

Lochbroom Community Renewables Limited
a community benefit society number 7126

Lochbroom Community Renewables Limited

Business Plan

April 2016

Lochbroom Community Renewables Limited
The Village Hall
7 Market Street
Ullapool
IV26 2XE

Executive Summary

Lochbroom Community Renewables Limited is a new Society set up to look at the possibilities for renewable energy generation in the Loch Broom area. Its first project is a small hydro-electric scheme at Lael.

The Society proposes to build and run the scheme based on the Allt a' Mhuilinn burn, with a generating capacity of 100kW producing an estimated 479,000 kWh of electricity annually. This will all be exported directly to the grid.

Development finance to date of around £95,000 has been through a Scottish Government loan from the Community and Renewable Energy Scheme (CARES). The Society has successfully obtained all the relevant permissions to build and operate the scheme and is currently raising the capital finance. The proposal is that this will come mainly from an issue of shares in the Society. A Community Share Option will be launched in the spring of 2016 with the aim of raising sufficient funds to build the scheme during 2017 and to cash flow the scheme for its first year of operation. The total cost of the scheme is £900,000 and this will be the target set for raising share capital. After that, the scheme will be self-financing and will produce, after payment of share interest and running costs, a small surplus which will be used to set up a Community Benefit Fund (CBF). The interest payable on shares is proposed to be 4% per annum after the first year of operation but will be dependent on the performance of the scheme.

It is expected that the scheme will generate, through sales of electricity to the grid and Government incentives through the Feed in Tariffs (FiTs), around £100,000 per annum in gross revenue, rising in line with inflation for the 20 years of the FiT guarantee. It is also anticipated that the hydro plant will last at least 40 years, producing in excess of £20,000 gross per annum after the first 20 years. Total revenue over the 40 years will be in excess of £2.5m with a surplus of £1.5m available for the CBF.

The Community Benefit Fund will have funds available to support community projects on the basis of a simple application process. Applications will be assessed by an independent Project Evaluation Group. The process of running the CBF will be formalised nearer the time when funds become available and in full consultation with the wider community in the area.

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Introduction

Background

Lochbroom Community Renewables Limited (LCR) was set up by Ullapool Community Trust (UCT) to progress projects in renewable energy. LCR's initial project to establish a small scale hydro-electric scheme on the Allt a' Mhuilinn was initiated because of strong local support for community-owned renewable energy projects. An opportunity arose from an invitation from Forestry Commission Scotland (FCS) for communities to express an interest in developing hydro projects on local state owned woodland through the National Forest Land Scheme. Two sites were identified and, after initial feasibility work, the Allt a' Mhuilinn burn offered the most potentially viable location for a small-scale hydro scheme. The burn is on the A835 at Lael almost 10 miles south of Ullapool and flows into Loch Broom.

The relationship between UCT and LCR

LCR operates as a project of UCT although, by law, both companies are independent. Ties between UCT and LCR are described in the Rules of LCR. (see Appendix 1). Essentially LCR have agreed to develop and operate renewable energy schemes and to donate any surplus to UCT. UCT agrees to use any donations to set up a Community Benefit Fund which will make grants available under a simple application process to community organisations for community development projects.

History of the project

UCT's Development Officer at the time led the hydro project and babyHydro (<http://www.babyhydro.co.uk>), a Society specialising in the development of small hydro projects, were engaged late in 2012 to produce a preliminary assessment. The work was supported and funded by the Scottish Government's Community and Renewable Energy Loan Scheme (CARES).

In 2013 a community ballot was then carried out. Over 58% of residents voted in the ballot and 96.5% voted in favour of the project.

The project was initially managed on behalf of UCT by Project Officers, Ewan Young then Jan Breckenridge, supported by a volunteer Sub-Group who brought a wide range of skills from the community.

At the time FCS praised the quality of the application saying that the proposal from UCT was a textbook example of a National Forest Land Scheme application. The community benefits that could arise from the project as well as the technical feasibility were clearly demonstrated.

In 2013/14 detailed feasibility and viability studies were commissioned through babyHydro. At this stage both the Allt a' Mhuilinn and the neighbouring Allt a' Braighe burn were thought to have hydro potential.

The most viable scheme was found to be a small run-of-river system on the Allt a' Mhuilinn burn at 100kW size. This was after careful consideration of the risks involved balanced against the best financial return for the community and cash flow in the early years of the project. This burn had a hydro scheme on it in the past which powered a saw-mill.

During this time discussions were had with SSE regarding a potential grid connection, legal advisors were selected and appointed in February 2015 and a lease with Forestry Commission Scotland was negotiated. Local Lael residents were contacted as part of the planning process and their feedback has been very positive.

The Proposed Hydro Scheme for the Allt a' Mhuilinn

In 2015 the necessary geo-technical, topography, ecology and other survey work commenced with the onset of spring weather. The best of two options for a high head hydro scheme on the Allt a' Mhuilinn was selected and the necessary consents were obtained. These are:

Water Environment (Controlled Activities) (Scotland) Regulations 2011; (The "CAR" License) reference CAR/L/1137084 was obtained on 21 July 2015 from the Scottish Environment Protection Agency (SEPA)

Scottish Hydro Electric Power Distribution (SHEPD) provided on 15 September 2015 an offer of grid connection for 30 September 2017 reference EDY 615. This is for the full 100kW. Initial discussions with SSE had indicated that any connection would be limited in capacity but more recent discussions had given some informal indication that the 100kW scheme would get full approval

Planning permission (Highland Council) was obtained on 29 September 2015 reference 15/02527/FUL

Feed in Tariff (FiT) pre-accreditation was acknowledged on 29 September 2015 and confirmed in February 2016

This ended a particularly difficult period of the project. Although the planning application was submitted in sufficient time, two things happened to give cause for concern. The UK Government's Minister for Energy & Climate Change announced a consultation on the ending of pre-accreditation arrangements for community projects, so our planned date for pre-accreditation (because after 30 September the rate would drop and our potential income would also drop), became an absolute deadline for the project to survive. Without pre-accreditation the uncertainty over the rate of FiT would remain and the project would not be viable

The expected two month determination on planning was extended into late September due to several exchanges of further information and requests from statutory consultees. One month after the planning application was validated, HC responded with a request for further information regarding the following:

1. Visibility splays from both access points (which required further topographic surveys)
2. Tree information including full scale tree protection plans, trees scheduled for removal (also requiring further topographic information)
3. Borrow-pit sections required further topographic data.

These were all resolved and planning permission was granted on 29th Sept 2015 only one day before the deadline for FiT pre-accreditation. This remains valid for three years from this date, by which point works must have completion.

Current Status

The current stage of the project up to about April 2016 will cover the following key areas:

1. The design specification, project management and design
2. Financial planning
3. The marketing and sale of Community Shares

The project covered by this business plan will cost around £900,000 to deliver and the profit distribution for community benefit, after other provisions and interest payments to community shareholders, is expected to be approximately £1m over the first 20 years.

The Future for Lael Hydro

Lochbroom Community Renewables Ltd will oversee the fundraising, and construction of the Hydro through to the anticipated date of October 2017, when the hydro scheme will convert water into electricity and provide finance for community benefit.

Construction Impacts

When the scheme is developed there will be some short-term disruption to traffic on the A835, alongside some construction and additional traffic noise. Longer term impacts will include new road entrances for construction and powerhouse access, visibility of the powerhouse (which is around 6 by 6 metres) and potentially some very low level background noise from the turbine.

