Recorra
Real Recycling

THE CARBON FOOTPRINT

DELIVERING
NET ZERO

Contents

Mission? Net Zero

Where are we now?

2024 was a year of firsts - the most devastating wildfire seasons in North and South America, the largest area of the globe ever under ‘severe heat stress’, and the wettest 18 months on record in England. With extreme weather incidents growing, the effects of climate change are being felt now.

It was also the year we published our Sustainability Stocktake, which reviewed our progress to date, and layed-out a new set of carbon reduction targets pointing a clear path to Net Zero.

While the environmental, regulatory and corporate landscape is complex and ever changing, we hold firm that businesses have a responsibility to reduce their climate impact - and as a result, we continue to prioritise taking action.

Recorra is taking action.

We are dedicated to reducing our greenhouse gas emissions, and in turn, our customers’. Having achieved excellence in real recycling and made significant progress toward electrifying our fleet, we continue to uphold the gold standard in corporate responsibility, setting an example in the industry and for our customers.

This report represents Recorra hitting another milestone on our Net Zero journey: achieving gold-standard disclosures that guarantee transparency and unequivocally avoid ‘greenwashing’.

Read the following pages to dig into our carbon footprint and understand what it means for our customers.

ISO 14064-1

What is ISO 14064-1?

The ISO 14064-1 is a standard for reporting greenhouse gases from an organisation. It sets out exactly how a company should create a greenhouse gas inventory and calculate their total quantity of emissions. This is commonly known as a carbon footprint.

The ISO standard is very similar to another carbon accounting guide - the greenhouse gas protocol. They are effectively identical, except the ISO has some minor categorisation differences.

What's really significant is that we had our carbon footprint audited. Many companies declare their emissions - but as much of carbon accounting is optional, companies can easily omit significant sources of emissions. Without an independent assessment, there's effectively no way of knowing if the data is true. As much of carbon accounting is also optional, companies can easily omit significant sources of emissions. Our audit was conducted by the internationally recognised accreditation body NQA and we passed in December 2024. We are proud to have completed this project ourselves, with our team of experts.

Why did we choose this accreditation?

An independently audited greenhouse gas inventory represents the highest standard of data quality. While there are many competing stamps of carbon compliance, none can compete with that of the world's largest and most respected standard setting body, established in 1947, which regularly partners with the United Nations. At Recorra, we are committed to environmental excellence, and our ISO reflects this commitment.

How we did it

The Net Zero and data teams at Recorra have spent the last six months working on this disclosure. The project began with a lot of reading, and researching guidance documents and standards to understand what was required. Then we conducted a mapping exercise, systematically reviewing each category in scopes 1, 2 and 3. This involved some back and forth, consulting experts and receiving training, as we debated how the guidance specifically applied to the complexities of our waste management firm.

We then embarked on the data collection, looking for the primary and secondary data needed to measure the last 5 years of our carbon footprint. Although only our 2023 data was audited, our baseline was pre-COVID-19 pandemic, so we could assess what a 'normal' business year looked like.

After several stages of categorising, designing calculations, and experimenting with different formats, we converted the data into emissions using factors from 'Small World Consulting'. The inventory, along with the technical report and methodology was audited in November 2024.

Achieving Gold Standard Disclosure

Common metrics, regular reporting and clear data is an essential component of the G (governance)' in ESG. By publishing our full carbon footprint, we are fulfilling our commitment to gold-standard disclosure. Our clients, partners and any interested parties are free to examine and use our data as they wish.

Jargon Buster

Glossary of Terms

Carbon Footprint

The size of an entity's carbon emissions over a certain time period, measured in units of carbon dioxide equivalent

Greenhouse Gases (GHG)

Types of gases with the ability to trap heat and thereby contribute to the greenhouse effect, including carbon dioxide, methane, nitrous oxide and F-Gases.

The Greenhouse Gas Effect

The warming effect of greenhouse gases in the earth's atmosphere. Without any greenhouse gases the earth would be -18 degrees, too cold to sustain life. However, through emitting activities caused by humans, the quantity of these gasses in the atmosphere has increased to dangerous levels.

Climate Change

Disruption to the earth's normal weather systems, in this context from global warming. These changes produce more extreme weather events, like wildfires, floods, storms and droughts.

