



Low Carbon Gordano Limited

Five Year Business Plan
2019 – 2024

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Approved by the LCG Board on 13.6.19.

Low Carbon Gordano Limited is a Community Benefit Society

Registered in England and Wales on 28th April 2011

Registration number: 31251 R

Registered Office: The Coach House, 2 Upper York Street, Bristol, BS2 8QN

www.lowcarbongordano.co.uk

1: Introduction - The purpose of this document is to explain the business strategy of Low Carbon Gordano Limited.

1:1-Our Vision

“A low carbon future for the Gordano community and the wider world using a co-operative model to ensure community participation and ownership”.

1:2-Our Mission Statement

“To help create a low carbon future through renewable energy generation, energy storage, renewable energy supply and other carbon reduction measures”.

1:3-Our Aims

1. Achieving carbon reduction through developing renewable energy generation and storage schemes, renewable energy supply and supporting energy reduction programmes
2. Generating a financial surplus for reinvestment in carbon reduction projects in our community
3. Maximising local business and employment opportunities to help develop a sustainable local economy
4. Encouraging all sectors of the community to adopt a low carbon lifestyle
5. Collaborating with energy deprived communities in other parts of the world to achieve fairer, sustainable, low carbon lifestyles
6. Developing partnerships with other organisations with compatible aims

2: Our Community

When Low Carbon Gordano was established in 2011 we defined our community as the towns of Portishead and Pill and the adjoining villages. After 3 years' experience developing projects, we realised that this area was too small to sustain a long-term sustainable energy business. As well as size, there are significant constraints which were not foreseen at the outset; these include the Green Belt designation which covers all of the original area and the presence of Bristol airport which has so far ruled out any wind projects.

At the start of 2014 we entered discussions with neighbouring community energy groups. We agreed to extend our community to include other parts of North Somerset and neighbouring areas. We also strengthened our board to include representatives from these areas.

In 2018, we began to explore a collaboration with Avalon Community Energy (ACE) on the basis that they could supply the potential projects and LCG the fundraising expertise. Two members of the ACE Board have been co-opted on to the LCG Board in order to support this development. We are also



exploring the potential of an umbrella community energy organisation covering the whole of Somerset in order to deliver projects to scale.

Our area is now North Somerset and where opportunities arise can extend into Somerset, Bristol and South Gloucestershire.

3: The Need for Change

There are three main factors that drive the need for us to consider implementing sustainable, locally-owned energy solutions:

3:1-Security of supply

The UK is importing an increasing percentage of its energy. This demonstrates how vulnerable the UK will be to future security of supply and also to potential price rises.

3:2-Environmental impacts

Our present energy supply is mainly from fossil fuels (coal, oil and gas) which, when burned, emit greenhouse gases that contribute to climate change.

3:3-Community understanding and engagement

One of the main drivers of change in any public system is the extent to which the wider population understands what is at stake and also the implications of different approaches to the challenges. We therefore regard engagement with our community and a wish to be actively involved as key to the longer-term implementation of our ambitions.

4: The Scope for Change in our Community

Low Carbon Gordano is adopting a three pronged strategy in order to reduce the local carbon footprint:

- renewable energy generation including storage.
- supply of energy to the public from renewable sources.
- reduction of energy use and increased energy efficiency.

5: Our Products

5:1-Renewable energy generation

Solar PV: Currently we have built two and purchased two ground-mounted solar farms (total generation capacity 2.87 MWp) and installed four roof-

mounted systems which are on community buildings (0.26 MWp), at a cost of £3.4million.

Despite current Government policy which has removed financial incentives for solar schemes, we still see a potential for more roof-mounted systems both on commercial buildings and community facilities especially schools. Appropriate sites will all have the characteristic of a high-day time energy usage. LCG is actively seeking suitable sites. One example of such a project, completed in 2018, is the installation of a solar PV system on the Churchill Academy. LCG is also seeking to purchase existing solar PV systems. One example of this is the Kennels array near Backwell previously owned by Solarsense. We are also actively exploring the new technologies around energy storage to maximise revenue and provide continuity of supply

Wind Turbines: Due to current Government policy, there is little prospect of developing onshore wind turbines. That said, we would be keen to invest in off-shore wind farms if a suitable investment opportunity arose. This would require us to extend outside our stated geographical area.

