
Cooper King Distillery

Scope 1 & Scope 2 Carbon Emissions

1st February 2018 – 31st July 2023

September 2023, Version 1.2

Based on data from each Financial Year since the Distillery was operational (February 2018).

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1.0 Introduction

This document summarises how the Scope 1 and Scope 2 carbon footprint associated with Cooper King Distillery (CKD) activities, has been determined for the period 1st February 2018 – 31st July 2023.

A review of carbon offsetting activity has also been included, to enable a Net Zero Scope 1 & Scope 2 emissions status.

This document is intended for internal use only and should be read in conjunction with “Cooper King Scope 1 & 2 Carbon Footprint” spreadsheet.

2.0 Scope & Data Sources

An operational control boundary has been determined for this energy carbon footprint. CKD operate from a single site in North Yorkshire, therefore all activities take place in the UK. There are no company vehicles associated with the business.

No energy emission types have been excluded. Direct emissions as a result of the fermentation process were discussed with CKD representatives. It was agreed that these emissions would be excluded from this assessment, due to a number of factors including the lack of a clear industry-verified methodology for estimating the associated carbon. CKD will consider engaging support from known University academics to review the contribution of the fermentation emissions to the overall Scope 1 footprint.

Data was collected from across all financial years since production commenced at the distillery. The date period covered is therefore 1st February 2018 – 31st July 2023. Scope 1 and Scope 2 activity data has been collated to include electricity, butane and propane consumption. In addition, the biogenic carbon dioxide emissions associated with electricity use have been reported as “outside of scope” – see “Cooper King Scope 1 & 2 Carbon Footprint,” spreadsheet for further details.

The primary activity data used in the estimation of the Scope 1 and Scope 2 energy carbon footprint was provided by CKD and can be viewed in the spreadsheet “Cooper King Scope 1 & 2 Carbon Footprint.” Every attempt has been made to ensure the data is accurate and any assumptions made

by CKD were reviewed and agreed as appropriate. The data accuracy remains the responsibility of CKD.

It should be noted that whilst this is a “carbon” footprint, there are seven main Greenhouse Gases (GHGs) that contribute to climate change, as covered by the Kyoto Protocol: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃). Different activities emit different gases and for each activity there is a factor that can be used to estimate emissions of all relevant GHGs combined (kg CO₂e per unit activity). The UK Government GHG Conversion Factors for Company Reporting were therefore used for each financial year to convert the data to CO₂ equivalent emissions, detailed in tonnes. As a publicly available source, these factors are believed to be credible.

The approach taken to estimate the carbon footprints is one based on the GHG Protocol Principles of relevance, accuracy, completeness, consistency, and transparency. In addition, the requirements of *BS EN 16247-1:2012 Energy Audits* have been applied where relevant, to structure the approach to energy data. Section 9 of *PAS 2060:2014 Specification for the demonstration of carbon neutrality*, have been used as the criteria for verifiable carbon offsetting activity. Finally, *IWA 42:2022 Net Zero Guidelines* have been consulted in the process of determining the net zero status. It was acknowledged that Scope 3 emissions are currently excluded from the net zero status, largely due to mixed competencies across the value chain to understand associated carbon emissions. CKD intend to develop a carbon neutral status in the future for Scope 3 emissions, prior to setting a long-term net zero target, aligned to sector and national targets.

The final Scope 1 and Scope 2 energy carbon footprint is unique to the assumptions and practises of CKD. The results are not meant as a platform for comparability to other companies. Even for similar distilleries, differences in unit of analysis and data quality may produce incomparable results.

3.0 Carbon Footprint

3.1 Scope 1 Emissions

Invoices and receipts were provided by CKD for the butane and propane gas purchases made throughout the period. A reduction in carbon emissions was realised with the removal of the butane gas heater in 2022. Electric heating has since replaced this, see next section. A cartridge mix of butane

and propane is purchased for fuelling the short Thorpe still distillations, and although all purchase records could not be located, an assessment of activities and volumes used by CKD has estimated the use of two cartridges per year. Given the scale of the distillery activities, this appears appropriate.

