



Low Carbon Gordano Limited

Five Year Business Plan 2022-2027

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Updated by David Clegg Feb 2022**

Approved by the LCG Board on 7th May 2022

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

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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. Exploring innovative local energy models to help communities contribute effectively to the achievement of net zero carbon
3. Generating a financial surplus for reinvestment in carbon reduction projects in our community
4. Maximising regional business and employment opportunities in order to develop a sustainable regional economy
5. Engaging with our local community to support new projects and adopt a lower carbon lifestyle
6. Collaborating with energy deprived communities in other parts of the world to achieve fairer, sustainable, low carbon lifestyles
7. 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.

Our area is now North Somerset and where opportunities arise can extend into other parts of 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 still imports a significant percentage of its energy.

This demonstrates how vulnerable the UK will be to future security of supply and also to price rises, as evidenced in the winter of 21/22 and expected to impact for 3-4 years.

3:2-Environmental impacts

Our present energy supply is mainly from fossil fuels (chiefly oil and gas) which, when burned, emit greenhouse gases that contribute to climate change. There is now a general acceptance that the planet Earth is facing a climate emergency. The UK Government has committed to a target of net zero greenhouse gas emissions by 2050. Locally, North Somerset Council has set a more ambitious target of becoming carbon neutral by 2030.

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 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. Examples of this are the Kennels array near Backwell previously owned by Solarsense. LCG has recently entered in to a contract with Public Power Solutions who will try to identify suitable sites for development.

We are considering investing in the new technologies around energy storage to maximize revenue and provide continuity of supply. But currently these technologies are too expensive to be a viable investment though this is being monitored.

Wind Turbines: A change in Government policy which removes the previous embargo on land-based wind turbine development has opened this technology up as a new business opportunity. Given the likely costs of such a scheme, this will almost certainly require a partnership approach with other like-minded energy groups and funding sources. Just such an opportunity arose in 2020 when a community energy group in Portishead, Channel Green Energy (CGE), was set up with the aim of developing a wind turbine. Given the synergy of aims, values and geography with LCG, an agreement has been reached for CGE to operate as a wholly owned subsidiary of LCG. We would also consider investing in off-shore wind farms if a suitable opportunity arose. This would require us to extend outside our stated geographical area.

We would consider any other type of renewable generation technology when an opportunity presents itself.

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 invested £2k seed-corn finance for a study about developing a local supply infrastructure – the “Lockleaze Loves Solar” project. This attracted grant aid and a successful feasibility study was completed. However, implementation has been thwarted by the COVID pandemic, difficulties in accessing finance for householders and very tight cost margins.

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

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, tree planting, community allotments, double glazing, climate change education etc.) We are currently investigating whether to support a Home Energy Survey capability in the North Somerset Area. (CHEESE)

6: Strategic Review

Low Carbon Gordano carries out a strategic review of its business each year. Based on the latest full review conducted on 6th. March 2021, we have reviewed and amended our five-year plan as follows:

LOW CARBON GORDANO FIVE YEAR PLAN 4/2022-3/2027

YEAR 1	YEARS 2&3	YEARS 4&5
Develop the business by applying the test - “What will make the biggest difference?” • Step change from thinking within the LCG box – what it can deliver itself - to opportunities for collaboration/partnerships both formal/informal based upon common organisational aims/values. • This may override constraints about technology type & geography. • It could also help with internal resource limitations (time/money/knowledge). • This may challenge the status quo in terms of control for both governance and finances • It should include funding/supporting/advising others rather than LCG doing itself (Board)	Develop the business (Board)	Develop the business (Board)

YEAR 1	YEARS 2&3	YEARS 4&5
Lower Risk New Projects - PPS (Bob, Chris, Brian, Stuart) - RS Solar Array (Sarah/Board) - NSC (inc. EV charging stations) (David, Bob, Chris, Brian, Helen, Stuart, Kirsty) - Consortium - S. Glos, BEC, BWCE, LCG (Bob, Chris, Brian)	Develop the business (Board)	Develop the business (Board)
Higher Risk New Projects - CGE (Chris, Hilary, Brian, Stuart) - CHEESE – Home energy survey franchise (David, Bob)	Develop the business (Board)	Develop the business (Board)
Maintaining Existing Projects - Existing solar arrays (Chris, David, Brian) - Bristol City LEAP (Chris)	Develop the business (Board)	Develop the business (Board)
Remain financially viable recognising the higher risk resultant from above strategy and the impact this has on managing member/investor expectations (Brian/Board)	Remain financially viable (Brian/Board)	Remain financially viable (Brian/Board)
Meet all legal obligations (Board/Brian/Hilary/Helen/Stuart)	Meet all legal obligations (Board/Brian/Hilary/Helen/Stuart)	Meet all legal obligations (Board/Brian/Hilary/Helen/Stuart)
Fulfil our vision, mission, aims (Board)	Review/fulfil our vision, mission, aims (Board)	Review/fulfil our vision, mission, aims (Board)

