

The logo consists of a large white circle centered on a teal background. Inside this white circle is a smaller teal circle. The text "low carbon hub" is written in white, lowercase, sans-serif font, centered within the teal circle.

**low
carbon
hub**

Business Plan: 2013–2018

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Available on request.

This business plan covers the 5-year period 2013–2018. It therefore back-casts by one year and projects forward by four. The plan is a working document and has been informed by the Hub Board Strategy Day discussions of March 2014. We expect to do an annual update to the plan following future Board discussions. The information contained in this plan is, therefore, correct as of September 2014 but will be updated early in the financial year 2015–16.

Executive summary

Hub vision: The Low Carbon Hub is working with businesses, the public sector and communities in Oxfordshire to enable the Big Energy Shift from a high-demand, centralised, fossil-based system to a low-demand, decentralised and collectively-owned renewables-based system.

Value proposition: The Low Carbon Hub business model is designed so that investment in to the IPS yields, net of capital, a three-way split between investor returns, discounted energy costs to host organisations and a sustainable income stream to support community benefit delivery.

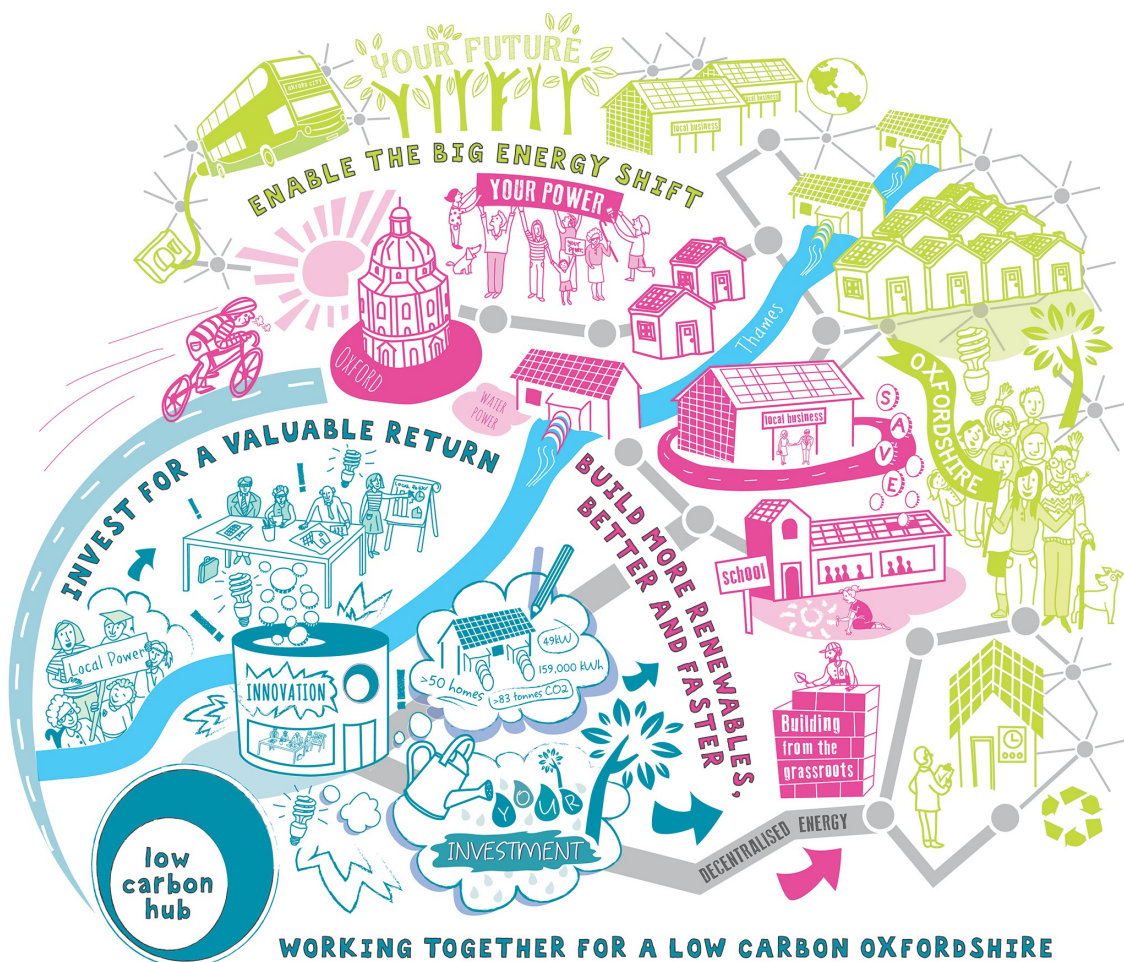
Corporate structure: The Low Carbon Hub comprises two organisations that work in co-operation to achieve our vision statement: the Low Carbon Hub Industrial and Provident Society (IPS) and the Low Carbon Hub Community Interest Company (CIC). All surpluses from the Hub IPS are passed to the Hub CIC to fund its work with communities to achieve a sustainable energy future for Oxfordshire.

Objectives to 2018: The Low Carbon Hub is in its 'scaling-up' phase and aims to achieve by the end of the plan period:

- £15m of investment into the IPS buying
- 14MW of renewable energy projects
- 20 communities supported to develop 8MW of renewable energy projects worth £10m
- A long-term income stream for the CIC of £750k per annum that supports:
 - i) mobilised and empowered networks of communities, businesses and researchers;
 - ii) a 5-year low carbon innovation support programme for Oxfordshire and associated innovation pilot projects;
 - iii) a full funding structure for community energy projects.

Vision statement

The Low Carbon Hub is working with businesses, the public sector and communities in Oxfordshire to enable the Big Energy Shift from a high-demand, centralised, fossil-based system to a low-demand, decentralised and collectively-owned renewables-based system.



Starting with a wave of community benefit solar PV and hydro schemes, our ambition is for the whole of Oxfordshire to be powered by an interconnected series of smart microgrids centred around multiple small scale, community-controlled renewable energy schemes.

Transforming our energy system is at the heart of the transition to a low carbon economy. The Oxfordshire Low Carbon Economy Report we worked on with Low Carbon Oxford and Oxford University has shown how much this shift is to our economic advantage as well as our ecological advantage:

- as a County we spend £1.5bn on energy every year all of which flows out of the local economy;
- but we also already make £1.2bn every year out of low carbon business sectors and these already support over 8000 jobs, over twice the number of jobs supported by the BMW car plant at Cowley in Oxford
- a combination of business development and infrastructure investment could generate an extra £800m per year and an extra 10,000 jobs by 2030

We also know that the County is already a leading place in the UK for social enterprise with 10 'local run' enterprises having already raised £5m from over 9000 shareholders.

Our ambition is to build on this leading position so that by the end of this business plan period, we have doubled the number of local run enterprises and have raised at least £20m from local investors thereby securing long-term core funding for community benefit within the Hub and a number of communities throughout Oxfordshire.

