Site-Specific Data

Domestic Sites

Environmental data on the Casio Group

Electricity: 147,246,000 kWh
Fuel: 9,475.7 kℓ (in terms of crude oil)
Water: 2,399,700 m³
Chemical substances (specified by the PRTR Law): 126,745.7 kg

INPUT

Casio Group (as a whole)

OUTPUT

CO_2	86,400 tons
NOx	24.2 tons
SOx	10.8 tons
Soot and dust:	1.1 tons
Effluent:	2,029,400 m³
BOD	18.0 tons
Waste generation:	6,390.4 tons
Landfill:	147.6 tons
Reduction: Simple incineration:	169.7 tons
Reduction: Heat recovery incineration:	354.8 tons
Reduction: Waste reduction by dehydration:	2,568.7 tons
Reuse and recycling:	3,149.5 tons
Ratio of landfill to waste generation:	2.3%
Recycling rate:	49.3%

Data obtained from the four sites of the Electronic Component Division and the eight sites of the Electronics Equipment Division.

Electronic Component Division

Share in the entire Casio Group

82% Electricity: 120,020,000 kWh
89% Fuel: 8,460.6 kℓ (in terms of crude oil)
93% Water: 2,229,600 m³
98% Chemical substances (specified by the PRTR Law): 124,260.7 kg

INPUT

Electronic Component Division (Total)

OUTPUT

	Share in the entire Casio Group
CO_2 72,200 tons	84%
NOx 22.7 tons	94%
SOx 7.5 tons	69%
Soot and dust: 0.9 tons	82%
Effluent: 1,882,800 m³	93%
BOD 10.3 tons	57%
Waste generation: 4,998.4 tons	78%
Landfill: 45.5 tons	31%
Reduction: Simple incineration: 0.1 tons	77%
Reduction: Heat recovery incineration: 354.8 tons	100%
Reduction: Waste reduction by dehydration: 2,479.2 tons	97%
Reuse and recycling: 1,987.9 tons	63%
Ratio of landfill to waste generation: 0.9%	
Recycling rate: 39.8%	

The Electronic Component Division has production system and operates clean rooms and water (pure water/wastewater) treatment facilities around the clock. These facilities consume significant amounts of energy.

2420, Kureda, Nangoku-shi, Kochi Prefecture 783-0062

Electricity: 48,670,000 kWh
Fuel: 4,042 kℓ (in terms of crude oil)
Water: 854,000 m³
Chemical substances (specified by the PRTR Law): 11,588 kg

INPUT

Kochi Casio

OUTPUT

CO_2	30.3 tons
NOx	12.5 tons
SOx	4.9 tons
Soot and dust:	0.5 tons
Effluent:	763,800 m³
BOD	5.2 tons
Waste generation:	996.4 tons
Landfill:	28.4 tons
Reduction: Simple incineration:	0.1 tons
Reduction: Heat recovery incineration:	0.0 ton
Reduction: Waste reduction by dehydration:	0.0 ton
Reuse and recycling:	968.0 tons
Ratio of landfill to waste generation:	2.9%
Recycling rate:	97.1%

Kochi Casio manufactures TFT LCDs on a 24-hour basis and requires a significant amount of energy for the operation of the production system, air conditioners for clean rooms, etc.

217, Icchohata, Tamaho-cho, Nakakoma-gun, Yamanashi Prefecture 409-3896

Electricity: 15,890,000 kWh
Fuel: 1,741 kℓ (in terms of crude oil)
Water: 489,000 m³
Chemical substances (specified by the PRTR Law): 3,481 kg

INPUT

Kofu Casio (Head Office)

OUTPUT

CO_2	11.4 tons
NOx	4.5 tons
SOx	0.3 tons
Soot and dust:	0.0 ton
Effluent:	391,400 m³
BOD	0.6 tons
Waste generation:	861.0 tons
Landfill:	2.4 tons
Reduction: Simple incineration:	125.0 tons
Reduction: Heat recovery incineration:	64.9 tons
Reduction: Waste reduction by dehydration:	137.2 tons
Reuse and recycling:	531.5 tons
Ratio of landfill to waste generation:	0.3%
Recycling rate:	61.7%

Kofu Casio manufactures TN-type LCDs on a 24-hour basis and requires significant amounts of energy for the operation of the production system, air conditioners for clean rooms, etc.

3-10-6, Imai, Ome-shi, Tokyo 198-8555

Electricity: 20,520,000 kWh
Fuel: 1,202 kℓ (in terms of crude oil)
Water: 273,000 m³
Chemical substances (specified by the PRTR Law): 73,698 kg

INPUT

Casio Micronics (Ome)

OUTPUT

CO_2	11.9 tons
NOx	3.5 tons
SOx	1.4 tons
Soot and dust:	0.0 ton
Effluent:	231,600 m³
BOD	2.4 tons
Waste generation:	430.8 tons
Landfill:	10.1 tons
Reduction: Simple incineration:	0.0 ton
Reduction: Heat recovery incineration:	277.4 tons
Reduction: Waste reduction by dehydration:	88.3 tons
Reuse and recycling:	55.0 tons
Ratio of landfill to waste generation:	2.3%
Recycling rate:	12.9%

Casio Micronics operates W-CSP and COF production system around the clock and uses a large number of chemicals in the W-CSP production process. For the use of water, the plant is reducing usage by recycling water used in the cleaning process.

