

MEC Environmental Report 2019

MEC COMPANY LTD. °P



ENVIRONMENTAL POLICY

BASIC POLICY ON THE ENVIRONMENT

Management philosophy

"Visionary Technology" "Reliable Quality" "Meticulous Service"

The MEC group will contribute to the creation of a prosperous and diverse society and sustainable environment, inspired by an unconventional approach based on the principles of "Visionary Technology", "Reliable Quality" and "Meticulous Service", thereby creating and fostering value at various interfaces through our global activities.

COMPANY MOTTO Enjoy your work

COMPANY RULES

- Let's always aim to achieve new targets without fear of failure. Repeatedly try new ideas and improvements with unyielding curiosity.
- Let's make improvements with an insatiable curiosity.
 Let's carry out work with our combined power and a feeling of
- gratitude and cooperation.
- $\mbox{-Let}\xspace's make a fun workplace where people pay attention to health and safety.$
- ·Let's contribute to society.

Based on the above-mentioned management policy, we have established the following environmental policies to guide us in taking our environmental protection activities.

In accordance with this policy, we are making efforts to protect the environment and conserve resources and energy, and we will continue to contribute to the creation of a sustainable and rich society in harmony with the global environment.

Environmental policy

In accordance with the environmental management system in compliance with ISO14001, we are promoting environmental protection.

- Recognizing the environmental aspects in our activities, we will comply with environmental laws and regulations and other requirements, while at the same time striving to continuously improve our environmental management system and increase the management level.
- 2. In order to make efficient use of resources, prevent pollution and protect the environment, we will:
 - Measures to save energy
 - Reduction of waste, promotion of recycling
 - Provide of products that were manufactured while considering the product life cycle
 - Implement of chemical management
- 3. We will make this environmental policy well known to all those who work in our company, and also disclose it to the general public.

April 1, 2015 Kazuo Maeda, CEO & President MEC COMPANY LTD.



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ENVIRONMENTAL MANAGEMENT SYSTEM

MEC COMPANY LTD. has established an environmental management system (EMS) that conforms to ISO 14001 in order to promote ongoing environmental protection activities.

At the Amagasaki Headquarters(HQ), which was newly started in 2017, we have also acquired ISO 14001 certification. We will continue working to improve the environmental management system and the management level.

Outline of the Company in FY2018

We have concentrated the Head Office, R&D Center and factories that were dispersed in Hyogo Prefecture, and started running the Amagasaki Headquarters from January 2017. With this integration, waste such as redundant administrative processing has been reduced, but due to prototyping and evaluation for transferring the manufacturing of products, the Amagasaki Factory and the Nishinomiya Factory are in both being operated at the same time. For this reason, we are operating at three factories—Nagaoka Factory, Amagasaki Factory and Nishinomiya Factory.

Implementation of external audit

In FY2018, we underwent external audits as follows. The Amagasaki Headquarters (concerning the Head Office/R&D center/the Amagasaki Factory), Nishinomiya Factory, Nagaoka Factory and Tokyo Sales Office were audited in May and June 2018. It is an audit that includes an upgrade from the 2004 version of certification to the 2015 one. In the audits, as an evaluation of conformity based on our environmental management system, the auditors confirmed we had corrected the items pointed out in the previous internal audit. They also evaluated the operational status and effectiveness of our environmental targets and confirmed the status of compliance including with laws and regulations. As a result, two incompatibilities were pointed out, but we have corrected them and reacquired certification for our environmental management system and upgraded the certification to the 2015 version.

Environment promotion organizations

The Company sets the head of the Corporate Planning Division as the Environmental Management Officer. And with the Environmental Committee, consisting of the ISO secretariat and members appointed from each place of business, as well as the internal auditor positioned at the center, activities in various initiatives and goals are being conducted at each business office by persons responsible for the workplaces and by employees.

We are carrying out environmental activities with the following organizations. (as of January 2019)



Acquisition of ISO 14001 certification

Certification review agency	Bureau Veritas Japan Co., Ltd.
Certified Income Office	Amagasaki HQ(Head Office, R&D center, Amagasaki Factory), Nishinomiya Factory, Nagaoka Factory, Tokyo Sales Office
Initial authentication date*	September 9, 2000

* Date of entry of standard certification registration



MEC's ENVIRONMENTAL INITIATIVES

Table Environmental targets and results for FY2018

○: Achievement rate 80 to 100% △: Achievement rate 50 to 80% ×: Not Achieved or Less than 50%

