

Carbon Reduction Plan

Bio Capital 2 Ltd

Date: 17 November 2023

Commitment to achieving Net Zero

Bio Capital is committed to achieving Net Zero emissions by 2030.

2022 Emissions Summary

Total Emissions	Emissions Avoided
1,062.76 tCO₂e	14,548 tCO₂e

Baseline emissions footprint

Baseline year / current year emissions footprint

Baseline year: 2022		
Emissions		TOTAL (tCO ₂ e)
Scope 1	Total	119.02
	Biogas (non-CO ₂)	7.75
	Liquid fuels: diesel	111.27
Scope 2	Total (net)	0.00
	Electricity	679.21
	Scope 2 removals	(679.21)
Scope 3	Total	943.75
	Business Travel: Road	0.96
	Chemicals	266.78
	Electricity (T&D and WTT)	239.43
	Employee Commuting: Road	27.79
	Food and Drink	0.08
	Freight: Upstream	343.80
	Hotel Stay	0.03
	Information Technology	5.37
	Liquid fuels (WTT)	27.35
	Waste construction	0.07
	Waste metal	0.11
	Waste: Refuse	12.06
Water	19.92	
Outside scopes	Biogas (CO ₂)	4,053.15
Total emissions		1,062.76

Remarks on calculations:

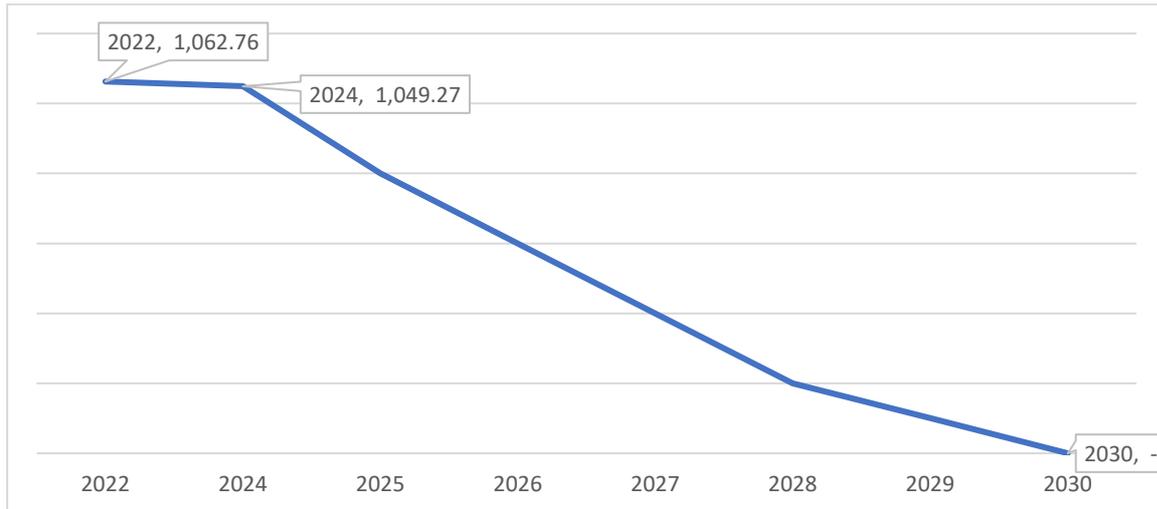
- The data collection process aimed to identify and measure all scope 1 and 2 emissions sources and scope 3 categories relevant to the organisation's context and goals.
- All calculations are based on 2022 consumption and [2022 UK Gov GHG emissions factors](#) where available.
- The [Compare Your Footprint platform](#) was used to calculate relevant Scope 3 categories where only spend data was available.

Emissions reduction targets

In order to continue our progress to achieving Net Zero, we have adopted the following carbon reduction targets.

- 100% by 2030

Progress against these targets can be seen in the graph below:



Carbon reduction projects

Current planned carbon reduction initiatives

From the current baseline year we plan to implement the following changes to our systems and processes in order to improve environmental management and reduce our carbon footprint:

Initiative	Achievement by
Water supply We will reduce the use of potable water in the anaerobic digestion process by 10% on average through recirculation of liquid digestate	2024
Emissions from waste solids We will move general waste disposal up the waste hierarchy from landfill to EfW (combustion).	
Electricity At Corbiere we will reduce the use of imported electricity by 20% through a link to a third-party solar farm.	

The estimated carbon emissions reduction achieved by these initiatives are as follows:

Initiative	Current	Reduction	% reduction
Water supply	19.92 tCO ₂ e	1.99 tCO ₂ e	10.0%
Emissions from landfilled waste solids	12.05 tCO ₂ e	11.50 tCO ₂ e	95.4%
Electricity (gross)	679.21 tCO ₂ e	135.37 tCO ₂ e	19.9%
Electricity (net)	0.00 tCO ₂ e	0.00 tCO ₂ e	0

Total reductions by 2025	% current Scope 3	% current total emissions
13.49 tCO ₂ e	1.4%	1.3%

All reduction calculations based on current year consumption and 2022 UK Gov GHG emissions factors and guidelines with no projected changes.

Further measures

Current measures

Bio Capital 1 has a number of measures currently in place to help ensure carbon reduction targets are achieved. These include:

- ISO 14001:2015 - Environmental management systems certification to ensure we identify, manage, monitor and control our environmental impacts in a holistic manner.
- Company vehicle EV salary sacrifice scheme.
- Company cycle to work scheme.

Valuation approach to removals

We anticipate further development of government guidelines on valuing removals and/or other approaches to account for the role of anaerobic digestion in avoiding GHG emissions burdens.

We calculate current potential avoided emissions as follows.

Emissions source	Potential emissions avoided (tCO ₂ e)
Fossil-fuel derived electricity (Redstow)	6,047.24
Natural gas (Corbiere)	8,500.52
Total	14,547.76

Carbon capture

These planned projects capture CO₂ emitted during the biogas upgrade process to biomethane. The captured CO₂ will then be used in industries such as food and beverage manufacturing.

Although these emissions are from a biogenic source and outside of scope, the use of this CO₂ will displace CO₂ that has been manufactured using fossil fuel energy.

Facility	tCO ₂ e captured	Target year
Corbiere	5,676	2024

Carbon sequestration

As an additional benefit, several research papers have shown that the application of biofertiliser to agricultural soils improves its carbon sequestration potential and assists in climate change mitigation. However, exact quantification is difficult at present.

Other measures

Other potential areas for carbon reduction to net zero by 2030 include:

- Installation of additional CHPs to reduce the need to import electricity.
- Investigating options for electric loading shovels and other mobile plant (e.g screeners) to replace diesel versions.
- Investigate options for solar panels on facility roof.
- Investigate options for low energy technology on sites.

Declaration

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard and uses the appropriate Government emission conversion factors for greenhouse gas company reporting.

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

This Carbon Reduction Plan has been reviewed and signed off by the board of directors.

Signed on behalf of Bio Capital:

Peter Sharpe, CEO

Date:
