Ricoh India Ltd

'Comet Circle' for Circular Economy and Sustainable Society

RICOH
imagine. change.

CASE STUDY

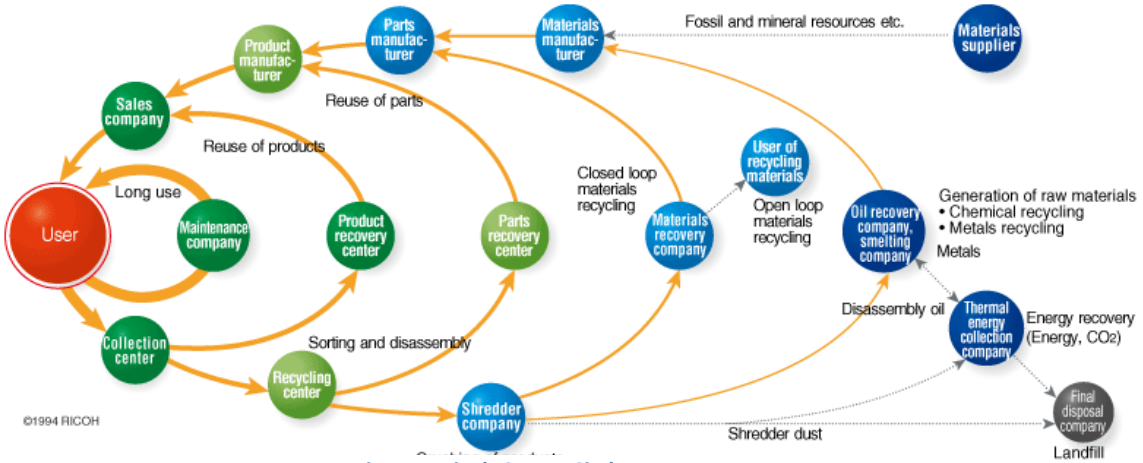

Figure 1 Ricoh Comet Circle

Summary

To achieve an inclusive and responsible growth, Ricoh established the Comet Circle (refer illustration in the attached picture) in 1994 as a synergy among its diverse set of stakeholders, playing an environmental and societal stewardship role across its value chain. This 'cradle-to-cradle' approach has led to a decrease of total lifecycle CO2 emissions of product by 35.8per cent in FY2014 from the FY2000 level, in alignment to our aim of reducing the carbon footprint of our global business by as much as 30per cent by 2020 and by 87.5per cent by 2050 from the level of 2000 fiscal.

As a benchmark to this comprehensive commitment, Ricoh India commemorated World Environment Day 2015 by being the first manufacturer to have its imaging equipment products registered under the credible and stringent rating system of Electronic Product Environmental Assessment Tool (EPEAT) in India. EPEAT evaluates and rates products on lifecycle basis, enabling green purchase decisions for our customers to integrate sustainability into their business operations.

Objective of the Intervention

Ricoh provides customers with products, services, and solutions that help them build up knowledge, reform their working styles, develop their businesses, and meet their management challenges. In this evolving eco-system with issues that are intertwined and diverse in nature, the Comet Circle guides and enables an environmental and social stewardship role for us, across our product lifecycle and value chain, in supporting lifestyle transformation with resource productivity (circular economy), and inclusive prosperity (sustainable society).

Description of Intervention

Ricoh established the Comet Circle in 1994 as the basis to encourage the creation of a sustainable society. This concept is built upon our awareness that product manufacturers and distributors like Ricoh can play the stewardship role by reducing environmental impact across the entire lifecycle of their products, which includes their own business activities as well as the value chain-upstream and downstream. We are leading the implementation of the Comet Circle, established on the principles of 'cradle-to-cradle', in partnership with our materials and component suppliers, logistic partners, and corporate customers at each stage of the product lifecycle. This enables Ricoh to create an outreach and build a synergetic momentum around sustainable production and consumption across its value chain on following key evolving areas, termed as '7-D Green': 'Design Green, Demand Green, Develop Green, Deploy Green, Deliver Green, Drive Green, Dig-Out Green'

1. Design Green (Conception Phase): Every product of Ricoh is based on design policy that confirms to aspects of being conceptual, innovative, comfortable, emotional, and sustainable. The very conception of Ricoh products takes into account the principles of sustainability by means of restricting the use of environmentally sensitive substances and in identification of compactness and lightness of the devices.
2. Demand Green (Sourcing and Procurement Phase): In May 1998, Ricoh Group published "Green Procurement Guidelines" with broad statements to:
-Procure "products from the factory with advanced environmental conservation" and
-Procure "materials/parts/products with minimum environmental impact"

In order to reduce the use and exploitation of the Earth's virgin resources as materials for its products. For example, biomass toner, electric furnace sheets of steel scrap.