An environmental project officer will be appointed as part of the build contract to oversee the development.

Financing the Project

Community renewable energy projects are normally funded by

- Loans
- Grants
- Equity (investment from the community and/or social investors)
- Community fundraising
- A mix of the above

The reason for setting up a Community Benefit Society is to raise money through selling shares to the community. The more money we can raise through selling shares the less the project will borrow from the bank and therefore more money will remain within the local community.

The FIT payments and income from selling electricity to the grid will be used to repay the loan and shares. After the loan has been repaid the profit and income should increase.

Project Income

What will it be spent on and how will it be distributed? Income will be used to support local groups and initiatives. Generating income could mean that the community is less reliant on grants or public funding. There will be no financial gain for the UCT or LCR directors (unless they are investors), both of which are volunteer boards. Local groups will be invited to apply for funding from the hydro project with applications considered by an independent panel.

Community Consultation

UCT was formed in 2009 and funded as part of HIE's Growth at the Edge Programme. Funding continues through HIE's evolving programme of Community Account Management, supporting a Development Manager until 2017. The original agreement included an extensive consultation exercise to draw up a "Growth Plan" (http://ullapoolcommunity.org/?page_id=693). The main areas of focus in the plan were Housing, Transport, Young people and Apprenticeships, Renewable Energy and Sustainability, Community Assets and Local Food. As a result of this various projects were initiated and these raised over £1m for projects over the first five years of UCT, although some projects were not advanced. Successful projects included the setting up of Lochbroom Woodfuels, the Ullapool Solar project, Powerdown and Pure Power, Edible Ullapool and Lochbroom Community Renewables. Although funding a district heating scheme was agreed, this did not progress.

The community were asked in 2013 if they would support the investigation of a small scale hydro scheme or schemes and a formal ballot (reported above) was undertaken.

Near the time when revenue is being generated, UCT and LCR will work together to fully consult the community in the setting up of the Community Benefit Fund and the rules and process for community groups to apply for funding. This is likely to be early in 2018.

Demographics

The community as defined by both UCT and LCR in their respective "rules" is from Elphin to Dundonnell, including Elphin, Strathcaniard, Rhue, Leckmelm, Braemore, Lochside, Dundonnell, Scoraig, Badcaul and Gruinard and the largest settlement Ullapool. With a population of around 2200 in total in 1200 households, the area is rural and remote. Tourism and service industries are the main employers, although Ullapool has an active harbour, providing, as it does, the main link by ferry to the Western Isles. Fishing, aquaculture, agriculture and crofting and craft industries are also important.

Any community share issue will prioritise the defined area, but will also be open to anyone who has an interest in supporting the scheme and the local community. It is hoped that at least 500 people locally will buy shares at an average investment of £1,000 per investor (although the median will be nearer the minimum investment of £300), making up considerably more than half of the investment from local sources. Individuals, groups of investors and corporate investors are all welcome as are investments on behalf of others, such as children / grand-children. LCR considers the last to be important because of the long term nature of the project.

Technical Summary of the Allt a' Mhuilinn Project

How does a hydro-scheme work?

Turning the power of water into electricity is a very old technology; with the first UK scheme built in Craggside, Northumberland, in 1878; there are also many examples of schemes that have been working continuously for over a hundred years. Hydropower technology is straightforward, reliable and enduring.

The amount of power that can be generated is a combination of a) the amount of water delivered to the turbine and b) through gravity, the difference in height between the inlet to the pipe and the turbine: Put simply, the more water available and the further it drops the more electricity is produced. This simple formula can be predictably modified to take into account the design efficiency of the pipeline, turbine and generator.

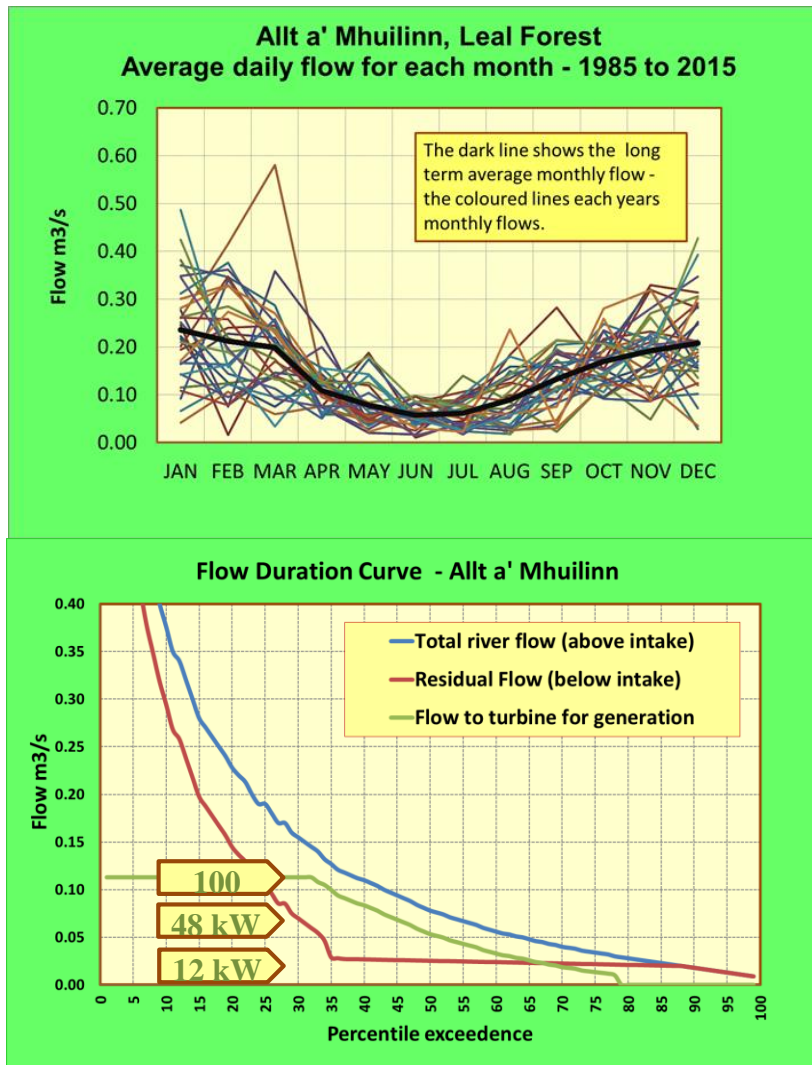
$$\begin{aligned} &\text{Power Generated (kW) =} \\ &\quad \text{Flow delivered to the turbine through the pipeline (m}^3\text{s}^{-1}\text{)} \\ &\quad \quad \quad \times \\ &\quad \text{Height difference between the intake to the pipeline and turbine (m)} \\ &\quad \quad \quad \times \\ &\quad \text{Design efficiency X Gravity} \end{aligned}$$

Calculating the Available Flow

The LCR's proposed scheme is a "run of river hydro scheme". This means that there is no water storage upstream and the flow to the turbine is totally dependent upon what flow is available in the river. To make sense of daily, seasonal and year to year variations Hydrologists convert the mean daily flows into a 'flow duration curve' which plots the percentage of time that a given flow was observed. This approach allows information from National Archive Gauging Stations with long records to be transposed to any site in the UK. For this project the model 'Low Flow Enterprise' has been used; this is the preferred model recommended by the Scottish Environment Protection Agency (SEPA); the science behind it is robust and well tested and the results can be used with high confidence. It is a bonus that one of the National Archive Gauging stations is located on the River Broom adjacent to Allt a' Mhuilinn, the data from this site allows us to undertake more complex analysis of the natural variation in river flows and hence electricity generation. This is represented in the graph below - the individual monthly variation compared against the long term average. Over the long term the flows are consistent - comparing any five years flows shows a variation of less than 15%.

