

Environment Report

Forest-In Office 2024



Table of Contents

■ Message from the President	... 02
■ Philosophy and Policies	... 04
■ Environmental Management	... 08
Climate Change-Related Disclosure in Accordance with the TCFD Recommendations	... 13
■ Environmental Targets and Plans	... 17
■ Our History of Environmental Activities	... 19
■ Environmental Friendliness in Our Products	... 22
■ Realizing a Decarbonized Society	... 30
■ Realizing a Recycling-Oriented Society	... 40
■ Biodiversity	... 46
■ Management of Chemical Substances	... 51
■ External Evaluations	... 55
■ Third-Party Assurance	... 60

Message from the President



We will continue to take on the challenge of resolving social issues through manufacturing, powered by our technological capabilities at the core.

Since our founding in 1946, the AMADA Group has supported the manufacturing of its customers around the world as a global manufacturer of metalworking machinery. Our Management Philosophy of “Growing Together with Our Customers,” “Contribute to the International Community Through Our Business,” “Develop Human Resources Who Pursue Creative and Challenging Activities,” “Conduct Sound Corporate Activities Based on High Ethics and Fairness,” and “Take Good Care of People and the Earth’s Environment” forms the basis of all our corporate activities and is a condensed version of our basic approach to sustainability.

We must address the challenges we face today, such as climate change and labor shortages, as well as those that will emerge in the future. In our Long-term Vision for 2030, we aim to continue to take on the challenge of resolving social issues as a partner in manufacturing by providing solutions that respond quickly to our customers’ needs as their needs diversify in tandem with the evolution of social issues. These solutions will be driven primarily by our technological innovation and the development of new technologies.

One of our priorities toward achieving this vision is to strengthen environmental, social, and governance (ESG) management, and to this end, we have set key issues and targets in our Medium-term Business Plan 2025. Each of these key issues corresponds to the United Nations Sustainable Development Goals (SDGs), and we believe that achieving our targets for these issues will also contribute to achieving these SDGs.

With regard to the environment, we recognize that climate change is an urgent issue, and have set targets to reduce CO₂ emissions through our products and our internal business sites with the aim of achieving carbon neutrality by 2050. In addition, we are working to reduce CO₂ emissions in our supply chain. As for society, we are creating an environment in which diverse human resources can maximize their potential. Key steps to achieve this include cultivating capabilities and promoting diversity among our human resources to advance our growth strategy, and creating a rewarding workplace. With regard to governance, we are further strengthening our management foundation for fairness and transparency by ensuring thorough compliance and strengthening risk management.

Specifically, AMADA has participated in a number of international environmental initiatives, such as becoming the first company in the machine tool industry in Japan to join the RE100 initiative, which aims to use 100% renewable energy for the electricity required for business activities. As for social initiatives, we are working to cultivate skills among the next generation of human resources. This includes our Overseas Business Study Program, in which we send young employees to overseas subsidiaries every year, and our ongoing programs to cultivate female leaders. In addition, AMADA strives to develop a foundation on which each and every employee can work with peace of mind. We have accordingly received the “Kurumin” certification mark as a company supporting childcare and been recognized as a 2024 Certified KENKO Investment for Health Outstanding Organization under the Health & Productivity Management Outstanding Organizations Recognition Program of the Japanese government. In addition, we have established the Sustainability Department to accelerate the Group’s sustainability efforts toward achieving our medium- to long-term goals.

The AMADA Group respects dialogue with all stakeholders and will continue to take on the challenge of resolving social issues through manufacturing, thereby playing an active role in building a sustainable society and increasing corporate value.

Takaaki Yamanashi Representative Director, President

Philosophy and Policies

AMADA Group Environmental Principles and Policy

AMADA Group Environmental Principles

The AMADA Group believes that preservation of the earth, a small planet in the universe, for the next generation is the biggest theme for human beings. Based on this idea, the AMADA Group positions environmental preservation as one of its most important management issues, and is committed to contributing to the prosperous future for people around the world through ecological manufacturing, to pass down this beautiful earth to our descendants.



AMADA Group's Basic Policy on the Environment

1. Provision of products and services for protecting environment

Evaluate environmental load throughout the product life cycle, provide energy-saving and resource-saving services which eliminate hazardous substances, mitigate and adapt to climate change, and contribute to protecting the global environment.

2. Reduction of environmental load in business activities

In every process of business activities, thoroughly pursue reduction of environmental load by promoting energy efficiency improvement, energy saving, resource saving, expanding renewable energy, and recycling. Also, aggressively promote green procurement and try to eliminate the use of hazardous substances.

3. Efforts to live in harmony with nature

Maintain an awareness of the effects of business activities on the natural environment and make efforts to live in harmony with nature by using water resources effectively and protecting biodiversity and ecosystems.

4. Compliance with environment-related laws

Comply with environment-related laws and other agreements concluded with interested parties.

5. Continuous improvement of environment management system

Build environment management system and make continuous improvement of it. Grasp effects of business activities, products and services on environment. Set environmental goals and targets and reduce environmental load as well as prevent contamination.

6. Enhancement of environmental education

Provide education aimed at environmental protection to improve sense of responsibility as a member of society and also boost awareness of environmental protection.

April 2023

Takaaki Yamanashi

Representative Director, President

AMADA CO., LTD.



Environmental Declaration

The AMADA Group seeks to practice management that leads to the advancement of both society and the Company in a sustainable manner by further promoting environmental protection activities. In addition, we will contribute to the prosperous future of people around the world by making the most of the engineering capabilities we have cultivated to date and providing eco-friendly and energy-saving products as a comprehensive manufacturer of metalworking machinery.



Environmental Declaration

“Building Connections through Ecological Manufacturing”

The AMADA Group aspires to become an enterprise to link with customers, society, and the world through eco-conscious manufacturing.

Producing eco-friendly machines at eco-friendly business establishments

All AMADA Group operations are carried out with the aim of achieving optimal compatibility between environmental preservation and business activities through the promotion of energy- and resource-saving efforts.

Our eco-friendly merchandise assists customers’ to manufacture eco-friendly products.

The AMADA Group’s eco-friendly products enable customers to manufacture energy-saving and highly efficient products at their plants.

Creating eco-friendly environments at customers’ plants

The AMADA Group contributes to the creation of eco-friendly environments at customers’ plants by utilizing its accumulated environmental know-how.



Environmental activity symbol



Our environmental activity symbol signifies the AMADA Group's environmental activities. The M-shaped portion of the symbol represents AMADA FORUM, which is operated by the Group, and shows the Group's overall commitment to environmental activities. There are two leaves at the top, with one leaf representing the AMADA Group as the Japanese zelkova tree (many of which are planted on the Isehara Works' premises), and the other representing customers and other stakeholders, with the hope that we will continue to grow steadily while overlapping and supporting each other.