Carbon Emissions

Also called carbon dioxide emissions, or CO_2 emissions, meaning the release of this greenhouse gas into the atmosphere. They are mainly caused by activities like burning fossil fuels, deforestation, and industrial processes.

Global Warming

An increase in the average global surface temperature from a baseline of pre-industrial levels. This temperature change affects global climate systems resulting in increased extreme weather events.

Net Zero

Balancing the GHGs we add to the atmosphere with the amount we take away, so the total added is zero. It is also a target, meaning reducing all greenhouse gas emissions to as close as zero as possible, and offsetting any unavoidable emissions left over.

Carbon Dioxide Equivalent

A way to standardise different GHG's (e.g. Nitrous Oxide and Methane) and their impact by equating their global warming potential (GWP) to that of CO_2.

Greenhouse Gas Protocol (GHGP)

A widely used international framework for measuring greenhouse gas emissions. It provides organisations with standardised methods to calculate and report their emissions across three key "Scopes":

Scope 1
Direct emissions into the atmosphere from a company's operations.
Scope 2
Indirect emissions from the generation of purchased electricity.
Scope 3
Indirect emissions from an organisation's 'value chain'. This is similar to a supply chain, and refers to the scope 1 and 2 emissions of all vendors, suppliers, partners and customers used by a company.

ISO 14064-1

An international standard for quantifying and reporting organisational greenhouse gas emissions. It outlines how to create and organise a greenhouse gas inventory. It is very similar to the greenhouse gas protocol, except it is audited differently, and managed by a different organisation.

REGO certificates

A Renewable Energy Guarantee of Origin certificate verifies that any unit of purchased energy is sourced from a renewable supply. 1 REGO corresponds to 1 kWh of renewable energy.

Value Chain

The sequence of activities a company performs to create a product or service. This includes everything from gathering raw materials, manufacturing, and marketing, to distribution and customer service. Each step in the value chain adds value to the final product, ultimately making it more valuable to the customer.

Carbon Accounting

Standardised ways of measuring the greenhouse gas emissions of different activities.

tCO_2e

A unit used for quantities of greenhouse gases, meaning 'tonnes of carbon dioxide equivalent'

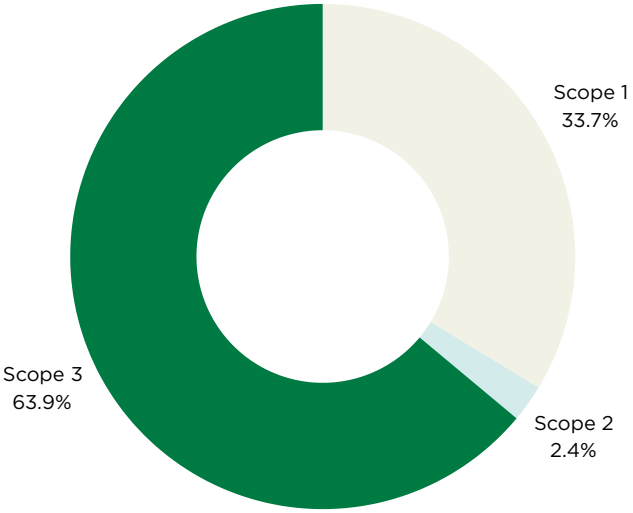
What's in our Carbon Footprint?

Scopes

Our carbon footprint represents the total amount of greenhouse gases emitted annually by Recorra. It is comprised of different parts, known as scope 1, scope 2 and scope 3. This covers everything from the fuel used to power our vehicles, the manufacture of our office supplies, to the refrigerant gases used in our air conditioning, and much more.

About 30% of our emissions are Scope 1, 2% are Scope 2, and 68% are Scope 3. As a fleet operator, the proportions of our emissions look slightly different from the average company, which typically have 80-90% of emissions in Scope 3.

In terms of Net Zero, our proportionally large Scope 1 means we have a huge opportunity to actively reduce direct emissions into the atmosphere.



Data, Calculations and Units

As far as possible, we have used primary data to measure our emissions, such as litres of fuel burnt or kiloWatt hours of electricity. For some areas of the footprint we could only use secondary data, based on how much we spent on particular goods or services. This was mostly necessary for Scope 3.

