Environment Report

Forest-In Office 2022

AMADA

Data

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■ **Issues**
Published Nov. 2022

■ **Scope of the content**
Reporting period: Fiscal 2021 (April 2021 to March 2022)
Relevant organizations: (Domestic data) 13 consolidated companies in Japan
(Overseas data) 65 consolidated overseas companies
*See notes on relevant page for each data set's scope of tabulation

■ **About the name "Forest-In Office"**
"Forest-in" is a neologism created by AMADA.
AMADA seeks to be an office of the forest, rather than an office in the forest. The term thus refers to AMADA as "an office of the forest" that promotes activities that protects the natural environment.

■Environmental accounting

AMADA Group has adopted environmental accounting to use for reasonable decision making by understanding the costs and benefits related to environmental preservation activities.

◆ The adoption of environmental accounting

AMADA Group has adopted environmental accounting since FY2005 for the purpose of understanding the costs and the economic impact associated with environmental preservation measures, and providing information useful for decision making by stakeholders.

The scope has gradually expanded and environmental accounting is now implemented at eight bases in Japan, including the Ono Plant (from 2008), Fujinomiya Works (from 2009), Toki Works (from 2011), Miki Plant (from 2013), Noda Works (from 2014), Fukushima Plant (from 2015), and Suzukawa Works (from 2020)*.

Among the economic impact associated with environmental preservation costs and measures, the sum of profit from the substantial impacts (for example, income from recycling wastes) is calculated automatically by incorporating environmental accounting items into the monthly financial system.

◆ Environmental preservation cost

Environmental preservation costs and expenses (￥2,810,496,000 JPY) in fiscal 2021 can be itemized as follows: research and development costs (￥2,544,291,000 JPY), business area costs (￥213,764,000 JPY), etc. The research and development cost, the largest in the breakdown, is calculated by integrating all the costs related to the models currently certified as AMADA Eco Products, as well as the development models newly applying to be certified as AMADA Eco Products. Other than the expenses for test materials and jig production, costs for experiments and researches as well as the man-hour (or labor cost) of the workers involved in developments are included in the cost from fiscal 2021. Furthermore, along with updating the systems for heating, lighting, air-conditioning, etc., AMADA has invested in in-facility green infrastructure (or a rain garden) in fiscal 2021.

◆ Economic impact associated with environmental preservation measures

The main content of the fiscal 2021 economic impact includes the income from recycling the wastes from other projects, as well as reduced spending due to energy conservation measures.

The main sources of recycling income are metals such as iron, aluminum and stainless steel.

Environmental Preservation Cost Unit: 1,000 yen

Item		Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2020	Fiscal 2021
Cost						
	Cost within the business area	141,126	114,996	172,877	152,726	213,764
	(Breakdown 1) Pollution prevention cost	50,770	20,242	33,796	31,532	31,594
	(Breakdown 2) Global environment preservation cost	18,441	13,167	34,622	35,683	46,036
	(Breakdown 3) Recycling cost	71,915	81,587	104,459	85,511	136,133
	Upstream / downstream cost	4,703	795	0	0	6
	Management cost	33,621	37,703	37,317	46,553	52,436
	Research & development cost	315,337	1,205,842	782,483	496,556	2,544,291
	Social activities cost	12	0	0	0	0
	Environmental remediation cost	0	0	0	0	0
	Environmental preservation activities, etc.	1,460	34	12	0	0
Investment	Global environmental preservation cost	15,526	18,019	1,400	636	1,729,136
	Management cost					2,870
Total		**511,785**	**1,377,389**	**994,089**	**696,470**	**4,542,502**

Environmental Preservation Impact

Item	(Unit)	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2020	Fiscal 2021
Economic impact associated with environmental preservation measures	(1,000 yen)	28,180	35,223	27,259	24,292	93,988
Quantitative effect associated with environmental preservation measures						
CO_2 reduction from the business facilities	(t-CO2)	716.3	1,630.1	1,106.1	1,462.6	968.5
Waste	(t)	41.1	130.7	21.4	50.7	52.5

*CO_2 emissions are calculated based on the coefficient of emissions in each area in the benchmark year (2007)

Scope of tabulation: 8 key companies in Japan

■ Material balance

< Domestic >

INPUT

Resources / raw materials
Metal 28,511 t
Nonferrous metal 10.8 t
Oil 163.2 KL

Chemical substances (PRTR substance)
Gasoline 5.4 KL
Paint 40.1 t

Energy
Electricity 66,216,000 kWh
City gas 796,000 m^3
Kerosene 591 KL
Others 289 KL

