Oxwash

Sustainability Report 2023

oxwash.com

Contents

A message **from our founder**

2023 was a pivotal year for Oxwash. We navigated a complex economic landscape, tackled inevitable setbacks inherent in pioneering new technologies, and pushed the boundaries of our commitments with disruptive solutions. Through it all, our conviction in transforming the laundry industry into a force for good remained unwavering.

As the state of the planet declines, the laundry industry, with its outdated practices and immense environmental footprint, cannot stand idly by. The inefficiencies of textile cleaning globally are multifaceted, convoluted, and complex. To achieve this transformation, we need to lead from the front and enable systemic change. At Oxwash, we're excited to be tackling this challenge head-on.

The opening of our new industrial-sized carbon-neutral facility, Big Blue I, marked a major milestone in 2023. At 20,000 square feet and with Net-Zero operations (scopes 1 & 2) our textile care plant utilises novel, proprietary technologies, and better business practices to reduce resource consumption and waste generation throughout the entire washing process. Big Blue I is the first of its kind, representing a model for the future of sustainable laundry and textile care.

We doubled down on refining our service for the hospitality and healthcare space and said goodbye (for now…) to our direct-to-consumer service. This focus has allowed us to better service our commercial customers with solutions that are tailored to their needs, and tackle planetary impact on a larger scale.

Through significant investment into automation, innovative technologies like AI stain detection, hydrogen-electric distribution, and a commitment to water reclamation, recycling, and waste reduction, we will not only achieve our own sustainability goals but also empower our clients to do the same.

This report delves deeper into our 2023 achievements and setbacks. It's never plain sailing, we've made plenty of mistakes and learned even more lessons. In the spirit of transparency and integrity, we invite you to join us on this transformative journey towards a cleaner, more sustainable future for the laundry industry.

The journey **so far**

2017

Oxwash's founder, Dr Kyle Grant started the business with an old bicycle, Google Forms and a spray-painted Deliveroo backpack, initially washing fellow Oxford students' laundry at home.

2018

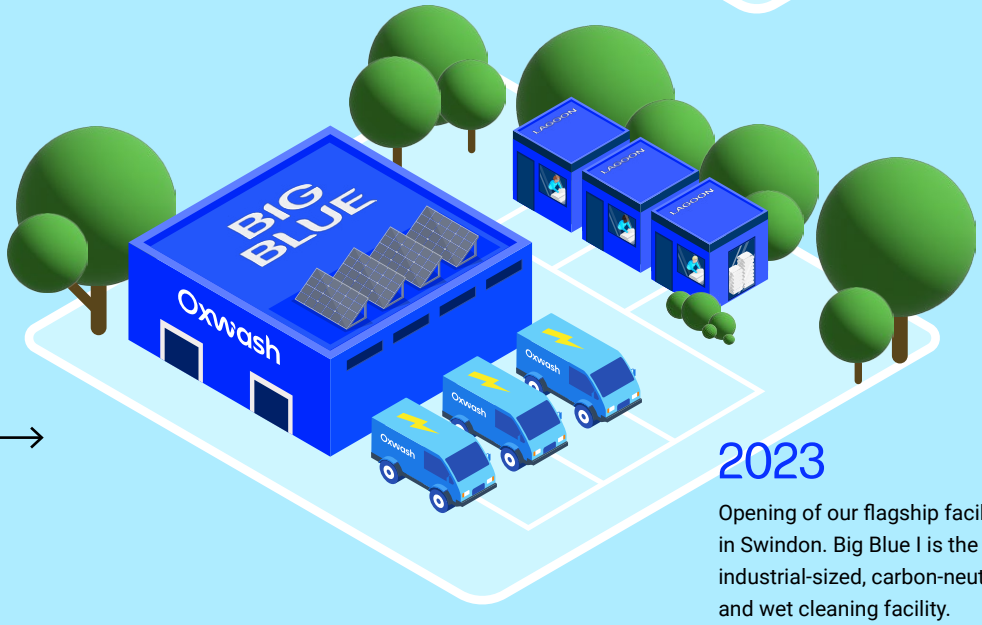
Upgraded to a shipping container and an E-cargo bike. Started serving businesses and Oxford colleges.

2019

Opening of the Oxford lagoon.

2021

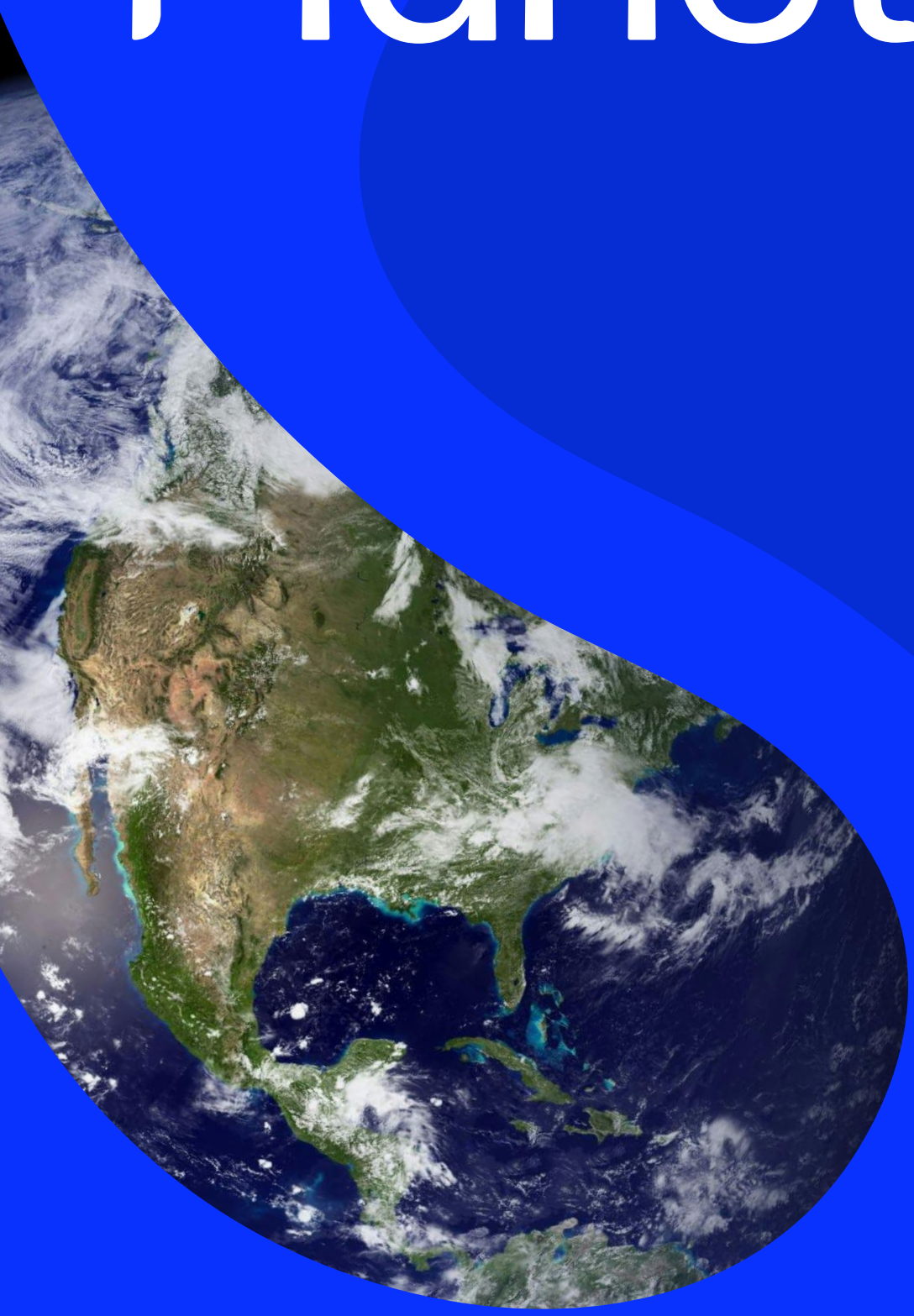
Opening of the London and Cambridge lagoons.



2023

Opening of our flagship facility, Big Blue I, in Swindon. Big Blue I is the world's first industrial-sized, carbon-neutral laundry and wet cleaning facility.

