Promotion of Distribution Measures

In consideration of global warming, we are reducing environmental impacts caused by our distribution activities through modal shifts and an effective delivery system in Japan and overseas.

Domestic Distribution

Reduction of use of trucks and CO_2 emissions by modal shift

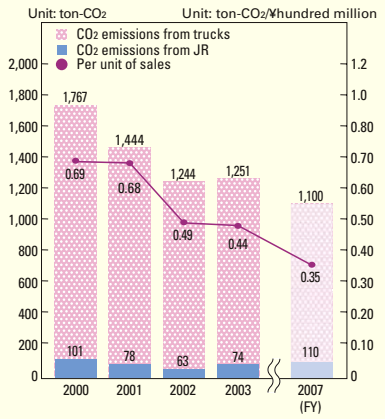
We now make it our policy to promote a modal shift from transportation by trucks with large environmental impacts to rail freight transportation.

Modal shift for distribution between sites and sales outlets

FY2003 Results

In fiscal 2003, total CO_2 emissions increased by 18 ton-CO_2 compared to fiscal 2002. This is attributable to an increase in truck transportation and delivery by Japan Railways (JR) with an increase in sales. JR delivery accounted for 11 ton-CO_2 and the remaining 7 ton-CO_2 was by trucks. In per unit of sales, CO_2 emissions were reduced by -0.05 ton-CO_2 per hundred million yen.

Total CO2 emissions and CO_2 per unit of sales



Future target

With an aim of reducing CO_2 emissions per unit of sales by 50% compared to fiscal 2000 (by fiscal 2007), we will positively promote modal shifts to JR rail containers and rationalization of distribution.

CO_2 emissions were reduced by 5.5 tons by introducing modal shifts for import cargo

Up to fiscal 2002, LCD televisions imported at Shimonoseki port from South Korea were transported to Suzuka Distribution Center by truck. By switching the truck transport to JR rail containers in fiscal 2003, CO_2 emissions were reduced by 5.5 tons.

- Transport interval: From Shimonoseki port to Suzuka Distribution Center
- Transport distance: 731km by truck (702km by rail)
- Transport volume per year: 180 tons

Calculation method

- By truck
  731 (km) x 180 (tons) x 48* (g-c/ton-kg) x 10^{-6} = 6.3 (tons)
- By rail
  702 (km) x 180 (tons) x 6** (g-c/ton-kg) x 10^{-6} = 0.8 (ton)

Reduction of CO_2 emissions

6.3 (tons) - 0.8 (ton) = 5.5 (tons)

* 48: CO_2 emissions from the transport over 1km of goods weighing 1 ton by ordinary truck (converted into carbon)

**6: CO_2 emission from the rail transport over 1km of goods weighing 1 ton (converted into carbon)

Reducing CO_2 emissions by promoting direct or shared delivery

Reduction of annual CO_2 emissions by 1.6 ton-CO_2 by establishing a direct delivery system to major customers (mass merchandisers of consumer electronics)

Until July 2003, goods were first delivered from Suzuka Distribution Center to our distribution centers all around the nation by exclusive trucks, and then delivered to the customers' delivery centers by route trucks. By establishing a direct delivery system from Suzuka Distribution Center to customer delivery centers, CO_2 emissions were reduced by 1.6 ton per year.

Calculation method

- Total reduction of transport distance: 1,200 km
- Total reduction of transport weight: 28 tons
- Reduction in ton-km: 33,600 ton-km
- Reduction of CO_2 emissions (ton-CO_2)
  =33,600 (ton-km) x 48 (g-C/ton-km) x 10^{-6} = 1.6 (ton-CO_2)

CO_2 emissions were reduced by 4.2 tons by integrating distribution from Yamagata Casio to Suzuka Distribution Center

Until July 2003, delivery of digital cameras and timepieces had been commissioned to different transport companies. Now, by commissioning all the deliveries to one company, we achieved a reduction of CO_2 emissions by 4.2 tons by December 2003.

Overseas Distribution

Reduction of CO_2 emission by 73.9 ton-CO_2 by shipping directly from Chinese ports

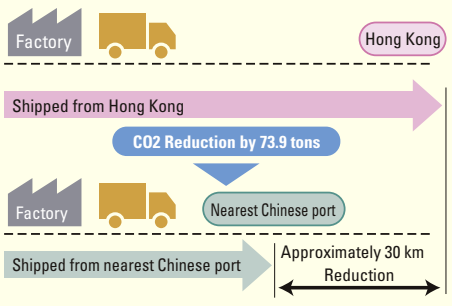
Most of the goods shipped from factories in China were transported to Hong Kong by truck. Starting from fiscal 2004, we plan to increase the direct shipment rate from Chinese ports (Shekou, Yantian and Chiwan) near the factory, expecting a reduction in annual CO_2 emissions by 73.9 ton-CO_2 in fiscal 2004.

Calculation method for reduction in CO_2 emissions

Reduction in CO_2 emission (ton-CO_2) = Estimated production amount: 183,300 (m^3) x Transport distance: 30 (km) x 280* (kg/ m^3) x 48 (g-C/ton-km) x 10^{-9}

280*: The volume is converted to weight assuming that 1m^3 is equivalent to 280kg

CO_2 emission reduction by shipping goods from Chinese ports



Glossary

Modal shift :
To replace truck transportation with sea or rail transportation that causes smaller environmental impacts in order to reduce CO_2 and emissions of suspended particulate matter and traffic jams. Modal shift is mainly promoted by Japan's Ministry of Land, Infrastructure and Transport in an effort to improve transportation