Not all the flows in the river will be used to generate electricity. SEPA require schemes to be designed so that “ecological flows” remain downstream of the intake to sustain the aquatic ecology. In practice this sets a low flow limit below which no generation can take place (there will always be water in the river) and an upper limit which ensures that spate flows overtop the intake to maintain the physical habitat. In granting the licence for the scheme LCR are bound to these conditions.

The flow duration curve plotted below shows the total flow available in the Allt a’ Mhuilinn, the ecological flow below the intake and the flow to the turbine for generation; arrows show the generation, 100kW will be generated for about 30% of the year, 48kW or 50% of the time and 12kW 78%. In other words on average the scheme will generate at full capacity for 110 days per year and at least something for 285 days.



Detail Design considerations.

With the available flow known, the topography of the site is examined, a good site has to be identified for the intake and the turbine house and a practical route established for the connecting pipeline. A scheme will look to maximise the height between the intake and turbine.

Engineering considerations have to consider what can realistically be built - this includes the access roads and the pipeline - the stability and ease of excavating in the drift or solid geology. In addition, the impact on the terrestrial ecological and any mitigation accounted for; temporary disruption can be offset by restoration measures post construction. Detailed geological and ecological surveys are required to inform the decisions.

Turbines are designed to give optimal (maximum) performance for a given flow and head, however they will work with less flow but progressively less efficiently to a lower limit of operation. Balancing the upper (design flow) and lower limit within the flow duration curve determines the total amount of electricity generated each year.

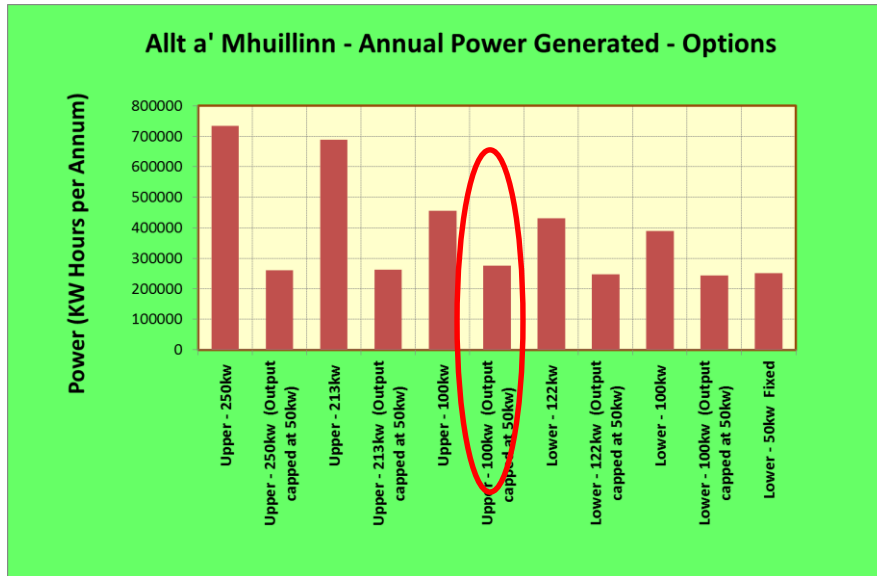
External factors

First: the design is influenced by Government policy; the scheme will utilise “Feed in Tariffs” that provide a subsidy for each kWh of electricity produced, these subsidies offer higher subsidies for smaller schemes; for this project the key threshold was 100kW.

Secondly: In order to connect the scheme to the grid the network provider will offer a connection date and an upper limit of what can be delivered for a given date; it is generally easier to get an earlier connection date for schemes generating smaller amounts of electricity.

Balancing the factors at Mhuilinn.

UCT engaged babyHydro to work with the ‘hydro group’ to undertake a technical evaluation of two burns in Lael Forest, Allt a’ Mhuilinn and Allt a’ Bráighe, for financially viable micro hydroelectric generation projects. Almost 20 options were evaluated using one or both rivers. Early-on options to use intakes above the forestry commission land were excluded. When it became clear that construction costs for the Allt a’ Bráighe would be too high, the project focused upon the Allt a’ Mhuilinn. For the Allt a’ Mhuilinn, the group looked at two intake sites and six turbine capacities; the available flow between the sites is the same and both use the same location for the turbine. The lower intake on the main forest access path would give a working head of 86m; the upper increases the head to 134.5m. The lower intake has easier access and a smaller construction footprint, but this comes at the expense of power. External factors indicated that the 100kW threshold would make it easier to acquire regulatory authorisation, maximise government “Feed in Tariff’s” and improve the likelihood of an early grid connection. The Hydro Group therefore recommended the upper scheme with a turbine capacity of 100kW this was approved by the UCT Board.



Summary of the Final design.

These details are taken from the Phase 2 and 3 reports by Baby Hydro.

The principal features are:

- Intake structure at grid ref NH 19378 82155, situated on flat bedrock platform between two large waterfalls. Incorporating Coanda screen (or Tyrolean style bar drop screen if preferred), compensation flow notch, wing walls, header tank, safety railings (timber appearance) and breather pipe.
- Pipeline following the line of least resistance, taking the most suitable and shortest possible route on the south east bank to the powerhouse site on the north-west bank. The pipe route avoids rock outcrops and existing drainage channels where possible as it runs down the open hillside, crosses underneath the FCS road, skirts the far edge of a small group of trees then crosses the river via a covered pipe-bridge and is bunded-over to the powerhouse. Average gradient on steeper sections of pipe is approx. 1in3, no less than 1in 100.
- Powerhouse at NH 19139 82076 on northwest bank of burn, tailrace adjacent to this 14m upstream from the culvert.
- Electrical connection by buried cable (beneath A835) then across fields to 33kV network. Connection directly to new pole mounted transformer to export all energy to grid.

Power (kW)	100
Energy (MWh/year)	479
Design Flow (m ³ /s)	0.103
Gross Head (m)	134.5
Hands-off flow (m ³ /s) Q90	0.018
Catchment Area (km ²)	3.028
Depleted reach (m)	300
Depleted Reach Gradient (%)	0.44

Project Timeline

From the point of obtaining full regulatory permissions, which was achieved in September 2015, the likely steps (with end dates) that will be taken are:

	Start date	End date
Business planning	Oct 2015	Dec 2015
Working agreement with UCT	Nov 2015	Dec 2015
Option and Lease with FCS	Jun 2015	Jan 2016
Financial Modelling with LES	Oct 2015	Jan 2016
Marketing plan	Nov 2015	Mar 2016
Design share issue documentation	Dec 2015	Mar 2016
Design contract tenders	Jan 2016	Mar 2016
Share Issue	Apr 2016	Jul 2016
Agreement with banks	Feb 2016	Aug 2016
Construction contract tenders	Apr 2016	Aug 2016
Financial closure	Aug 2016	Sep 2016
Award contracts	Sep 2016	Oct 2016
Order turbine	Oct 2016	Oct 2016
Construction	Apr 2017	Aug 2017
Grid connection	Sep 2017	Sep 2017
Commission scheme	Sep 2017	Oct 2017
Commence Operation	Oct 2017	
Community consultation on CBF	Jan 2018	
First receipts from sale of electricity and FiT	Mar 2018	
Share interest and CBF payments	Oct 2018	

Operation and Maintenance

Once a hydro scheme is up and running there is little work to do. The system should work automatically adjusting to the water level in the river. However LCR will be engaged in two main areas of activity

Routine maintenance – weekly inspections of the intake and turbine. The turbine will come under a service agreement for at least the first two years. Thereafter LCR will have the option to cover maintenance on a contract basis or, to some extent, do this in-house.