There are no vehicles associated with company activities, and no other Scope 1 emission sources. Further opportunities for reducing Scope 1 emissions are therefore almost negligible, with distillery operations already optimised for process and energy efficiency. An alternative, lower carbon-fuelled still is the only opportunity to be realised in the future but is currently not feasible.

3.2 Scope 2 Emissions

Electricity supplier invoices were provided by CKD covering each financial year. Where available, half hourly data was also reviewed, along with a photograph of the site meter to ensure correct monitoring is in place. CKD have always contracted an electricity supply from renewable, zero carbon, sources via energy providers Ecotricity and latterly Drax. Fuel Mix Disclosures for both companies were reviewed. Ecotricity have maintained a zero-carbon electricity supply throughout the period of the CKD contract. Whilst it is likely that this contract was also a zero-greenhouse gas emissions tariff, this could not be evidenced, and therefore other greenhouse gases associated with combustion of biofuels (methane and nitrous oxide) have been included for completeness. The Renewable Source Electricity tariff, contracted from Haven Power, (now Drax), since December 2019, has been assured by EcoAct for “zero carbon reporting,” (under the market-based method), and certificate evidence to this effect was sampled. Again, other greenhouse gases have therefore still been accounted for.

A market-based reporting approach has been utilised for this footprint, resulting in Scope 2 greenhouse gas emissions of 0.253 tCO₂e being reported for the full period analysed. A location-based report of Scope 2 emissions would equate to 25.997 tCO₂e.

To reduce these location-based emissions, and further develop the approach to net zero, CKD are reviewing the potential for a solar panel installation on site, with battery-ready capabilities. The maturation building/container already has solar-powered fans installed to aid air movement. LED lighting is already installed, maintenance processes established, and a mature level of energy efficiency awareness amongst site staff has highlighted that there is very little potential for further reductions in actual electricity consumption. Therefore, a reduction in associated carbon emissions can potentially only come from the installation of onsite renewable energy technologies when economically feasible, and investment in a verified and evidenced zero greenhouse gas emissions electricity contract from 2024.

3.3 Footprint

The following table details the Scope 1 and Scope 2 carbon footprint for each year since the distillery began operations.

Year	tCO ₂ e
2018 (Feb-Dec inclusive)	0.074
2019	0.097
2020	0.137
2021	0.099
2022	0.146
2023 (Jan-July inclusive)	0.049
TOTAL	0.603
Average tCO₂e / year	0.120
Average kgCO₂e / year	119.949

Figure 1: Scope 1 & Scope 2 carbon emissions associated with each year of operation.

The following graph details the relative carbon emissions associated with the different fuel types in use, for the full period assessed (above).

