Specific Image of Outside Contributions (in the case of an air conditioner)

Basic Conditions

- The best room air conditioner in the industry (one that is able to cut electrical power consumption)
- Location of research and development: Kawasaki City
- Location of the full process from raw material procurement, production, distribution, use, maintenance, and management to disposal and recycling: outside Kawasaki City

Outside Contributions ① × ② × ③ = 319 t-CO_2

①Net outside reductions based on lifecycle evaluation

	Procurement of raw materials	Production	Distribution/ Sales	Use/ Maintenance/ Management	Disposal/ Recycling
Outside emissions from conventional products	–40 kg -CO_2/unit	+12 kg -CO_2/unit	±0 kg -CO_2/unit	–600 kg -CO_2/unit	–10 kg- CO_2/unit

Net reduction is the difference between the total outside emissions from conventional products and those of new products through the full lifecycle. It represents reductions per unit product.

Reduction in outside emission by new products
Increase in outside emission by new products

Net reductions
=–40+12+0–600–10
=**–638 kg–CO_2/unit**

<Example of the approach>

Functional Unit	Manufacturing of one air conditioner, in use for six years (service life) on the basis of 18 hours per day (periodic power consumption) * Based on the Japan Registration and Air Conditioning Industry Association Standards
Products and technologies for comparison	Old product models of each company
Range of Evaluation	Procurement of raw materials, production, use, maintenance, management, disposal, and recycling
Data collection	Measurements by each company, LCA database, collection of data from national statistics on the amount of activities and output level

②Rate of contribution to the reduction in emissions

Rate of contribution to the reduction in emissions represents the rate of reduction in emissions (expressed as a percentage value) contributed by a business operation in the City through the use of a specific product or technology.

The rate of contribution to a reduction in emissions through the use of research and development efforts for an air conditioner=**10%**

<Example of the approach>
The rate of 10% is based on the ratio of intermediate inputs in research and the endogenous sector total in the consumer electrical appliance category of the Kawasaki City Inter-Industry Relations Table.

③Number of units sold outside Kawasaki City

The number of units sold outside Kawasaki City is the difference obtained by deducting the number of units sold within the city from the total number of units sold of the product or technology in question.

The number of units sold outside Kawasaki City=**5,000 units**

<Example of the approach>
If the total number of units sold is 5,500 units and 500 of them were sold in the City, the number of units sold outside Kawasaki City would be 5,000 units.

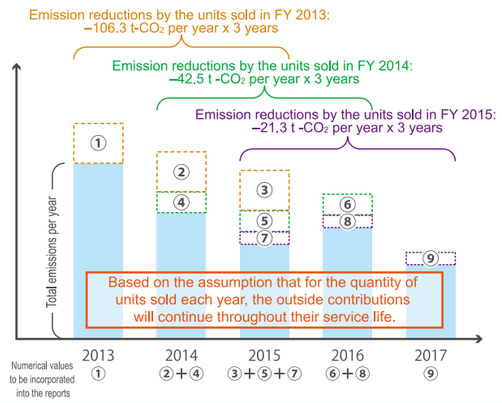
A diagram for incorporating outside contributions into the system for the Planning/ Reporting of Anti-Global warming Measures in Business Activities (an example)

Basic Conditions

- Net outside reductions based on lifecycle evaluation: 638 kg -CO_2/unit
- Rate of contribution to emission reduction: 10%
- Amount sold outside the City: 5,000 units in FY 2013, 2,000 units in FY 2014, 1,000 units in FY 2015, 0 units in FY 2016 and thereafter
- Service Life: Three years

Rules for Incorporation

1. The emission reduction effects of all units sold shall continue throughout their service life.
2. Incorporate the value obtained from dividing the outside contributions by the service life. (years)



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Kawasaki Mechanism Certification System

Realization of a low carbon society through a favorable cycle of the environment and the economy

Starting operation in FY 2013

A strength and characteristic of Kawasaki City is its effort in promoting a reduction in greenhouse gas (GHG) emissions on a global basis by leveraging high quality environmental technologies. As one of its related initiatives, Kawasaki City has initiated the Kawasaki Mechanism Certification System to mark the contribution to GHG emission reductions outside the city (outside contributions) made through the use of environmental technologies of enterprises within the City and to facilitate the appropriate evaluation of these enterprises in the market.

