

CIRCULAR ECONOMY BUSINESS CASE STUDIES IN SOUTHEAST ASIA

Converge ICT Solutions

Manila, Philippines

ICT

www.convergeict.com

Analysis period: 2020-2023

Refurbishment and Reuse of Customer Devices

Business Spotlight

Converge ICT is a fiber broadband provider and is the first to run an end-to-end all-fiber internet network in the Philippines (with over 600,000 km of fiber optic assets nationwide), providing Filipinos simple, fast, and reliable internet connectivity. Aside from broadband services, Converge also offers integrated data center and network solutions services. In 2022, it launched its Zero Waste Campaign whose components include: a Customer Premises Equipment (CPEs) Refurbishment and Disposal Management; partnerships with accredited recyclers for e-Waste recycling and upcycling of excess marketing materials; and an Extended Producer Responsibility (EPR) Program Plan for plastic packaging. By embedding circularity in its operations, Converge was able to issue over 8,000 refurbished CPE units (i.e. 23% of CPEs deployed in 2022); reuse 43% of returned materials (such as packaging, cables and e-equipment) most of which were used for refurbishment.

Keywords

ICT, Zero waste, E-waste

Innovation

End-of-life management, Resource circularity, Resource substitution



Analysis of Converge ICT Solutions

Context and baseline

Incorporated in 2007, Converge ICT Solutions Inc provides high speed broadband fiber-based services which substitute physical documents, processes and systems with digital ones, with online transactions, digital products and services, and digitalized business processes.

As part of its sustainability strategy Converge ICT “pursues greener operations” and “drives a sustainable supply chain.” It commits to responsible business operations in accordance with the UN Guiding Principles on Business and Human Rights, among others, and regularly conducts due diligence for its impacts on people, society and the environment as demanded by government and its investors; and as part of its obligations to its customers and host communities.

Converge adopts circularity principles in its operations as it has recognized its environmental responsibility. Noting that the Philippines had an estimated generation of 3.9 kg of e-waste per capita in 2019¹, in 2022, Converge launched its **Zero Waste Campaign** to achieve zero solid waste to the landfill by 2030, by reducing and recovering waste and promoting responsible consumption and production practices.

Innovation

The components of the Converge Zero Waste Campaign are as follows:

(i) **Customer Premises Equipment (CPEs) refurbishment and disposal management:** by recovering and refurbishing CPEs when customers are permanently disconnected or opt for an upgrade to a new modem. Rather than supplying brand-new models, the company refurbishes and reissues these recovered CPEs to other customers, extending their useful lifespan;

(ii) **Partnerships with accredited recyclers:** to facilitate the responsible dismantling, processing and recycling of e-waste as well as plastic waste;

(iii) **Upcycling with KREations PH:** for creative waste solutions by upcycling of excess marketing materials, notably transforming tarpaulins into practical items like bags and mats (by women in Rizal to augment their household income);

(iv) **EPR Program Plan for plastic packaging** – transition to more circular packaging and in compliance with RA11898 (EPR Act of 2022.), by:

- working with suppliers to reduce plastic packaging or substitute with more environmentally friendly materials;
- working with CPE refurbishment partner to substitute plastic packaging with more environmentally friendly materials; and
- collection, removal and recycling/treatment of plastic packaging.

For the Customer Premises Equipment (CPEs) refurbishment and management component, the protocol is as follows:

- Retrieval of CPEs from subscribers (for reasons such as damage, defect, subscription discontinuance and service upgrades and/or technical obsolescence of Wifi 5 modems);
- Warehouse storage and CPE assessment (by technicians in the warehouse);
- Disposal of “Beyond Repair” or outdated units/materials (by 3rd party recyclers);
- Refurbishment (off- site by third party company);
- System clean-up and reclassification; and
- Re-deployment (given the advancements in technology, the redeployment is happening for sub-premium and lower cost service provision).

The Converge Zero Waste Campaign is innovative in the end-of-life stage of the CPEs and contributes to resource circularity by recovering post-consumer CPEs for refurbishment and recycling. This is a known strategy for the ICT services sector globally, yet first introduced in the Philippines by Converge.

Converge collects plastic waste associated with its products from various drop-off points strategically designated within Converge ICT-locations. This waste is then used by Green Antz Builders’ to produce ECO-BRICKS in their ‘Eco-Hubs’, which are waste management and treatment facilities.



1 The Global E-waste Monitor 2020 – Quantities, flows, and the circular economy potential. <https://ewastemonitor.info/gem-2020/>

Circular Economy impact

The innovations outlined above contribute to key circular economy strategies, particularly circularity and repeat use of materials and other resources and substituting renewable energy and materials.

Resource Circularity (increased and repeat recovery and reuse)

Returned devices from customers generated the highest volume of e-Waste, including CPEs, modems, power cables and patch cords. These are now tested/ refurbished/ repaired/ reused in refurbished units and thus diverted from landfill disposal, resulting in improved end-of-life management. In 2022, the company was thus able to issue over 8,000 refurbished CPE units (i.e. 23% of CPEs deployed) and divert 98% of e-waste from disposal through internal recycling and engagement with accredited recyclers.

