



Denyo

Environmental Report 2020

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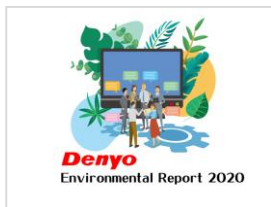
Editorial Statement



Information Disclosure

Denyo Co., Ltd. will use the media shown below to disclose information to all stakeholders, including customers and shareholders about its environmental initiatives aimed at delivering a sustainable society.

【Annual Environmental Report】 <https://www.denyo.co.jp/english/>



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Reporting Period

Fiscal 2020 (April 2019 to March 2020) and for some content, the periods before and after.

Publication Date

October 2020

Disclaimer

This Environmental Report may contain predictions or forecasts about the future. Actual results may vary from forecasts due to a variety of factors.

Management



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Management



Message from the President



Thank you very much for reading our Environmental Report. During fiscal year 2019, a new Emperor was enthroned and the new Reiwa era began. There were also other exciting news events, like the Rugby World Cup, which featured the Japanese team's outstanding performance as they finished in the best eight for the first time.

On the other hand, much of the destruction caused by the typhoons and heavy rains in Japan in September and October still remains unrepaired. There has been no end to problems caused by the changing global environment, and it is the age when individuals' and enterprises' abilities to address global environmental issues are being questioned.

Based on this, to contribute to achieving a sustainable society through the provision of power source products, we will continue to actively conduct environmental-conscious activities, develop eco-friendly products and focus on the resolution of environmental issues.

We appreciate your continued support.

October 2020

Shoichi Shiratori,
President
Denyo Co., Ltd.

A handwritten signature in black ink that reads "S. Shiratori".

Management



Environmental Philosophy

As well as contributing to social infrastructure upgrades worldwide through our power source products, Denyo is profoundly aware of its corporate social responsibility to conserve the environment, and tirelessly promotes environmentally sound business activities.



Fukui Plant of Denyo Co., Ltd.

Environmental Policies

1. In our business activities, we strive to prevent pollution and to promote eco-friendly products while seeking ways to maintain a healthy environment by conserving materials and energy, cutting back on solid waste, and reducing odors and noise.
2. We comply with environmental regulations and other agreed requirements, and we respect related demands from society.
3. As well as building a system of management which is based on the ISO14001:2015 to engage with environmental conservation and finding ways to make continual improvements, we set environmental goals and targets, and improve environmental performance by carrying out reviews.
4. As well as documenting the environmental policies to inform employees and everyone who works on behalf of the company, including the requirements of stakeholders, we disclose the information in the public domain on our homepage.
5. We strive to achieve environmental targets by continually improving the effectiveness and efficiency of the process.