Water
Tap water 42,000 m^3
Underground water 174,000 m^3

Business Processes

- Plan / DEV / design
- Procurement
- Production
- Transportation / delivery
- Use
- Disposal / recycle

OUTPUT

Waste
Total waste 4,203 t
Recycled waste 4,102 t
Final Waste 28 t

Greenhouse gases
CO_2 31,675 t-CO_2
NOx emission 0.4 t
SOx emission 0.0 t

Impact on water environment
Total waste 103,000 m^3
BOD emission 6.3 t

Chemical substances
Total waste 55.6 t

Gases emitted during transport
CO_2 3,217 t
(212,780,000 ton k*)

*Calculated with METI's revised CO_2 calculation method ton/kilo Alternative method B.

Recycling after product disposal
Metal 2,933 t

Products

■ Detailed Data

		2017	2018	2019	2020	2021
CO_2 emission ($t\text{-}CO_2$)	Scope1	5,675	4,798	4,743	3,634	4,001
	Scope2	26,924	27,826	27,072	23,827	27,674
	Total amount	32,599	32,623	31,815	27,461	31,675
	Intensity	0.8897	0.8524	0.8915	1.0378	0.101

※ The emission factor for the calculation of the CO_2 emission (Scope2) uses the coefficient of emissions in each area in the benchmark year (2007) until fiscal 2020, based on the set standard under AMADA's mid- to long-term goals.
Accompanying the revision of AMADA's goals, the emission factor for each applicable year is referred to The List of Emission Factor by Electric Utility published by the Ministry of Environment and the Ministry of Economy, Trade and Industry from fiscal 2021.
※ Intensity, until fiscal 2020, is the weighted average of the improvement rate compared to fiscal 2007 CO_2 intensity which divided the CO_2 emission with activities of each facility closely related to CO_2 emission, such as their output and production volume. From fiscal 2021, it is calculated by dividing the total of Scope1 and 2 with the sales.

	2017	2018	2019	2020	2021
Volume of renewable energy (in 000s kWh)	422.1	557.1	531.3	611.5	604.7

		2017	2018	2019	2020	2021
Air pollutant (ton)	NOx	0.99	1.23	3.90	2.70	0.37
	SOx	0.00	0.00	0.00	0.00	0.00

		2017	2018	2019	2020	2021
Waste (ton)	Total amount	3,421.0	3,789.0	3,580.4	3,004.4	4203.2
	Recycled waste	3,193.7	3,618.1	3,320.5	2,918.8	4102.0
	Final waste	37.9	36.0	29.1	17.0	27.9

	2017	2018	2019	2020	2021
PRTR-reportable chemical substances (ton)	67.3	90.2	58.7	39.1	55.6

	2017	2018	2019	2020	2021
Amount of water resources used (in 000s m^3)	154.2	229.5	152.9	246.5	215.3

	2017	2018	2019	2020	2021
Impact on the aquatic environment (waste) (in 000s m^3)	97.1	98.3	96.2	73.7	102.8

< Overseas >

	2017	2018	2019	2020	2021
Greenhouse gases ($t\text{-}CO_2$)	20,388	16,274	19,753	17,520	17,263
Volume of renewable energy (in 000s kwh)	–	–	2,908.9	2,928.0	10,261.8
Total amount of waste (ton)	2,643	2,757	2,516	1,851	2,517
Amount of water resources used (in 000s m^3)	106.5	115.7	162.2	119.8	141.7

※ CO_2 emission, until fiscal 2020, is calculated with the Tokyo Electric Power Company's emission factor of 2007. From fiscal 2021, emission factors from the electric company of each country are used.

Scope of tabulation: (greenhouse gasses) 65 consolidated overseas companies
(Waste) 5 key overseas production bases

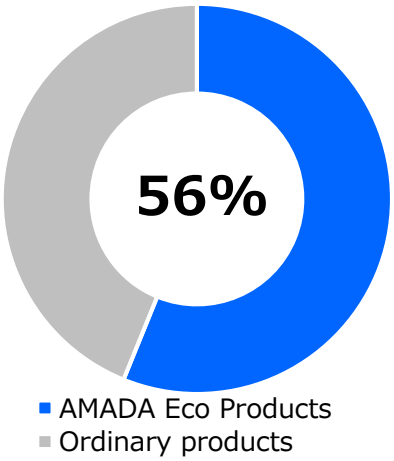
■ Parts designated for recovery (Pieces recovered)