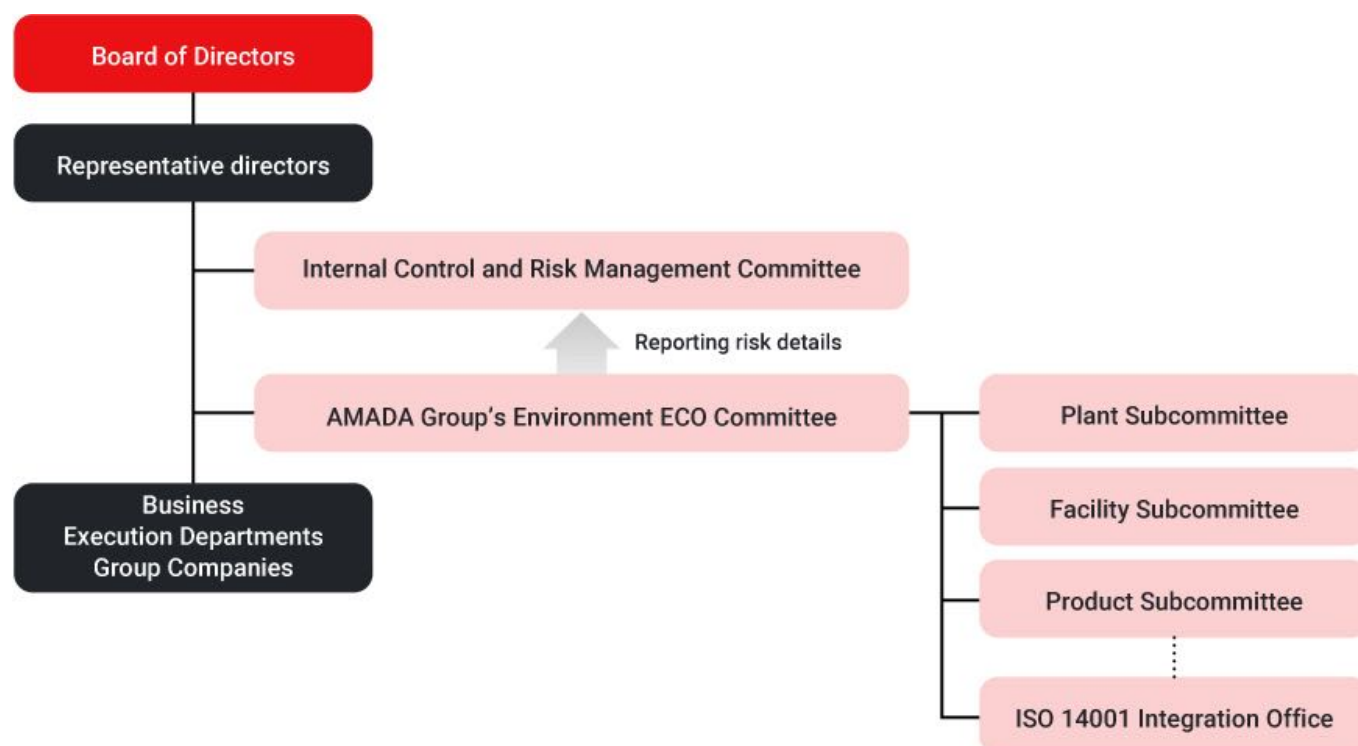
Environmental Management

Environmental management system

The Group addresses environmental issues via the AMADA Group's Environment ECO Committee, which is chaired by the representative director. The committee has organizations such as the Plant Subcommittee and Facility Subcommittee, which formulate environmental measures for business sites, and the Product Subcommittee, which formulates environmental measures for products. In this way, the committee collects information related to the environment from each of our business sites in Japan and overseas, formulating environmental measures in each domain and conducting progress management for these.

The environmental risks, opportunities, targets, and plans for countermeasures, as well as the progress within these plans determined by the AMADA Group's Environment ECO Committee are regularly reported to the Board of Directors for use in management decision-making.

Environmental management system diagram



Acquisition of ISO 14001 certification



JQA-EM5954

AMADA Group obtained ISO 14001 certification for Isehara Works in 1998, and has remained certified ever since. Currently, 10 Group companies, one vocational training corporation, one sales office, and one union have jointly obtained one certification at 10 locations: Isehara Works, Fujinomiya Works, Ono Plant, Toki Works, Kansai Technical Center, Miki Plant, Noda Works, Fukushima Plant, Isehara Suzukawa Works, and Kawaguchi Works.

Status of ISO 14001 certification acquisition

ISO 14001-certified locations (business sites/plants)		
Bases in Japan	Acquisition year	Transition to integrated certification
Isehara Works	1998	2010
Fujinomiya Works	2002	2010
Ono Plant	2008	2010
Toki Works	1999	2012
Kansai Technical Center	2012	2012
Miki Plant	1998	2013
Noda Works	2000	2014
Fukushima Plant	2015	2015
Isehara Suzukawa Works	2020	2020
Kawaguchi Works	2020	2020

Bases overseas	Acquisition year	Transition to integrated certification
AMADA AUSTRIA GmbH	2000	—
AMADA LIANYUNGANG MACHINE TOOL CO., LTD.	2008	—
AMADA EUROPE S.A. (Charleville-Mézières Plant)	2014	—
AMADA EUROPE S.A. (Château du Loir Plant)	2014	—
AMADA AUTOMATION EUROPE	2019	—

- * Notes: 1. Certification has been obtained by 10 of 13 consolidated companies in Japan (5 out of 7 manufacturing bases). The environmental impact coverage rate of certified locations based on CO₂ emissions is 97%.
- * 2. Certification has been obtained by 4 of 65 consolidated companies outside Japan (5 out of 14 manufacturing bases). The environmental impact coverage rate of certified locations based on CO₂ emissions is 28%.
- * 3. Frequency of internal audits
Internal environmental audits are conducted annually for all divisions and departments at certified locations, and management reviews are conducted to confirm conformity of environmental management systems, conformity with laws and regulations, and effectiveness of performance.

Climate change-related disclosure in accordance with the TCFD recommendations

The AMADA Group has declared its support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and discloses information based on the TCFD's framework.
Please see the page linked below for more details.

Climate Change-Related Disclosure in Accordance with the TCFD Recommendations 

Participation in international initiatives

Participation in RE100



In August 2023, AMADA joined the RE100 international environmental initiative, with the aim of achieving 100% renewable energy use for business activity at all of our sites, including that of Group companies.

Our membership in RE100 marks the first among machine tool industry companies in Japan.

SBT certification acquired



The AMADA Group obtained certification under the Science Based Targets initiative (SBTi) to reduce greenhouse gas emissions consistent with science, and set CO₂ emission reduction target in November 2022. In acquiring certification, companies are recognized by the SBT initiative if their individually set greenhouse gas emission reduction targets are deemed to contribute to the international goal of limiting the global temperature increase to less than 2°C above preindustrial levels (Well Below 2°C) or within 1.5°C. The Group's targets (for Scope 1 and Scope 2) meet the requirements of the scenario to keep the temperature increase below 1.5°C.

At the AMADA Group, we have established and are working to achieve the two targets of reducing CO₂ emissions from all business sites and factories (Scope 1 and Scope 2) by 46.2% by fiscal 2030 compared to fiscal 2019, and reducing CO₂ emissions from indirect activities other than Scope 1 and Scope 2 (Scope 3 Categories 1 and 11) by 27.5% by fiscal 2030.

Participant in the GX League by Japan's Ministry of Economy, Trade and Industry






AMADA has been a participant in the GX League since fiscal 2024. This is a forum for companies that aim to achieve carbon neutrality by 2050 and social change to take on the challenge of green transformation (GX) and work together with government and academia to achieve sustainable growth in the present and future society.

Green procurement

The AMADA Group regards green procurement, the procurement of materials with low environmental load, as one of its important environmental conservation activities.

We have established the AMADA Group Green Procurement Guideline for green procurement and are advancing environmental management, including for our suppliers, to provide customers with products that have lower environmental load. We evaluate suppliers from their responses requested for our green procurement partner survey as a method of confirming the status of their implementation of the AMADA Group's requirements. Depending on the resulting evaluation results, we will request that some suppliers make improvements to their management systems, or even conduct an audit. Through these efforts, we also support environmental risk management and the promotion of appropriate chemical substance management at our suppliers.

AMADA Group Green Procurement Guideline English version

AMADA Group Green Procurement Guideline	English version (350KB) 
AMADA Group List of regulated chemical substances	English version (597KB) 
Green procurement partner survey	English version (157KB) 

Climate Change-Related Disclosure in Accordance with the TCFD Recommendations

The AMADA Group recognizes that addressing climate change is one of the most important management issues for corporate management, and in April 2022 we declared our support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We disclose information based on the TCFD framework, including assessments (scenario analysis) of the impact of climate change-related risks and opportunities on our business.

For more information on our initiatives to address climate change, please see the page linked below.

Realizing a Decarbonized Society [!\[\]\(eafc244b53721dd1ec133f0772f70fc7_img.jpg\)](#)

Governance


The Group's response to environmental issues, including climate change, is carried out by the AMADA Group's Environment ECO Committee, which is chaired by the representative director. Please see below for more details.