Emissions are calculated by multiplying activity data by an emissions factor:

Activity Data
(Primary or Secondary)
Eg. Litres of Fuel,
KiloWatt hours of electricity
Pounds spent on trucks

X

Emissions Factor
A multiplication factor calculated by academics and the government

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Greenhouse Gas Emissions
A unit of GHGs in tonnes of CO2 equivalent

What is a Tonne of CO_2e?

Carbon dioxide is a colourless, odourless gas. It's 'invisibility' means it can be difficult to visualise, and even harder to think of in units. CO_2 is measured in metric weights - grams, kilograms and tonnes. See the comparisons below to make sense of these quantities:

Pint of Diesel

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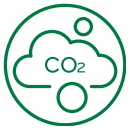

Just over 1kg of CO_2

50 trees absorb in 1 year

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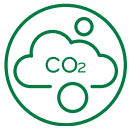

Around 1 tonne of CO_2

Flying from London to Hong Kong and back in economy

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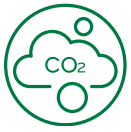


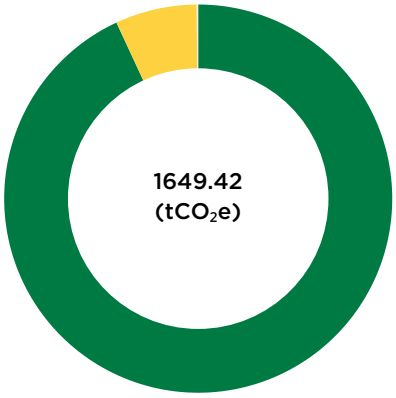
3.5 tonnes CO_2e (per passenger)

Scope 1

Sources of Direct Emissions

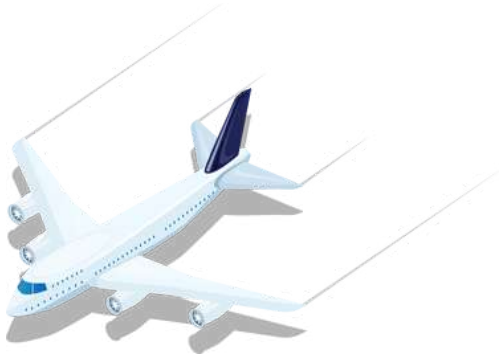
Scope 1 refers to all the direct emissions from our own operations. This mostly refers to 'mobile combustion', the fuel burnt to power our road fleet and yard machinery. It also includes a fractional amount (>1%) of fugitive emissions from the disposal of wastewater, like trade effluent.

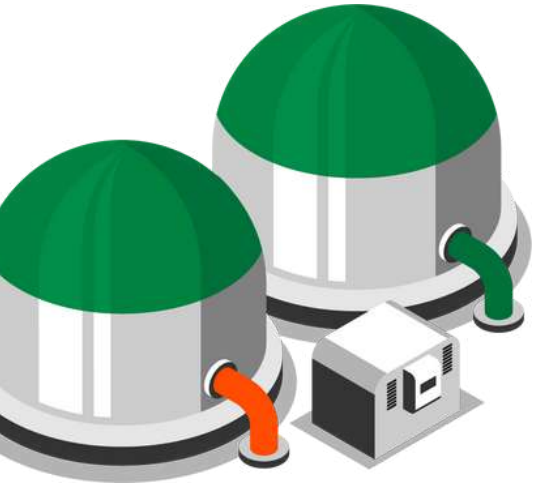
Almost all of the greenhouse gases of this activity are carbon dioxide, with under 1% nitrous oxide and methane. The Adblue in our Euro 6 compliant vehicles already remove most of our nitrous oxide emissions.



	1535.11	Mobile Combustion (Fossil)
	112.14	Mobile Combustion (Biogenic)
	2.06	Wastewater

Our Scope 1 is equivalent to the emissions of 471 return flights from London to Hong Kong.





Biogenic emissions

In the UK, 7% of everyday diesel is actually biofuel made from waste plant oil, not fossil fuels extracted from the earth.

The emissions from biofuels are 'biogenic', meaning they have a neutral climate impact as the amount of CO_2 released is equivalent to the amount initially absorbed by the plant while growing. Biogenic sources just cycle the carbon through different states.

