that is performing well for building users and investors.

BEC is becoming well known in the community energy sector and is at the forefront of pioneering new ways to bring renewable generation into community ownership - for example partnering a national wind developer in a planning application. It is contributing to local and national energy policy frameworks through its work with local authorities and DECC.

BEC takes education and training seriously and UK and European volunteers from a variety of professions have spent time with us to learn about community energy development. A programme of regular educational sessions has been established in Bristol and we have hosted two young people on a mentorship programme run by the Centre for Sustainable Energy.

## **Business strategy**

### **Business model**

Of the many ways communities can participate in renewable energy projects, having an ownership stake is perhaps the most influential and our current business practise involves projects being wholly owned by Bristol Energy Cooperative. We aim to make full use of opportunities of partnering with commercial developers through Shared Community Ownership.

Our business model is based on working with communities, businesses and local authorities to enable the shift to decentralised, collectively owned, low-demand, renewable energy systems. We are achieving this by attracting investment designed to generate:

1. healthy investor returns;
2. reduced energy costs to installation hosts and;
3. a sustainable income stream to enable the Coop to grow and support community benefit projects.

Our status as Community Benefit Society has give a number of tax, FiT (Feed-in-Tariff) and capital cost advantages:

- Individual investors subscribing for shares in our solar PV projects can benefit from 30% Enterprise Investment Scheme (EIS) tax relief and Capital Gains Tax (CGT) rollover;
- Impact investment institutions are attracted by high social return which offsets the lower financial returns compared to less socially engaged forms of investment;
- The viability of PV projects under 250kWp is enhanced by our exemption, as a community cooperative, from the requirement to upgrade buildings to Energy Performance Certificate (EPC) band D before installation;
- We have been able to pre-register new projects for FiT, which gave guaranteed protection against tariff reductions during construction. All projects in Share Offer 3 will

be pre-registered and pre-accredited. (From October 2015 this will no longer be possible).

- The sense of common purpose inherent in our internal governing rules, and generated by the way we conduct our business, is bringing economies of scale through a willingness in partners to share practice and process.
- EIS is likely to be phased out for all businesses eligible for government renewables incentives but a new tax break Social Investment Tax Relief (SITR) should provide similar tax advantages for investment in community businesses such as BEC.
- These advantages mean that we can match the best of our competitors in developing renewables projects and in addition broaden the social impact by provide long term funding for community activities.

We are currently building a portfolio of community-owned generating capacity in Bristol and the surrounding region. In the short-term this will be solar PV technology, using a range of community buildings, commercial roofs and ground mounted PV. Preparatory work on innovative deployment, for example on road bridges and on residential acoustic barriers, is progressing.

On-shore wind projects have been thoroughly explored. Planning obstacles to new construction make this area of limited development at the moment but we are hopeful this will again be a technology worth deploying locally.

A business model for Renewable Heat Initiative schemes is being worked up with the intention of progressing this in the medium term.

Longer term, given our Bristol location, we intend to become involved in local schemes using emerging tidal and wave technologies.

Smaller installation sites are identified through network contacts or local authority partnerships, and feasibility, development, construction and long-term management is all managed by BEC. We are, at least in the short term, acquiring larger installations after planning and construction has been completed to speed up the acquisition process and minimise the risk. BEC aims to asset-manage these resources using specialist contracts as necessary. In the medium to long term we expect to start developing our own larger projects.

### **Our propositions to individuals and community groups:**

- Access to the decentralised, low-carbon energy world via Coop membership;
- Low entry-level financial investment opportunities with a reasonable rate of return, leveraged environmental & social benefit, and tax breaks;
- Subsidised energy reduction and fuel cost saving opportunities.

### **Our propositions to partners in energy, financial and statutory sectors:**

- A buyer for commercially smaller-scale installations;
- Access and exposure to the 'community';
- Carbon and energy cost cutting;
- Social and environmental impact investment opportunities.

**Our own sustainability and effectiveness will be further enhanced by:**

- Growing our in-house education & training capabilities;
- Having a robust system for attracting & managing volunteers;
- Attracting awards & grants due to the excellence of our organisation;
- Attracting people who want to be 'part of the solution'.

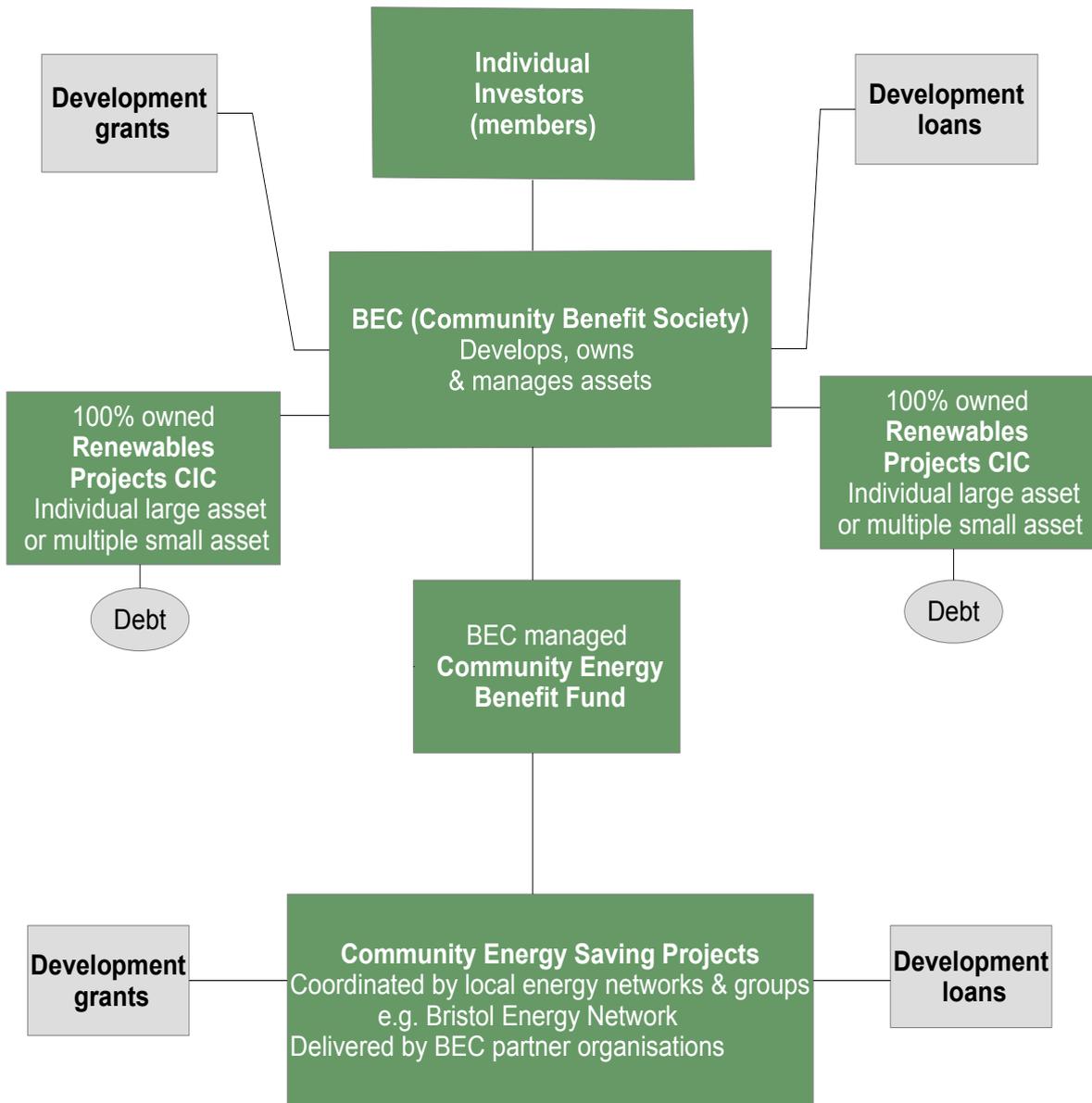
**Competitive advantage****For attracting investment**

We believe the interest and appetite for environmental and social impact investment will continue growing amongst investors and become increasingly attractive for smaller scale savers. The route into this kind of investment is becoming easier with the increasing number of investment opportunities available and innovative investment platforms coming on stream. The exemption from restrictions on Enterprise Investment Scheme (EIS) eligibility that community organisations in the renewables sector currently enjoy, and the new Social Investment Tax Relief (SITR) are likely to enhance this trend. We aim to continue to differentiate ourselves from other community energy investment opportunities geographically, by focusing on local investors, and by offering high levels of social and environmental impact and maintaining a low threshold for investment entry.