Hydro, biomass, solar thermal and anaerobic digestion: We would be interested in any of these technologies but we have not been able to identify any opportunities.

5:2-Supply of energy from renewable sources

The hope of Low Carbon Gordano entering into a retail supply business via Mongoose Energy Ltd did not materialise. Instead, we will explore the potential of local smart grid and direct supply technologies.

Sale of generated electricity directly to domestic and business customers is an essential part of the future viability of projects in the context of a subsidy-free market. Two current examples are Northleaze School and the arrays at Churchill Academy.

LCG has invested £2k seed-corn finance for a study about developing a local supply infrastructure. This has now attracted grant aid in order to fund a proper feasibility study.

5:3-Reduction of energy use and increased energy efficiency

We estimated in our community energy plan that energy demand could be reduced by about 20% if all potential measures such as loft and wall insulation were taken.

LCG have used grant funds to train a small group of volunteers to become basic home energy advisors and also in purchasing the supporting information and equipment.

LCG has established an energy advice service known as EASY - Energy Advice Service for You - and we have carried out a number of energy assessments for local community buildings and private households. This service is operated on a small scale in winter months when the weather conditions are suitable for use of the thermal imaging camera.

We do not charge a fee for this service but accept donations to the Community Benefit Fund.



In addition to the surveys, LCG has invested in energy reduction and efficiency projects for community groups via the annual Community Benefit Fund grants (e.g. installation of LED lighting).

6: Strategic Review

Low Carbon Gordano carries out a strategic review of its business each year. From the latest review conducted in March 2019, we have revised our five-year plan as follows:

YEAR 1 (4/19-3/20)	YEARS 2&3 (4/20-3/22)	YEARS 4&5 (4/22-3/24)
Grow the business (Board)	Grow the business	Grow the business – Wind Turbine
Remain financially viable (Board)	Remain financially viable	Remain financially viable
Meet all legal obligations (Board)	Meet all legal obligations	Meet all legal obligations
Fulfil our vision, mission & aims (Board)	Fulfil our vision, mission & aims	Fulfil our vision, mission & aims
Develop relationship with Avalon (Jon, Brian, Maddy, Stewart)	Develop partnerships with other compatible organisations	Develop partnerships with other compatible organisations
Monitor viability of storage (Helen, Chris)	Monitor viability of storage	Develop financially viable storage schemes
Develop Lockleaze project proposal/secure funding (Bob, Chris)	Install Lockleaze scheme & replicate	
Explore commercial roof schemes with other partners (Bob)	Develop commercial roof schemes	
Deliver one Pan Somerset project (Stewart, Paul)	Strengthen Pan Somerset Network	
Decide on land purchase proposal for		

Moorhouse/raise funds (Jon/Board)		
Improve marketing by identifying LCG “sweet spots”, promoting “success stories”, identifying “routes to market” for purchasing existing/dormant schemes & commercial roofs & developing a proactive marketing plan (Helen, Steve, Chris, Brian, Bob, Jon & outside expert)	Buy some existing schemes and/or develop dormant schemes	
Mega review of cost base involved in Bright AM contract, Solarsense O&M contract & LCG fee earning contracts to avoid duplication/double payments (Richard)		
Review of Bright AM contract (Chris)		
Review of Solarsense O&M contract/retendering? (Chris, Brian)		
Review of Quartet Contract (Paul)		
Review of fee earning contracts (Paul)		
Engage with NSC Climate Emergency Declaration (Bob)	Develop more NSC owned school roof schemes/community buildings if lease issue resolved	
Identify resources currently available/gaps for raising awareness (Richard, Paul)	Address fuel poverty/energy advice gaps	

7: Strategic Partnerships



We have four key strategic partnerships:

- Bright Renewables (Community Owned Asset Management Ltd)
- Solarsense UK Ltd
- Co-operative Assistance Network Limited (CAN)
- Avalon Community Energy Limited

7:1-Bright Renewables

LCG has transferred its asset management contract to Bright Renewables, a new business wholly owned by its community clients. Bright Renewables acquired Mongoose Energy's asset management business with financial support from Community Owned Renewable Energy LLP which is funded by social investors Power to Change and Big Society Capital. The first clients and owners of Bright Renewables are all former Mongoose Energy members, including LCG, but new community clients will be joining shortly.