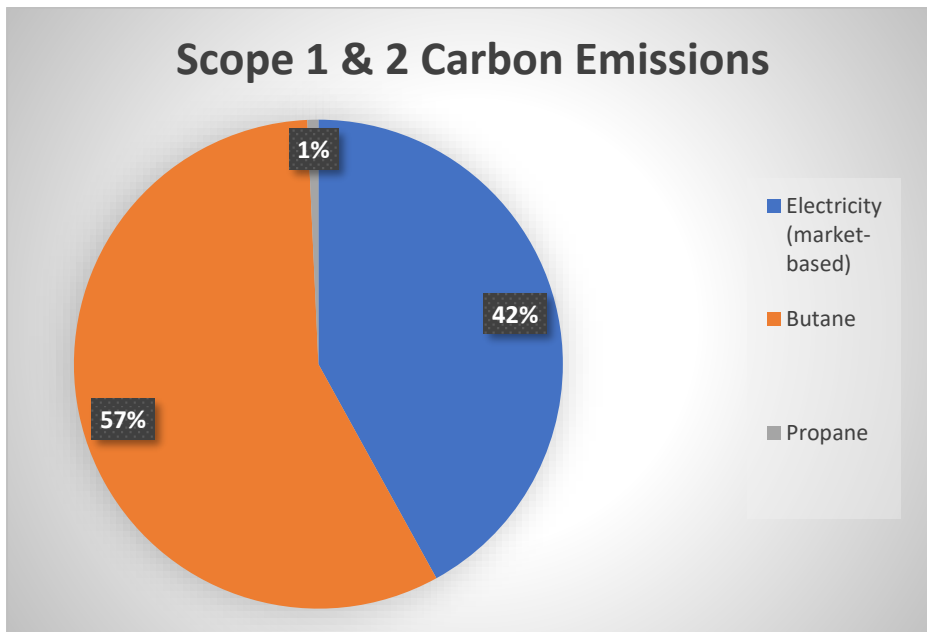


Figure 2: Scope 1 & Scope 2 carbon emissions associated with fuel types.

4.0 Carbon Offsetting

Section 9 of *PAS 2060:2014 Specification for the demonstration of carbon neutrality*, was used as the criteria for verifying the offsetting process undertaken by CKD.

The following carbon credit retirement certificate was provided as evidence of offsetting activities into a removal project:

- 5 Verified Carbon Units (Credits), equivalent to 5 tCO₂e retired in *Guanaré' Forest Plantations on degraded grasslands under extensive grazing, Uruguay*, on the Verra Registry, 14th September 2023.¹

The Verra Registry was viewed and the above retired offsetting credits in the name of Cooper King Distillery confirmed into a project intended to sequester carbon. This was supported by CKD's internal "Carbon Credit Purchase Record" which monitors the number of VCU's purchased.

In addition to the above, a donation has been made for the planting of six native broadleaf trees in the Yorkshire Dales, covering approximately sixty square meters, which will sequester one tonne of carbon over their projected fifty-year lifespan.²

Finally, a Climeworks Carbon Dioxide Removal (CDR) Services Order has been placed for the permanent removal of one tonne of carbon dioxide from the air.

The above offsetting and removal activities are sufficient to state Net Zero Scope 1 & Scope 2 emissions. Historic emissions will be removed via the CDR Services Order, in addition to the offsetting into a verified 'Afforestation, Reforestation and Revegetation' carbon removal project.³ Sufficient carbon removal also evidenced for Net Zero Scope 1 and Scope 2 emission status to 30th September 2024, based on the projected residual emissions for the next twelve months. This will be verified at the next verification assessment in 12-24 months from the date of this report.

Whilst the Scope 1 and Scope 2 carbon footprint for CKD is relatively small, the company demonstrated an enthusiasm for further potential reductions, in the form of solar panels, and an openness to changing processes as research in the spirits and beverage sector surfaces.

¹ VCU SERIAL NUMBER: 10636-233134975-233134979-VCS-VCU-261-VER-UY-14-959-01012014-31122014-1

² Data provided by the Yorkshire Dales Millenium Trust.

³ [Verra Search Page](#) - *Guanaré' Forest Plantations on degraded grasslands under extensive grazing*.

5.0 Environmental Strategies Ltd Declaration

Every attempt has been made to ensure that the primary activity data, provided by CKD, is accurate and that the energy carbon footprint estimation is a fair reflection of emissions. The data accuracy remains the responsibility of CKD. Authoritative, UK Government-approved carbon calculation information sources have been utilised in the estimation of the footprint, along with consistent and approved methodologies. Whilst the carbon footprint can only ever be an “estimation,” the tCO₂e is believed to be a fair reflection, based on the previous statements.

The relatively small Scope 1 and Scope 2 carbon footprint; offsetting activities into carbon removal projects; physical carbon removal; and the commitment to reduce emissions, are sufficient to state “net zero Scope 1 and Scope 2 emissions” or “net zero energy” for the historic period assessed, and for the current financial year.

If provided with any information affecting the validity of the footprint, Environmental Strategies Ltd will investigate.



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