**Installing renewable capacity**

For larger solar and wind installations our primary competition is with mainstream developers. We have advantages, through lower overhead costs and a lower financial threshold for investor return, of being able to consider smaller-scale projects that are not viable for larger developers. For community roof-top solar there may also be potential competition from commercial developers, although we have not yet encountered this. In both cases the added environmental and social impact our business model brings is attractive to site owners.

## Bristol Energy Cooperative Business Structure



## Business parameters

### The key assumptions behind our financial projections include:

Inflation (Retail Price Index)	Share Offer 3 - 1% for 2 yrs, then 2.5%
Feed-in Tariff Rates	In line with DECC degression and provisos
Average annual electricity price rise	RPI
Solar Panel performance degradation	0.5% per year
Operation & Maintenance	£8 - £10/kW/yr
Insurance	0.2 - 0.3% of Capex/yr
Loan terms	5.5 - 6.5% over 15 yrs
Member interest forecast	5% (up to 7.1% with EIS tax relief) (2 - 3% above RPI)
Community Energy Benefit Funding	5 - 10% of total revenue
Cost of electricity for host buildings	6-9p/kW

### Current position

Bristol Energy Cooperative is maturing as an organisation but is still in the start-up phase of its business life. To realise its ambition of providing local people with a real energy alternative and a route into a sustainable, low carbon and financially rewarding participation, it needs to operate at a significantly larger scale. We are therefore entering a phase of building our renewable generation capacity. A portfolio of new solar photovoltaic installations with a variety of partners has been developed and we are ready to move forward with these projects. We are also broadening our financing options from 100% share financing to a mix of shares, bonds and debt financing.

### Generating capacity

**£246k** of share capital has been raised so far to install 143kWp of solar PV capacity on community buildings.

Installations	kWp	Av. Generation per yr	CO <sub>2</sub> saved per yr <sup>1</sup>
Hamilton house	20kW	18 MWh	8.3 t
Easton Community Centre	18kW	15 MWh	6.9 t
Knowle West Media Centre	25kW	24 MWh	11.1 t
South Bristol Sports Centre	50 kWp	44 MWh	20.3 t
Bristol Folk House	10 kWp	9.5 MWh	4.4 t
The Mill Youth Centre	20 kWp	18 MWh	8.3 t
<b>Total</b>	<b>143kW</b>	<b>128 MWh</b>	<b>59.4 t</b>

These installations are performing in line with or exceeding expectations, which has allowed the predicted payment of 4% interest annually to investors in the initial years and

1

Using DEFRA's 2015 electricity conversion factor of 0.46219kg/kWh

to be in a position to increase this to 5% in 2014/15 in order to be more competitive in attracting investors.

**Share Offer 3** will produce a very significant increase in generating capacity. If fully successful increasing total capacity to around 10MWp, generating in excess of 9,500MWh of electricity per annum with a yearly CO<sub>2</sub> equivalent saving of around 45,000 tonnes.

## Membership and management

We currently have 215 investor members. The management team has been operating with a high level of voluntary contributed time and as we move through this scale-up phase this time will gradually be converted into paid work. Specific new positions will be added to the management structure and recruitment will take place.

## Growth Targets

In order to achieve our objectives we need to continue growing our human and financial resources and invest in renewable generating capacity. Our headline targets are:

Target	2016	2018
Investor members	500	2000
Other members	500	8000
Active volunteers	40	200
Paid staff wte	4	6
Renewable capacity	10MWp	30MWp
Annual revenue	£850k	£2.5M
Energy efficiency	20 households	500 households
Annual CO <sub>2</sub> saving	4.5 kt	13.2 kt

### Short-term paid workforce targets:

Operations management	0.5 wte	In place
Development management	1.5 wte	In place
Book-keeping	0.2 wte	In place
Administration	1 wte	2016
Financial management	0.3wte	2016
Volunteer Coordinator	0.5wte	2016

## Strategic issues

### UK wide – EU issues

The EU has Europe-wide targets for 2020: to cut greenhouse gas emissions by 20%, to increase the use of renewable energy to 20% of the total energy mix and to improve European energy efficiency by 20% compared with 1990 levels.

UK government targets for greenhouse gas emission reduction, as implemented through renewable energy generation incentives such as The Feed in Tariff and Local Authority renewable energy targets, remain the key driver.

