

Sustainability Newsletter

July 2023



By its nature, printing has an impact on the environment, the economy and society. The development of our sustainability strategy aims to continually improve our impact in these areas through innovating our business with industry and supply chain solutions.



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Introduction

Welcome to the third edition of our sustainability newsletter. In the past four months, we have submitted our greenhouse gas emissions targets to the Science Based Targets initiative to begin an external validation process later this year. This marks an important step in our organisation's commitment to sustainability, with our focus now on taking these ambitions forward into action.

A key part of these targets is to reduce our emissions from our direct operations, known as scopes 1 and 2. In this edition, we will be sharing our main impact hotspots as well as our approach towards sourcing renewable energy to ensure that our purchases are actively contributing to global emissions reductions.

We will also be outlining our input to the Book Industry Communication Group's projects into how to design books for recyclability and minimise waste in production.

And finally, we will be updating on our research into alternative packaging products and inks with a new section on sustainable materials.

Tom Scatchard

Sustainability Advisor



Science Based Targets -Update

We are pleased to say that we have now submitted our targets for approval to the Science Based Targets initiative (SBTi). Later this year, all our greenhouse gas emissions targets will begin an external validation process to verify our alignment with the objective to limit global warming to no more than 1.5 degrees Celsius.

Our targets cover all sources of our greenhouse gas emissions, including our direct operations in scopes 1 and 2 as well as emissions from across the supply chain in scope 3. Our overarching ambition is to reach a state of net zero emissions by no later than 2050, with additional reduction targets submitted for 2030 and 2050. We will be publishing further details on our target commitments and implementation plans in due course.

You can find more information about our commitment on the Science Based Targets initiative (SBTi) website below:

Companies taking action - Science Based Targets



A key part in achieving our science-based targets is to reduce our emissions from our direct operations, known as scopes 1 and 2 emissions. Whilst these can seem minor weighed against our scope 3 emissions from the supply chain, these reflect areas where we have the greatest control and obligation to reduce. All our scopes 1 and 2 emissions are calculated following the *Greenhouse Gas Protocol*, a comprehensive global framework for organisations to measure their impacts on climate change.

Scope 1 emissions are released at sources directly owned or controlled by a company. For us, this is primarily from heating the factory, and a minor portion from cooling units and company vehicles.

Scope 2 emissions are an indirect emissions source, released from generating the electricity we consume onsite to run production machinery, office equipment and forklifts. Electricity generation is responsible for a quarter of global greenhouse gas emissions with a significant portion consumed by businesses, representing a crucial area to accurately measure and shape informed decisions on management. There are two methods of measuring scope 2 emissions with differences to the types of activities they incentivise and reward.



The **location-based** method measures the emissions for every unit of electricity consumed (emissions intensity) based on the physical flow to a site. No matter the type of energy tariff we purchase, we will always receive the same electricity generated from the same mix of sources. This mix would only change if we were to alter the physical flow of electricity, for instance through onsite generation.



Alternatively, the **market-based** method measures the emissions intensity of purchased electricity based on a company's procurement choices. Unlike with other products within our emissions, purchased electricity cannot be delivered directly to a company. The purpose of the market-based method is rather to track the attributes of electricity based on a chain from a company purchase to a particular type of generation through contractual instruments.



Each of these methods has advantages and disadvantages. Given that onsite electricity consumption is more difficult for companies to implement, tackling location-based emissions concentrates efforts on reducing electricity consumption. Using the grid average emissions intensity overlooks an individual company's procurement choice, whilst reflecting the cumulative impact of company procurement choices and governmental policies on the generation sources connected to the grid over time. Accordingly, an individual company can claim scope 2 reductions with the average intensity of the grid even if unrelated to the company's action.

Whereas the market-based method creates incentives to reduce electricity consumption as well as activates company purchasing power to drive the transition to renewable energy. However, as we describe in the following section, the range of contractual instruments companies can use for market-based claims creates uncertainties on the true effect on global emissions levels.

In our science-based targets submission, we have used the marketbased method to track our greenhouse gas emissions from purchased electricity to tackle both our consumption as well as our procurement strategy.



Overall, our scopes 1 and 2 market-based emissions have reduced by 26% between 2019 and 2022. This has been due to a range of factors – most significantly the increase in renewables on the UK electricity grid with a decrease in carbon intensity by 29% accompanied by a 2% decrease in our electricity consumption.