Society management – the Society will need careful financial management, quarterly claims for FiT and annual accounts, which will include making decisions on share interest payments (and making these), managing reserves and paying any surplus to the Community Benefit Fund. Policies for all this part of the activity will be drawn up for discussion and agreement at the first full AGM of members.

Part of the O & M cost identified has been set aside for these activities but in the early years of production LCR will still be looking to use volunteers for much of the work.

Environmental Aspects of the project

Renewable energy has a key role to play in addressing the key issues of climate change and security of supply. The continuing UK strategy of encouraging renewable energy generation through the Feed-In Tariff (FIT) scheme, has created an opportunity both to contribute to government objectives and to establish a commercial enterprise capable of delivering attractive returns to its investors.

‘Run of river’ hydro schemes generally have very few environmental impacts provided they are well designed and the implementation of the schemes is carefully planned. The main impact is on the aquatic life and habitat that is affected by the removal of some of the water from the watercourse. The Scottish Environment Protection Agency (SEPA) has set out specific guidance which the LCR hydro scheme is following as part of its license conditions. This ensures that suitable provision is made for aquatic life and habitat and that water level in the burn is not allowed to get too low.

The turbine and generator, like all electro-mechanical equipment, produces sound when in operation. This should not be an issue as the powerhouse should be adequately sound-proofed to minimise sound pollution to neighbouring properties.

The Scheme will have limited visual impact on the landscape once operational with only the powerhouse and intake dam visible. The penstock (the pipeline from the intake to the power house) will be buried.

Financial Summary

Cost

Estimated costs are summarised in the table below. The current costs are estimates and these will be firmed up early in 2016. The process of obtaining tenders for all the construction works and the method of funding the project may change the figures but it is anticipated that changes now will be small.

ITEM	COST
Development and design stage	
Feasibility	77024
Planning, licenses etc	14300
Legal fees (estimated)	14400
Interest (estimated at date of entry)	20000
s/t	125724
Capital works	
Turbine	157440
Lade and low pressure pipework	313
Penstock incl. installation	45000
Civil works	314000
Grid Connection	51595
Design and project management	62000
s/t	630348
Contingency	100000
Post construction costs	
Restoration Bond	30000
Bank Arrangements	2000
Annual Running Cost	12445
TOTAL	£900,517

The figures divide naturally under the three headings
Development and design stage being non-recoverable start-up costs

Capital works represents spend on the capital assets. The value of the scheme at the point of commissioning based on potential income over the life of the scheme, less costs, is estimated as £1.6m (ignoring inflation). Based on this and taking appropriate advice, LCR have decided to maximise the capitalisation of the works, including various start-up costs, in order to facilitate early community benefit fund payments.

Post construction costs are working capital – a one off “bond” – a sum put into reserve for restoring the site at the end of the project plus the annual operation and maintenance costs. Bank costs are included here as an estimate of the charges for handling the capital (including on-line processing). There is also a requirement for a “bond” during the construction phase but LCR are assuming one can be substituted for the other at the point of commissioning

Cashflow

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Cash flow over the year of construction and into the first year of production is critical.
VAT will factor in the cash-flow

CASHFLOW* OVER THE CONSTRUCTION PHASE PLUS YEAR ONE (,000)										
	Oct-16	Jan-17	Apr-17	Jul-17	Oct-17	Jan-18	Apr-18	Jul-18	Oct-18	TOTAL
INCOME										
Shares	900									900
Sales (revenue)							44	22	22	50
VAT (in)			15	25	50	23	8			121
TOTAL IN	900	0	15	25	50	23	52	22	22	
EXPENDITURE										
CARES	125									125
Turbine	50			107						157
Pipeline			23	23						46
Civils			90	90	103	31				314
Grid	26			26						52
Contingency		20	20	20	20	20				100
Design + PM	40	5	5	5	5					60
O & M	30					3	3	3	3	42
VAT (out)	15		25	50	23	8				121
TOTAL OUT	286	25	163	321	151	62	3	3	3	
BALANCE	614	589	441	145	44	5	54	73	92	
This is not a true cashflow in accountancy terms but merely an illustration of how investors' income is expended over the first few years (broken down into quarterly periods). It also illustrates the start of revenue flows so that investors can see when the Society expects to be able to pay interest and provide surpluses for community benefit. Note that we are assured by HMRC that VAT can be claimed monthly but are making provisions with a private lender to cover any cash flow as a result of having to reclaim VAT in arrears.										

Revenue

Much of the technical work in preparing a hydro project centres round estimating the size and performance of the system. Although some of the feasibility work pointed to a bigger scheme, early cost versus return analysis indicated some difficulties. The smaller 100kW scheme that is proposed gives more confidence as to its performance as it is less dependent on the weather. However, in the unlikely event that it rains less in Ullapool, the figures presented below may be less, but other community projects where similar models of performance have been used are reporting better results than predicted. Therefore there is reasonable confidence that the proposed scheme will perform at least as well as stated.

Revenue	
Installed capacity (power of turbine)	99.95 kW
Annual output *	405,000 kWh
Calculated efficiency	54.7%
Generation bonus (Feed in Tariff)	£68,208

Export revenue	£20,637
TOTAL Revenue per annum (first full year of production)	£88,845
Gross return over 20 years (with inflation)	£2,371,000

* The annual output figure used here and in all calculations is the P90 figure (the “worst case scenario). This is the probability that the scheme will perform 90% of the time at this or above. The manufacturer will give the P50 figure which is what is quoted on page 11 (479,000 kWh) which is the average expected from the scheme.

Paying for the development

The sections (above) about where the money to pay for the development and where the revenue goes are linked. The development phase of the project has been paid for by a Scottish Government Loan from the CARES fund (Community and Renewable Energy Scheme). This takes the project up to the point where all the necessary statutory permissions are in place. The period between obtaining planning permission and obtaining the cash to build the scheme is also partly funded through CARES. The CARES loan attracts interest at 10% per year.

Further work will largely depend on capital finance. This can come from various sources: a bank loan against the project, secondary finance from the Scottish Government, or share equity.

Bank loan: The high street banks in the past were reluctant to get involved in supporting smaller projects requiring less than £1.5m. However several community hydro projects have received help from the banks and this will be one line of enquiry. However at bank interest rates of 6 to 9%, the project is marginal if fully funded through a bank loan.

Secondary finance: although often seen as “junior” debt finance, the Scottish Investment Bank’s REIF fund (Renewable Energy Investment Fund) was set up specifically to fill the gap left by the main banks reluctance to finance smaller projects. REIF’s interest rates are still high at around 8%.

