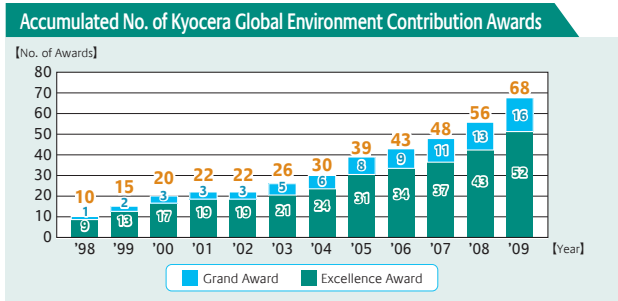


Kyocera established its “Kyocera Global Environment Contribution Award” in 1996 to encourage environmental preservation activities. Every year this internal award commends original and creative ideas that make a great contribution to the global environment through our environmental preservation activities.



## 13<sup>th</sup> Kyocera Global Environment Contribution Award

### Grand Award

#### “Global Environmentally Friendly Product Development” Category

● **Solar Cell Module KD Series (model using 156 mm<sup>2</sup> solar cells) and G-Frame Installed Module (high-strength frame)**

The KD Series is a solar cell module which previously used 155 X 150 mm cells. These cells were swapped for the the largest in the industry, 156 mm<sup>2</sup> cells, which increases the energy-generating capacity per module. The energy-generating capacity per module is increased to reduce man-hours and expense per watt, thereby reducing the manufacturing cost of modules and CO<sub>2</sub> emissions throughout the life cycle.

The G-frame installed module’s design has been optimized using computer simulation to increase the positive load pressure resistance of the entire module to the world’s highest level of 5,400 Pa. At the same time, aluminum usage has been reduced from the previous model. This module passed German TÜV certification which involves a strict safety inspection.



● **PHS Phone HONEY BEE & HONEY BEE 2**

This candy-bar-style PHS phone is a compact and lightweight model with a 9.9-mm thickness, 73-g weight and 50-cc volume. With its reduced power consumption, this phone lowers CO<sub>2</sub> emissions during use and has improved its recycling efficiency and serviceability by improving the ease with which it can be disassembled.

This is also Kyocera’s first PHS phone with a built-in antenna. The newly developed first transmission / reception diversity method has made this phone compact and lightweight, thus reducing resource consumption. Furthermore, this phone features a protracted-phone-call notification function and a power-saving screen setting function, giving consideration to lessening environmental impact.



#### “Energy Conservation” Category

● **Energy saving for photovoltaic cell production equipment (Ref. to Page 70)**

An energy-saving calciner adopting the new technology and improving the heating structure and photovoltaic cell transfer system has greatly reduced electricity consumption.

### Excellence Award

#### “Global Environmentally Friendly Product Development” Category

● **Liquid Crystal TL Series TCG057QVLBA (Ref. to Page 63)**

Using a small LED chip, this liquid crystal display is thin and lightweight, and has low power requirements, thereby reducing the environmental impact throughout its life cycles.

● **Thermal Printhead / KRC Series**

This thermal printhead is utilized in barcode printers, which mainly function at stores and plants to print various kinds of barcode labels. It was developed especially for use with our popular barcode printers. We have increased the operating life of the printhead by extending the print-running distance to twice that of the conventional product. We use small and lightweight ceramic substrates to reduce resource consumption, thereby greatly contributing to the reduced environmental impact of printers. We have also trademarked the term “EcoGeneration” and are selling this product as a thermal printhead with new environmental performance.

#### “Energy Conservation” Category

● **Reducing electricity consumption by improving the heat efficiency of the growth furnace**

We have improved the heat efficiency in the growth furnace for sapphire crystal with a high melting point and stabilized the furnace temperature to reduce electricity consumption and increase production efficiency.

● **Energy saving for the clean room (refer to page 70)**

We installed a new inverter in the air-conditioning equipment in the clean room and operated equipment according to production status in order to reduce electricity consumption.

#### “Resource Conservation” Category

● **Standardizing ink materials to reduce raw materials and waste (refer to page 77)**  
We previously used inks with different compositions depending on the ceramic material, but we have since developed a unique standardized ink to reduce the ink material purchase and waste generation.

#### “Waste Reduction” Category

● **Reducing waste generation by making the carbon spacer life longer (refer to page 77)**  
We reconsidered the grinding allowance of the carbon spacer used in the calcination process for reuse to make its life longer, thereby reducing waste generation.

● **Changing waste plastics to valuable materials by thorough sorting of waste and compression of packing materials (refer to page 76)**

We segmented waste into about 190 categories and introduced compression equipment for waste plastics, allowing waste to be changed into valuable materials.

#### “Chemical Substances Reduction” Category

● **Improvement activities at the wastewater treatment facility at the Shiga Yohkaichi Plant (refer to page 78)**

We readjusted the coagulation aid in coagulation sedimentation treatment to reduce, not only chemical dosage, but also the amount of waste generated. We also recycled treated water to reduce water consumption.

#### “Environmental Communication” Category

● **New environmental protection activities at the Shiga Gamo Plant (refer to pages 61, 80 and 81)**

We began using biodiesel fuel refined from edible oil waste together with *satoyama* protection activities at the plant. We received the “Excellence in Environmental Management Award” at the 7<sup>th</sup> Japan Environmental Management Award after these activities were appraised.