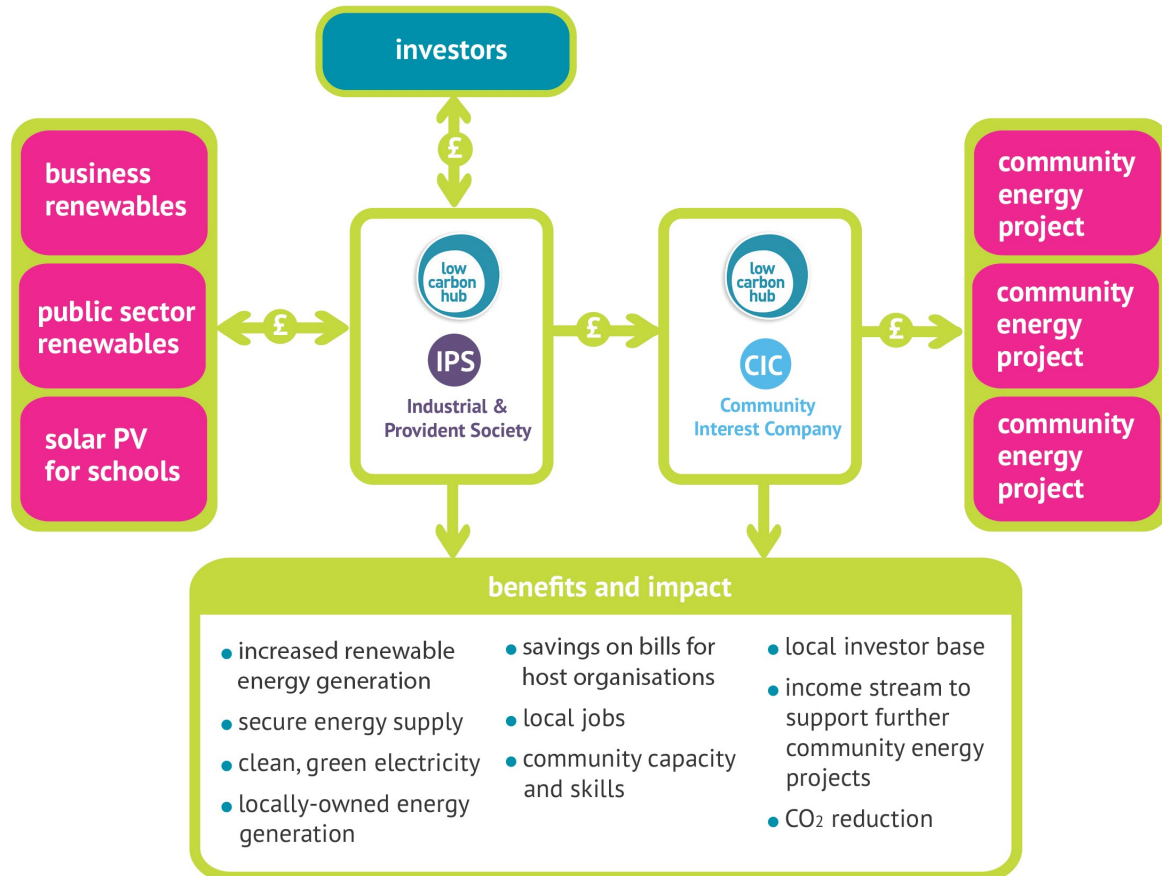
Our vision for Oxfordshire will enable our 300+ geographic communities to be more resilient because:

- they will spend less on heating and powering their houses and businesses
- they will make money from renewable energy projects they own and that can be invested for local low carbon economic growth
- they will be running local microgrids and renewable energy projects and so their communities will have much more capacity and be much more socially connected as a result
- local businesses and jobs will increasingly be secured by the growth of the low carbon economy.

In order to achieve this vision we need innovation in 5 areas: technology; finance; regulatory framework; governance; and community enterprise.

Value proposition

The Low Carbon Hub business model is designed so that investment into the IPS yields, net of capital, an equal three-way split between investor returns, discounted energy costs to host organisations and a sustainable income stream to support community benefit delivery. This sustainable stream of core funding allows us to work with communities at the vanguard of change, catalysing the development and commercialisation of new products and services.



The way we work

The Low Carbon Hub partners with businesses and the public sector to develop, manage and raise the finances to install renewables through community share offers. Our partner organisations get discounted, green electricity and precious CO₂ savings; local investors get a fair return; and the Hub a sustainable income from the feed-in tariff and electricity sales to support community-led energy projects. What's more, the income from these community-led schemes generates local revenue to support energy reduction with householders. All of this creates a positive carbon-cutting chain of benefits. Everyone's a winner.

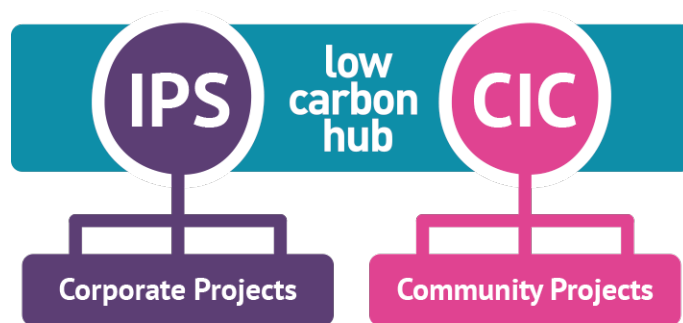
We can achieve this three way split because our social impact status advantages in terms of tax reliefs, eligibility for the Feed-in Tariff and access to lower cost of capital:

- For PV projects under 250kWp in size, our community status exempts us from the requirement to upgrade buildings to EPC Band D before installed solar PV becomes eligible for Feed in Tariffs.
- We can pre-register new projects for the Feed in Tariff and so guarantee protection against tariff reductions for a set period and provide more certainty over financial projections.

- Individual investors subscribing for shares in our solar PV projects can benefit from 30% Enterprise Investment Scheme (EIS) tax relief on their investment and can also benefit from Capital Gains Tax rollover.
- Due to our community benefit model, impact investment institutions are keen to invest with the expectation of a high social return and a lower financial return
- Because our business partners are proud of their projects and see the value in encouraging others to follow suit, they are willing to share their project process and financial analysis. New projects become easier for everybody as the Low Carbon Hub grows its customer base.
- Our business partners have invited us to benefit from their procurement processes so we can capture the benefits of economy of scale.

The combination of the above means we can develop renewables projects that benefit everyone. We can provide an equivalent service to the best of our competitors and, in addition, we provide long term funding for our community activities. In addition to cheaper, green energy we provide corporate reputation, corporate social responsibility and public relations benefits to our customers.

The Low Carbon Hub comprises two organisations that work in cooperation to achieve our vision statement: the Low Carbon Hub Industrial and Provident Society (Low Carbon Hub IPS) and the Low Carbon Hub Community Interest Company (Low Carbon Hub CIC). We run a joint Board under a single Chair with an independent Board member for each organisation voting on issues where there is a conflict of interest. All surpluses from the Hub IPS are passed to the Hub CIC to fund its work with communities to achieve a sustainable energy future for Oxfordshire. This legal structure is flexible and allows us to access a range of funding to support our work. For a brief history of the Hub development please see Appendix 1.



Low Carbon Hub IPS

The Low Carbon Hub IPS develops renewable energy projects using collective community financing models. These have a direct impact on renewable energy production and carbon emissions reduction in Oxfordshire but their main purpose is to provide core funding to support the Low Carbon CIC. The Hub IPS only develops renewable energy projects where there is no existing community group or where the group has asked the Hub to develop the project on their behalf or where the benefits of aggregation are agreed to outweigh those of development by the individual group.