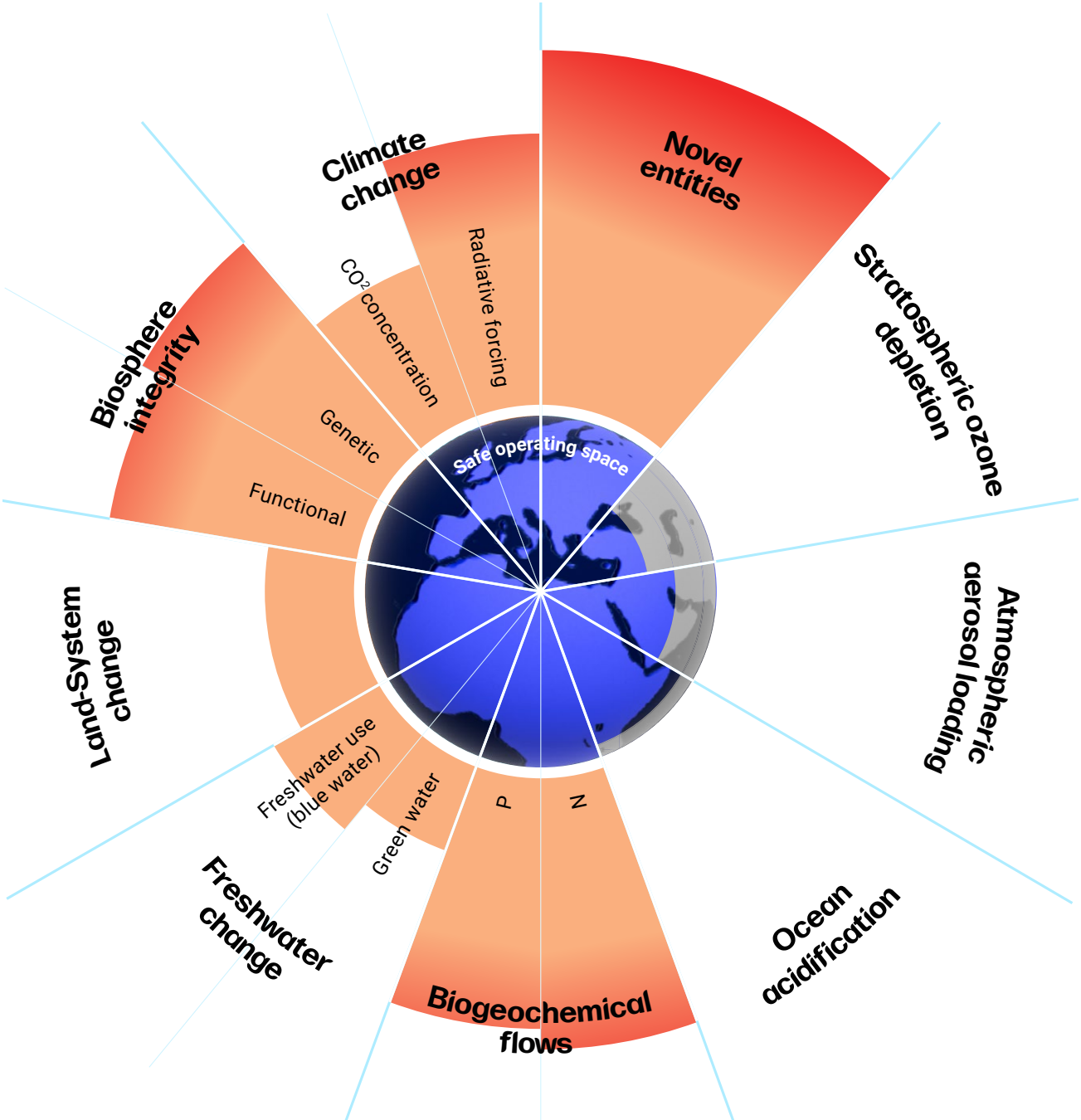
Planet



Planetary boundaries

In this section of our report, we are using the **Planetary Boundaries Framework** to illustrate **our impact on the Earth system**. The framework outlines **nine environmental boundaries that must not be exceeded to maintain a safe operating space for humanity on Earth**.

Six of the boundaries have been crossed, and pressure is increasing on all boundary processes except ozone depletion. To minimise our negative impact, we need to consider not only our carbon emissions but also our impact on biodiversity, land systems, and freshwater. Our goal is to make a positive contribution to the planet rather than harm it.



Doing things **differently**

COMPETITOR IMPACT	THE OXWASH DIFFERENCE
Climate change → Greenhouse gas emissions	
Large amounts of electricity are often generated from fossil fuels, resulting in carbon dioxide emissions.	Energy-efficient washer-extractors and dryers, powered by renewable energy sources such as solar electricity and biogas for hot water generation. Any non-reducible emissions are removed using carbon capture and storage technologies.
Change in biosphere integrity (biodiversity loss and species extinction) → Use of synthetic chemicals and pesticides in cleaning products	
Some traditional laundry cleaning products contain harmful synthetic chemicals and pesticides that can damage biodiversity.	Biodegradable and concentrated detergents with a lower environmental impact on biodiversity than traditional products.
Stratospheric ozone depletion → Emissions of ozone-depleting substances	
Some traditional laundry cleaning products contain harmful ozone-depleting substances like CFCs that can damage the Earth's protective ozone layer.	No cleaning products containing ozone-depleting substances like CFCs.

COMPETITORS & IMPACT	THE OXWASH DIFFERENCE
Ocean acidification → Emissions of carbon dioxide into the ocean	
Commercial laundries emit carbon dioxide as they launder which dissolves into the ocean and makes it more acidic, leading to ocean acidification.	See climate change boundary.
Biogeochemical flows (phosphorus and nitrogen cycles) → Eutrophication	
Wastewater contains high levels of nutrients, such as phosphorus and nitrogen. This can cause waterways to experience algal blooms and eutrophication.	Advanced wastewater treatment system that is capable of removing excess nutrients like phosphorus and nitrogen from water, thus preventing eutrophication.
Land-system change (for example deforestation) → Clearing of land for laundries and distribution centres	
Commercial laundries require land for their facilities and distribution centres, which can lead to deforestation and other land-use changes.	Oxwash selects locations for its facilities and distribution centers that do not require clearing virgin forests or important natural habitats. We prioritise sites or areas that already have existing infrastructure to minimise the need for new land development. In the areas where we operate, we implement measures to protect and enhance local biodiversity. This includes creating green spaces and wildlife corridors.

COMPETITORS & IMPACT	THE OXWASH DIFFERENCE
Freshwater use → Excessive water consumption	
Consume large quantities of water, which can strain local water resources, especially in regions where water is scarce.	Water-efficient washers with a reclamation system and wastewater treatment to remove contaminants before discharge. Organic and biodegradable detergents are used, along with water-efficient technologies and a new closed-loop system in development for 2024.
Atmospheric aerosol loading (microscopic particles in the atmosphere that affect climate and living organisms) → Particulate matter emissions	
Dryers can release fine particulate matter (PM2.5) into the atmosphere, especially if not properly maintained or vented. This PM2.5 can contribute to respiratory problems, cardiovascular disease, and other health issues.	High-efficiency filters on dryers and ventilation systems to capture airborne particles. Dust emissions are reduced through maintaining hospital-grade hygienic laundry facilities and equipment.
Introduction of novel entities (e.g. organic pollutants, radioactive materials, nanomaterials, and microplastics). → Release of microplastic fibres from laundry into the environment	
Microplastic fibres from clothing released into the environment, which can harm marine life.	Cleaner Seas microfibre filters that remove 99% of microplastics from the wastewater.

Climate – greenhouse gas emissions

Planetary boundaries: climate change and ocean acidification

It is widely known and scientifically proven that the acceleration of climate change is mainly caused by the emission of greenhouse gases like carbon dioxide and methane, which result from land use changes and the burning of fossil fuels in various industrial sectors.

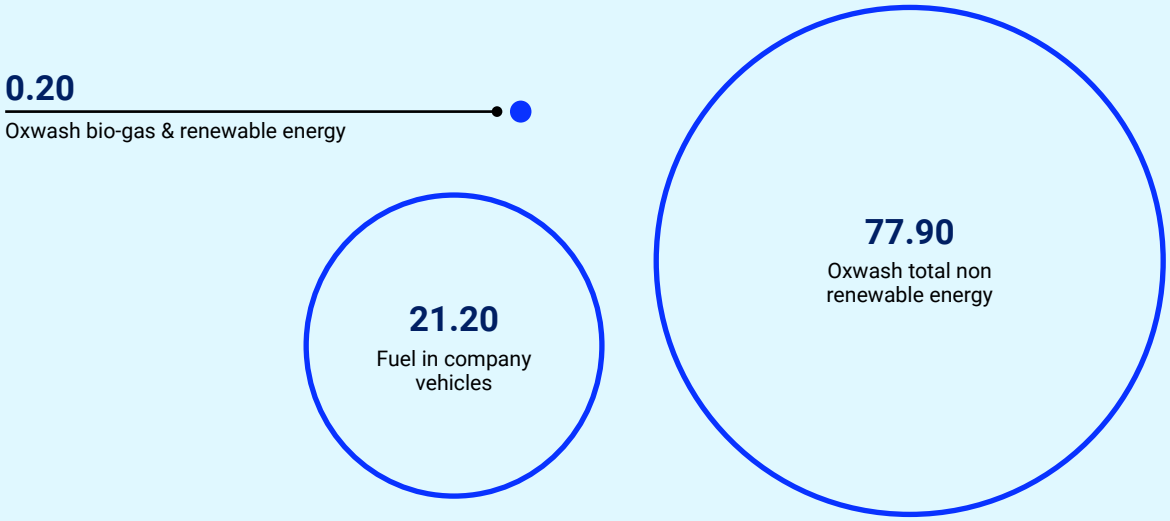
The rise in greenhouse gas concentration in the atmosphere traps heat, leading to global warming and climate change. Climate change in turn leads to ocean acidification as CO^2 dissolves in seawater, forming carbonic acid and decreasing pH levels.

Every year, the global laundry industry washes millions of tonnes of textiles for healthcare and hospitality clients emitting an estimated 62 million tonnes of CO^2-eq greenhouse gases. The climate effects of the laundry industry are complex and occur in many different places along the supply chains, however, most of the greenhouse gas emissions are caused by the fossil fuels that are used to run the machinery, heat water, dry textiles, etc.