Share Equity: LCR was specifically set up to be able to raise funding through a community share issue. Community shares are outlined in Appendix 3. (For more detailed explanation see <http://communitysharesscotland.org.uk/find-out-more/about-community-shares-scotland>). The advantage of raising funds in this way is that profits are retained locally rather than lost to interest payments to the banks. Also with a different way of scheduling interest payments and capital payback, more cash can be reserved for the community, the primary purpose in entering this scheme. It is the intention that the project is, as much as possible, funded through community shares.

The share scheme will open on the 30 April and close at the end of August. In order to reach the target of securing as much of the capital funding through the share scheme, several ways of paying will be open in order to get the maximum coverage for our advertising. Payments can be made in person to any director, by post to the Treasurer or any other director, direct to the bank or through the Microgenius web site. A link is provided through the projects own web site at www.broompower.org

to Microgenius and the web site is also where to find further information.

If we reach the target before the closing date of the share issue, the offer will close early and priority will be given to local investors. If, conversely, we fail to reach the target, LCR has provisional agreements in place for additional funds. LCR is confident though that the full value of the project will be raised and there are other examples of communities achieving this for similar schemes (see Applejuice <http://www.applecrosshydro.scot/> and Sunart <http://www.sunartcommunityrenewables.org.uk/>).

Where all the money goes

In no particular order the revenue generated will be required to pay for:

Bank interest and capital(if any)

Share interest and share capital reserve fund

Operation and maintenance: including rent and insurance (Cost)

Management (mainly of the share Society) (Cost)

Technical reserve: including a restoration fund required by FCS at the end of the life of the project (but required from the outset)

Corporation tax

Community benefit fund (CBF)

Given that the aim is to return as much of the revenue as possible to the community, the decision was made to pursue the options of raising capital through a share issue. This will start around April 2016. There are now several successful examples of community shares providing the bulk of project finance.

Our aim is thus to raise all of the capital necessary for the project (£900,000) though the community share issue. Our minimum target is £800,000 and we are currently in discussion with financial institutions, a private investor and three local companies any of which could fill this gap if need be. We are also still fund raising for gift capital as well as making sure our share issue reaches the maximum audience.

The figures below assume 100% funding from shares. Details in Appendix 3.

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		Year ending March											
		2016	2017	2018	2019	2020	2021	2022	2023	2028	2033	2038	
INCOME													
Sales		0	0	44	91	93	96	98	101	114	129	146	
Other (Loans)	CARES Loan	91	24	0	0	0	0	0	0	0	0	0	
Grants		0	0	0	0	0	0	0	0	0	0	0	
Share Issue		0	900	0	0	0	0	0	0	0	0	0	
TOTAL		91	924	44	91	93	96	98	101	114	129	146	
COSTS													
	Development	91	0	0	0	0	0	0	0	0	0	0	
	Legal Costs	0	14	0	0	0	0	0	0	0	0	0	
	O &M	0	0	7	13	13	14	14	14	16	18	21	
	Interest (on loan)	0	22	0	0	0	0	0	0	0	0	0	
Capital Costs	Construction	0	230	400	0	0	0	0	0	0	0	50	
	Contingency	0	0	100	0	0	0	0	0	0	0	0	
TOTAL		91	266	507	13	13	14	14	14	16	18	71	
Income less expenditure		0	658	-462	78	80	82	84	86	97	110	75	
Less													
	Loan Repayment	0	-115	0	0	0	0	0	0	0	0	0	
	Share Interest	0	0	-18	-36	-35	-34	-32	-31	-21	-11	-2	
	Share withdrawal	0	0	0	-20	-20	-48	-48	-48	-48	-48	-44	
	Community Benefit	0	0	0	-5	-10	-10	-15	-13	-20	-50	-50	
		0	543	-480	17	15	-10	-11	-5	9	1	-21	

The figures assume

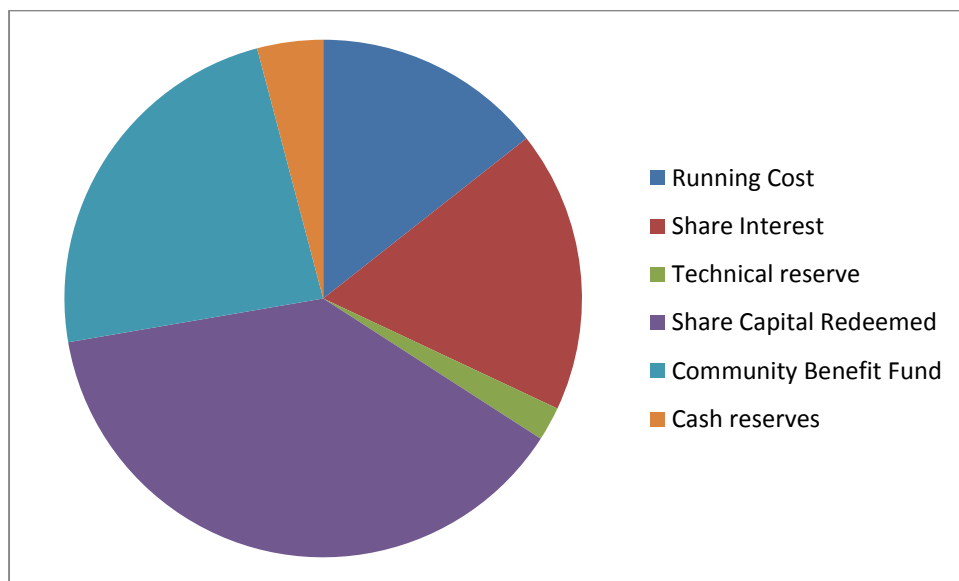
- All capital funds are raised through a share issue and this will be available to cashflow the project from September 2016 (the tables show this in 2017 but these are presented as financial years i.e. year ending in March). LCR needs to commit to the project then and place an order, paying a deposit, for the turbine. At this stage the CARES loan will be repaid.
- LCR will aim for a 4% interest on all shares from the second year of operation but depending on cashflow will aim to pay an interim interest payment of up to 4% after the first year of operation.
- A capital reserve will be built up from the first year to cover share holder investment. It is anticipated that LCR will buy back shares at a steady rate throughout the first 20 years of the project, starting in year 5. In this way all shares will be repaid by year 20.
- No interest will be paid to remaining shares (if any) after year 20. This is because the income derived from FiTs will cease after 20 years (as illustrated by the last column above).

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- The underlying assumption is that the FiT rate will increase year on year in line with inflation.
- A technical reserve is set up to cover any unforeseen costs, refurbishment of the turbine at year 20 and a “bond” to satisfy the terms of the FCS lease.

Where the Money Goes

Total Income over 20 years	2,371,000
Running Cost	339,000
Share Interest	415,000
Technical Reserve	50,000
Share Capital Returned	900,000
Community Benefit Fund	556,000
Cash Reserve (incl Restoration Bond)	97,000
Capital Asset Value Retained	4,000
Misc (Interest on Loans)	10,000
	2,371,000



Community Benefit Fund

As stated before the main aim is to return as much of the revenue as possible to the community. To this end a Community Benefit Fund (CBF) will be set up to direct all surpluses from the hydro scheme. This CBF will be fully independent of LCR and UCT (although the latter will have administration responsibilities for the scheme). Although the exact details of this will be worked out nearer the time with the full consultation of the community, the overarching principles will be:

1. Match locally identified needs
2. Achieve maximum impact
3. Have a fair and transparent process
4. Show that money has been spent appropriately.