Environmental management system [!\[\]\(5a132f13505a6571904d622757b7a8f0_img.jpg\)](#)

Strategy

There are two main types of risks and opportunities related to climate change: Transition, such as changes in laws and regulations, technologies, and market product preferences as society moves toward carbon neutrality; and physical, such as the actual increases in average temperatures and the resulting abnormal weather and chronic weather changes. According to this framework of two kinds of risks and opportunities, the AMADA Group has conducted an assessment of the nature of each, their impact on its business activities, and the duration of impact, identifying each risk and opportunity as listed below. The following also indicates our response and the financial impact for these risks and opportunities. In identifying risks and opportunities, we conduct a multi-scenario analysis to reflect the results. In its main 2°C scenario, the AMADA Group considers the creation of highly efficient energy-saving AMADA Eco-Products and the product strategy to reform monozukuri (manufacturing), such as fiber-optic control technology and automation in the laser business, as important in that they offer opportunities to boost sales.

Major climate change-related risks and opportunities

Risks/Opportunities			Business Impact		Magnitude of future risk*1		Response to Risks/ Opportunities
Major category	Sub-major category	Minor category	Period*2	Observations	2°C Scenario	4°C Scenario	
Transition risks	Policies/ regulations	Carbon pricing/ emissions trading	Long-term	<ul style="list-style-type: none"> Increasing production costs due to implementation of carbon pricing and emissions trading 			Working to reduce the cost of carbon pricing as a percentage of production by reducing CO ₂ emissions in accordance with the Medium-term Environmental Plan
	Market	Rising energy/ raw materials costs	Medium/ long-term	<ul style="list-style-type: none"> Rising crude steel prices in response to decarbonization technologies Rising electricity prices due to higher renewable energy levies 			Creating resource-saving products and increasing use of renewable energy
	Reputation	Reputational changes among investors and other stakeholders	Short/ medium-term	<ul style="list-style-type: none"> If measures against climate change are insufficient, it may cause reputational damage among investors, increase the cost of meeting disclosure reporting obligations in some countries, and impact funding and recruitment Increasing compliance costs due to stricter ESG disclosure standards 			Addressing international initiatives such as acquiring SBT certification, and disclosing information sufficiently on climate change response through our website, etc.
Opportunities	Products and services	Spread of low-carbon products	Medium/ long-term	<ul style="list-style-type: none"> Creation of AMADA Eco-Products (highly efficient, energy-saving products) Increased revenue in the laser business by offering customers monozukuri (manufacturing) solutions for labor saving and stable operation through fiber optic control technology, automation, and IoT. 			Creating additional AMADA Eco-Products based on the Medium-term Environmental Plan

Risks/Opportunities			Business Impact		Magnitude of future risk*1		Response to Risks/ Opportunities
Major category	Sub-major category	Minor category	Period*2	Observations	2°C Scenario	4°C Scenario	
Physical risks	Chronic	Decreased productivity due to water stress	Long-term	<ul style="list-style-type: none"> Incidence of droughts, resulting in increasing production costs due to water restrictions and additional investment to improve systems 			Promoting reduction of water consumption in production
	Acute	Intensification of abnormal weather	Long-term	<ul style="list-style-type: none"> Damage to in-house plants caused by typhoons and other factors, resulting in suspended operations, reduced production, and additional investments to restore facilities Production stoppages/decreases due to supply chain disruptions caused by flooding, etc. 			Taking BCP measures such as installation of in-house power generation equipment and storage batteries

*1 Risks and opportunities are assessed under two scenarios: The 2°C scenario and the 4°C scenario. The 2°C scenario adopts the IEA's SDS and the Intergovernmental Panel on Climate Change (IPCC)'s Representative Concentration Pathway (RCP) 2.6 scenario as external scenarios. The 4°C scenario, on the other hand, refers to the IEA's Current Policies Scenario (CPS) and the IPCC's RCP8.5 scenario as external scenarios.

*2 Periods indicated are as follows. Short-term: 1 year, Medium-term: 1–3 years, Long-term: 3+ years.

Financial impact from climate change-related risks (2°C scenario)

Under the 2°C scenario, which is expected to have a greater impact on the AMADA Group, the financial impact of climate change-related risks is estimated as follows.

Regarding the risk that a future increase in carbon prices will lead to higher costs, we estimate the costs that would be required to be paid if the carbon price in 2030 were ¥10,000/t-CO₂, adopted based on price assumptions for developed countries in the International Energy Agency (IEA)'s Sustainable Development Scenario (SDS).

Indicator	Year for assumption	Assumed unit price	Assumed CO ₂ emissions*	Expenses
Carbon price	2030	¥10,000/t-CO ₂	14,796 t-CO ₂	¥148 million

* Assumed CO₂ emissions are 75% less than fiscal 2013 Scope 1 and Scope 2 emissions for all business sites and plants, based on Group targets.

Risk management

The AMADA Group's Environment ECO Committee is responsible for management and action with regard to climate change-related risks. Identified risks and opportunities are reported to the risk management division set up under the Internal Control and Risk Management Committee. The Internal Control and Risk Management Committee establishes policies on important risks at the Group level related to people, goods, money, information, etc., and manages these and other risks in an integrated manner. Results from risk management activities are reported to the Board of Directors at the end of the fiscal year for use in management decision-making.

Major Climate Change-Related Risks and Opportunities

Collect information on climate change from domestic and overseas business sites, and assess climate change risks and opportunities (including scenario analysis) through the AMADA Group's Environment ECO Committee.



Report climate change risks and opportunities identified by the committee to the Internal Control and Risk Management Committee.

The Internal Control and Risk Management Committee carries out risk management of these and other risks in an integrated manner.



The Internal Control and Risk Management Committee reports risk management results to the Board of Directors once a year at the end of the fiscal year.

Indicators and targets

The AMADA Group has set its Groupwide targets for managing risks and opportunities related to climate change as a 75% reduction of Scope 1 and Scope 2 CO₂ emissions as of 2030 compared with fiscal 2013 and a 50% reduction of Scope 3 Category 11 (Use of sold products) CO₂ emissions as of 2030 compared with fiscal 2013, and is working to achieve these targets. Please refer to [Medium-term Environmental Plan](#) for details on other environmental action plans.

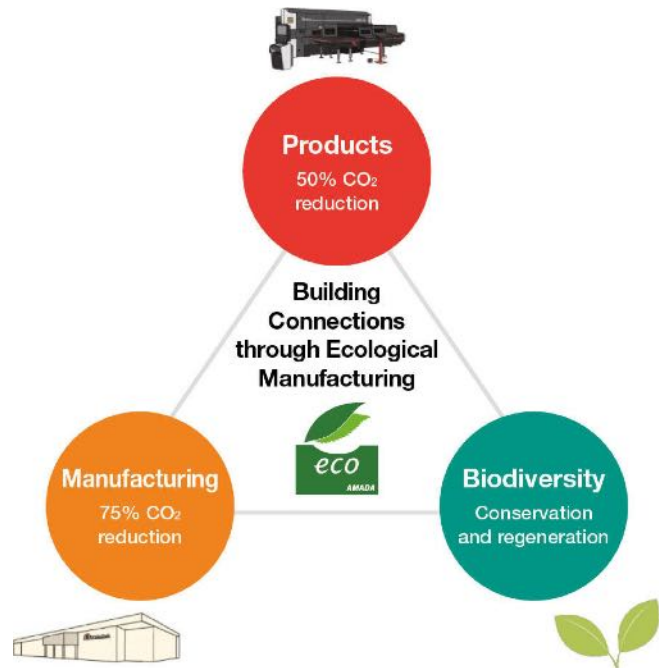
For actual CO₂ emissions for Scope 1, Scope 2, and Scope 3, please refer to our [ESG Data](#).

Environmental Targets and Plans

Our stance toward environmental initiatives

The AMADA Group's environmental initiatives focus on its aim to become an enterprise that uses ecological manufacturing to connect with its customers, society, and the world. Following the Environmental Declaration, set in fiscal 2010 and stating our medium-term targets for fiscal 2025, we have now established the AMADA Group 2030 Medium-term Environmental Plan (AMADA GREEN ACTION PLAN 2030), stating our medium-term targets through fiscal 2030. Here, we have made a commitment to action on three important issues: the realization of a decarbonized society, the realization of a recycling-oriented society, and the conservation and regeneration of biodiversity. Given the above, the AMADA Group has formulated its Medium-term Environmental Plan regarding the following four items.