Our aim is to keep the IPS as 'clean' as possible, ie it has no staff or overheads of its own and it only takes direct investment or loans; it does not apply for grants or take donations. IPS projects are developed and run by the CIC executive team under a contract for services setting out the agreed fee structure for project development and operations and maintenance activities. An Investment Committee operates as a sub-group of the Board to set investment criteria for Hub IPS projects and to agree the business case, financial models and funding strategy for each project.

Low Carbon Hub CIC

The Low Carbon Hub CIC delivers our community benefit programme. This means that it:

- works with businesses, researchers, local government and communities to develop and report on the Oxfordshire Big Energy Shift as a high level strategic understanding of what needs to happen to achieve a sustainable energy future for Oxfordshire.
- develops the Oxfordshire Low Carbon Innovation Support Programme that will work to support the nascent Low Carbon Cluster in the county and follow up on the Oxfordshire Low Carbon Economy report.
- helps communities to develop their own energy projects through our Community Energy Service; the service currently focuses on renewable energy projects.
- does research and development on new community energy products: over the period of this business plan we expect to focus on business cases and pilots for renewable heat (particularly biomass); energy efficiency for schools and businesses (particularly LED lighting); a financing model for domestic energy efficiency; and smart grid pilots.
- works with the Community Action Group project to develop more community groups capable of developing energy projects in their area.
- shows progress in powering up and powering down at the County, district and local scale through the People's Power Station.

The CIC maintains a staff of around 10fte to deliver all of the above community benefit activities plus project development and operations and maintenance of IPS projects.

The CIC has 21 community shareholders who were invited to join in the autumn of 2013. These shareholders elected our first Communities Director in the spring of 2014. We are still developing the way we work with our community shareholders.

Objectives to 2018

We have set our objectives using the 'IOOI' model of social impact developed by Bertelsmann Stiftung in cooperation with PricewaterhouseCoopers and others including BMW. We show them in the table below as they apply to both the IPS and the CIC.

	IPS Purpose: capital project development	CIC Purpose: community benefit delivery
Inputs: Investments of money and time	£15m capital invested 3.5 fte project development team	Income: building up to £750k per year <ul style="list-style-type: none"> • Donations from IPS: approx. 6% of capital • Project management fees: 7.5% of capital • O+M fees: 1.5% of capital • other service contracts and grants
Outputs: Projects developed with for with the inputs of time and money	Renewable energy projects: <ul style="list-style-type: none"> • 7–10MWp solar PV • 0.4MWe hydro • Pilot biomass • 3MW biomass roll-out 	8MW+ community projects 20+ communities supported Oxfordshire low carbon economic development report published and 5-year grant-funded programme being delivered Innovation pilots developed and implemented: LEDs; energy efficiency; Smart Grid; local biomass source development
Outcomes: Results delivered as a consequence of our projects	Net of capital three-way split in project returns <ul style="list-style-type: none"> • shareholder return • community benefit donations • cost savings to host organisations 	Mobilised and empowered networks: communities; businesses; local authorities Full community energy project funding structure in place: <ul style="list-style-type: none"> • £500k seed capital revolving fund • £5m revolving construction fund • equity investors network • debt finance
Impacts*: The social and environmental results of our projects	Donations to the CIC – 6% of capital Tonnes CO ₂ saved MWh renewable energy generated Number of local investors	Social: Donations from community projects to their communities People engaged: community leaders; volunteers; memberships Environmental: Tonnes CO ₂ saved MWh renewable energy generated Economic: New skills; skills of sections of the population enhanced Numbers of new community-owned low carbon social enterprises Number of jobs

* We will measure these results annually as we deliver capital projects through the IPS and community benefit through the CIC.

The social impact outlined in our objectives to 2018 will be measured against four sets of indicators as set out in the diagram below. We are developing the measurement framework for this with the help of Resonance Ltd and it is not yet complete. We will publish our results annually in our Directors' Report to the Annual General Meeting and submit them to the Financial Conduct Authority for the IPS and the CIC Regulator for the CIC as part of our obligation to deliver community benefit from our activities.

1 People

We work by mobilising communities, building capacity and enabling everyone to take part in creating the shift to a sustainable energy future.

To measure our success we will quantify: How many community partners are we working with? How many local people have invested in projects? How many businesses have become involved?

2 Planet

We help to protect our warming planet by creating renewable energy and reducing energy demand.

To measure our success we will quantify: How much local renewable energy have we helped to create? How far have we reduced energy demand? How much CO₂ has been reduced?



4 Perception

We have a commitment to sustainable energy for community benefit. We aim to be a transparent and trusted partner, and to share knowledge and expertise openly.

To measure our success we will: survey our stakeholders regularly and quantify how many agree with positive statements about our organisation.

3 Prosperity

Our projects generate collective wealth by pooling energy, enthusiasm, knowledge and expertise.

To measure our success we will quantify: How much money have our collective projects generated? How has this benefit been shared between hosts, investors and local communities?



Volunteers



Pupils



Community leaders



Employees

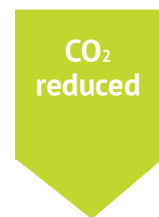
"They work effectively with whole communities to lower carbon emissions"

"They helped us find the right technical and financial support"

"We recognise and value the expertise of LCH"



Green energy generated



CO₂ reduced



Community benefit

Investors

Project partners

The Low Carbon Hub IPS and CIC have a combined Board with three independent directors voting on issues where there is a conflict of interest between the two organisations. This is structured as follows:

Directors on Combined Board

Sam Clarke (non-exec Chair)
David Calver (non-exec Treasurer)
Barbara Hammond (CEO)
Tim Sadler (non-exec)
Wendy Twist (IPS Board Secretary and Investment Manager)

Independent IPS Director

Steve Drummond

Independent CIC Directors

Susan Halliwell
Mark Luntley

Anne Augustine, Innovation Director

Vice President-level background working for global blue-chip businesses in programme delivery, strategic consulting and business development roles. As Director of Innovation for the Low Carbon Hub/ Network Navigator for the Oxfordshire LEP, she facilitates cross sectoral engagement on the transition to a low carbon economy; including supporting the creation of new enterprises, innovative pilot projects and partnerships. Anne has an MBA from Oxford University and is also an alumna of Cambridge University's Institute for Sustainability Leadership Programme. She is a published business author, executive coach and facilitator, and also a charity trustee.

David Calver, Non-Executive Director and Treasurer

Qualified accountant and MBA; previously Senior Internal Auditor (BP Oil), then Financial Controller, (BP Finance - London); Business Intelligence Manager for 3i plc; Strategic Lead for Oxfordshire and Buckinghamshire County Councils; currently Director, Treasurer and Trustee of South West London Environment Network; runs an independent consultancy specialising in both businesses and Third Sector sustainability organisations .

Sam Clarke, Chairman

Currently Chair of New Economics Foundation and of the Soil Association Standards Board; Founder and Chair of both Low Carbon Oxford North and Oxford North Community Renewables; previously founded and chaired Stop Climate Chaos, was Chairman of Friends of the Earth and former Chair of the Ethical Property Company plc.

