CARBON MANAGEMENT PLAN



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1 Executive Summary

Our Carbon Management Plan (CM Plan) states its aspiration to achieve a reduction target of 5% per annum based on the 2000 baseline. A number of factors have made this a challenging target including: the complexity of the carbon management process; demands for new skills within, and time from, existing staff in the identification, planning, resourcing and tracking of carbon reduction projects/initiatives; a changing legislative and policy framework.

This Carbon Management Plan (CM Plan) sets out our ambitions for the next 5 years, and a roadmap for progress. Reducing carbon emissions is not just about our commitment to the environment. The same processes we use to identify carbon emissions reduction will also identify and realise financial savings through improved efficiency in the procurement and operation of our company. The actions outlined within this Plan form part of our efficiency plan to reduce consumption and provide value for money.

2 Introduction

2.1 Context of the company

Bioguard is a family-owned business which was established in the 1990's to develop, manufacture and distribute its unique class leading range of hygiene, cleaning and infection control products into the healthcare, vending and food processing sectors. The company serves clients ranging from major multinationals through to small enterprises across the UK, Europe and internationally.

Over the years Bioguard has found that many of the more traditionally used hygiene, cleaning and infection control products do not perform satisfactorily in meeting users real needs.

The company's ongoing policy of product innovation while working closely with leading product users has enabled it to develop its class leading product range, which is powered by BIOCHEM the unique compound Bioguard created for high performance cleaning and disinfection which provides all of the following typically required benefits:

- ☑ Alcohol free;
- ☑ Eco friendly and non-hazardous;
- ☑ User friendly and safe to use;
- ☑ Superior cleaning and disinfection capabilities;
- ☑ Can be used on virtually any surface;
- ☑ Independently tested by leading testing authorities.

Since its founding the Company has built up its client base through the principles of trust, reliability, honesty and the provision of top-quality products at very competitive prices. It is Bioguard's firm belief that the products and services it offers to clients through the in-depth experience it has within the sector has led to its growth, a fact born out through client feedback and loyalty.

All Bioguard's products are developed by its own in-house specialists. Manufacture of all products from the initial chemical blending of base chemicals through to filling and packaging of the finished product is carried out in its two factories in Northampton. All of its products meet the latest ISO registration standards and UK British Standard (BS) testing standards and for the healthcare sector are CE marked. In addition, all the products manufactured and sold by the company are independently tested by leading UK & European testing houses, which provide independent verification of their key performance characteristics as well as extensive 3rd party certification.

The company is open to change and responds swiftly to the needs of its clients. Bioguard Ltd works closely with its clients, which leads to a better understanding of their requirements and enables it to meet or exceed their expectations.

2.2 Biogaurd's planned performance on Carbon Management

Although starting in 2021 with a formal Carbon Management Programme the company have been implementing energy saving measures for the last 5 years.

The key issues facing the Bioguard cover, suppliers/fiscal requirements/staff/clients/etc throughput and increasing energy consuming equipment and facilities all of which have and may well in the future have significant impacts on future carbon emissions.

A number of factors have made this a challenging target. In common with other SME's, the complexities associated with delivering a comprehensive carbon management programme were new and not fully understood. Despite the company's good history of implementing energy efficiency measures, the increasing demands on staff associated with the identification, planning, resourcing and tracking of carbon reduction projects/initiatives have meant that they were effectively developing new skill sets and increasing their knowledge-base, whilst still continuing to perform existing duties.

Furthermore, the changing legislative and policy framework has meant that the drive to meet the stated CM Plan carbon reduction target has often been overshadowed.

3 Carbon Management Strategy

3.1 Drivers for Carbon Management

The company faces a series of drivers which set the context for carbon management. Crucially, the organisation recognises that these cannot and should not be viewed in isolation from each other or the principal goal of continuously minimising its environmental impact whilst maximising its contribution to society and the economy.

Ultimately, a strong performance with respect to carbon emission reduction should deliver financial benefits to Bioguard by mitigating the risks associated with e.g. increases in energy tariffs.

The following represent the key carbon drivers for Bioguard:

- UK targets
- Climate of reducing financial allocations
- Rising energy costs
- Principle that investments in carbon reduction are generally associated with commensurate reductions in future expenditure
- The need to eliminate waste of resources and to increase efficiency
- The company's own carbon management targets
- Depletion of the world's finite resources
- It's the right thing to do

3.1.1 Legislative drivers for carbon management

Over the last 2 decades there have been many pieces of legislation enacted at an increasing rate in the UK which aim to address the issue of climate change, carbon dioxide and greenhouse gas emissions, and sustainability. Many of these came from European Union Directives which in turn were developed in order to meet the obligations of the Kyoto Protocol, adopted in December 1997 and enforced in 2005. Under Kyoto, ratifying countries agreed to commit to reductions in their carbon emissions by, on average, 5.2% below 1990 levels by 2008-12.