Key changes to the policy environment since 2012 include a reduction in political priority placed on the localism agenda by central government, but this has been offset by publication of government's first ever UK Community Energy Strategy in January 2014. This has set up working groups to address problems for community groups around financing, grid connection, planning and shared ownership with commercial developers.

A government rolling programme of incentives reduction for wind and solar, designed to match the falling cost of installation, is reducing the profitability of small-scale solar PV projects. This reduction appears to be accelerating from 2016 onwards.

Increased political resistance to onshore wind has increased uncertainty in the planning application process and reduced actual applications.

In terms of project financing, EIS changes, announced in the July 2015 Budget and due to receive royal assent sometime in the Autumn, will bring further restrictions in project eligibility requiring even more careful scrutiny of how our projects are structured. BEC intends to maintain EIS (and SISR eligibility when it replaces it) for all its projects in order to maintain the attractiveness to investors.

### **More locally**

Bristol City Council has ambitious sustainable energy objectives which creating initiatives such as a tendering framework for renewables installation on all suitable buildings within the Council's estate. BEC has successfully won their bid for the first tranche of community buildings that forms part of the Share Offer 3 portfolio. The Council has also worked with us in developing the solar park scheme on Council owned land that is also included in share offer 3. We are in discussion with the Council about further projects and the Council is close to finalising the set up of its own energy supply company and this may introduce new business opportunities.

Bristol is European Green Capital in 2015, which is giving impetus to sustainability projects across the Bristol region.

South Gloucestershire Council has challenging renewable energy targets and is expecting community organisations to contribute to meeting these.

### **Further factors**

- The Intergovernmental Panel on Climate Change (IPCC) has commissioned a succession of reports setting out the evidence for man-made climate change and the mitigating steps needed - which include 'deep cuts' to greenhouse gas emissions (IPCC Working Group III -Mitigation of Climate Change 2014). The UK Government has been responding for many years to the challenge of climate change with emission reduction targets and support for the emerging low carbon economy.
- 'Community' based solutions will significantly contribute to making these cuts in carbon emissions. Already in Germany community energy accounts for 46% of all energy produced from renewables - whereas in the UK this figure is just 0.3%. [Source: European Commission] However, 80% of the UK public want to reduce their use of fossil fuels and energy usage in general. [Source: UK Energy Research Council]

- Community energy is still considered an important component of the UK's overall energy strategy and in January 2014 the government's Community Energy Strategy was published by Department for Energy and Climate Change (DECC).
- Government-commissioned research concludes that with the right support UK communities can renewably power one million homes in the UK by 2020. Earlier research by Camco and Barker & Tilly (2012) estimates there is potential for over 2GW of community-owned renewables in England, or around ten per cent of the total capacity for onshore renewable energy.
- Using DECC's criteria there are more than 120,000 fuel-poor households in Bristol and surrounding area. Key causes of fuel poverty are: poor energy efficiency of the property; the cost of energy; and household income. The Centre for Sustainable Energy, based in Bristol, has investigated the concepts of energy fairness & equity and developed the idea of "energy justice". A key Bristol Energy Cooperative aim is to offer new ways of tackling fuel poverty by creating additional routes to improving home energy efficiency and fuel bill reduction.

Our experience of working with DECC, local government, communities, investors, developers, installers and others has confirmed the need and enthusiasm for a community organisation that can provide the structure and community presence to link components together. Bristol alone uses 9 billion kWh of energy each year, at a cost of more than £700m and most of this money flows out of the local economy. We believe that this money can be used more effectively.

## Financial budgets and forecasts

Bristol Energy Cooperative is embarking on a period of installation and acquisition of renewables generation capacity of varied type and scale. All future projects will be stand-alone financially self-sufficient and aim to recycle 5-10% of revenue into community benefit. A list of potential projects will be maintained but at any one time there will always be uncertainty about which will progress to completion. It is therefore misleading to present detailed budget forecasting because at this stage of Bristol Energy Coop's development the timing of each large project will significantly affect the specifics of our growth trajectory.

**BEC total revenue** from energy generation, consultancy, educational work and switching rewards was as below for last three years. Income for 2014/15 was lower than expected because of delays in commissioning projects from Share Offer 2.