Management

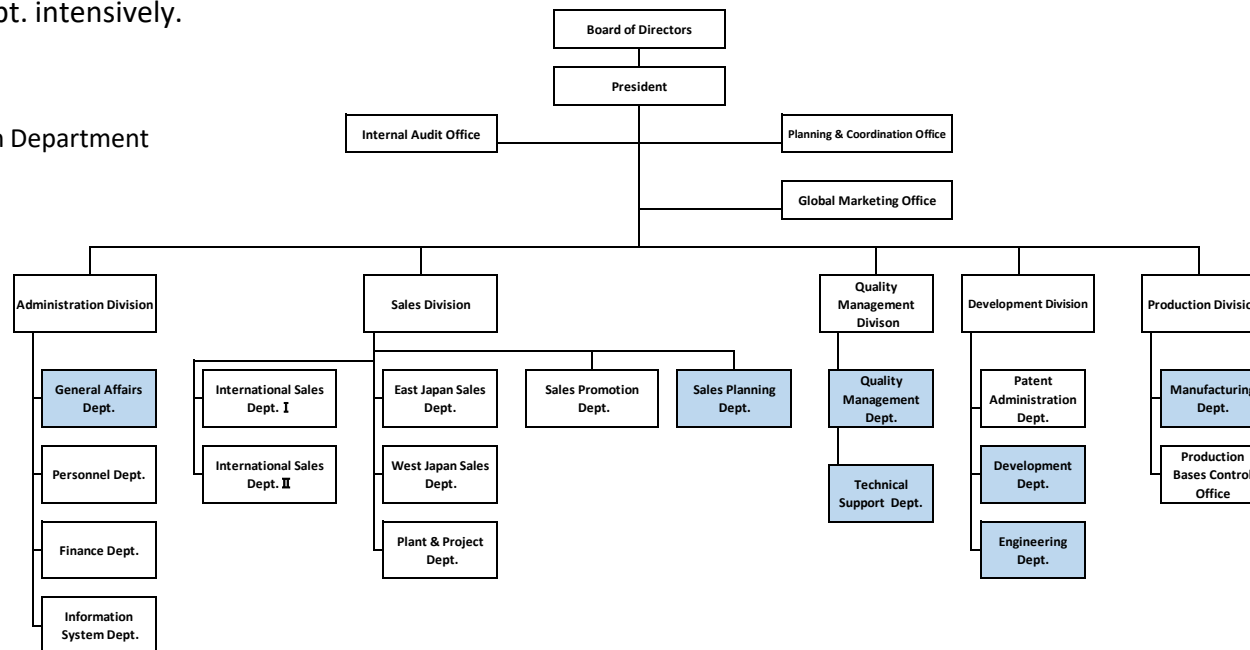


Environmental Management Structure

◎ Promotion System

Denyo is carrying out promotion activities aimed at reducing the total environmental impact by the following promotion Dept. intensively.

■ ...Promotion Department



◎ ISO14001 Certification

Denyo has established an environment management system (EMS) with the president as the system manager and obtained ISO14001:2015 certification. While ensuring smooth operation of the EMS, we evaluate the environmental impact of our business activities, set concrete targets and an annual plan for important issues, and perform environmental load reduction and environmental risk prevention activities through the promotion of resource and energy saving.

Management



Environmental Targets and Achievements

To implement environmental management, we set targets for each fiscal year and carry out evaluations from time to time.

Item	FY2020 Target	FY2020 Achievements	FY2021 Target
Develop products with high environmental performance	Develop eco-friendly products based on new proprietary technologies	<ul style="list-style-type: none"> •Develop welding machine with an automatic idle stop feature •Development of Soundless Generator 	Develop eco-friendly products based on new proprietary technologies
Formation of a recycling-based society	By the end of FY2020, we will cut the volume of industrial waste per output by at least 12% compared to FY2017 levels.	17.0% year-on-year reduction per output compared to FY2017 levels	By the end of FY2021, we will cut the volume of industrial waste per output by at least 13.5% compared to FY2017 levels.
	By the end of FY2020, we will cut the volume of crude oil equivalent energy used per output by at least 6% compared to FY2017 levels	6.7% year-on-year reduction per output compared to FY2017	By the end of FY2021, we will cut the volume of crude oil equivalent energy used per output by at least 7% compared to FY2017 levels.
Contribute to society	Enhance maintenance in green belts adjoining the areas around our business facilities.	<ul style="list-style-type: none"> •Cut down dead trees •Plant flowers in season and increase planters •Carry out cleaning activities on roads surrounding the premises 	Enhance maintenance in green belts adjoining the areas around our business facilities.