Environmental objective	Site	FY2018 Environmental targets	FY2018 Results	Evaluation
Contribute to customers' activities to reduce environmental burden	Tokyo Sales Office	Make 80 concrete proposals for environmental Number of proposals: 82		0
Compliance with wastewater standards	Amagasaki HQ	Zero cases of (a halt to discharging due to) a value exceeding the public standard value and two or fewer cases of values exceeding the voluntary standard value.	Zero cases of a value exceeding the public standard value or the voluntary standard value. Created a "Manual of procedures to take in the event of an abnormal occurrence" It became possible for the duties of the person in charge to be taken over smoothly.	
	Nishinomiy a Factory	Zero cases of (a halt to discharging due to) a value exceeding the public standard value and two or fewer cases of values exceeding the voluntary standard value.	Zero cases of a value exceeding the public standard value or the voluntary standard value.	0
Promotion of smart factory approach	Nagaoka Factory	In order to improve work efficiency and productivity, introduce an onsite wireless LAN and link it with production equipment.	We prepared a wireless LAN environment and made preparations for linking it with production equipment and measuring equipment.	

OTHER ENVIRONMENTAL INITIATIVES

Efforts for biodiversity—MEC's forest activities [Nagaoka/Amagasaki]

At MEC, we are engaged in forestry activities at two sites where our factories are located—Nagaoka City, Niigata Prefecture and Amagasaki City, Hyogo Prefecture—with the cooperation of each local government. At the Company, which uses a large amount of water in making its products, we are carrying out activities with the aim of contributing, even a little bit, to creating an appropriate water cycle and conserving biodiversity.



The 17th maintenance activity in Nagaoka

In addition to regular conservation activities, we are also cutting down trees that have become damaged or have fallen due to heavy snow.



The 9th maintenance activity in Amagasaki The area is still mainly made up of thin trees, but it is turning into a mixed forest.

	Nagaoka MEC Forest	Amagasaki MEC Forest		
Activate	November, 2008	March, 2013		
Forest development site	Ozumi Mishimadani-machi, Nagaoka, Niigata Prefecture	Ogimachi, Amagasaki, Hyogo Prefecture		
Area	6,000m²	600m ²		
Types of planting	keyaki and other broad-leaved trees	wild cherry, konara oak, and other broadleaf trees		
URL	https://www.mec-co.com/en/special/forest/			



1 ENVIRONMENTAL MANAGEMENT

Contact lens case recycling

As an environmental contribution activity that employees can easily participate in, MEC decided to participate in the recycling of disposable contact lens cases which is an activity sponsored by the HOYA CORPORATION Eye Care Company.

In the first fiscal year when this activity was carried out, running from April to December 2018, about 7.1 kg of empty cases (about 7,100 cases) were collected and sent for recycling.

One feature is that manufacturers of contact lens cases use the same materials to make them, so the cases are easy to recycle. Discarded empty lens cases for one eye for one month weigh 30 g, and it is estimated that if they are simply incinerated, they will generate the same amount of CO_2 as a car that travels for about 1 km. The 7.1 kg collected this time is equivalent to a CO_2 reduction of about 236.7 km.

In addition to reducing CO₂, the profit from the sale of the empty cases will be donated to the Japan Eye Bank Association, and the funds will be used for corneal transplants and raising people's awareness of the eye bank.





https://www.eyecity.jp/eco/



Solar power system [Amagasaki HQ]

The rooftops of our business sites set up solar panels. The amount of electricity generated by the solar panels can be checked on a real time basis with a monitor.

Environmental beautification around the workplace Amagasaki HQ

With the aim of beautifying the area surrounding the site, we pick up garbage in the ditches and roads three times a week in a system where the participants take turns to work, except during very hot summer days.

The collected garbage is properly sorted and processed.

Efforts to reduce power consumption

We keep in mind the need to prevent global warming by reducing power consumption. Therefore, we position the period from May to September as Cool Biz (a Japanese campaign to help reduce the electricity used for cooling workplaces) and from November to the following March as Warm Biz (a campaign to wear warm clothing to reduce the electricity used for heating workplaces). We set the temperature of air conditioners according to the criteria recommended by the Ministry of the Environment and recommend that our employees wear clothing that is comfortable even in those conditions.

Initiatives to Reuse Stationery

For a long time, we have been collecting stationery such as writing instruments that are no longer used at home. We donate them to the Stationery Reuse Project so that they can be used by disadvantaged children in developing countries.

Promotion of LED lighting Amagasaki HQ

The Amagasaki Headquarters use lighting fixtures as LEDs to reduce power consumption.









4

(thousand ven)

ENVIRONMENTAL ACCOUNTING FOR FY2018

We use environmental accounting to calculate cost (expense) and effect (quantity) as a mechanism to quantitatively evaluate our environmental conservation efforts.