Domestic Electronics Equipment Division

Share in the entire Casio Group

18% Electricity: 27,226,000 kWh
11% Fuel: 1,015.1 kℓ (in terms of crude oil)
7% Water: 170,100 m³
2% Chemical substances (specified by the PRTR Law): 2,485.0 kg

INPUT

Electronics Equipment Division (Total)

OUTPUT

	Share in the entire Casio Group
CO_2 14,100 tons	16%
NOx 1.5 tons	6%
SOx 3.3 tons	31%
Soot and dust: 0.2 tons	18%
Effluent: 146,600 m³	7%
BOD 7.7 tons	43%
Waste generation: 1,392.0 tons	22%
Landfill: 102.1 tons	69%
Reduction: Simple incineration: 38.8 tons	23%
Reduction: Heat recovery incineration: 0.0 tons	0%
Reduction: Waste reduction by dehydration: 89.5 tons	3%
Reuse and recycling: 1,161.6 tons	37%
Ratio of landfill to waste generation: 7.3%	
Recycling rate: 83.4%	

The Electronics Equipment Division uses less energy than the Electronic Component Division for production system, air conditioners, etc.

4084, Miyadera, Iruma-shi, Saitama Prefecture 358-0014

Electricity: 3,110,000 kWh
Fuel: 11 kℓ (in terms of crude oil)
Water: 11,000 m³
Chemical substances (specified by the PRTR Law): 0 kg

INPUT

Casio Electronic Manufacturing

OUTPUT

CO_2	1,400 tons
NOx	0.0 ton
SOx	0.0 ton
Soot and dust:	0.0 ton
Effluent:	10,000 m³
BOD	0.3 tons
Waste generation:	239.6 tons
Landfill:	1.3 tons
Reduction: Simple incineration:	0.0 ton
Reduction: Heat recovery incineration:	0.0 ton
Reduction: Waste reduction by dehydration:	0.0 ton
Reuse and recycling:	238.3 tons
Ratio of landfill to waste generation:	0.5%
Recycling rate:	99.5%

Casio Electronic Manufacturing manufactures page printer-related products and uses a comparatively small amount of energy.

5400-1, Oaza Higashineko, Higashine-shi, Yamagata Prefecture 999-3701

Electricity: 8,820,000 kWh
Fuel: 533 kℓ (in terms of crude oil)
Water: 68,000 m³
Chemical substances (specified by the PRTR Law): 2,485 kg

INPUT

Yamagata Casio

OUTPUT

CO_2	5,100 tons
NOx	1.1 tons
SOx	2.9 tons
Soot and dust:	0.1 tons
Effluent:	66,800 m³
BOD	7.3 tons
Waste generation:	557.1 tons
Landfill:	6.3 tons
Reduction: Simple incineration:	1.8 tons
Reduction: Heat recovery incineration:	0.0 tons
Reduction: Waste reduction by dehydration:	0.0 tons
Reuse and recycling:	549.4 tons
Ratio of landfill to waste generation:	1.1%
Recycling rate:	98.6%

Yamagata Casio manufactures timepieces and cellular phones. In addition, it is engaged in molding, which leads to significant power consumption.

2-229, Sakuragaoka, Higashiyamato-shi, Tokyo 207-8501

Electricity: 2,210,000 kWh
Fuel: 98 kℓ (in terms of crude oil)
Water: 18,000 m³
Chemical substances (specified by the PRTR Law): 0 kg

INPUT

Tokyo Product Control and Technical Center

OUTPUT

CO_2	1,200 tons
NOx	0.0 ton
SOx	0.0 ton
Soot and dust:	0.0 ton
Effluent:	11,500 m³
BOD	0.0 ton
Waste generation:	85.3 tons
Landfill:	1.3 tons
Reduction: Simple incineration:	6.1 tons
Reduction: Heat recovery incineration:	0.0 ton
Reduction: Waste reduction by dehydration:	0.0 ton
Reuse and recycling:	78.4 tons
Ratio of landfill to waste generation:	1.5%
Recycling rate:	91.9%

The Center is engaged in the development and design of system equipment and uses a relatively small amount of energy.

Overseas Sites

Electronics Equipment Division

Electricity: 12,878,000 kWh
Fuel: 160.3 kℓ (in terms of crude oil)
Water: 250,900 m³

INPUT

Total of the overseas sites of the Electronics Equipment Division

OUTPUT

CO_2	11,464.0 tons
NOx	1.7 tons
SOx	1.1 tons
Soot and dust:	1.7 tons
Effluent:	137,000 m³
BOD	4.5 tons
Release and transfer of chemical substances	1.2 tons
Waste generation:	196.5 tons
Landfill:	112.7 tons
Ratio of landfill to waste generation:	57.4%

Data obtained from the six overseas sites of the Electronics Equipment Division was tabulated.