Steve Drummond, Non-Executive Director and Investment Adviser

Extensive experience in the energy sector; started as an engineer and moved into the finance sector, spending nearly thirty years working internationally in nuclear, conventional and renewable energy power generation. Roles include power station design, operations and project development in the Central Electricity Generating Board and its successors; Partner of Corporate Finance at PwC, and emissions trading, finance and global project development at Cantor Fitzgerald. Currently Managing Director of Bainton Capital Partners Ltd., a boutique advisory firm that helps develop and finance renewable energy power projects around the world.

Adriano Figueiredo, BEng, MBA, Operations Director

Twenty years' experience in general management, project management and project finance; previously Managing Director at Cognita and prior to that was Country Director for Gazeley Properties where he implemented the group's strategy towards creating carbon neutral buildings in the UK, Europe and Latin America.

Responsibility for the day-to-day management of the Low Carbon Hub rests with the Senior Management Team of paid executives including:

Barbara Hammond (CEO)
Adriano Figueiredo (Operations Director)
Anne Augustine (Innovation Director)
Wendy Twist (Investment Manager)
Georgina Matthews (Communications Manager)

Short CVs of the Board and senior executive team are included below.

Sue Halliwell, Non-Executive Director

Currently Environment and Climate Change Manager at Oxfordshire County Council; previously established the Business Resource Efficiency Centre for Local Authorities on behalf of the Department for Environment, Food and Rural Affairs and Local Government Association; holds an MSc in Management from Lancaster University, an MSc in Environmental and Earth Resource Management, and is a Fellow of the Royal Geographical Society.

Dr Barbara Hammond, CEO

25-year career in sustainable development and energy, including stints in local government, central government, the private sector and academe, gives her a very unusual ability to network across all of those sectors to build 'coalitions of the willing' to make projects happen. During her time in central Government she was responsible for the UK's £350m renewable energy programme and the delivery of the UK's first offshore wind farm, large-scale PV field trials, biomass generators and wave and tidal research programme. She is a pioneer in developing local, collective responses to climate change being founder and Director of Low Carbon Oxford, a city-wide partnership of leading corporations committed to reducing carbon emissions and founder and director of West Oxford Community Renewables Ltd and Osney Lock Hydro Ltd which together have raised around £1.5m for a range of community-owned solar and hydro projects. She advises UK Government as part of DECC's Community Energy Contact Group and is Chair of its Community Hydro Working Group.

Georgina Matthews, Communications Manager

Experienced managing and commissioning editor with 25-year publishing career: headed up Dorling Kindersley's travel division where she started their award-winning Eyewitness and Companion series; Managing Editor of Virgin's travel publishing division; Founder-Director of Departure Lounge, a successful business providing project management, consultancy and content; Director of the Outer-Space Company.

Tim Sadler, Non-Executive Director

Executive Director for City Services at the City Council where he leads a number of programmes including those in respect of environmental and social sustainability.

Wendy Twist, Investment Manager

Career in sponsorship, CSR and marketing for WWF, Oxfam UK, International Business Leaders Forum, Forum for the Future, Green Futures. Developed business networking programmes and partnership schemes; one of the original founders of Low Carbon Oxford North.

2013–18 financial forecast

We expect to develop £15m of capital projects during the period 2013-2018 including:

- 7-10MW of rooftop solar PV projects on local schools and businesses
- a 400kWe hydro project at Sandford Lock
- 2 pilot biomass heat or combined heat and power projects: 1 school pilot and 1 business pilot
- 3MW of biomass projects rolled out following successful delivery of the pilot projects

This level of development activity will result in the following financial forecasts for the IPS over the last financial year and the following four financial years. Detailed forecasts are included in our overall financial model attached at Appendix 2.

Opportunities

We commissioned the University of Oxford to identify the renewable energy capacity in Oxfordshire. This revealed that Oxfordshire-generated renewable electricity could supply 32% of demand (current Oxfordshire proportion is 3.9%; current national is 11.7%). This energy potential is the source of our future growth. In the longer term, we will carry out further research to determine how much of this potential could be economically recovered, how this is likely to be spread across the different renewable technologies and the best development mechanism (ie. Hub IPS or community-led).

Our short to medium-term strategy is to develop a target number of renewables projects each year that will deliver sustainable revenue streams to enable the Hub to grow, support more community partners and have greater social impact.

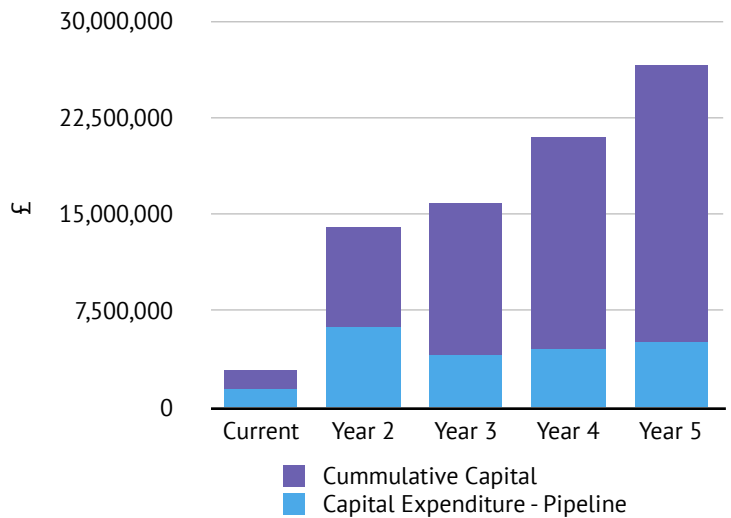
Market

The main market for IPS renewable energy projects is business and public sector customers where we provide them with cheaper electricity, enabling them to meet carbon reduction commitments, and deliver positive corporate social responsibility and PR return. There is no capital investment required from our customers and there is minimal risk for them.

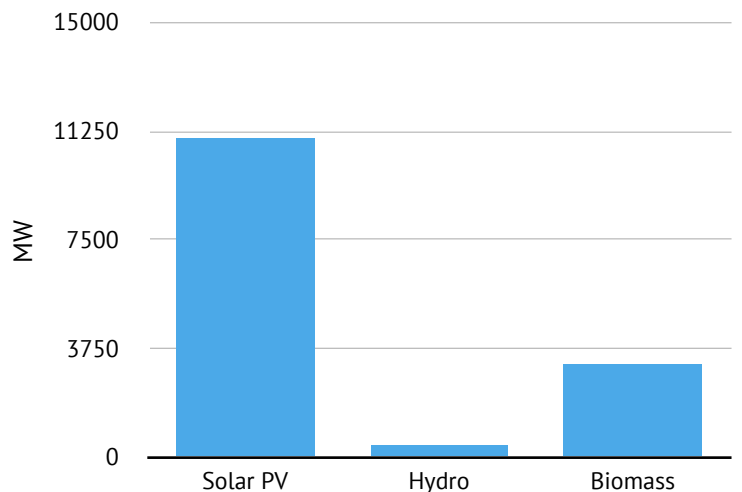
For business solar PV we will focus on medium sized, locally-owned companies because they can make decisions more quickly, they are unlikely to have the capital to develop solar themselves and they more readily buy into our local environmental and social goals.

We will target businesses where the roofs have a capacity of more than 250kWp to avoid accumulating so many projects that we fall foul of the FiT 'multi-site tariff rules'. Of a target list of 300 businesses we aim to develop 10-20 by end 2018 (installed capacity 3-5MW).