3. Develop Green (Production Phase): To minimize the environmental impact of our production processes, we continuously engage in environmental impact reduction efforts, adopting three approaches: innovation in manufacturing processes, introduction of natural energy, and introduction of high-efficiency equipment.

For example, cart production line, small-sized toner-filling machine in India (1/40 of conventional plant-size)

4. Deliver Green (Transport and Logistics Phase): In logistics, focusing on the five areas of packaging, transportation, space, trans-shipment, and storage, Ricoh is globally reducing waste by improving cargo-carrying efficiency, fostering modal shifts, and optimizing transportation routes towards the reduction of both its environmental impact and its costs. For example, "resource-recirculating eco packaging"

5. Deploy Green (Product Use Phase): Regarding lifecycle CO2 emissions from Ricoh's products, emissions in the product-use stage are the largest. For example, Quick-start-up technology, PxP toner, staple-less printing, Solid-State Dye-Sensitized Solar Cell

6. Drive Green (Solutions and Services Phase): Our core competency as product manufacturer and 360-degree approach with vertical customization for client domain establishes us as a one-stop business solutions provider for increasing workplace efficiency and knowledge management through IT automation and process integration. The Ricoh managed document services (MDS) and IT services combine people, processes, and technology to deliver consistent, long-term financial and non-financial savings and increased productivity. The Total Green Office Solution, our green consultancy, supports visualizing, analysing, and minimizing environmental impacts and costs occurring at each step of selection, use, and recycle of Ricoh products and services. For instance, in MDS combining competencies so as to achieve resource-use optimization and integrated communication solutions increasing workplace efficiency through collaboration and reducing travel footprint.

7. Dig-Out Green (End-of-Life Phase): Our logistics system integrates both arterial flows that deliver products to our customers and venous flows that collect used products. In the reverse logistics of our collection process, information stored in a product's bar code is read into a product recycling database that compiles the number and ratio of recovered products and parts. This data is then used to develop plans for the sale of recycled products or reuse of parts.

Sourcing Phase: As an example of the development of materials made from recycled resources, in July 2012, Ricoh developed electric furnace steel sheets using only recycled steel scraps and employed them in one of its multifunction printers—a first for the industry. Moreover, the company developed biomass toner for multifunction copiers by adopting recyclable plant-based resin for use in toner as the primary element. In November 2009, we released "for E toner," the world's first digital multifunction copier featuring biomass toner.

Production Phase: The cart production line, which comprises multiple carts powered by air cylinders, is Ricoh's unique production system. In-process inventory, lead time, space, and maintenance are all reduced by 70–80per cent and enabling a reduction in electricity consumption of 99per cent compared with conventional conveyor line motors. Using the small-sized toner filling machine (1/40 of the conventional

size), it has developed, Ricoh has conducted the reuse and refilling of toner bottles at places near to customers, and in August 2013 opened a new facility in Gujarat.

Logistics Phase: Regarding packaging, Ricoh has proactively fostered "eco packaging" to reduce its use of cardboard since the 1990s, and has introduced "resource-recirculating eco packaging" by using resin materials that can be reused repeatedly.

