

Enhancing Quality of Life

CSR Themes ①



Pursuing Environmental Management Amount of CO₂ Emissions by Scope 3

From actual data gathered by one of our group companies, KOMTRAX, Komatsu has gained perspective on the amount of CO₂ emissions (Scope 3 Category 11) produced by our products in operation world-wide. The calculation was performed as follows.

Calculation of Emissions from Customer Use

(1) Calculate the following by each model

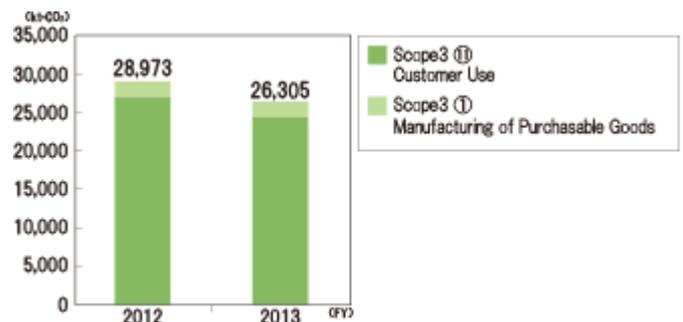
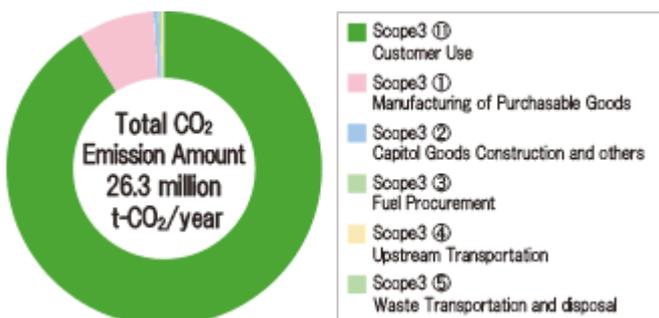
CO₂ emissions over the life of each model

$$= (2013 \text{ Production Volume}) \times (\text{Fuel Consumption; L/kWh}) \times (\text{Engine Output; kW}) \\ \times (\text{Engine Life; as product life; h}) \times (\text{CO}_2 \text{ Conversion Factor})$$

(2) Calculated for each model in (1) above, Total these values

*For models available to collect fuel consumption, KOMTRAX collected the actual values of fuel consumption and operating time from representative models of each size. We back calculated data from development for other models.

For others, including the 14 remaining categories, the general CO₂ emissions was calculated. The result is shown in the pie chart below.



*1 :LCA is the environmental impact assessment method for individual products at each stage, from manufacture, transportation, sale, use, disposal, to reuse

*2 :Scope1 is direct CO₂ emissions by operator(ex: private power generation)

*3 :Scope2 is indirect CO2 emissions by operator(ex: power purchase)

*4 :Scope3 is CO2 emissions by operator from supply chain (ex: emissions of product during operation, emissions from suppliers, transportation, business trips and commuting)

Amount of CO₂ Emissions Data by Scope 3

| Category | Rate % | Summary Data t-CO ₂ | |
|---|--------------|--------------------------------------|---------------|
| Scope3(11)Customer Use | 90.8 | Independent Practitioner's Assurance | ✓ 23,880 |
| Scope3(1)Manufacturing of Purchasable Goods | 7.9 | Independent Practitioner's Assurance | ✓ 2,079 |
| Scope3(2)Capital Goods Construction and others | 0.5 | Independent Practitioner's Assurance | ✓ 128 |
| Scope3(3)Fuel Procurement | 0.3 | Independent Practitioner's Assurance | ✓ 84 |
| Scope3(4)Upstream Transportation disposal | 0.1 | Independent Practitioner's Assurance | ✓ 17 |
| Scope3(5)Waste Transportation | 0.0 | Independent Practitioner's Assurance | ✓ 8 |
| Scope3(6)Business Trips | 0.1 | Independent Practitioner's Assurance | ✓ 27 |
| Scope3(7)Commuting | 0.1 | Independent Practitioner's Assurance | ✓ 19 |
| Scope3(8)Upstream Leased Assets Operation | - | | - |
| Scope3(9)Downstream Transportation | 0.2 | Independent Practitioner's Assurance | ✓ 63 |
| Scope3(10)Processing Sold Products | - | | - |
| Scope3(12)Transportation for Product Disposal | - | | - |
| Scope3(13)Downstream Leased Assets Operation | - | | - |
| Scope3(14)Franchise Member Companies | - | | - |
| Scope3(15)Investment Management | - | | - |
| Total CO₂ Emission Amount (t-CO₂/year) | 100.0 | | 26,305 |

- Although it is calculating in the total range of domestic and an overseas in calculation of each category, the category (4) and (5) is calculating only domestic data. Moreover, presumption of a category (3) goes into overseas data in part.

As evident from the results above, emissions during product use makes up approximately 90% of total emissions.

From this, we can see that fuel-efficient products have a significant effect on reducing CO₂ emissions.

Komatsu is committed to developing hybrid construction machinery (improving fuel efficiency by 25%) and DANTOTSU products (over 10% improvement in fuel efficiency) and accelerating the pace of ICT-based computer-aided construction.

In addition, the result of the understanding in the LCA * 1 (Life Cycle Assessment) is the pie chart below.

«Reference»

Pie Chart of Scope1, 2, 3

