Sustainability Leaders, 2025

A review of sustainability initiatives by major print vendors

Sustainability Leaders, 2025
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Excerpt report: Ricoh

QUOCIRCA

Executive summary

The sustainability landscape continues to shift as political focus, regulatory implementation delays, and economic factors exert sometimes competing influences on sustainability programmes. Print manufacturers and their partners are striving to deliver measurable reductions across Scope 1, 2, and 3 GHG emissions; minimise and mitigate product lifecycle impact; and provide credible, accessible information for customers to support their own sustainability initiatives.

Quocirca's Sustainability Trends, 2025 report finds that eight in 10 organisations are accelerating sustainability plans, and a supplier's sustainability credentials are an important selection factor. However, the study also finds that customers have concerns about greenwashing by vendors, further underlining the importance of providing evidence: accurate corporate and product sustainability information. The vendors participating in Quocirca's Sustainability Leaders report have submitted detailed information covering corporate and product sustainability strategies and progress against targets.

Momentum and experience are building in the drive to reach net zero. While 2050 is the predominant target for full net zero, companies are setting ambitious 2030 goals for significant reduction or net zero across Scope 1 and 2 emissions. Scope 3 emissions, comprising the largest component of a company's overall emissions responsibility, remain a bigger challenge. However, HP and Xerox have committed to net zero by 2040, including Scope 3 emissions, with Ricoh targeting a 65% reduction by 2040.

Epson is the first company within the competitive set to achieve fully renewable energy consumption, a goal it reached at the end of 2023 across all group sites. Other vendors have also progressed in renewable energy consumption, with Sharp recording the biggest increase, albeit from a low starting position, bringing it into line with Brother, Xerox, and Konica Minolta in the 20–30% range, with Ricoh and Lexmark standing at over 40%. It should be noted, however, that some vendors previously stated targets of 80–100% renewable energy use by 2025, which they have not been able to realise.

Industry leaders are forging ahead with data-centric solutions for carbon neutrality, offsetting, and avoidance. HP, Ricoh, and Xerox all have offerings in this area, helping customers track and improve print infrastructure performance. Vendors are also answering customer demand for product information, with a rising proportion of new devices being accompanied by lifecycle assessments.

Moves are being made in the parts and supplies market, too. Katun, with its long consumables history, has entered the hardware market this year with its Arivia MFP line, while vendors have begun deeper exploration of cartridge remanufacturing and making improvements to OEM cartridges and device components for better recyclability and reuse. Responding to forthcoming repairability regulation, Sharp has piloted an additive manufacturing project where spare parts are 3-printed on demand, removing the need to maintain stock and transport spare parts.

The amount of PCR plastic content included in devices continues to rise slowly, with new products incorporating higher percentages in general. However, some vendors are reporting challenges of supply, quality, and cost when sourcing appropriate PCR to introduce into products. Recycled metal components are also starting to appear in devices. Quocirca's Sustainability Trends 2025 study finds that the proportion of organisations using or willing to use remanufactured or refurbished devices has risen, but concerns remain around hidden costs, reliability, and security. Most vendors are continuing to build momentum in this area, with a notable new initiative from Epson Europe with its circular leasing programme that sees it retaining ownership of its devices after the end of the lease, providing an assured pipeline of products for refurbishment. HP, however, has discontinued its plans to extend HP Renew to its MFP and printer products. Ricoh uses a similar approach and has also introduced its CE (Circular Economy) line of devices to complement its existing GreenLine range.

This report provides an overview of the print vendor sustainability landscape in 2025, exploring how vendors are accelerating sustainability goals across business operations, sustainability is embedded across products and services through circular programmes, and the channel is being supported. The report includes detailed profiles for participating vendors: Brother, Canon, Epson, HP, Konica Minolta, Lexmark, Ricoh, Sharp, Toshiba, and Xerox. Print vendors' sustainability targets are summarised in the Appendix.