The Agreement was supported in the UK by the findings of the Stern Review¹ on the Economics of Climate Change, published in October 2006, which provides compelling economic reasons to address climate change.

The UK share of the collective Kyoto target assumed by the European Union under the Protocol is a 12.5% reduction in emissions below 1990 levels by 2012. Subsequently the UK Climate Change Programme (launched in 2000) set a target of 20% reduction by 2010 and 60% reduction by 2050.

Legislative drivers for carbon management can take the form of targets by the UK Government, incentive systems, charging schemes, or regulatory compliance requirements.

Some of the main legislative drivers affecting the company are set out in Appendix A; however, the list is not definitive.

3.1.2 Other drivers for carbon management

While reducing the financial and legal risks posed by various legislative requirements is a significant driver behind Bioguard's carbon management programme there are other factors supporting the need for improving energy efficiency and reducing carbon emissions.

- **Cost saving**: The case for carbon reduction is strengthened by current financial constraints requiring reduced operating costs whilst maintaining effective service delivery. This provides a strong incentive to cut resource consumption to release this money for frontline services.
- **Reputational benefit**: By delivery of sustained carbon reductions, Bioguard will be viewed as an exemplar enhancing the organisations broader sustainability credentials.
- **Improved staff satisfaction**: Studies have identified a correlation between a company with strong environmental performance and high staff satisfaction.
- **Improved engagement with key stakeholders**: Key stakeholders of the company, including the local community, are increasingly focusing on sustainability. Bioguard's engagement and enhanced commitment will enhance the relationship with these stakeholders.

4 Emissions Baseline and Projections

4.1 Carbon Footprint Baseline, Cost and Projections

This section covers the establishment of Bioguard's carbon footprint, associated cost and 'Business As Usual' (BAU) cost projections.

4.2 Scope and Boundaries of the Carbon Footprint

The resources to be included in a carbon footprint are defined in relation to the boundaries, the company operates under i.e. its offices and manufacturing works and its wider sphere of operations, its supply chain. Certain boundaries are out of its control, client requirement and use of its products and legislative boundaries.

Definition of the boundaries is determined by the extent of the company has control over its manufacturing, sourcing and supply chains, where it has operational control, and the availability of good quality data.

¹ Stern Review Report on the Economics of Climate Change. N Stern, 2006. HM Treasury, London.

4.3 Organisational Boundary

Organisation boundary: sets out which assets are to be included in the footprint and is shown in the "category" column in the Table below.

4.4 Operational Boundary

Operational boundary: essentially sets out the emission sources included in the footprint and is shown in the "emissions" column in the Table below.

Table: Carbon Footprint Boundaries

Category		Function Examples	Emissions Source			
			Electricity,	gas,	water,	
Offices			waste			
Filling;	Packing;		Electricity,	gas,	water,	
Distribution			waste	-		
Manufacturing	plant:		Electricity,	gas,	water,	
Chemical Formul	lation		waste	-		
Company vehicle	es		Fuel and Business Miles			

Excluded Emission Sources include:

- Contaminated waste e.g. medical
- Confidential waste
- Specialist waste e.g. media
- Air mileage/train travel
- Home-to-office mileage
- Residential properties
- Utility sources not directly billed (e.g. included within a service charge)

4.5 2.3 Data Sources

The data sources used in the CM Plan are based on robust data provided by both internal and external partners. The main streams of data (consumption and costs) input are as follows:-

i) Stationary Sources

- Electricity Energy Management, historical data, utility provider billing
- Gas Energy Management, historical AMR data, utility provider billing

ii) Water

• Water metre reports, historical data logger records

iii) Waste

- Volume of waste from collection company records
- iv) Transport
 - Company vehicle usage/costs

5 Carbon Management Projects

5.1 Introduction

In order to continue achieving emissions reductions and avoiding financial exposure, Bioguard is committed to identifying and implementing carbon saving projects.

Bioguard recognises that successful attainment of its carbon reduction targets is contingent upon the following key elements being in place:

- A company framework that is sufficiently robust to support the financing, delivery and monitoring of carbon reduction projects.
- Clearly identified responsibility and accountability for delivery against carbon reduction targets from the CM Plan outset.
- Identification of a realistic carbon reduction projects across a range of areas relevant to the carbon footprint; this list must be regularly reviewed and flexible to adapt to emerging needs and opportunities for funding.
- A data collection and collation system that is integrated sufficiently to inform both an annual progress update on the CM Plan and other Government and associated returns.

5.2 Planned Future Projects

The projects identified below are a sample of those that have been selected for implementation within the period next five-year plan because they either generally provide the largest proportion of savings or were already planned for delivery as part of an ongoing programme of works.