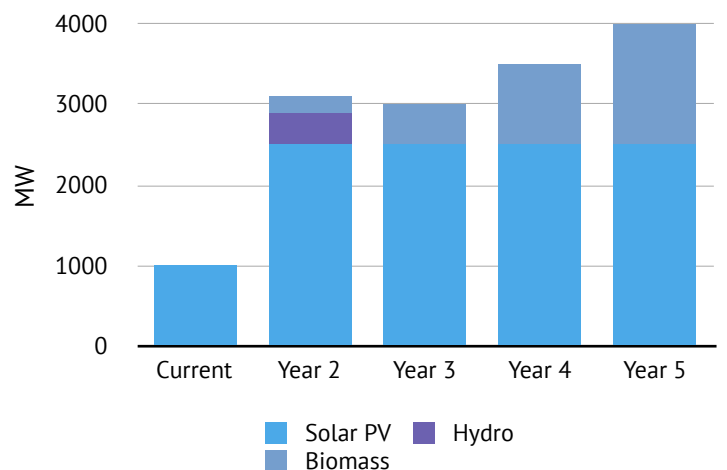
LCH IPS – Capital Deployment



Total Deployed Capacity



Deployed Capacity by Technology



A classic example of a Low Carbon Hub IPS project is the solar PV installation on Oxford Bus Company's depot – see case study below.

For schools solar PV we will install the 2014 pipeline of 17 projects and then market the scheme for 3 further years. There are 250 schools in Oxfordshire and we aim to have worked with 100-150 during this business plan period with the aim of developing 25 schools projects per year over the next 3 years reaching 3-5MW installed capacity. By aggregating school roofs for investment and installation we will enable school projects that would not be viable as a stand-alone enabling far more schools to benefit.

For microhydro, most of the weirs on the Thames in Oxfordshire are under development as community-led projects with Hub support; microhydro schemes are developed under the Hub IPS if there is not a local community with the capacity to develop it themselves eg. Sandford microhydro is 400kWp and will require £3.5 million investment. There are also 126 mill sites on tributaries that come into the Thames with potential for development.

For biomass, we know that 40% of Oxfordshire postcodes are off the gas grid and therefore reliant on oil or electricity for heating. We also know that Oxfordshire woodlands are relatively unmanaged and so the feedstock from bringing woodland into management locally could supply a sustainable supply of woodchip over the foreseeable future. Over the plan period, we will develop biomass project pilots with the aim of rolling out to 3MW of installations by 2018.

Competition and partners

The competition for the IPS is directly with commercial developers whose aim is to maximise returns for their investors. The Low Carbon Hub competes with these developers by:

- Procuring projects using industry best practice in order to secure deals that are as good as those offered by the commercial sector.
- persuading Government of the need to support community benefit renewable energy projects. The Hub sits on the DECC Community Energy Contact Group in order to ensure that influencing on this goes directly into the Secretary of State through follow up to the Community Energy Strategy.
- Identifying organisations whose aims in partnering on projects goes beyond the purely financial. From experience to date we think that these organisations are likely to be a combination of:
 - Owned locally with their main site(s) of operation in the County
 - Small to medium scale with highly devolved decision-making structures
 - Public sector
 - A clear understanding of the way the project fits with their corporate objectives for social returns.
- Developing a network of locally influential supporters and investors who support the Hub's community benefit aims and are willing to use their influence to help secure new projects.

In terms of other community benefit enterprises, the Low Carbon Hub does not compete with Oxfordshire communities for projects. There is no other County-wide social enterprise developing renewable energy projects.

As a new social enterprise, we need to develop partnerships with organisations expert in the development and management of social enterprises. These currently include:

- Ethex (www.ethex.org.uk) - hosting Low Carbon Hub projects on its platform and providing a back-office function for investors.
- Resonance Ltd (www.resonance.org.uk) - working on investment and contract readiness issues and the Hub financing strategy.
- Other developing regional community energy enterprises including: Community Energy South; Bath and West Community Energy; Regen-SW

Case study: Oxford Bus Company, Cowley

- **140 kWp solar array**
- Annual generation: **122,000 kWh**
- CO₂ saved over 20-year project lifetime: **1,260 tonnes**

The Oxford Bus Company was the first business to develop renewables in partnership with the Low Carbon Hub with a solar energy project funded using equity from our pioneer investors. At the time of installation on the bus depot roof in September 2013, the PV array was the largest in Oxford. Oxford Bus Company has engaged its employees in the scheme, and has hosted workshops to encourage other local businesses to follow its example.



“Oxford Bus Company is proud to be the first local business to partner with the Low Carbon Hub on a renewables scheme.

Now we are green on our buses, green in our depot, and green on the roof too! ”

Luke Marion
Finance Director, Oxford Bus Company

Recruiting our projects

The IPS model is predicated on reaching the growing market for renewable energy and ensuring that sufficient numbers of organisations choose to work with us over our competitors and become firm project pipeline. Success then depends on raising low cost construction finance and lowest cost long term equity funding within a strategy for organisational growth.

Work we have done to identify our market of host organisations and investors shows that personal relationships are our primary method for both recruiting projects and investors. So our success will depend upon the people and systems required to underpin those relationships. We are reliant on networks, skills, communications, and the right information technologies and software.

So our overall strategy is to build a 'network of networks' bringing together local influentials, business decision makers and retail investors to create a 'coalition of the willing' in support of our overall business plan. To do this, we will need a team of good networkers at Board and Executive Team level supported by expert advice in developing our marketing plan and an effective customer relationship management system to hold data and records.

Implementation schedule

2013–14:

fund and install first Hub IPS project: Oxford Bus Company 140kWp and £150k investment
develop first set of Hub IPS pipeline projects: corporate PV; schools PV; and hydro

2014–15:

secure Hub IPS pipeline of schools and businesses up to £5m in value
set up Construction Finance Facility up to £5m in value
install first set of Hub IPS pipeline projects
develop and market Hub IPS share offer to replace CFF finance
market Hub IPS pipeline for 2015

2015–16:

secure Hub IPS pipeline of schools and businesses up to £5m in value
bring Hub IPS hydro to construction readiness up to £3.5m in value
grow Construction Finance Facility to meet pipeline needs
support installation of Community-led projects up to £5m in value
develop pilot biomass projects
market all Hub IPS products for 2016 pipeline

2016–17:

secure Hub IPS pipeline across all products up to £5m in value
support Community-led projects up to £5m in value
Market Hub IPS products for 2017 pipeline

2017–18

secure Hub IPS pipeline across all products up to £5m in value
support Community-led projects up to £5m in value
Market Hub IPS products for 2017 pipeline.

Risks

We have organised risks into four categories:

- Project pipeline
- Project funding
- Project construction
- Project operation

Major risks and mitigations are:

Pipeline: ability to recruit the right number and quality of projects. Our mitigation on this risk has been to recruit an Operations Team under Adriano Figueiredo with staff specialising in particular types of pipeline such as schools, business and community-led projects.

Funding: ability to put a Construction Finance Facility in place in time and at the right price for timely construction of projects. Our mitigation on this risk is to work closely with the City Council on our current proposal to them keeping in reserve back up plans through Resonance CIC and networks into private equity investors.

Construction: ability to install our pipeline within the planned timescale and the planned financial parameters. Our mitigation on this risk is firstly to bring in new staff by charging them to the projects; and secondly to work to fixed price EPC contracts.