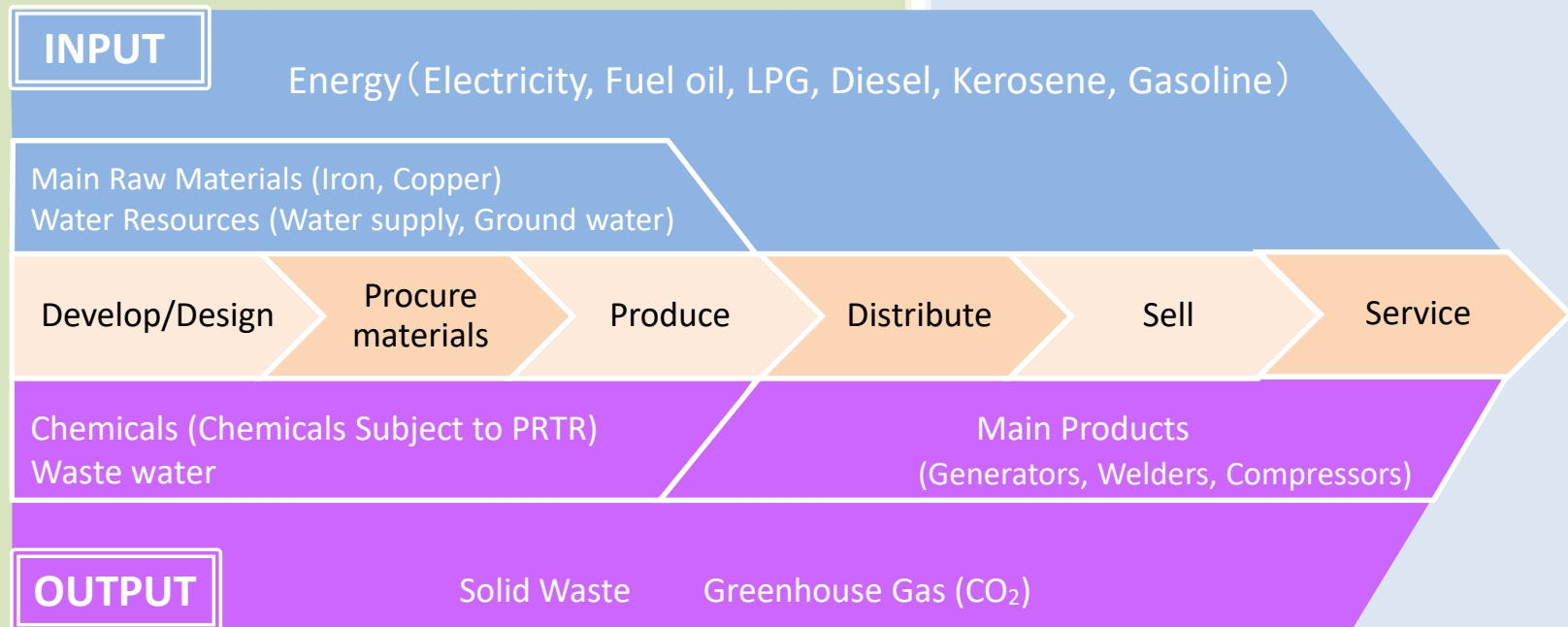
Management



Overview of Environmental Impact in the Value Chain

Eco-Friendly Production

Environmental Consciousness in the Product Life Cycle



Denyo strives to reduce its environmental impact by understanding the input and output of materials in its production and other business activities (P.18~P.23)

Through product knowledge lectures and services including inspections performed upon delivery and regular inspections, Denyo strives to reduce its environmental impact through the proper use of our products. (P.15~P.17)

Management



Environmental Accounting

We quantitatively manage the implementation of our environmental conservation activities through environmental accounting and use the results to ensure efficient and effective environmental conservation activities.

(We use a unique tabulation system for environmental accounting developed while referencing the Environmental Accounting Guidelines 2005 from the Ministry of the Environment.)

Category		Contents	Expenses (thousands of yen)
Business area cost	Pollution prevention cost	Cost of environmental measurements (water quality, odor, vibration, noise, smoke, etc.)	3,564
	Global environmental conservation cost	CFC equipment disposal cost	196
	Resource circulation cost	Waste disposal cost	24,283
Upstream/downstream cost			0
Management activities cost		Green maintenance and management costs, environment-related equipment inspection and maintenance costs	7,149
Social activities cost			0
Environmental remediation cost			0
Total			35,192

Management



Environmental risk management

Denyo assumes the environmental risks of a sudden accident or disaster, etc. that may occur during our business activities and implements regular education and training for the purposes of the prevention of, early action against, and mitigation of such situations.

We evaluate appropriate action procedures and continually improve activities.

The Emergency Response Education and Training

Detail	Actions to take when fuel, oil, or chemicals flow out from a plant and how to use mitigation materials				Review past actions to validate the effectiveness of the internal system
Date	2019/10/30	2019/11/20	2019/11/22	2019/11/26	2019/11/28
Place	Shiga Plant	Fukui Plant	Fukui Plant	Fukui Plant	Fukui Plant
Participants	20 persons	12 persons	11 persons	11 persons	4 persons



Confirming methods for using mitigation materials



Education for each department



Announcement of the Action Manual to the departments on site

Management



Environmental risk management

【 Fire Drill 】

Denyo regularly conducts fire drill in case a fire occurs during its operations.

