



# Environmental Data Book 2020

**ROHM Co.,Ltd.**

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○ Period covered by this Report

Fiscal year 2019: April 1, 2019 to March 31, 2020

○ Scope of this Report

Covering 14 domestic bases and 9 overseas bases

Although RMT was not eligible for aggregation from FY2011 to FY2016 under the influence of the flood in Thailand, it was added from FY2017.

Kionix is not eligible for aggregation currently.

ROHM Shiga Plant is eligible for aggregation from FY2018.

○ Abbreviated names for the Overseas Affiliates

In this Report, the names of the Overseas Affiliates are abbreviated as follows:

REPI: ROHM Electronics Philippines, Inc.	(Philippines)
RIST: ROHM Integrated Systems(Thailand) Co.,Ltd.	(Thailand)
RSC: ROHM Semiconductor(China) Co.,Ltd.	(China)
REDA: ROHM Electronics Dalian Co.,Ltd.	(China)
RWEM: ROHM-Wako Electronics(Malaysia) Sdn.Bhd.	(Malaysia)
RMPI: ROHM Mechatech Philippines, Inc.	(Philippines)
RMT: ROHM Mechatech(Thailand) Co.,Ltd.	(Thailand)
Kionix: Kionix, Inc.	(USA)

## Environmental Policy

### ROHM's Environmental Policy

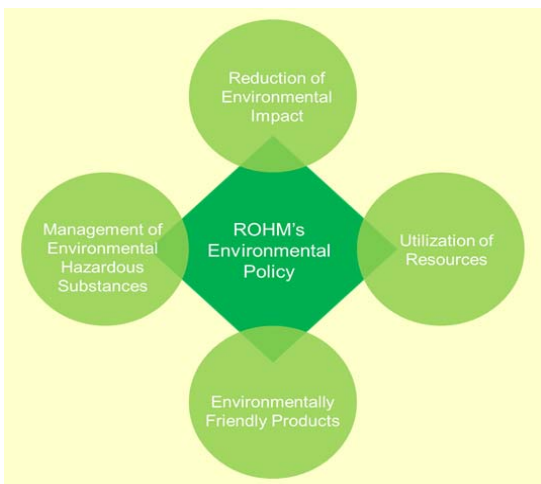
**ROHM's everlasting conscientiousness to preserve the global environment contributes to the healthy existence of humanity and to the continued prosperity of the company.**

1. Conserve energy by initiating innovative methods in all corporate activities.
2. Develop environmentally-conscious products that minimize the environmental burden by employing responsible processes throughout the life cycle of each product.
3. Give priority to the procurement of materials and products that have the least levels of adverse impact on the environment.
4. Promote effective utilization of resources and strive for the prevention of pollution and conservation of biodiversity toward the realization of a sustainable society.
5. Comply with international and national environmental laws and regional agreements and other customer requirements to which we have agreed.
6. Endeavor to train employees and encourage our constituents to actively care for their surroundings and the global environment.
7. Develop positive relationships with the community through contributions to the local environment and the proper disclosure of environmental data.
8. Continuously improve subjects by creating and carrying out the environmental targets, and their action plans to enhance environmental performance.

ROHM established an Environmental Policy applicable to the entire ROHM Group on October 20, 1997 pursuant to the provisions in the International Environmental Standards ISO 14001.

In response to the 2015 revision of ISO 14001, item No.4,5,8 were added and revised on March 3, 2017.

### ROHM's Approaches toward Global Environmental Conservation



ROHM has been working on a variety of environmental conservation activities centering on the Environmental Policy.

We believe that corporate activities contributing to the environment are to manufacture environmentally friendly products and yet to reduce our own environmental impact in manufacturing them.

Particularly for the prevention of global warming, we are active in a range of the reduction of CO<sub>2</sub> emitted from our business operations and other greenhouse gases emitted from supply chain.

In addition, we will define long-term environmental targets and policy from the perspective of biodiversity, and have approaches to realize sustainable society.

## Outline of ROHM's Environmental Conservation Activities

# 2020 ROHM Group Environmental Targets

### ○Response to Legal Requirements

We shall certainly comply with environmental laws and requirements relating to all business activities and voluntarily promote to reduce the environmental impacts.

### ○Targets of Voluntary Activities

#### 1. CO<sub>2</sub> production countermeasures in each site

[Policy] Work to help stop global warming through overall energy conservation and the reduction of global greenhouse gas emission.

[2020 Targets] (1) Reduce CO<sub>2</sub> emission by 25% in FY2020 from the actual results of FY2005.

(2) Reduce CO<sub>2</sub> emission per production unit by 50% in FY2020 from the actual results of FY1990.

(3) Reduce global greenhouse gas emission (PFC's, SF6, and etc.) by minimum 50% in FY2020 from the actual results of FY1995.

#### 2. CO<sub>2</sub> countermeasures through value chain

[Policy] With the scientific techniques and various kinds of calculation tools including LCA, CO<sub>2</sub> reduction activities are promoted.

By developing the eco-friendly products in alignment with 'NEXT50', contribution to the CO<sub>2</sub> reduction at the time of use is considered.

[2020 Targets] (1) Reduce CO<sub>2</sub> emission through the value chain by 10% in FY2020 from the actual results of FY2010.

(2) Increase the ratio of eco-friendly products developments to 100% by FY2020.

#### 3. Reduction of environmental impact

[Policy] Reduce the amount of materials discharged to the air and water, and strive to preserve the Global environment.

[2020 Targets] (1) Reduce the amount of handling volume of PRTR substances per production unit by 10% in FY2020 from the actual results of FY2010.

(2) Reduce VOC emission by 40% in FY2020 from the actual results of FY2000.

#### 4. Effective use of resources

[Policy] Strive for the effective use of valuable resources and the protection of water resources that are fundamental to environmental biodiversity.

[2020 Targets] (1) Maintain zero emission in domestic group consolidated and reduce waste generation per production unit by 40% by FY2020 from the actual results of FY2000.

(2) Reduce waste generation per production unit in overseas group consolidated by 60% by FY2020 from the actual results of FY2000.

(3) Reduce water input volume per production unit by 30% in FY2020 from the actual results of FY2009.

#### 5. Promotion of original environmental activities in each site

[Policy] In consideration of the environmental impact in site, implementation of a new project, etc., set up an original target and carry out an environmental activity.

[2020 Targets] Considering it as the activity which can be completed at a given single fiscal year, the targets does not set it.

## Outline of ROHM's Environmental Conservation Activities

### Targets and Results based on Environmental Policy

The ROHM Group defines targets and approaches based on the environmental policy and 2020 targets to formulate an action plan each year toward the accomplishments of the targets and approaches and promote positive activities.

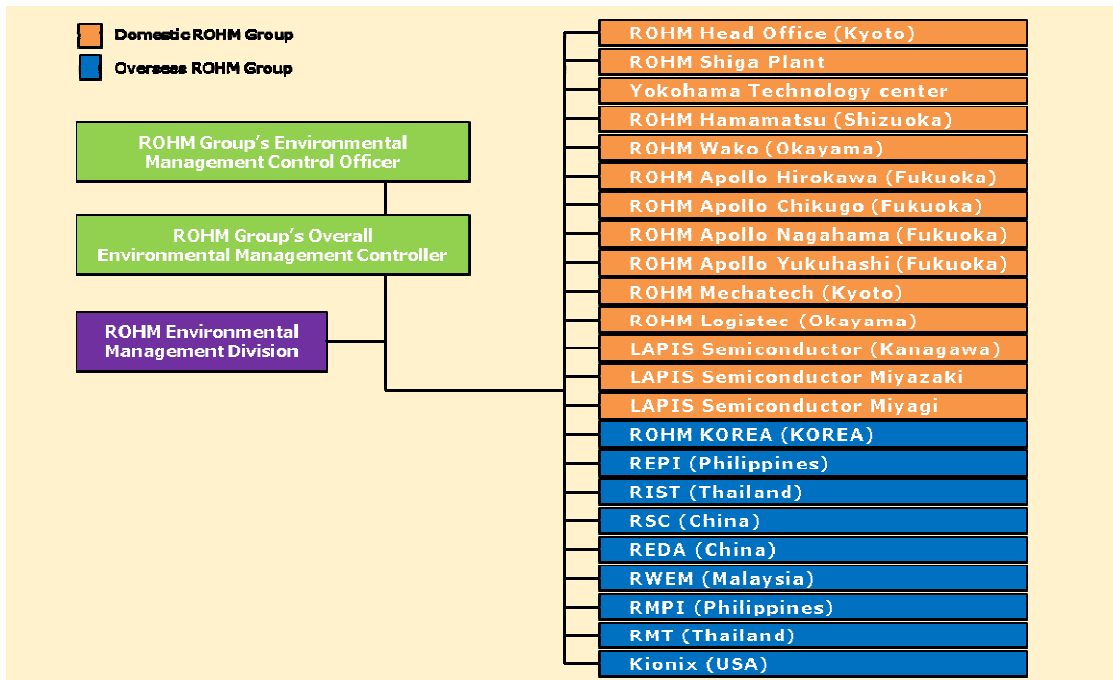
#### 【Targets and Results in Fiscal Year 2019】

