

Zero Avoidable Waste to Landfill Certification 2024-26 Interim Audit Report

Brother Industries (Slovakia) s.r.o

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Confidential



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Introduction

Background

This report outlines the findings of a Zero Avoidable Waste to Landfill Certification audit conducted by Valpak Ltd (Valpak) for Brother Industries (Slovakia) s.r.o (BISK) for the company's site in Krupina.

The online interim audit took place on 9 September 2025 included a review of documentation / data to confirm the waste streams arising on site and the treatment processes. The audit included an interview with Eva Pucekova (Environmental Referent).

Scope of the Audit

The audit covered the following site:

The audit covered the following BISK site:

Brother Industries (Slovakia) s.r.o

Osloboditeľov 929/15,

Krupina,

96 301,

Slovakia

Definition

Organisations are awarded with Valpak's Zero Avoidable Waste to Landfill Certification if they comply with the following:

- Sending zero waste to landfill (including production, hazardous and packaging waste) except where law or local situation dictates that there is no other option
- Committing to continual improvement: waste reduction, recycling and diversion

Zero Avoidable Waste to Landfill Certification Audit

The Company

Brother Industries Slovakia (BISK) is a subsidiary of Brother Industries, Ltd., a renowned Japanese multinational company that manufactures a diverse range of products, including printers, multifunctional devices, sewing machines, and labelling systems. Established in 2007, BISK is one of only two Brother manufacturing sites in Europe, alongside Brother Industries (BIUK) in Ruabon, Wales.

At BISK, the primary focus is on remanufacturing used toner cartridges, with over 1.32 million Brother toner cartridges being refurbished annually. These cartridges are collected from across Europe, with significant contributions from countries such as Germany, Poland, France, Italy, and the United Kingdom.

In addition to remanufacturing, BISK also produces a number of new toner cartridges. BISK produce over 80 models of new and remanufactured mono and colour toner cartridges, which are then distributed throughout Europe. Each remanufactured toner cartridge represents a 31% carbon saving compared to a new toner cartridge.

Waste Management

Background

BISK's Krupina factory comprises of several operational areas:

- Admin Offices
- Canteen
- Logistics & Warehousing
- Clean Room
- Sorting & Packing Area
- Indoor Recycling Area
- Outside Storage Area
- Outdoor Waste Area

Most of the waste is produced in the production areas, particularly from toner cartridges. Once collected, the cartridges are disassembled and inspected for wear to determine which parts can be reused. Each part is carefully cleaned to remove the remaining toner powder and other contaminants before being reassembled into a toner cartridge and refilled with new toner powder.

The remanufactured toner cartridges undergo thorough quality control, including tests for print quality, page yield, and mechanical functionality. To reduce waste during testing, BISK prints on both sides of the page whenever possible and donates single-sided test prints to local schools and daycare centres for children to use as drawing paper.

After passing quality checks, the toner cartridges are packaged using recycled materials where possible. Any packaging and packaging inserts that arise on site also gets reused for new products. The orange roller covers are also washed and reused, if any are damaged, they are sent to BIUK to be reground and made into new covers.

Waste segregation is a core part of BISK's operations. All production waste is sorted into designated containers at the source. When full, the containers are moved to an indoor recycling hub by the warehouse employees, where they are bulked before being transferred to the outdoor waste storage area. In logistics and warehousing, waste is also segregated according to type. The offices have under-desk bins for general waste and centralised paper recycling bins.

In the canteen, waste from pre-prepared meals, provided by BISK in compliance with Slovak Labour Code requirements, is separated into general waste, paper, glass, food waste, Tetra Pak cartons, and plastic.

Water points around the factory use single-use plastic cups, which are collected in designated bins. Cleaners regularly empty these bins and move the waste to larger bins outside. The warehouse employees are responsible for collecting all the other bins and emptying them in the various containers located in the outdoor waste storage area. Any hazardous waste produced on site is stored in secured areas of the outdoor waste storage area.

BISK monitors its waste data using information provided by waste contractors, including weights, movements, and associated costs. Eva Púčeková (Environmental Referent) compiles this data into a monthly waste review document, which is submitted to the Slovak government and local authorities as required. Annual waste reports are also sent to district authorities. Carl Bruce (Business Excellence & Environment Manager) reports on BISK's waste performance at the monthly managers' meetings and the information is also uploaded to Brother's global system for analysis, with any anomalies flagged against previous years' data. Although waste performance figures are not actively shared with the general employees, employees have access to key performance indicators (KPIs) through the Brother intranet.

All new employees receive waste management training as part of their induction. To maintain employee engagement with environmental initiatives, BISK introduced the "Willow Tree," a symbol of the company's sustainability efforts.

One of the key challenges on site is contamination within the waste bins. With a large number of bins in operation, effective monitoring and management can be difficult.