Fire Drill in
Fukui Plant



Fire Drill
in Laboratory &
Training Center

Eco-Friendly Products



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Eco-Friendly Products



Developing Products with High Environmental Performance

◎ Soundless Generator “Mālie”

The Mālie Soundless Generator is an engine generator that is almost as silent as a library. The DCA-45MZ added to the lineup now is a 45kVA generator, a larger output generator than the 25kVA DCA-25MZ released in 2017. Though the noise reduction technologies were extremely hard to develop, a 44 dB noise level was achieved, matching the 25kVA generator. This expansion of the lineup is expected to expand the applications for these generators in late night work requiring silence as well as disaster prevention and other professional uses.



DCA-45MZ

◎ LP Gas Standby Generating Set “LEG POWER”

LP gas is a resilient energy, whose supply is rarely stopped even when electricity and urban gas are cut off in a disaster. Our wide lineup of LP Gas Standby Generating Sets, which use LP gas, ranges from single-phase 9.9kVA to three-phase 54kVA generators and has earned a solid reputation from the many customers using them. The gasses they emit are clean, without particulate matter (PM) or black smoke. In addition, they are eco-friendly products that do not stress their surroundings due to their thoroughly designed acoustic insulation.



LEG-9.9USXT

Environmental Consciousness in the Product Life Cycle



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Periodical maintenance service	
Training for service staff	

Environmental Consciousness in the Product Life Cycle



Approximately 90% of CO₂ emissions in the life cycle of construction machinery is generated while the products are being used. In addition, there is the risk that an unexpected accident during use may cause environmental pollution. Denyo believes that it is important to promote eco-friendly products and provide after-sales services to ensure users have the correct knowledge to operate our products safely.

Activities Promoting Eco-Friendly Products

🕒 Product training session

Denyo, which operates globally, is actively developing products and promoting its other business activities, with the goal of helping to resolve the deepening environmental issues. We also provide lectures to customers to promote eco-friendly products.

Organizer Denyo United Machinery Pte. Ltd. (Sales subsidiary in Asia)

Date 2019/11/6

Place Vietnam

Detail Introducing products of Ultra silence series



Introducing products



Introducing products by using actual machines

Environmental Consciousness in the Product Life Cycle



After-Sales Service Initiatives



Machine internal inspection at delivery of a generator

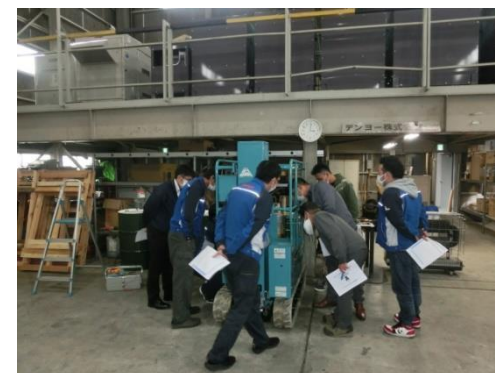


Classroom training

Test run inspection at delivery of a generator



Lecture using actual equipment



🕒 Periodical maintenance service

Inspections are performed via the national network of service factories*. We work to maintain the products on customer sites in good condition.

🕒 Training for service staff

We provide education for the servicing staff working in the service factories* to ensure that high-quality services are provided.

* Service factory: Subcontracting companies that preform servicing operations such as the inspection and repair of Denyo products and sales of parts

Eco-Friendly Production



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Eco-Friendly Production



Global Warming Prevention

Reduce CO₂ Emissions

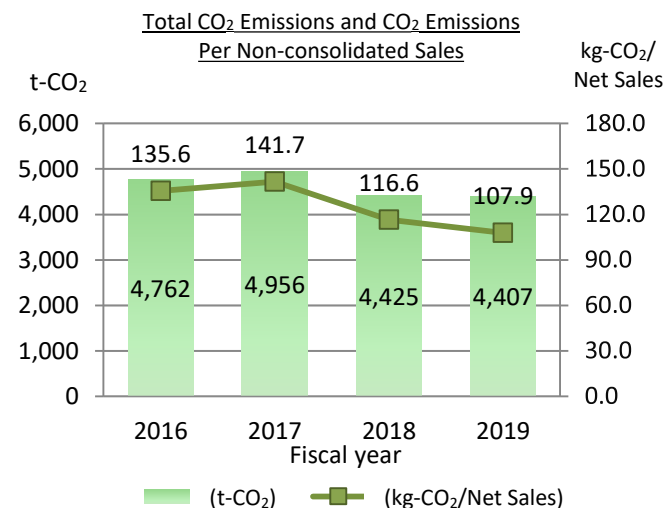
Denyo endeavors to prevent global warming through initiatives to reduce CO₂ emissions due to business activities.