5.2.1 Energy

Fans – air handling unit, variable speed drives and reversing.

5.2.2 Travel/Transport

Looking at electric vehicle

5.2.3 Waste

Continued awareness raising and provision of facilities for recyclable materials

5.2.4 Water

 Implementation of water conservation measures identified through better communication with workforce.

6 Management and Delivery of the Carbon Management Plan

6.1 Introduction

In order to ensure that there is effective and ongoing ownership of the Carbon Management Plan, it is important to have a fully defined governance structure. Bioguard will continue to adopt the following structure for management accountability.

6.2 The Carbon Management Committee

The Managing Director has responsibility for the strategic direction and implementation of the CM Plan.

6.3 Operational Roles and Responsibilities

Carbon Management Plan/Project Sponsor

The Managing Director will champion the project and have ultimate responsibility for strategic direction and for agreeing budgets outside those already available to Estates.

6.4 Resourcing and Ownership

The Carbon Management Plan and carbon saving target will be approved by the board of Directors, providing endorsement and a clear commitment at the highest level, reinforcing the need for action across the company. The specific objectives of the CM Plan will be included in the company's strategic plan and other high-level plans.

The key stakeholders in the company who will continue to shape and change culture and awareness are:

- Directors
- Managers
- All employees

6.5 Data Collection and Management

Bioguard's present data collection system affords reasonable data analyses using Energy Management Software. This is used to monitor all energy costs and consumption from invoice data and a selected number of building electricity sub-meters. The company intends to make a significant investment in smart metering technology over the next 5 years. This investment will greatly improve data collection and create the opportunity to carry out a more detailed monitoring of building energy performance and identify carbon saving projects.

Performance data will be communicated to staff to raise their awareness of the implications of their energy use to their unit. This will be done regularly through the Managing Director acting as the "Green Champion".

Energy budget performance is reported on a monthly basis. Communication and Training

7 Progress Reporting

7.1 Yearly Updates to the Carbon Management Plan

The Carbon Management Plan is viewed as a 'live' document and it is envisaged this will change on an annual basis as the organisation's estate changes and planning assumptions become reality. To ensure that the CM Plan remains 'fit for purpose' to deliver targeted carbon savings, the document will be reviewed on an annual basis. This process will be overseen by the CMC and coordinated by the Managing Director.

Specifically, the following areas of the CM Plan will be subject to annual review:

- Progress towards overall carbon reduction target including CO₂e savings against target and quantifiable benefits
- Progress with identified carbon reduction projects
- Financial savings achieved as a result of carbon reduction projects
- Costs of the programme

- Wider benefits
- Stakeholder engagement, and
- Risk Register

The records will be incorporated into the company's ISO 9001:2015 Management Review as well as reported to the Board at their Meetings.

7.2 Data Collection and Management

Data measuring the progress of the CM Plan will be collected quarterly and presented to the various relevant levels of governance.

The data collected will include:

- Progress on specific projects
- Details of the performance of the variables contributing to the emissions in the quarter such as utilities, water, fuel, waste generated.

As noted above, the Management Review process under ISO 9001:2015 will be the main collection point for all records etc.

Appendix A

Legislative Drivers for Carbon Management

The figure below provides a snapshot of the key external legislative drivers (covering compliance, incentives and charges) which may impact on XX now and in the near future. The most significant driver, the CRC Energy Efficiency Scheme (CRC EES), may expose XX to a charge of \pounds 16/tonneCO₂e in 2014/15, increasing with RPI thereafter, approximately \pounds XX p.a.



Key:

CRC EES – Carbon Reduction Energy Efficiency Scheme (www.gov.uk/crc-energy-efficiency-schemequalification-and-registration)

CFP - Carbon Floor Price (www.hmrc.gov.uk/climate-change-levy/carbon-pf.htm)

EU ETS – European Union Emissions Trading Scheme (www.gov.uk/government/policies/reducing-the-uk-s-greenhouse-gas-emissions-by-80-by-2050/supporting-pages/eu-emissions-trading-system-eu-ets)

FiT - Feed In Tariff (www.gov.uk/feed-in-tariffs/overview)

CCL- Climate Change Levy (www.hmrc.gov.uk/climate-change-levy/)

ROS – Renewable Obligation Scheme (www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro

CfD – Contracts for Difference (www.gov.uk/government/publications/electricity-market-reform-contracts-for-difference)

RHI – Renewable Heat Incentive (www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/renewable-heat-incentive-rhi)

EPBDR – Energy Performance in Buildings Directive (<u>www.gov.uk/government/policies/improving-the-energy-efficiency-of-buildings-and-using-planning-to-protect-the-environment/supporting-pages/energy-performance-of-buildings</u>)