

Environment

Environmental Accounting



		Unit	Data coverage	FY2019	FY2020	FY2021	FY2022	FY2023
Environmental Conservation Costs (investment amount)	Costs in Business Sites	Million JPY	AMADA Group (Domestic) *1	1	1	1729	2,958	445
	(Breakdown①)Antipollution Cost	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	(Breakdown②)Global Environmental Conservation Cost	Million JPY	AMADA Group (Domestic) *1	1	1	1729	2,958	445
	(Breakdown③)Resource Circulation Cost	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	Upstream / Downstream Cost	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	Management Activities Cost	Million JPY	AMADA Group (Domestic) *1	0	0	3	0	0
	Research and Development Cost	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	Social Activities Cost	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	Environmental Damage Restoration Cost	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	Environmental Conservation Costs and Others	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	Total Environmental Conservation Costs (investment amount)	Million JPY	AMADA Group (Domestic) *1	1	1	1732	2,958	445
Environmental Conservation Costs (Expense)	Costs in Business Sites	Million JPY	AMADA Group (Domestic) *1	173	153	214	323	225
	(Breakdown①)Antipollution Cost	Million JPY	AMADA Group (Domestic) *1	34	32	32	46	29
	(Breakdown②)Global Environmental Conservation Cost	Million JPY	AMADA Group (Domestic) *1	35	36	46	110	81
	(Breakdown③)Resource Circulation Cost	Million JPY	AMADA Group (Domestic) *1	104	86	136	167	115
	Upstream / Downstream Cost	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	1
	Management Activities Cost	Million JPY	AMADA Group (Domestic) *1	37	47	52	87	67
	Research and Development Cost *2	Million JPY	AMADA Group (Domestic) *1	782	497	2544	6,926	2,689
	Social Activities Cost	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	Environmental Damage Restoration Cost	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	Environmental Conservation Costs and Others	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
	Total Environmental Conservation Costs (Expense)	Million JPY	AMADA Group (Domestic) *1	993	696	2810	7,336	2,982
Effects of Environmental Conservation	Reduction of CO ₂ Emission at Business Sites	t-CO ₂	AMADA Group (Domestic) *1	708	1,044	969	1,227	1,132
	Reduction of Waste Disposal	t	AMADA Group (Domestic) *1	19	32	53	108	112
	Economic Effects	Million JPY	AMADA Group (Domestic) *1	27	24	94	194	154

Environmental Contribution

		Unit	Data coverage	FY2019	FY2020	FY2021	FY2022	FY2023
Amada Eco Products *3	Unit Sales	Unit	Consolidated	3,100	2,400	3,200	3,500	3,900
	Amada Eco-Products Unit Ratio	%	Consolidated	46	51	56	61	63
	Sales Amount	Million JPY	Consolidated	108,608	86,373	119,533	143,591	162,551
	Amada Eco-Products Sales Ratio	%	Consolidated	74	80	84	87	87

Environmental Data

Input		Unit	Data coverage	FY2019	FY2020	FY2021	FY2022	FY2023
Energy	Non-renewable energy	MWh	AMADA Group (Domestic) *1	67,502	59,423	66,216	0	0
	Renewable energy (purchased)	MWh	AMADA Group (Domestic) *1	0	0	0	67,004	64,609
	Renewable energy (self-generated)	MWh	AMADA Group (Domestic) *1	531	612	605	614	786
	City Gas	1,000 m ³	AMADA Group (Domestic) *1	1,190	904	796	832	902
	LPG	t	AMADA Group (Domestic) *1	204	161	213	220	199
	Heavy Oil	kl	AMADA Group (Domestic) *1	28	26	27	21	29
	Kerosene	kl	AMADA Group (Domestic) *1	675	566	439	591	515
	Gasoline	kl	AMADA Group (Domestic) *1	6	9	6	3	5
	Diesel Oil	kl	AMADA Group (Domestic) *1	10	7	11	10	9
	Non-renewable energy	MWh	Overseas Subsidiaries Consolidated *4	37,112	35,728	34,837	33,801	35,655
	Renewable energy (purchased)	MWh	Overseas Subsidiaries Consolidated *4	3,119	3,848	8,997	4,024	5,601
	Renewable energy (self-generated)	MWh	Overseas Subsidiaries Consolidated *4	222	226	136	218	143
	Natural Gas	1,000 m ³	Overseas Subsidiaries Consolidated *4	1,453	1,464	1,271	1,358	1,357
	LPG	t	Overseas Subsidiaries Consolidated *4	193	109	111	39	22
	Heavy Oil	kl	Overseas Subsidiaries Consolidated *4	7	11	9	0	0
	Kerosene	kl	Overseas Subsidiaries Consolidated *4	0	0	0	0	0
	Gasoline	kl	Overseas Subsidiaries Consolidated *4	78	165	55	0	0
	Diesel Oil	kl	Overseas Subsidiaries Consolidated *4	167	135	168	47	30
	Biomass	MWh	Overseas Subsidiaries Consolidated *4	918	941	987	1,080	1,430
	Hot Water	Gcal	Overseas Subsidiaries Consolidated *4	190	206	229	235	234
Total Energy Consumption	GWh	Consolidated	156	142	151	144	142	
Water	City Water	1,000 m ³	AMADA Group (Domestic) *1	48	45	42	44	46
	Groundwater	1,000 m ³	AMADA Group (Domestic) *1	218	205	174	149	67
	Total Water Withdrawal	1,000 m ³	AMADA Group (Domestic) *1	266	250	215	193	113
	Total Water Withdrawal	1,000 m ³	Overseas Subsidiaries Consolidated *4	162	120	142	133	135