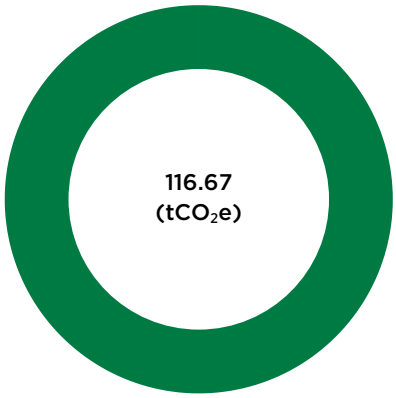
Carbon accounting standards require that we report these emissions separately.

Scope 2

Sources of Indirect Emissions from Electricity

This source of emissions comes exclusively from electricity used across our offices, operations and material recovery facility (MRF). While Recorra purchases all our electricity from verified renewable suppliers, the ISO standard measures energy emissions on the basis of location, not market proportion. As we source electricity from the grid, we take responsibility for a proportion of the grid's energy mix, which is outside our control.

In 2024, electricity used across the National Grid was generated from almost 60% emission-free sources, making this a very carbon-efficient source of energy.

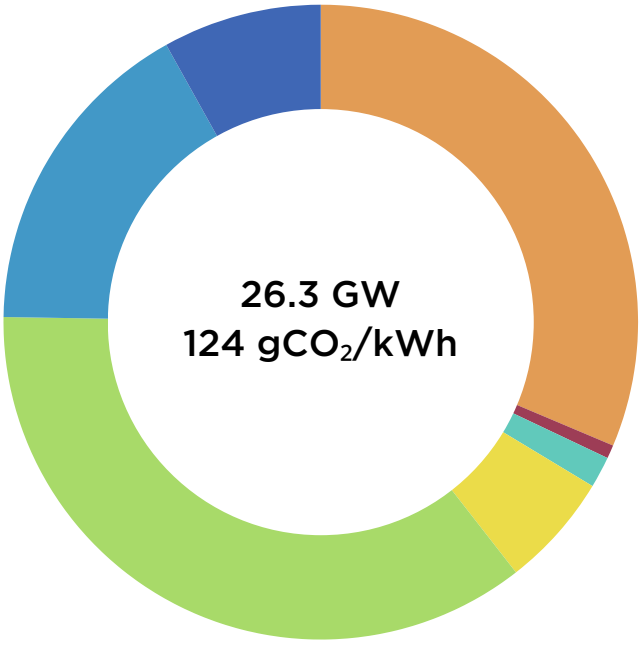


116.67 Purchased Electricity Consumption

116 tonnes is equivalent to the CO_2 5,267 trees absorb in a year or 866 car tanks of diesel, or 193 flights to New York from London.

100% of Recorra's electricity is sourced from green energy and verified by REGO certificates.

The UK Grid



31.4%	Gas	
0.7%	Coal	
1.6%	Hydroelectric	
5.8%	Solar	**59.5% Zero Emission***
35.8%	Wind	
16.6%	Nuclear	
8.1%	Biomass	

*Data source - National Grid Live

Scope 3

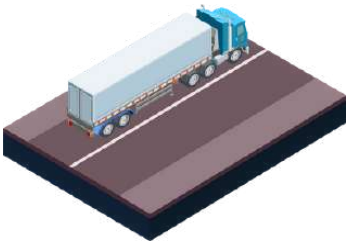
Sources of Indirect Supply Chain Emissions

Scope 3 refers to all the indirect emissions of our supply chain. This means all the scope 1 and 2 emissions of the companies we buy products or services from, or who are associated with our operations. There are 15 different categories of scope 3, but not all apply to every company. For Recorra - only 9 of the categories are important.

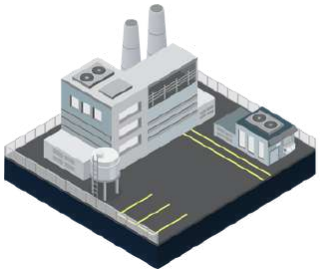
While the Greenhouse Gas Protocol outlines many different categories, a simpler way to break it down is into 1) physical products and services, 2) transportation, and 3) emissions associated with products used, such as lifetime energy use of waste equipment, or transmission losses of electricity. We have direct influence over some of these categories - like our choice of transport partners, while others are significantly outside our control, like the raw material extraction of the steel in our trucks, or the transmission losses of electricity purchased from the grid.

