Waste Reduction and Recycling

Waste reduction is an important issue in terms of both preserving the global environment and alleviating the burden on incinerators and other waste disposal facilities. Our philosophy is, "Minimize waste generation, maximize recycling of wastes that are generated, and properly dispose of wastes that cannot be recycled." In accordance with this philosophy, every TEL Group plant reduces the amount of waste it generates and sorts wastes to facilitate recycling.

Total Waste Volume

The bar graph at right shows the progression of the TEL Group's total waste volume, on a year-to-year basis. The linear graph shows changes in the basic units, calculated by dividing waste volume by sales of each year. For the purpose of comparing yearly results, the basic units (used to show the relationship between sales and waste volume) are calculated by taking the result of fiscal year 1997 as 100 points (100%). In fiscal year 1999, we started keeping a tally of the amount of waste generated by our non-manufacturing facilities, in addition to those at our manufacturing plants.

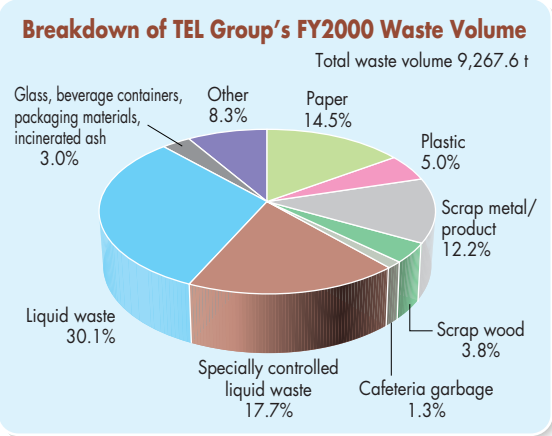
In fiscal year 2000, waste volume at manufacturing plants and research facilities grew in tandem with the substantial rise in production volume and utilization of plant capacity. As a result, the TEL Group's total waste volume increased compared to that in fiscal year 1999. However, the basic unit improved considerably, from 121.4 points in fiscal year 1999 to 72.2 points in fiscal year 2000. This is equivalent to a drop of over 40 percent, or, 59.5% decrease of the 1999 figure.

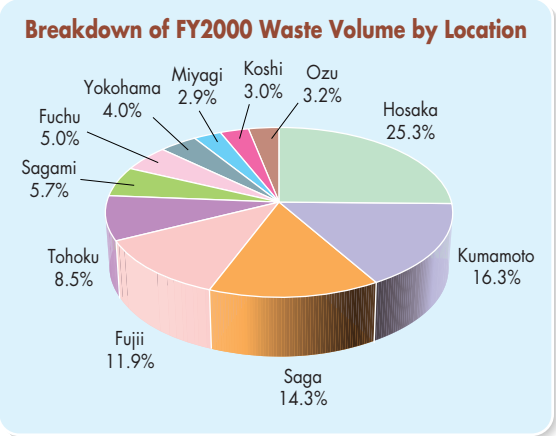
$$\text{Basic unit} = \frac{\text{Waste volume}}{\text{Sales}} \quad \text{(FY1997 = 100\%)}$$

Breakdown of Waste Volume

Liquid wastes (including liquids classified as specially controlled industrial wastes) account for some 47.8% of waste volume, followed in order by paper, scrap metal/product, and plastic waste.

All liquid wastes that cannot be disposed of in-house are collected and properly disposed of by outside contractors.





Examples of Initiatives to Reduce Paper Waste

At our Osaka branch office, we have greatly reduced paper use and have reduced the volume of overall paper waste by installing air dryers in place of the paper towels in our bathrooms. We are also promoting the reduction of PPC paper use in all of our plants, also as part of our effort to reduce paper waste.

Sorting

Sorting is essential for recycling to work. At every plant, we collect wastes sorted into 26–46 different classifications by their physical properties.

Supervision of Waste Treatment Plants and Contractors

At each of our facilities, we select and oversee contractors that handle interim treatment and final disposal of wastes. Before contracting with a new contractor for waste disposal services, we conduct a official certification check, including verification of its license status and on-site inspection of its facilities.

