

Establishment of a Carbon-neutral Society

While the worldwide movement of decarbonization has accelerated, the Tokai Rika Group has been enhancing activities we consider to be the responsibility of a global company, and has been promoting CO₂ reduction activities within the whole group. These activities include adopting low CO₂ materials for our products, developing new materials, and improving the efficiency of the use of energy in production and transportation.

Product CO₂ reduction

Material change for our shift by wire shifters

The material of the bracket, which is a component of the shift by wire shifter, has been changed to a resin material that emits less CO₂ during material manufacturing. This change reduced CO₂ emissions by 51% compared to the previous product. It also contributes to reducing product weight.



Shift by wire shifter

Development of original material "Bamboo+"



Our affiliated company MIROKU TECHNO WOOD Co., Ltd. (Nangoku City, Kochi Prefecture) and Kochi Prefecture have jointly developed a new material that combines bamboo and thermoplastic material using an original method. This newly developed material contributes to carbon neutrality by reducing CO₂ emissions compared to plastics derived from fossil resources. Furthermore, by using cut-down bamboo for bamboo grove maintenance as a raw material, we can contribute to forest environment conservation through our business activities.



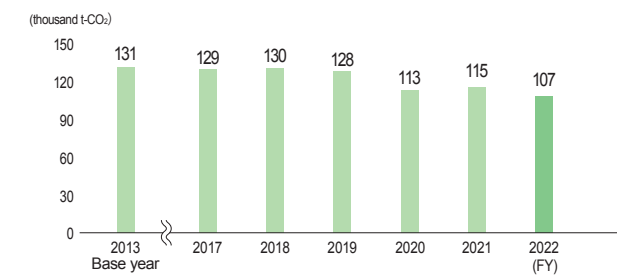
Reduction in greenhouse gases emissions

As we are using SF₆ for the shielding gas to prevent melted magnesium from burning when exposed to air in the magnesium casting process, we are proceeding with a changeover to a substitute gas with a smaller greenhouse effect. All domestic bases have completed

the changeover, and we plan for overseas bases to have completed it in 2030.

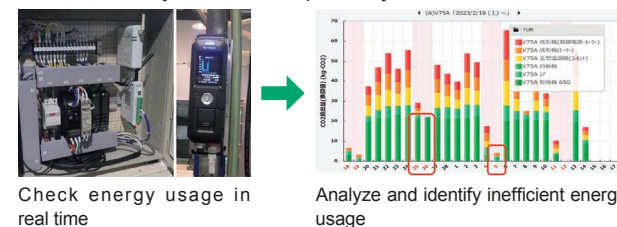
Reduction of energy CO₂ emissions

[Energy CO₂ emissions (globally consolidated)]



Energy visualization

At Tokai Rika, we are proceeding with the introduction of an "energy visualization system" that constantly monitors the energy usage of each production facility and line. Managers at each production line monitor energy usage in real time. This allows us to respond immediately when abnormal usage occurs, and to identify waste through daily usage analysis. In the future, we will link this system with a production management system to perceive the amount of energy used per product. By doing so, we plan to improve the accuracy of LCA. It was introduced at the Head Plant in FY 2022. Subsequently, we plan to introduce this system to other plants by FY 2024.



Training of key energy-saving personnel

We have established an educational curriculum to develop human resources who can promote energy-saving activities in each workplace. The "basic education" that teaches the necessity of energy saving, points of focus for improvement, and how to proceed is provided through e-learning, so participants can take it at any time. We have also opened an energy-saving dojo. At this dojo, techniques acquired through energy-saving patrols and energy-saving improvements to high-consuming equipment are passed down. We offer a "First stage level course" and a "Second stage level course" depending on the level of the participants, and 490 people have taken the course so far, including participants from overseas affiliates and group companies.