In addition, managing the reverse logistics of getting clients to return used toner cartridges in a way that maximises reuse and minimises waste remains a continuous challenge for BISK and they provide regular feedback to the clients to improve on this.

Waste Arising on Site

From 1 June 2024 to 31 May 2025, BISK produced 697.56 tonnes of waste. Figure 1 provides details of the waste arisings on site and treatment methods.

Waste / Recyclate	Annual Quantity (tonnes)	Waste Contractor	Treatment Process (i.e. Recycled, Reused, recovered (Energy from Waste))	Waste facility if different	% Residual waste from treatment Process	Residual Waste Treatment / Disposal	Document Review			
							ZWTL evidence	Waste Carriers	WTNs/ HWCNs	Permits/ Exemptions
Cardboard	137.27	Amy-Plast	Exported to EU countries & recycled into new cardboard products.				Email confirmation	Y	Y	Y
Plastics-PE	2.83	Amy-Plast	Recycled into new plastic products.				Email confirmation	Y	Y	Y
PS-HI (granulate)	20.63	Brother Industries UK	Exported to BIUK & moulded into new frames for toner cartridges				Brother Industries confirmation	Y	Y	Y
PP (granulate)	2.68	Brother Industries UK	Exported to BIUK & moulded into new parts for toner cartridges				Brother Industries confirmation	Y	Y	Y
WEEE (toner cartridges)	158	Clozddoop BE	Sent to Belgium for component separation, with the majority reused.		1.21%	Sent to energy recovery.	Recycling report	Y	Y	Y
Cardboard	32.26	Enwaste	Exported to Austria & recycled into new cardboard products.				Contractor document	Y	Y	Y
Plastics - PS, PE, PET, EPS	34.77	Enwaste	Plastic processing includes crushing or grinding, washing, drying & regranulation. Regranulate is the raw material for plastic production.				Contractor document	Y	Y	Y

Toner Powder	68.44	Enwaste	The material is added to a mixture for the production of secondary fuel briquettes, which are sold as a product.				Email confirmation	Y	Y	Y
Toner Powder	18.02	Eurecum DE	Toner powder is mixed with other waste & is sent for energy recovery.			Ash from incineration is used as backfill material in LEAG's opencast mine.	Contractor letter	Y	Y	Y
Hazardous Waste (light tubes)	0.04	Fecupral	Separated into components & sent for material recovery.				Contractor document	Y	Y	Y
Hazardous Waste (lubricant)	0.02	Fecupral	Hazardous waste is sent for incineration.		4%	Residual ash is sent to hazardous waste landfill.	Contractor document	Y	Y	Y
Hazardous Waste (empty metal cans)	0.19	Fecupral	Hazardous waste is sent for incineration.		4%	Residual ash is sent to hazardous waste landfill.	Contractor document	Y	Y	Y
Cardboard	61.64	Marius Pedersen	Sent to paper mills to be processed into feedstock for pulping. This is later pressed into new rolls or paper/ cardboard.				Contractor document	Y	Y	Y
General Waste	36.25	Marius Pedersen	Used as alternate fuel in the cement industry. The mineral residues are incorporated into the clinker & no bottom ash is generated.				Contractor document	Y	Y	Y

Ferrous Metal Waste	58.46	Marius Pedersen	Metals were directly recovered & reintroduced into production at steelworks.				Contractor document	Y	Y	Y
Non Ferrous Metal Waste	1.84	Marius Pedersen	The material is shredded, sorted, & cleaned to separate aluminium from toner components, which is then melted & reformed into ingots or sheets for reuse in manufacturing.				Contractor document	Y	Y	Y
Plastics - PP	1.94	Marius Pedersen	The plastic is sorted, cleaned, & shredded into flakes or pellets, which are then melted & reformed into new plastic products or packaging materials.				Contractor document	Y	Y	Y
Glass (domestic waste)	0.13	Marius Pedersen	Glass is sorted & crushed before final recycling.				Contractor document	Y	Y	Y
Plastics (domestic waste)	0.51	Marius Pedersen	The material is separated, crushed, melted & a reggranulate is formed, which is used for the production of new products.				Contractor document	Y	Y	Y
Oils & Fats Filters (canteen)	0.54	Marius Pedersen	The waste from the grease trap is sent to a wastewater treatment plant for biological treatment. The resulting digested sludge moves to a sedimentation tank, then to drying fields.		30%	The dried sludge is sent to a non-hazardous landfill due to local situation.	Email confirmation	Y	Y	Y
Paper	20.92	Plast SK	Recycled in Slovakia into new paper products.				Contractor document	Y	Y	Y