Input		Unit	Data coverage	FY2019	FY2020	FY2021	FY2022	FY2023
Resources	Iron	t	AMADA Group (Domestic) *1	31,106	17,579	28,511	38,966	34,568
	Non-ferrous Metal	t	AMADA Group (Domestic) *1	1	1	11	4	2
	Oil *5	kl	AMADA Group (Domestic) *1	240	125	163	164	193
Chemical Substances (Subject to the PRTR law *7)	Painting Material	t	AMADA Group (Domestic) *1	62	19	40	23	4

Output		Unit	Data coverage	FY2019	FY2020	FY2021	FY2022	FY2023	
GHG	CO ₂ Emissions	GHG *7	t-CO ₂	AMADA Group (Domestic) *1	35,620	29,852	31,675	3,892	3,620
		Scope1	t-CO ₂	AMADA Group (Domestic) *1	4,793	3,697	4,001	3,892	3,620
		Scope2	t-CO ₂	AMADA Group (Domestic) *1	30,828	26,155	27,674	0	0
		GHG *7	t-CO ₂	Overseas Subsidiaries Consolidated *4	18,577	15,766	14,917	12,986	12,150
		Scope1	t-CO ₂	Overseas Subsidiaries Consolidated *4	5,051	4,633	4,068	3,338	3,130
		Scope2	t-CO ₂	Overseas Subsidiaries Consolidated *4	13,526	11,133	10,849	9,648	9,021
		GHG *7	t-CO₂	Consolidated	54,197	45,618	46,592	16,878	15,770
		Scope1+2 (Intensity)	t-CO ₂ /Revenue billion yen	Consolidated	169.3	182.1	149.0	46.2	39.1
		Scope1+2 (Energy Intensity) ※8	t-CO ₂ /GWh	Consolidated	346	322	309	118	31
		Scope3	t-CO₂	Consolidated	1,961,644	1,323,198	1,942,035	2,184,806	2,232,560
		Category 1: Purchased Products and Services	t-CO ₂	Consolidated	1,376,126	903,207	1,472,466	1,690,332	1,770,921
		Category 2: Capital Goods	t-CO ₂	Consolidated	54,321	61,624	60,252	89,203	62,085
		Category 3: Fuel and Energy-related Activities not Included in Scope 1 or 2	t-CO ₂	Consolidated	8,915	8,163	8,702	8,690	8,944
		Category 4: Transportation and Delivery (upstream)	t-CO ₂	Consolidated	6,653	6,107	7,923	8,629	9,442
		Category 5: Waste from Business	t-CO ₂	Consolidated	13,031	10,845	13,727	13,842	14,634
		Category 6: Business Trips	t-CO ₂	Consolidated	14,149	8,025	8,863	10,134	10,588
		Category 7: Employee Commuting	t-CO ₂	Consolidated	4,359	4,090	4,030	4,097	4,102
		Category 8: Lease Assets (upstream)	t-CO ₂	Consolidated	7,809	6,338	8,983	8,064	8,313
		Category 9: Transportation and Delivery (downstream)	t-CO ₂	Consolidated	-	-	-	-	-
		Category 10: Processing of Sold Products	t-CO ₂	Consolidated	-	-	-	-	-
		Category 11: Use of Sold Products	t-CO ₂	Consolidated	467,443	300,659	346,291	345,141	337,570
		Category 12: Disposal of Sold Products	t-CO ₂	Consolidated	1,654	1,286	1,348	1,450	1,424
		Category 13: Lease Assets (downstream)	t-CO ₂	Consolidated	7,183	12,855	9,451	5,224	4,538
Category 14: Franchise	t-CO ₂	Consolidated	-	-	-	-	-		
Category 15: Investment	t-CO ₂	Consolidated	-	-	-	-	-		
Water	Discharge	1,000 m ³	AMADA Group (Domestic) *1	96	74	103	92	88	
	Discharge	1,000 m ³	Overseas Subsidiaries Consolidated *4	-	62	92	93	98	
Waste	Total Emissions of Waste	t	AMADA Group (Domestic) *1	3,580	3,004	4,203	4,336	4,293	
	Amount of Waste Recycled	t	AMADA Group (Domestic) *1	3,321	2,919	4,102	4,236	4,179	
	Amount of Waste Incineration	t	AMADA Group (Domestic) *1	231	69	73	79	93	
	Amount of Final Disposal	t	AMADA Group (Domestic) *1	29	17	28	21	22	
	Zero Emission Rate	%	AMADA Group (Domestic) *1	0.81	0.56	0.66	0.49	0.50	
	Total Emissions of Waste (Landfill Disposal Rate)	t	Major overseas Production Sites*9	2,516	1,967	2,517	2,389	2,754	
	Amount of Waste Recycled	t	Major overseas Production Sites*9	-	1,256	1,460	1,732	2,206	
	Amount of Waste Incineration, Others	t	Major overseas Production Sites*9	-	291	401	89	100	
	Amount of Final Disposal	t	Major overseas Production Sites*9	-	421	656	568	448	
	Zero Emission Rate (Landfill Disposal Rate)	%	Major overseas Production Sites*9	-	21	26.06	23.78	16.28	
Chemical Substances	Chemical Substances (Subject to the PRTR law*6)*10	t	AMADA Group (Domestic) *1	59	39	56	77	126	
	NOx	t	AMADA Group (Domestic) *1	3.9	2.7	3.6	4.5	0.8	
	SOx	t	AMADA Group (Domestic) *1	0	0	0	0	0	