Our emissions

SCOPE 1 & 2: DIRECT EMISSIONS (FLEET VEHICLES, GAS BOILERS, AIR-CON LEAKS)

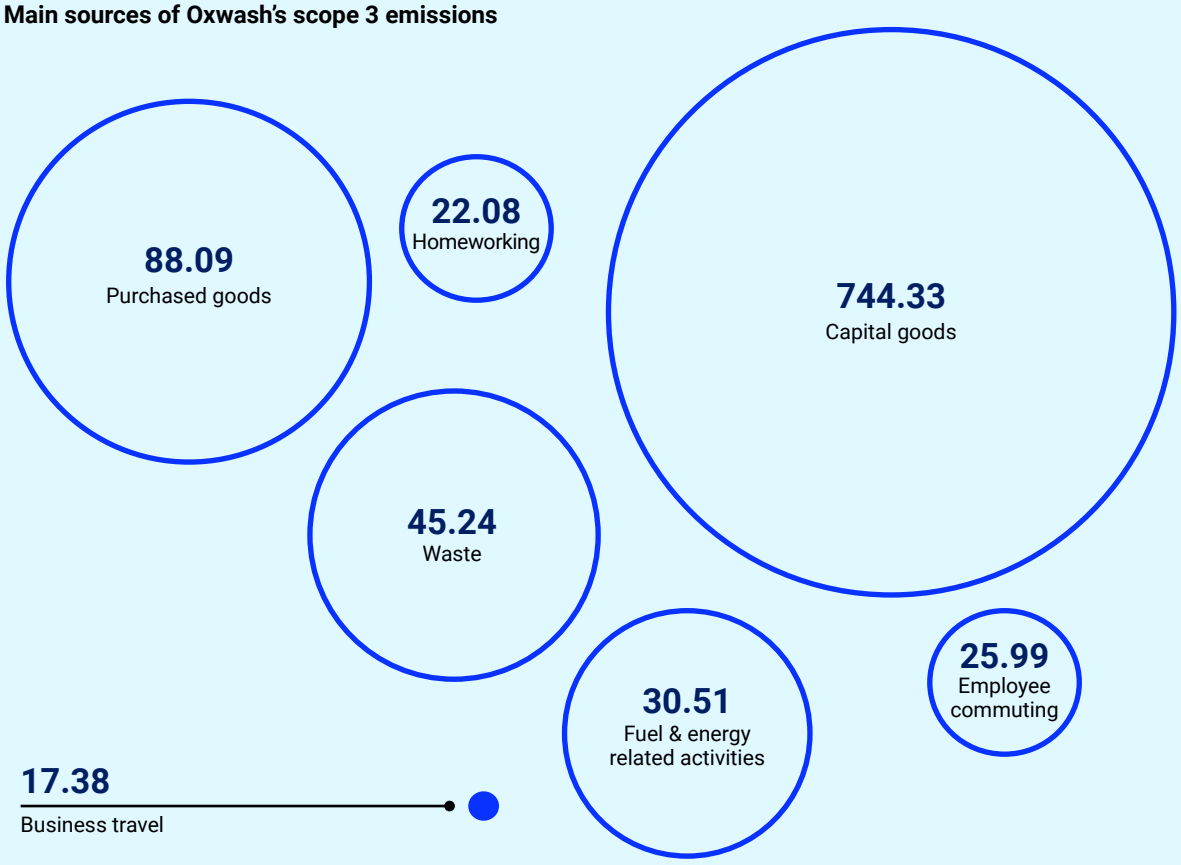
Total tonnes of CO^2e 99.30
in tonnes of CO^2e (Carbon dioxide equivalent)



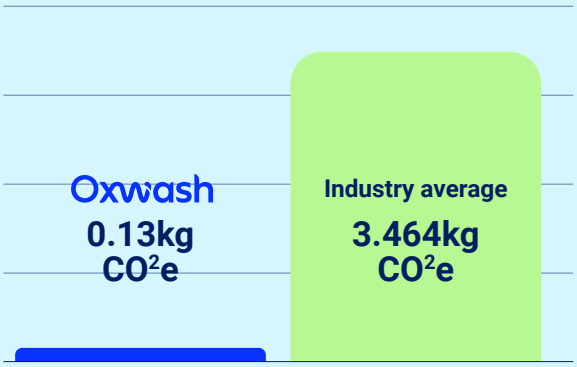
SCOPE 3: ALL OTHER INDIRECT EMISSIONS THAT OCCUR IN THE COMPANY'S VALUE CHAIN

Total tonnes of CO^2e 1,005.50
in tonnes of CO^2e (Carbon dioxide equivalent)

Main sources of Oxwash's scope 3 emissions



CO²E / KILO WASHED 2023 (COMPARED TO INDUSTRY AVERAGE)



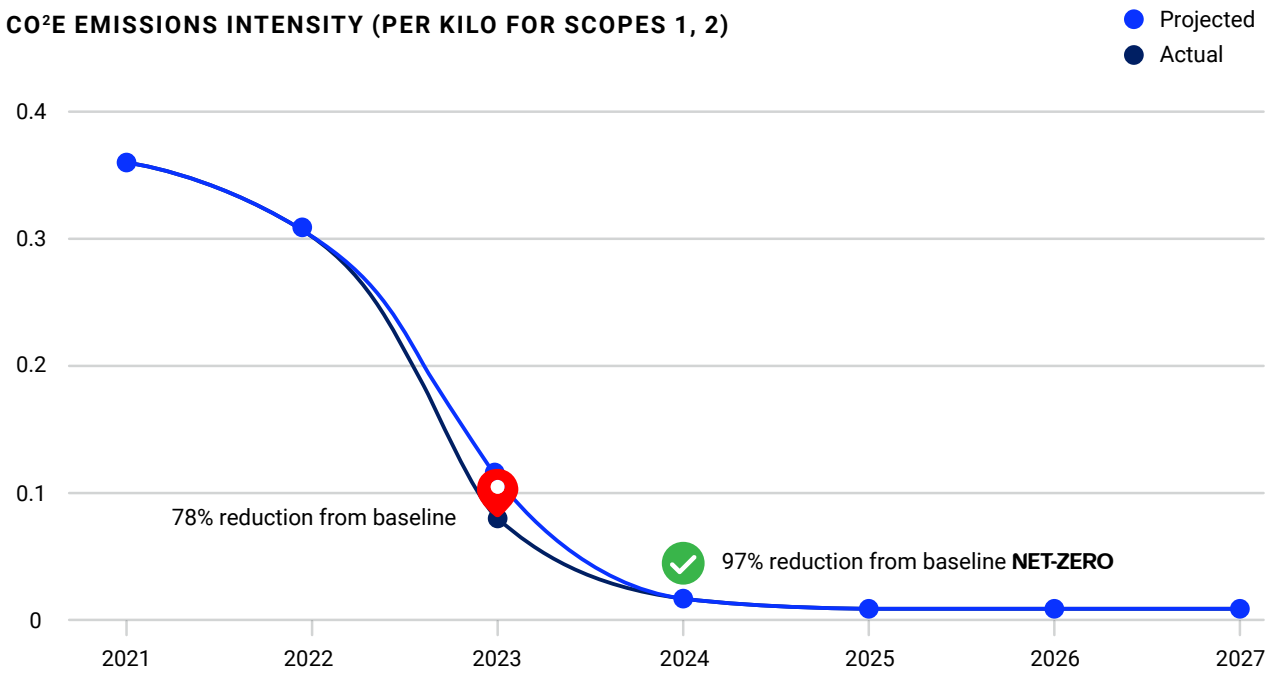
In 2023, Oxwash **emitted an average of 0.13 kilos of CO²e per kilo washed, which is significantly lower than the industry average of 3.464 kilos of CO²e per kilo washed**. Oxwash is already making progress in reducing its emissions further, as 2024 began with an average of 0.08 kilos of CO²e per kilo washed. Our goal for 2024 is to achieve a target of 0.0018 kilos of CO²e per kilo washed.

Scopes 1 & 2

We are proud to have **reduced our Scope 1 and 2 emissions by 77%**, which has significantly decreased our impact on climate change. **By March 2024, we will achieve a 97% reduction and be Net-Zero in Scopes 1 and 2.**

This reduction is due in part to our switch to biogas instead of natural and Liquefied Petroleum Gas, which are commonly used in the laundry industry. Typically, laundries operate using an energy mix of 30% electricity and 70% gas, so using renewable electricity alone is not sufficient to reduce emissions. Long term, we believe that the solution lies in fully electrified equipment and we have filed patents for new machines that will eliminate the use of gas entirely. You can read more about this in the 'Innovation' section of the document.

CO²E EMISSIONS INTENSITY (PER KILO FOR SCOPES 1, 2)



Scope 3 and challenges

In 2022, Oxwash set a goal to achieve Net-Zero in Scope 3 emissions by 2027. Scope 3 refers to the greenhouse gas emissions that occur indirectly in our value chain, including both upstream and downstream activities.

The majority of our Scope 3 emissions come from 'Capital Goods' and 'Purchased Goods' categories, which include linen and workwear procurement for our clients, machinery and vehicles, detergents, packaging materials, and electronic devices.

Whilst we have been diligently collecting comprehensive data on our Scope 3 emissions since 2021, our limited control over supplier infrastructure, processes and emissions has been more challenging than we had anticipated. And after thoughtful analysis and discussions with our partner network, we realised that our initial targets were unattainable within the set timeframe.

We are therefore adjusting our near-term approach to Net-Zero in Scope 3 and exploring alternative strategies aligned with new SBTi guidance. This includes **engaging with suppliers to identify emission reduction opportunities**, **sharing best practices, providing support, and incentivising the adoption of more sustainable practices**. This shift in strategy reflects a pragmatic understanding of the challenges involved within Scope 3 and demonstrates our dedication to achieving Net-Zero targets in the long term.

Net-Zero means achieving a balance between the greenhouse gases we emit and those we remove from the atmosphere, which stops the build-up that causes climate change. Oxwash is Net-Zero in scopes 1 & 2 and has a carbon-neutral supply chain.

Carbon removal is something we invest in instead of traditional offsets to achieve Net-Zero. Traditional offsets balance existing emissions by preventing future ones, like planting trees. Carbon removal, on the other hand, actively pulls CO^2 out of the atmosphere, often through methods like storing it in rocks. We have chosen carbon removal as it directly reduces the atmospheric burden versus offsets that will only slow its growth, enabling us to reach Net-Zero faster. Carbon removals are significantly more expensive than traditional offsets, on average £150/ tonne of CO^2 compared to on average £20/ tonne of CO^2e.

