
Scope3

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Building a low-carbon society is one of the medium- to long-term goals of the Casio Environmental Vision 2050 and the Casio Environmental Declaration 2020. This will require not only efforts from within the Casio Group, but also a commitment to reducing CO₂ emissions both upstream and downstream in the supply chain. For this reason, Casio has calculated emissions for each category in an effort to help everyone involved "visualize CO₂."

CO₂ emissions for the entire Casio Group supply chain in fiscal 2016 were 849,403 t-CO₂.

- Scope 1 direct emissions (e.g., fossil fuels, natural gas) were calculated at 4,821 t-CO₂.
- Scope 2 indirect emissions (e.g., electricity) were calculated at 35,205 t-CO₂.
- Scope 3 other emissions (e.g., use of sold products and end-of-life treatment of sold products, transportation and distribution, employee commuting, lease assets, and investments) were calculated for 11 of 15 categories (with four lowest-impact categories excluded). When CO₂ emissions were calculated pursuant to the GHG Protocol that serves as the international standard, emissions for fiscal 2016 stood at 809,362 t-CO₂.

As a result, Scope 3 accounted for more than 95% of entire supply chain emissions.

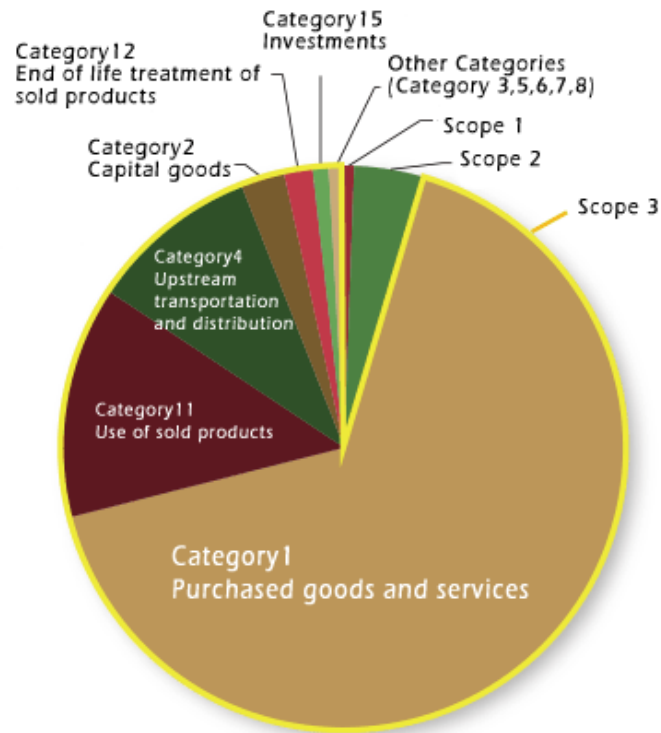
Within Scope 3, purchased goods and services accounted for the greatest share, about 70%.

In the future, the following issues will be addressed:

- Improve calculation accuracy in each category
- Propose and implement emission reduction measures for each category within Scope 3
- Develop measures for reducing emissions both upstream and downstream in the value chain

GHG Protocol: International standards for calculating and reporting greenhouse gas emissions

CO₂ emissions for the entire Casio Group supply chain



Efforts to Ascertain Scope 3

Category		CO ₂ emissions in fiscal 2016	
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Scope 1		4,837	0.6%
Scope 2		35,204	4.1%
Scope 3		809,362	95.3%
1	Purchased goods and services	563,311	66.3%
2	Capital goods	21,287	2.5%

3	Fuel- and energy-related activities not included in Scope 1 or Scope 2	2,526	0.3%
4	Upstream transportation and distribution	82,585	9.7%
5	Waste generated in operations	378	0.0%
6	Business travel	1,234	0.1%
7	Employee commuting	1,253	0.1%
8	Upstream leased assets	2,120	0.32
9	Downstream transportation and distribution	-	-
10	Processing of sold products	-	-
11	Use of sold products	112,905	13.3%
12	End of life treatment of sold products	13,903	1.6%
13	Downstream leased assets	-	-
14	Franchises	-	-
15	Investments	7,800	0.9%
Total		849,403	100%