YEAR 1	YEARS 2&3	YEARS 4&5
Review the scope of the Community Benefit Fund grants (Board/BEC/Quartet) Also consider increasing size of fund. (Board/Membership)	Review (Board/Partners/Membership)	Review (Board/Partners/Membership)
Agree a strategy to improve internal & external communications & deliver (Kirsty/Hilary/Helen G/Board)	Review strategy & deliver (Kirsty/Hilary/Helen G/Board)	Review strategy & deliver (Kirsty/Hilary/Helen G/Board)
Agree an induction programme for new Board members & deliver it (Hilary/Kirsty/Sarah/David/Board)	Review/deliver induction programme (Hilary/Board/new Directors)	Review/deliver induction programme (Hilary/Board/new Directors)

7: Strategic Partnerships

We have six key strategic partnerships:

- Bright Renewables (Community Owned Asset Management Ltd)
- ARC
- Co-operative Assistance Network Limited (CAN)
- Quartet Community Foundation/Bristol Energy Co – Operative
- Channel Green Energy
- Consortium (South Glos, BEC, BWCE & LCG)

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 have subsequently joined.

7:2-ARC

ARC Solar provide Operations & Maintenance on the two larger solar sites, having been appointed following a competitive tendering process. They are responsible for keeping the sites operating safely and efficiently.

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-Quartet Community Foundation/Bristol Energy Co-Operative

In 2019, LCG made two strategic changes to the way it administered its' Community Benefit Fund grants to local carbon saving projects.

First it entered into a contract with Bristol based charity, the Quartet Community Foundation which advertises and administers the annual process in return for a fee.

Secondly, LCG agreed to pool its' resources with the equivalent fund from Bristol Energy Co-Operative to increase the total available and share the responsibility for selecting the successful applicants.

7:5-Chanel Green Energy (CGE)

CGE started as a group of people from the Portishead and Pill area looking at putting a wind turbine in the Portbury Docks area. They have now joined forces with LCG and are now incorporating as a wholly-owned subsidiary of LCG. It is understood by all parties that developing wind turbines is a slow process. CGE will raise its own funds and potentially have funds raised through LCG. LCG will also support the running of CGE and the development of its project

7:6- Consortium (South Glos. Community Energy, Bristol Energy Co-Operative, Bath & West Community Energy, Low Carbon Gordan)

Early-stage discussions are underway with colleagues at the Bristol Energy Co-operative and Bath & West Community Energy about the formation of some form of consortium working. It is hoped that by sharing resources and expertise for certain tasks, most notably project development, greater efficiency can be achieved without sacrificing the local identity that is important to each society.

7:7- 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
- 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 up 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.

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 we contribute some of our revenue each year 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 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 regional companies
- Enabling regional 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 regional economy.

9: Finance

There are six 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 issued withdrawable shares 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.

The LCG Board is actively considering offering a new class of withdrawable share that will pay a lower rate of interest. This reflects the need to make new projects viable in a 'post FiT subsidy World'.

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.

At present, the open share offer is only open to new member seeking to joining LCG by purchasing the minimum £500 share rather than being open to existing members purchasing additional shares.

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.

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.

Moving forward, it is unlikely that LCG will use this option due to the fixed cost of bank loans against the unpredictable and subsidy free energy market.

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 will only increase this percentage with great caution.

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.

To date, LCG has not seen grants as a part of our mainstream fund-raising strategy. This might change however, if LCG becomes part of a consortium with other local community energy groups which are more accustomed to this practice and can resource the process. That said, 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 as approved by members at the AGM. The 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 through either:

- 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.
- The FiT export tariff. As with the generation tariff, the export tariff is a payment per kWh, fixed for a period of twenty years and linked to RPI.

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 following the termination of the FIT scheme.

10- 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 2041-42 financial year and will have left a cumulative profit of £57k. 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 ... (£ ,000s)	31/03/2022	31/03/2027	31/03/2032	31/03/2037	31/03/2042
Cumulative profit	(719)	(841)	(656)	(90)	699
Cumulative interest paid (from 1/4/2017)	1,095	1,657	2,081	2,296	2,318
Cumulative CBF payments (from 1/4/2017)	113	203	303	413	534
Shares held	2,881	2,059	1,147	171	0

11: Marketing

PRODUCTS	CUSTOMER	PEOPLE	PRICE	PROMOTION	POINT OF SALE
Community Benefit Grants	Local community organisations.	Pooled fund with BEC. Administered by Quartet Foundation with LCG members & Board members involved in the selection process	Projected @ £15k+inflation (10% for overseas projects). Quartet cost is 10% of total annual allocation for local projects.	Word of mouth + 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) Consortium (LLS)	Solarsense installation costs IRR 8-10%	Solarsense referred LCG members Board members /ACE Project admin Consortium (LLS)	Negotiation to sign roof lease inc. sale price of electricity
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 Channel Green Energy	Development costs Fundraise costs Installation costs IRR (8-10%)	Local networks Co-work with Channel Green Energy	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

PRODUCTS	CUSTOMER	PEOPLE	PRICE	PROMOTION	POINT OF SALE
Raising Community Share Capital	Current members New members	Board expertise CAN (registry)	Target price 2.5% 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
Production +sale of electricity	Electricity supply company (PPA) Government (FIT) Sleeving Microgrid	Solarsense Board expertise Project admin Bristol direct supply feasibility project (LLS)	FIT fixed PPA contract (reviewed) Landlord buy back contract to achieve IRR of 8-10%	Bright (PPA) LCG Board Bristol direct supply feasibility project (LLS)	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.