CO₂ emissions in FY2020 were 4,407 tons, an increase of 7.5% from the FY2017 levels.

Though energy consumption increased when compared with FY2018, CO₂ emissions decreased due to the percentages of the types of energy used. Denyo will continue to reduce CO₂ emissions.

	Power consumption (thousand kWh)	Fuel consumption (GJ)	CO ₂ emission after conversion (t)	Net Sales (Millions of yen)	CO ₂ emissions (kg) / Non-consolidated sales (Millions of yen)
FY2020	5,386.9	36,720.1	4,407	40,836	107.9
FY2017	4,932.7	34,088.2	4,762	35,117	135.6
Change from FY2017	+ 9.2 %	+ 7.7 %	△7.5 %	+ 16.3 %	△14.0%

※Net sales is Denyo Non-consolidated Sales



Eco-Friendly Production



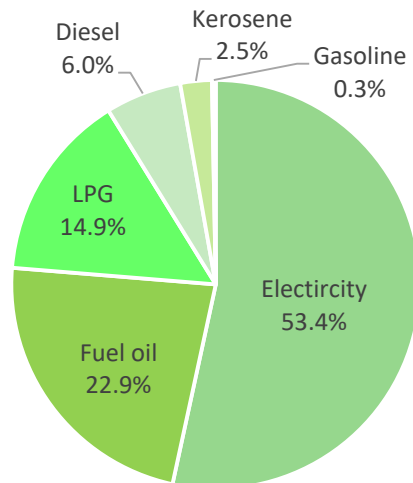
Formation of a Recycling-based Society

Energy Consumption reduction

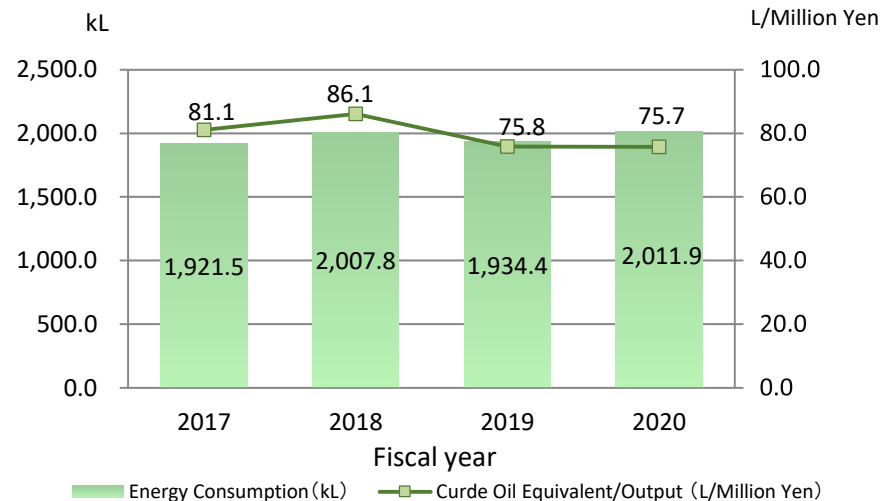
The volume of crude oil equivalent energy used per output in FY2020 was 75.7L/million yen, which is a decrease of 6.7% from the FY2017 levels.

In FY2019, in addition to the replacement of indoor and outdoor lighting with LEDs and the renovation of high-efficiency cubicles, which have been improved over multiple years, production efficiency was improved by the increase in production volume and the crude oil equivalent of energy consumption per production volume decreased.