654-4, Bongam-Dong, Masan, Kyung Sang Namdo, Korea

Electricity: 764,000 kWh
Fuel: 15.2 kℓ (in terms of crude oil)
Water: 13,500 m³

INPUT

Casio Korea

OUTPUT

CO_2	400.0 tons
NOx	0.0 ton
SOx	0.0 ton
Soot and dust:	0.0 tons
Effluent:	12,000 m³
BOD	0.1 tons
Release and transfer of chemical substances	0.0 ton
Waste generation:	20.8 tons
Landfill:	1.9 tons
Ratio of landfill to waste generation:	9.1%

For the reduction of waste generation, Casio Korea identifies and controls the amount of waste generated by each division. Also, for reducing the use of paper, the company identifies the use of copier paper by division.

Jiu Shui Keng Village, Panyu District, Guangzhou City, PRC.

Electricity: 5,746,000 kWh
Fuel: 15.6 kℓ (in terms of crude oil)
Water: 126,500 m³

INPUT

Jiu Shui Keng Casio Electronics Factory

OUTPUT

CO_2	5690.0 tons
NOx	0.0 ton
SOx	0.1 tons
Soot and dust:	0.1 tons
Effluent:	37,200 m³
BOD	1.0 tons
Release and transfer of chemical substances	0.4 tons
Waste generation:	22.1 tons
Landfill:	4.9 tons
Ratio of landfill to waste generation:	22.2%

Jiu Shui Keng Casio Electronics Factory started to manufacture products using lead-free solder in fiscal 2002. Also, the Factory is taking energy conserva-tion measures through appropriate air conditioning and central management of power supplies.
Also, the company returns packaging materials and boxes for electronic parts to suppliers, thereby reducing the amount of waste generated.

Xindade Industry Building, Nanping Street, Nanping Town, Zhuhai, GuangDong, CHINA

Electricity: 1,233,000 kWh
Fuel: 42.2 kℓ (in terms of crude oil)
Water: 33,700 m³

INPUT

Casio Electronics (Zhuhai)

OUTPUT

CO_2	1,321.0 tons
NOx	0.0 ton
SOx	0.2 tons
Soot and dust:	0.1 tons
Effluent:	30,400 m³
BOD	0.4 tons
Release and transfer of chemical substances	0.2 tons
Waste generation:	19.7 tons
Landfill:	0.0 ton
Ratio of landfill to waste generation:	0.0%

Casio Electronics (Zhuhai) returns packaging materials to suppliers for the reuse and recycling of these materials. Also, the company is conserving energy by regularly turning on/off energy-using equipment.

About Data

Domestic sites

●**Energy consumption and the coefficient used for calculating the consumption in terms of CO_2 emissions**
We tabulated the data in line with the method set forth in the electric and electronics industry's voluntary plan for energy consumption and used the coefficient applied in the plan.

●**Waste**
We tabulated the data according to the definitions for emmissions and recycling of waste prescribed by the electric and electronics industry.

●**Air and water**
We used the measurement certification data based on the Air Pollution Control Law and the Water Pollution Control Law.

●**Reuse and recycling**
We tabulated the amount reused and recycled after intermediate processing.

●**Recycling rate**

$$\text{Recycling rate (\%)} = \frac{\text{Amount of reuse and recycling (tons)}}{\text{waste generation (tons)}} \times 100$$

Overseas sites

●**Energy consumption**
For the coefficients to calculate our energy consumption in each country in terms of CO_2 emissions, we used the values shown in the report on the estimation of CO_2 emissions per unit manufactured in the power generation sector of each country published by the Japan Electrical Manufacturers' Association (JEMA) in March 2002.

●**Chemical substances**
We collected data on the ozone layer depleting substances, chlorine organic solvents, and lead solder.

●**For the sites and regulated chemical substances (SOx, NOx, soot and dust, etc.) not listed here, please refer to our Web site: www.casio.co.jp/env/activity/perfomance.html**

TOPICS

Construction of a new building at the Hachioji Laboratory of Casio Computer, and reduction of CO_2 emissions
The new building at the Hachioji Laboratory, which will be completed in November 2003, is equipped with an air conditioning system that utilizes a building energy management system (BEMS), chilled/hot water storage, and natural ventilation, and uses highly insulated window frames and external materials. As a result, within the building, compared to the same area in the existing building, CO_2 emissions will be reduced by 25%.

Kochi Casio's new building achieves a 20% reduction in energy consumption
In Kochi Casio's new building, which adopts power-saving fan filter units, energy-saving (Hf type) lighting equipment, etc., energy consumption will be reduced to 80% of that normally required for the same production output in the same floor space.