

Product lifecycle and environmental impact

301-1,302-1,305-1,305-2,
305-3,305-7,306-1,306-2

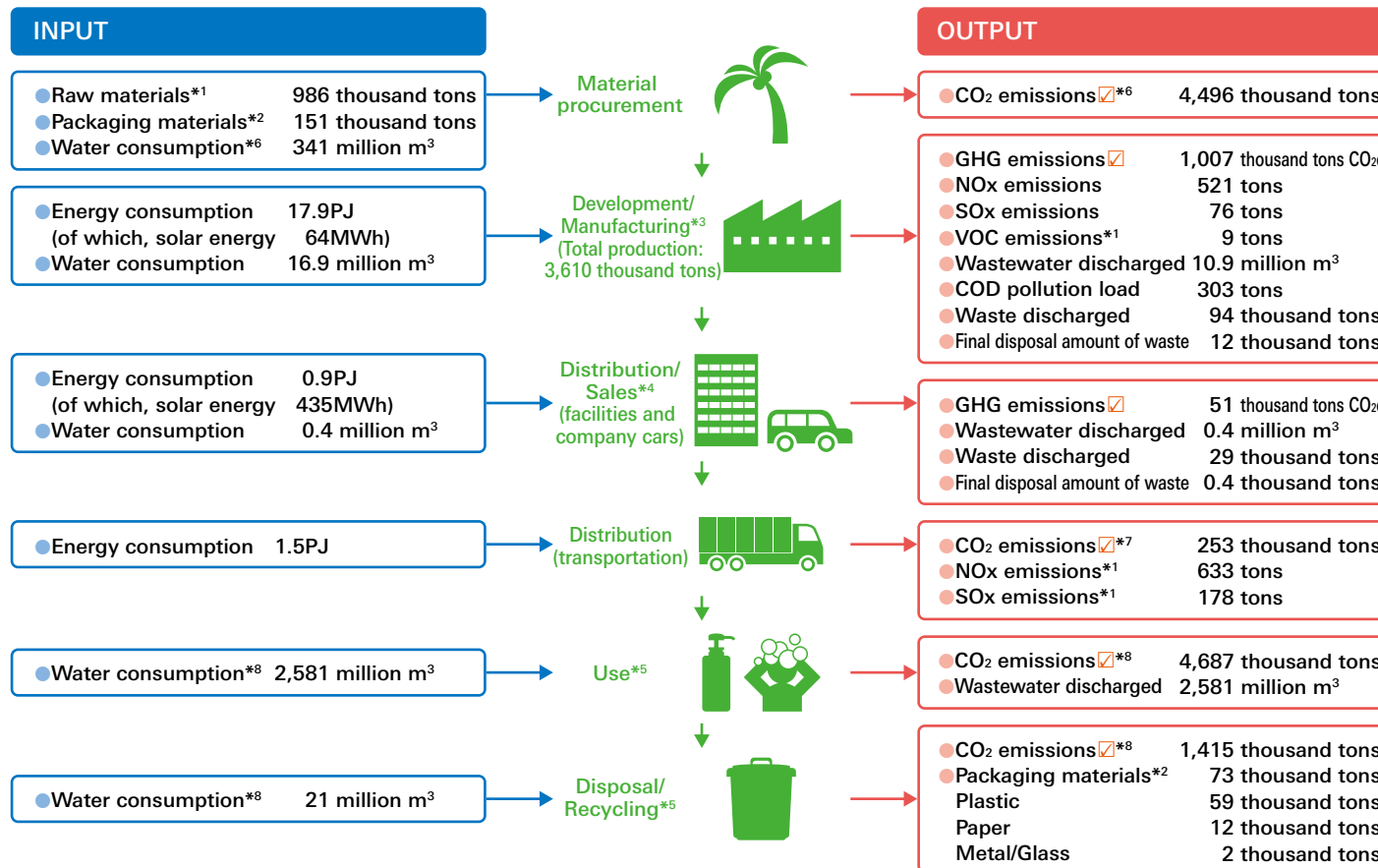
Kao's approach

Our initiatives

Kao's approach

Kao is pursuing efficient resource utilization across the product lifecycle, as well as technologies to achieve further resource and energy savings.

2017 business operations and environmental impact



Boundary of calculations

- *1 Kao Group in Japan
- *2 Kao Corporation
- *3 All production sites
- *4 All non-production sites (including training facilities, company dormitories, etc.)
- *5 Consumer products
- *6 Calculated by multiplying the per unit CO₂ emissions and water usage in the raw materials production stage (excluding Kao Group manufacturing processes) by the annual sales number of consumer and industrial products in 2017.
- *7 Consumer products and industrial products. Figures for Japan are calculated based on the Energy Conservation Act. Figures for outside Japan are calculated multiplying the per unit CO₂ emissions during transport (calculated based on figures for Japan) by the quantity sold in each country and the estimated domestic transport distance in each country.
- *8 Calculated by multiplying the per unit CO₂ emissions and water usage during use or per unit CO₂ emissions and water usage during disposal by the annual sales number of consumer products in 2017.

Conservation

Community

Corporate Culture

Governance

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INPUT

- **Raw materials**
The amount of raw materials directly used to manufacture products (excluding packaging materials and fuel)
- **Packaging materials**
The amount of packaging used for products sold (including corrugated box)
- **Energy consumption [product development/manufacturing]**
Total amount of energy consumed at manufacturing sites
- **Energy consumption [distribution/sales (facilities and company cars)]**
The amount of energy consumed at non-production sites and by vehicles (used for sales activities)
- **Energy consumption [transportation]**
The amount of energy consumed during transportation of consumer products (from plants to distribution bases), industrial products, raw materials, etc.
- **Water consumption**
Industrial water, municipal water, underground water, rainwater consumed

OUTPUT

- **GHG emissions**
Total amount of greenhouse gas emissions from sites (seven GHGs defined in the Kyoto Protocol) (in CO₂ equivalent, Scope 1+2)
- **CO₂ emissions**
The amount of CO₂ emitted from manufacturing raw materials, consuming energy and decomposition of ingredients
- **Wastewater discharged**
The amount of wastewater discharged at production sites and consumer product use stages
- **COD pollution load**
The amount of COD pollution load in wastewater
- **Waste discharged and final disposal amount of waste**
Of the waste generated from sites, the amount that is sold or entrusted as waste or recyclable materials to waste treatment companies, and the amount of waste for final disposal
- **Packaging materials**
Total amount of packaging materials (excluding corrugated box) used for products sold
- **VOC emissions**
Total amount of VOCs (volatile organic compounds) emitted into the atmosphere from production sites
- **NO_x emissions**
Total amount of NO_x emissions from smoke-and-soot-emitting facilities and transportation
- **SO_x emissions**
Total amount of SO_x emissions from smoke-and-soot-emitting facilities and transportation

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