

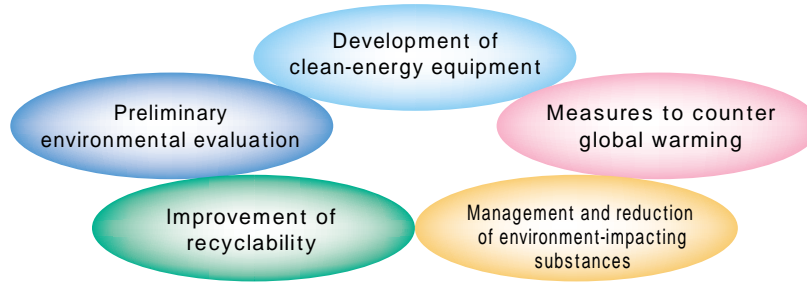


# Development and Design

## Basic Approach

Based on our Environmental Action Plan, we consistently prioritize not only the control and reduction of environment-impacting substances, but also, as a global citizen, strive towards the development of clean energy devices, and the presentation to the world of ever-better products.

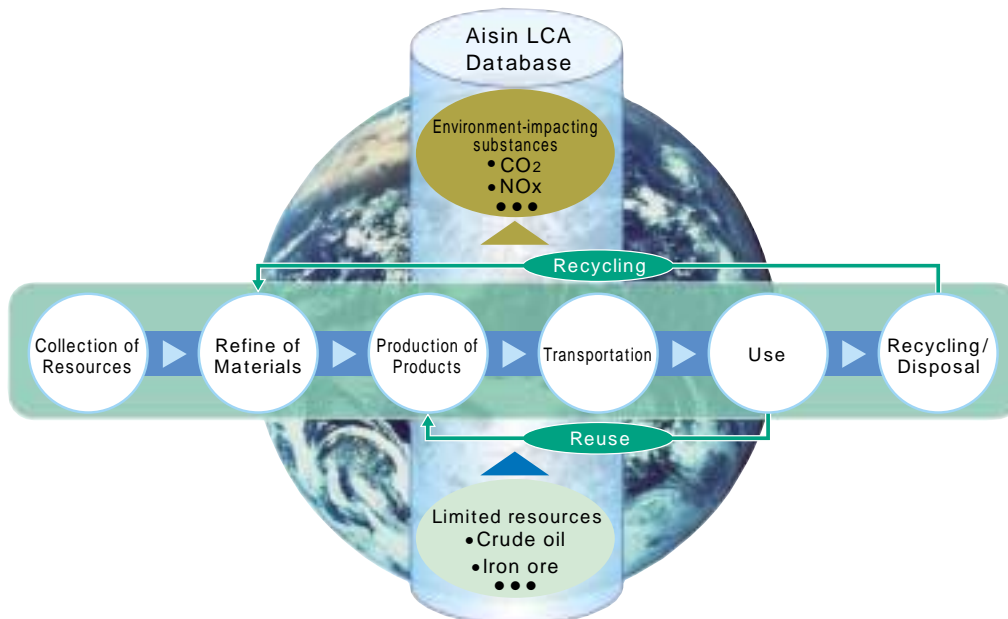
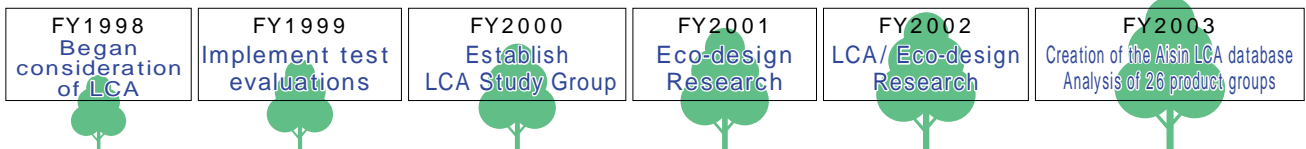
Develop and design low environmental impact, highly functional, high quality products



