

Environmental Protection Program

Environmental impact reduction in product design

Every product has an impact on the environment, from its production through to the disposal stages and throughout its life cycle which can extend for a long period of time. Oki is conducting environmental impact reduction activities with the entire product life cycle.

1. Execution of product assessment

In order to reduce the impact of a product on the environment, it is necessary to evaluate the environmental impact caused by the product throughout its life cycle and then incorporate as much improvement as possible, during the design stage, in all aspects including energy conservation, resource conservation and recycling characteristics.

To this end, the Product Assessment System was established in 1995. This system calls for evaluation of products in 11 categories and 22 items shown in the table during the product design stage. The evaluations are numerically specified and recorded and if the records do not meet a set standard, redesign or design changes are implemented.

In FY1999, 37 products including automated teller machines (ATM), OA equipment, switching systems, communication terminals and water leakage detectors were put through this Product Assessment System.

2. Promotion of green procurement

In order to reduce the impact products have on the environment, it is essential that the purchased parts and materials' environmental impact be reduced. In order to make this possible, we have asked and received cooperation from our vendors, in the investigation of toxic substances contained in products, parts and materials delivered to Oki. The investigation, involving 107 vendors (approx. 20,000 items), was completed by FY1999. The data collected through this investigation will be put into a database, which will be used to reduce the use of toxic substances during product development.

Examples of the verification of product assessments

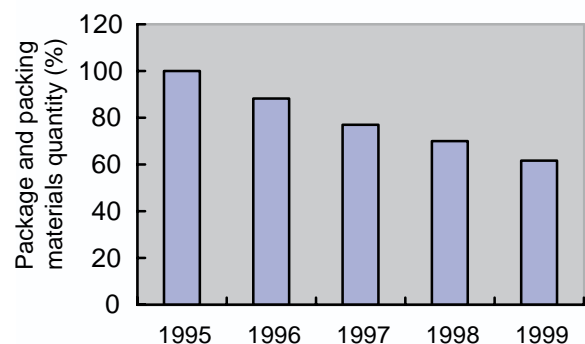
Category	Item
1. Recycling characteristics	3
2. Ease of disassembly/separation of parts/materials	3
3. Ease of separation according to material types	2
4. Reduction in product size and weight	2
5. Utilization of recycled resources	2
6. Promotion of recycled resources	1
7. Durability of products and parts	1
8. Energy consumption	3
9. Ease of collection and transportation	1
10. Safety in processing	2
11. Avoidance of polluting substances	2

3. Reduction of package and packing materials

The package and packing materials constitute approx. 60% of the overall waste materials by volume. Reduction of these materials has become an issue.

Oki established a package and packing materials assessment system in 1995 and through this system is striving to reduce package and packing materials used for its products.

In FY1999, 37 products, including automated teller machines (ATM), OA equipment, switching systems, communication terminals and water leakage detectors, have been put through this assessment system and a reduction of 9% over the previous year was achieved.



4. Execution of life cycle assessment

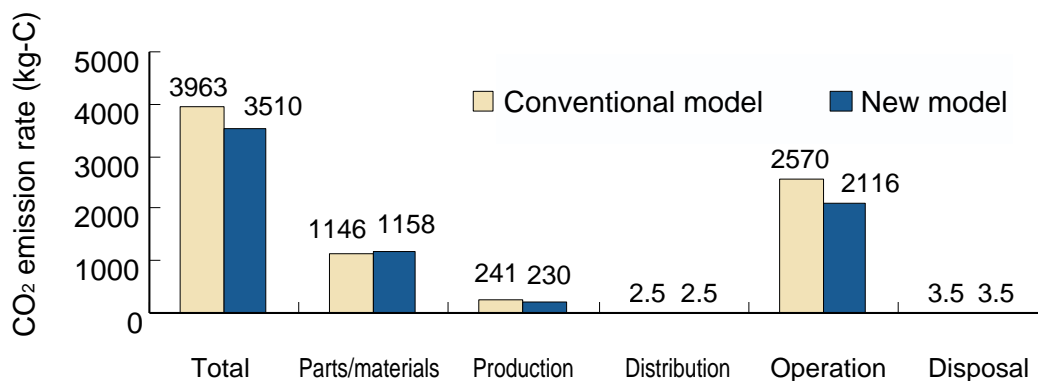
A life cycle assessment (LCA) is an effective means to understand the impact of a product or service on the environment throughout its entire life cycle. It is a process, wherein a quantitative calculation of the entire life span of a product or service, from production through to disposal (a life cycle), is made in terms of materials and energy to evaluate the effects on the environment.

LCA was performed on automated teller machines (ATM) in FY1999. As shown in the graph below, the CO₂ emissions (calculated by carbon quantities) of new models was reduced by 12% over conventional models.



ATM

This evaluation result will be used to reduce the environmental impact by new products.



CO₂ emission rate obtained through LCA for ATMs

5. Establishment of Green Procurement Promotion Sub-committee and LCA Promotion Sub-committee

In order to conduct green procurement and LCA, it is necessary to consider the centralization and sharing of methods and databases for the entire company. In order to make this possible, "Green Procurement Promotion Sub-committee" and "LCA Promotion Sub-committee," spanning the entire corporate organization, were established.