7:2-Solarsense

Solarsense is our preferred supplier of solar installations because it has an established track-record and is also a local firm which is consistent with our aim of developing a sustainable local economy. Solarsense provide the following five services:

- Identification of potential new sites
- Feasibility studies of potential sites
- Development of sites ready for construction
- Installation on approved schemes
- Maintenance of installed schemes

7:3-CAN

CAN provides an overall Treasurer and Society Secretary function for Low Carbon Gordano. It provides the following four services:

- Bookkeeping, financial control and reporting
- Project budgets
- Long-term forecasting
- Regulatory compliance.

7:4-Avalon Community Energy

Avalon Community Energy (ACE) is a Community Benefit Society established in 2013 covering the geographical area of Glastonbury, Wells, Street and Shepton Mallet. In 2018, LCG began to explore a collaboration with ACE on the basis that they could supply the potential projects and LCG the fundraising expertise. Two members of the ACE Board have been co-opted onto the LCG

Board in order to support this development. A possible first project is currently being explored for a roof mounted system at a school.

7:4-Other Links and Networks

LCG benefits from the following links:

- Co-ops UK
- Co-ops SW
- Centre for Sustainable Energy Bristol
- Regen
- Community Energy England
- Neville Registrars
- Ethex
- Bristol Energy Network
- Portishead Chamber of Commerce
- Quartet
- Zero West

8: Our Business Model

8:1-Legal Status

Low Carbon Gordano Limited is registered as a community benefit society under the Co-operative & Community Benefit Societies Act 2014 - Registration number 31251R.

8:2-Membership

The founder members of Low Carbon Gordano limited all put their time and energy into developing Low Carbon Gordano in an entirely voluntary capacity.

Membership is open to any person, corporate body or nominee of any unincorporated organisation that supports the objects of the Society and who has paid or agreed to pay the minimum shareholding of currently £500. The Board may refuse any application for membership at its absolute discretion.

The Society operates in line with the co-operative principle of one-member-one-vote, regardless of how much share capital a member holds. This contrasts with companies which operate to the principle of one-share-one-vote.

Members of the Society have the collective right to appoint and dismiss directors, accept or reject directors' recommendations and to determine the affairs and rules of the Society.

A copy of the rules, financial statements and other documents for members can be accessed via www.lowcarbongordano.co.uk/about

8:3-Board of Directors

The Board of Directors is made of up to twelve members, of whom eight are elected at the AGM and 4 are co-opted by the board.



The Board provides a range of expertise and capacity which is harnessed to support the business. Longer-term we aim to have sufficient income from projects to pay for staff and contractors to reduce the time demands on future Board members.

For fuller details of the current Board members, refer to www.lowcarbongordano.co.uk/about/directors

8:4-Personnel

Currently, LCG does not directly employ any staff. Our current development strategy however anticipates a growth path which would generate sufficient funds for us to realise this possibility.

LCG does pay professional fees reviewed on an annual basis for services received. The main suppliers of these services are outlined above in "Strategic Partnerships".

We also have a co-opted director who is responsible for project development, data protection and some administrative functions and who is contracted on a self-employed hourly rate basis.

In addition, we have a small team of trained volunteers who provide the EASY service.

8:5-Premises

LCG does not have any premises. We rent room space as and when necessary and work from home.

8:6-Asset Lock

The assets of the Society are protected by a Statutory Asset Lock which means that in the event of dissolution the assets must be transferred to a similarly constituted body.

8:7-Liability

As an incorporated entity, each member's liability is limited to the amount of their shareholding.

8:8-Community Benefit

We are a community benefit society and therefore use some of our net profit to support community and charitable projects. We have adopted a policy to allocate 10% of the available monies to carbon saving projects in the developing world. The remaining 90% is assigned to a charity which provides

grants to local carbon-saving projects. The current administrating charity for awarding these grants is Quartet Foundation.

The Community Benefit Fund Policy is available at www.lowcarbongordano.co.uk/about/rules-and-policies

In addition to this fund, there are other incidental financial benefits to the community as follows:

- Giving business to local companies
- Enabling local community organisations to save money directly through energy generation
- Encouraging people to reduce their energy use and thereby have more disposable income to spend in the local economy.