Operation: we have not identified a major risk in this area because we are working with well-understood technologies using forecasting and monitoring systems already used on a number of existing projects.

Community benefit delivery through the Low Carbon Hub CIC

2013–18 financial forecast

We expect to maintain a team of around 10fte staff plus overheads through the period of this business plan. Surpluses from the Low Carbon Hub IPS are donated to the Low Carbon Hub CIC to fund these core costs. The CIC also provides project management and operations and maintenance services to the IPS and delivers contracts for service to other bodies where the aims of the service align with this business plan.

The CIC currently has no investor shareholders because it is focusing on community benefit delivery in its early years. It has 21 class B community shareholders who are invited to join by the Hub Board because they are working closely with the CIC on community energy projects. Appendix 4 lists our community shareholders and outlines the projects where they are working or have worked with us. The community shareholders elected our first Communities Director in the Spring of 2014.

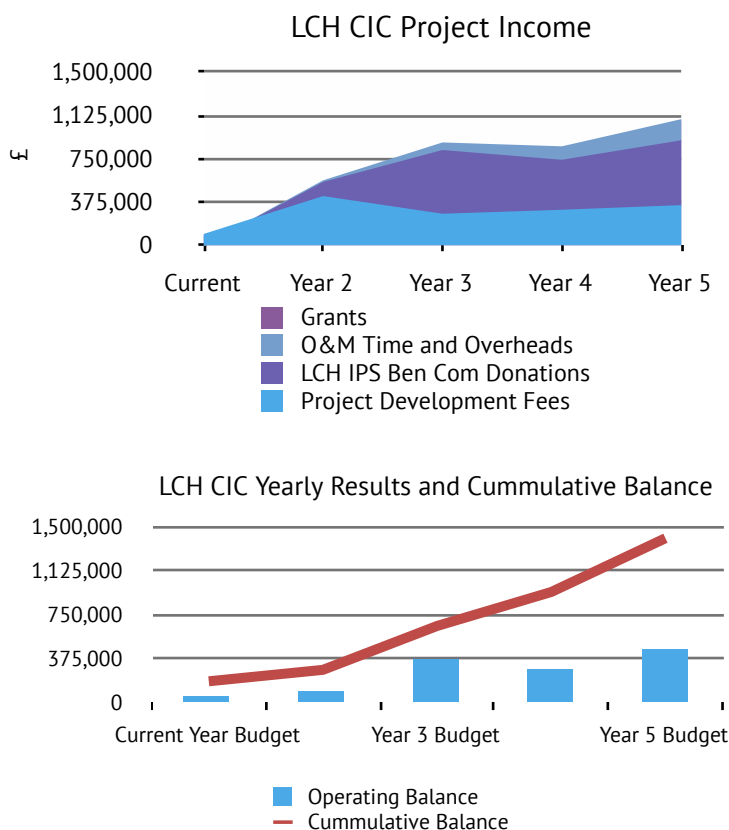
The community benefit core funding from the IPS is used to fund our:

Community Energy Service programme of innovation pilots
networking and convening of low carbon community groups, businesses and public authorities
programme of outreach, marketing and pr

The CIC applies for grant funding where there is a funding gap for core activities or where we are developing new activities. The aims of the grant programme must align with those of this business plan and we expect all grant funding to be used for the development of new, self-sustaining activity where there will be a continuing legacy beyond the grant-funded period. We recognise five main sources of grant funding: UK Government; UK national research and development; the European Union; private trusts and funds; and corporate funding.

We are exploring the possibility of developing self-funding services through the CIC where start-up and early-stage investment funding may be appropriate. For example, our Community Energy Service and associated revolving funds may develop into a revenue-generating model beyond the period of the Intelligent Energy programme where the Hub is contracted by the City Council to deliver this service. Other areas where revenue-generating models may be developed are: innovation networking and convening for local businesses; domestic energy efficiency services.

Expected sources and size of income streams will result in the following financial forecasts for the CIC over the last financial year and the following four financial years:



Opportunities

Oxford City Region has a population of 640,000 people living in 260,000 households. Oxfordshire represents about 1% of the national population and 1% of national carbon emissions. Although small in size, it has a global profile because of its world-famous University and so has both profile and unusual capacities to build on in addressing sustainable energy issues. Supporting national carbon reduction targets, Oxfordshire City Region's long term strategic goals are:

- 50% reduction in CO₂ emissions on 2008 levels by 2030 across the County
- 40% reduction in CO₂ emissions in Oxford City by 2020
- £400m investment in clean, green technologies by 2020

Innovation

The Low Carbon Hub is at the heart of a move by leading organisations (including Oxford City Council, Oxfordshire County Council, University of Oxford, Oxford Brookes University, Local Enterprise Partnership) to develop a strategic approach to the definition and exploitation of low carbon economic development opportunities in the County. The CIC is currently contracted to manage the Low Carbon Oxford network for the City Council and the low carbon element of the Oxfordshire Innovation Support Programme; we are working to turn these tactical opportunities into a strategic 5-year programme for the City and County using European funding managed through the Local Enterprise Partnership.

As part of this work the Hub team is developing pilot projects to bring researchers, businesses and communities together around the following themes:

- biomass heat and power;
- biomass feedstocks;
- led lighting;
- next generation PV; and
- smart grids.

Powering up

Oxfordshire's population is divided into 317 parish and town councils. Of these geographic communities, 60 have established low carbon community organisations (our current core community market) and, of these, 16 either already have or are developing renewable energy social enterprises (and comprise our current project pipeline). See appendix 3.

The pipeline totals over 5MW installed capacity and will mobilise local investment of up to £10million by the end of 2018. All of these projects will deliver long-term revenue streams for our community shareholders, which will be reinvested into further community benefit.

Our Community Energy Service helps communities develop their own, locally-owned renewable energy projects not just at the large scale providing opportunities for local people to invest but also at the small scale providing cheaper electricity to schools, village halls and other community-run buildings where projects might be too small to justify an investment model. The Hub supports the community volunteers through the process of developing their project, identifying a funding strategy for it, setting up a social enterprise if that is justified by the size of the project, getting the project to investment-readiness and raising finance. Our Community Energy Service provides a framework project development pathway which is a combination of free on-line resources and face-to-face, reduced cost, consultancy support. The process results in a local share-offer in which citizens can invest, or other fund-raising activity where that is more appropriate to the size and nature of the project.

In order to make the service more efficient and to encourage peer-to-peer sharing of resources, we are developing a Crowdsourcing Platform and will increasingly be basing the service on it from the latter part of 2014.

Early-stage finance is often a barrier to the development of community energy projects and so the CIC is also developing revolving Funds to help seed the start-up, development and construction of projects. By the end of the plan period, we will work to have developed:

- Seed Capital Revolving Fund: £500k loan funding for pre-planning project development
- Revolving Construction Fund: £5m loan funding for post-planning project development and construction

Powering down

We believe there is a market for the Low Carbon Hub CIC to work with businesses, public sector bodies and communities on energy efficiency retrofit. Over the past two years we have carried out pilots to test the market for Green Deal in the domestic sector and have had some success in installing subsidised energy efficiency measures in an area of multiple deprivation (Barton) under the Energy Company Obligation. We have also worked with 4 communities (Chipping Norton, Eynsham Green TEA, Kidlington and Wallingford) on household engagement as part of the DECC Pioneer Places

funding. This work demonstrated that communities are highly effective at engaging householders but the business model is still lacking by which to encourage these householder to take up energy efficiency projects at scale.