	2017	2018	2019	2020	2021
Lenses	1,424	2,174	1,425	1,835	1,458
Ion exchange resin	246	224	239	193	135
Recycling filters	1,016	974	942	750	466
Total	2,686	3,372	2,606	2,778	2,059

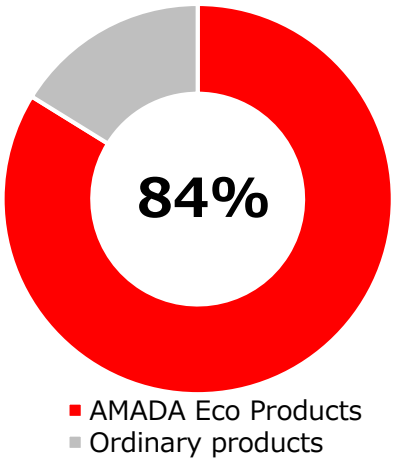
※ AMADA's system for recovering parts designated for recovery: The AMADA Group's original system for recovering and properly disposing of parts containing substances designated as restricted chemical substances as our duty as a manufacturer

■ AMADA Eco Products

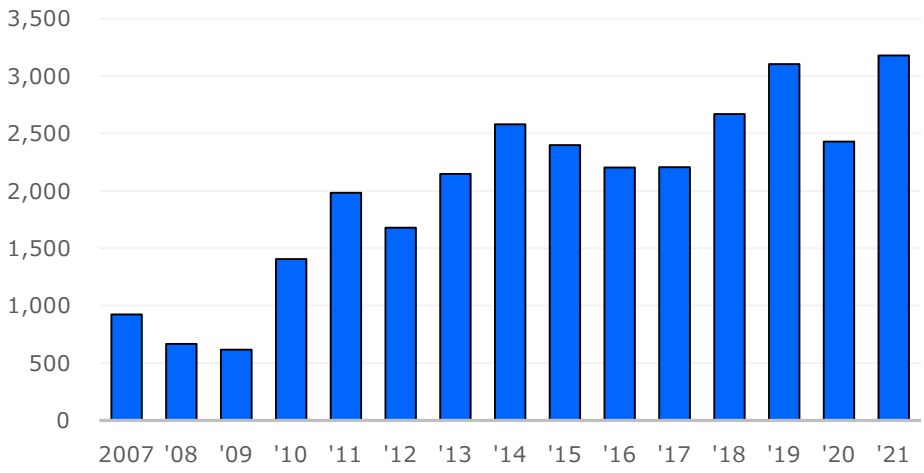
Fiscal 2021 ratio of AMADA Eco Products units out of total



Fiscal 2021 ratio of AMADA Eco Products sales out of total



Total unit sales of AMADA Eco Products
(in number of units)



Total unit sales and sales totals for Fiscal 2021 AMADA Eco Products

	Units	Sales total (¥ million)
Eco Products (machine main units)	3,100	119,533
Non-Eco Products	2,500	23,092
Total	5,700	142,625

■ Response to Scope 3

◆ Grasping the quantity of greenhouse gas emissions from business activities with regard to Scope 3

Japan's Energy Conservation Act requires companies to carry out management of their own direct emissions of greenhouse gases covered in Scope 1 (fossil fuels, natural gas, etc.) and indirect emissions covered in Scope 2 (electrical power, etc.). Scope 3 covers emissions from throughout the entire supply chain including "Scope 3 (other indirect emissions)" that were previously outside the scope of calculations—in other words, not only the company's own emissions, but also those occurring from their full range of business activities, upstream and downstream alike—and brings them within the scope of calculations.

It is AMADA's position that bringing visibility to the greenhouse gas emissions occurring from the full range of business activities, including the supply chain, is an important policy in reducing CO_2 emissions.

Value chain	Category	Item	CO_2 emission ($t\text{-}CO_2$)	Ratio
Upstream	**1**	Purchased products & services	1,472,466	75.8%
	2	Capital goods	60,252	3.1%
	3	Fuel & energy-related activities not included in Scope 1 or 2	8,702	0.4%
	4	Transport & delivery (Upstream)	(Included in Category 1)	—
	5	Waste produced by business operations	13,727	0.7%
	6	Business travel	8,863	0.5%
	7	Employees' commuting	4,030	0.2%
	8	Lease assets (Upstream)	18,082	0.9%
Downstream	**9**	Transport & delivery (Downstream)	7,923	0.4%
	10	Processing of sold products	– (N/A)	—
	11	Use of sold products *	346,291	17.8%
	12	Disposal of sold products	1,348	0.1%
	13	Lease assets (Downstream)	– (N/A)	—
	14	Franchises	– (N/A)	—
	15	Investment	– (N/A)	—
Total			1,941,683	100%

■ Third Party Warranty

In order to enhance the reliability of the environmental data given in our report, we have obtained assurance by a third-party organization.