From its day-to-day operations, the Converge network also produced a significant amount of e-waste, such as motherboards, scrap modems and routers, fiber optic cables, batteries, network equipment, and various devices. These are included in the e-Waste that is tracked, tested, repaired, refurbished. The company also has plastic wastes (i.e. tarpaulins) from its marketing activities and office wastes composed of paper, plastics and general wastes, and mixed construction debris from construction. Through internal recycling and engagement with accredited recyclers, it was able to divert 98% of its waste from disposal.

Comparison of materials and waste management in 2022 and 2021 showed a considerable improvement in the recovery of materials and zero percent of recovered materials ending up in landfills due to the intensified drive to re-use more of these materials through the refurbishment process.²

	2022	2021
Customer returns through product take – back programs and recycling services	61.3 metric tonnes	18.4 metric tonnes
Percentage of returned materials that were reused (directly or post refurbishment)	43%	27%
Percentage of returned materials that were recycled	57%	19%
Percentage of returned materials that were landfilled	0%	54%
Total weight of non-hazardous (domestic) waste directed to disposal	8 metric tonnes	

Resource Substitution (of raw materials and energy)

Some of Converge’s own operating sites have already begun greening operations, through the switch to renewable energy under the Retail Competition and Open Access (RCOA) scheme. Specifically, Geothermal energy supplied by First Gen subsidiary, Greencore Geothermal powers up the Clark data center and headquarter offices.

Business and market impact

In 2022, the company generated revenue equivalent to Php 30,010 M.

CE actions, in particular, have benefited the company as follows:

- Released and installed 8,814 refurbished modems in lieu of brand new units, translating into Php 31.24 million savings (approximately EUR 568,000)
- Volume/ avoided cost of waste disposal or hauling to landfill: 26.20MT or 74,850 modems (Recovered 61.25MT or 175,012 modems). For prior years, all recovered (used) modems went directly to landfill disposal.

The company conducts Third Party due diligence checklist for all suppliers, which includes a sustainability assessment checklist. In 2022, 65 out of 207 assessed suppliers were not yet compliant with the precautionary approach required by the company, and thus still needed to be assisted and encouraged to develop and explore environmentally friendly technologies. By 2023, the Vendor Performance Management System included vendors alignment to Converge’s corporate sustainability programs.

Converge collects plastic waste associated with its products from various drop-off points strategically designated within its locations. This waste is then used by Green Antz Builders’ to produce ECO-BRICKS in their ‘Eco-Hubs’, which are waste management and treatment facilities. This initiative complies with the EPR Law by recovering waste plastics for recycling (enabling circular use of plastics) and reducing the amount of plastic that ends up in landfills and waterways (waste diversion). Likewise, for its refurbished modems, the company was able to replace plastic packaging with parchment paper thus totally avoiding the consumption of single-use plastic packaging materials for refurbished modems.

Stakeholders

The company has a Corporate Stakeholder Commitment Statement which recognizes its accountability to internal and external stakeholders to identify actual and potential impacts, respond

² See: <https://corporate.convergeict.com/wp-content/uploads/2023/04/2022-Converge-SR-2023-04-17.pdf>

to and communicate with them on their concerns about these impacts and sustainability related decisions, action plans, and performance. Among its stakeholders are its investors, government, customers, suppliers and vendors, business partners, communities and NGOs/ advocacy groups.

For the Zero Waste/ CPE refurbishment program, it partnered with accredited recyclers (Jontrix Trading Philippines and Green Antz Builders Inc) for the responsible processing, and recycling of e-waste as well as plastic waste (which are upcycled into bricks, chairs). Green Antz collects plastic waste for pre- processing of 10,000 pcs of non-load bearing Ecofast bricks which the company uses and / or sells for guardhouses and perimeter walls. This is integrated in the Green Antz' EPR policy.

It also partnered with KREations Philippines to upcycle excess marketing materials, such as tarpaulins, to repurpose these into practical items like bags and mats while also providing livelihood opportunity for women in Rizal to augment their household income.

Implementation

Customers have remained unwilling to return their modems after the end of their subscription leading to a low retrieval rate and thus, an unused resource. The company still has to find ways to address this barrier, and retrieve the plastic packaging of the new CPEs, so that these can be recycled by Green Antz or reused by haulers. There is also room to increase transport and fuel efficiency in deploying vehicles (both company-owned and outsourced) to collect, retrieve, and deploy CPEs which are stored in different warehouses.

The company will consider measuring how much decarbonization is a result of their CE-related investments and activities.

Takeaways

Beyond circularity of the company's own operations, it is also important to communicate to the community, and to serve as an enabler for other industries to decarbonize, such as by going paperless, going digital and e-business at large. It is a strategy for also enabling the Philippine economy and enhancing its resilience, as clearly demonstrated during the pandemic, when the economy surged because of the demand for connectivity which helped response and recovery measures.



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