Wooden Pallets	3.5	St Pride Group	The wood is crushed into a coarse & then a fine fraction, followed by drying & subsequent pressing into fuel briquettes, which are sold as a product				Contractor document	Y	Y	Y
Salvaged parts	31.70	BISK	Reused				Brother Industries confirmation	Y	N/A	Y
Reused packaging	4.62	BISK	Reused				Brother Industries confirmation	Y	N/A	Y
Reused leaflets	0.37	BISK	Reused				Brother Industries confirmation	Y	N/A	Y
Total	697.56									

Figure 1 - wastes arising at site

Continuous Improvement

BISK is committed to continuous improvement in waste and environmental management, underpinned by a range of policies and certifications. Notably, BISK has established a Zero Waste to Landfill (ZWTL) policy, which states that sending their waste to landfill should be avoided wherever possible.

BISK has implemented robust waste policies and holds three ISO certifications, including:

- ISO 14001 - Environmental management systems
- ISO 45001 - Occupational health and safety management systems
- ISO 9001 - Quality management systems

In addition to the ISO certification also accredited with the following certifications and approvals:

- Carbon Neutral (PAS2060:2014) since 2022
- European Foundation for Quality Management (EFQM) Member
- WEEE Approved Facility (Preparing for reuse and reuse)
- Authorized Economic Operator (AEO) Approved Facility

BISK dedicated two years to achieving the Blue Angel certification for the Brother TN3512 RE toner cartridge, marking a significant milestone for the company as it became the first recycled toner cartridge in the world to receive this certification in 2023.

BISK employs a range of continuous improvement techniques to enhance its waste and environmental performance, including:

- Aiming for a 1% annual decrease in waste, proportional to sales.
- Engaging in replanting efforts in the High Tatras region of Slovakia for the past 10 years as part of their Brother Earth contribution.
- Only purchasing electricity produced by renewable energy sources.
- Transitioning to electric and hybrid vehicles to reduce carbon emissions.

Looking ahead, BISK plans to implement several initiatives focused on waste prevention and improving their environmental impact including:

- BISK plans to further expand the use of eco-friendly materials in packaging and printed collateral.
- A new initiative will focus on tracking and reporting carbon emissions from operations, with the aim of setting reduction targets.
- Programs are being developed to encourage employee participation in sustainability efforts, including recycling drives and energy-saving campaigns.
- Continued investment in digital tools is expected to reduce reliance on physical resources and streamline operations.

BISK have a dedicated team that oversees initiatives in waste and environmental management, ensuring alignment with global sustainability objectives. This team is made up of Carl, Eva, the Warehouse Senior Manager and the Logistics Assistance all with the support and backing of Dave Lawrence (Factory Director). BISK identifies areas for improvement through multiple channels, including:

- The Annual Global Remanufacturing Summit
- Monthly managers' meetings
- Monthly waste reports
- Regular site checks

Key Findings

Waste Treatment

BISK has demonstrated that the site is achieving zero avoidable waste to landfill. An overview of waste management performance on site is provided in Figure 2.

Destination	Tonnes	Proportion (%)
Reuse	192.78	27.64%
Recycling	375.91	53.89%
Recovery (EfW, Rdf, Biomass, etc.)	128.50	18.42%
Disposal (incineration without recovery)	0.20	0.03%
Landfill	0.17	0.02%
Total	697.56	100%

Figure 2 - waste treatment hierarchy

BISK has demonstrated that not only are they sending zero avoidable waste to landfill but that they have also achieved a high reuse/recycling rate of 81.53%.

It is recognised that BISK sent 0.17 tonnes of residual waste to landfill during the audit period due to local circumstances and regulations. This waste primarily consists of hazardous incinerator bottom ash, a byproduct of the EfW recovery of the aerosol cans and lubricant waste and dried sludge, which results from the anaerobic digestion of the oil and fat filters. This residual waste accounts for 0.02% of BISK's total waste output.

Overall waste treated decreased slightly by 7.92 tonnes. The overall recycling rate in 2025 was 53.89%, reflecting a decrease of 0.73% compared to the previous year (54.62%). This slight drop is attributed to a shift in the waste treatment profile, where a greater proportion of waste was directed toward recovery. Recovery tonnage also saw some increase, from 108.53 tonnes (15.38%) in 2024 to 128.50 tonnes (18.42%) in 2025, a rise of 19.97 tonnes and 3.04 percentage points. Meanwhile, reuse also saw a slight decline, from 207.69 tonnes (29.44%) in 2024 to 192.78 tonnes (27.64%) in 2025, indicating a reduction of 14.91 tonnes. Disposal (incineration without recovery) dropped sharply from 3.80 tonnes (0.54%) to 0.20 tonnes (0.03%), and landfill remained negligible, increasing slightly from 0.12 tonnes (0.02%) to 0.17 tonnes (0.02%).