Basic Concepts of the Kawasaki Mechanism

- Further promotion of the effort for global GHG emission reductions by leveraging the environmental technologies of business operations within the City
- Promotion of international contributions and industrial development through the use of environmental technologies
- Development of a mechanism in the market that facilitates the appropriate evaluation of business operations, which contribute to GHG emission reduction on a global basis

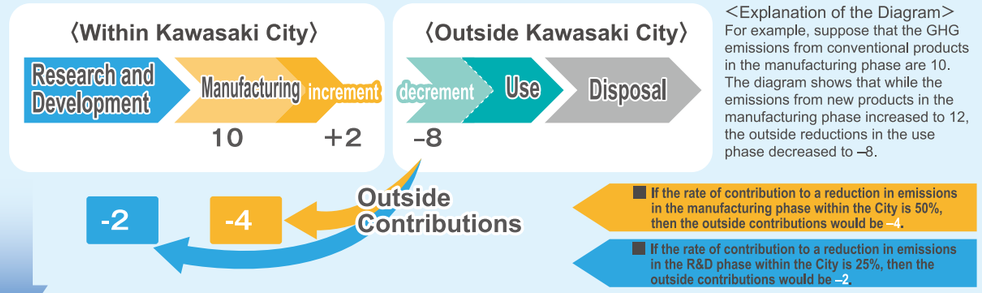
KAWASAKI CITY
川崎市

What is the Kawasaki Mechanism?

The Mechanism certifies the contribution to GHG emission reduction outside the City (outside contributions) via excellent environmental technologies, such as products and technologies from business operators within the city, throughout the lifecycle from the procurement of raw materials to disposal and recycling, including an evaluation together with the direct GHG emissions of the business operators.

■ Phases of the Lifecycle of Products/Technologies

○A Diagram of the Evaluation of Outside Contributions

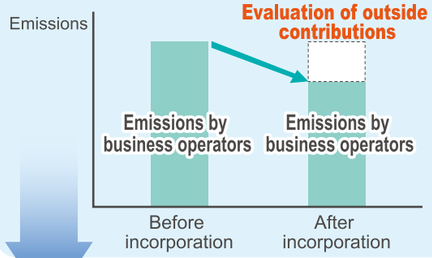


<Explanation of the Diagram>
For example, suppose that the GHG emissions from conventional products in the manufacturing phase are 10. The diagram shows that while the emissions from new products in the manufacturing phase increased to 12, the outside reductions in the use phase decreased to –8.

Benefits of the Kawasaki Mechanism certification for business operators

○Incorporation of outside contributions into the system of Planning and Reporting of Anti-Global warming Measures in Business Activities based on the Ordinance*

(*Kawasaki City Ordinance on the Promotion of Measures against Global Warming)



○Collaboration with Low CO_2 Kawasaki Brand Project

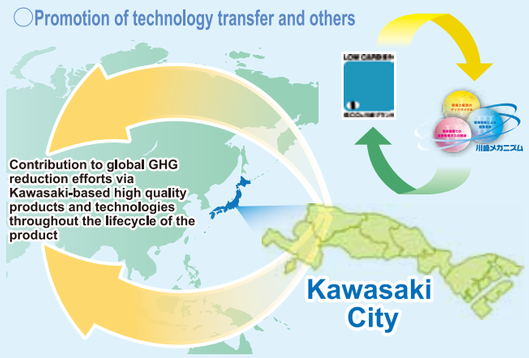
Part of its application is that it can be used of certification procedures of the Low CO_2 Kawasaki Brand Project. If a product satisfies the requirements, it can receive a Low CO_2 Kawasaki Brand certification.

○Use of the Logo

Certified business operators are allowed to use the logo of the Kawasaki Mechanism.