	£ 2012/13	£ 2013/14	£ 2014/15
Income	12,718	22,152	22,458
Expenses	4,506	16,587	13,794
Operating Profit	4,225	5,565	8,350

Annual income from projects financed by Share Offers 2 and 3 is expected to be approximately £27k per year rising by RPI. If share offer 3 is fully successful in its fund raise, income from the new projects will dwarf that from the existing portfolio and financial projections for the Coop as a whole will closely resemble those of share offer 3 below.

<b>BEC Share Offer 3</b>	<b>Start</b>	<b>Years 1-5</b>	<b>Years 6-10</b>	<b>Years 11-15</b>	<b>Years 16-20</b>	<b>Years 21-25</b>	<b>Total</b>
FIT revenue		2,973,000	3,421,648	3,775,679	4,166,341	132,084	<b>14,468,752</b>
Export revenue		2,318,853	3,097,375	3,743,094	4,285,946	4,660,829	<b>18,106,098</b>
Total revenue		5,291,853	6,519,023	7,518,773	8,452,287	4,792,913	<b>32,574,850</b>
Operating costs		1,498,404	1,841,405	2,086,015	2,218,525	2,198,123	<b>9,842,472</b>
Net revenues		3,793,449	4,677,618	5,432,759	6,233,762	2,594,790	<b>22,732,378</b>
Loan interest payments		1,612,359	1,640,227	1,068,358	367,974	0	<b>4,688,918</b>
Member interest payments		561,596	701,995	651,020	445,513	57,140	<b>2,417,264</b>
Loan capital payments		1,122,081	2,016,167	2,620,480	2,595,562	0	<b>8,354,290</b>
Member capital payments		0	97,172	648,412	1,738,171	324,223	<b>2,807,978</b>
Taxation		0	0	22,444	263,411	51,526	<b>337,381</b>
<b>Community fund payments</b>	<b>100,000</b>	<b>350,000</b>	<b>350,000</b>	<b>350,000</b>	<b>630,000</b>	<b>2,446,546</b>	<b>4,226,546</b>

The target for contribution to community benefit is 5-10% of total revenue from all energy generating installations. Projects in share offer 3 are projected to be able to provide an overall 14% of total revenue for community benefit although this is necessarily weighted toward the end of the 25 year project period. Projections for years 1-5 are 7.6%, and are likely to remain similar for the following 15 years before increasing to approx. 50% in the last 5 years.

Reduced Feed-in-Tariff rates may reduce the size of community benefit contributions that can be made by new projects until this is offset by falling installation costs.

## Marketing

### Market evaluation

In the early stages of the organisation, background research was carried out to develop an understanding of the local market, determine likely fruitful partnerships and identify buildings in Bristol suitable for deployment of small to medium sized arrays. Because of this ground work we are finding that suitable sites have been coming to us from various sources such as our website, members, installers and community groups. These leads are followed up, assessed and, if suitable, added to a list of suitable buildings.

The number of potential suitable buildings has also been increased by the relaxation of the EPC requirement and the process has recently been enhanced by the local authority in Bristol assessing and listing its own building stock and establishing an installation procurement template. Overall, our experience suggests that the limiting factors for the foreseeable future will be government policy, access to finance and our ability to mobilise economies of scale, rather than the supply of suitable small to medium sized roofs.

In addition to roof-mounted systems, we are exploring other PV panel sites, in particular ground mounted, commercial roofs and innovative (in this county) locations such as road bridges.

In parallel with our solar programme we have been working to acquire wind turbine capacity locally. Here there are fewer opportunities due to the urban environment, the planning hurdle and Grid capacity issues. We had an agreement, subject to the planning appeal process, to buy a significant (5.2MW) wind farm post construction but changes in Government policy towards onshore wind has effectively killed off this project. We have been assessing potential sites for a number of smaller 250-500kW turbines but these are unlikely to progress in the current political climate.

## **Recruiting members and volunteers**

The success of Bristol Energy Cooperative is partly dependent upon its membership and volunteers. Our current membership of around 200 was achieved through two share offers with minimal marketing. In addition we have a less formal group of around 400 supporters gathered through three years of operating. Scaling up our operations from our current position necessitates an increase in membership, particularly investor membership, and will need larger marketing effort.

## **Marketing Strategy**

In this phase of expansion (Share Offer 3) we already have an adequate supply of suitable installation sites. No additional marketing effort will be required in the short term to secure further sites and the marketing focus will shift to generating awareness and interest in the fund raise. The Board will re-evaluate the new (post-January 2016) situation facing renewable energy.