Targets in Fiscal Year 2019	Results in Fiscal Year 2019	Evaluation
<b>【CO<sub>2</sub> production countermeasures in each site】</b>		
①-1 Reduce FY2019 CO <sub>2</sub> emission by 0.5% from currently predicted value according to the quantity of production of FY2019 by self-help efforts.	①-1 CO <sub>2</sub> emission was reduced by 7.3% from currently predicted value according to the quantity of production of FY2019 by self-help efforts.	☆☆
①-2 Reduce FY2019 CO <sub>2</sub> emission by 0.5% from currently predicted value according to the quantity of production of FY2019 by introducing renewable energy.	①-2 CO <sub>2</sub> emission was reduced by 1.8% from currently predicted value according to the quantity of production of FY2019 by introducing renewable energy.	
② Reduce CO <sub>2</sub> emission per production unit by 1% in FY2019 from the actual results of FY2018.	② CO <sub>2</sub> emission per production unit increased by 2.5% from the actual results of FY2018.	
③ Reduce FY2019 global greenhouse gas emission (PFC's, SF <sub>6</sub> , and etc) by 0.5% from currently predicted value according to the quantity of production of FY2019.	③ FY2019 global greenhouse gas emission (PFC's, SF <sub>6</sub> , and etc) was reduced by 26.3% from currently predicted value according to the quantity of production of FY2019.	
<b>【CO<sub>2</sub> countermeasures through value chain】</b>		
① Maintain CO <sub>2</sub> emission through the value chain in FY2019 as the results of FY2018.	① CO <sub>2</sub> emission through the value chain per production unit decreased by 6.9% from the results of FY2018.	☆☆☆
② Increase the ratio of eco-friendly products developments to 97% by FY2019.	② The ratio of eco-friendly products developments was 100%.	
<b>【Reduction of environmental impact】</b>		
① Maintain the amount of handling volume of PRTR substances per production unit in FY2019 as the results of FY2018.	① The amount of handling volume of PRTR substances per production unit was reduced by 3.8% from the actual results of FY2018.	☆☆☆
② Reduce VOC emission by 0.5% in FY2019 from currently predicted value according to the quantity of production of FY2019.	② VOC emission was reduced by 25.0% from currently predicted value according to the quantity of production of FY2019.	
<b>【Effective use of resources】</b>		
①-1 Maintain zero emission in domestic group consolidated.	①-1 Zero emission in domestic group consolidated was maintained as the results of FY2018.	☆☆
①-2 Maintain waste generation per production unit in domestic group in FY2019 as the results of FY2018.	①-2 Waste generation per production unit in domestic group in FY2019 increased by 2.1% from the actual results of FY2018.	
② Maintain waste generation per production unit in overseas group in FY2019 as the results of FY2018.	② Waste generation per production unit in overseas group was reduced by 16.8% from the actual results of FY2018.	
③ Reduce water input volume per production unit more than the actual results of FY2018 in FY2019.	③ Water input volume per production unit increased by 5.2% from the actual results of FY2018.	

## Outline of ROHM's Environmental Conservation Activities

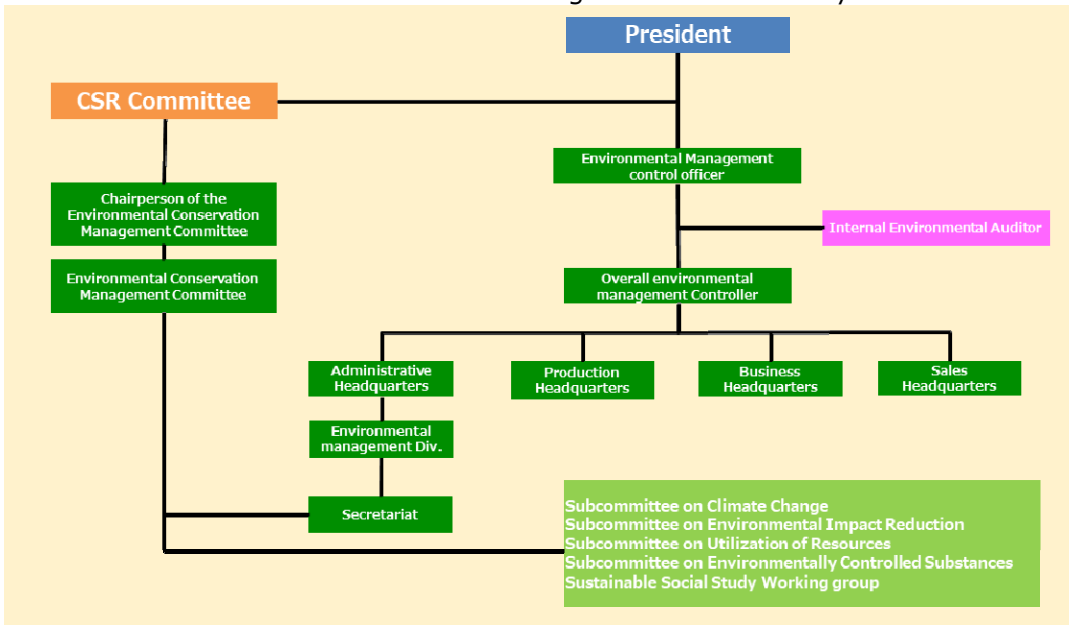
# Environmental Management System

### ROHM Group's Environmental Management Promotion System



ROHM Group are promoting continuous environmental improvements such as environmental load reduction by building and operating an environmental management system based on environmental management system's international standard ISO14001.

### ROHM Head Office Environmental Management Promotion System



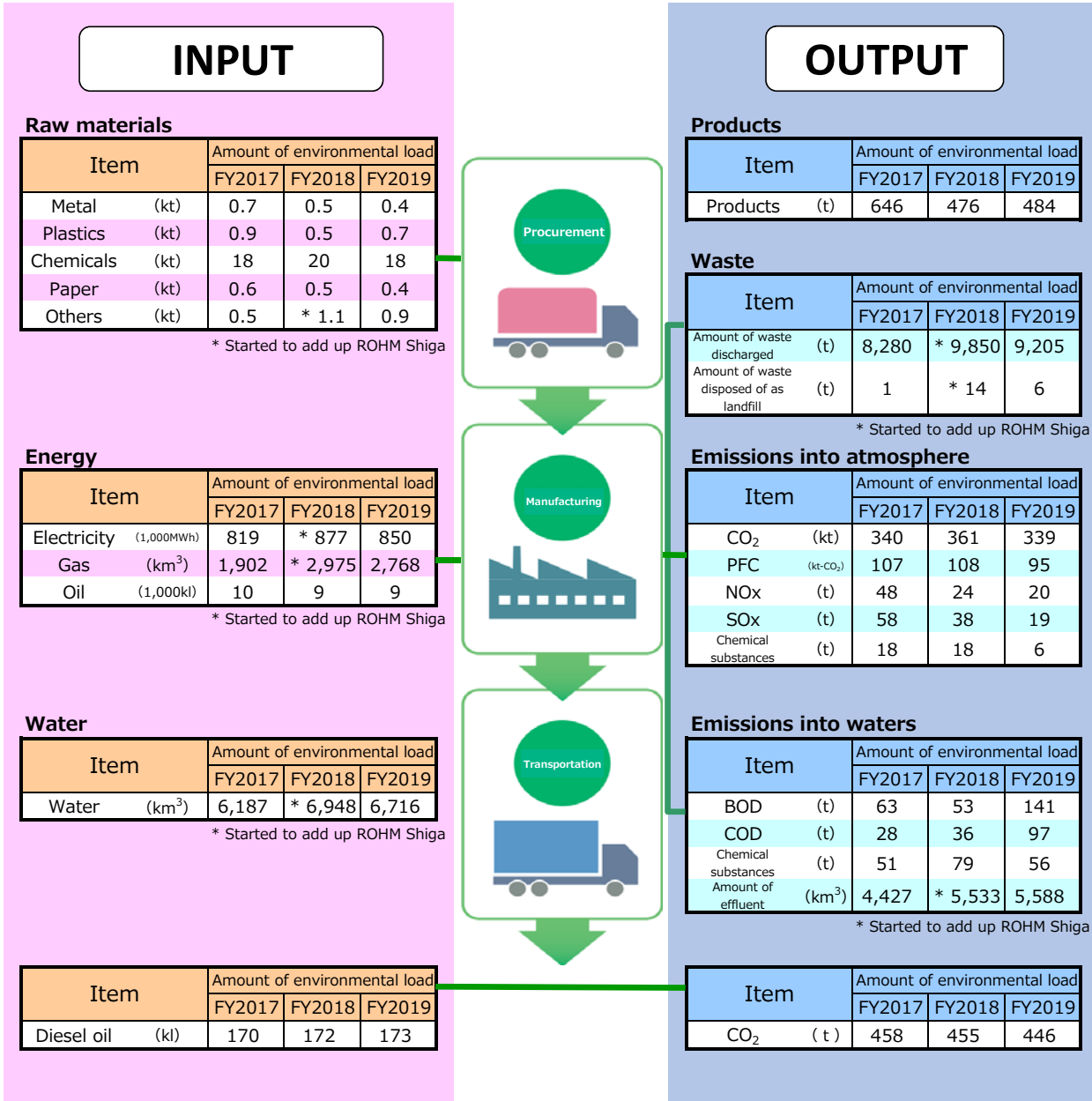
ROHM started the environmental management promotion system in its Head Office in 1990 mainly to conduct pollution prevention activities, and rebuilt it afterward to a promotion system taking environmental conservation with a view to the global environment as a principle behind its activities.