Goods and Services

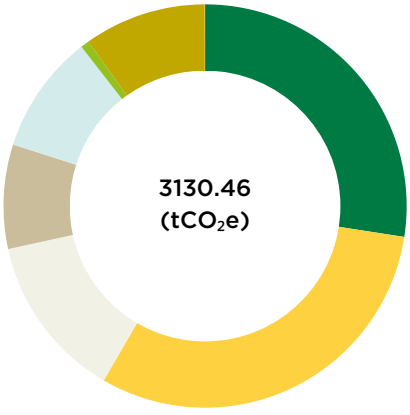
Transportation



Associated Emissions



Greenhouse Gas Protocol Categories of Scope 3



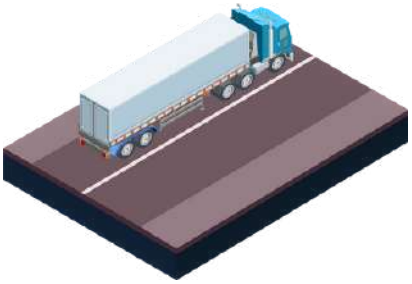
859.47	Category 1 - Purchased Goods and Services
968.47	Category 2 - Capital Goods
413.02	Category 3 - Purchases connected to Energy Supply
261.56	Category 4 - Fuel & Upstream Transport and Distribution
299.22	Category 5 - Transport of Waste
21.84	Category 6 - Business Travel
306.37	Category 7 - Employee Commuting & Business Travel
0.08	Category 11 - Lifetime Use of Sold Products
0.42	Category 13 - Use of Leased Assets

Our Scope 3 emissions are equivalent to a third of the emissions from a Saturn V rocket, the kind used in the 1969 lunar landing.

Scope 3

Goods and Services

This comprises Category 1 - Purchased Goods and Services and Category 2 - Capital Goods. This encompasses vast types of purchases such as vehicles, computer equipment, machinery, office supplies, food, events, coffee and much more.....