Key findings

- **Quocirca's Sustainability Leaders continue to bolster strategies and improve execution.** Progress demands an integrated approach that embraces rising use of renewable energy, designing for sustainability to improve energy efficiency, driving digital solutions and services innovation, and more intense recycling practices including device refurbishment and remanufacturing. The leadership group comprises Xerox, HP, Canon, Lexmark, Epson, and Ricoh, and the major players are Brother, Sharp, Konica Minolta, and Toshiba. Brother and Sharp have edged closer to the Leadership group.
- **2050 is the predominant net zero target, but more ambitious interim goals are being established.** Pressure is building to accelerate timelines and pack more into existing timelines in response to climate change and competitor stances. Sharp's accelerating ambition is to be net zero across Scope 1 and 2 by 2030 and Scope 3 by 2050. Toshiba is also aiming high, with a 97% reduction target across Scope 1 and 2 by 2030. Konica Minolta's 2030 goal is a reduction in emissions throughout the product lifecycle by 60% from fiscal 2005 levels, and it achieved 62% in FY2024. Epson's goals include reducing Scope 1, 2, and 3 emissions by 55% and Scope 1 and 2 by 90% by 2030. Ricoh, Brother, and Xerox are all aiming for 60%+ Scope 1 and 2 emissions reductions by 2030, with HP targeting a 50% reduction across Scope 1, 2, and 3 by 2030. Canon has a 42% 2030 target. Lexmark's ambition is carbon neutrality by 2035.
- **Tighter Scope 1 and 2 goals highlight the work needed around Scope 3.** Strong Scope 1 and 2 emission reduction commitments emphasise the need for accelerated Scope 3 targets because Scope 3 routinely accounts for upwards of 80% of carbon emissions. HP and Xerox's 2040 net zero goals demonstrate Scope 3 commitment, and Ricoh's new 65% Scope 3 reduction goal by 2040 also stands out. Xerox, Sharp, and Brother are committed to 35%, 32.5%, and 30% Scope 3 reductions, respectively, by 2030. Toshiba's goal is to reduce emissions for the use of sold products and services associated with power consumption sold in Scope 3 by 28% by 2030. Lexmark has delivered a 29% reduction in absolute Scope 3 emissions from the use of sold printers against its 2030 goal of 22% per printer. It should be noted that reductions are measured against each vendor's baseline years, which vary.
- **Epson sets the standard for renewable electricity.** By the end of 2023, Epson achieved 100% renewable electricity consumption at all group sites around the world. HP is the closest competitor, with a renewable electricity proportion of 58.8% during 2024, and is reaching towards 100% for business operations in 2025. Ricoh and Lexmark achieved 43.2% and 42% usage, respectively. Sharp made the most progress year-on-year, raising its proportion from a low 5.7% to 24%, which groups it with Brother, Xerox, and Konica Minolta, which report renewable electricity proportions within the 20%–30% range. Canon, at 16.5%, and Toshiba, at 0.85%, report the lowest proportions of renewable electricity. The three vendors with the highest proportions (Epson, HP, and Ricoh) are all members of RE100, which is working to accelerate the transition to 100% renewable electricity by 2050 at the latest. Konica Minolta and Sharp are also members.
- **Environmental impact and lifecycle assessments are now table stakes.** Xerox stepped up a level with a target that 100% of all newly launched products will have lifecycle assessments, and 100% of its portfolio will have lifecycle assessments by 2028. It currently has assessments for 80% of its portfolio. Other notable offerings include HP's Carbon Emission Sync Service, which includes device lifecycle and carbon assessments; Canon's Discovery Assessment Service and Sustainability Audit; Epson's Optimisation Tool, which quantifies the environmental benefits of its heat-free technology; Ricoh's Sustainability Services dashboard; Lexmark's Co2mpute, which provides full lifecycle assessments leveraging a third-party verified methodology; and Toshiba's Encompass Green Report, which analyses the environmental impact of each device, including energy usage and carbon emissions.
- **Rising commitment to data-centric carbon neutrality, offsetting, and avoidance services.** The Verified Carbon Neutrality Service from Xerox stands out because it combines client data with industry benchmarks and offsets emissions through verified carbon credits. HP's Carbon Emissions Sync aims to improve energy efficiency and reduce wasteful printing and supplies usage, and customers can offset remaining emissions through third-party-verified projects. Ricoh provides its Sustainability Optimisation Service and Carbon Balancing Service, which is differentiated because it addresses both carbon avoidance and carbon removal.

- **AI and intelligent automation permeate product innovation.** The 2024 Xerox AltaLink C8200 and AltaLink B8200 Series multifunction printers streamline document workflows through features such as document summarisation, workflow customisation, and adaptive learning. By helping reduce manual errors, they minimise unnecessary output and support more environmentally responsible printing practices. HP Print AI addresses the disparities between on-screen or print preview and the final print when printing from web pages or email. It then analyses content and reformats the page to reduce waste. Canon's latest-generation products use machine learning in the development of firmware algorithms to help the devices achieve a lower environmental impact. Epson's heat-free technology is still a sustainability differentiator, along with its EcoTank printers' and RIPS devices' high-capacity ink tanks and the PaperLab A-8100, which turns used paper into new paper on-site.
- **Advances are still achievable within the mature consumables recycling and remanufacturing area.** In 2024, Xerox introduced four new remanufactured toner cartridge families, and Epson Europe launched an ink cartridge refill initiative. Also in 2024, Brother launched its ink cartridge remanufacturing line at its recycling centre in Wales. Developments are also becoming more nuanced. For example, Lexmark has identified innovative ways to clean, treat, and reuse supplies such as developer rolls and photoconductor drums, while Canon is working to improve the purity of separated recycled resources (iron, nonferrous metals, and plastics) as part of its ambition to make its consumables 100% recyclable or reusable by 2030.
- **Recycling practices should incorporate business models as well as physical components.** Recycling is a core part of green manufacturing, and recycling principles need to be applied at every stage of the lifecycle from design onwards. All vendors undertake parts reuse and post-consumer recycled plastics (PCR) recycling, and more are including metals, too. HP's DesignJet T200 and T600 2025 Edition series is made with at least 40% recycled plastic, and HP Large Format printers include certified recycled metal. Canon started using recycled iron within in its MFPs and printers in 2025. Ricoh's IM Cxx10 series uses over 50% PCR in its frame. In September 2025, Epson added a new dimension with the launch of a leasing programme in which it retains product ownership at the end of the lease to ensure equipment is returned for refurbishment, reuse, or recycling. Ricoh operates a similar leasing model for its MFPs.
- **Remanufacturing and refurbishment activity is rising.** Refurbished and remanufactured products are key to circular practices, so they continue to attract investment, as illustrated by Ricoh Europe's launch of the CE (Circular Economy) series of remanufactured devices in the first half of FY2025 alongside its existing GreenLine programme. Other recent activity includes Konica Minolta's bizhub Refreshed programme, which gives customers in Europe access to affordable, high-quality refurbished bizhub MFPs. Following a successful proof of concept early in 2025, Epson has started rolling out a limited vendor refurbishment programme for larger print products, supported by its Back2Life warranty scheme.
- **HP's Amplify is still the most comprehensive channel programme.** HP continues to develop Amplify, and during 2024, it accelerated the sustainability-centric HP Amplify Impact channel programme, exceeding the goal of enrolling 50% of Amplify partners by 2025. However, through its Sustainability Specialisation Program, Lexmark is expanding its partners' understanding of sustainability, and the programme will advance when Lexmark combines its channel enablement strategy with that of Xerox. Ricoh Europe has moved forward with the creation of a sustainability campaign for partners to introduce the CE remanufactured series and position Ricoh's sustainability offerings.