9: Finance

There are seven potential sources of funding:

- Community share issues
- Loans
- Bonds and Loan Stock
- Grants
- Donations
- Revenue generated from projects

9:1-Community Share issues

Low Carbon Gordano raised monies via a Pioneer Share Issue to cover start-up costs. Since then, we have conducted two public share issues. The first raised £2.2 million to meet the capital cost of Moorhouse solar park. The second secured a further £975k to fund the Ham Lane solar park. There were sufficient monies left to fund three community solar roof schemes.

The share offers were well received. Not only were people investing through a concern about climate change and the 'green' agenda, but also because we aim to pay interest at a rate of 2.5% above RPI.

Given the response to date and the current state of the financial markets, we believe that further share issues will be a key source of finance for future projects.

LCG can issue two types of shares:

- Withdrawable shares
- Transferable shares.

Withdrawable shares - To date we have only raised finance using the withdrawable share which means that the shares are not traded and the value can only be realised by the Board of LCG agreeing to buy back shares from a member.



If shares are not withdrawn, the effect will be to stretch the total interest that is available to pay members across a larger number of shares, thus reducing the rate of interest affordable – this is commonly known as share-dilution.

The financial forecasting assumes that shares will be withdrawn at a rate such that LCG operates with a £30k buffer in the bank in order to maximise the number of shares that can be withdrawn and thereby minimise our on-going interest payment cost. In order to manage this, the LCG Board has adopted a Share Withdrawal Policy which is available at www.lowcarbongordano.co.uk/about/rules-and-policies. The forecasting is also based on the assumption that the share capital will be repaid within the lifetime of the current projects.

In the Summer of 2018, the LCG Board approved an Open Share Offer approach whereby members and prospective members can apply to purchase withdrawable shares at any time rather than wait for a Time-Bound share offer. The same restrictions on total shareholding applies (£500 to £100k). The potential advantage of this is that LCG can:

- raise further finance for small schemes.
- repay additional share withdrawal requests.
- increase its membership.

Transferable shares – These shares, traded at par, can be sold by the member to a third party but only with the consent of the LCG Board. The advantage of using transferable shares would be that members can invest over the £100k cap that applies to withdrawable shares.

9:2-Loans

To date, LCG has not taken on any loans. Moving forward, it is unlikely that we will use this option due to the fixed cost of bank loans against the unpredictable and subsidy-free energy market:

There is clearly scope to use the share base we currently have to raise further capital through debt finance. For example, the £3m share capital could be used to lever in up to £7m of loans, thus enabling LCG to do more new projects without the need for a further community share offer.

Note that, in the event of insolvency, loans have priority over member share capital.

9:3-Bonds and Loan Stock

These are two further potential fund-raising options.

At the start of 2018, LCG launched a 5-year bond issue with an ISA-wrapper, through the Mongoose Crowd platform. It successfully raised the target £447k required to fund three new projects and to replace withdrawn shares.

The bond issue represents just 13% of the current financing of LCG. As with loans, the bonds have a fixed rate of interest and duration and therefore represent a more rigid cost than shares. In order to maximise its sustainability, LCG needs to maintain a low gearing ratio and so currently does not intend to increase this percentage.

9:4-Grants

In the early days of LCG, we were successful in getting a central Government grant of £100k to help with start-up costs and to conduct a community energy audit.

We are currently receiving a CORE grant for initial feasibility of innovative ways of putting solar on roofs and local energy supply. This will likely move onto further funding for feasibility, planning and installation.

We do not see grants as part of our mainstream fund-raising strategy. However, as a community benefit society, one of our key priorities is to provide grants through our Community Benefit Fund scheme (see above).

9:5-Donations

All donations received are assigned to our Community Benefit Fund to enhance the annual distribution from profits as approved by members at the AGM. Some of these come via the home energy surveys conducted through our EASY programme. The other main source will be members requesting that all or some of their interest payments are reallocated to the Fund. Individuals can also make voluntary contributions.

9:6-Revenue Generated from Projects

For our current portfolio of solar schemes, there are three sources of income:

- FiT generation tariff
- Export of electricity
- Sale of electricity locally.

FiT generation tariff – Once a project has been successfully registered, a payment per kWh is fixed for a period of twenty years and linked to RPI. Payments are made quarterly on the basis of meter readings. The FiT incentive scheme terminated in March 2019 and so any new projects will be subsidy free.

Export of electricity – As a result of being registered for generation, a proportion of the generated electricity is sold for export to the Grid. LCG has to agree a Power Purchase Agreement (PPA) with an electricity supply company which has been negotiated by Bright Renewables under its asset



management contract. All these agreements have to be reviewed at set intervals.