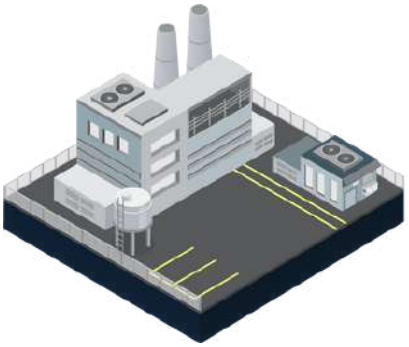


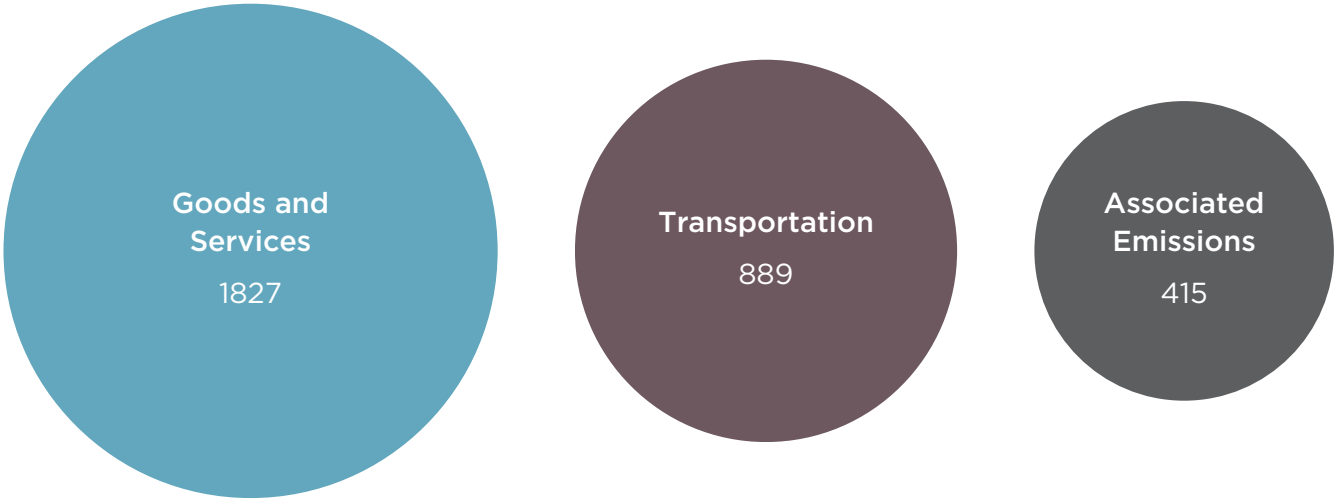
Transportation

This comprises Category 4 - Upstream transportation, Category 5 - Waste Produced in Operations, Category 6 - Employee Commuting and Category 7 - Business Travel. Any additional transportation necessary for our operations, like deliveries of packages, logistics providers, train travel to work, and the tube or Lime Bike trips taken to meetings are included here.

Associated Emissions

The largest 'other' source of emissions is from transmission losses of energy from the grid, and the 'well-to-tank' emissions of our fuel. The lifetime emissions of the waste equipment we sell and lease to customers is very small - under a tonne of CO_2.





The Carbon Footprint

Greenhouse Gas (GHG) summary tables of direct and indirect emissions by scope. Calculated according to the Greenhouse Gas Protocol and audited to the ISO 14064-1 standard.

Scope 1 Total (tCO_2e)

	2019	2020	2021	2022	2023
Total	1434.49	770.15	909.83	1440.57	1649.42

Scope 2 Total (tCO_2e)

	2019	2020	2021	2022	2023
Total	116.54	84.62	84.10	94.15	116.67

Scope 3 Total (tCO_2e)

	2019	2020	2021	2022	2023
Category 1	808.85	516.85	710.67	1036.59	859.47
Category 2	1703.06	339.30	335.31	159.70	968.47
Category 3	353.42	191.66	228.63	351.75	413.02
Category 4	169.74	92.20	87.56	159.76	261.56
Category 5	56.23	25.32	51.06	111.22	413.02
Category 6	21.55	17.22	10.97	17.49	21.84
Category 7	226.56	223.51	108.71	189.40	306.37
Category 11	0.13	0.00	0.04	0.04	0.08
Category 13	0.29	0.40	0.29	0.29	0.42
Total	3339.84	1406.47	1533.25	2026.23	3130.46

Total Net Emissions (tCO_2e)

	2019	2020	2021	2022	2023
Total	4890.86	2261.24	2527.18	3560.95	4896.55

Key

Category 1
Purchased Goods and Services

Category 2
Capital Goods Total

Category 3
Energy and Fuel Related Emissions

Category 4
Upstream Transportation and Distribution Services

Category 5
Waste Generated in Operations

Category 6
Business Travel

Category 7
Employee Commuting

Category 11
Use of Sold Products

Category 13
Downstream Leased Assets

Emission Analysis

The Limits of Carbon Footprints

Carbon footprints track total GHG emissions. While this is a useful way to describe an organisation's climate impact, it does not consider business size or other impacting factors.

An organisation with a smaller footprint isn't necessarily more climate friendly than one with a larger footprint. Larger companies usually have better capacity to invest in climate mitigation and carbon free technologies.

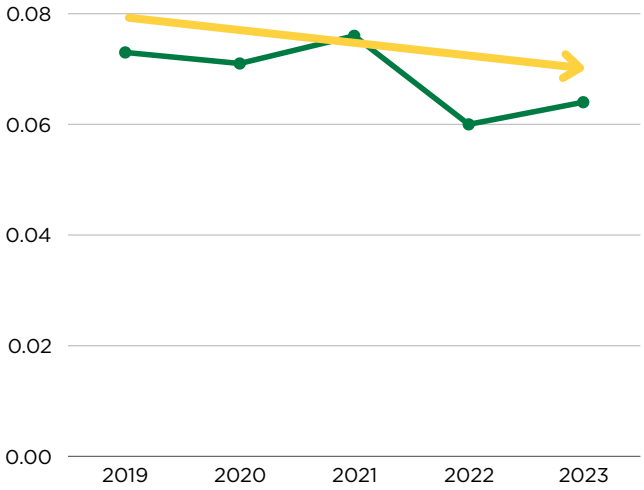
Spend-based emissions calculation methods will always show bigger companies as emitting more, even when this isn't true. Cheap does not mean more carbon efficient.