Quocirca's Sustainability Leaders report complements the Quocirca Sustainability Trends, 2025 report, which analyses how decision-makers view and prioritise sustainability around the print infrastructure.

Contents

Quocirca Sustainability Vendor Landscape, 2025

Quocirca's Sustainability Vendor Landscape is a visual representation of the environmental commitments of the major print manufacturers and the breadth and depth of their sustainability-led products and services.

This evaluation is intended as a starting point only. Please note that Quocirca's scoring is based on an unweighted model. Prospective buyers should use this as guidance, along with the more detailed vendor profiles, to assess suppliers based on their specific requirements.

Strategy

Each vendor has been scored on a range of criteria encompassing its overall sustainability strategy and commitments, as well as its vision for its print business. Published ESG data is used to evaluate sustainability commitments. Please note that the published ESG data used is for the whole company group, as vendors do not provide print business ESG data separately.

- **Vision and strategy.** The comprehensiveness of the vendor's sustainability strategy and its evolutionary vision to lower environmental impact across its business.
- **Maturity of offerings.** How developed the vendor's sustainability offerings and services for its clients are.
- **Sustainability commitments.** Commitments to net zero and progress in reducing Scope 1, 2, and 3 emissions. This includes energy usage, renewable energy usage, total waste output and waste recycled, total water used, and target dates and percentage of reduction in CO_2 or CO_2-equivalent outputs.
- **Circular strategies.** These relate to strategies in areas such as remanufacturing, recycling, and product life extension.
- **Market credibility.** The effectiveness of the vendor's initiatives to promote its brand, increase awareness of its sustainability offerings, and influence market development. This includes clarity, differentiation, and internal/external consistency in the vendor's market messages.
- **Sustainability technology innovation.** This considers technology across the hardware, software, and services portfolio. It also considers the use of emerging technology, such as AI or blockchain, to enhance sustainability efforts by improving tracking and verifying emissions.
- **Alliances and partnerships.** This considers environmental partnerships on a global and regional basis and how vendors are collaborating in cross-industry initiatives. It also evaluates partnerships with third-party ISVs.
- **Channel strategy.** This evaluates channel enablement strategies through partner programmes that offer channel partners training and certification to enhance their sustainability and create stronger propositions for their customers.

Completeness of offering

This evaluates vendors' approaches to customer enablement and how they are helping customers reduce their carbon footprint. It considers the following:

- **Breadth and depth of product portfolio.** This looks at environmental features across the portfolio, including energy efficiency, eco modes, and use of recycled materials. It also considers print management features that minimise wasteful printing and optimise device utilisation rates.
- **Recycling programmes.** Under the WEEE Directive, which was originally mandated in the EU, most countries require vendors to offer equipment take-back at end-of-life. This criterion looks at vendors' basic and advanced recycling programmes for print devices and consumables.
- **Remanufacturing/refurbishment.** Some vendors offer specific programmes for refurbishing and reusing print devices, while others focus on complete remanufacturing. These often change more parts than refurbishment and offer greater guarantees and support. Some vendors offer both services.
- **Sustainability services.** This evaluates the breadth and depth of services encompassing environmental assessments and carbon footprint calculators, MPS offerings, environmental analytics, cloud-based platforms, and digital workflow automation capabilities.

Figure 1 represents Quocirca's view of the Sustainability Vendor Landscape:

- **Leaders.** Leaders demonstrate a strong vision and commitment to net zero and have strength and depth across the board for both completeness of sustainability offerings and strategy vision and execution. This includes innovation and differentiation in AI adoption and solutions such as sustainability assessments and services.
- **Major players.** Vendors that have established sustainability products and services but may lack vision and a differentiated sustainability roadmap. These vendors may be focused primarily on the channel ecosystem.

The Quocirca Vendor Landscape is a graphical representation of Quocirca's opinion of the market based on Quocirca's scorecard methodology. This information is provided as a visual representation only and should be combined with other sources to determine the suitability of any vendor. Quocirca does not endorse any vendor, product, or service. Information is based on the best available resources, and opinions reflect judgement at the time. All opinions are subject to change.

