

## Environment Feature Article [ Global Warming Prevention ]

## Acting as a leading factory for global warming prevention until now and will be always

All employees participate in saving energy while aiming at more advanced manufacturing

Having a plant which consumes the largest amount of energy and emits the largest amount of CO<sub>2</sub> in the Group, Izumo Murata Manufacturing has been actively working on energy saving and reduction of CO<sub>2</sub> emissions. For example, we have been trying to save energy by applying a catalytic converter for our exhaust gas treatment system. Since our products are made of ceramics, they require high-temperature firing. We use an exhaust gas treatment system to further heat and break down various organic ingredients. The downside to this system was its large energy consumption. Our production engineering departments developed and introduced catalytic technology for the exhaust gas furnace. Introduction of the catalytic converter helped achieve an equivalent or more exhaust gas treatment capacity compared with the conventional system while significantly lowering heat generation, resulting in half the energy consumption.

Annual CO<sub>2</sub> emissions from our plant were cut down by 2,100t-CO<sub>2</sub>. We also exchanged the electric heater with a hot water heater with a high-temperature heat pump in the drying process to realize reduction of 400t-CO<sub>2</sub>. We further installed a wattmeter for each process to visualize energy usage, so that we can promote energy-saving awareness and practice for all employees.

With visualization of energy consumption, we began finding out that the energy consumption patterns of different facilities consuming different amount of energy in the same process, and standby energy consumption being nearly unchanged from operating energy consumption. We expect to save energy further by analyzing and taking measures against the problems we discovered among our members. This is the very first attempt for the Murata Group to take such measures. We are hoping that this will eventually permeate the entire Group.

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## Environment Feature Article [ Wastewater Treatment Plant ]

## Industrial wastes pose risks to the environment Their thorough reduction is our social responsibility

Low-degradable wastewater treatment plant realized through aggregated wisdom of various departments

Yasu Division manufacturing processes generate industrial wastewater containing low-degradable substances. The amount of generation is approximately one quarter of the total waste generation in the Murata Group in Japan. Until now, we have consigned their treatments to outside companies. However, we could no longer ignore CO<sub>2</sub> generation from transporting large amounts of wastewater by tank trucks. We must also consider our social responsibility in the case where those tank trucks have accidents. Completely treating the wastewater within the plant without letting loose such risks is at the basis of environmental conservation. Murata has been contemplating many approaches of in-plant treatment in conjunction with company-wide waste reduction activities.

Although there are several ways of treating wastewater, consuming a large amount of energy for water treatment also affects the environment adversely. The treatment plant constructed at the Yasu Division breaks down harmful chemicals by oxidation chemicals, and the remaining organic substances go through biological treatment. We, of course, needed to consider reducing the amount of wastewater generated by various processes, and had to ensure it can be processed with ease. We called upon members from development departments, facility management departments and other departments to discuss this problem together and came up with solutions. Now, the only thing finally emitted from the plant is water. We meet the strictest water quality standards of Shiga Pref. holding the large water source, Lake Biwa.

Photo, from left to right  
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