Category 4: The breakdown for transportation and shipping (upstream) is shown below. (Unit: t-CO₂)

Japan: Truck: 772, Railway: 82

Overseas: Railway: 1,145 Airplane: 74,143 Ship: 16,793

Scope 3 calculation methods

Category 1	Purchased goods and services	<p>Amount of activity: Amount of purchased consumables, raw materials, and packaging materials, salaries of temporary staff, purchased tap water, industrial water, and advertising expenses</p> <p>Unit: Calculated by multiplying each item by the emissions unit of the purchased amount and adding together the total. (Emissions output unit DB ver2.0 and CFP COMMUNICATION PROGRAM DB ver1.01)</p>
Category 2	Capital goods	<p>Amount of activity: Amount of capital investment by all consolidated subsidiaries</p> <p>Unit: Calculated by multiplying the emissions unit corresponding to the amount of capital investment. (Emissions unit DB ver2.0)</p>
Category 3	Fuel-and-energy-related activities (not included in Scope 1 or 2)	<p>Amount of activity: Amount of purchased electricity and fuels</p> <p>Unit: Calculated by multiplying the emissions unit of each type and adding together the total. (CFP COMMUNICATION PROGRAM DB ver1.01)</p>
Category 4	Upstream transportation and distribution	<p>Amount of activity: Amount of domestic and overseas shipment</p> <p>Unit: Calculated by multiplying the weight and transportation distance by the emissions unit of each transportation type and adding together the total. (Trucks: Specific fuel consumption using the improved ton/kilo method. Trains, ships and airplanes: CO₂ emissions output level using the conventional ton/kilo method)</p>
Category 5	Waste generated in operations	<p>Amount of activity: Emissions of each type of waste</p> <p>Unit: Calculated by multiplying the emissions unit of each type and adding together the total (Emissions unit DB ver2.0).</p>
Category 6	Business travel	<p>Amount of activity: Number of domestic and overseas employees</p> <p>Unit: Emissions unit per employee (Emissions unit DB ver2.0)</p>
Category 7	Employee commuting	<p>Amount of activity: Transportation expenses paid to employees</p> <p>Unit: Calculated by estimating the train/car ratio from employee commuting style, multiplied by the emissions unit of the amount of transportation expenses for each style and adding together the total (Emissions unit DB ver2.0).</p>

Category 8	Upstream leased assets	Amount of activity: Domestic G-SHOCK stores, sales area for digital paintings and other and number of business days Unit: Calculated by determining the total sales area, and multiplying the emissions unit of the sales area. The number of business days is calculated on a pro-rate basis (Emissions unit DB ver2.0).
Category 9	Downstream transportation and distribution	Transportation to retailers from the distribution hubs of regular sales companies is outside the scope of Casio's expense payment. Since this is difficult to ascertain and the CO ₂ emissions are deemed to be fairly small compared to Category 4 upstream transportation and distribution, it is not included in calculations.
Category 10	Processing of sold products	Although one of our group companies provides name printing and other services, emissions of CO ₂ and other substances from this business activity is included in Scopes 1 and 2.
Category 11	Use of sold products	Amount of activity: Number of products by category Unit: Use of products is calculated by multiplying the emissions unit of each product for the supported period (five years). Regarding the use period, any industrial standards are followed. In cases such industrial standard does not exist, the use period is defined by CASIO. Regarding electricity, the fiscal 2012 end-user CO ₂ emissions unit of the Federation of Electric Power Companies of Japan is used. Regarding products that require battery replacement, CO ₂ emissions to manufacture the battery are also included in the calculation.
Category 12	End of life treatment of sold products	Amount of activity: Emissions from the product itself and container packaging materials Unit: Calculated by multiplying the emissions unit of each type and adding together the total (Emissions unit DB ver2.0)
Category 13	Downstream leased assets	Due to the disposal of relevant buildings, it is not subject to calculation from fiscal 2016.
Category 14	Franchises	The franchise formula is not used.
Category 15	Investments	Amount of activity: Emissions from equity method affiliates and companies which hold specific annual stocks and constructive stocks Unit: Calculated by multiplying the emissions from investment destinations by the equity method ratio or the share holding ratio.