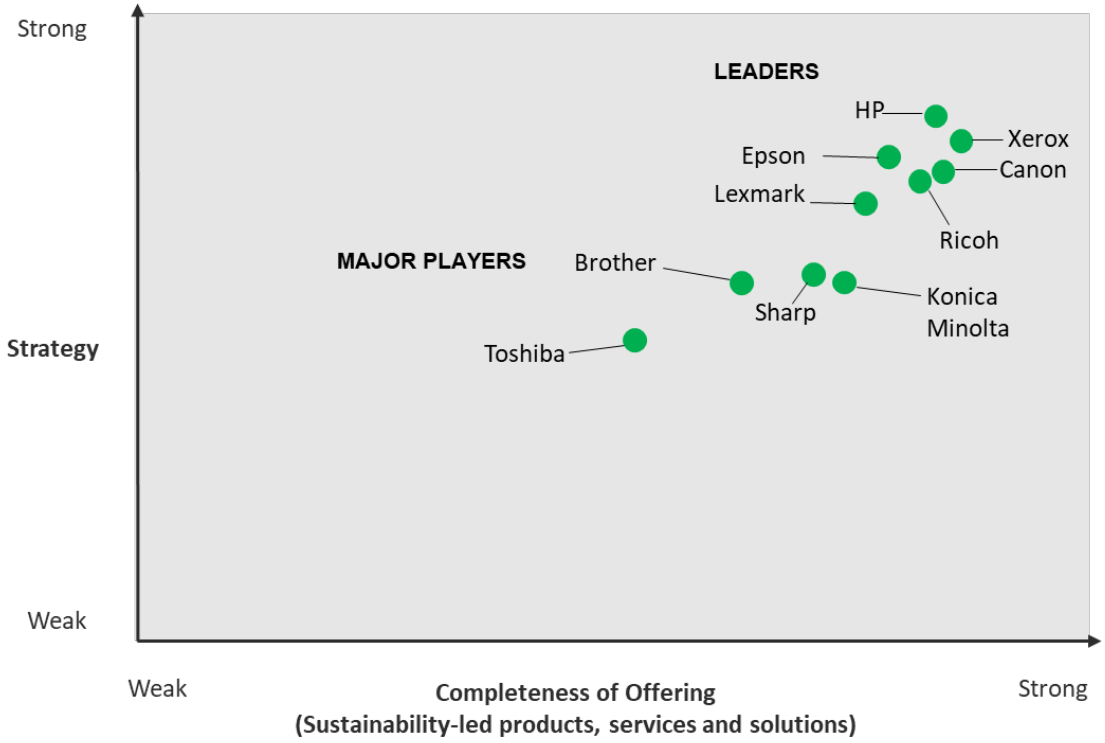

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Figure 1. Quocirca Sustainability Vendor Landscape, 2025

Recommendations

Buyer recommendations

- **Assess the availability and transparency of suppliers' environmental data during procurement.** Quocirca's end-user Sustainability Trends study reveals that customers lack the environmental data they believe they require to report their carbon footprint accurately. It also shows that the lack of this data is a core inhibitor to their understanding of the environmental impact of their print activities. Buyers should look for energy efficiency data and third-party ecolabel certifications such as ENERGY STAR, EPEAT, and Blue Angel; data on the proportion of recycled materials in devices; and active promotion and easy use of energy-saving modes. Transparency in the net zero progress of print suppliers and the channel, particularly in areas such as renewable energy usage, supply chain metrics, raw materials, and manufacturing impacts, should be factored into procurement processes because of their impact on net zero commitments.
- **Encourage sustainable practices.** Cloud print services and MPS can encourage or enforce best practices and rules. Duplex, booklet, pull, or PIN printing can help minimise wasteful printing. Intelligent print management tools can ensure the most appropriate device is used for each print job by automatically routing large jobs to lower-cost, more energy-efficient devices and applying eco-settings to print jobs, such as lower-quality print for non-important jobs or full black-and-white printing for jobs that do not require colour. Look for devices with fast warm-up times, deep-sleep and toner-saving modes, low-temperature toners, and refillable ink bottles.
- **Assess the current environmental impact to establish a robust baseline.** Begin by assessing energy consumption, paper use, carbon footprint, and costs across the existing printer fleet. This is often a standard evaluation in MPS contracts, and if it is not, it should become a supplier selection factor. An assessment should focus on 'quick wins' - identifying areas where environmental impact can be easily and quickly reduced - but it must also focus on creating a long-term sustainable environment that can support current and future needs in terms of necessary printing. It is likely that many of the immediate solutions in terms of print and paper reduction are in place, so focusing on a print environment that runs efficiently, has longevity, and allows a circular business model to be established, are now important considerations.
- **Optimise the print environment considering future needs.** The right solution is not a one-size-fits-all one. Organisations of similar sizes and in similar business areas may have entirely different locations and methods of working, and their print infrastructure needs may be completely different. Using data to understand requirements, and matching strategy to those needs, will be more impactful than trying to tap into 'universal truths' in many areas. A better understanding of where inkjet fits in with laser technologies can also help in managing a print fleet's overall sustainability. Although keeping devices for longer while expecting them to do the same or more work is tempting, a newer device designed for a longer lifespan could prove more economical, both financially and environmentally. Remanufactured and refurbished devices may have a role to play here and should be considered within an MPS procurement strategy.
- **Consider energy consumption.** Energy-efficient products that meet local eco-labelling qualifications should be the first port of call when upgrading. Look for devices with fast warm-up times, deep-sleep, and toner-saving modes. Intelligent print management tools can also ensure the most appropriate device is used for each print job by automatically routing large jobs to lower-cost, more energy-efficient printers. Use intelligent print job management to apply eco-settings such as lower-quality printing for non-important jobs or full black-and-white printing for jobs that do not require colour.
- **Think about circularity and the broader impacts of infrastructure, devices, and consumables.** Consider the full environmental impact of each option – for example, ask for details about resource use, waste is created during manufacture, hazardous substances in manufacturing, how much packaging is used, and what steps the supplier takes to mitigate or offset such issues. Realising that a product's use phase may only be a short chapter in its overall life span is an important step in making choices that deliver credible sustainability benefits. It also helps prevent anyone who is scrutinising the user's sustainability credentials from suspecting the organisation of greenwashing.