In this rebuilt promotion system, the "Environmental Conservation Management Committee" that deliberates significant policies and measures relating to the environmental activities, and four Subcommittees and one Working group that comprise the Committee are playing an important role in the promotion system.

The Subcommittees are composed of experts in the relevant field, engineers, and related national qualification holders, and the chairpersons of the Subcommittee serve as members of the Environmental Conservation Management Committee. The Committee, Subcommittees and Working group meetings are held regularly.

# Highlights of Environmental Impact

## Domestic Bases



# Overseas Bases

## INPUT

### Raw materials

Item	Amount of environmental load		
	FY2017	FY2018	FY2019
Metal (kt)	* 6.8	5.0	3.5
Plastics (kt)	4.8	4.3	3.5
Chemicals (kt)	3.4	3.4	2.9
Paper (kt)	3.0	2.9	1.9
Others (kt)	0.7	0.7	0.4

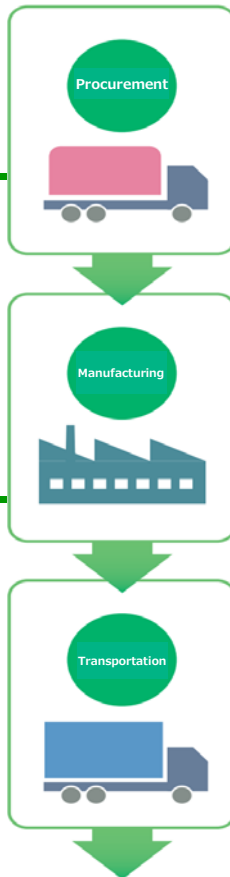
\* Restarted the aggregation of RMT.

### Energy

Item	Amount of environmental load		
	FY2017	FY2018	FY2019
Electricity (1,000MWh)	661	656	632
Gas (km3)	2,145	2,124	729
Oil (1,000kl)	0	1	0

### Water

Item	Amount of environmental load		
	FY2017	FY2018	FY2019
Water (km3)	4,081	4,216	4,142



## OUTPUT

### Products

Item	Amount of environmental load		
	FY2017	FY2018	FY2019
Products (t)	10,345	8,815	7,396

### Waste

Item	Amount of environmental load		
	FY2017	FY2018	FY2019
Amount of waste discharged (t)	6,044	5,690	4,420
Amount of waste disposed of as landfill (t)	615	457	363

### Emissions into atmosphere

Item	Amount of environmental load		
	FY2017	FY2018	FY2019
CO <sub>2</sub> (kt)	256	257	247
NO <sub>x</sub> (t)	0	* 26	** -
SO <sub>x</sub> (t)	0	* 18	** -
Chemical substances (t)	2	1	1

\* In REPI, private power generation is used for a part of period.

\*\* To be confirmed due to COVID-19 influence

### Emissions into waters

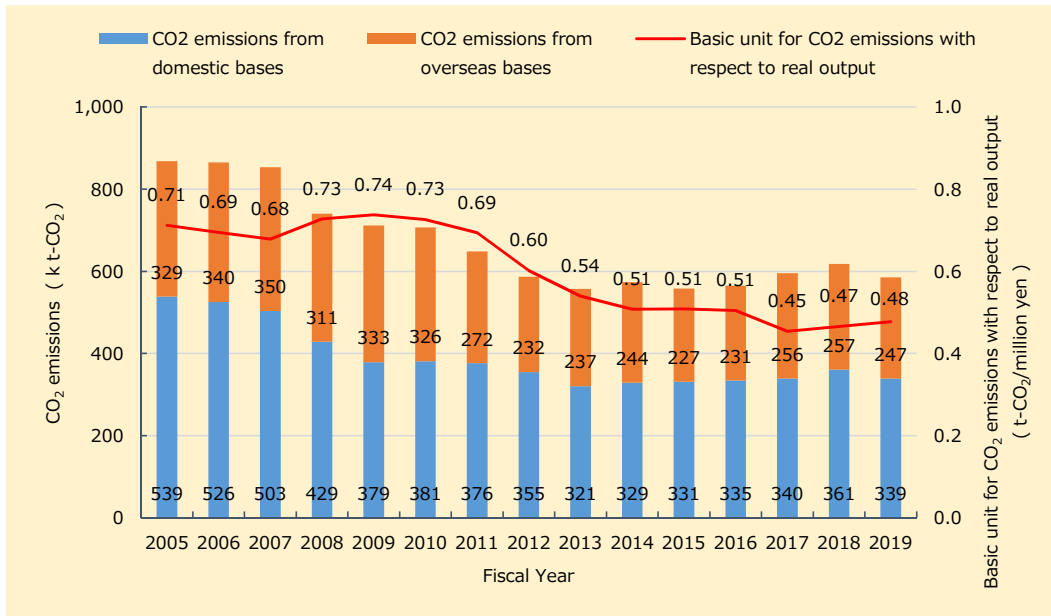
Item	Amount of environmental load		
	FY2017	FY2018	FY2019
BOD (t)	21	20	19
COD (t)	76	89	84
Chemical substances (t)	14	10	1
Amount of effluent (km3)	1,827	1,803	1,925



## Changes in Emissions of Environmentally Hazardous Substances

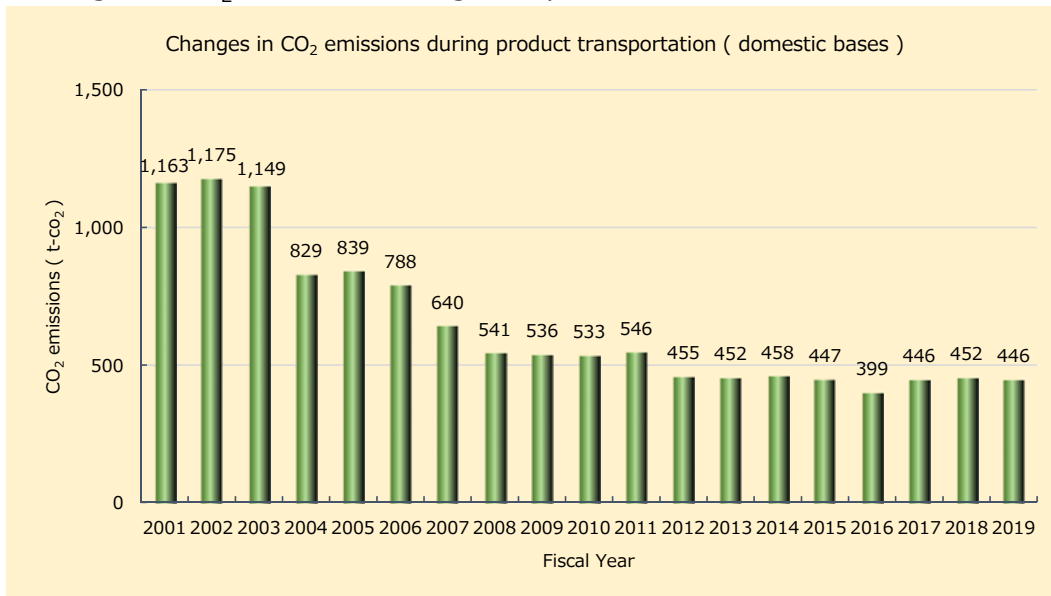
### Changes in CO<sub>2</sub> Emissions

#### Changes in CO<sub>2</sub> emissions from the ROHM Group ( domestic and overseas bases )



ROHM has been promoting the shift of post-process overseas and strengthening it due to the globalization of production bases. This resulted in the reduction of CO<sub>2</sub> emissions from domestic bases by 37% in FY2019 compared to FY2005. Furthermore, the basic unit for CO<sub>2</sub> emissions with respect to real output reduced by 59% in FY2019 compared to FY1990.