1. Realizing a Decarbonized Society (reducing CO₂ emissions in the product lifecycle and business processes)
2. Realizing a Recycling-Oriented Society
3. Management of Chemical Substances
4. Implementing a Range of Actions to Conserve Biodiversity



Medium-term Environmental Plan

	Fiscal 2023 Targets	Fiscal 2023 Results	Fiscal 2025 targets (interim targets)	Fiscal 2030 Targets
(1) Realizing a decarbonized society	<ul style="list-style-type: none"> •CO₂ emissions for all products: –41.7% (vs. fiscal 2013) 	<ul style="list-style-type: none"> •CO₂ emissions for all products: –58.4% (337,570 t-CO₂) [Achieved] [Domestic] –52.6% (159,108 t-CO₂) [Overseas] 62.5% (178,462 t-CO₂) 	<ul style="list-style-type: none"> •CO₂ emissions for all products: –50.0% (vs. fiscal 2013) Scope 1 and 2 	<ul style="list-style-type: none"> •CO₂ emissions for all products: –50.0% (vs. fiscal 2013) Scope 3 Category 11 *Base value (fiscal 2013): 811,635 t-CO₂ (Domestic: 336,011 t-CO₂, overseas: 475,624 t-CO₂) Scope1+2 (Intensity) 29.6 t-CO₂/Revenue billion yen
	<ul style="list-style-type: none"> •CO₂ emissions at all business sites and plants: –58.3% (vs. fiscal 2013) Scope 1 and 2 	<ul style="list-style-type: none"> •CO₂ emissions at all business sites and plants: –73.4% (15,770 t-CO₂) [Domestic] –90.3% (3,620 t-CO₂) [Overseas] –44.8% (12,150 t-CO₂) Scope1+2 (Intensity) 39.1 t-CO₂/Revenue billion yen 	<ul style="list-style-type: none"> •CO₂ emissions at all business sites and plants: –70.0% (41,429 t-CO₂) (Domestic: 26,014 t-CO₂, overseas: 15,415 t-CO₂) (vs. fiscal 2013) Scope 1 and 2 Scope1+2 (Intensity) 44.4 t-CO₂/Revenue billion yen 	<ul style="list-style-type: none"> •CO₂ emissions at all business sites and plants: –75.0% (vs. fiscal 2013) *Base value (fiscal 2013): 59,185 t-CO₂ (Domestic: 37,163 t-CO₂, overseas: 22,022 t-CO₂) Scope 1 and 2 Scope1+2 (Intensity) 29.6 t-CO₂/Revenue billion yen
(2) Realizing a recycling-oriented society	<ul style="list-style-type: none"> •Total amount of all waste: –3.6%(vs. fiscal 2019) •Landfill volume of all waste: –3.6%(vs. fiscal 2019) •Zero emission rate: 0.781% or less (Japan) •Total water consumption –3.6%(vs. fiscal 2019) 	<ul style="list-style-type: none"> •Total amount of all waste: +12.7% (7,047t) [In progress] [Domestic] +14.9% (4,293t) [Overseas] +9.4% (2,754t) •Landfill volume of all waste: [Domestic] –28.5% (21.6t) [Achieved] •Zero emission rate: 0.50% or less (Japan) [Achieved] •Total water consumption (vs. fiscal 2019): –42.0%(247,900m³) [Achieved] [Domestic] –57.5% (112,800 m³) [Overseas] –16.7% (135,100m³) 	<p>Effectively Using Resources</p> <ul style="list-style-type: none"> •Total amount of all waste (vs. fiscal 2019): –5.5% •Landfill volume of all waste (vs. fiscal 2019): –5.5% •Zero emission rate: 0.765% or less (Japan) •Total water consumption (vs. fiscal 2019): –5.5% 	<p>Effectively using resources</p> <ul style="list-style-type: none"> •Total amount of all waste *¹ (vs. fiscal 2019): –10.0% *Base value (fiscal 2019): 6,251 t (Domestic: 3,735 t, overseas: 2,516 t) •Landfill volume of all waste (vs. fiscal 2019): –10.0% *Base value (fiscal 2019): 30.2 t (Japan) •Zero emission rate *² of 0.73% or less (Japan) *Base value (fiscal 2019): 0.81% (Japan) •Water consumption (vs. fiscal 2019): –10.0% *Base value (fiscal 2019): 427,500 m³ (Domestic: 265,300 m³, overseas: 162,200 m³)
(3) Management of chemical substances	<ul style="list-style-type: none"> •Hazardous chemical substances (vs. fiscal 2019): –3.6%(Fujinomiya Works) 	<ul style="list-style-type: none"> •Hazardous chemical substances (vs. fiscal 2019): 13.4% (4,890kg) [Achieved] (Fujinomiya Works) 	<p>Appropriately Managing and Reducing Regulated Chemical Substances (Japan)</p> <ul style="list-style-type: none"> •Hazardous chemical substances (vs. fiscal 2019): –5.5% (Fujinomiya Works) 	<p>Appropriately Managing and Reducing Regulated Chemical Substances (Japan)</p> <ul style="list-style-type: none"> •Hazardous chemical substances (vs. fiscal 2019): –10.0% (Fujinomiya Works) *Base value (fiscal 2019): 36,395 kg •Elimination of equipment using mercury (fluorescent lamps)
(4) Biodiversity	<ul style="list-style-type: none"> •Forest management plan initiatives (Fujinomiya Works) 	<ul style="list-style-type: none"> •Ongoing forest management plan initiatives (Fujinomiya Works) 	<p>Conserving and Regenerating Biodiversity by Capturing Nature-Related Risks and Opportunities (Japan)</p> <ul style="list-style-type: none"> •Forest plan (Fujinomiya) and green infrastructure (each business site and plant) 	<p>Conserving and Regenerating Biodiversity by Capturing Nature-Related Risks and Opportunities (Japan)</p> <ul style="list-style-type: none"> •Forest plan (Fujinomiya) and green infrastructure *³ (each business site and plant)

*1 Waste base value data from 2019 for some affiliates uses data from fiscal 2020, as these affiliates do not have data for 2019.

*2 Zero emission rate: Weight of landfill waste divided by weight of all discharged waste

*3 Green infrastructure: Efforts to promote sustainable and attractive national and regional development by utilizing the diverse functions of the natural environment in both hard and soft aspects, such as social capital development and land use

Our History of Environmental Activities

AMADA was quick to engage in environmental activities among businesses in the machinery industry; the Isehara Works (where our headquarters are located) acquired ISO 14001 certification more than 20 years ago.

Below is a chronological order of our main environmental activities.

April 2024	Began participation in the GX League
August 2023	Joined RE100
January 2023	Received the Excellence Award in the Disaster Prevention and Mitigation Category at the 3rd Green Infrastructure Awards
November 2022	Acquired SBT certification
October 2021	The Fujinomiya Works received the Kanto Bureau of Economy, Trade and Industry Director-General's Award for excellent plant greening in fiscal 2021.
November 2020	Obtained integrated ISO 14001 certification (Isehara Suzukawa Works, Kawaguchi Works)
November 2019	AMADA AUTOMATION EUROPE LTD. obtained ISO 14001 certification
October 2019	The Isehara Works received the Kanto Bureau of Economy, Trade and Industry Director-General's Award for excellent plant greening in fiscal 2019.
February 2019	The ENSIS-AJ series of fiber laser machines was awarded the 2018 Kanagawa Global Environmental Award.
November 2016	The Isehara Works and the Fujinomiya Works received the Japan Greenery Research and Development Center Chairman's Award in fiscal 2016.
July 2016	AMADA (CHINA) CO., LTD. obtained ISO 14001 certification
February 2016	The ENSIS-AJ series of fiber laser machines was awarded the Director-General of the Agency for Natural Resources and Energy Award at the 36th Japan Energy Conservation Equipment Award.