Chemicals

Planetary boundaries: change in biosphere integrity and biogeochemical flows

Chemical pollution is a significant threat to global ecosystems around the world with the commercial laundry industry being a major contributor. The toxicity levels and combined effects of emitted chemicals remain largely unknown which is concerning for both humans and other organisms.

- The dry cleaning solvent Perchloroethylene, known as PERC, is still commonly used, despite its carcinogenic risks.
- Laundry detergents, manufactured with synthetic chemicals, contribute to pollution by releasing chlorine, dyes, fragrances, and optical brighteners into waterways during washing.
- Despite awareness of the risks, many conventional laundries persist in using bleach (sodium hypochlorite), releasing chlorine and chlorinated compounds into wastewater that pose threats to aquatic ecosystems and contribute to ozone degradation.
- Most industrially used detergents also contain nitrogen and phosphate, which cause algal blooms that starve other organisms of oxygen and sunlight.
- Wastewater is treated and tested for bacteria and biological organisms to ensure it is safe, but screening methods cannot always identify chemicals found in common detergents.

Chemical pollution caused by plastic waste is another major issue. Microplastics are tiny plastic particles that are released when washing synthetic fabrics and are known to be a serious disturbance to the Earth's system. Plastic waste in the marine environment has become a global, ecologically systemic problem, and even though our knowledge about the impacts on ecosystems is still incomplete, it is clear that both direct and indirect effects are causing damage.

Our approach

Chemistry

We only **use biodegradable detergents that are free from harmful chemicals** like chlorine, dyes, optical brighteners, and phosphates to minimise water contamination.

Our technology can effectively remove both known and unknown pathogens and chemicals present in textiles resulting from the manufacturing process (such as BPA) and stemming from healthcare settings (such as Chlorhexidine). We regularly update treatment methods to keep pace with emerging pollutants.

Our Supplier Code of Conduct screens collaborators on the use of hazardous chemicals: PBTs (persistent, bioaccumulative, and toxic chemicals), CMRs (carcinogens, mutagens, and reproductive toxins), and EDRs (endocrine disruptors or hormone-disrupting chemicals). This is important to ensure suppliers manage the risks and provide safety information on the substances.

In 2024 we will roll out our fourth-generation chemistry formulation in our wash process that uses specific enzymes in various ratios depending on the stains present to remove them. Most biological detergents with enzymes contain a general and consistent mixture of enzymes such as proteinases, lipases and manassas that are designed to degrade a general set of stains expected to be found on textiles. **At Oxwash we will be using unique enzymes specifically dosed into our wash process to degrade the matching stains found at sortation and check-in to avoid waste and increase textile lifespan**.

Microplastics

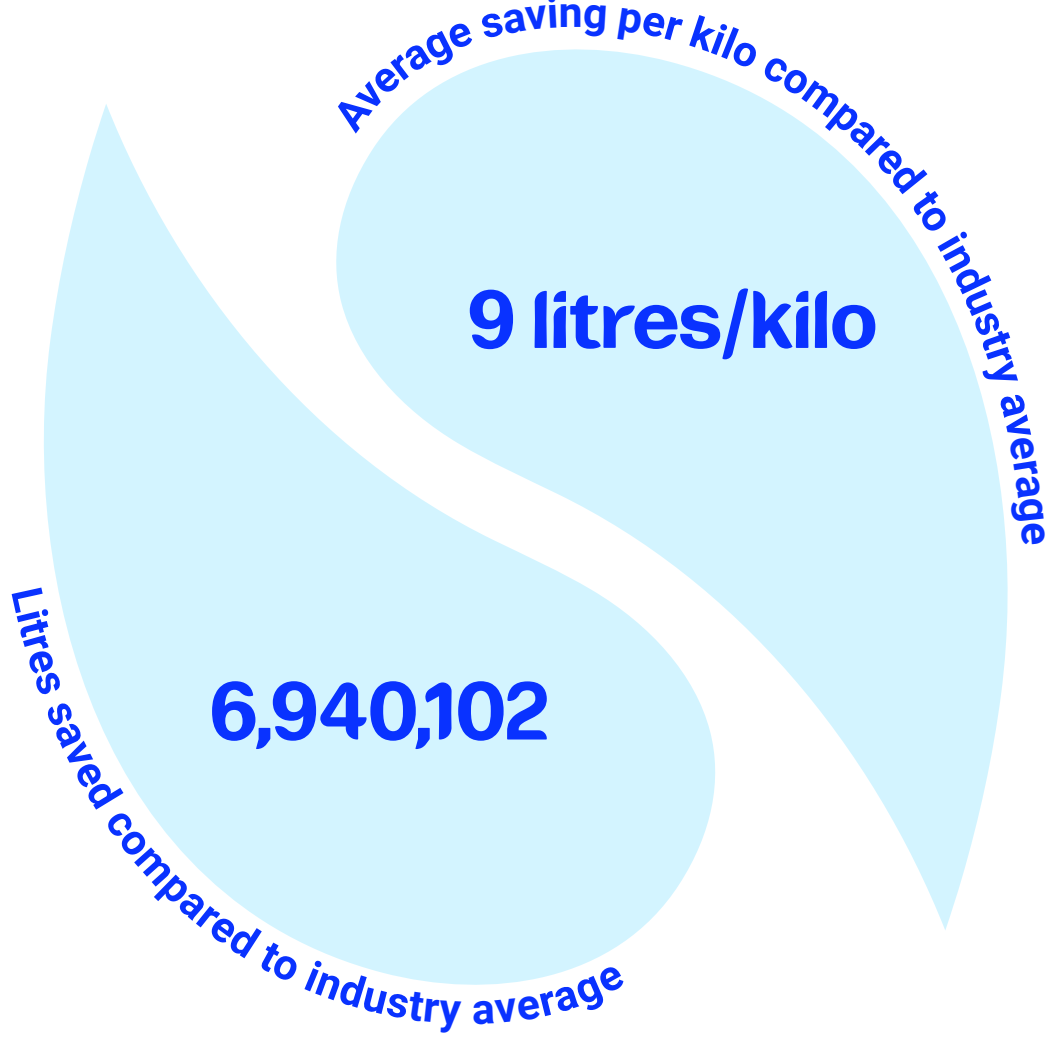
Oxwash has partnered with UK green-tech company Cleaner Seas Group to eliminate microfibres as a waste byproduct from our cleaning process and ultimately to protect our environment and oceans and the biodiversity within them.

Cleaner Seas' cutting-edge filtration system diverts our wastewater through an external, circular filter system that **captures up to 99% of microfibres from every wash cycle**. This remarkable technology can trap fibres as small as 1 micron (70x smaller than a human hair), regardless of material, effectively acting as a guardian for our waterways. Once the filter cartridges are full, a circular send-back and refurbish, recycle and reuse system kicks in via Cleaner Seas, further minimising environmental impact.

But like any pioneering journey, there are hurdles to overcome. Scaling up such advanced technology for industrial laundry water volumes presents its own set of challenges. One such challenge is ensuring optimal filter performance, even with unexpected obstacles like tissues, pens, or the occasional stray coin. While these items can cause occasional clogs, our teams see them as opportunities not only to refine the system and make it even more effective and robust but also to set a precedent for ways in which we all approach laundry wastewater management.

Despite these temporary roadblocks, Oxwash and Cleaner Seas remain steadfast in their mission. Our collaboration stands as a testament to the power of innovation and teamwork in tackling pressing environmental issues. Every challenge tackled brings us closer to a future where laundry cycles contribute to cleaner oceans, one fibre at a time.

Water



Planetary boundary: freshwater use

Water is a precious finite resource, but laundry operations consume significant amounts of it. In commercial machines, a single cycle can use up to 150 litres of water, which directly impacts the Freshwater planetary boundary. This boundary represents the safe limit for human abstraction of freshwater resources, set at 4,000 cubic kilometres per year globally. Excessive water consumption, especially in water-stressed regions, contributes to exceeding this boundary by depleting groundwater and surface water resources, disrupting natural water flows, and increasing water pollution.

Oxwash operates in regions that are already facing high water stress, which further amplifies the risk of exceeding sustainable water use. This puts pressure on local ecosystems and threatens future water availability. However, at Oxwash, **we proactively address water scarcity through innovative technology and resource management**.

In 2023, **we saved an impressive 6,940,102 litres of water compared to conventional laundries**, thanks to measures like our water reclamation system.

This ingenious system reuses water from the rinse cycle (at the final stages of washing when textiles are almost completely clean*) for subsequent washes, minimising freshwater consumption.

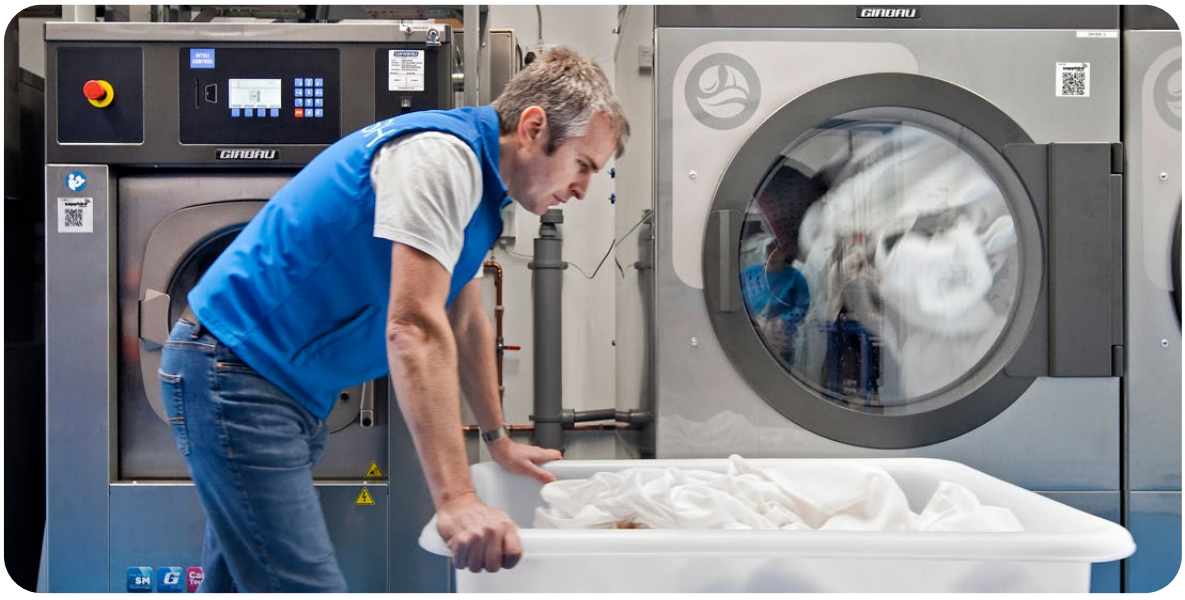
In 2024 we will push this even further at our next-generation facility, Big Blue I, by **harvesting rainwater and groundwater to supplement washing needs**. We are installing a new system called Hydro (more info in Innovation) and aim to retrofit our existing hardware to achieve an 80% water recycling rate. By coupling this with rainwater collection, we will create a near-self-sufficient water reclamation loop.