Our current membership is largely a self-selected group of early adopters concerned about climate change and drawn to ethical investment. Whilst we are a long way from exhausting the supply of such people, we do need to start reaching out to a wider audience, in particular to people who are struggling with their energy bills.

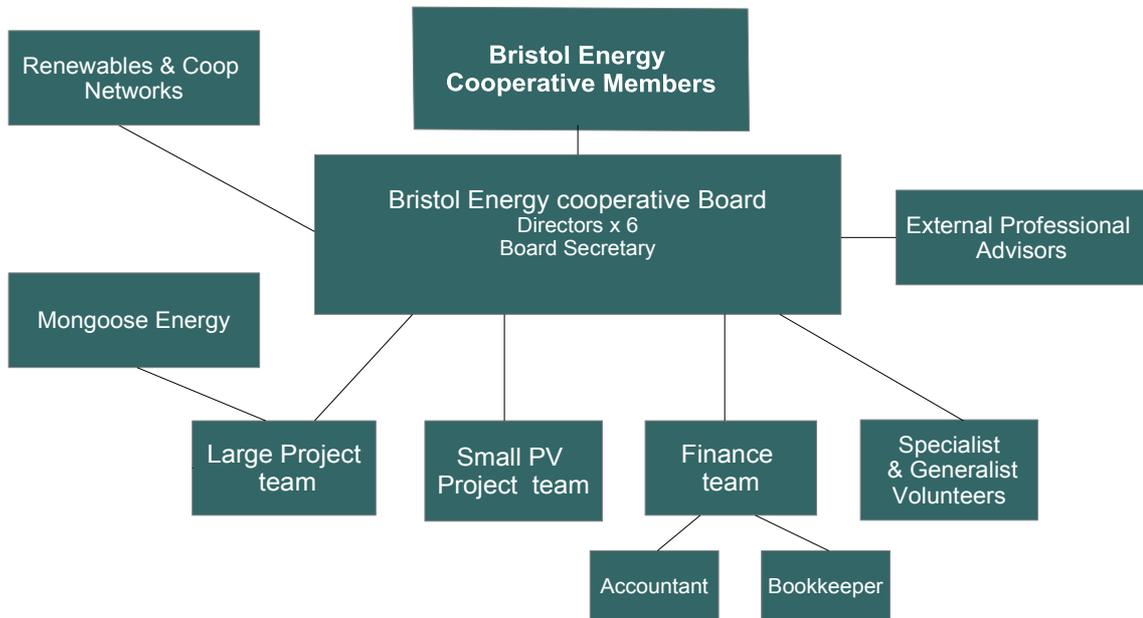
Bristol Energy Cooperative's aims to recruit more members and investors through:

- The 3<sup>rd</sup> share offer using a specialist ethical share platform, an external marketing agency and other partners in the marketing effort;
- Revising our membership structure to enable non-investment membership and to extend formal non-member volunteering opportunities, and develop a marketing plan for recruiting them;
- Promotion of low cost non-investment membership through existing e-marketing channels;
- An on-going low cost marketing campaign

A marketing budget c. £40k for 2015/16 is included in the 3<sup>rd</sup> share offer. Marketing strategy will be refined following a review of marketing needs and impact of marketing in share offer 3.

## Management and Governance

### Organisational structure



1. Currently the Board fulfils strategic, governance and operational roles but the operations will increasingly be performed through specific posts as revenue allows.
2. Non member Directors can be co-opted to the Board as required.
3. Each team is currently lead by a Director.
4. Specialist and generalist volunteers are recruited from both within & outside the Coop's membership and are managed within the team they are attached to or by the Volunteer Coordinator when in a more generalist role.

### Directors

The Cooperative was founded by individuals with a range of professional backgrounds who all believe there is a viable business model for operating sustainable energy systems at a local level. These founder members formed the initial Board of Directors which has been augmented through election at subsequent Annual General Meetings (AGMs). The current directors are:

**Peter Thompson** (chair) – works for a consultancy business in the telecommunications industry and has a long-standing interest in both the practical and academic sides to sustainability. He has a Diploma in Sustainability from the Schumacher Institute.

**Andy O'Brien** – A founder director and former chair of Sustainable Westbury-on-Trym, a community action organisation formed as part of Transition Bristol. Andy has a background in project management and Information Technology.