Product Use Phase: In 2001, the company released the imagio Neo 350/450 as its first highly energy-efficient copier and since then has developed a series of products with high energy performance by adopting unique technologies such as Quick Start-Up (QSU) technology and low-temperature fixing toner. Also, regarding the multifunctional digital colour copier released in February 2012, Ricoh used the colour QSU technology (direct heating [DH] fixing system), colour PxP-EQ toner with a lower melting point and other proprietary technologies to substantially reduce typical electricity consumption (TEC), while also reducing the recovery time to active mode from the energy conservation mode (sleep mode), thereby providing the machine with top-level environmental performance. Solutions and Services Phase: Sustainability is ingrained in every aspect of our business. For instance, a current information and communication technology (ICT) project of Ricoh India with the Department of Post in India is aligned to the mission of 'Connecting India with Bharat'. Under this project, we will help in creating a conducive eco-system for financial inclusion by complementing our competency in ICT with the vast infrastructure of Indian Post offices that would enable our reach to the remotest part of the country and help in providing banking services to the un-banked population. This fits in perfectly with our Living the Ricoh Way Values. RicohDocs, electronic document management system, gives the power to replace hard-copy archives with utmost ease and simplicity. Using digital copies of documents is not only an easy, time-saving, and cost-effective practice but also helps save large amount of paper thereby reducing carbon footprint. Our fully integrated cloud-enabled PACS solution 'Picasso' for healthcare industry will not only provide access of anytime-anywhere medical images to patients and clinicians, reduce cost of providing medical care but also help us in saving environment. Our innovative printing solution, DICOM, that can print medical images like X-Rays on plain paper instead of conventional films will help in bringing down the cost of healthcare delivery, is environment friendly, and makes documentation work flows a lot easier to manage. With the introduction of Ricoh ClassTech solution in India, we are committed to provide best in class education to the students for brighter future.

Intangible or Tangible Benefit

This 'cradle-to-cradle' approach of the Comet Circle has led to a decrease of total lifecycle CO2 emissions of product by 35.8per cent in FY2014 from the FY2000 level, in alignment to our aim of reducing the carbon footprint of our global business by as much as 30per cent by 2020 and by 87.5per cent by 2050 from the level of 2000 fiscal. To demonstrate the impact of the Comet Circle, quantification of sustainability benefits arising at each phase of product life-cycle has been highlighted below:

In our endeavour to embed sustainability into design, in 2013, we reduced the weight of our machines by over 65per cent and size by 30per cent, which has in turn reduced our cost on logistics and provided space benefits to customers where commercial space is premium. By end-of-life management in FY2014, we collected nearly 43,000 tons (25,800 tonnes in 2012) of material of which we recovered 23,000 tonnes (19.7 tonnes in 2012) and nearly 9,000 tonnes (7,000 tonnes in 2012) of parts were re-used. Reusing the recovered materials in recyclable design led to a reduction of nearly 53per cent in man-hours of production and significant environmental benefits.

In November 2012, Ricoh released the imagio MP 7501RC/6001RC series of multifunctional monochrome digital copiers with average rate of used parts in the production being 85per cent in weight. This reduced CO2 emissions during manufacturing by roughly 97per cent from the previous model (produced as new units). The CO2 emissions reduction over the total lifecycle of 7501RC and 6001RC is estimated to be roughly 17per cent and 20per cent, respectively. In product use phase, the RICOH MP 6003, released in 2013, features latest energy-saving technologies and has achieved improved TEC by 37per cent from 6.77kWh to 2.55kWh, compared with conventional devices. Ricoh is the recipient of Buyers Laboratory's 2015 Line of the Year award for energy efficiency for its A3 MFP line of devices. The award was based on the annual energy consumption of current Ricoh models tested to date. Each device was compared against current tested competitive models in each manufacturer's product line. The tested energy consumption of Ricoh's devices ranged from 39per cent to as much as 76per cent below their competitive averages..

About Ricoh India Ltd

Ricoh is a global technology company specializing in office imaging equipment, production print solutions, communication solutions, document management systems, and IT services. Headquartered in Tokyo, Ricoh Group operates in about 200 countries and regions. In the financial year ending March 2015, Ricoh Group had worldwide sales of 2,231 billion yen (approximately US$18.5 billion). In India, Ricoh is a market leader in its key categories and enjoys immense customer confidence in the wide variety of our products and solutions, which includes office printers, digital duplicators, production printers, projection systems,

and video conferencing solutions and related software technologies. Ricoh is a leader in managed document services and can provide a unique combination of document and IT-related services, addressing business practices surrounding the management of both print and electronic information and communication. Ricoh also produces award-winning digital cameras and specialized industrial products.