These pilots have demonstrated that significant further work is required to develop a viable and systematic approach to the delivery of local energy efficiency projects at scale.

Competition and partners

As a social enterprise focused on delivering community benefit that is mostly a cost-centre rather than a profit centre, the CIC does not expect to operate in competition with other organisations. As the community energy sector develops, however, there is competition between developing organisations for grant-funding with which to develop similar services to those of the Hub. It is not yet clear what is the right scale of operation for organisations such as the CIC and so there will be some bedding down over the plan period in terms of:

- delivery of free services to communities (whether locally through organisations such as the Hub or nationally through organisations such as PureLeapfrog)
- the development of revolving Funds for project development and what the level of premium charged for this money should be
- development of new community groups and associated community development support (we think this is not the province of the CIC and should be done in partnership with networks such as the Community Action Groups).

The CIC needs to work through partnerships and our approach to developing key relationships is outlined below.

Public sector partners

The Hub currently works in partnership with Oxford City Council and Oxfordshire County Council. These both have strong member support for taking a leadership role locally, although they have no statutory obligation to deliver low carbon or energy targets. In the short term (to end 2015), the Low Carbon Hub is contracted by these organisations to deliver services to business, public sector and communities that directly support the growth of our business strategy. We benefit from access to useful networks and promotional platforms; from the intellectual property gained from City and County-funded work; from City and County expert staff support.

We are also developing a good working relationship with Cherwell District Council, particularly at Bicester where we are working together on recruiting businesses into the IPS solar model and on developing a potential Smart Grid pilot. We would like to develop similar relationships with South and West Oxfordshire and the Vale of the White Horse.

Research partners

Our vision sets out the Hub role as a catalyst at the vanguard of change. This means that we must work with the University of Oxford and Oxford Brookes University to identify areas of research, new products and new spin-out businesses that could work with us and shareholder communities. We are developing these relationships particularly through the concept of the Living Laboratory.

We also have to innovate in four other areas: finance; regulatory framework; governance; and community enterprise.

Businesses

Forward-thinking businesses that are focal points of their communities will be important to the Hub CIC and its community shareholders in taking forward new projects and new ways of organising energy management in buildings and operations. The 45 Low Carbon Oxford pathfinders have already demonstrated how this can work with examples such as the solar PV installations at the Oxford Bus Company and the the BMW Mini-Plant.

Similar non-profit enterprises outside Oxfordshire

Other areas of the country are starting to develop approaches analogous to ours in Oxfordshire. It will be important to share experience and learning between these organisations as the low carbon community sector develops. The Hub already has good relationships with many like-minded organisations such as the following:

The Centre for Sustainable Energy (www.cse.org.uk)

Community Energy Coalition (www.ukcec.org)

Community Energy England

(www.communityenergyengland.org)

Community Energy Practitioners Forum (www.cepf.org.uk)

Low Carbon Communities Network (LCCN – www.lowcarboncommunities.org/)

The Hub is represented on the Government's Community Energy Contact Group giving it the ability to influence on community energy policy directly at Secretary of State level. The Hub was instrumental in getting ministerial support for the Community Energy Strategy and has provided the Chair for the Community Hydro Working Group.

Strategic partners

Finally, we have partnerships that are important to us but work outside our particular remit. The key one of these is the Community Action Group network (www.cagoxfordshire.org.uk). This is funded by the County Council and is the largest geographically specific low-carbon network in the UK; CAG team provides an essential role in helping new groups to form and building their capacity to operate as established voluntary entities; 60 groups (and counting) hold over 250 events and activities attended by close to 30,000 people. By working with CAG we find new customers for our Community Energy Service and our social impact is channelled back through these groups.

Marketing

In order to achieve the overarching vision for the Hub, the CIC needs to have:

- a network of key local partners with whom it develops and rolls out new approaches to low carbon energy, buildings and transport in Oxfordshire;
- a reputation for cutting edge knowledge and practice;
- the trust of local communities and key local stakeholders including local authorities, influential individuals and businesses;
- a strong network of relationships with key bodies beyond the boundaries of Oxfordshire which can help the Hub to acquire skills, knowledge, finance and influence.

Our marketing is therefore mainly around building partnerships as set out in the section above, developing and maintaining the narrative on community energy in Oxfordshire and communicating that very well through key channels. This is a developing area of our business plan which we expect to develop into a separate annex of it early in the plan period.

Implementation schedule

2013–14:

sign Technical Assistance Agreements with community-led projects; 5MW+ installed capacity and up to £10m investment pilot approach to energy efficiency based on Green Deal and ECO in Barton

invite community partners to take shareholdings and elect first Communities Director

2014–15:

develop the Community Energy Service further through new web-based platform

support development of Community-led projects up to £10m in value

research energy efficiency product with a view to raising seed finance for it in Autumn 2014

develop pilot projects around: LED lighting for schools and businesses; domestic energy efficiency; biomass heat and power; and smart grids

deliver Low Carbon Oxford and Low Carbon Innovation Support programmes developing these into a strategic approach to low carbon innovation in Oxfordshire via the Oxfordshire Low Carbon Economy Report and proposals to the Local Enterprise Partnership for European funding

2015–16:

support installation of Community-led projects up to £5m in value

launch energy efficiency product

roll out biomass pilots via community enterprises and via the IPS

roll out LED lighting product to schools and businesses

secure funding for Smart Grid and biomass feedstock projects

secure ESIF funding for 5-year low carbon innovation and support programme and start delivery

2016–17:

support Community-led projects up to £5m in value

grow energy efficiency, biomass and LED programmes

continue delivery of low carbon innovation and support programme

develop business plans for Smart Grid and biomass feedstock projects

2017–18:

support Community-led projects up to £5m in value

grow energy efficiency, biomass and LED programmes

continue delivery of low carbon innovation and support programme

develop business plans for Smart Grid and biomass feedstock projects

Risks

As for the IPS, we have organised risks for the CIC into four categories:

- Trust
- Influence
- Profile
- Progress towards the vision

Trust: establishing and maintaining the trust of our partners, mainly our community shareholders but also our business, local authority and research partners. As we move from our start-up to our scaling-up phase, this must be our priority for the coming plan period. This includes developing the measurement framework and reporting process for our Social Impact.

Influence: ability to work with communities at the vanguard of change, catalysing the development and commercialisation of new products and services. Our mitigation on this risk is to maintain and develop our networks of communities, businesses, researchers and local authorities so that we can be aware of new opportunities and organise our networks to take them. It is also to develop, maintain and communicate the story around the Oxfordshire Big Energy Shift.

Profile: ability to make and maintain a profile as the leading low carbon social enterprise in Oxfordshire and beyond. Our mitigation of this risk is to put enough expert resource into developing and delivering our communications and marketing strategies.

Progress towards the vision: ability to deliver on the overall, long-term vision for the sustainable energy future for Oxfordshire. Our major risk in being able to deliver the long-term vision is in organising innovation and investment into large-scale infrastructure changes: the electricity grid, heat networks, housing standards, transport infrastructure. Our mitigation on this is to maintain a programme of innovation pilots to which the Hub can contribute both time and funding which can build from small beginnings to large-scale impacts beyond the plan period.

