Establishing a Low-carbon Society

Promotion of more compact and lightweight designs for products

More compact shift indicator substrate

By converting part of the circuit board mounted on the shift indicator into an IC (integrated circuit) and changing the connection method from a normal connector to a pin header terminal, we achieved more compact and lightweight boards and products.

Reduction of CO₂ emissions

Energy saving by reviewing the air supply system

At the Semiconductor 1st and 2nd Plants, air used to be supplied by the compressors at each plant, but by integrating the air supply system and shifting the main compressors into inverter-types we could achieve efficient operation according to the load, resulting in significant reduction of power consumption.

Discontinuation of the use of air for product transportation

In the casting process of TRT (Thailand), the product was taken out by air blow, but by creating a chute that discharges the product using its own weight and installing it at the take-out port, the use of air blow was discontinued and the energy required for taking out the product was reduced.

Obtaining JIT for start-up/down of the heat-treatment furnace

The heat-treatment furnace for seatbelt parts consists of two electric furnaces with different temperatures. As the power sources of the heat-treatment furnaces are managed collectively, one of the furnaces burned empty at both the start of the week and the shutdown at the end of the week, wasting power. Therefore, we changed the control circuit and improved the power management so that each electric furnace can be controlled independently, resulting in obtaining energy JIT (Just In Time).

Higher cycle due to lightweight jig

In the quenching/tempering furnace of the heat treatment process, the product is set in the jig and put in, but there is a limit to the weight that can be put in at one time. Therefore, we made it possible to increase the number of products that can be input by 1.5 times and reduce the number of furnace operations by making the jig enclosure thinner and lighter.

Outstanding Example Award for CO₂ Reduction

Tokai Rika has established a system for commending examples of energy-saving improvements showing excellent application and focus carried out by each division. In order to help improve energy saving at each division, we exhibit the outstanding examples selected at each plant at the Energy Saving Exhibition, and decide the best examples through voting by the employees who visit.

Energy Saving Exhibition

Tokai Rika organizes an Energy Saving Exhibition every year with the concept of increasing the number of employees who are interested in energy saving and wish to improve the situation, and expanding our horizons on efficiency. We provide an opportunity for employees to raise their energy-saving awareness by exhibiting panels that show the perspective of energy-saving improvement, exhibiting examples of CO₂ reduction within the company, and exhibiting demonstration machines that allow you to experience energy-saving performance.
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Use of renewable energy

The Tokai Rika Group aims to achieve renewable energy to account for more than 20% of power consumption by 2040, and is introducing solar power generation systematically. In FY 2019, we introduced 1.0 MW in total at Hagi Plant, TRP (Philippines), and Ena Tokai Rika Co., Ltd., a domestic subsidiary. As a result, we introduced 3.5 MW in the entire Group and the renewable energy rate was improved to 1.9%.

Green power certificate

Green power is being used at the office building of the Head Office by making use of the Green Power Certificate* system with an annual biomass generation of 100,000 kWh.

The Green Power Certificate is issued by a third-party agency and certifies the amount of environmental added-values of power generated by means of natural energy.

Topics

Initiatives for reducing CO₂ emissions at TSB (Thailand)

In TSB (Thailand), in order to significantly reduce the total amount of CO₂ emissions, members elected from each division launched a new CO₂ reduction project, prioritizing and taking countermeasures for the issues that were brought up among the members. In FY2019 they worked to lower the air supply pressure, investigated the required pressure of air equipment and the end pressure of the air piping, and reduced the excessive supply pressure of the compressor by 0.2 MPa. Also, on holidays they carry out energy-saving patrols at their plant and take thorough measures against air leaks.

CO₂ emissions in the supply chain

The Tokai Rika Group recognizes that in order to control global warming, it is necessary to reduce not only CO₂ emitted through activities conducted by the company, but also emissions throughout the life cycle. We have been monitoring the amount of CO₂ emissions throughout the supply chain, including upstream and downstream, and are promoting activities for reduction.

Reduction in greenhouse gases

The Tokai Rika Group is working to reduce emissions of not only CO₂ that accompanies energy use but also greenhouse gases (five gases), by taking measures for emission control such as replacing and detoxifying the target gases.

SF₆ emission reduction activities

We had been using SF₆* for the shielding gas to prevent melted materials from burning when exposed to air in the magnesium casting process, but because the greenhouse effect is so high with SF₆ we promoted a changeover to FK (fluorinated ketone) gas, which has a smaller greenhouse gas effect, and changeover to FK in all casting processes in Japan was completed.

Pursuit of efficient transportation in logistics activities and reduction of CO₂ emissions

We are working to reduce CO₂ emissions in the transportation process by improving packaging that leads to higher storage efficiency and loading ratio, and reviewing efficient transportation routes.

Trends in CO₂ emissions for logistics activities per sales

Reduction of transportation load by reducing container size

We have devised an efficient storage method and partition while taking into account the quality assurance and workability of storage / removal, and have reduced the container size by 25% without changing the amount of storage. As a result, we were able to reduce the load equivalent to 41 large trucks annually.