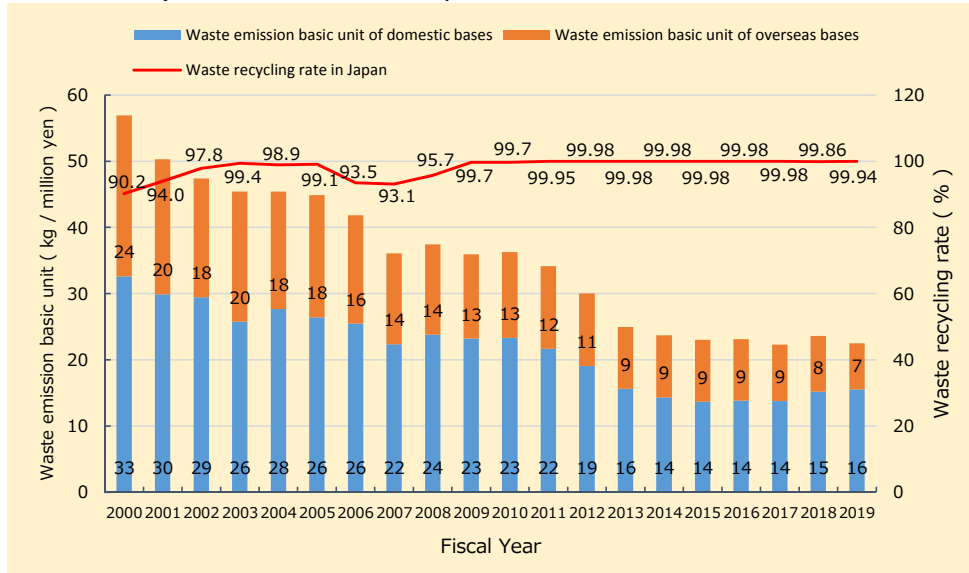
#### Changes in CO<sub>2</sub> emissions during transportation



While growing social concerns about environmental impact reduction in the logistics field, ROHM has been working on the reduction of CO<sub>2</sub> emissions caused by fuel consumption through transportation by road since fiscal year 2004 with measures taken for the transportation of products from production bases, including improvement in loading efficiency and the optimization of delivery frequency by the use of cross-docking.

## Changes in Emissions of Waste

- Waste emission basic unit (domestic and overseas bases) and recycling rate (domestic bases) of the ROHM Group

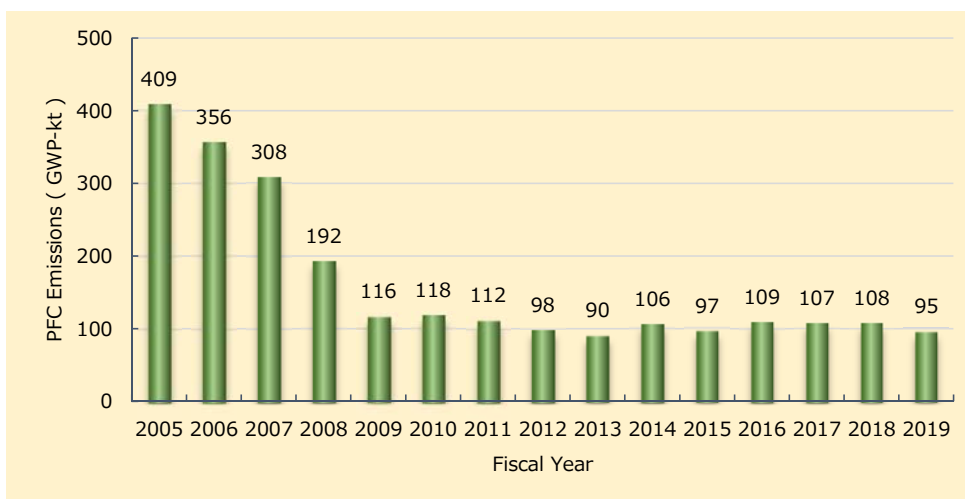


Regarding measures to reduce the volume of waste, ROHM Group companies optimize the amount of incoming and secondary materials and strive to increase yield as well as thoroughly separate unneeded materials generated to obtain valuable resources.

In addition, the ROHM Group has defined a waste recycling rate of at least 99% as 'zero emissions.' And after reaching this target at all domestic companies in fiscal year 2009, the group continues to strive towards a true 100% recycling rate.

## Changes in PFC Gases

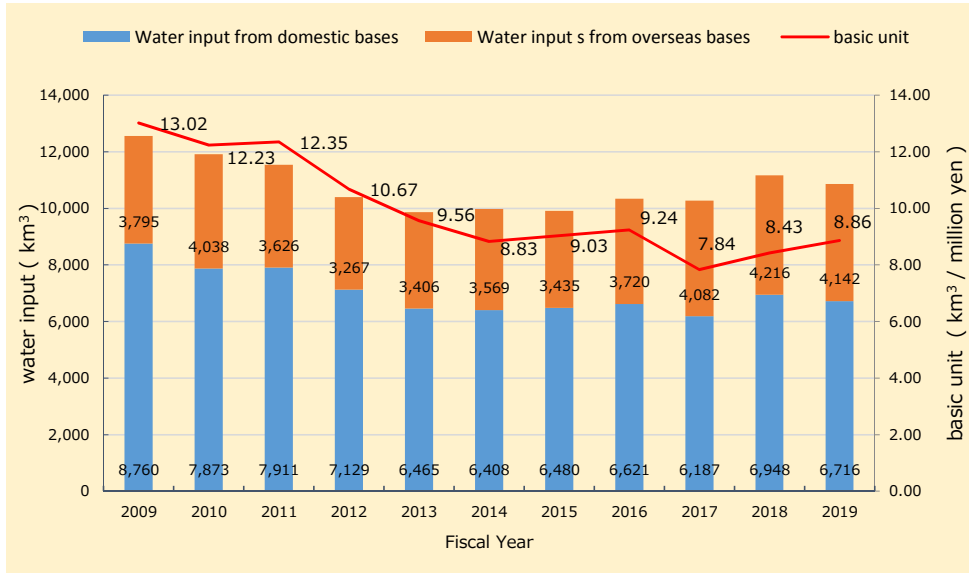
- Changes in PFC Gas Emissions



PFC gas is a material essential for fine processing of semiconductors, especially ICs. This PFC gas will turn to a greenhouse gas that produces greenhouse effect 6,500 times as high as CO<sub>2</sub> when it is released into the atmosphere. The semiconductor industry has determined a target for reduction in the PFC gas emissions and promoted the installation of PFC gas treatment systems used to dissolve PFC gases and eliminate the greenhouse effect.

# Transition of Water input

## ROHM Group's transition of water input and output level



ROHM group expands the semiconductor wafer manufacturing which consumes a large amount of water in domestic and overseas.

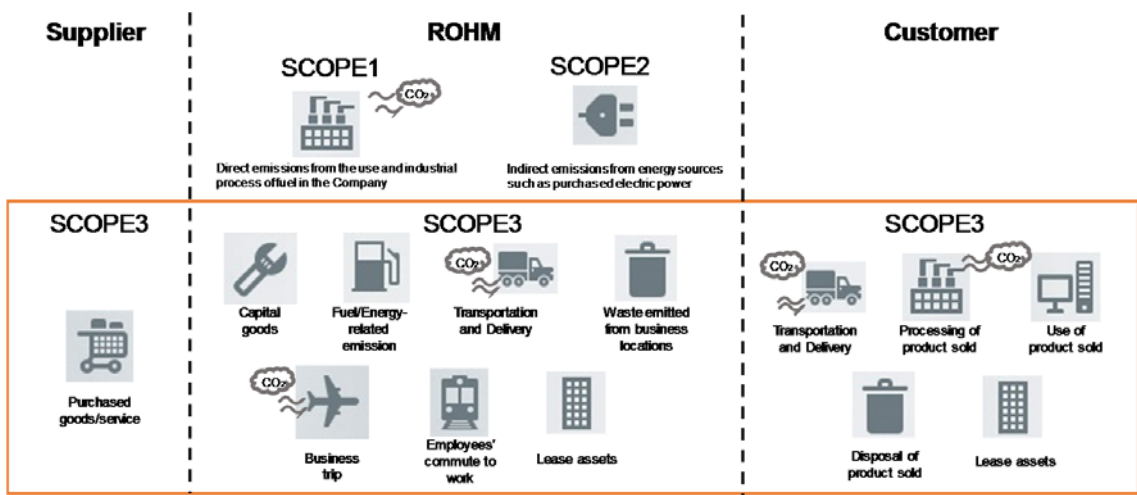
The raw water input for semiconductor manufacturing is high cost resources used after processing hyper pure water, so it is necessary to not dispose but recycle or reuse for water-saving efforts.

We consider it is obvious that reducing input of limited water is friendly to environment, and reducing risk of business continuity can be possible if water-saving measure works even if water shortage is happen by climate change.

Then, we promote the reduction activities with setting a reduction target of water input per production unit, and we reduced 27.1% of water input in FY2019 compared with FY2009.