By addressing water consumption through resourcefulness and technological innovation, we aim to set a new standard for the laundry industry while safeguarding the precious resources within our planetary boundaries.

***Our machines recover rinse water from the last part of the cycle; this water is not contaminated as it is rinsing laundry that is already clean. The water recovered is then used in the pre-wash for the next load before it goes into the main cycle.**

The reused water from the tank is normally warmer than the mains water, thus requiring less energy to achieve the desired temperature.

We also use technologies like ozone to sterilise the water, ensuring it meets strict hygiene standards. This sustainable practice not only conserves water but also reduces environmental impact by minimising wastewater discharge.



Textile waste

Planetary boundaries: climate change, freshwater use, change in biosphere integrity

The healthcare industry, particularly the National Health Service (NHS), faces a significant challenge in managing linen inventory sustainably. The NHS annually loses 80% of its linen, leading to financial and environmental consequences, such as 7,600 tonnes of CO^2e emissions and substantial landfill waste.

In addition, hotels often lose 20% to 30% of their linen inventory, costing more than £40,000 a year in some cases. A typical 150-room hotel spends around £14,705 per year on linen replacement, which accounts for approximately 25% of its overall laundry costs.

Advanced technologies like Radio-Frequency Identification (RFID) are crucial in overcoming our clients' linen and textile inventory challenges. RFID systems, consisting of transponders (tags that are attached to the textiles) and readers, enable real-time tracking of items like bedlinen, scrubs, patient wear or bathrobes.

Our investment in custom RFID software, developed by our in-house team, aims for 100% accuracy. By tracking and monitoring each piece of linen, we are able to provide our clients with the visibility they currently lack on their stock levels. This saves time manually re-counting stock and the significant cost of replacing the stock that has been misplaced.

Once we're aware of what's missing, we partner with our customers to consult on how to minimise loss or waste, maintain decent stock levels and avoid unnecessary costs to both their business and the planet. We are working on several educational initiatives to support our customers in promoting awareness amongst end-users and employees.

Throughout 2024, we will continue to work closely with our clients to evolve these initiatives. We will also begin leveraging data on usage/wear rates and loss frequencies to gain a deeper understanding of linen longevity and lifespan based on manufacturer specifications.

Impact

CO^2E / ITEM 2023 (COMPARED TO INDUSTRY AVERAGE)

THE OXWASH DIFFERENCE

ONE SET OF BEDDING

27
kg Co^2e emitted during production

1.3234
kg Co^2e emitted in 1 conventional laundry wash

25
litres of water used in 1 conventional laundry wash

--
kg of microfibres captured with a competitor

27
kg Co^2e emitted during production

0.0156
kg Co^2e emitted in 1 **Oxwash** wash

12
litres of water used in 1 **Oxwash** wash

0.0017
kg of microfibres captured in one **Oxwash** wash

ONE SCRUB SET

7
kg Co^2e emitted during production

0.3258
kg Co^2e emitted in 1 conventional laundry wash

6
litres of water used in 1 conventional laundry wash

--
kg of microfibres captured with a competitor

7
kg Co^2e emitted during production

0.0038
kg Co^2e emitted in 1 **Oxwash** wash

3
litres of water used in 1 **Oxwash** wash

0.0004
kg of microfibres captured in one **Oxwash** wash

Hospitality

The hospitality industry contributes around 1% of global greenhouse gas emissions, equivalent to South Africa's yearly emissions. To meet the Paris Climate Agreement goals the global hotel industry must reduce greenhouse gas (GHG) emissions per room per year by 66% by 2030, and 90% by 2050.

Laundry and linen services play a vital role in the hospitality industry's sustainability efforts. The energy-intensive processes, water, and chemical usage are just a few contributors as well as the emissions associated with the replacement of lost stock.

We are delighted to support hospitality organisations across the UK with laundry and dedicated linen rental models that will reduce their carbon footprint and contribute to their sustainability goals.

"As a certified B Corp™, we are reassured that sustainability is a priority within their operations and at the core of their business. Their pricing is good value for money, especially when you consider how the service has such a positive impact on ESG credentials.

Oxwash's service is truly a partnership, where they consider our business requirements and feedback to adapt the service to best fit our needs."

LOUISE BIRD, OPERATIONS MANAGER | COURTYARD BY MARRIOTT

COURTYARD® BY MARRIOTT

Healthcare

The National Health Service (NHS) generates a massive carbon footprint of 31 $MtCO^2e$, with 80% (24.9 $MtCO^2e$) originating from its supply chain. Linen and laundry services, as well as the repeated procurement of scrubs and linen (of which 80% is lost each year), are significant contributors.

The NHS has set targets to reduce its supply chain emissions by 80% by 2024. Achieving this will heavily rely on its suppliers meeting their own emissions goals. As the world's first B Corp™, carbon-neutral laundry service with EN 14065 accreditation, we're proud to be trusted by healthcare organisations. We work closely with the NHS to demonstrate how innovative sustainable practices can contribute simultaneously to a healthier planet and a more resilient healthcare system.

"Mobilisation of Oxwash into RAF Lakenheath, and their subsequent service levels and quality are the best I have ever seen of any audit I have performed. They achieved 99%, which is the highest score I've ever given"

ANNA HALLAS MBE, HEAD OF HEALTHCARE AND CLEANING | COMPASS GROUP

COMPASS GROUP

People

Our employees

We celebrate our employees' unique talents, creativity, and cultural perspectives, which enable us to achieve our goals and fulfil our mission. Oxwash believes that businesses must support fair livelihoods and employee well-being, especially given the increasing pressures on households in the UK. With the opening of our new site, Big Blue I, **we have welcomed 33 new employees to our team, and we plan to continue growing in 2024**. We are committed to exploring the best ways to support our workers' financial security, professional growth, and well-being.

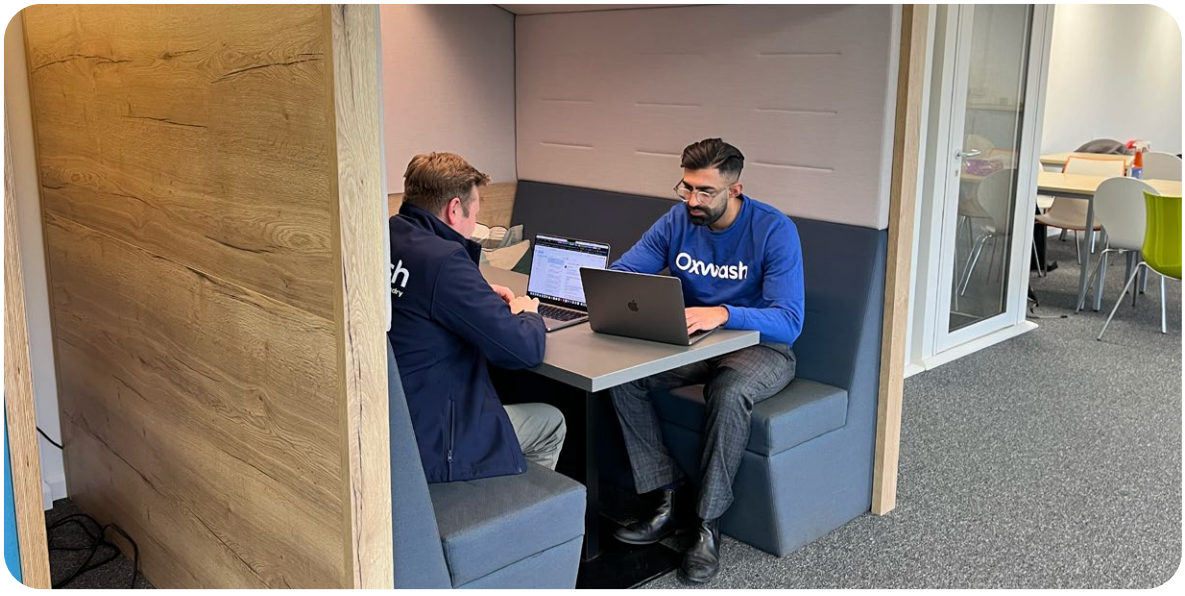
2023 WINNER IMPACT FIFTY

In 2023, Oxwash proudly received The Impact Fifty Award from Hyer, acknowledging us as one of the top 50 most impactful companies to work for.

This prestigious award is granted to companies committed to fostering a workplace environment where every employee feels that they are making a real difference to an important cause.