**Andrew Lee** – A founder director who also works as an architectural technician, a New-Build Domestic Energy Assessor.

**Eric Booth** – Has worked in environmental and social organisations, including nearly 20 years for the Soil Association and then for Sustrans as part of the Cycling City project.

**Chris Speller** – A retired doctor who worked as NHS Consultant and manager and co-founded and chaired Sustainable Bishopston. He is a long-time retro-fit enthusiast.

**Gareth Hoskins** - Has a professional background in finance working as finance officer in the public sector. He is also a founder member and CEO of Brendon Energy - a community owned renewable energy co-operative in Somerset and has experience of running community solar PV projects.

## **Membership**

The Cooperative currently has around 200 investor members some of whom take on specific active roles. The Society operates in line with the Cooperative principle of one-member-one-vote, regardless of how much share capital a member holds and voting rights are exercised through AGMs and Extraordinary Meetings as necessary.

## **Teams**

Project work is managed through operational teams and the structure of these is changing as the organisation develops. At present the main teams are: Finance team, Large Project team, Small Project PV team and Volunteer Group and each team is managed by a Director. In addition we have a specific Volunteer/ Educational Co-ordinator role. The Company Secretary role is occupied by a current director.

## **Skills, experience, training and retention**

BEC has, in contrast a commercial business, the added dimension of a pool of supporters with a wide range of skills. At any given time most people are not actively involved in BEC business but many are available for specific tasks.

Although BEC is maturing as an organisation, in business terms it is still a start-up. The Board functions as the operational hub as well as fulfilling its strategic and governance duties, and Board members have multiple operational roles. Board members bring with them professional backgrounds in management, finance, business, renewables, engineering, IT and buildings technology.

Over the past three years the Board has acquired considerable renewables specific business expertise and there is renewables specific legal and technical expertise within our operational teams, and more general legal and accountancy expertise available through the wider membership.

External consultancy on business, finance, legal, marketing and tax will continue to be an important contributor to our operations. In 2015 we have entered into partnership with Mongoose Energy who bring breadth and depth of Community Renewables expertise particularly in the project management and financing of larger projects.

## **Volunteers**

Some but not all volunteers are investor members who take on specific project work or special roles. We have also attracted a wide range of non-investor volunteers many of whom work in the renewables industry. Volunteers are managed through a Volunteer Coordinator. We have had one volunteer formally attached to the Coop through the Bristol's voluntary and community sector support agency's (VOSCUR) Boost programme, who has a background in accounting, business start-up and venture capital.

### **Centre for Sustainable Energy (CSE) Catalysts (young person mentees)**

We participated in a government funded programme run by the Centre for Sustainable Energy set up to give young people interested in careers in sustainable energy an opportunities to work in community energy organisations. We have hosted and mentored two young people who ran projects within the Coop.

### **Advisors**

Through our formation and development we have secured working relationships with a wide range of advisors and trade organisations:

Regen SW  
 Bates Wells Braithwaite  
 Pure Leapfrog  
 Cooperatives UK  
 Communities for Renewables  
 CDA (Brave Ltd)  
 The Co-operative Enterprise Hub  
 Community Energy England  
 Westerly Accountancy

### **Strategic partners:**

Bristol Energy Network, Mongoose Energy, Triodos Bank, REG Windpower, SolarSense, Solar South West, Bristol City Council, South Gloucestershire Council, Good Energy, Ecotricity, Cooperative Energy, Ovo Energy, Pukka Herbs, Pure Leapfrog, Bristol Power, Bristol University, Ethex, Bristol Pound, Community Energy England, Coexist, Knowle Media Centre, Easton Community Centre, Hamilton House, Folk House, Bristol Credit Union, Bedminster Energy Group, Sustainable Thornbury, Ethical Solar, Easton Energy Group, 1 World Solar, Ecocetera, YourPower.

### **Trade Organisations**

Bristol Energy Cooperative is a member of RegenSW, Cooperatives UK and Community Energy England.