The target data and assurance standards for this certification are as follows:

・Amount of CO_2 emissions from our 7 domestic business facilities (in Japan)
International Standards on Assurance Engagements: ISAE 3000 and ISAE 3400
※ The target of this assurance report is p.03 and p.05's greenhouse gas emissions data.

SUSA
Sustainability Accounting Co.,Ltd.

Independent Assurance Statement

October 19, 2022

Mr. Tsutomu Isobe
Representative Director, President
AMADA CO., LTD.

1. Purpose

We, Sustainability Accounting Co., Ltd., have been engaged by AMADA CO., LTD. ("the Company") to provide limited assurance on its domestic CO2 emissions which are 4.00 kt-CO2 for Scope1 and 27.7 kt-CO2 for market-based Scope2 during the fiscal year 2021. The purpose of this process is to express our conclusion on whether the CO2 emissions data were calculated in accordance with the Company's standards. The Company's management is responsible for calculating the CO2 emissions data. Our responsibility is to independently carry out a limited assurance engagement and to express our assurance conclusion.

2. Procedures Performed

We conducted our assurance engagement in accordance with International Standard on Assurance Engagement 3000 (ISAE 3000) and International Standard on Assurance Engagement 3410 (ISAE 3410). The key procedures we carried out included:

- Interviewing the Company's responsible personnel to understand the Company's standards and reviewing the Company's standards
- Performing cross-checks on a sample basis and performing a recalculation to determine whether the CO2 emissions data were calculated in accordance with the Company's standards.

3. Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the CO2 emissions data have not been calculated in all material respects in accordance with the Company's standards.

We have no conflict of interest relationships with the Company.

Takashi Fukushima
Representative Director
Sustainability Accounting Co., Ltd.

■ External assessments

◆ Rating in report by CDP

AMADA obtained a “B” rating in the “Climate Change Report 2020” compiled by CDP, a UK NGO. AMADA also obtained a “B-” rating in the “Global Water Report”. We will continue our promotion of climate change initiatives in the future along with our contributions to sustainable social development to match the expectations and trust of all stakeholders.

◆ Fujinomiya Works receives “FY2021 Factory Greening Award”

The Fujinomiya Works was a recipient of the “FY2021 Factory Greening Award”, which gives public recognition to factories and plants that are actively working to promote greening and have shown considerable achievements in making environmental improvements onsite and off.

◆ *“REGIUS-3015AJ” was awarded the Minister of Economy, Trade and Industry Award at the 55th Machine Design Award IDEA*

VENTIS-3015AJ, a LBT technology equipped fiber laser machine, was awarded the Minister of Economy, Trade and Industry Award, the highest award at the 51st Machine Design Award IDEA (hosted by The Nikkan Kogyo Shimbun). This machine is certified with “AMADA ECO PRODUCTS”, which actualizes both an energy saving feature and improved productivity; it is a machine that contributes to the reduction of CO_2 emission during the manufacturing process of our customers.

REGIUS 3015 AJ

◆ Acquisition of ISO 14001 certification

The AMADA Group has acquired integrated ISO 14001 certification for 9 of its operations centers in Japan. Overseas as well, the Group has acquired ISO 14001 certification for 4 of its production centers.

ISO 14001-certified operations centers	
Domestic (Japan) locations	Overseas locations
Isehara Works	AMADA AUSTRIA GmbH
Fujinomiya Works	AMADA LIANYUNGANG MACHINERY CO., LTD.
Toki Works	AMADA SHANGHAI MACHINE TECH CO., LTD.
Ono Plant	AMADA EUROPE S.A.
Miki Plant	
Fukushima Plant	
Noda Works	
Isehara-suzukawa Works	
Kawaguchi Works	

※ 10 out of 13 consolidated companies in Japan are within the scope for acquiring the certificate (acquisition ratio 76.9%)
5 out of 7 domestic group companies with their own production center are within the scope for acquiring the certificate (acquisition ratio 71.4%)

※ 4 out of 65 consolidated overseas companies are within the scope (acquisition ratio: 6.2%)
4 out of 12 group companies overseas with their own production center are within the scope for acquiring the certificate (acquisition ratio 33.3%)

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