# CO<sub>2</sub> Emissions under the Scope3 Standard

## Domestic and Overseas Bases



## CO<sub>2</sub> emissions from the ROHM Group's business operations in fiscal 2019

Category of Scope Protocol		CO <sub>2</sub> Emissions (t-CO <sub>2</sub> )		Outline of calculation	
SCOPE1 ( Direct emissions )		Dome stic	29,090	Direct emissions from facilities in our Company's own business locations	
		Over seas	7,798		
SCOPE2 ( Indirect emissions from energy sources )		Dome stic	309,828	Emissions associated with the production of energy purchased by our Company's business locations	
		Over seas	238,906		
SCOPE3 ( Emissions from any sources other than Scope1 and Scope2, such as Company's supply chains )	Classification	Category		Outline of calculation	
	Upstream	1	Purchased product / service	507,491	Emissions associated with the manufacture of products (materials / parts) purchased by our Company and Group
	Upstream	2	Capital goods	109,424	Emissions from capital goods ( equipment ) invested by our Company and Group
	Upstream	3	Fuel- and energy-related activities not included Scope1 and Scope2	0.0	Emissions associated with the procurement of fuel and energy provided from other and used in our Company and Group's business location
	Upstream	4	Transportation and Delivery ( Upstream )	37,126	Emissions associated with the distribution of product sold by our Company and Group from the Plant→Logistics base→Consumer
	Upstream	5	Waste emitted from business operations	6,826	Emissions associated with the transportation, disposal and recycle treatment of waste generated in our Company and Group's business location
	Upstream	6	Business trip	2,885	Emissions associated with the business trips of employees of our Company and Group
	Upstream	7	Employers' commute to work	10,576	Emissions associated with the movement of employees of our Company and Group when they commute to company to work
	Upstream	8	Lease assets ( Upstream )	88	Emissions associated with the operation of leasing cars lent by our Company
	Downstream	9	Transportation and Delivery ( Downstream )	-	Not covered
	Downstream	10	Processing of product sold		
	Downstream	11	Use of products sold		
	Downstream	12	Disposal of product sold	626	Emissions associated with disposal of product sold by our Company and Group
	Downstream	13	Lease assets ( Downstream )	-	Not covered
	Downstream	14	Franchising	-	Not covered
Downstream	15	Investment	-	Not covered	

## Independent Verification of Environmental Data

The ROHM Group received an independent verification of its environmental impact data by Bureau Veritas Japan Co., Ltd. in order to disclose information to society with higher transparency and reliability.

### [Scope of Verification]


**Scope 1 and 2** : 13 domestic sites

**Scope 3, Category 4 Upstream Transportation and Distribution** :

Product transportation between 8 domestic manufacturing bases, 1 domestic logistics center, 6 overseas manufacturing bases, and 9 overseas sales companies and domestic and overseas

### Independent Assurance Statement

**INDEPENDENT ASSURANCE STATEMENT**



To: Rohm Co., Ltd.

Bureau Veritas Japan Co., Ltd. (Bureau Veritas) has been engaged by Rohm Co., Ltd. (Rohm) to provide limited assurance over its sustainability information selected by Rohm. This Assurance Statement applies to the related information included within the scope of work described below.

**Selected information**  
The scope of our work was limited to assurance over the following information (the 'Selected Information'):


- The following environmental data included within Rohm Group's Environmental Data Book 2020 (the 'Data Book') and ROHM Group Integrated Report 2020 (the 'Report') for the period of April 1, 2019 through March 31, 2020:
  - Greenhouse gas emissions (Scope 1 and Scope 2): CO<sub>2</sub> emissions from energy use through business operations of Rohm Group's 13 sites within Japan
  - Greenhouse gas emissions (Scope 3): emissions of category 4 within the boundaries defined by Rohm
- The following environmental data reported internally to Rohm Group only for the purpose of internal management for the period of April 1, 2019 through March 31, 2020:
  - Energy use through business operations of Rohm Group's 13 sites within Japan

**Reporting criteria**  
The Selected Information included within the Data Book needs to be read and understood together with the reporting criteria stated in the Data Book.  
The Selected Information included within the Report needs to be read and understood together with the reporting criteria stated in the Report.  
The Selected Information reported internally to Rohm Group only for the purpose of internal management needs to be read and understood together with the internal reporting criteria defined by Rohm.

**Limitations and Exclusions**  
Excluded from the scope of our work is any verification of information relating to:

- Activities outside the defined verification period;
- Any other information within the Data Book, which is not listed as the 'Selected Information'.
- Any other information within the Report, which is not listed as the 'Selected Information'.

This limited assurance engagement relies on a risk based selected sample of sustainability data and the associated limitations that this entails. This independent statement should not be relied upon to detect all errors, omissions or misstatements that may exist.



**Responsibilities**  
This preparation and presentation of the Selected Information in the Data Book and the Report are the sole responsibility of the management of Rohm.  
Bureau Veritas was not involved in the drafting of the Data Book, of the Report, or of the Reporting Criteria. Our responsibilities were to:

- obtain limited assurance about whether the Selected Information has been prepared in accordance with the Reporting Criteria;
- form an independent conclusion based on the assurance procedures performed and evidence obtained; and
- report our conclusions to the Directors of Rohm.

**Assessment Standard**  
We performed our work in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information (Effective for assurance reports dated on or after December 15, 2015) issued by the International Auditing and Assurance Standards Board.  
For the greenhouse gas emissions data, we undertook verification in accordance with the requirements of ISO14064-3 (2006): Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions.

**Summary of work performed**  
As part of our independent verification, our work included:

1. Conducting interviews with relevant personnel of Rohm;
2. Reviewing the data collection and consolidation processes used to compile Selected Information, including assessing assumptions made, and the data scope and reporting boundaries;
3. Reviewing documentary evidence provided by Rohm;
4. Reviewing Rohm systems for quantitative data aggregation and analysis;
5. Verification of sample of data back to source by carrying out three physical site visits, selected on a risk based bases, at the following locations:
  - Rohm's head office
  - LAPIS Semiconductor Miyazaki Co., Ltd.
  - LAPIS Semiconductor Miyagi Co., Ltd.
6. Reperforming a selection of aggregation calculations of the Selected Information;
7. Comparing the Selected Information to the prior year amounts taking into consideration changes in business activities, acquisitions and disposals.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement.  
Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.



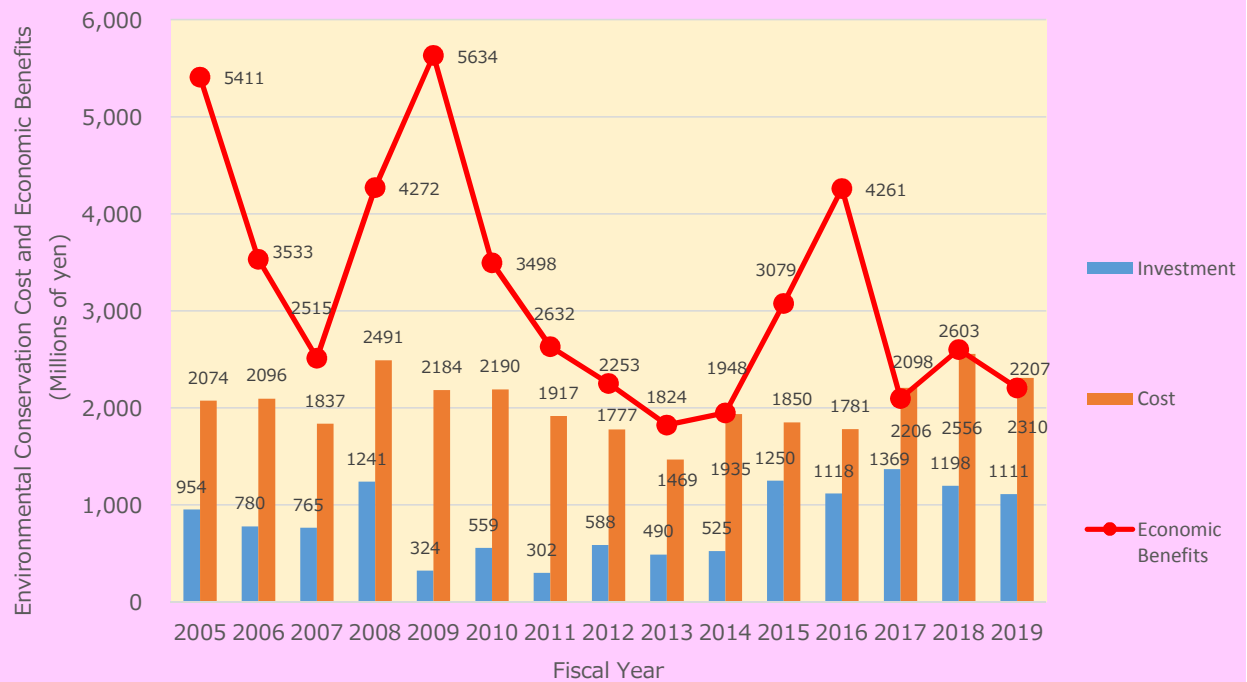
# Environmental Accounting

## Domestic Bases

(Unit: Million yen)

Category of cost under the Guidelines	FY2017			FY2018			FY2019		
	Investment	Cost	Economic Benefits	Investment	Cost	Economic Benefits	Investment	Cost	Economic Benefits
Pollution prevention cost	482	1,382	-	229	1,522	-	495	1,312	-
Global environmental conservation cost	876	92	694	931	191	780	608	183	414
Resource recycling cost	8	354	1,404	33	490	1,823	0	459	1,793
Administration cost	2	375	-	6	351	-	7	345	-
Social activity cost	0	3	-	0	2	-	0	2	-
Environmental remediation cost	0	0	-	0	0	-	0	0	-
Others	0	0	-	0	0	-	0	9	0
<b>Total</b>	<b>1,369</b>	<b>2,206</b>	<b>2,098</b>	<b>1,198</b>	<b>2,556</b>	<b>2,603</b>	<b>1,111</b>	<b>2,310</b>	<b>2,207</b>