Sale of electricity locally – Currently, LCG has four such agreements. Northleaze Primary School pay us a rate per kWh that is less than the commercial rate that they would otherwise pay, saving money for them and also making the scheme financially viable for LCG. The same approach has been used at the Churchill Academy. Solarsense receive free electricity from the Helios House and Kennels arrays capped at an agreed level above which they pay at the export rate that LCG receives. The other smaller roof schemes receive their electricity free of charge. The charge rate for each scheme is based on the specific business case. Income derived from sales of electricity will become even more critical with the advent of the subsidy-free market from April 2019.

Financial forecast example

- The table below illustrates in summary, the projections for the current eight generation projects. It highlights that shares will all have been repaid by the end of the 25-year lease period and will have left a cumulative profit of £519k. Note that all numbers in the table are cumulative totals.
- All of the solar projects have a profile which demonstrates that in the early years, due to the high level of shares leading to high interest payments, losses are made which are offset by share capital. However, towards the end of the 25 years, with share capital reduced and thus interest payments falling, the schemes move into profit.
- The financial projections are regularly amended to reflect the latest information from internal monitoring and external sources.

On ... 31/03/2022 31/03/2027 31/03/2032 31/03/2037 31/03/2042
(£ ,000s)

Cumulative profit	(786)	(1,071)	(1,024)	(342)	519
Cumulative interest paid (from 1/4/2017)	1,088	1,782	2,302	2,619	2,671
Cumulative CBF payments (from 1/4/2017)	113	188	263	338	413
Shares held	2,787	2,220	1,475	394	0

11: Marketing

PRODUCTS	CUSTOMER	PEOPLE	PRICE	PROMOTION	POINT OF SALE
Reduction Easy	N. Somerset homeowners Community organisations	EASY Co-ordinator Trained volunteers	Free but donations to Community Benefit Fund	LCG Newsletters LCG website	All referrals go to the EASY Co-ordinator who contacts applicants to arrange survey
Reduction Community Benefit Grants	Local community organisations.	Administered by Quartet Foundation with LCG members & Board members involved in the selection process	Project at £15k pa. (10% for overseas projects). Quartet cost is 10% of total annual allocation for local projects.	WOM / local networks. Quartet use their own mail lists.	Application form download from website.
Generation Roof Solar Inc. storage	Community organisations e.g. schools And commercial buildings which have high electricity usage, clear title to roof, longevity	Board members with appropriate experience Project admin Solarsense (partner)	Solarsense installation costs IRR 8-10%	Solarsense referred LCG members Board members /ACE Project admin	Negotiation to sign roof lease inc. sale price of electricity

PRODUCTS	CUSTOMER	PEOPLE	PRICE	PROMOTION	POINT OF SALE
Generation Ground Solar Inc. storage	Farmers and other landowners with high electricity usage Existing solar farm owners	Board members with appropriate experience Project admin Solarsense (partner)	Development costs Fundraise costs Installation costs IRR (8-10%)	Solarsense Project admin Existing sites	Negotiation to sign land lease
Generation Onshore Wind	Farmers and other landowners with a suitable site Existing wind turbine owner	Board members with appropriate experience Project admin	Development costs Fundraise costs Installation costs IRR (8-10%)	Local networks	Negotiation to sign land lease
Generation Offshore Wind	Existing offshore wind farm owner	Board members with appropriate experience Project admin	Legal and Fundraise costs IRR (8-10%)		Negotiation to sign contract
Raising Community Share Capital	Current members New members	Board expertise CAN (registry)	Target price 4% above the RPI	Newsletters Social media SOD LCG website Public events Social networks Ethex or similar	Online or paper application based on a specific share offer

PRODUCTS	CUSTOMER	PEOPLE	PRICE	PROMOTION	POINT OF SALE
Production +sale of electricity	Electricity supply company (PPA) Government (FIT) Sleeving Microgrid	Solarsense Board expertise Project admin Bristol direct supply feasibility project	FIT fixed PPA contract (reviewed) Landlord buy back contract to achieve IRR of 8-10%	Bright (PPA) LCG Board Bristol direct supply feasibility project	Contracts Leases

12: Business Risk Analysis

This document is a 'live' document to be read alongside this business plan. It is regularly reviewed and updated by the Board and appropriate action taken.