Previous Audit Recommendation Follow up

During the previous audit Valpak put forward the recommendation(s) for BISK to complete, below details how it has/these have been implemented:

- Moving wood waste up the waste hierarchy:** it was noted that the waste wood collected by St Pride Group is currently being made into fuel briquettes. This is not the recommended treatment process for waste pallets as they can be repaired or recycled into new products such as animal bedding or medium density fiber (MDF) boards. Valpak recommends that BISK look at moving to a different waste contractor who could move the wood waste up the waste hierarchy to be repaired and reused or recycled. *As of the latest review, this recommendation has not yet been implemented. The current arrangement with St Pride Group remains in place, and wood waste continues to be processed into briquettes.*
- Reduce cardboard contamination:** during the site tour, it was observed that the cardboard bales were being stored outside (see Figure 11). This practice increases the risk of the cardboard becoming wet before collection, which could result in BISK being charged a penalty by the waste contractor for drying the cardboard prior to processing. It is recommended that BISK consult with the waste contractor to confirm if such penalties apply. If they do, BISK

should consider implementing measures to keep the cardboard dry, such as constructing a permanent storage structure or using a tarp to cover the bales. *BISK has confirmed that they have reduced the contamination.*

3. **Continue to record the internal reuse/recycling data:** BISK reuse or recycle a portion of the toner cartridge components and their packaging onsite. Valpak recommends continuing to record this data to be included in this certification and to demonstrate how much waste is being reused/recycled. Including these figures will also work to improve the overall waste hierarchy performance. *BISK continues to provide this details.*
4. **Report recycling performance to wider business:** employee engagement can make or break any target. Valpak recommends reporting recycling performance to the wider business to engage staff and continue to increase recycling rates on site. It can help to see performance to improve it. *BISK hold annual meeting to share key sustainability achievements with staff, including updates on waste management performance. In designated areas, a large display wall presents a visual summary of the total waste generated over the past year, along with detailed insights into how it was recycled or recovered.*
5. **Update evidence annually:** looking ahead at the interim audit in 2025 BISK need to update the following evidence ahead of the audit. *Most of the evidences were updated and ready for the audit.*

Recommendations

BISK is achieving a high level of performance in terms of waste management and recycling. In order to build on this success Valpak recommends the following steps are made:

1. **Reducing single use plastics:** investigate alternatives to single-use plastic cups at water stations, such as the introduction of reusable or compostable options to reduce reliance on single-use plastics.
2. **Contractor waste audits:** consider performing audits of waste contractors to gain greater visibility of the treatment processes that occur with BISK's waste. This could be incorporated into ISO14001 to audit at least one waste/recycling contractor per year.
3. **Increase the reuse reporting:** BISK should look to formally recognise its efforts to push waste up the waste hierarchy by collecting data, specifically weights on the paper donated to schools and daycare centres as well as the orange roller covers that are washed and reused on site.

Zero Avoidable Waste to Landfill Certification

Award

The findings of this audit confirm that Brother Industries (Slovakia) s.r.o is still achieving zero avoidable waste to landfill.

Valpak is pleased to confirm that the site has retained the Zero Avoidable Waste to Landfill from 5 September 2025 to 4 September 2026.



Logo

An electronic copy of the Valpak Zero Avoidable Waste to Landfill Certified logo will be provided to BISK to use for the duration of the award period: 5 September 2025 to 4 September 2026.

The logo can be used on any marketing material relating to the sites approved by this audit for the period of certification.

Disclaimer

Certification has been granted based on the information and data provided by, which is assumed to be accurate and correct and is documented within this report. Valpak does not accept any liability for any of this supplied information or data being inaccurate or incorrect.

Certification to Zero Waste to Landfill by Valpak requires that an organisation sends no waste or recyclate directly to landfill; it must all be treated through re-use, recycling, or recovery. However, it is acknowledged that some recycling and waste treatment processes can produce by-products/residues. Examples of this could be Incinerator Bottom Ash (IBA) from an Energy from Waste (EfW) facility or contaminated/rejected material from a recycling process.

Where by-products/residues occur and they are a significant proportion of the waste/recyclate, organisations must ensure that it is sent for further treatment through re-use, recycling, or recovery and that it does not go to landfill. An example of this could be IBA being recycled into a construction aggregate. Where by-products/residues are minimal, it is acknowledged that some of these materials may potentially end up in landfill; however, where practical organisations should look to divert this through re-use, recycling, or recovery. It is also acknowledged that some recycling and waste treatment processes are dictated to by law or local situation. For example, certain materials can only go to landfill by law or due to local infrastructure there is no other option but landfill. In these instances, it is recognised that the site has no other choice but the send to landfill and therefore are awarded the Certification under the Zero Avoidable Waste to Landfill tier.