November 2015	Obtained integrated ISO 14001 certification (Isehara Works, Fujinomiya Works, Ono Plant, Toki Works, Kansai Technical Center, Miki Plant, Noda Works, Fukushima Plant)
November 2015	AMADA SHANGHAI MACHINE TECH CO., LTD. obtained ISO 14001 certification.
November 2014	AMADA EUROPE S.A. obtained ISO 14001 certification.
November 2014	Obtained integrated ISO 14001 certification (Isehara Works, Fujinomiya Works, Ono Plant, Toki Works, Kansai Technical Center, Miki Plant, Noda Works).
December 2013	AMADA CO., LTD. received the 2013 Minister of the Environment Award for Global Warming Prevention Activities.
November 2013	Obtained integrated ISO 14001 certification (Isehara Works, Fujinomiya Works, Ono Plant, Toki Works, Kansai Technical Center, Miki Plant).
January 2013	The FOL-3015AJ fiber laser machine and the ACIES series of punch and laser combination machines are awarded the 3rd Kanagawa Global Environmental Award.
November 2012	Obtained integrated ISO 14001 certification (Isehara Works, Fujinomiya Works, Ono Plant, Toki Works, Kansai Technical Center).
November 2011	Opened the Toki Works in Toki, Gifu Prefecture. Converted the Technical Center into a zero-carbon facility.
September 2010	Posted the first edition of the environment report “Forest-In Office (English version)” on the website. Obtained integrated ISO 14001 certification (Isehara Works, Fujinomiya Works, Ono Plant).
June 2010	Announced medium-term environmental plan AMADA GREEN ACTION PLAN 2010.
June 2010	Established long-term environmental target AMADA GREEN ACTION.
April 2010	Announced AMADA Group Environmental Declaration.
October 2009	Opened Parts Center in the Fujinomiya Works, reducing environmental load by half compared to the original facility.
June 2009	Posted the first issue of the “Forest-In Office” environment report on the website.

December 2008	Ono Plant obtained ISO 14001 certification.
December 2008	AMADA LIANYUNGANG MACHINE TOOL CO., LTD. obtained ISO 14001 certification.
September 2007	Began participation in the Japan Forming Machinery Association (JFMA) Eco Machine Project.
July 2007	Established the AMADA Eco Information Mark (provides product environmental information to stakeholders)
March 2007	Completed environmentally conscious dedicated laser factory in the Fujinomiya Works.
April 2006	Issued press release on Restriction of Hazardous Substances (RoHS) Directive compliance (EU regulation restricting the use of hazardous substances).
March 2004	Installed wind power plant (generating power for foot lights).
December 2003	Issued press release on 10,000-ton reduction in CO ₂ emissions in 10 years (reduction in amount of CO ₂ released by AMADA facilities and products).
September 2003	Issued press release on AMADA Designated Parts Recovery System (recovering the used parts containing regulated chemical substances).
September 2002	Fujinomiya Works obtained ISO 14001 certification.
October 2001	Began implementation of the AMADA Eco-Products certification system.
January 2000	AMADA AUSTRIA GmbH obtained ISO 14001 certification.
December 1998	Isehara Works obtained ISO 14001 certification.
September 1998	Established a product assessment manual (assessment of product environmental impact).
February 1994	Created AMADA SFERA, the symbol of AMADA's environmental activities.
July 1991	Began Clean Campaign activities.

Environmental Friendliness in Our Products

Basic policy

AMADA Group products are production goods, and we believe that environmental considerations are important when customers use our products. In particular, in the interest of bringing about a decarbonized society, Scope 3 emissions (indirect greenhouse gas emissions from activities in the supply chain) account for more than 90% of the AMADA Group's total CO₂ emissions from its business activities, and among these, is particularly important to reduce CO₂ emissions during customer use. The AMADA Group will promote product development based on its advanced technological capabilities and create products with high environmental performance (AMADA Eco-Products) that boast strengths in both productivity and energy efficiency.

Product assessment system

A design review^{*} is conducted for each development step, and if the results meet certain criteria, a product can advance to the next development step. This assessment is applied to all new product development, and in principle, the rule is that products that do not meet the criteria cannot be released.

Our product assessment, which evaluates environmental performance, includes a total of 25 assessment items from eight major criteria, such as energy consumption (CO₂ emissions) during product use.

^{*} A design review is the process in which all departments involved in the product evaluate the design proposal created by the design department from their respective standpoints, provide their opinions, and request improvements as necessary in order to develop products that satisfy customers.

1	Energy-saving during product use
2	Environmental impact of product use
3	Energy-saving during manufacturing
4	Hazardous chemical control
5	Resource-saving
6	Simplified separation/sorting/recycling process
7	Streamlined transportation/packaging
8	Providing information

AMADA Eco-Products certification system

After the completion of product assessment, we conduct a review and certify products that successfully improve energy efficiency and productivity compared to the machine for comparison (previous model) as AMADA Eco-Products. Certified products are labeled with the Eco Products Mark.

An AMADA Eco-Product is defined by the following four descriptions:

1. The new model saves energy during use compared to the previous model.
2. The new model has improved productivity compared to the previous model.
3. The product is capable of generating profit by lowering the running cost of product processing and reducing product cost through energy conservation and productivity improvement.
4. The product offers new product processing methods through new processing technology. (Recommended requirement)

Items 1 and 2 are evaluated using processing samples actually processed by customers. Whether an item is passed is determined by actual processing of samples, comparing the previous and new product models, and evaluating the environmental performance improvement based on the energy savings rate and productivity improvement rate.



Registered trademark No. 4631897

Eco Products Mark

With the base color green, which represents environmental protection, the trademark is shaped like the letters E and P of ECO PRODUCTS and is inspired by the idea of green leaves in bud.



Resource-saving machine

This mark indicates a machine is a “resource-saving machine” that uses less oil, gas, or other relevant fuel than conventional models.



Low-noise machine

This mark indicates a machine is a “low-noise machine” that produces less noise than conventional models.



Energy-saving machine

This mark indicates a machine is an “energy-saving machine” that uses less energy than conventional models.



Chlorine-free

This mark indicates that cutting fluids are chlorine-free and do not contain chemicals controlled under the Pollutant Release and Transfer Register (PRTR notifications). For consumables, we use the Eco Products Mark that reverses green and white.

List of certified AMADA Eco-Products

Click the model name for the detailed product description page.

Laser machines

Model name	Certification year	Machine for comparison	Energy savings rate (CO ₂ reduction rate)*1	Productivity improvement rate (cost reduction rate)*1
VENTIS-AJe series	2023	LCG-AJ series	38%	45%
REGIUS-AJe series	2023	FOL-AJ series	65%	44%
ENSIS-Rle series	2023	FO-M II NT series	88%	48%
ENSIS-AJe series	2023	FO-M II NT series	88%	50%
PRELAS-1212AJ	2021	QUATTRO series	85%	30%
BREVIS-1212AJ	2021	LC-α5NT series	73%	18%
REGIUS-AJ series (Discontinued)	2020	FOL-AJ series	62%	39%
VENTIS series (Discontinued)	2019	LCG-AJ series	33%	38%
ENSIS-3015AJ (Discontinued)	2016	FO-M II NT series	86%	43%
LCG-3015AJ (Discontinued)	2014	FO-M II NT series		
LCG-3015 (Discontinued)	2014	FO-M II NT series		
FLC-AJ series (Discontinued)	2014	LC-F1 series		
FOL-3015AJ (Discontinued)	2012	LC-F1 series		
LC-F13015NT (Discontinued)	2010	FO-Ver2 series		

*1 Improvements versus previous models are calculated via a specific AMADA method defined in the AMADA Eco-Products certification system.

Turret punch presses

Model name	Certification year	Machine for comparison	Energy savings rate (CO ₂ reduction rate)*1	Productivity improvement rate (cost reduction rate)*1
EM-M II e series	2023	EM series	29%	42%
EM-ZRe series	2023	EMZ series	44%	40%
EM-M II series (Discontinued)	2014	EM series	17%	31%
EM-ZR series (Discontinued)	2012	EMZ series		
AC-NT series (Discontinued)	2012	Previous general model		
AE-NT series	2010	VIPROS series		
EM series (Discontinued)	2003	Previous general model		
MERC Type M (Discontinued)	2002	MERC 722		

*1 Improvements versus previous models are calculated via a specific AMADA method defined in the AMADA Eco-Products certification system.