We have set out below the types and amounts of investment we think we will need over the plan period.

Capital project development

1. Seed capital finance

We are building a revolving fund that will allow us to provide early-stage risk financing to community energy projects both developed by communities in Oxfordshire and by the IPS. We aim for this fund to be at least £500k in size by the end of the plan period and to be lent out at a cost of 8-10%.

2. Construction finance

We wish to build a fund that will allow us to build our pipeline of projects as they become ready. We are building a facility of £5-10m to be used for the short-term financing of Hub IPS and community-owned projects. Our aim for the cost of funding from the facility is 4-7%

3. Equity investment

We will then raise equity funds to replace the Construction Finance. This will be offered via share offers to be collectively financed by mainly local, relatively small investors although we expect a mix of this with larger institutional or sophisticated investors. The return offered here will be a mix of interest and tax reliefs with our aim being to combine the two to achieve a combined return of around 8%.

4. Loan stock

Where investors wish either to subscribe more than the £100k limit per individual holding, or prefer to loan funds rather than hold equity, we may offer unsecured loan stock options in the Hub IPS.

5. Underwriting debt

We will seek to put share offer underwriting debt in place before we issue share offers in the IPS.

6. Long term debt

We expect to focus on attracting local equity investment into both community-led and IPS projects because the vision we are trying to realise is one where a very decentralised renewable energy system is collectively owned and financed. We may look for long term debt funding into IPS projects if it allows us to scale up our development of renewable energy projects more rapidly. In order to achieve our stated three-way split of benefit (net of capital repayment), we expect that the cost of long-term debt finance will be as close to the returns we pay to shareholders as possible.

Community benefit delivery

1. Core funding

We are developing the IPS project pipeline such that the core costs of the CIC will be fully covered by year 4 of the plan period. We expect a burn-rate of around £500k per annum to fund 10fte staff and overheads including office costs. Payment of these costs is governed by a contract for services between the IPS and the CIC and a memorandum of understanding on the donation.

2. Service contracts

We will bid for service contracts where delivery of the contract aligns with our strategic aims and our objectives for the plan period.

3. Service products

We aim to develop service products that generate revenue for the Hub CIC and therefore contribute towards core costs and community benefit delivery funds.

4. Early-stage investment in new products

We are in the process of developing new community energy products with our current focus being on energy efficiency. to finish following Board discussion on Growth Strategy.

5. Grant funding

We take a strategic approach to grant funding. In the early years of the plan period, we expect to bid for grant funding which fills the gap in core funding between the income yielded by the IPS projects and the CIC 'burn rate'. In the later years of the period, we expect to bid for grant funding which allows us to stay in the vanguard of change, catalysing new self-sustaining projects. We will not apply for grant funding that is about delivering unsustainable activities as a 'one off' with no legacy.

Appendix 1: Timeline showing genesis of the Low Carbon Hub

2001-7 The very beginning

2001	Osney Sustainable Island Group <ul style="list-style-type: none"> - survey of Islanders - identification of Osney Lock hydro project
2006	RIBA/US Sustainable Development competition submission <ul style="list-style-type: none"> - First modelling of 'double carbon cut' idea: income from renewables into supporting domestic retrofit
2007	Small, grant-funded solar PV projects: West Oxford Community Centre; West Oxford Primary School

2007-11 Osney Island to West Oxford

2007	Summer flood and start of Low Carbon West Oxford following Low Carbon Wolvercote model
2008-9	LCWO bid to Big Green Challenge based on 'double carbon cut' model <ul style="list-style-type: none"> - installation of first ever leased solar PV roof at The King's Centre: 11kWp - WOCORE puts out first share offer and raises £30k - Osney Lock Hydro design study completed
2009-11	WOCORE wins £100k in Big Green Challenge and £800k bid to Low Carbon Communities Challenge. Installation of 200kWp solar PV including: Matthew Arnold school 100kWp and Aldi supermarket 52kWp.

2010-11 West Oxford to Oxford City

2010	Low Carbon Oxford started by Oxford Strategic Partnership. Bid submitted for Intelligent Energy funding in May 2011.
2010-11	Local Carbon Frameworks bid: Oxford City Council invites WOCORE to develop a bid to scale up West Oxford model. £288k bid funds: <ul style="list-style-type: none"> - Oxford North Community Renewables to set up and raise £150k from share offer to develop 46kWp solar PV at Cherwell School - Barton Neighbourhood Centre to install 13kWp solar PV - Low Carbon South Oxford and Hogacre Common CIC to set up - Low Carbon Hub CIC to launch December 2011

2011-date Oxford City to Oxfordshire

2011-12	£600k early stage grant funding and donations
2012	City and County Councils conclude on £1.3m Intelligent Energy grant from Europe Eynsham Village Hall and St. Peters installations
2013	Low Carbon Hub IPS started: raises £150k for 140kWp Oxford Bus Company solar PV installation Low Carbon Hub CIC: signs technical assistance agreements with 7 communities; develops schools PV programme; supports Osney Lock Hydro share offer; delivers Barton retrofitting pilot
2014	£1.5m share offer for solar PV on 18 schools and 3 businesses Abingdon, Goring and Sandford hydros and Southill Solar pre-development Oxford City Council agree £2.3m Construction Facility Hub contributes to delivery of: <ul style="list-style-type: none"> - Oxfordshire Low Carbon Economy Report - Low Carbon Oxford week - Green Open Homes - Oxfordshire Innovation Support Programme

Appendix 2: Project Pipeline

Renewable energy projects	MW installed	MWh generation	Investment £m	Timing
IPS				
Solar Schools	1.265	1,111	1.784	2014.000
	2.000	1720.000	2.500	2015.000
	2.000	1720.000	2.500	2016.000
Solar Businesses				
Bus Company	0.140	123.000	0.150	2013.000
Brita Water Filters	0.230	195.000	0.250	2014.000
Wesley Barrell	0.050	243.000	0.550	2014.000
Norbar tools	1.000	860.000	1.200	2015.000
Thornhill Park +Ride	1.000	970.000	1.500	2015.000
Further pipeline	3.100	2802.000	3.300	2015.000
Sandford hydro	0.400	1200.000	3.300	2015.000
Sub-total	11.185	10,944	17.034	
CIC supported				
Osney Lock Hydro	0.050	186.000	1.200	2013.000
ONCORE Solar	0.065	50.000	0.100	2013.000
Southill Solar	5.000	4500.000	5.000	2014.000
WOCORE Solar	0.139	120.000	0.350	2015.000
South Oxford Solar				
Watchfield Solar				
Abingdon hydro	0.100	500.000	1.000	2015.000
Goring hydro	0.270	956.000	1.400	2015.000
Flights Mill Hydro	0.350		0.250	2016.000
Radcot hydro	0.030	150.000	0.600	2016.000
Sub-total	6.004	6462	9.9	
Totals	17.189	17,406	26.934	

Innovation pilots	Status	Costs	Timing
Warming Barton	Complete	0.3	2013-14
Warming Oxfordshire	Complete	0.1	2013.0
Energy Efficiency business model	In process	Hub time	2014.0
People's Power Station	In process	0.0	2013-14
LED lighting pilot	In process	0.2	2015.0
Biomass heat	In process	0.2	2015.0
Bicester smart grid	In process	tbc	2015.0
Biomass feedstock	In process	tbc	2015.0



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