Breakdown of Energy Consumption
(Crude Oil Equivalent)



Energy Consumption and Crude Oil Equivalent per output



Eco-Friendly Production



Formation of a Recycling-based Society

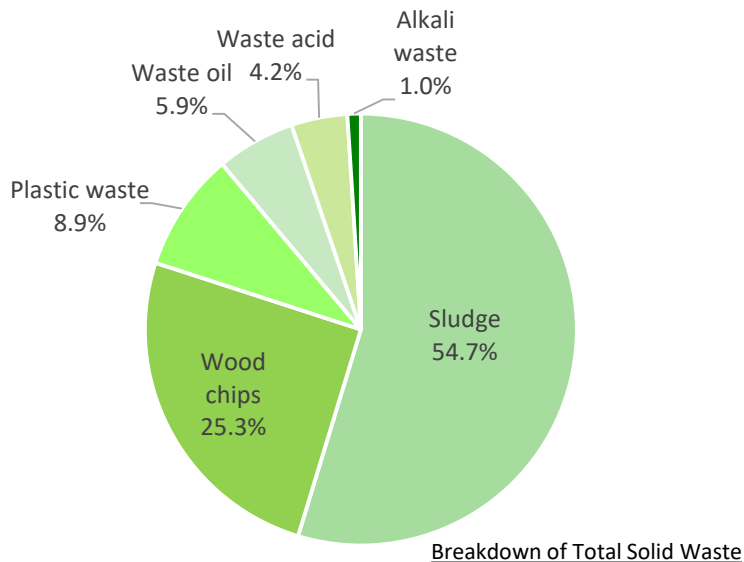
Reduce Solid Waste

We manage and process solid waste appropriately and in compliance with all laws and ordinances.

In FY2020, we discharged about 241 tons of industrial waste, down by 17.0% per output compared to the FY2017 levels.

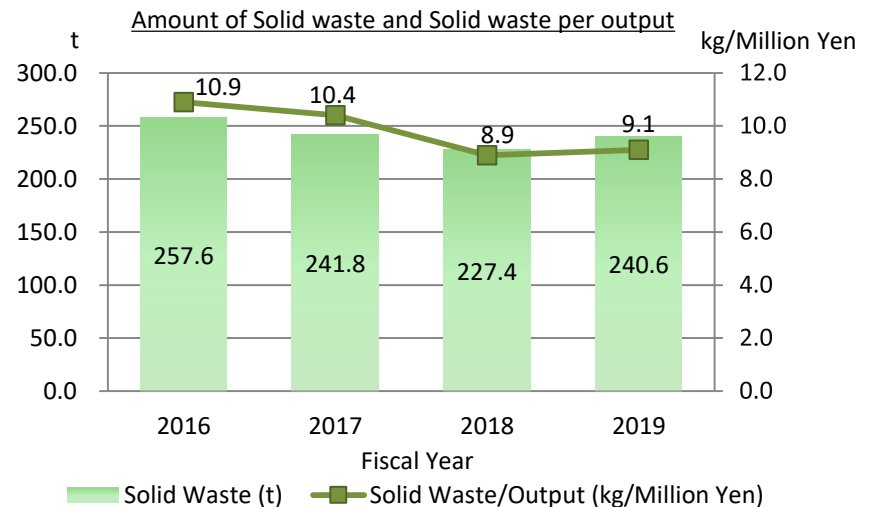
Though the total amount of waste increased due to the increase in production volume when compared with FY2018, the discharge of wood chips decreased approximately 20% through 3R activities.

We are also working toward to implement initiatives to reduce a certain amount or more of Solid Waste stably.



Breakdown of Total Solid Waste

*Total for the Fukui and Shiga Plants



Eco-Friendly Production



Formation of a Recycling-based Society

◎ 3Rs Activities

In recent years, there have been problems with the depletion of resources such as petroleum, which are essential for our daily lives, and the shortage of final disposal sites for garbage. The importance of 3Rs (Reduce, Reuse, Recycle) has been increasing.

Denyo implements a range of initiatives to make effective use of limited resources and minimize the impact on the environment. We will now introduce some of these activities.

Reduce / Reuse

Denyo changed from wooden pallets to iron pallets on the loading platforms used to transport products and other goods. The disused wooden pallets were taken by companies that use wooden pallets, through which 1,842 wooden pallets were recycled in FY2020.

This resulted in a waste reduction of approximately 32 t.

Recycle

The wood chips generated in the production process were all recycled. 35% of sludge, waste plastics, and waste alkali was recycled as cement materials.