Punch and laser combination machines

Model name	Certification year	Machine for comparison	Energy savings rate (CO ₂ reduction rate)*1	Productivity improvement rate (cost reduction rate)*1
LC-C1AJe series	2023	LC-C1 series	83%	41%
EML-AJe series	2023	EML-NT series	66%	25%
ACIES-AJe series	2023	ACIES series	82%	25%
EML-AJ series (Discontinued)	2019	EML-NT series	60%	16%
ACIES-AJ series (Discontinued)	2016	ACIES series	78%	16%
LC-C1AJ series (Discontinued)	2014	LC-C1 series	80%	34%
ACIES-NT series (Discontinued)	2012	EML-NT series		
LC-C1NT series (Discontinued)	2012	APELIO III-Eco series		
EML series (Discontinued)	2004	Previous general model		
APELIO III-255EcoNT (Discontinued)	2001	Previous general model		

*1 Improvements versus previous models are calculated via a specific AMADA method defined in the AMADA Eco-Products certification system.

Press brakes

Model name	Certification year	Machine for comparison	Energy savings rate (CO ₂ reduction rate)*1	Productivity improvement rate (cost reduction rate)*1
EGBe series	2023	HDS-NT series	24%	17%
HRB series	2019	HM series	60%	13%
EG-4010	2017	FMB series	47%	11%
EG-6013AR	2014	ASTRO II-NT series	45%	20%
HG series 5020-2204	2014	HDS-NT series	8%	4%
EG-6013	2014	FMB series	11%	12%
HD-NT series (Discontinued)	2010	Previous general model		
HDS series (Discontinued)	2001	FBD III-NT series		

*1 Improvements versus previous models are calculated via a specific AMADA method defined in the AMADA Eco-Products certification system.

Stamping presses

Model name	Certification year	Machine for comparison	Energy savings rate (CO ₂ reduction rate)*1	Productivity improvement rate (cost reduction rate)*1
SDE-2017 GORIKI	2016	TPL-FX series	15%	29%
SDE/SDEW series	2005	Previous general model		
SDH40 (Discontinued)	2004	Previous general model		

*1 Improvements versus previous models are calculated via a specific AMADA method defined in the AMADA Eco-Products certification system.

Band saw machines

Model name	Certification year	Machine for comparison	Energy savings rate (CO ₂ reduction rate)*1	Productivity improvement rate (cost reduction rate)*1
HPSAW-310	2017	HFA-400	46%	53%
PCSAW-720	2012	HFA700C II	31%	23%

*1 Improvements versus previous models are calculated via a specific AMADA method defined in the AMADA Eco-Products certification system.

Welding machines

Model name	Certification year	Machine for comparison	Energy savings rate (CO ₂ reduction rate)*1	Productivity improvement rate (cost reduction rate)*1
FLW-3000Le	2023	YLR series	76%	37%
FLW-ENSISe series	2023	YLR series	57%	37%
FLW-1500MT	2022	FLW-600MT	88%	45%
FLW-3000EN (Discontinued)	2020	YLR series	51%	37%
VC-500 II	2018	VC-700W	11%	20%

*1 Improvements versus previous models are calculated via a specific AMADA method defined in the AMADA Eco-Products certification system.

The AMADA Group's eco marks

In addition to the AMADA Eco-Products, other marks are used to convey environmental information about our products.



AMADA Eco Information Mark

The AMADA Eco Information Mark indicates that we provide customers and other stakeholders with information on environmental matters pertaining to AMADA products.



Reuse Mark

At Amada, we manufacture reusable racks and containers for each peripheral device with the goal of leaving zero waste after unpacking the devices. We have been identifying these with a unified "reuse" mark since fiscal 2007.



AMADA Designated Parts for Recovery System Mark

This mark is used for our system of collecting parts that include materials designated as regulated chemical substances.


Realizing a Decarbonized Society

Basic policy

One of the most important social issues the world faces is climate change. The resulting increase in natural disasters, food-related problems, and droughts have become serious issues affecting even national security. Amid this, companies are being asked to intensify their mitigation and adaptation efforts with regard to climate change. The AMADA Group's Management Philosophy is to respect all stakeholders and the global environment, and in our Environmental Declaration, we strive to become a company that connects with customers, society, and the world through ecological manufacturing. Accordingly, realizing a decarbonized society is one of our material social issues. Respecting the scientific findings of the Intergovernmental Panel on Climate Change (IPCC) and other organizations, as well as international agreements concerning the Paris Agreement, we are taking action to reduce our greenhouse gas emissions to achieve the relevant environmental goals from each of the above accords.

We have set respective reduction targets for Scope 1 and 2 emissions and for Scope 3 emissions for 2025 and 2030 (with consideration for 2040 and 2050). We are working as a Group to reduce emissions through energy-saving activities and the use of renewable energy for Scope 1 and 2, and, for Scope 3, by visualizing emissions in the supply chain and expanding the development and sales of Amada Eco Products.

For more information on the financial impact of climate change, please see the page linked below.

Climate Change-Related Disclosure in Accordance with the TCFD Recommendations 

Product planning, development, and procurement

At the product planning, development, and procurement stages, we set clear goals for their environmental performance and conduct evaluations at each step of development in order to launch products with industry-leading environmental performance.

Environmental Friendliness in Our Products 

Green procurement 

Product manufacturing

At the AMADA Group, to reduce CO₂ emissions from business sites and plants (Scope 1 and Scope 2), we have been reducing energy consumption through energy-saving measures such as use of power-saving lighting, upgrading to high-efficiency air conditioning equipment, and improving production efficiency in each process. In addition, with regard to renewable energy, we are moving forward with efforts to systematically introduce renewable energy and green electricity by expanding the scope of renewable energy use beyond the previous limited area in Japan and overseas.

Clean factories



We also promote energy conservation and reduction of CO₂ emissions to mitigate global warming, as well as reduction of waste, and reduction of volatile organic compounds (VOCs) used in our factories.

Environmentally friendly factories like these, which have reduced the environmental impact from their production activities, are called “clean factories” at AMADA. The Fourth Factory at the Fujinomiya Works is one of the world’s largest laser machine assembly plants, but it is also a plant that deserves to be called a clean factory.

Introduction of renewable energy



The AMADA Group promotes the use of renewable energy at its production sites. Solar panels have been installed in phases at five of our Move to the next line business sites and plants in Japan, as part of our efforts to introduce renewable energy. In addition, in fiscal 2022 we procured non-fossil certificates for all electricity used at our sites in Japan, which will be derived from natural renewable energy sources. In effect, this means we have used 100% renewable energy for the fiscal year domestically.

As for our overseas locations, our Solution Center in Haan, Germany, has been using geothermal heat pumps

since 2009. This facility covers 80% of the energy needed for air conditioning each year through 52 ground heat exchangers installed 130 meters underground, reducing CO₂ emissions by 40%. In addition, solar power generation systems have been installed at AMADA ITALIA S.r.l., AMADA LIANYUNGANG MACHINE TECH CO., LTD., and AMADA EUROPE S.A., our subsidiaries in Italy, China, and France, respectively. In fiscal 2023, we joined RE100, an international environmental initiative that aims to source 100% renewable electricity for all business activities at all locations. The Group will continue to advance higher-quality renewable energy measures in addition to tireless energy conservation. For our track record of renewable energy installations, please see the page linked below.

ESG Data 

Example initiatives at individual sites

Isehara Works

Amada Global Innovation Center

Our existing Solution Center was completely overhauled to create the AMADA GLOBAL INNOVATION CENTER (AGIC), a base for innovation creation which opened in February 2023.

By introducing the latest air conditioning equipment and lighting to save energy and using renewable energy from solar power generation, AGIC has reduced CO₂ emissions by 700 tons per year compared to previous levels.



Electric air-cooled heat pump chiller air conditioning system

Our air conditioning system was upgraded from a conventional gas absorption chiller/heater system to a high-efficiency modular electric air-cooled heat pump chiller system (low global warming potential (GWP) modular chiller^{*}).