ESC ESCAPE THE CITY

We also **secured a spot on Escape the City's list of the 100 best companies to work for**. Escape the City focuses on promoting jobs with purposeful companies. The Escape 100 list highlights organisations, like Oxwash, that prioritise their people and the planet alongside profit. This recognition is based on six key criteria and anonymous employee reviews.



Our employee highlights include:

Real Living Wage employer

2023 was our second full year of commitment. We are renewing this in 2024 and feel it is more important than ever considering the current cost of living. We are the only industrial scale commercial laundry that is living wage accredited.

Revamped our annual review process

100% team member participation post-probation. Also introduced a new Personal Development Plan to support professional growth and development.

Electric car scheme introduced

To make more sustainable travel options accessible and affordable for our team.

EMI share option grants for our employees at all levels.

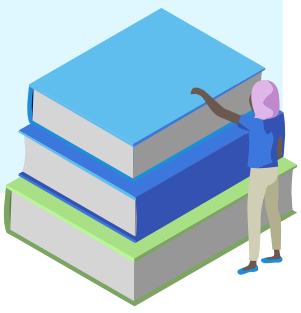
We want everyone to share in our successes.

New HRIS

Providing Oxwashers with a positive, engaging experience and improving our ability to capture data and track ED&I progess.

Learning and collaborating

Held 14 departmental and HQ offsites and launched our Wash Fundamentals internal training programme.



Equity, diversity, and inclusion (ED&I)

At Oxwash, we strongly believe that diversity is our strength. We understand that every individual's voice, background, and perspective contributes to the success of our company and drives innovation. That's why we go above and beyond the Equality Act of 2010 to create a nurturing and supportive environment for our diverse workforce.

We have a zero-tolerance policy towards any form of discrimination and harassment, and we have grievance and whistle-blowing processes in place to ensure that all employees feel safe and heard.

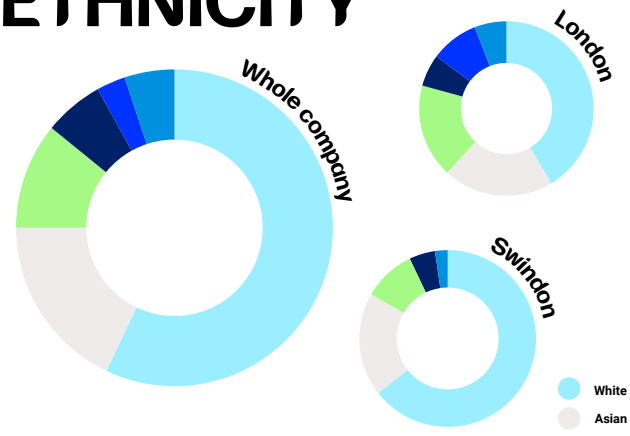
In 2023, we began publishing bi-annual reports to evaluate our progress in the areas of diversity, equity, and inclusion (ED&I) and set targets for the future. **One year on, we have made significant strides in tracking our progress through voluntary disclosures within our new HRIS**. While we had limited data about disability, sexual orientation, and faith in 2022, **we have improved response rates in all of these areas by over 170%.**

In 2024, we aim to gather more voluntary data relating to our team members' socio-economic and underrepresented backgrounds, including NEET, care leavers, and long-term unemployment, to improve our ED&I analysis and progress.

We have also continued calculating our gender pay gap on a voluntary basis, despite not being statutorily required to do so. We are pleased to report that our **mean and median gender pay gaps both decreased in 2023, alongside a 50% distribution of males and females in 3 of our 4 pay quartiles**. Our mean gender pay gap decreased from 15% to 13.8%, and remains below the national average. We're especially proud to see our **median gender pay gap decrease dramatically, from 13.87% to -8.1%**. Although these trends illustrate a promising direction of travel, Oxwash aspires to make even faster and more impactful progress in 2024, including providing an accompanying narrative and action plan and quantifying other types of pay gap.

We're committed to reflecting the diverse communities we serve and ensuring that every voice has a platform.

ETHNICITY

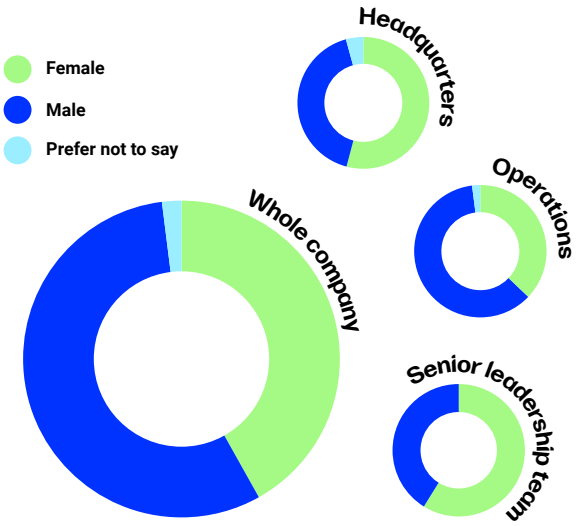


we speak
29 different languages
among our team

Our ethnic diversity at our processing sites in Swindon and London either matches or is more diverse than the regional averages.

Our ethnic diversity at a whole company level is also more varied than the general population in England and Wales (compared to 2021 census data).

GENDER



Mean gender pay gap

Decreased from 15% to 13.8%, and remains below the national average.

Headquarters	Operations
+ 15%	+ 6%

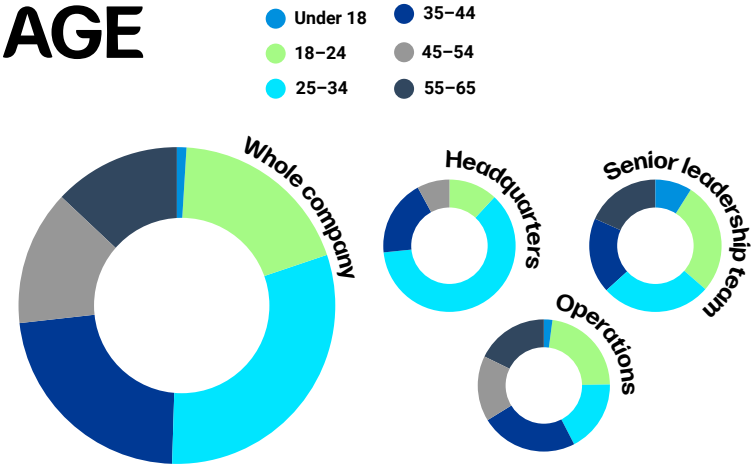
Whole company
+ 8%

♀ Compared to 2022, identify as female

64%
of senior leadership team identify as female

(an increase of 20% since December 2022.)

AGE



The whole company has more even distribution across age groups, including in our senior leadership team, compared to 2022.

Challenges with ED&I

While we made hugely positive strides last year with collecting ED&I data and progressing towards our targets, we still face some obstacles in both of these areas.

In 2023, we tried to build lasting partnerships with organisations that do invaluable work to support individuals from underrepresented groups, but we had mixed success. We learned that because each organisation specialises in one area of underrepresentation, we fell foul of trying to cast our net very wide rather than very deep.

As such, in 2024 we **will place more focus on our engagement with job seekers in our local communities who are NEET** (aged 16-24 and Not in Education, Employment or Training), long-term unemployed, ex-offenders, and/or care leavers.

Like many other companies, our ED&I data depends on voluntary disclosures. We have achieved good response rates from our employees, and our next step is to invite voluntary ED&I disclosures from applicants who feel comfortable doing so. This way we can broaden our understanding of ED&I across the whole employee lifecycle. We will also supplement this by upskilling our line managers with ED&I training to enhance our inclusive hiring practices.

With a headcount of 92 Oxwashers and a couple of sites with 5 or fewer people, we acknowledge that small changes in our team composition can make a significant proportional difference in our ED&I and performance against our targets. While this challenge is not unique to Oxwash it is something that we must keep under constant review as we grow and evolve as a business that fosters a welcoming, inclusive, and proud environment for all Oxwashers.

People

At Oxwash, we are aware of our responsibility and the positive impact we can have on the communities where we operate.

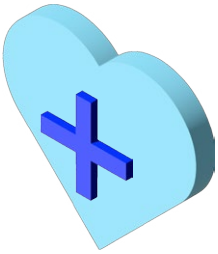
In 2022, we **started measuring our Social Value to understand the impact of our work**, whether it be through local employment, skills and development, diversity and inclusion, our supply chain activity, or community projects we support. **We track and measure our progress against the National TOMs Framework**, which helps us quantify the steps we are taking to make a difference and the areas where we can do even more.

At Oxwash, our people-first philosophy ensures we look after our employees and the communities where we work. With the cost of living being an issue for most UK households, the social value that businesses can generate has never been so important. In 2024, we will continue prioritising the welfare of our colleagues and providing opportunities for all while supporting the communities where we work.

Our social value in 2023

£4.8 million
in value of local, direct employment

150
local direct employees



40 hours
business advice to charities and SMEs

£30,700 invested
in employees' mental health initiatives, social value and local economic impact

19 hours donated
for local school and college visits supporting pupils

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526 hours
of training opportunities (BTEC, City & Guilds, NVQ, HNC - Level 2,3, or 4+)

200 hours
free donation washing for charities

5000 miles saved
as a result of a green transport programme by employees

Our suppliers

For Oxwash, responsible sourcing is about building reliable partnerships with our suppliers. We select suppliers who share the same values as us and are aligned with our mission. We are aware that our purchasing practices impact not only our suppliers but also the people who work for them.

When we launched the business in 2017, our supply chain was simple. However, as we expanded each year, the list of goods needed became longer and more complex. **Now, we offer a full service for both hospitality and healthcare which means we have to procure linen, scrubs, and patient wear, making our supply chain much more complicated.**

In 2023, we mapped our suppliers, including the emissions associated with the products purchased from them, to have a clear vision of where to focus our work moving forward. All key suppliers are required to fill out Oxwash's Supplier Assessment Questionnaire and comply with our Supplier Code of Conduct.