Investment and Cost vs. Economic Benefits ( Domestic Bases )



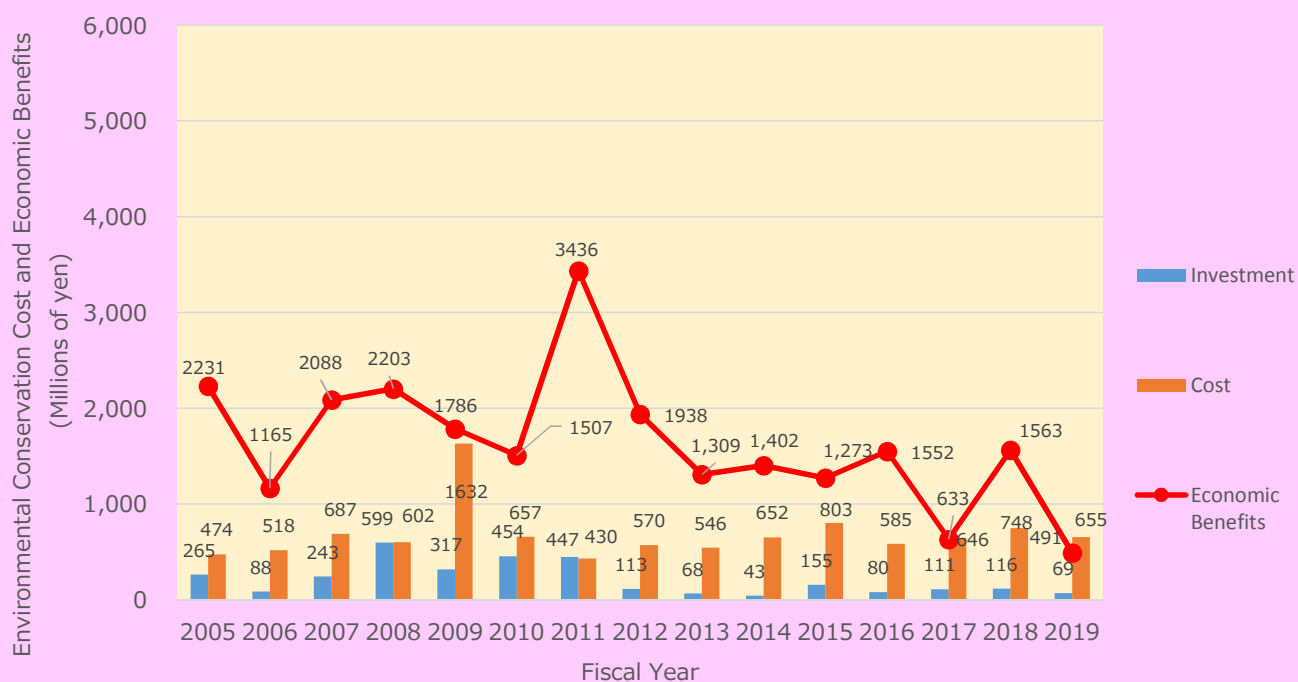
# Overseas Bases

(Unit: Million yen)

Category of cost under the Guidelines	FY2017			FY2018			FY2019 *		
	Investment	Cost	Economic Benefits	Investment	Cost	Economic Benefits	Investment	Cost	Economic Benefits
Pollution prevention cost	52	431	-	10	533	-	26	454	-
Global environmental conservation cost	42	1	499	97	1	595	28	2	355
Resource recycling cost	4	114	133	0	103	968	13	153	136
Administration cost	12	80	-	9	112	-	2	32	-
Social activity cost	0	1	-	0	0	-	0	1	-
Environmental remediation cost	0	0	-	0	0	-	0	0	-
Others	0	19	-	0	0	-	0	14	-
<b>Total</b>	<b>111</b>	<b>646</b>	<b>633</b>	<b>116</b>	<b>748</b>	<b>1,563</b>	<b>69</b>	<b>655</b>	<b>491</b>

\* Aggregated values except for REPI are shown due to COVID-19 influence.


### Investment and Cost vs. Economic Benefits ( Overseas Bases )



## Approaches to Environmental Communications

### Approaches in "Environmental Conservation"



  
ROHM WAKO  
Participated in  
"Refresh Setouchi"




  
ROHM APOLLO CHIKUGO  
Participated in "Activity for  
protecting river and water"




  
ROHM SHIGA  
Participated in "Seta river  
Cleaning Activity"



  
ROHM APOLLO YUKUHASHI  
Cleanup Activity  
in Nagaihama beach




  
REDA  
Afforestation of pine tree




RIST  
Activity of afforestation and  
soil saving dam construction



  
RIST  
Mangrove afforestation



  
RIST  
Releasing turtles



  
KOREA  
Cleanup Activity of river



## Approaches in “Environmental Education”



The ROHM Group has provided environmental education for elementary school students in Kyoto-city since FY2010. In the education program, we give the opportunities for them to experience the energy-saving effects such as comparing the energy-consumption of LED and miniature bulbs by using a human powered generator besides the lecture about global-warming’s mechanism, and energy-saving tips that can be performed at home or school. The ROHM Group will continuously develop these kinds of activities that help children understand the value of global environment.

## Environmental Awards

### FY2019 "Shizuoka Global Warming Prevention Activity Governor Award"(Hamamatsu)



In addition to the heat recovery heat pump chiller in all areas of the clean room, which is the first in the industry, the introduction of high-efficiency turbo chillers etc. has achieved a significant reduction in green house gas emissions. Moreover, Hamamatsu are striving to implement employee training and regional cooperation and spread measures through case presentations in the local area. They are evaluated and won "Shizuoka Global Warming Prevention Activity Governor Award" on February 2020.

### Received FY2019 Green Industry level 4 as a grade calculation (RMT)



ROHM Mechatech (Thailand) Co., Ltd. received a grade calculation on September 5, 2019 by Thailand Ministry of Industry, Department of Industry Works, and got a FY2019 Green Industry level 4.

# Site Reports (Domestic and Overseas Bases)

※About PRTR substances, only the annual handling amount of over 1t is mentioned.

## ROHM Co.,Ltd.

21,Saiin Mizosaki-cho, Ukyo-ku, Kyoto, Japan



■ Manufacturing Items  
Electronic parts, including  
semiconductors

		2017	2018	2019
Power consumption	k Wh	88,746,601	86,966,669	86,681,408
Fuel consumption	kl	1,316	1,402	1,332
Water consumption	km <sup>3</sup>	688	684	602
Total waste emissions	t	458	450	428
Amount of waste finally disposed of as landfill	t	0.00	0.38	0.28
Waste recycling rate	%	100.00	99.92	99.94
Emissions into the atmosphere: NOx	t	3.8	3.4	2.7
Emissions into the atmosphere: SOx	t	-	-	-
Emissions into water: BOD	t	10.6	10.3	15.0
Emissions into water: COD	t	-	-	-

■ PRTR Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
332	arsenic and its inorganic compounds	1.5	1.1	1.2
374	hydrogen fluoride and its water-soluble salts	15.2	14.6	14.1

## ROHM Co.,Ltd. Shiga Plant

2-8-1 Seiran, Otsu, Shiga, Japan



■ Manufacturing Items  
Discrete semiconductors

		2017	2018	2019
Power consumption	k Wh	41,899,039	53,386,966	53,726,507
Fuel consumption	kl	342	1,151	905
Water consumption	km <sup>3</sup>	608	713	736
Total waste emissions	t	1,039	1,487	1,366
Amount of waste finally disposed of as landfill	t	1.20	* 12.53	3.89
Waste recycling rate	%	99.88	99.16	99.71
Emissions into the atmosphere: NOx	t	0.00	0.00	0.0
Emissions into the atmosphere: SOx	t	-	-	-
Emissions into water: BOD	t	0.20	0.55	0.1
Emissions into water: COD	t	1.00	1.32	0.9

■ PRTR \*Due to temporal disposal Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
20	2-aminoethanol	-	1.3	-
374	hydrogen fluoride and its water-soluble salts	35.0	49.0	47.2

## ROHM Co.,Ltd. Yokohama Technology center 2-4-8 Shin-Yokohama, Kohoku-ku, Yokohama, Japan



■ Manufacturing Items  
Design/development and sales of IC's

		2017	2018	2019
Power consumption	k Wh	2,485,873	2,396,368	2,578,045
Fuel consumption	kl	71	94	46
Water consumption	km <sup>3</sup>	15	15	14
Total waste emissions	t	19	18	26
Amount of waste finally disposed of as landfill	t	0.0	0.0	0.0
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	0.1	0.1	0.0
Emissions into the atmosphere: SOx	t	0.0	0.0	-
Emissions into water: BOD	t	0.0	0.0	-
Emissions into water: COD	t	-	-	-