By switching from gas to electricity and adopting an inverter pump with variable flow according to demand, CO₂ emissions will be reduced by 60% (126t-CO₂/year) compared to before the upgrade.

^{*} This system uses R32, a refrigerant with low GWP, approximately 68% lower than the conventional R410A refrigerant. As a result, global warming impact is significantly reduced.



Solar power facilities for energy creation

AGIC features solar panels with an installed capacity of 255 kW, capable of generating 220 MWh per year (10% of existing electricity usage) and thereby eliminating 100 tons of CO₂ emissions per year.

Exhibition area sensing air conditioner

Thanks to powered variable air volume (PVAV), this air conditioner functions with reduced fan power. This reduces CO₂ emissions by 20% versus the pre-upgrade level (-11 t-CO₂/year).

By installing wireless thermostats in the areas where people are and adjusting the outside air flow by sensing the number of people, we reduce CO₂ emissions by 6% (-6 t-CO₂/year) in relation to the heat load in the exhibition rooms.

AMADA FORUM



Upgrading to environmentally friendly equipment

In 2022, our air conditioning system was replaced with a waste heat input gas absorption chiller/heater, and a high-efficiency modular electric air-cooled heat pump chiller system (low GWP modular chiller) and inverter-controlled variable flow pump were installed to meet the load.

In addition, a waste heat input hot water boiler was installed to provide both air conditioning (heating) and hot water supply.

Furthermore, with the micro-cogeneration^{*} system, we reduce gas consumption by taking demand countermeasures and supplying waste heat (hot water) to the cold/hot water generator and boiler, respectively. These facility upgrades will reduce CO₂ emissions by 40% (-258 t-CO₂/year).

In addition, the use of R32—a refrigerant with low GWP, approximately 68% lower than the conventional R410A refrigerant—has significantly reduced the impact of the system on global warming.

^{*} In the event of a disaster (power outage), the micro-cogeneration system can be used to secure electric power (lights, outlets, networks, ventilation, etc.) as a business continuity plan (BCP) measure to provide temporary shelter for people who are unable to return home.

Group company property



Upgrading air conditioning systems

Concurrently with the renovation of offices at a Group company property, we upgraded the air conditioning system, which used a gas absorption chiller/heater generator as a heat source, to a multi-packaged air conditioner system designed for buildings with lower CO₂ emissions.

With the new system, we were able to reduce annual CO₂ emissions from the air conditioning system at the Group company property by 54% (-72 t-CO₂/year), while increasing thermal capacity by approximately 1.4 times compared to the conventional system.

Eco Ice



This system, which uses discounted nighttime electricity to store ice in thermal storage tanks, has been installed at three locations within the Isehara Works. The ice created during the night is used for cooling during the daytime, contributing to reduced building power usage and daytime peak power consumption.

In 2010, AMADA received the Heat Pump & Thermal Storage Utilization Award at the 13th Annual Thermal Storage Gathering in recognition of its ongoing efforts.

Disaster Prevention Energy Center



The Disaster Prevention Energy Center, a new facility that plays a central role in the AMADA Group's BCP measures, was completed in September 2017.

In preparation for business continuity in the event of an emergency, this facility serves as the central hub for communication servers and electric power facilities, and is also equipped with an evacuation facility where 600 employees and residents of the surrounding area can subsist for three days. In addition, we have significantly improved the center's seismic performance so that it can withstand an earthquake with a seismic intensity of 6 upper or more, and have made it possible for the electricity, drinking water, and heat that are essential for continuing business to be supplied to each building.



Rooftop solar panels

Solar power generation

The rooftop is equipped with a solar power generation system. The system consists of 144 solar panels, capable of generating up to 33 kWh in total. This can provide the power used in the Disaster Prevention Energy Center during the daytime.



Micro-cogeneration generators

The facility is equipped with eight 35 kW micro-cogeneration generators, which generate electricity within the Isehara Works and use the exhaust heat for air conditioning. This facility is responsible for supplying power within the site in case of a disaster.



BCP-conscious water supply and drainage system

Under normal conditions, the well water filtration equipment produces drinking water. In the event of an emergency, the system operates on emergency power and supplies drinking water to the Disaster Prevention Energy Center and the head office building, among other facilities. In a disaster, toilet drainage can be stored in the emergency drainage tank located in the underground pit, allowing 600 people to use the toilets for three days.

Fujinomiya Works



NAS batteries

Sodium–sulfur (NAS) battery facilities are systems for storing electric power at night and utilizing the batteries for electric power during the day. NAS batteries are subject to the Electric Power Load Smoothing Measures Promotion Policy enforced by the Japanese government.



Thermal storage system (turbo chiller)

During the night, electrical power is used to drive a turbo chiller and store cold water in a storage tank. The cold water is then used for production during the day.

AMADA received a certificate of appreciation from the Heat Pump & Thermal Storage Technology Center of Japan for the significant contributions made to CO₂ emission reductions by our large 1,000 m³ scale thermal storage system, which includes equipment for storing cold water at night.

Ono Plant



The Ono Plant was one of the first in the AMADA Group to implement energy-saving thermal electric equipment for air conditioning and to introduce renewable energy.

Toki Works



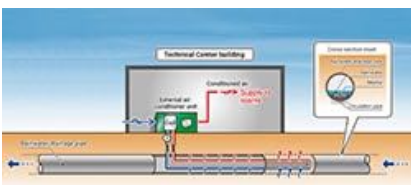
The Toki Works was one of the first in the AMADA Group to implement energy-saving measures. The energy consumed at the Technical Center is covered by solar power generation and other natural energy sources (energy creation), and together with the effects of energy conservation efforts such as the use of all LED lighting, we have achieved zero carbon emissions. For these efforts, we received the 27th Promotion Award for Technology Promotion from The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan.

Solar power generation



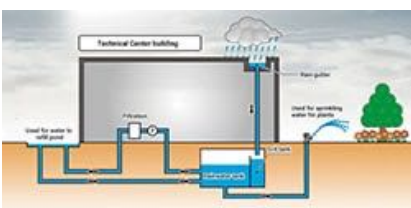
Solar panels installed on the roofs of the Technical Center building and the factory building create electricity. The total power output is approximately 300 kW.

Geothermal system



Circulation pipes are installed in the rainwater drainage pipes on the premises to utilize geothermal energy, which maintains a constant temperature throughout the year, for heat exchange in air conditioners.

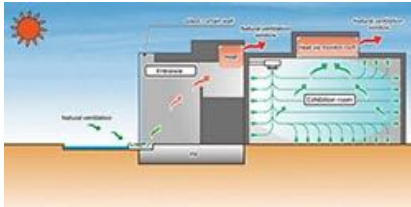
* Click on the image to enlarge



Rainwater utilization system

Rainwater falling on the roof is collected and used to replenish the pond and for plant irrigation.

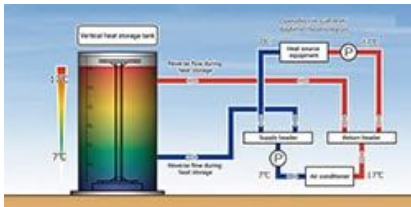
* Click on the image to enlarge



Natural ventilation system

The entrance is naturally ventilated using the chimney effect in the atrium. By keeping the exhibition hall pressurized, heat is dissipated from natural ventilation windows.

* Click on the image to enlarge



Heat storage tanks

Vertical heat storage tanks are used to accumulate cold and hot water at night when electricity is cheaper, which is then used for air conditioning in the factory during the day.

* Click on the image to enlarge

Reducing power consumption with lower assembly man-hours

The Toki Assembly and Manufacturing Department of the Toki Works is implementing initiatives to limit power consumption and reduce CO₂ emissions by reducing the number of assembly man-hours. In the manufacturing process for the ASFH3015G, a laser system peripheral device, a jig is fabricated and used to enable rail positioning with a single touch, saving 0.5 man-hours per unit. In addition, 172 other assembly improvements were implemented to reduce CO₂ emissions.