- **Make use of supplier guidance around integrating AI.** Artificial intelligence offers a suite of options in terms of enhancing sustainability in print operations, including minimising waste, proactively warning of upcoming needs, and improving security; but embedding them gradually is wise. Piloting AI in discrete workflows (e.g. waste reduction or predictive maintenance) before full-scale deployment and supporting the activity with detailed data monitoring and analysis, is likely to be more successful than a wholesale change requiring significant investment and upskilling internally. Suppliers will be able to advise and support on the most appropriate way to introduce AI to the print environment and the process of extending its use more widely without compromising efficiency or security.

Supplier recommendations

- **Collaborate and partner.** Demand is growing for greater transparency in sustainability practices from print manufacturers. A collaborative approach between print manufacturers, ISVs, and channel partners can accelerate sustainability progress and drive meaningful change. By leveraging the unique strengths of this ecosystem, spanning hardware, software, and services, the industry can develop best practices and reframe the sustainability narrative to focus on the intersection of print and digital technologies.
- **Provide channel partners with environmental data.** Channel partners play a critical role in the success of print vendors' sustainability strategies, promoting sustainability practices throughout the product lifecycle and offering end-of-life product take-back and recycling programmes to reduce e-waste.. Partners need clear environmental data from their suppliers, but Quocirca's channel research indicates a sustainability gap between their requirements and what is available. Priority action areas for suppliers include clear and detailed metrics on product lifecycle impact, help with saving customers energy across print fleets, and sustainability-focused deal support and information. There are also calls for data on recycled materials usage, carbon footprint assessment services, and access to carbon offsetting.
- **Draw on sustainability assessments to inform sustainability decisions and educate the market.** Provide sustainability assessment services to uncover opportunities to modernise customers' print landscapes and move towards more expansive assessments that can assess digital services outside the conventional print landscape. Ensure the assessments also deliver sustainability roadmaps for customers to act on.
- **Harness AI throughout the print lifecycle.** AI can be used across the print value chain for design, production, logistics, workflow automation, waste and consumables management, predictive maintenance, and remote management, including augmented reality (AR)-assisted remote assist, to determine the best approach for end-of-life processes. AI co-pilots that adjust printer settings in real time can also improve the end-user experience and quality of outputs while reducing waste and providing a step towards digitisation.
- **Promote remanufactured and refurbished products as sustainable end-of-life options.** Refurbishment programmes retune, repair, and redistribute used products. Remanufactured products are rebuilt from individual components that could be used or repaired or new parts. They are often overlooked, but both contribute to sustainability by prolonging product lifetimes, reducing waste and carbon emissions, and supporting the circular economy.
- **Focus on transparency in sustainability messaging.** It is now a given that every supplier will have a range of sustainable products and services, but buyers are aware that there may be a less positive reality beneath the marketing spiel. Vendors must deliver clear evidence of their own sustainability credentials and communicate transparently about all aspects of how the products and services they offer support sustainable efforts.
- **Make data accessible and help clients to use it.** Customers now hold high expectations for their suppliers, demanding not just efficient products and services, but full transparency around environmental data and measurement. There is widespread agreement that data is essential to track and measure progress as well as inform policies and strategy, but this is still under-exploited. Providing tools to collect all the required data, and education in how best to harness it, will be appreciated, especially if they integrate with other environmental management platforms.

Vendor profile: Ricoh

Quocirca opinion

Ricoh retains a leadership position in Quocirca's 2025 Sustainability Vendor Landscape assessment. Over the past year, the company has progressed its efforts in several areas including increasing its global electricity consumption from certified 100% renewable sources; continuing to make operational and manufacturing changes to reduce its carbon footprint, with a goal to achieving net zero greenhouse gas (GHG) emissions faster; expanding reuse and recycling initiatives; and investing in a unified spend management platform to embed ESG criteria into procurement processes.

Reducing emissions
In FY24, the Ricoh Group emissions for Scopes 1 & 2 were 196.6k tonnes CO2e, a 22.2% reduction vs. FY23 and a 59.1% reduction vs. the 2015 baseline. Scope 3 emissions totalled 1,247k tonnes CO2e, a 14% reduction vs. FY23, and a 46.8% reduction vs. the 2015 baseline. Overall, across all scopes, the group's emissions were 1,443.6k tonnes CO2e, a 15.2% reduction vs. FY23.

Ricoh also raised its renewable electricity target to 50% by FY2030 and aims to achieve 100% by FY2040. Across FY24, 43.2% of its global electricity consumption was from certified 100% renewable energy, a substantial increase from the 31% ratio in FY23.

Contributing to a circular economy
Ricoh devices are specifically engineered for practical energy performance, enabling certification under ecolabels including EPEAT, Ecologo, Blue Angel and the SuMPO Product Carbon Footprint.

Products are designed to be lighter weight and to consume fewer resources during manufacturing, so that their content, manufacturing processes, shipping and end-of-life recovery minimise environmental impact. Ricoh prioritises maximising the use of resources from collected products to support a circular economy, reducing the manufacturing impact by utilising parts that can be interchanged across models, as well as giving parts a second life. It plans to accelerate its reuse and recycle program by increasing sales targets of factory-remanufactured and workshop-refurbished used MFPs.

In particular, in the first half of FY2025, Ricoh Europe launched the CE (Circular Economy) model series of remanufactured devices. Notably, the CE model is legally classified as remanufactured under the Ecodesign for Sustainable Products Regulation, not simply refurbished.