## Research into Environmental Pre-evaluation Systems (LCA)

Aisin has been implementing LCA (Life Cycle Assessments) since FY1998 in order to bring forth products having low impact on the global environment. We have created a system that enables us to analyze and reduce the environmental impact of products at every stage, from collection of raw materials to product manufacturing, usage, and disposal. LCA is still limited in terms of its

effect-evaluation method, unit data, and other aspects. Aisin is striving to address areas that are incomplete through the creation of our own proprietary LCA database. We are continuing to work toward enhancing analysis technology as well as the environmental friendliness of our products in order to achieve our targets of better analysis, better evaluation, and better product development.



LCA...A method of assessing the extent of the environmental impact of a product throughout its life cycle, from the mining of its raw materials to production, transportation, usage, and disposal



## Examples of LCA for Aisin Products

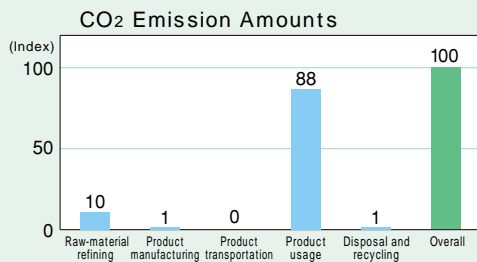
We have classified our products into 26 groups and conducted LCA, which has allowed us to analyze the environmental-impact trends of each product group. This data serves as the basis for assessing which product groups and stages deserve scrutiny in order to reduce

environmental impact efficiently, and we will continue to devote efforts to development and enhancements geared toward bringing the world ever better products.

### 【CO2 Emissions Data】

#### Automotive Parts

##### 1. Door Frame

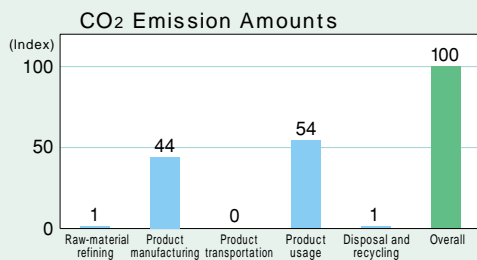


The amount of CO<sub>2</sub> emissions in the "product manufacturing" stage accounts for 88% of the total. Accordingly, we learned that the keys to reducing CO<sub>2</sub> emissions lie in measures to suppress fuel consumption during vehicle travel, such as by making parts more lightweight.



Door Frame

##### 2. Piston



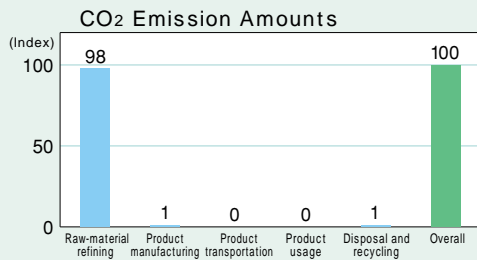
The amount of CO<sub>2</sub> emissions in the "product manufacturing" stage accounts for 44% of the total. Accordingly, we learned that the keys to reducing CO<sub>2</sub> emissions lie not only in measures to suppress fuel consumption during vehicle travel, but also in making the production processes more efficient.



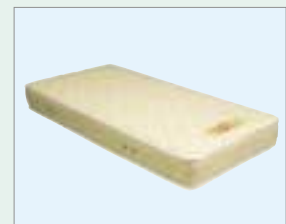
Piston

#### Life & Amenity related Products

##### 1. Mattress



The amount of CO<sub>2</sub> emissions in the "raw-material refining" stage accounts for 98% of the total. Accordingly, we learned that the keys to reducing CO<sub>2</sub> emissions lie in selecting materials that offer not only quality and functioning, but also superior environmental friendliness.



Mattress

Note...Product analysis is based on information from the Aisin LCA database. Data for the "product manufacturing" stage includes only data from in-house production lines. Data from suppliers or the like is not included.