

# Initiatives to Prevent Global Warming

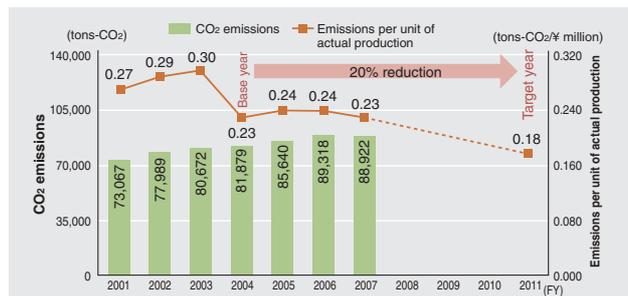
Global warming is undeniably progressing. Casio is doing everything in its power to contribute to a solution. Casio sees the reduction of CO<sub>2</sub> emissions as a vital necessity for maintaining the viability of life on Earth.

## Reducing CO<sub>2</sub> Emissions at Production Sites

### Initiatives in Japan

The target year for Casio's energy conservation initiatives is fiscal 2011. In fiscal 2006, the group cut gross CO<sub>2</sub> emissions at production sites in Japan by 396 tons-CO<sub>2</sub>. Approximately 80% of CO<sub>2</sub> emissions at production sites in Japan is accounted for by Electronic Components segment sites. The reduction in fiscal 2007 was due to Yamagata Casio switching to energy saving equipment and the efforts of other sites to conserve energy despite expansion of Casio Micronics' Yamanashi Plant and the inclusion of additional sites, such as Seiyo Electronics Corporation, in the group's environmental impact data. Per-unit CO<sub>2</sub> emissions were flat, remaining significantly short of the per-unit emissions target for fiscal 2011. Going forward, Casio will continue to devise new measures to hit the newly established targets for each site, and will also look into emissions trading after assessing the discrepancy.

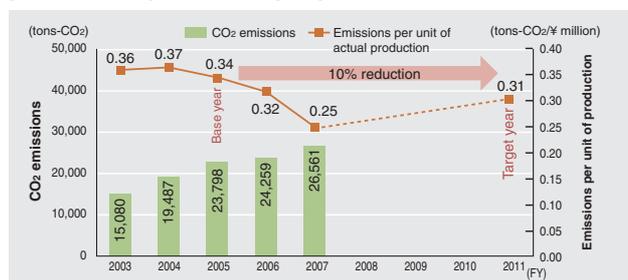
### CO<sub>2</sub> emissions and emissions per unit of actual production (in Japan)



### Initiatives outside Japan

Fiscal 2007 CO<sub>2</sub> emissions at sites outside Japan, of which approximately 78% is accounted for by production sites, increased by about 2,300 tons-CO<sub>2</sub> compared to the previous fiscal year. This increase was due mainly to expanded production following the consolidation and decommissioning of Casio Electronics (Zhongshan) and Casio Electronics (Zhuhai), which had become too small, into a new plant, Casio Electronic Technology (Zhongshan). On a per-unit of production basis, the group cleared its target of 0.31 tons-CO<sub>2</sub>/million yen due to an increase in total production outside Japan. Going forward, Casio will reconsider the targets for each site and keep pushing its energy conservation initiatives ahead.

### CO<sub>2</sub> emissions and emissions per unit of actual production (outside Japan)



## Efforts to Reduce a Greenhouse Gas (SF<sub>6</sub>)

Kochi Casio uses SF<sub>6</sub> in the etching process during TFT panel manufacturing. The company purchases a little less than 2 tons per year. But, because the global warming potential of SF<sub>6</sub> is 23,900 times greater than CO<sub>2</sub>, it accounts for nearly 20% of the greenhouse gases, including CO<sub>2</sub>, emitted by the Electronic Components segment of Casio Computer Co., Ltd.

Reducing SF<sub>6</sub> emissions is therefore an extremely important issue for Casio Computer Co., Ltd., overall. The Hachioji R&D Center is exploring three technological solutions for reducing SF<sub>6</sub> emissions during the TFT manufacturing process.

1. Developing a dry etching process using an alternative gas with a lower global warming potential.
2. Installing SF<sub>6</sub> scrubbers.
3. Recycling SF<sub>6</sub>.

Consideration of alternative gas processes started in 2004, and a new gas has been selected for potential use. The Center has also begun considering the installation of SF<sub>6</sub> scrubbers and recycling equipment.

The Center expects to finish developing an alternative gas process and evaluating various emissions reduction equipment by the end of 2007. It plans to decide which method will be used to reduce SF<sub>6</sub> emissions, based on a comprehensive assessment of effectiveness and cost performance, and to achieve its published goals in fiscal 2011.



### Usage and Emissions of SF<sub>6</sub>, and Equivalent CO<sub>2</sub> Emissions

### Measures and schedule for reduction of SF<sub>6</sub>

Reduction measures	2006	2007	2008	2009	2010
Alternative gas	Trial manufacturing evaluation	Product evaluation			
SF <sub>6</sub> scrubbing			Method determination	Order equipment	Reduce emissions to below 2000 level < 7,278 tons-CO <sub>2</sub> /year
SF <sub>6</sub> recycling	Equipment investigation		•Reduction results •Process suitability •Running cost	Installation	

\* SF<sub>6</sub> is a greenhouse gas targeted for reduction in the Japan Electronics and Information Technology Industries Association's (JEITA) voluntary action guidelines. Casio has already fully phased out the target gases PFCs and NF<sub>3</sub>, and is working to eliminate SF<sub>6</sub>.