Our environmental conservation cost for FY2018 was 137,524,000 yen. Of this, 59% was R&D cost, which is an expense related to R&D on products with a low environmental burden. In addition, 4% was an upstream/downstream cost related to consigning recycling such as consigning work to collect used plastic containers and wash them.

[Development standards]

•Data gathering period : January 1, 2018 to December 31, 2018

-Scope : MEC CO., LTD. Nonconsolidated Amagasaki HQ (Head Office, R&D Center, Amagasaki Factory), Nishinomiya Factory, Nagaoka Factory, Tokyo Sales Office, Higashihatsushima(Former R&D Center)

•Environmental conservation cost only targets costs whose objectives are clearly related to environmental conservation activities.

•For the research and development cost, costs which can be categorized into themes are individually processed, while costs which cannot be directly categorized are distributed in proportion based on theme-specific work hours.

•The amount of the cost includes depreciation costs and maintenance and management costs of facilities, as well as labor costs which are used for the purpose of environmental conservation.

Table Environmental conservation cost in FY2017

	Category	Main activities	Cost	
(1)Co	st within business areas		40,129	,
Break down	1.Cost of preventing pollution	Maintenance and management of wastewater treatment facilities, prevention of water contamination, etc.	(19,268)	
	2.Cost of protecting the global environment	Energy conservation measures		
	3.Resource recycling cost	Cost of outsourcing the disposal of industrial wastes	(20,861)	
(2) Up	stream and downstream costs	Cost of outsourcing work to collect containers and wash them, etc.	5,933	
(3) Ma	anagement activity cost	Cost of maintaining and operating environmental management systems, cost of planting plants around business sites	8,676	,
(4) Re:	search and development cost	Research and development of products with lower environmental load	81,635	
(5) Cost of social activities		Global environment conservation activities, etc.		
(6) Cost of responding to environmental damage		Not applicable		
Tota			137,524	

(thousand yen)

Item	Amount
Total amount of investment during the applicable period	268,000
Total cost of research and development during the applicable period	1,240,544
The monetary amount of valuable goods sold in regards to (1)-3	1,969
The monetary amount of valuable goods sold in regards to (2)	0
Other (solar power generation) sold amount	4,713



The environmental conservation effect is expressed based on the change in the absolute amount from the previous year (FY2017 12-mouth conversion).

Primary units (the amount per ton of production) are also used for some indexes.

Table Environmental conservation effects in FY2018

Category of environmental conservation effects			Environmental performance index			
			Value of the index (amount)	Comparison from the last year	Value of the index (intensity)	Comparison from the last year
(1)Effects in response to costs within the business areas	Effects in regards to the input of resources into business activities	Amount of electricity input	3,001 [thousand kWh]	+437 [thousand kWh]	172 [kWh/t]	+9.0 [%]
		Amount of city gas input	9.9 [thousand m³]	+1.2 [thousand m³]	1 [m³/t]	+6.1 [%]
		Amount of water input	38.4 [thousand m³]	+4.7 [thousand m³]	2 [m³/t]	+6.1 [%]
	Effects in regards to the environmental load of business activities and associated wastes	Amount of CO₂ emissions	1,618 [t-CO₂]	+29 [t-CO2]	93 [kg-CO2/t]	△5.2 [%]
		Amount of COD emissions	0.8 [t]	+0.4 [t]		
		Total amount of industrial waste emissions	354 [t]	+80 [t]		
(2) Effects corresponding to the upstream and downstream costs	Effects in regards to assets and services produced from business activities	Cumulative quantity of reused plastic containers	59 [thousand units]	△0.6 [thousand units]		
		Cumulative quantity of reused plastic drums	5.3 [thousand units]	△0.2 [thousand units]		



OVER ALL ENVIRONMENTAL IMPACTS ASSOCIATED WITH BUSINESS ACTIVITES



The diagram above describes the entire amount of the relationship between our business activities in FY2018 and the environment.

*IBC : Intermediate Bulk Container



TRENDS IN ENVIRONMENTAL PERFORMANCE

Electricity consumption

Total electricity consumption at our factories in FY2018 came to 1,710,000 kWh, up 12.2% or 187,000 kWh compared with FY2017. The consumption rate also increased by 4.5%.