Sustainability reporting
Ricoh USA has collaborated with Watershed, an enterprise sustainability platform. The partnership will enable it to provide emission data on its digital services, helping customers with Scope 3 reporting and compliance with regulations such as the EU Corporate Sustainability Reporting Directive (CSRD). Watershed's granular emissions measurement enables Ricoh's Sustainability Services Dashboard to offer comprehensive insights into carbon emissions, empowering customers to transition to more sustainable services.

In addition, Ricoh has also developed new carbon calculator tools which will enable customers to quantify Scope 3 emissions more accurately and support ESG reporting from FY2025 onwards.

Carbon-balanced service programme
Ricoh is leading the print industry with a carbon-balanced service programme which covers both carbon avoidance and carbon removal projects based on the Oxford Offsetting principles. Its projects and approach are highly effective at reducing GHG emissions and beneficial for customers with sustainability goals to achieve net zero.

The carbon-balanced service for office print devices follows a transparent assessment process based on the SuMPO (formerly ECOLEAF) lifecycle assessment which measures carbon emissions associated with the full lifecycle and provides a pre-offsetting of CO_2 emissions. Ricoh has partnered with Anthesis (formerly Climate Neutral Group) and selected high-quality projects that follow internationally recognised standards.

Strengths and opportunities

Strengths

- **Comprehensive circular economy strategy.** Ricoh's Comet Circle programme has been in place since 1994. It has developed significant operational maturity, positioning Ricoh to continue building and diversifying its circular activities across different areas of its business. Clear achievements and future ambitions around PCR content are also a strength.
- **Strong sustainability services offering.** Ricoh provides a range of services that assist with measurement, monitoring, and direct impact reduction. Its established carbon calculator and new offerings – including the provision of impact data on its digital services – will enable customers to quantify Scope 3 emissions more accurately and support ESG reporting from FY2025 onwards.
- **Carbon-balanced service programme.** Ricoh is leading the print industry with a carbon-balanced service programme which covers both carbon avoidance and carbon removal projects based on the Oxford Offsetting principles.
- **Accelerating net zero targets.** In March 2024, Ricoh announced further acceleration of targeted reductions, these include achieving net zero GHGs by 2040, by reducing Scopes 1 & 2 emissions by 90% vs. the FY2015 baseline and offsetting the residual <10% unavoidable Scopes 1 & 2 emissions via carbon offset from long-term carbon capture and storage schemes.

Opportunities

- **Continue building sales momentum for CE and GreenLine devices.** Ricoh has a strong device proposition with its CE range, offering new-level performance at a lower TCO. By establishing strong sales targets and incentives for both CE and GreenLine products and supporting channel partners to articulate their advantages to customers, Ricoh will reinforce its leading position in commercialising remanufactured and refurbished devices. Close monitoring of the success of Ricoh Europe's sustainability demand generation campaign will point to opportunities to expand it to other regions.

Sustainability strategy

Ricoh undertakes a broad spectrum of Environmental, Social and Governance (ESG) initiatives aligned with the United Nations Sustainable Development Goals (SDGs). These efforts are designed to significantly reduce both its own and its customers' environmental footprint. Ricoh has established clear ESG targets that serve as a strategic framework for measuring impact and reporting progress against the SDGs.

Ricoh revised its environmental goals in 2020, changing its original target of reducing all direct greenhouse gas emissions from its manufacturing sites, offices and vehicles by 30% to 63% by 2030, and to be net zero by 2050.

In March 2024, it announced further acceleration of targeted reductions, these include achieving net zero GHGs by 2040, by reducing Scopes 1 & 2 emissions by 90% vs. the FY2015 baseline and offsetting the residual <10% unavoidable Scopes 1 & 2 emissions via carbon offset from long-term carbon capture and storage schemes.

In addition, in relation to its target to reduce Scope 3 emissions by 65% vs. the FY2015 baseline by 2040, Ricoh expanded the scope to include all 15 categories of Scope 3 emissions. Prior to the 2024 announcement, its previous Scope 3 targets only related to Category 1 (purchased goods and services), Category 4 (upstream transportation), and Category 11 (customer usage of products sold by Ricoh).

Product sustainability and circularity

Ricoh has obtained ISO 14001 certification for all group production companies globally and continues to promote ISO 14001 certification for other business sites.

From a technology standpoint, the vendor prioritises three core areas beyond product comfort and usability. These include driving a circular economy, protecting the climate and achieving a zero carbon society, and preventing pollution.

Ricoh's long-standing commitment to sustainability is exemplified by its Comet Circle framework for advancing a circular economy. In 2009, it set medium- and long-term targets to reduce reliance on virgin materials. Building on this, the Ricoh Group Plastic Policy launched in 2020, establishing clear goals to support sustainability.

In keeping with its Comet Circle circular economy model, the group is committed to offering products and services that align with societal needs, while advancing the 3Rs - reduce, reuse and recycle - extending product lifespans, increasing the use of recycled plastics and cutting down on fossil-based virgin plastics. It is expanding its reuse and recycling initiatives and developing new businesses that promote circularity across industries.

Ricoh has partnered with recycling companies to establish a financially sound business model with a low environmental impact across life cycles, improving recycled resources and minimising energy and costs associated with reuse and recycling.