**ROHM Hamamatsu Co.,Ltd.**

10 Sanwa-cho, Minami-ku, Hamamatsu, Japan



■ Manufacturing Items  
IC's, LEDs

		2017	2018	2019
Power consumption	kWh	155,772,853	157,478,900	154,076,119
Fuel consumption	kl	* 143	* 17	14
Water consumption	km <sup>3</sup>	1,316	1,448	1,392
Total waste emissions	t	628	640	671
Amount of waste finally disposed of as landfill	t	0.13	0.15	0.14
Waste recycling rate	%	99.98	99.98	99.98
Emissions into the atmosphere: NOx	t	0.1	0.0	0.1
Emissions into the atmosphere: SOx	t	0.0	0.0	0.0
Emissions into water: BOD	t	36.9	23.2	101.6
Emissions into water: COD	t	0.0	0.0	62.2

\* Reduced gas consumption due to introducing turbo refrigerator

■ PRTR

Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
374	hydrogen fluoride and its water-soluble salts	64.5	60.0	61.5

**ROHM Wako Co.,Ltd.**

100 Tomioka, Kasaoka, Okayama, Japan



■ Manufacturing Items  
ICs, Diodes, LEDs, Laser diodes

		2017	2018	2019
Power consumption	kWh	94,963,626	91,097,225	81,900,653
Fuel consumption	kl	612	662	805
Water consumption	km <sup>3</sup>	593	593	518
Total waste emissions	t	1,496	1,539	1,227
Amount of waste finally disposed of as landfill	t	0.43	0.49	0.83
Waste recycling rate	%	99.97	99.97	99.93
Emissions into the atmosphere: NOx	t	1.2	1.6	0.6
Emissions into the atmosphere: SOx	t	0.3	0.6	0.2
Emissions into water: BOD	t	4.2	1.8	2.6
Emissions into water: COD	t	-	-	-

■ PRTR

Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
53	ethylbenzene	7.4	6.8	2.1
58	ethylene glycol monomethyl ether	4.3	4.5	3.2
80	xylene	22.9	21.5	18.2
82	silver and its water-soluble compounds	2.2	2.0	1.3
302	naphthalene	12.1	10.6	7.5
308	nickel	1.2	-	-
343	pyrocatechol	1.4	1.3	-
374	hydrogen fluoride and its water-soluble salts	38.0	38.8	31.8
438	methylnaphthalene	19.6	18.2	14.1



Head office

■ Manufacturing Items  
ICs, Transistors, Diodes,  
Tantalum capacitors, Resistor,  
Module, Silicon wafers

		2017	2018	2019
Power consumption	kWh	20,752,500	18,883,713	16,072,595
Fuel consumption	kl	244	290	311
Water consumption	km <sup>3</sup>	129	* 74	64
Total waste emissions	t	133	106	165
Amount of waste finally disposed of as landfill	t	0.00	0.00	0.00
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	0.2	0.2	0.4
Emissions into the atmosphere: SOx	t	0.2	0.2	0.3
Emissions into water: BOD	t	0.2	0.1	0.0
Emissions into water: COD	t	0.3	0.1	0.1

\*Due to water reduction activity

Yukuhashi factory

		2017	2018	2019
Power consumption	kWh	19,244,949	19,702,742	20,261,354
Fuel consumption	kl	505	529	542
Water consumption	km <sup>3</sup>	147	123	118
Total waste emissions	t	162	147	136
Amount of waste finally disposed of as landfill	t	0.32	0.22	0.32
Waste recycling rate	%	99.80	99.85	99.76
Emissions into the atmosphere: NOx	t	2.8	1.3	0.7
Emissions into the atmosphere: SOx	t	3.0	0.9	0.5
Emissions into water: BOD	t	0.1	0.1	0.1
Emissions into water: COD	t	0.3	0.4	0.4

■ PRTR

Unit: tons

PRTR Ordinance number	Substances covered	2017 Amount handled	2018 Amount handled	2019 Amount handled
438	methylnaphthalene	6.1	6.4	6.5

Chikugo factory

		2017	2018	2019
Power consumption	kWh	120,196,519	123,821,313	116,774,541
Fuel consumption	kl	1,511	1,405	1,309
Water consumption	km <sup>3</sup>	1,067	1,052	1,045
Total waste emissions	t	1,222	1,436	1,354
Amount of waste finally disposed of as landfill	t	0.00	0.00	0.00
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	1.5	2.2	2.1
Emissions into the atmosphere: SOx	t	0.8	1.5	1.4
Emissions into water: BOD	t	14.5	11.7	13.5
Emissions into water: COD	t	11.7	12.5	13.4

■ PRTR

Unit: tons

PRTR Ordinance number	Substances covered	2017 Amount handled	2018 Amount handled	2019 Amount handled
53	ethylbenzene	3.0	1.4	-
80	xylene	2.7	3.7	2.6
341	piperazine	1.9	1.7	-
374	hydrogen fluoride and its water-soluble salts	29.9	31.7	28.1
438	methylnaphthalene	18.6	17.2	15.8

**ROHM Mechatech Co.,Ltd.**

3-6-1 Tsutta, Oi-cho, Kameoka, Kyoto, Japan



■ Manufacturing Items  
Dies, Lead Frames

		2017	2018	2019
Power consumption	kWh	2,788,000	2,503,000	2,224,000
Fuel consumption	kl	0	0	0
Water consumption	km <sup>3</sup>	3	3	4
Total waste emissions	t	16	21	14
Amount of waste finally disposed of as landfill	t	0.00	0.00	0.00
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	0.0	0.0	0.0
Emissions into the atmosphere: SOx	t	0.0	0.0	0.0
Emissions into water: BOD	t	-	-	-
Emissions into water: COD	t	0.0	0.0	0.0

**ROHM Logistec Co.,Ltd.**

75 Masusaka, Kamogata-cho, Asakuchi, Okayama, Japan



■ Business Line  
Logistics management of the  
ROHM Group's products

		2017	2018	2019
Power consumption	kWh	1,271,058	1,261,434	1,267,450
Fuel consumption	kl	0	1	2
Water consumption	km <sup>3</sup>	2	2	1
Total waste emissions	t	14	14	10
Amount of waste finally disposed of as landfill	t	0.03	0.03	0.03
Waste recycling rate	%	99.80	99.78	99.74
Emissions into the atmosphere: NOx	t	-	-	-
Emissions into the atmosphere: SOx	t	-	-	-
Emissions into water: BOD	t	0.0	0.0	0.0
Emissions into water: COD	t	-	-	-

**LAPIS Semiconductor Co.,Ltd. 2-4-8 Shin-Yokohama, Kohoku-ku, Yokohama, Japan**



■ Work content  
Design / Development and sales  
of LSI's

		2017	2018	2019
Power consumption	k Wh	3,564,398	3,548,730	3,326,043
Fuel consumption	kl	63	69	43
Water consumption	km <sup>3</sup>	19	18	15
Total waste emissions	t	4	4	17
Amount of waste finally disposed of as landfill	t	0.00	0.00	0.00
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	0.0	0.0	0.0
Emissions into the atmosphere: SOx	t	0.0	0.0	0.0
Emissions into water: BOD	t	-	-	-
Emissions into water: COD	t	-	-	-

**LAPIS Semiconductor Miyazaki Co.,Ltd. 727 Kihara, Kiyotake-cho, Miyazaki, Miyazaki, Japan**



■ Manufacturing Items  
ICs, SiC

		2017	2018	2019
Power consumption	k Wh	176,839,644	178,790,477	175,877,525
Fuel consumption	kl	3,450	* 2,616	2,644
Water consumption	km <sup>3</sup>	975	997	973
Total waste emissions	t	2,058	2,125	2,183
Amount of waste finally disposed of as landfill	t	0.00	0.00	0.00
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	31.5	* 6.0	6.2
Emissions into the atmosphere: SOx	t	47.6	* 30.7	11.7
Emissions into water: BOD	t	2.1	2.8	3.2
Emissions into water: COD	t	1.9	2.6	2.5

\*stopped using power generator

■ PRTR

Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
20	2-aminoethanol	10.7	11.5	11.2
58	ethylene glycol monomethyl ether	1.8	3.4	3.3
343	pyrocatechol	1.1	1.2	1.2
374	hydrogen fluoride and its water-soluble salts	29.9	35.6	39.4
438	methylnaphthalene	40.7	30.8	31.2

**LAPIS Semiconductor Miyagi Co.,Ltd. 1 Okinodaira, Oohira-Mura, Kurokawa-gun, Miyagi, Japan**



■ Manufacturing Items  
ICs

		2017	2018	2019
Power consumption	k Wh	132,047,800	136,832,000	135,385,860
Fuel consumption	kl	3,760	3,661	3,576
Water consumption	km <sup>3</sup>	1,234	1,227	1,232
Total waste emissions	t	2,070	1,862	1,606
Amount of waste finally disposed of as landfill	t	0.42	0.40	0.40
Waste recycling rate	%	99.98	99.98	99.98
Emissions into the atmosphere: NOx	t	10.8	8.7	7.4
Emissions into the atmosphere: SOx	t	5.9	4.1	4.9
Emissions into water: BOD	t	5.0	2.3	5.2
Emissions into water: COD	t	13.4	19.3	18.1

■ PRTR

Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
278	triethylenetetramine	2.2	2.6	2.3
343	pyrocatechol	1.1	1.3	1.2
374	hydrogen fluoride and its water-soluble salts	49.7	51.6	46.2
438	methylnaphthalene	42.3	41.2	40.4