This resulted in recycling of approximately 117 tons of waste, which is 49% of the total, 241 tons of waste, as new raw materials in FY2020.





Eco-Friendly Production

Managing Chemicals

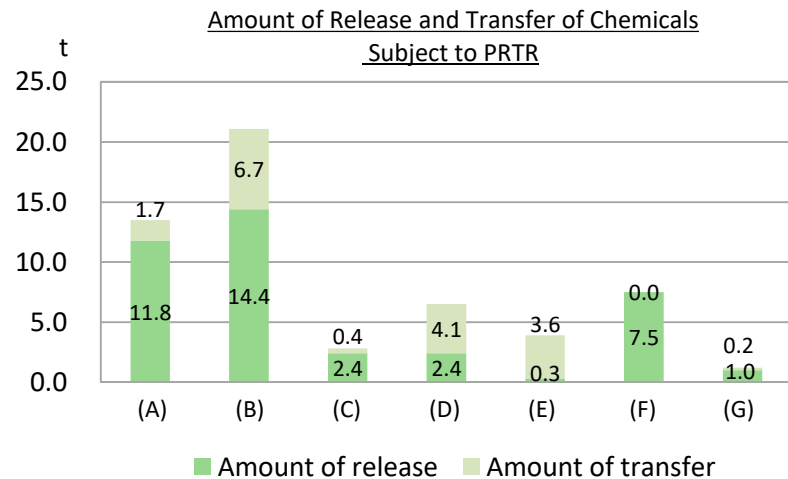
Managing Chemicals Subject to PRTR

Based on the PRTR Law, we compile and release data on chemicals subject to the PRTR including amounts released into the environment or transferred as solid waste.

*A Pollutant Release and Transfer Register (PRTR) is a system for compiling and disclosing data on hazardous chemical substances including their sources, how much is released into the environment or transferred off-site with solid waste.

Substance	Amount released to the atmosphere	Amount of transfer
(A) Xylene	11.8	1.7
(B) Toluene	14.4	6.7
(C) Ethyl benzene	2.4	0.4
(D) Methylene chloride	2.4	4.1
(E) Tetrahydromethyl phtalicanhydride	0.3	3.6
(F) Syrene	7.5	0.0
(G) 1,2,4-trimethylbenzene	1.0	0.2

(Unit: t)



Environmental conservation & community contribution activities



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Environmental conservation & community contribution activities



Environmental conservation activities

☉ Roof Greening

Based on our environmental policy “promoting environmentally sound business activities,” Denyo has been implementing roof greening activities at the headquarters building since 2012. Roof greening can reduce temperature rise in a building, resulting in mitigation of the heat-island phenomenon and improved cooling efficiency.

Thirty-eight percent (40.88 m²) of the headquarters building rooftop area is part of the roof greening efforts, including green planters. The light, artificial soil used withstands the dry summer air well. In addition, approximately 20 varieties, mainly blooming plants, flourish throughout the year so that the four seasons can be sensed, and you can feel refreshed. The area is used by many employees to relax.



☉ Water Quality Monitoring



The Fukui plant employs a method that collects treated drain water in an on-premises balancing reservoir before releasing it into a river. We monitor water quality to ensure that an environment suitable for living creatures is maintained. Even if contaminated water should escape at the primary water discharge, the risk of releasing contaminated water directly into the river is minimized.

Environmental conservation & community contribution activities



Community contribution activities

◎ Participation in cleaning activities

Denyo is also actively participating in the cleaning activities, etc. hosted by Konan Industrial Complex Association.

To improve the environment in consideration of harmony with nature and to further strengthen our connection with neighboring companies and the local community, we will continue to actively participate in these events.



Cleaning activity

◎ Participation in the Self-Protection Firefighting Team fire-extinguisher handling training session

In October 6, 2019, the Mikata Area Fire-Extinguisher Handling Training Session by Wakasa-cho Self-protection Fire-fighting Team was held.

This training session is intended for the Self-Protection Fire-fighting Team to learn fire-extinguisher handling techniques and improve initial fire extinguishing actions, etc. Participating teams participate in initial fire extinguishing technique training and compete.

From our company, four employees of the Fukui Plant participated.



Self-Protection Firefighting Team fire-extinguisher handling training session



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