All figures in tonnes	CO ₂ e
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Scope	2019	2020	2021	2022
Scope 1	1,410	1,250	1,330	1,223
Heating	1,346	1,188	1,235	1,064
Leased vehicles	35	24	25	29
Refrigerants	29	38	70	130
Scope 2 (location-based)	5,321	4,849	4,579	3,965
Scope 2 (market-based)	5,321	4,849	4,383	3,738
Total scopes 1 and 2 (location-based)	6,732	6,098	5,909	5,188
Total scopes 1 and 2 (market-based)	6,732	6,098	5,713	4,961
% Annual change	-	-9%	-6%	-13%

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Renewable Energy Sourcing

Since late 2018, we have purchased energy tariffs certified as 100% from renewable sources however over the course of the past year, we have been investigating the true impact of these tariffs on renewable energy deployment.

Given it is not possible to trace purchased electricity to the source of generation, our tariffs are backed by *renewable energy certificates* (RECs) purchased through our energy suppliers. The purpose of RECs is to verify the electricity we consume has been matched by an equivalent volume of renewable energy generated at another location and transmitted through the grid. In this way, we could claim the greenhouse gas emissions of renewable generation in the market-based method whilst receiving the same physical mix of electricity from the grid.

Renewable energy certificates can however be purchased and traded separately from the underlying renewable energy. The majority of our certificates are purchased in an **unbundled** format, with no direct tie to the purchase of renewable energy. Rather, the certificates and energy are purchased separately by our supplier. Whereas **bundled** certificates reflect direct linkages with renewable energy through our energy suppliers, established through agreements with renewable generators or ownership of a renewable project.



Renewable Energy Sourcing



Given that the procurement of unbundled certificates does not convey any direct link to renewable generation, we are only counting the purchase of bundled certificates as renewable with lower emissions. The purchase of unbundled certificates has been accounted for with the grid average emissions intensity to best reflect their impact.

Moreover, the guidance is developing; the *Greenhouse Gas Protocol* has launched a <u>review</u> into the types of certificates that can be used for renewable energy claims. Draft guidance is expected to be released in the next 2 years and forms the background to the Science Based Targets initiative, making these upcoming changes critically important to achieving our scope 2 near-term targets.



Renewable Energy Sourcing

Meeting our near-term targets requires sourcing an increasing portion of our electricity through bundled certificates. These ensure that we are directly purchasing renewable energy, however the purchase of bundled certificates still does not necessarily displace fossil fuels with renewable sources to achieve a global emissions reduction and a causal link is challenging to prove.

Certain types of bundled certificates are more likely to provide *additionality* through financing new projects, actively expanding renewable capacity.



Towards our longer-term targets, we are looking to expand our procurement criteria to purchase additional bundled certificates.

Additionality: A greenhouse gas emissions reduction which would not have occurred in the absence of an action.



BIC – Designed for Recycling Project

Throughout 2022, Clays participated in the Book Industry Communication (BIC) *Designed for Recycling Project*.



The aim of part 1 of the project was to assess the current waste and recycling programs used across the industry to document best practice, challenges and inform design choices.

Waste is generated at various stages of the printing process, with the majority as paper waste from running machines up to speed and spoilages. We send all our paper waste for recycling, making up over 95% of our total waste volume, with the remaining incinerated for energy, treated or landfilled. Reducing waste requires a joined effort with the industry alongside our ongoing internal initiatives with new machinery investments and process improvements.





BIC – Designed for Recycling Project

Part 2 of the Designed for Recycling project is now underway, building on the findings of part 1 to focus more directly on minimising waste in production processes through design and manufacturing practices. For Clays, this provides a platform to guide informed discussions between publishers and printers in areas such as standardising paper types and channel information through to publisher design teams.

You can now download a copy of the project report from part 1 of the project here:

BIC Green Hub Reports and Guidance - Book Industry Communication

And find updates on part 2 of the project here:

Green Supply Chain - Book Industry Communication (bic.org.uk)



Sustainable Materials

In this edition, we are starting a new section to update on our progress towards adopting more sustainable materials.

Recycled content shrink wrap - In May 2023, we started a trial of a new shrink wrap used for binders parcels containing 30% recycled content from post-consumer sources. As with the shrink film we currently use, this material is fully recyclable in soft plastics recycling facilities throughout the UK and is fully compliant with the Plastic Packaging Tax. Over the coming months, we will be closely monitoring its performance throughout the factory to look at expanding its use.

Vegetable inks research - We are now researching potential replacements for our mineral-oil based printing inks. We already use vegetable inks for conventional printing in our colour department for covers, jackets and illustrations, however the primary focus area is in our web department for conventional text printing where our inks are currently based on mineral oils. We are also fully conscious of the risks for vegetable oils with issues such as deforestation and labour conditions, therefore will be taking appropriate measures before adopting any alternative.



Next time

In the next edition of our sustainability newsletter, you can expect updates on:

- Science based targets preparing for validation
- Our scope 3 emissions
- Scope 3 calculation approaches
- Book Industry Communication Group projects
- New machinery investments
- Materials updates

Please see our sustainability page for more information and a further glossary of key terms, now updated with the terms used in this edition.

Sustainability - Clays



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