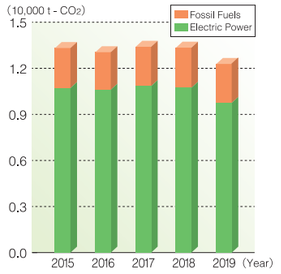
Preventing Global Warming

Overall Results for 2019

At Hoshizaki, in order to reduce the CO_2 emissions from sources of energy used in its business activities, both manufacturing and indirect departments have been engaged in initiatives such as the introduction of power-saving equipment, improved equipment operation, and improved operational efficiency. At the same time, we have been proactively working to reduce the amount of energy used during transport through efforts to reduce product weights and component counts in the design stages, and to reduce the amount of power used through improved production processes.
As a result, CO_2 emissions in FY 2019 were 12,289 tons, 92.0% of the amount for the previous year. We will continue to make efforts to reduce CO_2 emissions by promoting the introduction of power-saving equipment and the improvement of production processes.

Changes in Electric Power Fossil-Fuel CO_2 Emissions



Power Saving using Demand-Monitoring Equipment*

*Equipment that can monitor maximum peak power and power usage at all times

In addition to introducing energy-saving equipment, Hoshizaki is promoting a reduced environmental impact by considering ways to efficiently use the power in equipment. As an example, the head office factory utilizes demand-monitoring equipment to visualize its use of electric power, which has led to a reduction in the amount of power used. The demand-monitoring equipment data can be viewed in a timely manner by all employees on the company intranet, contributing to an improved awareness of energy conservation.
In 2019, we carried out adjustments for air-conditioning temperature settings and distributed starting times for equipment operation (initiatives we had already been working on) based on analysis data from the equipment, which led to more efficient operation, and enabled us to reduce the amount of power used by about 10% compared with the same month in the previous year (July 2018).

Demand Monitoring Equipment Data

Power Savings from Reduced Product Weights and Component Counts

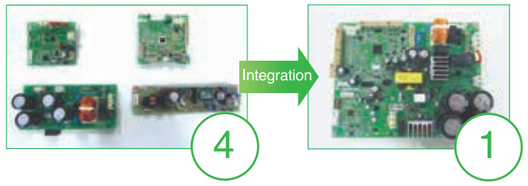
Hoshizaki is promoting a reduced environmental impact by reducing the weight of its products and their component counts.
As one example, the table-type refrigerator (G-type) underwent a model change from 2018 to 2019 at the Shimane factory, and it now has an optimized refrigeration circuit and improved thermal insulation performance. In making these changes, we achieved an improvement in power-saving performance while reducing the product's weight and number of components.
In order to make the product lighter, we made the sheet metal parts inside the cabinet thinner and reviewed the placement of reinforcing materials, while at the same time ensuring the strength of the refrigerator body itself. The result led to a reduction in the energy required for the product's transportation.
In order to reduce the number of components, we integrated the circuit boards, such as the inverter control board and power supply board, which had originally been separate, into one board, and reduced the number of wiring boxes that contained them from two to one. The result led to not only resource conservation, but also improved product-assembly work-efficiency, as well as a reduction of power consumption for equipment, air conditioning and lighting.

Table Type Refrigerator (G-Type)

RT-150SNG

Compared to the Conventional Model
Power-Saving Rate 11% Improvement
Product Weight 8% Reduction
Number of Components 3% Reduction

Circuit Boards



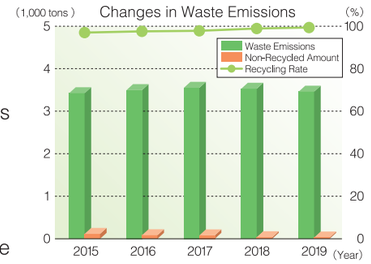
Suppressing Waste Generation

Overall Results for 2019

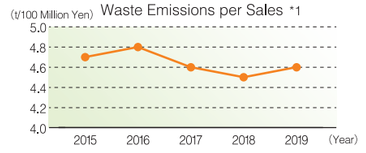
As a result of active efforts to improve yield rates for metal materials, reduce defects during manufacturing processes, and thorough inventory management, waste emissions at Hoshizaki were 3,458 tons (98%) compared to 3,527 tons the previous year.
However, waste emissions per sales (index) *1 increased slightly compared to the previous year due to a decrease in sales in the current fiscal year.
In terms of recycling rates, promoting waste separation and reuse, we were able to achieve a recycling rate in FY 2019 of 99.0% or greater for each site*2 where we did not achieve that the previous year.
We will continue to promote suppression of generated waste and make efforts to further improve our recycling rates.

*1 Figures re-calculated by dividing waste emissions (tons) by sales (100 millions of yen)
*2 Hoshizaki's head office factory and Shimane factory

Changes in Waste Emissions



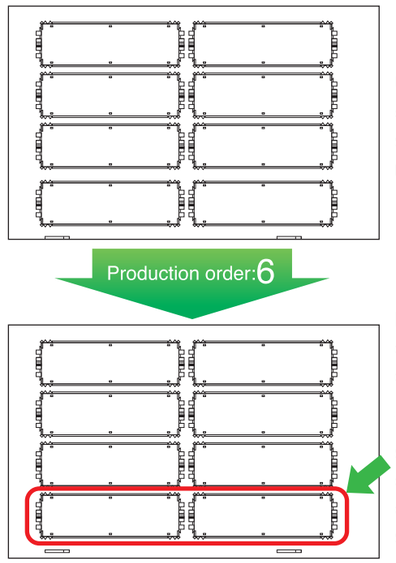
Waste Emissions per Sales *1



Reduction of Generated Waste through Establishment of Storage Space for Components

In order to reduce the generation of waste in its manufacturing processes, Hoshizaki is working to improve yields (getting many components from a single sheet of metal material). However, due to the recent shift to small lots with greater variety, too many components were created, and some were sometimes discarded out of necessity due to problems involving where to store them.
So, in 2019, in addition to efforts to improve yields, we focused on efforts to reduce the amount of discarded components.
As an example, the head office factory has established a new storage location for components by improving the layout of its machining workspace. It also reviewed its standards for the disposal of components. As a result, the number of components to be scrapped decreased significantly compared to the previous year, leading to approximately 8 tons of metal-material waste that was not unnecessarily generated for the year.
In addition, use of the stored parts has reduced the time spent on processing using the equipment, which has led to increased productivity and reduced equipment power consumption.

Efforts to reduce the amount of components discarded [example]



Newly established component storage space