By 2030, all Ricoh products will be manufactured with a minimum of 50% post-consumer recycled (PCR) plastics. The Ricoh IM CXX10 series in particular contains more than 50% of PCR plastics for its mainframe, and plastic packaging has been reduced by 54% compared with the predecessor series. The series uses a new type of toner with a lower fusing temperature, all PET plastic toner bottles are produced from discarded household post-consumer waste, this helps reclaim more than 80 tonnes of post-consumer plastic monthly, and the devices incorporate a hard toner lock mechanism, a physical safeguard that ensures toner bottles cannot be removed until they are fully depleted, minimising waste resulting from the premature return or disposal of bottles.

After usage, devices will be collected and, following a certified remanufacturing process, will be resold as GreenLine or CE models.

Globally, products are produced and shipped with a commitment to reducing the usage of plastics by at least 50%. In Europe, 100% of the plastics used for packaging products are recyclable, paperboard packaging has at least 80% recovered fibre content, and corrugated fibreboard has at least 25% recovered fibre content. Additionally, Ricoh reuses approximately 10,000 packaging boxes each month for shipping parts to service engineers.

Supply chain

All suppliers are required to comply with the standards outlined in the Ricoh Group Supplier and Partner Code of Conduct and the Ricoh Group purchasing regulation policy. The Ricoh Group Supplier and Partner Code of Conduct comply with the Responsible Business Alliance (RBA) Code of Conduct.

Ricoh is investing in a best of breed unified spend management platform which will significantly enhance sustainability across its supply chain by embedding ESG considerations directly into procurement and spend management processes. This will enable the vendor to better track supplier practices, including labour standards and carbon emissions, and to prioritise ethical and sustainable sourcing.

The technology is also expected to help Ricoh monitor and reduce its carbon footprint, including Scope 1, 2, and 3 emissions. The platform encourages the use of diverse and eco-conscious suppliers, facilitates circular economy practices like reuse and recycling, and aligns procurement decisions with net zero targets. With built-in tools for ESG data integration and supplier collaboration, the new tools will empower Ricoh to make more sustainable choices while maintaining operational efficiency and compliance.

Partnerships

- **UN Global Compact.** Ricoh joined in 2002 and has served as one of the directors on the Global Compact Japan Network since fiscal year 2008.
- **Science Based Targets initiative (SBTi).** Ricoh's near-term GHG reduction goals obtained SBTi approval in July 2017.
- **RE100.** Ricoh was the first Japanese company to join RE100. In 2021, it raised its renewable electricity target to 50% by FY2030 (up from the previous target of 30%) and in 2024 announced targets to achieve 100% renewable electricity by 2040.

- **Task Force on Climate-Related Financial Disclosures (TCFD).** Ricoh has supported the TCFD framework since August 2018.
- **CDP.** Ricoh has maintained an 'A' score rating for climate change and has been included in the CDP Supplier Engagement Leaderboard for five consecutive years. Additionally, since 2024 it has also achieved an 'A' rating for water security disclosure.
- **Responsible Business Alliance (RBA).** Ricoh joined in October 2019 and shares the principles and goals of the RBA with its suppliers. All five of Ricoh's core factories are externally audited by third-party on behalf of the RBA, as part of its Validated Assessment Program (VAP).
- **Tandem Global Partnership, formerly World Environment Center (WEC).** Ricoh is a long-standing member of Tandem Global. In 2003, it received the WEC Gold Medal for International Corporate Achievement in Sustainable Development.

Products and services

Circular Economy products

Ricoh Europe's CE model series comprising the IM C2501CE, 3501CE and 5501CE devices is a significant evolution in its remanufactured product portfolio and circular manufacturing process. The new range delivers new-level performance at a lower total cost of ownership.

The CE model is a premium remanufactured device, built under rigorous global standards and backed by Ricoh's manufacturer warranty. Unlike GreenLine, which restores devices to like-new condition, the CE model undergoes comprehensive diagnostics and targeted upgrades beyond original specifications. Enhancements include expanded language support for improved usability, new image processing mechanism to reduce toner usage during image creation, new toner compatibility, distinct product naming and updated rating plate to ensure clear differentiation.

Additionally, up to 86% of components are reused without compromising quality, helping customers reduce carbon emissions and waste and offering strong value for customers seeking sustainability and reliability.

GreenLine products

Ricoh's GreenLine remanufacturing programme extends the lifecycle of MFPs through a standardised, sustainability-focused remanufacturing process, delivering reliable, like-new devices while supporting circular economy objectives. By extending product life and reducing reliance on virgin materials, the GreenLine devices significantly lower lifecycle CO_2 emissions.

The process follows ISO 9001:2008 (quality management) and ISO 14001:2015 (environmental management) standards. Devices undergo extensive testing, including image quality checks, shock hazard assessments, and multiple test runs, by both Ricoh and independent inspectors. GreenLine devices are certified to meet the same performance, reliability and support standards as new Ricoh products. They are also ENERGY STAR certified (US only).

Sustainability Optimisation Programme

Ricoh's Sustainability Optimisation Programme is designed to help customers achieve a measurable reduction in their CO_2 emissions by optimising document production and reducing the total cost of ownership within the in-use phase. The vendor has conducted more than 14,500 green audits since its launch covering both SMBs and large corporations across Europe.

It provides insights into the carbon footprint of Ricoh office equipment at the following stages - raw materials extraction, manufacturing, assembly and distribution to the delivery destination. Ricoh's consultative five-step approach helps achieve an average reduction of one-third in costs and around 40% in energy consumption.

