Rejoose

Carbon Benefits

of IT Refurbishment and Reuse

Related to the return of used IT products. This report provides factual input for carbon reporting, highlighting avoided emissions through IT reuse.

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Introduction

Sustainable IT Reuse Insights

As organizations increasingly focus on measurable sustainability outcomes, refurbishing and reusing IT equipment has become a key strategy. This report offers a data-driven overview of the environmental and carbon benefits associated with returning used IT assets for reuse. It is designed to support the carbon accounting and sustainability reporting efforts of Rejoose.

Quantifying Environmental Impact

Refurbishing IT equipment significantly reduces electronic waste and mitigates the environmental impact of premature disposal. By extending device lifecycles, organizations reduce landfill waste and the harmful effects of e-waste on ecosystems.

Enabling the Circular Economy

This practice supports a circular economy by keeping materials in use longer and reducing the demand for new manufacturing. The result is measurable conservation of raw materials, energy, and emissions associated with the production and distribution of new IT products.

Lowering Carbon Emissions

Compared to manufacturing new devices, refurbishment uses significantly less energy and generates fewer greenhouse gas emissions. These avoided emissions are directly attributed to IT reuse and contribute to corporate climate goals.

Management Summary

This Management Summary provides a high-level overview of the environmental impact and avoided emissions resulting from the refurbishment and reuse of returned IT equipment. The report quantifies total carbon savings by extending IT asset lifecycles, reducing the need for new manufacturing, and minimizing electronic waste. All results are based on activity-level data and reflect cumulative environmental benefits across product categories and regions.

Avoided Emissions

Total:	6.601,83 tons CO_{2eq}
Refurbishment Impact:	-340,65 tons CO_{2eq}
Avoided Emissions:	6.261,18 tons CO_{2eq}

Avoided Emissions Equivalence

Equivalent to absorption by
284.599 trees

Equivalent to lifecycle of
97.831 smartphones

Equivalent to
173.921.615 hours of video streaming

Equivalent to
358.190.970 paper cups

Equivalent to
51.195.242 km driven

Emissions Statement

This report outlines the avoided emissions profile, based on refurbishment activity data validated through the Rejoose platform. It quantifies greenhouse gas emissions prevented by reusing IT equipment instead of purchasing new devices. The data supports transparent, auditable, and standards-aligned climate reporting, providing a credible foundation for sustainability disclosures and circular economy contributions.

Refurbishment Value and Lifecycle Impact

This section highlights the environmental value created through IT refurbishment, focusing on the lifecycle stages that are avoided when devices are reused.

Avoided Lifecycle Stages

◊ **Manufacturing:** Refurbishment eliminates the need for new device production, including raw material extraction, component manufacturing, and assembly. This stage typically accounts for the largest share of lifecycle emissions.

◊ **Transport:** Emissions from global logistics—air freight, maritime shipping, and road transport—are also avoided when refurbished products are returned to circulation instead of sourcing new equipment.

Added Lifecycle Stage: Refurbishment Impact

While refurbishment adds a new stage—including repair, component replacement, packaging, and redistribution—the related emissions are much lower than those from manufacturing and transport. This stage is included to ensure transparency and highlight the net environmental benefit.

By comparing avoided emissions with refurbishment emissions, this report presents a clear and measurable view of carbon savings from IT reuse.

Product-Level Impact Overview

The following table breaks down greenhouse gas (GHG) emissions from refurbished IT equipment by product category. It presents:

◊ **Refurbishment Impact:** Emissions generated during refurbishment activities.

◊ **Avoided Emissions:** Emissions that would have occurred if the product had been newly manufactured and transported.

This comparison quantifies the net environmental benefit of refurbishment and supports sustainability reporting at the product level.

Category	Refurbishment Impact	Avoided Emissions
Laptop	137,34	2.524,32
Total	340,65	6.261,18

Category	Refurbishment Impact	Avoided Emissions
notebook	137,23	2.522,3
Smartphone	32,92	605,01
Headphones	17,09	314,11
Charger	10,87	199,71
Monitor	4,91	90,33
Cover	0,19	3,44
Cradsaffas	0,05	0,84
Crad	0,03	0,56
Others	0,03	0,56
Total	340,65	6.261,18

* Values for **Refurbishment Impact** and **Avoided Emissions** are expressed in **tons of CO_{2eq}**.

Country-Level Carbon Data

Geographic Breakdown of Avoided Emissions

This section presents a country-level view of the environmental impact of IT refurbishment. It includes emissions generated during refurbishment and the significantly greater emissions avoided through reuse.

The data supports localized sustainability assessments and performance tracking across regions.