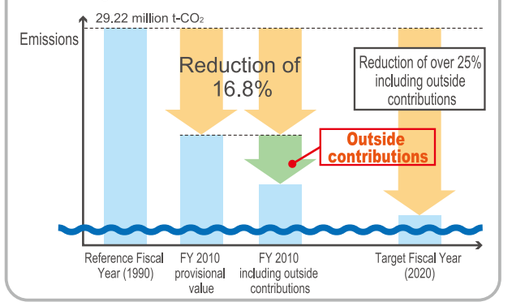
Further promotion of international contribution through the use of environmental technologies

○Promotion of technology transfer and others



Use it as a means to manage progress in the city's reduction targets

○A diagram for achieving the objectives of the Kawasaki City Basic Plan for the Promotion of Measures Against Global Warming



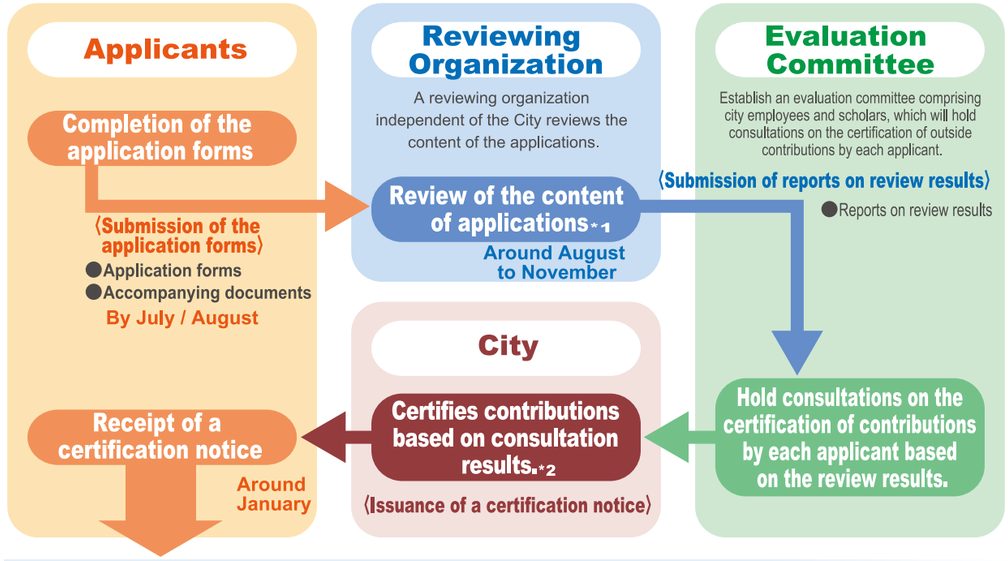
We will work towards incorporating the Mechanism into national systems, in order to achieve appropriate evaluation of Kawasaki-based high quality products and technologies on a national level.

General Flow of the Implementation of the Kawasaki Mechanism (annual schedule)

The Kawasaki Mechanism and the Low CO_2 Kawasaki Brand Project will operate in collaboration with each other according to the following schedule:

City

Project briefing (briefing on project content and application procedures) ·····around May
Calculation workshop (explanation of calculation of outside contributions) ·····around June
Individual consultation and calculation support (individual consultation on completion of application forms for each product or technology) ·····around June / July
*Acceptance of applications starts around May / June.



Incorporation into the Planning and Reporting System and Use of the Logo

*1 Review: To check whether the calculations in the application forms are done in accordance with the calculation guidelines, etc.
*2 Certification: To certify contributions specified on the application forms.

Criteria for Certification Review

Based on the calculation guidelines for outside contributions, an examination is made to ensure fairness and accuracy of the following items regarding products and technologies for review:

●Basic elements for outside contributions (elements of the products/technologies for review)

Establishment of types of contribution activities outside the City; full lifecycle-based approach to reduction; expandability, uniqueness, and innovation

●Specific methods for quantifying outside contributions

○Methods to calculate net outside reductions based on lifecycle evaluation

Methods to establish products/technologies for review Methods to establish a functional unit
Methods to establish products/technologies for comparison Methods to establish the range of evaluation
Methods to collect data

○Methods to set the degree of contribution (rate of contribution to emission reduction) for business operators in the City

Methods to establish the rate of contribution to emission reduction Methods to obtain data

○Methods to obtain data on the amount of units sold outside the City

Timing of calculations and the amount of units sold Methods to obtain data on the amount of units sold