Carbon Calculators

The long-established Ricoh Carbon Calculator for Print, utilised within its Sustainability Optimisation Programme is used to quantify the in-use carbon footprint of a customer's fleet of print devices, primarily based on power consumption and document output. Ricoh has now introduced a suite of new carbon calculator tools including:

- **Service Carbon Calculator.** Measures CO2e emissions from all customer service interactions including contact centre calls, emails and field technician visits, using proxy values applied to logged interactions over a defined period.
- **AV and Collaboration Services Calculator.** Calculates CO2e emissions from device power consumption (active, standby, sleep) and service interactions (incident resolution, remote vs. on-site support) for Ricoh-managed AV and collaboration solutions.
- **Enterprise Process Automation Calculator.** Quantifies CO_2 reductions achieved through automation of processes (e.g., accounts payable, invoicing) by comparing pre-automation and post-automation carbon impact.

Carbon balancing
To offer a completely carbon neutral product and related document processes, Ricoh's carbon balancing service allows customers to offset both pre-use and in-use phases based on actual usage. The processes used in the pre-use phase such as resource extraction, manufacturing and logistics, generate indirect emissions (Scope 3) which can be offset. The scope of the remaining unavoidable carbon footprint from document management covers the processes during the pre-use phase, the power use of each device and maintenance including parts, supplies and service engineers' travel in the in-use phase.

Ricoh has developed a unique carbon calculator for the remaining impact. The calculation method has been assessed and accredited by SGS. The carbon credits used for offsetting are generated by UNFCCC registered projects.

Carbon-balanced for production printing
Ricoh's Carbon Balanced Production Printing Service enables customers to calculate the carbon footprint of each print job, reduce or optimise the process wherever possible and then offset the remaining unavoidable emissions.

Reuse and recycling programme
Ricoh has built a global reuse and recycling programme for MFPs, printers, supplies and consumable parts, and where it leases MFPs, this business model helps improve take-back at the end of their contracted life. In Japan, there are more than 100,000 Ricoh products collected annually as used products, and most of them are reused and recycled as remanufactured products, recycled parts or recycled materials. Ricoh has similar approaches in operation in other regions.

Sustainability Services Dashboard
In April 2024, Ricoh USA introduced an industry-first Sustainability Services Dashboard designed to address the challenge of reducing emissions from vendors and suppliers. The dashboard empowers Ricoh customers to measure, report and act upon emissions data associated with Ricoh digital services. It focuses on indirect supplier emissions (Scope 3), which can account for over 80% of total carbon contributions for many companies. The dashboard integrates Watershed's granular emissions measurement, providing comprehensive Scope 3 emissions data for businesses using both private and publicly disclosed financial and climate data.

@Remote
Ricoh's proprietary tool enables the status of devices on a network to be monitored in real time, so that required services can be delivered quickly, and breakdowns prevented and uptime increased.

An additional feature is the ability to run a green report for a specific customer's print fleet, configurable across a period from as short as one month to 12 months' history. The green report shows monthly total document volume data, segmented to portray paper and electricity impact.

RICOH Spaces
RICOH Spaces is an intuitive workplace experience platform that helps organisations optimise office environments, enrich employee and guest experiences, and accelerate hybrid work strategies all from a single platform. It delivers data-driven office optimisation through real-time and historical analytics on space utilisation,

environmental health, and energy consumption, supporting strategic decisions and ESG reporting as well as empowering organisations to cut energy waste and improve indoor air quality.

Channel enablement

Ricoh actively supports its channel partners in addressing sustainability through a range of initiatives. Partners have access to electronic product brochures that highlight key sustainability features of Ricoh hardware. Ricoh also provides customer-facing collateral, including the Resource Smart Solutions brochure, which outlines how its offerings help reduce environmental impact across the value chain.

Ricoh hosts dedicated webinars, events, and conferences that showcase the latest sustainability enhancements in the products and services available to partners. The company also runs Print 2nd Life and reuse programmes for recycling machines and reusing them in field where applicable via its partner channel.
Partners can also complete ESG training and provide sustainability services to their customers. Ricoh's carbon-balanced service, featured in its partner sales enablement playbook, further supports partners by offsetting emissions for every MFP sold.

In the US, Ricoh's Eco Excellence Program recognises dealers who integrate sustainability into their business practices. There are 70 dealers already enrolled and the programme continues to gain momentum as sustainability becomes a key differentiator in the marketplace. Members gain access to a robust suite of sales enablement and educational resources designed to help dealers sell more through sustainability.

In addition, Ricoh Europe has launched a targeted sustainability campaign to help partners promote the CE model range and generate demand for Ricoh's sustainable solutions. The campaign helps partners create demand and generate leads amongst customers and prospects for Ricoh sustainable devices and services.

About Quocirca

Quocirca is a global market insight and research firm specialising in the convergence of print and digital technologies in the future workplace.

Since 2006, Quocirca has played an influential role in advising clients on major shifts in the market. Our consulting and research are at the forefront of the rapidly evolving print services and solutions market, trusted by clients seeking new strategies to address disruptive technologies.

Quocirca has pioneered research in many emerging market areas. More than 10 years ago we were the first to analyse the competitive global market landscape for managed print services (MPS), followed by the first global competitive review of the print security market. More recently Quocirca reinforced its leading and unique approach in the market, publishing the first study looking at the smart, connected future of print in the digital workplace. The Global Print 2025 study provides unparalleled insight into the impact of digital disruption, from both an industry executive and end-user perspective.

For more information, visit www.quocirca.com.

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