Use of renewable energy

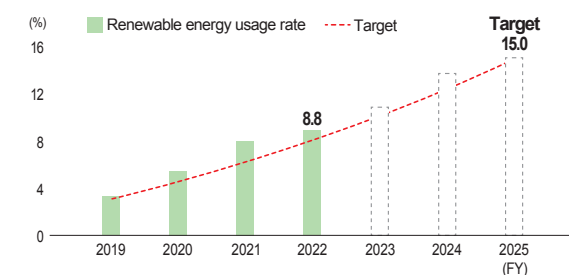
Our entire group is systematically expanding the introduction of solar power generation. In FY 2022, we introduced 3,700 kW of solar power generation at Toyota Plant and eight overseas bases. In addition, outside the plant premises, solar power plants exclusively for our company have been constructed in two locations in Nagano and Osaka Prefectures through offsite PPA*, and we are receiving 3,400 kW of electricity from the panel output. As a result, the renewable energy rate in FY 2022 increased to 8.8%.

*A system in which a PPA operator installs solar power generation equipment outside the customer's premises, and the customer purchases the electricity.



Offsite power plant built on land that used to be a playing field (Nagano)

[Trends in renewable energy usage rate]



Energy-saving award system

Tokai Rika has established an energy-saving proposal system to accumulate and share energy-saving know-how. Among the 636 improvement cases implemented in

FY 2022, those with particularly excellent applicability and viewpoints are given in-house awards to raise employee awareness and horizontally deploy them to other plants.

[FY 2022 Outstanding Energy-Saving Examples]

Gold Award	• Material dryer heater output control
Silver Award	• Change of workpiece discharge method in press process • Improved compressor operating efficiency
Bronze Award	• Measures against heat radiation loss at the material input port of aluminum melting furnaces • Reduced waiting time for loading the quenching furnace
Business and Technology Division Award	• Improved energy saving by optimizing monitor brightness



Introduction of ICP system

We have introduced Internal Carbon Pricing (ICP) to promote capital investment that can contribute to the reduction of CO₂ emissions. By setting an in-house carbon price and evaluating the economic effect of CO₂ reduction as an investment effect, carbon-neutral strategy investment can be promoted. The introduction of ICP makes it possible to visualize the economic impact of CO₂ emissions, leading to appropriate investment decisions.

[Outline of our ICP system]

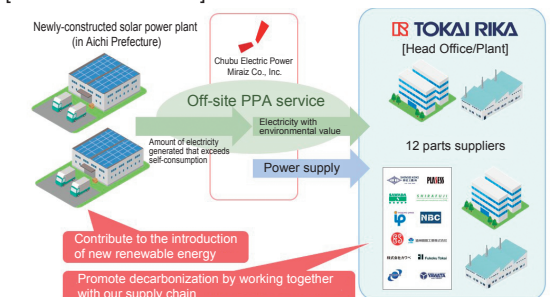
In-house carbon price	16,000 [yen/t- CO ₂]
System target	Carbon-neutral strategic investment

TOPICS

Joint procurement of renewable energy with suppliers

In November 2022, we have concluded an "agreement for off-site PPA service" with Chubu Electric Power Miraiz Co., Ltd., 12 member companies of the Tokai Rika Kyouryoku-kai, with the aim of decarbonizing our supply chain. As a result, each participating company will be able to receive surplus electricity from a solar power plant (scheduled to have a panel output of approximately 5,800 kW) that will be built on the roof of a distribution warehouse in Aichi Prefecture. We will jointly procure renewable energy-derived electricity from a solar power plant installed on the vast roof space of the distribution warehouse. By doing so, our supply chain will work together to promote decarbonization and contribute to the introduction of new renewable energy. (Operating from FY 2023)

[Outline of this initiative]



<Participating companies>

Shinsei-koki Co., Ltd., Sawada Kogyo Co., Ltd., Inaguma Press Industry Co., Ltd., Enshu Co., Ltd., Kawabe Co., Ltd., MARUEI Co., Ltd., Plasess Co., Ltd., Shirafuji Industry Co., Ltd., NBC inc., Enshu Jushi Kogyo Co., Ltd., FUKOKU TOKAI Co., Ltd., Yawata Seibiyousho Co., Ltd.