Surplus from Loch Broom Community Renewables

LCR will decide how much profit to gift to UCT

UCT will administer the fund

UCT will set up a Community Benefit Fund

- This is a fund with a separate bank account
- It will have clear, eligibility criteria
- Funding will be granted to projects which most meet the requirements of the Community Growth Plan which will reviewed regularly in full consultation with the community
- There will be an independent body associated with this Fund that will assess the applications

Community Shares

Capital investment for the Hydro Scheme will be sought from the Lochbroom and wider community through a Community Shares Issue. The offer will be publicised and promoted by LCR and will adhere to the national standards of good practice set out in the Community Shares Scotland Handbook (www.communityshares.org).

What are Community Shares?

Community Benefit Societies can invite members of the community to invest, as shareholders, in local projects. As the name suggests CBS must be set up with the primary purpose of benefitting the community. Shareholders share in risk and returns, without surrendering control to external investors. As well as having an over-arching community purpose, the community enterprise must be sustainable with a viable business proposition at its heart. Democratic membership must be on the basis of one-member-one-vote, rather than one-share-one-vote.

Community Shares are equity, not a loan or bond (debt).

Just to be clear, these are not the same as shares traded on the stock exchange. Each share has a face value that does not appreciate over time and cannot be traded or transferred. Modest interest (capped by the legislation – The Co-operative and Community Benefit Societies Act 2014) can be paid to shareholders after a specified period of investment but shareholders should primarily invest for social, not financial, reasons.

Community shares are often referred to as withdraw-able and can be withdrawn at the request of the shareholder with reasonable notice and assuming that the Society can afford to repay the shares. To that end the Society will create a reserve which will build up over time to repay all the shares. The aim is to repay all share-holder investment by the end of the 20th year of operation and to do this starting in year three or as soon as funds are available. Therefore the investor could see their investment as short term (three to five years) or longer term (greater than ten years). There should be a “deal” for all types of investor.

The Society expects investments from a £300 minimum up to a maximum of £90,000. Each share will have a value of £50, i.e. the minimum share-holding will be six shares. (See Appendix 3)

Risk

Much of the work done to date was to fully inform decision making and obtain relevant permissions from the appropriate authorities. This completes the “risky” stage of the project. However the Society is taking steps to mitigate potential future risk:

- Original estimates for the hydro-electric capacity of the river would have allowed a much bigger scheme. The choice of a smaller turbine was largely to reduce financial risk during the first few years of operation. However by choosing a smaller turbine the flow rates and rainfall are less critical and efficiency is improved.
- Additional flow measurements are being taken from the river to augment the Low Flows (calculated) data used to design the scheme. This will give tighter parameters in the design and choice of the turbine.
- The construction risk will be mitigated by ensuring qualified contractors are selected with a good track record of delivery of similar projects. All contractors will be suitably insured and the construction process will be closely supervised by a project manager so that any problems can be dealt with at an early stage. Slippage time has been built in to cope with any adverse weather conditions. The turbine will be ordered as soon as possible to allow for the projected build time.
- The budget for the project includes a significant contingency to mitigate variation in capital costs and construction issues. Full survey work has been undertaken and reports by professionals experienced in this type of construction have been prepared to inform the construction process. All technical reports are available through our web site.
- LCR obtained all permissions in time to pre-register the project for the Government incentive scheme (The Feed In Tariff). This de-risks the financial performance of the scheme.
- It is the intention to fully fund the project by issuing community shares. This should reduce the financial risk as LCR will be more in control of the process and able to build reserves without having first to satisfy the banks requirements for priority over the assets. In practice, if a top up loan is still needed because insufficient funds are raised through the share issue the financial risk is higher and rises, as the bank involvement rises, to a point where the project is not viable. Simply put, the more raised through shares the better financially.

Steering group and interim directors

The initial directors of LCR form a steering group for the project. They will be replaced at the first full AGM of the Society by directors elected from the shareholders.

The existing directors and their description (in their own words) of their experience for this project are:

Tim Gauntlett. Chair.

Tim retired in April 2012, was previously an analytic psychotherapist and clinical supervisor, working in private practice, Leeds University and NHS. He moved to Ullapool in 2014 from West Yorkshire, having been a regular visitor to the area for more than 30 years. Founder and Chair of Yorkshire Supervisors Forum 2005-2012. 'My professional experience is in the field of human relationships, and it is these skills that I bring to the development of this project.'

Neil Gerrard. MSc BSc (Hons). Treasurer.

Neil brings over twenty years of community development experience including IT, Business Administration and Finance training, social enterprise development, and renewable energy development. Before retiring Neil managed HIE's community renewable energy programme and sat on the Scottish Government's CARES advisory group.

Andy Kaye. Society Secretary.

Andy moved up to Lael at the end of 2011 towards the end of a career in the insurance and finance industry spanning nearly 50 years. He held director level positions in a number of well-known financial institutions. His last ten years or so was as a self-employed consultant. Andy has a broad experience in innovation and project work involving multiple functions and organisations and he brings considerable financial, legal and organisational ability to LCR.

Sandy MacKenzie. UCT Liaison.

Sandy is native to Ullapool, presently residing at Ardindrean on Lochside and therefore brings invaluable local knowledge and contacts.

He has worked for 27 years in the water industry, 10 years as an Operations Team Leader for the Wester Ross and South West Sutherland area, with experience of staff supervision and budgetary controls. He has experience of corporate management, regulatory compliance and health and safety legislation, as well as customer relations.

Previous experience of serving on many community based boards and committees over many years including; Ullaspool during the fundraising planning and building of the swimming pool, Primary and High school boards (Chair), chaired the action group (Ullaschool) for Ullapool's new community high school; chaired the board of Lochbroom FM. for two years; served as office bearer on Ullapool Angling Club (5yrs chair, 10yrs secretary) and served on Lochbroom Community Council for two terms (served as vice chair for a short spell).

Dave Maxwell. Communications and Project Management.

Dave is an experienced IT Project and Programme Manager with skills in planning, budgeting, communication and risk management as well as a background in IT. Dave joined the hydro group in July 2014 and has helped with planning and co-ordination. Since moving to Ullapool in 2013 with his family, Dave has become involved in a number of community activities including acting as Secretary of the local primary school Parent Council and co-organising youth sailing at Lochbroom Sailing Club.

Sandy Osborne. BSc CEng MICE. Technical.

Educated at Ullapool primary and Dingwall academy; graduated Heriot-Watt university 1981 BSc(1st) Civil Engineering; six years design consultancy; employed by RJ McLeod (Contractors) Ltd 1987, promoted to the board of directors 1997. Married with four children and native to Ullapool. Interests include: sailing, coastal rowing, hill walking, running and cycling.

Involvement in many community groups: terms as sailing club commodore/committee member; founder member and chair of moorings association, Convener of Ullapool Harbour trustees, member of Isle Martin Trust and advisor to marine project; consultee on Atlantic Coast (Wester Ross) project; consultee to CCC yachtsman's pilot and Reids & Macmillan almanac; member of LBSC skiff build team and regular rowing participant.

Sandy contributes to the project by bringing invaluable experience of building hydro schemes as well as in-depth community involvement.