Carbon Intensity

This is why we also look at carbon intensity. This is achieved by calculating emissions in relation to something like the number of employees or total revenue. This approach gives a clearer picture of a company's impact and makes it easier to compare the impact of businesses of different sizes.

Intensity metrics are ways of looking at a company's climate impact that rewards climate investment, without penalising growth. The success of a climate efficient company will contribute to the decarbonisation of their industry and sector overall.

We decided that the best intensity metric for Recorra was emissions per tonne of waste collected, as this tracks with our operational efficiency.



Tonnes of CO_2e emitted per Tonne of Waste collected

13% decrease in carbon intensity since 2019.

Data Transparency

Our Commitment to Data Accuracy and Transparency

Carbon accounting is a useful practice for understanding an organisation's emissions. However, it's not watertight, there are ways to manipulate the data.

Recorra is determined to set the gold standard for honest sustainability in practice. As forerunners in our industry, we are leading the way to make a real, lasting difference through our work, driving true change rather than simply checking boxes.

We want to highlight two decisions we made during this process that are not required as standard, but we felt should be included for accuracy and transparency.

Our Emissions Factors

For secondary data, we used a trusted dataset created by the consultancy 'Small World Consulting', run by the internationally acclaimed climate scientist Mike Berners-Lee. Their comprehensive method includes sources of emissions that other datasets leave out, making the conversion factors, and as a result, our Scope 3, more accurate.

Accounting for Subcontractor Emissions

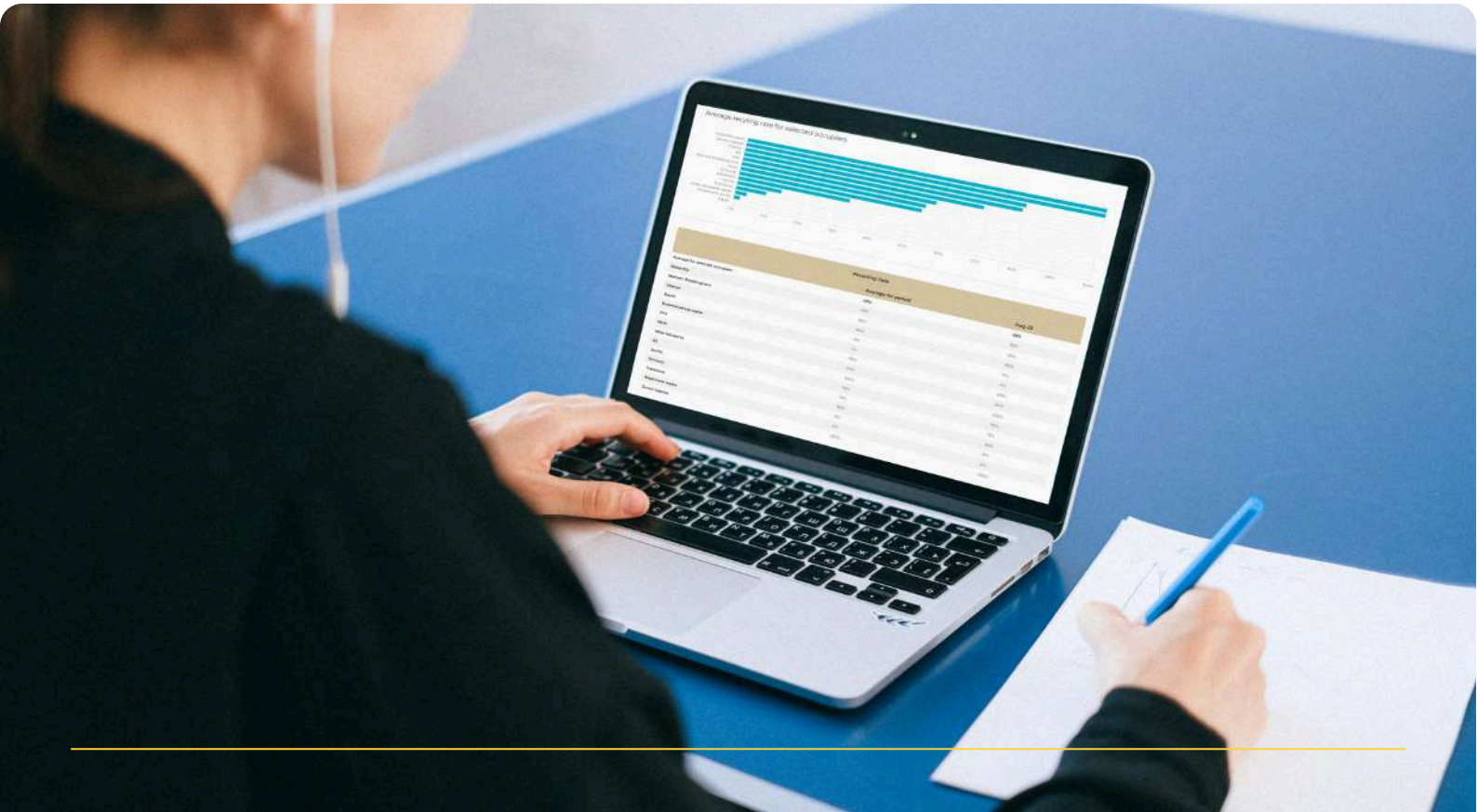
Some of our clients are outside our typical catchment area, so it is more economical and ecological to subcontract work to more local companies.