## Risk Assessment

Risk	Impact	Probability	Mitigation
Damage to or failure of solar PV systems	High	Low	Regular readings monitoring output. Systems in safe locations, guaranteed and insured including for loss of income.
Loss of financial reserves	Medium	Low	Reserves held are low and in Cooperative business account.
Misappropriation of funds by Director	Medium	Low	2 Signatories required to authorise payments. Directors elected by and accountable to members.
Reduction in Government incentives	Depends how much	High	Existing projects have guaranteed tariff and annual inflation lift. New projects not already pre-registered & accredited may require adaptation of business model.
Lack of volunteers to administer and manage society.	High	Low/ Medium	Introducing paid roles. Active approach to recruitment of Directors. Regular engagement with membership.
Future projects having adverse effects on Bristol Energy Coop	High	Low/ Medium	Risks & financial forecast to be assessed for each project. External validation of Coop forward projections.
Low number of investors attracted to future share issue.	Medium	Low	Develop marketing strategy. Contract in design and production support for share offer document to ensure it is attractive. Publicise widely. Increase in rate of return & introduce bond offer option.
Inherent risk of hydropower and long development phase.	Medium	Medium	Ensure diverse portfolio of projects. Ensure hydropower projects are straightforward or already well-developed. Attract grant funding for feasibility and development stage.
Environmental concerns may need mitigation resulting in higher costs.	Low	Low	Regular consultation with relevant regulatory authorities.
Trustees/building owners may change mind about granting lease.	Low	Low	Heads of agreement signed by both parties before money spent.
Press coverage	High	High	Transparency in financial transactions. Any conflicts of interest noted. Active approach to positive media coverage. Tight policy on procurement.

## Critical success factors

The necessity, in the face of climate change and the imminent shortfall in national generating capacity, to shift to a low carbon economy will remain the underlying driver for expansion of renewable energy generation capacity in the medium to long-term. However, public opinion and resultant government policy supporting this transition will inevitably wax and wane in response to the state of the economy and other competing challenges, creating a changeable environment for new renewable projects. Counterbalancing this is the stability of the 20-year index-linked FIT rate once secured and the flexibility of our business model that can be adapted to take advantage of opportunities.

We have already seen the FIT reduction making margins tighter on smaller scale PV. Small-scale projects, in Share Offer 3, remain viable but the financial benefit to building users has reduced slightly due to the necessity of charging more for solar generated electricity (it remains cheaper than conventionally generated power). Beyond January 2016 this may no longer be true and only larger scale projects may remain. Larger scale ground mounted solar PV is currently in a boom period in this country but this is unlikely to continue due to falling FIT rates, scarcity of suitable sites and possibly a backlash in public opinion. Expansion of onshore wind capacity has been slowed recently by government intervention, and the circumstances of our locality make a long-term programme of increasing wind turbine capacity unrealistic for Bristol Energy Cooperative.

In the short and medium term FIT rates will continue to fall until both solar PV and wind receive no government generating incentives. Installation costs will also continue to fall, although not necessarily in line with FIT depression and it is expected that, in the medium and long term, grid energy prices will on average continue rising above inflation and probably considerably above.

All the installations covered by Share Offers 1 – 3 are secure and guaranteed a 20 – 25 year life.

Overall we see no prospect of a local shortage of sites but careful selection of economic renewable projects and our long-term success will be more dependent upon maintaining the flexibility to exploit them. BEC is well placed to exploit opportunities from the government's Shared Ownership agenda and longer term in local tidal and even offshore wind projects. Flexibility of business modelling will be necessary to take full advantage of these opportunities and in the short term it is critical for BEC to develop its management capacity in line with the expansion of its operations.

## Monitoring and Evaluation

Bristol Energy Cooperative will monitor and evaluate its performance against its headline targets and present its progress with the annual accounts at each AGM. In addition we will be developing a set of more detailed Key Social Performance Indicators along similar lines to those being developed by Oxford Low Carbon Hub and introducing these in 2016/17. To date we have not met the HMRC threshold for mandatory auditing of our annual accounts but from now on these will be audited.

So far community benefit has been achieved through reduced CO2 emissions and lower energy bills for community buildings as early installations have not generated sufficient surplus income to inject into community energy projects. Share offers 2 and now 3 are designed to start funding steady community benefit funding and it will become essential to monitor the environmental and social impact of this funding. Project specific templates will

be used for this purpose comprising financial, environmental and social key performance indicators matching those used in the evaluation of the organisation as a whole.

### **Relevant reference documents**

Bristol Energy Cooperative primary rules

Bristol Energy Cooperative Audited Accounts 2014/15

Bristol Energy Cooperative Share Offer 3 Document 2015

Bristol Energy Cooperative Bond Offer document 2015