Rebekah Lwin. Governance, Funding and UCT Liaison.

Rebekah moved to Lochside with her family in 2011 continuing a long and joyful connection with the Lochbroom community area that spans nearly 30 years. Her professional background is in clinical psychology (pediatrics) and she has worked in the NHS as a consultant clinician in Great Ormond Street and Alder Hey Children's Hospitals and as a clinical researcher and senior lecturer in London, Liverpool and Edinburgh. Her work has involved close team working with professionals from different disciplines, departmental and academic leadership, research project management and research ethics committee membership. Rebekah has experience of writing grant proposals, preparing (research) information materials and has a knowledge of data protection. She continues to undertake voluntary work related to her past career as well as being a director of UCT and Lochbroom Woodfuels.

Several other volunteers helped progress the project mainly coming from the initial "hydro sub-group" of UCT. They are:

Paul Copestake MSc., BSc(Hons)., CIWEM. Technical and Environmental.

Paul is our hydrology expert. Having graduated with degrees in Zoology and Soil and Water Engineering, Paul has worked for SEPA since 1990. 25 years experience in hydrology, including data collection and analysis of hydrological data including publication of peer reviewed academic papers. Expert knowledge in scientific and technical support to environmental regulation and policy development within SEPA; including European Water Framework Directive (2000) and derived primary and secondary Scottish

Legislation (2003-2011). 15 years management experience, most recently as North Team leader within the Hydrology Water Resources Unit. The Water Resource Unit, has developed and maintains the guidance for and assesses all the hydrological requirements submitted by developers in order to obtain authorisation to construct and operate Hydro Power schemes, it also undertakes post construction compliance audits.

Resident in Ullapool since 1988 and in spare time manage and undertake voluntary wildlife surveys, principally birds (including 2007-11 National Atlas) but also Bats and other mammals.

Sarah Di Rollo. Funding and Communications.

I have lived in this community with my husband and two children for the past 12yrs. I live 3 miles south of Ullapool, 4 miles away from the proposed Lael Hydro Project site. I am passionate about renewable and sustainable energy production and my husband and I built our own 'eco' house 6yrs ago. I have always been involved with fundraising and putting on events in my local community, wherever I have lived, and am excited by the potential of having a locally generated sustainable income for other community projects. Through my work as a local GP I see the health and social benefits of community groups and activities in all sections of our society.

Jason Leon, Technical.

Jason Leon is an Energy Consultant and Director of a renewable energy installation and consultancy business based in Ullapool and Edinburgh.

Following a BEng (hons) in Mineral Engineering and MSC in Environmental Pollution Control from Leeds University, Jason worked as an Environmental Consultant for multi-national Consulting Engineers for 12 years based in the North of England, then Scotland. Jason joined Changeworks in Edinburgh in 2003, as the East Lothian Energy Advisor and worked for over two years providing energy advice and support to domestic, commercial and community energy projects. From 2006, Jason worked as Renewables Development Officer for South East Scotland, supporting communities to develop renewable energy projects and access Scottish Community and Householder Renewables Initiative (SCHRI) grant funding.

Jason brings considerable technical expertise and an in-depth knowledge of the

Bill Badger. Environment.

Bill is a long time environmental campaigner having been a founder member of the Green Party, led opposition to nuclear reprocessing at Windscale and chair of an environmental trust in Cumbria.

Bill was on the Board at Assynt Foundation where he acted as Treasurer. He is currently leading initiatives to revive and rescue ancient woodland around Loch Urigill.

Bill acts as the Society's environmental consultant keeping a watchful eye on the need to actively manage the landscape around the project and take due consideration of the flora and fauna.

Governance

The Board is responsible for all day to day decisions although a degree of autonomy is afforded on the basis of sub groups responsible for different parts of the operation. There is considerable cross over but these are (with director and lead of groups listed first)

Chair – Tim – oversees the overall project and reports back to UCT chair (Flick).
Backed up by Sandy M and Rebekah

Legal Team and FCS liaison – Andy (Society Secretary), Neil, with appointed lawyers BHJ Gateley

Technical, construction oversight and tendering – Sandy O, Paul, Jason. A Project Manager will be appointed during construction. babyHydro was employed as development PM up to the point of obtaining planning permission. Further PM will be tendered

Finance, business planning and Documentation (due diligence) – Neil (Treasurer), Andy

Communications – Dave, Tim, Sarah

Fund Raising – Rebekah, Diane, Neil

Share Issue and Events – Sarah, Tim, Diane, Dave

Environment – Bill, Sandy O (with an environmental clerk of works visiting to site regularly)

Accounts will be prepared (after end of March) according to FCA rules and an AGM will be held sometime in July.

The Society will be VAT registered and intend to apply for charitable status.

Appendix 1

1. Extracts from LCR rules

Objects

4 b) Supporting the activities of Ullapool Community Trust.

Directors

66 c) Up to two directors appointed by Ullapool Community Trust

Application of Profits

98. Members of the Society will be rewarded primarily through a social dividend rather than a monetary dividend. Any profits of the Society shall be applied as follows in such proportions and in such manner as may be decided by the Society at the annual general meeting:

- (a) To a general reserve for the continuation and development of the Society; or
- (b) To making payment to Ullapool Community Trust (registered Society number 356419) for use in accordance with its charitable objectives.

Ullapool Community Trust Registered Society Number SC356419 Charity
SCO41228

Lochbroom Community Renewables Limited Registered 13 May 2015 Under the
Financial Conducts Authority Number 7126

Appendix 2

COMMUNITY SHARE INVESTMENT

Summary of Principle Qualities:

Member based and democratic – Community Shares are issued by co-operative and community benefit societies. Each member shareholder has an equal say in major decisions, irrespective of the size of their share-holding.

Social return on investment – Investment should be seen as primarily for social return - financial return on investment is not a guarantee and if offered must be fair and modest.

Withdrawable and non-transferable – Community Shares cannot increase in value or be sold on. However they can be withdrawn within the set rules of the society.

Self-regulated – Community Shares are exempt from regulation under FSMA 2000 but carry a responsibility for stringent self-regulation.

Summary of Principle Benefits:

Patient Capital – Unlike loans and bonds Community Shares have no set repayment schedule. Repayment is linked to performance of the society and interest is at the discretion of elected society directors.

Governance – Community Shares give members meaningful involvement in the running of the society. One member equals one vote.

Leverage – Community Shares can lever further funding based on the ‘first move’ of the community. They are almost always part of a larger funding package.

Operation - Community Share offers ‘bake in’ the customer base and promote meaningful member involvement in the operation of the enterprise.

Factors for consideration, discussion and decision before details on the Business Plan can be finalised and the proposal can be drafted – bullet points

Share value:

The minimum share holding will be six shares each with a value of £50, i.e., an investment of £300. The maximum investment is £90,000 as guided by the Community Shares Handbook

Levels / classes of membership:

- Individual
- Group
- Purchase by instalments
- Bequests / gifts / nominated persons

Interest:

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It is the intention of LCR to pay interest on the shares at 4% per annum. This will depend on the performance of the Society and will be decided annually at the AGM

Provisions for repayment:

It is necessary for LCR to buy back shares and a “shares reserve” will be established from the first year to meet any requests for withdrawal by members. LCR will aim on average to repay 1/20th of the share capital every year throughout the first 20 years of the scheme, although in practice this is more likely to be from year three to five onwards, again depending on the performance of the scheme and any requests by members for withdrawal

Terms for withdrawal:

- a request for withdrawal will be considered at the next Board meeting from when the request was made and repaid as soon as funds are available.
- the board has the right to suspend withdrawal or to offer applicants only a fraction of the value of their share capital
- Shares are not transferable, unless a member dies, in which case their shares are transferred as part of member’s estate.