This was because we switched from a two-factory structure consisting of the Nishinomiya and Nagaoka Factories to a three-factory structure made up of the former two and the Amagasaki Factory and because we increased our production volume. It was also due to the fact that the Amagasaki Factory has equipment that takes into consideration the need for a comfortable work environment (especially air conditioning) in ways that go beyond other factories, resulting in an increase in electricity usage. Therefore, in an attempt to make up for this at the Amagasaki Headquarters we have installed solar panels on the rooftop to compensate even a little for the extra environmental burden coming from the increased electricity consumption. (converted to 12-month period)



Amount of Wastewater

We use water as part of our raw materials. Besides that, we also use a lot of water for things like cleaning of production equipment. In order to effectively utilize water resources, we are working to improve our manufacturing operations and equipment cleaning methods. In addition, we have introduced automatic washing equipment to clean containers, and we are striving to manage and optimize our use of water.

The amount of water we discharged in FY2018 was 19.3 km³, up 2.9 km³ compared with FY2017, but the consumption rate has not fluctuated.

(converted to 12-month period)



Efforts for reusing plastic container

In order to effectively utilize the limited resources without waste, we are working to reuse (recycle) plastic containers and drums. We consign contractors to collect empty containers that contained our products once they have been used by our customers.

The number of customers who cooperate with this initiative is also increasing, and the circle of virtuous circle is expanding. We determine whether we can reuse the collected containers. If they can be reused, then we wash plastic containers at our own sites, and outsource work to wash plastic drums, wash some of them ourselves and reuse them.

The recovery rates for poly can and plastic drum in FY2018 were 41.1% and 31.4%, respectively.

Although there is a limited number of customers whom we use containers to deliver our products to, the recovery rate of such containers is 69.6%, and it tends to be higher than the rate for other vessels.



Proper disposal of wastes

(converted to 12-month period)

In FY2018, the amount of waste we generated came to 356 tons, which was 30% increase from FY2017. This is due to the continued disposal of prototypes due to the operation of the Amagasaki Factory, the increase in the number of test lines in the R&D department, and the higher operation rate.

We are working to reuse plastic containers. Moreover, since FY2008, we have been striving to recycle waste plastics and reduce our waste disposal volume of plastic containers, pallets and such like that cannot be reused at our factories. We also sort metals and sell them as valuables. Apart from that, we classify waste from each workplace based on the rules of each workplace.

Of the amount of waste generated, the final disposal amount was 55 tons.

Going forward, we will strive to curb the generation of waste, and make efforts to reduce our environmental burden by thoroughly separating and recycling the generated waste.







MANAGEMENT OF CHEMICAL SUBSTANCES

Management of chemical substances in products

We work hard so as to prevent unintentional contamination of products with substances that should not be included in them (prohibited substances) based on laws and regulations, industry standards, and requests from customers. To this end, we have established a chemical substance management system and we monitor processes ranging from the purchase of raw materials to the shipment of products and provide education for handlers. In November 2018, we revised our Management Standard for Chemicals in Products to improve the level of its utilization in operation.

We will continue striving to reinforce our management of chemicals in products not only in our company but also at suppliers.

« Policy on chemical substances contained in products »

1.Prevent environmental pollution, reduce environmental load, reduce waste and promote recycling

2.Promote the development and improvement of environmentally friendly (less harmful) products

3.Comply with environmental laws and regulations and other requirements

4.Collect and disclose the latest information, and thoroughly ensure safety management

Responsible mineral procurement

We follow the RBA (Responsible Business Alliance) Code of Conduct*, which is the CSR Code of Conduct for the electronic industry, automobile industry and others. Conducting responsible mineral procurement (Responsible Minerals Initiative) so that the so-called conflict minerals** are not used for products—that is one of our important themes. We also have established an in-house structure to ensure that the corresponding minerals are not used in our products, and we thoroughly monitor our activities from the stage of purchasing raw materials.

- *The Responsible Business Alliance (RBA), formerly the Electronic Industry Citizenship Coalition (EICC), Code of Conduct establishes standards to ensure that working conditions in the electronics industry etc. and its supply chains are safe, that workers are treated with respect and dignity, and that business operations are environmentally responsible and conducted ethically.
- **Mineral resources (tantalum, tin, tungsten and gold) derived from a mine funded by armed forces that cause human rights abuses and environmental destruction in Congo and its neighboring countries.

The PRTR System* — Handling of target substances

Among the chemicals we used in FY2018, 18 chemicals and 420 tons of them were PRTR target substances. We are using them while properly managing them at factories and R&D Center.

*The PRTR System

A system by which administrative agencies grasp, summarize, and publish the amount of chemical substances released to the environment or contained in waste that goes outside the workplace based on companies' business reports and estimates.

We are continuing to be actively involved in environmental conservation activities based on the recognition that one of our important missions is to reduce environmental loads.

MEC COMPANY LTD. °P