**ROHM Korea Corporation**

40, MUNPYEONGSEO-RO 17 BEONAN-GIL, DAEDEOK-GU, DAEJEON, KOREA



■ Manufacturing Items  
ICs, Transistors, Diodes,  
LED Displays

		2017	2018	2019
Power consumption	kWh	39,956,251	37,999,659	34,595,136
Fuel consumption	kl	-	-	0
Water consumption	km <sup>3</sup>	116	109	103
Total waste emissions	t	431	366	333
Amount of waste finally disposed of as landfill	t	0.00	0.00	0.00
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	0.0	0.0	0.0
Emissions into the atmosphere: SOx	t	0.0	0.0	0.0
Emissions into water: BOD	t	0.2	0.2	0.2
Emissions into water: COD	t	0.9	0.9	0.6

■ PRTR Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
31	antimony and its compounds	5.2	3.9	3.9
304	lead	2.1	2.0	2.1

**ROHM Electronics Philippines, Inc.** People's Technology Complex Special Economic Zone, Carmona, Cavite 4116 Philippines



■ Manufacturing Items  
Monolithic ICs, Diodes

		2017	2018	2019
Power consumption	kWh	210,690,235	208,386,749	201,924,688
Fuel consumption	kl	187	* 1,173	7
Water consumption	km <sup>3</sup>	1,360	1,322	1,291
Total waste emissions	t	1,193	1,249	1,146
Amount of waste finally disposed of as landfill	t	0.00	0.00	0.00
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	0.2	* 26.1	** -
Emissions into the atmosphere: SOx	t	0.0	* 17.5	** -
Emissions into water: BOD	t	1.1	0.8	0.5
Emissions into water: COD	t	4.4	3.4	3.5

\* Increased by using heavy oil for restarting private power generation for BCP.

\*\* To be confirmed due to COVID-19 influence.

■ PRTR Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
31	antimony and its compounds	6.3	5.8	4.6
82	silver and its water-soluble compounds	9.0	8.5	5.9
308	nickel	16.2	19.0	9.6
309	nickel compounds	4.7	5.1	1.8

**ROHM Integrated Systems (Thailand)** 101 / 94 . 102 Navanakorn Industrial Zone. Moo 20. Phaholyothin Road. Tambol Khlong-Nueng. Amphur Khlong-Luong. Pathumthani 12120 Thailand



■ Manufacturing Items  
Monolithic ICs, Transistors,  
Diodes, Resistor, Capacitors

		2017	2018	2019
Power consumption	kWh	184,842,687	189,776,288	189,388,745
Fuel consumption	kl	284	254	257
Water consumption	km <sup>3</sup>	1,295	1,185	1,351
Total waste emissions	t	1,139	1,133	1,024
Amount of waste finally disposed of as landfill	t	0.00	0.00	0.00
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	0.0	0.0	0.0
Emissions into the atmosphere: SOx	t	0.0	0.0	0.0
Emissions into water: BOD	t	8.0	7.8	9.3
Emissions into water: COD	t	28.7	42.2	46.0

■ PRTR Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
31	antimony and its compounds	5.3	5.4	4.9
82	silver and its water-soluble compounds	4.5	4.7	4.1
304	lead	1.6	1.9	-
305	lead compounds	-	-	1.8
308	nickel	14.5	16.1	14.7
309	nickel compounds	3.3	4.8	4.8

**ROHM Semiconductor (China) Co.,Ltd.**

No.7 Weisan Road, Micro-electronics Industrial park,  
Jingang Highway Xicing District, Tianjin 300385 China



■ Manufacturing Items  
Diodes, LEDs, Laser Diodes  
LED Displays, Sensors

		2017	2018	2019
Power consumption	kWh	70,398,081	63,839,818	57,950,651
Fuel consumption	kl	1	1	1
Water consumption	km <sup>3</sup>	312	301	269
Total waste emissions	t	1,112	946	464
Amount of waste finally disposed of as landfill	t	509.45	373.06	288.52
Waste recycling rate	%	54.18	60.54	37.79
Emissions into the atmosphere: NOx	t	-	-	-
Emissions into the atmosphere: SOx	t	-	-	-
Emissions into water: BOD	t	4.7	4.3	3.7
Emissions into water: COD	t	12.7	12.6	11.0

■ PRTR

Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
31	antimony and its compounds	1.3	-	-
82	silver and its water-soluble compounds	1.3	-	-
265	tetrahydromethylphthalic anhydride	5.1	2.3	2.3
291	1,3,5-tris(2,3-epoxypropyl)	12.1	9.3	6.5
304	lead	5.2	4.7	3.7
392	n-hexane	3.5	2.9	2.3

**ROHM Electronics DalianCo.,Ltd.**

No.20 Four Street East & North, Dalian Economic & Technical Development Zone, Dalian 116600 China



■ Manufacturing Items  
Power modules, Thermal print heads, Contact image sensor heads, Photolink modules, Optical sensors

		2017	2018	2019
Power consumption	kWh	56,222,737	55,357,377	50,857,617
Fuel consumption	kl	1,957	1,907	2,008
Water consumption	km <sup>3</sup>	277	269	240
Total waste emissions	t	188	177	158
Amount of waste finally disposed of as landfill	t	19.46	15.14	14.89
Waste recycling rate	%	89.65	91.44	90.61
Emissions into the atmosphere: NOx	t	-	-	-
Emissions into the atmosphere: SOx	t	-	-	-
Emissions into water: BOD	t	1.8	1.4	0.0
Emissions into water: COD	t	9.0	9.0	0.0

■ PRTR

Unit: tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
82	silver and its water-soluble compounds	1.2	1.1	-



**ROHM-Wako Electronics (Malaysia) Sdn.**

Lo1 1320 Kawasan Penndustrian, Peogkalan Chepa II ,  
Padang Tmenbak, 16100 Kota Bharu, Kelantan, Malaysia



■ Manufacturing Items  
Diodes, LEDs

		2017	2018	2019
Power consumption	kWh	80,291,750	82,541,315	79,987,596
Fuel consumption	kl	68	75	67
Water consumption	km <sup>3</sup>	631	780	798
Total waste emissions	t	1,187	1,073	814
Amount of waste finally disposed of as landfill	t	85.84	68.50	165.36
Waste recycling rate	%	92.77	93.61	92.67
Emissions into the atmosphere: NOx	t	0.0	0.0	0.0
Emissions into the atmosphere: SOx	t	0.0	0.0	0.0
Emissions into water: BOD	t	2.9	3.0	3.5
Emissions into water: COD	t	12.9	14.7	15.2

■ PRTR

Unit:tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
20	2-aminoethanol	1.1	1.0	-
31	antimony and its compounds	-	-	7.1
82	silver and its water-soluble compounds	-	-	4.8
297	1,3,5-trimethylbenzene	1.0	-	1.2
305	lead compounds	5.0	3.1	2.3

**ROHM Mechatech Philippines, Inc.**

People's Technology Complex Special Economic Zone, Carmona,  
Cavite 4116 Philippines



■ Manufacturing Items  
Lead Frames,  
Precision tooling and related parts

		2017	2018	2019
Power consumption	kWh	9,817,465	9,169,742	8,605,212
Fuel consumption	kl	94	111	97
Water consumption	km <sup>3</sup>	37	41	42
Total waste emissions	t	743	681	432
Amount of waste finally disposed of as landfill	t	0.00	0.00	0.00
Waste recycling rate	%	100.00	100.00	100.00
Emissions into the atmosphere: NOx	t	0.0	0.0	0.0
Emissions into the atmosphere: SOx	t	0.0	0.0	0.0
Emissions into water: BOD	t	0.0	0.0	0.0
Emissions into water: COD	t	0.0	0.0	0.0

■ PRTR

Unit:tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
144	inorganic cyanide compounds (except complex salts and cyanates)	1.3	1.2	-

**ROHM Mechatech (Thailand) Co., Ltd.**

188 Moo7, Hemaraj Saraburi Industrial Land, Nongplamor.  
Subdistrict, Nongkhae District, Saraburi Province 18140 Thailand



■ Manufacturing Items  
Lead Frames,  
Modification and repair of Mould sets as their parts,  
Laser diodes

		2017	2018	2019
Power consumption	kWh	9,224,160	9,163,200	8,716,160
Fuel consumption	kl	184	178	162
Water consumption	km <sup>3</sup>	54	48	48
Total waste emissions	t	51	65	49
Amount of waste finally disposed of as landfill	t	0.07	0.12	0.06
Waste recycling rate	%	99.87	99.82	99.87
Emissions into the atmosphere: NOx	t	-	0.07	0.0
Emissions into the atmosphere: SOx	t	-	0.02	0.0
Emissions into water: BOD	t	2.73	2.13	2.3
Emissions into water: COD	t	7.63	5.83	7.3

■ PRTR

Unit:tons

PRTR Ordinance number	Substances covered	2017	2018	2019
		Amount handled	Amount handled	Amount handled
144	inorganic cyanide compounds (except complex salts and cyanates)	3.9	4.1	3.5