Environmental Management System

	Unit	Data coverage	FY2019	FY2020	FY2021	FY2022	FY2023
ISO 14001 Certified Sites *11	Sites	Domestic	8	10	10	10	10
ISO 14001 Certified Sites *11	Sites	Overseas	6	5	5	5	5
Environmental Fines	Million JPY	AMADA Group (Domestic) *1	0	0	0	0	0
Accidents / Pollution that May Cause Environmental Problems		AMADA Group (Domestic) *1	0	0	0	0	0
Environment-related Complaints		AMADA Group (Domestic) *1	0	0	0	0	0

	-	Data coverage	FY2019	FY2020	FY2021	FY2022	FY2023
Third-Party Assurance *12	-	AMADA Group (Domestic) *1	obtained	obtained	obtained	obtained	obtained

Notes

These data are recalculated retroactively in case of changes in aggregation method.

*1 Coverage of the domestic consolidated companies: 17 companies for FY2019, 13 companies for FY2020, 13 companies for FY2021, 14 companies for FY2022, and 14 companies for FY2023.

*2 Calculated by adding up personnel expenses for R&D from FY2021

*3 At Amada, we conduct product assessments on "energy saving," "resource saving," "recycling," "material usage restrictions," "environmental considerations during use," "packaging rationalization," and "information provision" for all the developed products. Among eco-friendly products, those that assessment result have significantly improved compared with their previous models are declared as Amada Eco-Products.

For details, click here: https://www.amada.co.jp/en/sustainability/environment/eco_products/

Note that Genefab products are not included in the number of units and sales revenue ratio of the Eco-Products.

The number of units and sales ratio of eco-products does not include Genefab products.

*4 Coverage of the overseas consolidated companies (including their subsidiaries): 66 companies for FY2019, 66 companies for FY2020, 67 companies for FY2021, 66 companies for FY2022, 66 companies for FY2023.

*5 Lubricants, cutting oils, grinding oils, anti-corrosion oils, hydraulic oils, etc.

*6 PRTR Law: Law that aims to promote reporting and management of specific chemical substances

*7 Emission factor for the relevant years announced by the Ministry of the Environment are applied.

*8 CO₂ emissions of the Amada Group (Domestic + Overseas) ÷ Total Energy Consumption.

*9 The main seven overseas manufacturing sites of the Amada Group (3 in the United States, 2 in France, 1 in Austria, and 1 in China).

*10 The target substances have been expanded from FY2023. Calculation methods are partially revised.