To help with supply chain management in the future, **we are joining Sedex**, an organisation that helps ensure ethical sourcing and responsible business practices. This partnership will enable us to have greater transparency and visibility into our supply chain, allowing us to identify and address any potential risks or issues. We are committed to upholding high standards of social and environmental responsibility, and joining Sedex is an important step towards achieving that goal.

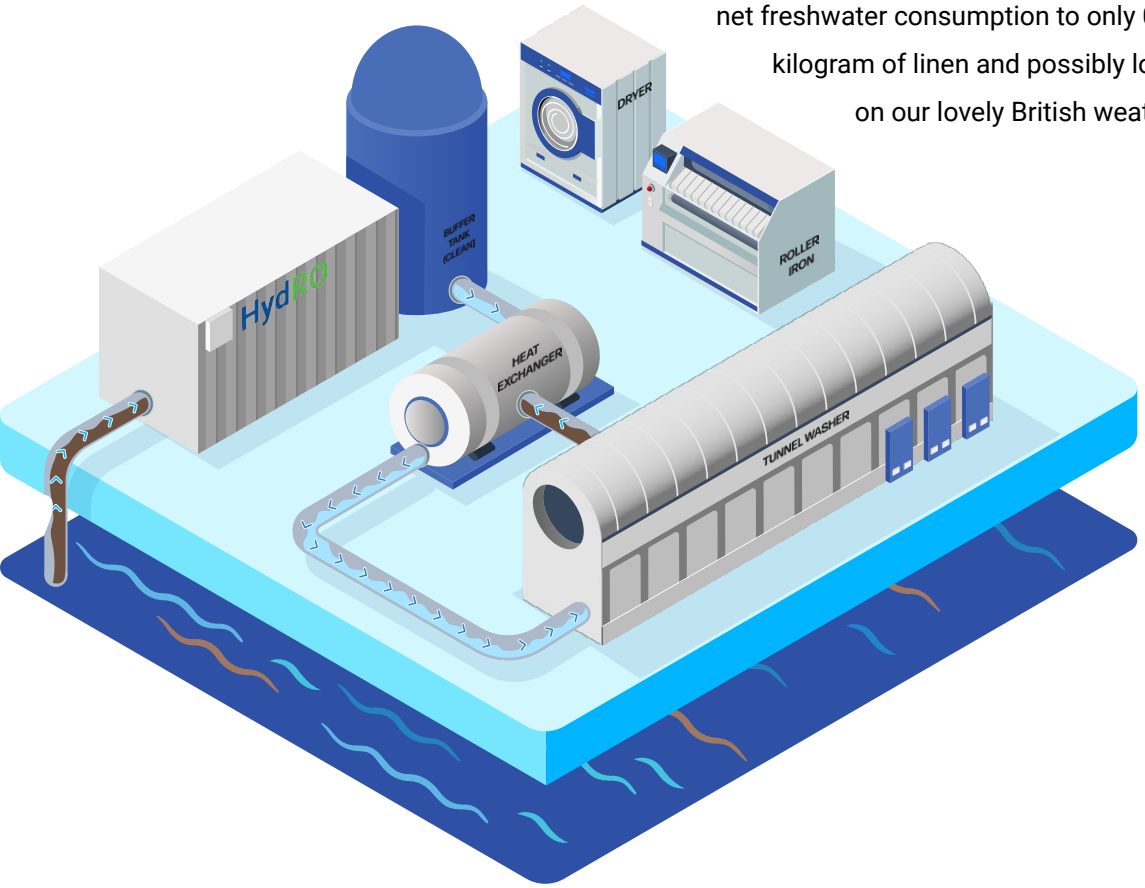
- Washing machines and other equipment
- Detergents and chemicals
- Compostable packaging
- Linen and towels
- Scrubs and medical textiles
- Reusable packaging
- Plastic bags for medical textiles

Innovation

Water reclamation technology

At Oxwash we are currently using **an average of 10 litres of water per kilogram of textiles washed** in our facilities. This is **nearly half the amount of water a conventional laundry** of our size uses, which is around **19.5 litres of water per kilogram of textiles washed**. Although we already have achieved significant savings by halving the water usage, we still consume a considerable amount and want to achieve Net-Zero consumption from grid water as soon as possible. **In 2024, we will install a new system called HydRO in Big Blue I in collaboration with our partner, Christeyns.**

HydRO is a solution that enables water recovery, treatment, and recycling. This system provides ultra-pure water for laundry operations. The unit collects and treats wastewater from the washer, including iron removal, water softening, and reverse osmosis. In addition, the reclaimed water has a **temperature of 40°C**, making a heat exchanger unnecessary. It also filters out all substances such as microplastics, heavy metals, and bacteria to purify the process water. This system will enable us to reduce freshwater consumption by at least 80%. When combined with effective rainwater collection, this new technology enables a reduction of net freshwater consumption to only 0.5 litres per kilogram of linen and possibly lower depending on our lovely British weather.



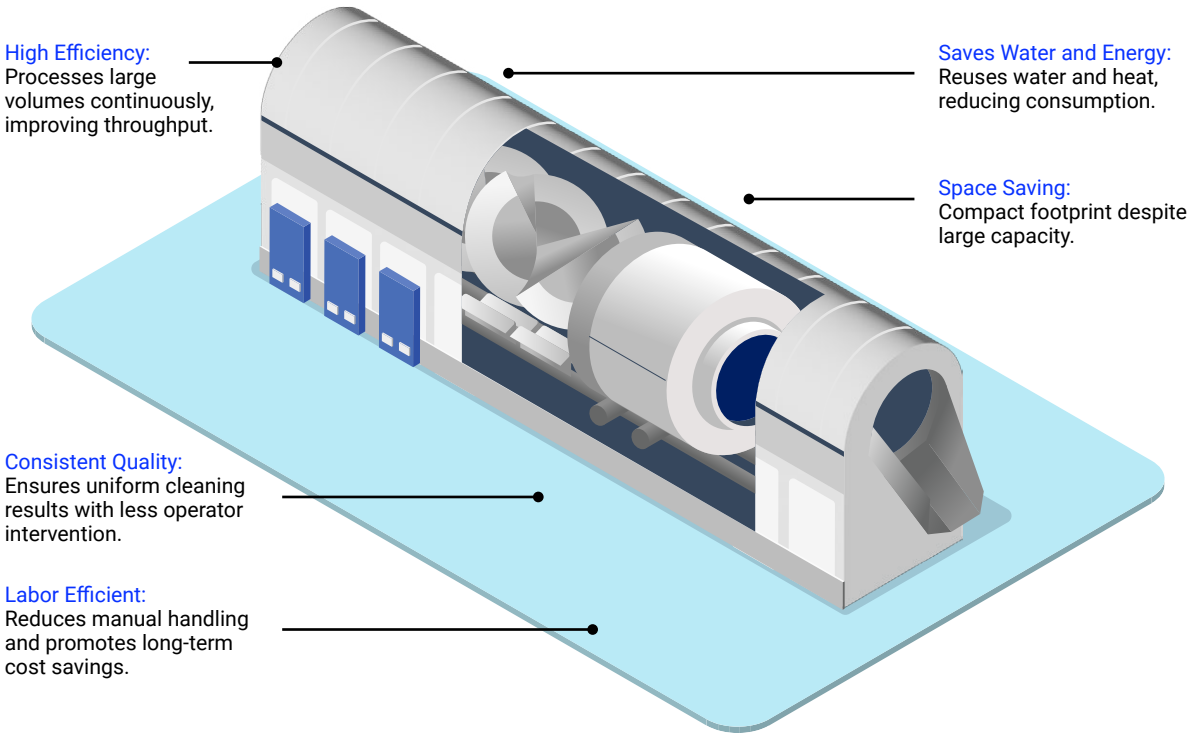
Tunnel washers

In 2024, we will be installing our first tunnel washer at Oxwash. These are also known as ‘continuous batch washers’.

These bespoke machines are used to delicately wash a large amount of linens, towels, uniforms, and textiles efficiently. They have been named tunnel washers because they resemble long metal spiral tunnels that rotate to transfer items through each stage of the cleaning process. Think of it as a car wash for laundry!

The dirty textile items are sorted into trolleys and then sequentially loaded onto conveyors which automatically feed the open end of the tunnel. The textile items then travel through the tunnel through various wash zones such as pre-wash, main washing, and pH balancing. After the wash cycle, the textile items **pass through multiple rinse zones with clean water to remove any soap residue**. Excess water is removed from the textile items using gentle pneumatic presses before they exit the washing process ready for drying.

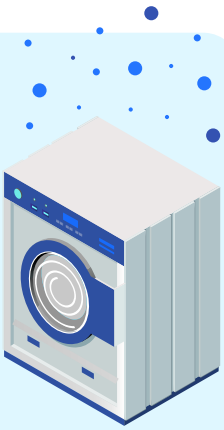
Compared to traditional industrial washing machines, tunnel washers have several sustainability advantages. **They use significantly less water per kilogram of laundry processed because the water is recycled and reused** within the closed-loop system of the tunnel. Water used in the final rinses flows forward against the flow of items going through the tunnel. Their continuous operation also minimises energy wasted on startup and shutdown cycles. Lastly, they generally require less detergent and other cleaning chemicals due to the efficient multi-stage washing process, and generate less wastewater and effluent compared to traditional machines.



What challenges have we faced?

For **four years**, we were convinced that serving consumers was the best path. However, in 2023, we recognised that **catering to businesses in healthcare and hospitality holds greater potential** to create a positive impact on the environment and society.

Throughout the year, we needed to **adjust and upgrade our filters** to accommodate new industrial equipment, which unfortunately resulted in **some microplastic escaping into our wastewater**.