Security and underwriting the investment:

- A reserve fund will be established from the first full year of production

In general terms LCR follows the following guidelines

The FCA requirements for community benefit societies state: “the society's rules must not allow either profits or the society’s assets to be distributed to the members”. Any profits must be used to further the objects of the society by being ploughed back into the business, or by being distributed to beneficiaries with objects the same as, or similar to, those of the society. However, they can pay interest on share capital.

Interest on share capital is a pre-profit expense for a society, and is therefore not a use of profits. The FCA states that interest rates on share capital should not be more than is sufficient to attract and retain the investment. Most societies have rules that limit the maximum rate of interest payable on share capital. Many societies also have rules that give the board the discretion to set actual interest rates to be paid on share capital only after the operating profit of the society is known.

- Reserves held to ensure continued business viability (proportion / how calculated)
- Interest to members – how much and how calculated
- Repayment schedule
- Community benefit – assessed via an independent Project Evaluation Group
- Asset lock (Restriction on Use of Assets)

This restriction on the use of assets means that any residual assets, after all members’ share capital has been refunded according to the rules of the society, must be transferred to one or more of the following: another prescribed community benefit society, a community interest Society, a charity, a charitable community benefit society, a registered social landlord (subject to conditions), or any equivalent body in Northern Ireland or a state outside the United Kingdom.

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Appendix 3

Lochbroom Financials P90

Output	405.00	MWh	P90	Capital Costs		Commission Date 1 October 2017
FiT	16.03	p/kWh		Turbine	157	
PPA	4.85	p/kWh		Penstock etc	45	Note 2018 represents half year turnover
Income	84.56	££/000		Civils	314	
Inflation	2.50	%	1.03	PM	32	
Income 2018	88.85	££/100		design	30	
Share Interest	0.04			Grid and Transmission	52	
				Total	630	

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	Year ending March	201 6	201 7	201 8	201 9	202 0	202 1	202 2	202 3	202 4	202 5	202 6	202 7	202 8	202 9	203 0	203 1	203 2	203 3	203 4	203 5	203 6	203 7	203 8		
Income																										
Sales		0	0	44	91	93	96	98	101	103	106	108	111	114	117	119	122	126	129	132	135	139	142	146	2,371	
Other (Loans)	CARES Loan	91	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grants			0																							
Share Issue			900																							900
TOTAL		91	924	44	91	93	96	98	101	103	106	108	111	114	117	119	122	126	129	132	135	139	142	146		
Costs																										
	Development	91																								
	Legal Costs	0	14																							
	O &M	0	0	7	13	13	14	14	14	15	15	15	16	16	17	17	17	18	18	19	19	20	20	21		339
	Interest (on loan)		22																							
Capital Costs	Construction		230	400																						50
	Contingency			100																						
TOTAL		91	266	507	13	13	14	14	14	15	15	15	16	16	17	17	17	18	18	19	19	20	20	21		71
Income less expenditure		0	658	-462	78	80	82	84	86	88	91	93	95	97	100	102	105	108	110	113	116	119	122	75		
Less																										
	Loan Repayment	0	-115																							
	Share Interest	0	0	-18	-36	-35	-34	-32	-31	-29	-27	-25	-23	-21	-19	-17	-15	-13	-11	-9	-8	-6	-4	-2		-415
	Share withdrawal	0	0	0	-20	-20	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-44		-900
	Community Benefit	0	0	0	-5	-10	-10	-15	-13	-13	-13	-14	-16	-20	-28	-29	-30	-40	-50	-50	-50	-50	-50	-50		-556
Profit / Loss		0	543	-480	17	15	-10	-11	-5	-1	3	6	8	9	4	8	12	6	1	6	10	15	20	-21		
Cumulative Cash Flow Retained as		0	543	63	80	95	84	73	68	66	69	75	83	92	96	104	116	123	124	129	140	155	175	154		
	Bond	0	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
	Tech Reserve	0	0	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	50		
	Cash reserve	0	513	33	45	55	39	23	13	6	4	5	8	12	11	14	21	23	19	19	25	35	50	74		
Liabilities																										
	Shares/Loans	91	900	900	880	860	812	764	716	668	620	572	524	476	428	380	332	284	236	188	140	92	44	0		
	Depreciation	0	0	0	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43		860
Assets	Capital	91	357	857	814	771	728	685	642	599	556	513	470	427	384	341	298	255	212	169	126	83	40	-4		
	Reserves	0	543	63	80	95	84	73	68	66	69	75	83	92	96	104	116	123	124	129	140	155	175	154		
Total Assets		91	900	919	893	865	812	757	709	665	625	588	553	518	480	445	414	377	335	298	265	237	214	150		
Retained profit		0	0	19	13	5	-0	-7	-7	-3	5	16	29	42	52	65	82	93	99	110	125	145	170	150		

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Income / Expenditure / Cashflow

For simplicity of presentation, the table combines the capital expenditure and share income within the first half year's trading in 2018. The Society strategy thereafter is to allow withdrawal of shares roughly in line with depreciation so that the end of 20 years all of the shares have been redeemed. The small capital asset remaining, reflects the anticipated value of the moveable equipment (principally the turbine). It would be anticipated that this will remain in operation for at least another 20 years, continue to generate and return an annual gross income of around £34,000 (depending on inflation and the price of electricity at the time). A summary profit / loss is shown below

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Profit/Loss	Year ending											
	March	2016	2017	2018	2019	2020	2021	2022	2023	2028	2033	2038
Income		0	0	44	91	93	96	98	101	114	129	146
Trading Expenditure			0	-7	-13	-13	-14	-14	-14	-16	-18	-21
Gross Profit		0	0	37	78	80	82	84	87	98	111	125
Depreciation*		0	0	0	-43	-43	-43	-43	-43	-43	-43	-43
Share Interest		0	0	-18	-36	-35	-34	-32	-31	-21	-11	-2
Community Benefit Fund		0	0	0	-5	-10	-10	-15	-13	-20	-50	-50
Net Profit		0	0	19	-6	-8	-5	-6	0	14	7	30

- Depreciation indicated assumes a maintenance contract supplied with guarantees from the manufacturer. LCR is advised that whilst under the initial year's warranty we would not need to depreciate the capital asset significantly until the first full year of operation i.e. at March 2019

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Balance Sheet		Year ending March	2016	2017	2018	2019	2020	2021	2022	2023	2028	2033	2038
Assets	Capital		91	357	857	857	857	857	857	857	857	857	857
	Depreciation		0	0	0	43	86	129	172	215	430	645	857
	Reserves		0	543	63	80	95	84	73	68	92	124	154
Total Assets			91	900	919	893	865	812	757	709	518	335	153
Liabilities	Loan		91										
Net Worth			0	900	919	893	865	812	757	709	518	335	153
Ordinary Shares				900	900	880	860	812	764	716	476	236	0
Retained profit			0	0	19	13	5	-0	-7	-7	42	99	154