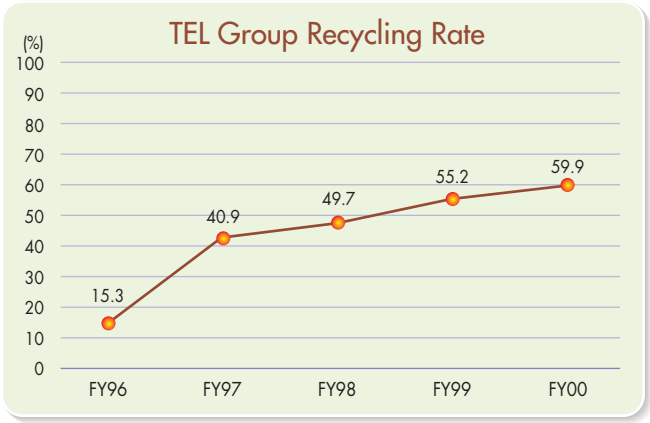
We thus make sure that the contractor has the capability to properly and lawfully process and/or dispose of our wastes. Even after a contractor is selected, we conduct periodic on-site inspections to ascertain the status of its operations.

Waste storage facility (Koshi Plant)

Inspection of final waste-disposal site

Recycling

We mainly recycle paper, beverage containers, scrap wood, glass, plastic waste, and metal. Over the past five years, the TEL Group's aggregate recycling rate progressively increased from 15.3% to 40.9%, 49.7%, 55.2%, and 59.9%, respectively.



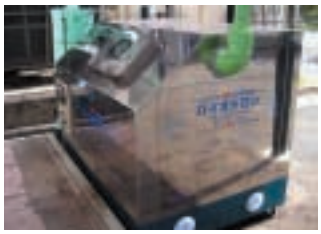
Examples of Recycling Programs at Offices

- At the Osaka branch office, we have adopted "widespread use of recycled paper" as one of our environmental targets and now use recycled paper in virtually all cases. In the future, we intend to fully implement our policy of using non-recycled paper only when necessary.
- At the Akasaka headquarters and Fuchu Technology Center, we are now recycling even confidential documents that were previously either shredded or incinerated. To do so, we teamed up with a recycling contractor to implement a box-shuttling system that allows for complete confidentiality. A feature of this system is that it permits recycling of all types of paper, regardless of quality, resulting in a significant contribution to environmental preservation efforts. It has been calculated that the effects of adopting this system (as opposed to incineration) include the reduction of 7,811 kg of carbon dioxide emissions per year, and the conservation of 781 trees per year (with a diameter of 14 cm and a height of 8 m).
- At the Akasaka headquarters and Fuchu Technology Center, paper cups made from kenaf, non-wood material replacing wood fiber, have been introduced to replace standard paper cups. Because they grow rapidly and may be harvested in only six months absorbing large quantities of carbon dioxide during their growth phase, it is considered to help preventing global warming.

Paper cups made from kenaf

Examples of Recycling Programs at Plants

- At the Ozu and Koshi plants, kitchen garbage-disposal units have been introduced to reduce overall garbage volumes. As a result, the amount of general waste generated at the plant has been reduced from 800 kg per month to zero. In the area of waste paper, savings have been achieved by promoting a reduction in the use of PPC paper.
- At the Miyagi plant, recycling rates of crating timber has been improved, following negotiations with timber recycling contractors. A total of 100 t of recycled timbers were used in fiscal year 2000, an increase of 7.5 times over the previous year.



A garbage-disposal unit

- The Kumamoto and Koshi plants have established a paper-cup recycling system. As a result of this system, 89.8 kg (March 2001 figure) of paper cups that would have been incinerated as general waste is now recycled for use in the production of toilet paper.
- The Kumamoto and Koshi plants have established recycling systems for clean papers which had so far been unrecyclable and thus incinerated due to their surface processing to prevent fine particles. With the cooperation of everyone involved, non-recyclable clean paper has been replaced by recyclable clean paper, thus allowing it to be recycled along with magazines and catalogs.

Toilet paper made from recycled paper cups

Recyclable clean paper