On a technicality, we are not required to account for the well-to-tank emissions (emissions from fuel production) associated with these services. We chose to account for them anyway, because we do not incentivise subcontracting as a way to artificially reduce the emissions of our services. Regardless of who does the job, the emissions of our waste collection services are calculated in the same way – using a model based on our own fuel consumption.

Recorra is not here to cut corners, but provide actual insight. We reduce our emissions through real carbon conscious initiatives, not through 'clever' accounting.

Important Exclusions

The largest exclusion from our footprint is the emissions of manufacturing, processing and reprocessing the waste materials we manage. As this is our client's waste, we cannot control its make-up or production. Our business is to collect, sort and redistribute waste in the most environmentally beneficial way possible.



What's next?

The Carbon Footprint is a decision-making tool, it helps us prioritise our investments to achieve the most effective carbon reductions in the short and long term. Over the next year, we will develop a comprehensive strategy to most effectively hit our decarbonisation targets.

We're already started on our decarbonisation journey and so far we have:

- 15% electric road fleet
- Electric RoRo (Scania's first) arriving in 2025
- Fuel transition from diesel to HVO biofuel for 80%+ carbon reduction
- Carshare schemes, train travel incentives
- All electricity from REGO-backed certificates

Keep your eyes peeled for our next Delivering Net Zero update.

Follow our socials below for more updates

Citations

2024 Wettest period in England

2024 Historical Wildfires

2024 Hottest Period on record

ISO 14064-1 Standard

NQA Verification

Greenhouse Gas Protocol Corporate Standard

Greenhouse Gas Protocol Scope 3 Standard

2024 Energy Sources of UK Grid - National Grid Live

SW Consulting

Biofuels in Fuel Court Diesel

Carbon Comparisons derived from Mike Berners-Lee, 'How Bad Are Bananas? The Carbon Footprint of Everything', (London: Profile Books Ltd, 2020)

Certificate

VERIFICATION

GHG INVENTORY ISO 14064-1

OBJECTIVES AND SCOPE

NQA CERTIFICATION LIMITED

has undertaken independent third-party verification of ISO 14064-1 within the following boundaries:

Transportation, sorting and redistribution of commercial waste; Training and consulting services, Retail of office supplies, Repair and retail of electronic equipment at 4 facilities (London, Purfleet, Lancing & Hastings), including all direct (Scope 1) and energy indirect (scope 2) emissions, and all significant indirect GHG emissions (Scope 3)

On behalf of:

Recorra Ltd

52 Lant Street, London, SE1 1RB

Attestation

Date of Verification: **29/11/2024**
Verification No: **744189, 747927, 744175**
Period Verified: **01/01/2023 – 31/12/2023**

Ashley Hurst
Lead Verifier

Clare Braham
Independent Reviewer

This verification exercise has been performed to:
ISO 14064-1

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