*11 Details on ISO14001 certified sites are on the Amada website (<https://www.amada.co.jp/en/sustainability/environment/management/>)

*12 The third-party assurance certification is posted on the Amada website (<https://www.amada.co.jp/pdf/en/sustainability/index/assurance.pdf>)

(Calculation Standards for Environmental Data FY2023)

		Unit	Calculation Standards
Energy	Total Energy Consumption	GWh	Energy = (Fuel, Electricity, etc) × Energy Conversion Factor Fuel Conversion Factor: (Until FY2021) Calculated using the "Simplified Calculation Table for Energy Consumption (Crude Oil Equivalent) for FY2019" from the Agency for Natural Resources and Energy, then converted to GWh. (From FY2022) Calculated using the "Crude Oil Conversion Tool (Revised 2022 Version)" from the Agency for Natural Resources and Energy, then converted to GWh.
GHG	CO ₂ Emissions	CO ₂ Emissions (SCOPE1+2 : Domestic)	CO ₂ Emissions = Amount of Purchased Energy × CO ₂ Emission Factor CO ₂ Emission Factors: Electricity: Ministry of the Environment and Ministry of Economy, Trade and Industry, "Emission Factors by Electric Utility" issued on December 22, 2023. Fuel: Ministry of the Environment and Ministry of Economy, Trade and Industry, "List of Calculation Methods and Emission Factors for the Calculation, Reporting, and Disclosure System," updated on December 12, 2023 (partially revised on January 16, 2024).
		CO ₂ Emissions (SCOPE1+2 : Overseas)	CO ₂ Emissions = Amount of Purchased Energy × CO ₂ Emission Factor CO ₂ Emission Factors: Electricity: CO ₂ emission factors published by the preferred power company or 2021 values from IEA Emission Factors 2023 (issued in September 2023) Fuel: In principle, use the "List of Calculation Methods and Emission Factors for the Calculation, Reporting, and Disclosure System," updated on December 12, 2023 (partially revised on January 16, 2024). If the regional emission factors of the site are known, they should be given priority.
	Scope3	t-CO ₂	
	Category 1	t-CO ₂	Procured Products and Services: (Procurement Amount × Emission Factor) - (Procurement Amount of Group Companies × Emission Factor)
	Category 2	t-CO ₂	Capital Goods: Total Capital Investment × Emission Factor
	Category 3	t-CO ₂	Fuel and Energy-Related Activities Not Included in Scope 1 and 2: Purchased Fuel Volume × Upstream Emission Factor + Purchased Electricity Amount × Upstream Emission Factor
	Category 4	t-CO ₂	Transportation and Distribution (Upstream): Company Transport Volume (ton-kilometers) × Emission Factor (calculated based on sales ratio for overseas)
	Category 5	t-CO ₂	Waste from Business Operations: Waste Volume × Emission Factor
	Category 6	t-CO ₂	Business Travel: Travel Expenses × Emission Factor (calculated based on the number of people for overseas)
	Category 7	t-CO ₂	Employee Commuting: Commuting Expenses × Emission Factor (calculated based on the number of people for overseas)
	Category 8	t-CO ₂	Fuel Used for Leased Vehicles × Emission Factor (calculated based on sales ratio for overseas)
	Category 9	t-CO ₂	
	Category 10	t-CO ₂	
	Category 11	t-CO ₂	Use of Sold Products: Number of Units Sold per Product Category × Energy Consumption × Product Lifetime (10 years) × Emission Factor
	Category 12	t-CO ₂	Disposal of Sold Products: Number of Units Sold × Emission Factor
	Category 13	t-CO ₂	Scope 1 and 2 for Rental Properties: Amount of Purchased Fuel × Emission Factor + Amount of Purchased Electricity × Emission Factor
Category 14	t-CO ₂		
Category 15	t-CO ₂		
Emission Factors Used			C1: Environmental Load Unit Data Book (3EID) Based on the Input-Output Tables 2015 C2, C3 (Electricity), C4, C5, C6, C7: Ministry of the Environment's Emission Factor Database for Calculating Greenhouse Gas Emissions through the Supply Chain (Ver 3.4) C3 (Fuel): LCI Database IDEA version 3.4 C4: Guidelines for Calculation Methods of CO ₂ Emissions in the Logistics Sector by the Ministry of Economy, Trade and Industry and Ministry of Land, Infrastructure, Transport and Tourism C8: Ministry of the Environment's List of Calculation Methods and Emission Factors in the System for Calculation, Reporting, and Public Disclosure C11: List of Emission Factors by Electric Power Utility (Announced on December 22, 2023) C12: Self-calculated Emissions per Unit Disposal C13 (Electricity): List of Emission Factors by Electric Power Utility by the Ministry of the Environment and Ministry of Economy, Trade and Industry (Issued on December 22, 2023) C13 (Fuel): List of Calculation Methods and Emission Factors in the System for Calculation, Reporting, and Public Disclosure by the Ministry of the Environment and Ministry of Economy, Trade and Industry (Updated on December 12, 2023, with partial corrections on