Country	Refurbishment Impact	Avoided Emissions
Denmark	319,51	5.872,52
New Zealand	21,15	388,66
Total	340,65	6.261,18

* Values for **Refurbishment Impact** and **Avoided Emissions** are expressed in **tons of CO_{2eq}**.

Purpose and Value

Analyzing emissions by country helps organizations:

◊ Identify areas with the highest environmental gains
◊ Align reuse strategies with regional sustainability goals
◊ Support compliance with country-specific reporting frameworks

Traceability and Assurance

All data is based on activity-level refurbishment calculations and traceable to individual product actions. The methodology is validated by PNZ Advisory and supports Rejoose's ISAE 3000 assurance process with EY, ensuring credibility and audit-readiness.

Company-Level Carbon Data

Subsidiary-Level Avoided Emissions

This section details carbon impact by company or VAT ID, offering a granular view across subsidiaries. It includes emissions from refurbishment and the larger volume of avoided emissions through reuse.

Subsidiary	Refurbishment Impact	Avoided Emissions
Organization 1	340,65	6.261,18
Total	340,65	6.261,18

* Values for **Refurbishment Impact** and **Avoided Emissions** are expressed in **tons of CO_{2eq}**.

Purpose and Value

◊ Internal benchmarking across business units
◊ Targeted sustainability initiatives
◊ Transparent reporting to stakeholders and regulators

Data Integrity

All figures are based on validated refurbishment data via Rejoose. Results are traceable and audit-ready across organizational levels.

Data Quality and Transparency

This report is based on activity-level data from refurbishment processes and supports transparent, auditable, and globally applicable carbon reporting.

All data is collected from public sources and refined using a validated methodology for consistency and credibility. The process includes systematic cleansing and normalization, resulting in a robust dataset for internal and external use.

The methodology aligns with international standards, including:

◊ **GHG Protocol Product Standard**
◊ **ISO 14067** (carbon footprinting)
◊ **ISO 14064-3:2019** (verification and assurance)

Country-specific energy factors and organizational parameters are used to localize the data and ensure its relevance across geographies.

Refined Environmental Product Declarations (EPDs) are used for consistent, comparable, and audit-ready reporting.

The methodology is validated by **PNZ Advisory** and supported by **EY** through the **ISAE 3000** assurance process, reinforcing its credibility for use in regulated and voluntary frameworks such as CSRD and the SEC Climate Disclosure Rule.

Appendix and References

Appendix

This report is based on refurbishment activity data and scope as defined within the Rejoose **e.hub** platform.

e.hub is a dynamic portal offering real-time, actionable environmental data from ITAD providers. It supports in-depth analysis and sustainability reporting.

◊ Link: https://e-hub.rejoose.com

References

GHG Protocol – Purchased Goods and Services

This category includes all upstream emissions (cradle-to-gate) from the production of goods and services purchased by the reporting company.

◊ Link: https://ghgprotocol.org/sites/default/files/2022-12/Chapter1.pdf

Methodologies and Calculations

Up-to-date whitepapers and technical documentation are available via e.hub, detailing the data logic and assurance methods behind refurbishment metrics.

◊ Link: https://rejoose.box.com/s/5snq2iavozg8h5bkuv50wbsnhk0ba5et

Validation and Assurance

The Rejoose methodology has been independently validated by PNZ Advisory and aligns with ISO 14064-3:2019, ISO 14067, and the GHG Protocol Product Standard.

◊ Link: https://rejoose.box.com/s/o163xj1u5hg6xtte2twp6yuhtpzqbbk7

Applicability to Reporting Frameworks

This report is designed to align with a wide range of global climate disclosure frameworks.

Applicable frameworks include:

◊ CSRD (EU Corporate Sustainability Reporting Directive)
◊ SEC Climate Disclosure Rule (US)
◊ Voluntary programs such as CDP, Ecovadis, and SBTi

Organizations should consult sustainability advisors to map this data to their reporting obligations and strategic goals.

Disclaimer – Data Ownership and Use

All carbon data in this report is sourced from Rejoose and calculated using its validated methodology. The report is based on procurement data linked to specific transactions.

Rejoose provides emissions data solely for carbon accounting. Product Carbon Footprint (PCF) values may be Manufacturer-Specific (MS), Configurable Average (CA+), or Category Average (CA), based on data availability.

MS data follows vendor methodologies and may not be directly comparable across brands. Always refer to original documentation for context. Rejoose follows the GHG Protocol Product Standard and collaborates with manufacturers to ensure accurate use of PCF data.

It is the supplier's and recipient organization's responsibility to use this data appropriately and in compliance with relevant reporting frameworks. Rejoose is not liable for misuse, misinterpretation, or unauthorized redistribution of PCF data.