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Kao Corporation

Companies' approach

□ Background and purpose of accounting

- After conducting a company-wide life cycle assessment (LCA), it was discovered that the hot spot was Scope 3. Based on that result, we announced the “Kao Environmental Statement” in 2009 with the goals of reducing company-wide CO2 emissions on a life-cycle basis and reducing water usage in the product usage phase.
- In order to understand the progress in achieving the above goals and to promote reduction activities, we are accounting for company-wide life cycle CO2 emissions and water usage in the product usage phase.

□ Utilization of accounting results

- We are using LCA in product development.
- Reduction of life cycle CO2 emissions is a display standard requirement for the “Eco Together” mark (product environment label).
- To answer to questions from clients on environmental load of individual products.
- The results are being used to report the progress in achieving the above goals in our sustainability data book, to introduce our activities at the Kao Eco Lab Museum and various environmental exhibits, and to respond to various questionnaires.

□ Benefits of accounting

- Making the environmental load throughout the value chain “visible” will help sustain the global environment. By exposing the hot spot, we are able to take effective countermeasures.
- Accounting helps us avoid risks and create business opportunities.
- Our analysis showed that emissions were large impact in the product usage phase. Therefore, we have been developing products with lower environmental loads in the usage phase. In addition to “Eco Together” with customers in this way, we are also calling for “Eco Together” with our business partners and all of society in order to make efforts from the point of view of life cycles.

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Kao Corporation

Companies' approach

Internal system for accounting

- Accounting is conducted for individual products and with our internal system that calculates the company LCI data . About 10,000 products are in the product database, and by linking the various internal databases we are making registration work more efficient.
- Employees in charge of product development implement LCA for products under development by using the data in the above systems, and that information is used in product development activities.

Efforts to reduce supply chain emissions

- In the raw materials procurement stage we are reducing materials by making products more compact, reducing the weight of containers, using refillable products, etc. As part of “Eco Together,” we have recognized the need for cooperation with our suppliers.
- We have implemented various reduction activities at factories and operation centers for the production stage.
- With regard to the usage stage, we are developing and providing products that reduce the load during use. For example, we are making laundry detergents that only require one rinse cycle.
- For the waste stage, we are reducing materials by making containers lighter and promoting the use of refills. In addition, we are also promoting the introduction of bio-polyethylene, etc.

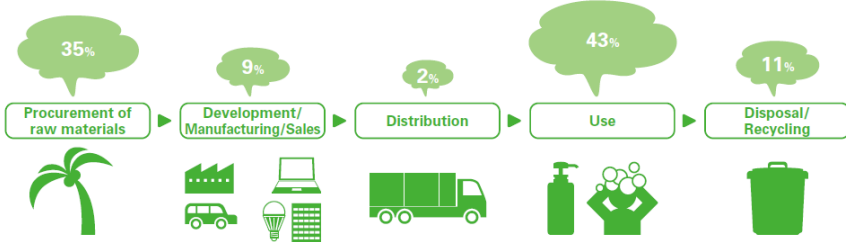
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Companies' approach

Issues in supply chain emissions accounting

- Tasks for society as a whole include producing calculation tools and databases, and spreading accounting tools, so that anyone can conduct an LCA easily.

Overall CO₂ Emissions throughout the Lifecycle of Kao Products (2016)



Other

- We have been developing and improving our own LCI database on main raw materials, based on supplier surveys.

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Kao Corporation

Category	Accounting methods	
	Activity data	Emission factor
Category 1: Purchased goods and services	<ul style="list-style-type: none"> Raw materials input 	<ul style="list-style-type: none"> Actual data from supplier investigation Third-party's database Literature
Category 2: Capital goods	<ul style="list-style-type: none"> Investment amount 	<ul style="list-style-type: none"> MOE-Database
Category 3: Fuel and energy related activities not included in Scope 1 or 2	<ul style="list-style-type: none"> Purchased amount 	<ul style="list-style-type: none"> MOE-Database
Category 4: Transportation and delivery (upstream)	<ul style="list-style-type: none"> Raw materials input, the Act on the Rational Use of Energy Product volume is calculated according to the Energy Saving Act as a specific cargo owner 	<ul style="list-style-type: none"> Emission factor based on the Act on the Rational Use of Energy in Japan
Category 5: Waste generated in operations	<ul style="list-style-type: none"> Waste weight 	<ul style="list-style-type: none"> MOE-Database
Category 6: Business travel	<ul style="list-style-type: none"> Number of employees 	<ul style="list-style-type: none"> MOE-Database
Category 7: Employee commuting	<ul style="list-style-type: none"> Number of employees 	<ul style="list-style-type: none"> MOE-Database
Category 8: Leased assets (upstream)	<ul style="list-style-type: none"> Included in Scope 1 and 2 	-
Category 9: Transportation and delivery (downstream)	<ul style="list-style-type: none"> Product volume 	<ul style="list-style-type: none"> Kao's original database
Category 10: Processing of sold products	<ul style="list-style-type: none"> Product volume 	<ul style="list-style-type: none"> Kao's original database

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Kao Corporation

Category	Accounting methods	
	Activity data	Emission factor
Category 11: Use of sold products	<ul style="list-style-type: none"> Based on the scenario set up 	<ul style="list-style-type: none"> Emission factor based on the Act on the Rational Use of Energy in Japan
Category 12: End-of-life treatment of sold products	<ul style="list-style-type: none"> Based on the scenario set up 	<ul style="list-style-type: none"> Third-party's database
Category 13: Leased assets (downstream)	<ul style="list-style-type: none"> Not applicable 	-
Category 14: Franchises	<ul style="list-style-type: none"> Not applicable 	-
Category 15: Investments	<ul style="list-style-type: none"> Investment amount (stocks held are subject) 	<ul style="list-style-type: none"> MOE-Database
Other	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">

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Accounting results

- Supply chain emissions