We **adjusted our Net-Zero Scope 3 emissions** due to slower-than-anticipated progress in both data collection and collaboration with our suppliers.

Despite making good progress in collecting ED&I data and advancing our goals last year, we faced several hurdles. Unfortunately, our **partnerships with diverse support groups** to hire underrepresented individuals **were not as impactful as we had hoped**.

We anticipated receiving **grant funding** to scale up our acoustic drying technology but **didn't receive this in 2023** so that rollout has been paused.

During our RFID testing, we had **difficulties securely attaching RFID tags** to scrubs and linen items, which caused many of them to fall off and clog our microplastic filters.

Future

What's next for Oxwash?

In 2021 we benchmarked our sustainability performance and created our first roadmap. Since then, we have made significant progress in turning the tide on textile care, but along the way, we have realised that we need to break free from the current system's status quo. To achieve our vision, we must co-create a new model, guided by our core values of integrity, creativity, and excellence.

The urgency to act is clear when we see the state of the planet and the lack of willpower, guts, and action to change course. The untapped potential, vast opportunities, and abundant value in this transition make us even more determined to fill this void.

Our strategy for 2024 is clear: concentrate on decarbonising textile care within the high-end hospitality and healthcare sectors. This focus includes expanding our supply of carbon-free cleaning from our flagship industrial cleaning plant, Big Blue I. **Once we demonstrate the profitability of this Net-Zero, first-of-its-kind facility, we plan to secure additional financing to build four more across the UK, ensuring nationwide coverage.**

Ultimately, we believe that we must go beyond zero and become a positive and regenerative force for society and the planet. We consider it our duty, or we have no business running a business at all.

Sustainability roadmap

COMMITMENT	ACHIEVE BY	SDG
Greenhouse gas emissions		
Reach science-based net-zero targets in scopes 1 and 2.	2024	13
Reduce carbon intensity for scopes 1 and 2 to 48 tons CO^2e/million revenue (current 52 tons/M$).	2024	13
Reduce carbon intensity for scopes 1 and 2 to 0.018 kilos of CO^2e/kilo washed.	2024	13
Improve process for supply chain GHG emissions in line with SBTi guidance (including target setting, collaborations and workshops).	2024	13, 17
Reduce supply chain GHG emissions by 20%.	2035	13, 17
Water management		
Water conservation through harvesting rainwater.	2024	6
Set specific reduction targets for water consumption.	2025	6
Achieve 25% reduction in water consumption relative to financial performance.	2026	6
Reduce impact on biodiversity		
Find alternative industrial filtration tech to further reduce microfibre pollution.	2024	14
Establish industry-wide standards for microfibre capture and recycling through collaboration with other organisations and industries.	2025	17
Lobby for the banning of PERC.	2027	17, 16, 15

COMMITMENT	ACHIEVE BY	SDG
Waste management		
Improve monitoring and recording of waste production.	2023	
Reduce waste production by 20%.	2025	
Produce zero waste to landfill / ocean.	2028	
Environmental management systems		
Implement a third party audited environmental management system (EMS) covering waste generation, energy usage, water usage, and carbon emissions, with objectives and quantifiable targets.	2024	
Diversity, equity and inclusion (DEI)		
Increase the representation of ethnic minorities to match the average levels of regional ethnic diversity in our local areas provided by the ONS and Census.	2025	
Introduce accurate measurement and set public goals for representation of underrepresented groups.	2024	
Increase the representation of female senior managers to 50% Maintain the representation of female SLT at 50+%.	2023 2024	
Reduce the gender pay gap to zero.	2030	
75% of employees from the county of their home lagoon (Oxfordshire, Cambridgeshire, Greater London, Wiltshire).	2024	
Host annual DEI training for all line managers.	2024	
Increase the representation of ethnic minorities in the senior leadership team to at least 20%.	2025	
Increase employees' highest formal level of education during their employment at Oxwash.	2025	

COMMITMENT	ACHIEVE BY	SDG
Supply chain management		
Set goals and expectations with suppliers to improve their social and environmental performance.	2024	
Set up incentives for suppliers with strong social and environmental performance.	2025	
Ensure 21-49% of suppliers are accountable for the SAQ and Supplier Code of Conduct (based on £ spent).	2024	
Ensure 10-24% of purchases are from underrepresented suppliers.	2028	
1-49% of suppliers disclosed on website 2024.	2024	
Screen suppliers to determine demographics (to determine purchases from companies that are majority-owned by women or individuals from underrepresented populations).	2028	
Community engagement		
Conduct regular community workshops to educate on sustainable laundry practices and textile longevity.	2023	
Offer paid time off specifically for community service activities and volunteering.	2025	
Establish structured programs for employees to share their professional skills with local organisations.	2024	
Increase our capacity for charity washing.	2024	

COMMITMENT	ACHIEVE BY	SDG
Workers' financial security, health and safety		
Regularly monitor indoor environmental quality to ensure a healthy and comfortable work space (and avoid Sick Building Syndrome).	2028	 
Private supplemental health insurance.	2028	
Increase % of Company Owned by Non-Executive Employees to 5-24%.	2028	
Governance - ethics and transparency		
External independent anti-corruption programme.	2028	
Report at least annually to relevant internal and external stakeholders (workshops, CEO announcement, newsletter) about ethics and anti-corruption.	2028	
Set up goals for ethics and corruption and have the Board of Directors review the results.	2025	
Assign ethics monitoring to a specific individual and prepare budget/resources.	2025	
Implement internal employee self-evaluations.	2025	

Bibliography

Admin-Seo (2020) *The three most difficult items to remove from wastewater, Lakeside Equipment Corporation.* Available at: https://www.lakeside-equipment.com/the-three-most-difficult-items-to-remove-from-wastewater/

De Falco, F. et al. (2019) 'The contribution of washing processes of synthetic clothes to microplastic pollution', *Scientific Reports, 9(1)*. doi:10.1038/s41598-019-43023-x.

Delivering a 'net zero' National Health Service (2020) - *NHS England*, Available at: https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf (Accessed: 23 January 2024).

Ecolab, (no date), *Story: Tackling the toughest challenge in Hotel Laundry*, Available at: https://en-dk.ecolab.com/stories/tackling-the-toughest-challenge-in-hotel-laundry

Emmanuel, E. et al. (2004) 'Toxicological effects of disinfections using sodium hypochlorite on aquatic organisms and its contribution to Aox Formation in hospital wastewater', *Environment International*, 30(7), pp. 891–900. doi:10.1016/j.envint.2004.02.004.

European Chemicals Agency. (2016, March 16). *Submission and evaluation of dossiers for substances to be included in Annex XIV of the REACH Regulation*. Retrieved from https://echa.europa.eu/information-on-chemicals/registered-substances

IPCC (2021) *Sixth assessment report, The Intergovernmental Panel on Climate Change*, Available at: https://www.ipcc.ch/assessment-report/ar6/

Langenheim, J. (2021) *Laundry: Lightening the load, Environment*. Available at: https://www.nationalgeographic.com/environment/article/partner-content-laundry-lightening-the-load#:~:text=Besides%20using%20around%2019%20billion,energy%20efficiency%20in%20recent%20years

MacDonald, E. (2023) The NHS wastes 81% of its linen each year, Textile Services Association. Available at: https://tsa-uk.org/the-nhs-wastes-81-of-its-linen-each-year/

Mulligan, J. et al. (2023) 6 ways to remove carbon pollution from the atmosphere, World Resources Institute. Available at: https://www.wri.org/insights/6-ways-remove-carbon-pollution-sky (Accessed: 23 January 2024).

Naidu, R. et al. (2021) 'Chemical pollution: A growing peril and potential catastrophic risk to humanity', *Environment International*, 156, p. 106616. doi:10.1016/j.envint.2021.106616.

National Oceanic and Atmospheric Administration (2023) *Ocean acidification*, Available at: https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-acidification

Net Zero Climate, (2023) *What is net zero?* Available at: https://netzeroclimate.org/what-is-net-zero-2/

Pollution Prevention at Industrial Laundries: *Assessment Observations and Waste Reduction Options, EPA*. Available at: https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=20002B2L.TXT (Accessed: 23 January 2024).

Rockstrom, J. (no date) *Planetary boundaries, Planetary boundaries - Stockholm Resilience Centre*. Available at: https://www.stockholmresilience.org/research/planetary-boundaries.html (Accessed: 23 January 2024).

Science Based Target Initiative (2023) *Engaging supply chains on the decarbonization journey*. Available at: https://sciencebasedtargets.org/resources/files/Supplier-Engagement-Guidance.pdf

Sustainable Hospitality Alliance (2017), *Global Hotel Decarbonisation Report*, Available at: https://sustainablehospitalityalliance.org/wp-content/uploads/2020/05/Global-Hotel-Decarbonisation-Report-2017.pdf

Sustainable Hospitality Alliance, (2020) *Business case for Sustainable Hotels*. Available at: https://sustainablehospitalityalliance.org/wp-content/uploads/2020/05/Business-Case-for-Sustainable-Hotels-Recommendations-for-hotel-owners-and-developers.pdf

United States Environmental Protection Agency. (2020, October 28). *Perchloroethylene (PCE) Air Pollution.* Retrieved from https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-evaluation-perchloroethylene-pce

Wikipedia (2024), *Radio-frequency identification*, Available at: https://en.wikipedia.org/wiki/Radio-frequency_identification

World Resources Institute (2006). *Eutrophication and Hypoxia in Marine Ecosystems*. Retrieved from https://www.wri.org/initiatives/eutrophication-and-hypoxiaGleick, P and Cooley, H, Freshwater Scarcity, Annual Review of Environment and Resources 2021 46:1, 319-348

Oxwash

Moving towards a cleaner world

Continuing our mission to eliminate the impact of textile cleaning on the planet and people.

oxwash.com