Fukushima Plant



Module MARS production system

In conventional peripheral device production at the Fukushima Plant, in order to cope with customer needs (quick delivery, customized specifications, delivery month), the production load was at times low and at times overwhelming. This resulted in wasted materials, wasted energy, wasted man-hours, and excessive overtime. Considering our customers' needs, we installed the automated material storage system (MARS), building a module production system to equalize the production load and to shorten lead time (reduction of man-hours, just-in-time).

AMADA PRESS SYSTEM's Isehara Suzukawa Works

AMADA PRESS SYSTEM's Isehara Suzukawa Works renovated its First Factory in May 2024. The plant has become more environmentally friendly by renovating its facilities and installing a solar power generation system.

AMADA Solution Center in Haan, Germany



Use of geothermal energy

The use of geothermal heat pumps covers about 80% of the energy required for annual heating and cooling, reducing CO₂ emissions by 40% compared to conventional systems.

Air conditioning efficiency is improved by installing air conditioning blowing ducts in the floor.



Amada Automation Europe headquarters and factory



At Amada Automation Europe, a manufacturing base for automation equipment in Europe, we are actively working toward carbon neutrality within Scope 1 and 2 of the Greenhouse Gas Protocol.

Electricity, which accounted for 75% of our CO₂ emissions in fiscal 2019, was entirely switched to renewable energy in fiscal 2023.

Various other energy initiatives were also implemented, including the use of biogas and waste heat. As a result, CO₂ emissions have been reduced by 94% from the 400 t-CO₂ of fiscal 2019.

We expect to achieve carbon neutrality by implementing further measures for our remaining CO₂ emissions and to thus become the first manufacturing base in the Amada Group to reach this goal.



Biogas introduced to new painting line

Since the fall of 2023, we have also been using biogas to heat the new painting line's ovens. At the same time we also installed a heat recovery pump that recycles the oven's excess heat back into our water-based heating system.



Painting ovens

The painting ovens are equipped with biogas burners.



Residual heat recovery system

As part of our expansion, we also installed a heat recovery system that channels the compressor's residual heat back into the factory's heating system.

Product transportation and packaging

Adoption of blade tip guards made of biomass material



Cap containing 20% biomass

The Ono Plant has adopted biomass caps for some of the guards used to protect the band saw blade tips. Blending biomass made from rice bran and reducing the amount of polyethylene used has reduced CO₂ emissions from manufacturing, forming, and incineration by 16.5%.

Realizing a Recycling-Oriented Society

Basic policy

The AMADA Group is committed to resource conservation and recycling in all processes of its business activities and thoroughly pursues the reduction of environmental load. We also assess the impact of our operations on the natural environment and are committed to the effective use of water resources.

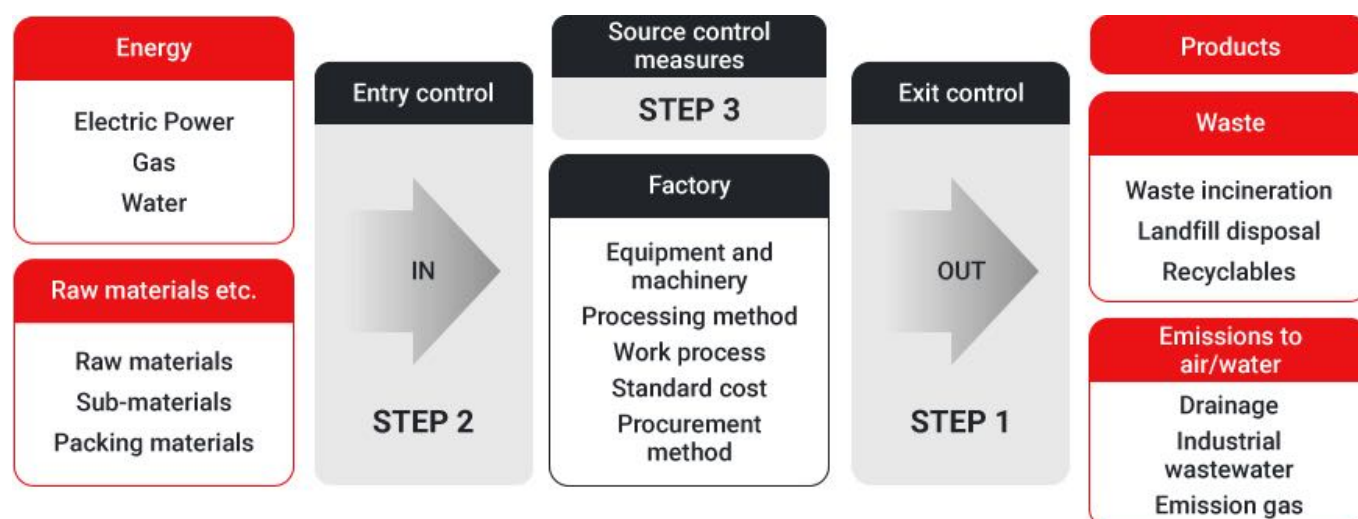
Effectively using resources

The AMADA Group promotes the effective use of limited resources to help bring about a recycling-oriented society. At our domestic production bases, we place importance on the transition to a sustainable society and are making efforts to make them zero-emission factories and clean factories.

Zero-emission factories

At our manufacturing bases, we are taking waste reduction efforts in three steps: exit control, entrance control, and source control.

A factory is designated as a zero-emission factory if its ratio of final landfill waste to total emissions (zero emission rate) is less than 1%, and if this ratio has been maintained for at least one year. The AMADA Group achieved zero emissions at six manufacturing bases in Japan: Isehara Works (AMADA TOOL), Fujinomiya Works, Toki Works, Noda Works, Fukushima Plant, and Isehara Suzukawa Works. In fiscal 2019, the AMADA Group achieved a Groupwide zero emission rate of less than 1% (0.81%), and has made further efforts since.



Effectively using resources and reducing waste during manufacturing

Recycling cutting fluids contributes to waste disposal reduction (Toki Works)

The water-soluble cutting fluids used previously caused odor problems and sludge buildup in tanks, making it necessary to change the cutting fluids once every six months. By switching to alkaline ionized water, we have been able to prevent the decay of cutting fluids, as well as the particularly unpleasant odors characteristic of processing stations. This also prevents the adherence of dirt to machine interiors, lengthens the time between cutting fluid changes, and results in a substantial reduction of waste fluid emission.

Waste disposal reduction through new material handling systems and resin pallets (Toki Works)

We have stopped using wooden pallets for delivery of castings, and now use reusable resin pallets and palletainers (metal cage-style containers).

All pallets and palletainers are numbered, and managed with oversight of the persons in charge of material reception attending each delivery.

We have also developed an assembly and transport material handling system that can be used repeatedly for sheet metal delivery. This has enabled us to achieve our packaging material goals of zero wooden pallets and zero plastic sheets.



Switched from wooden pallets to reusable resin pallets



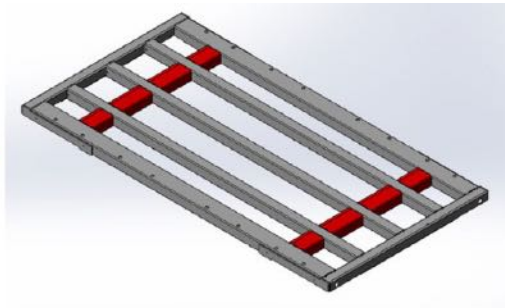
Sheet metal components are delivered as assembled products instead of individually in vinyl packaging

Effectively utilizing scrap wood (Fukushima Plant)

Scrap wood from ASR (cycle loader: a material stack and supply system) are utilized for IT-TSU (tooling exchanger) frames, automated material storage system (MARS) pallets, etc., resulting in reduced waste emissions and less purchase of new materials.



ASR scrap wood
(previously disposed of)



Utilized for pallets, etc., in MARS

Effectively using resources and reducing waste during packaging and transportation

Ongoing efforts are being made to reduce waste from packaging materials used in transfers to suppliers and in the delivery of products.

Conventionally, plastic air caps, oilpaper, cardboard, and other packing materials were used and discarded after unpacking, but we have created special packing materials tailored to each product, which are reused multiple times to reduce the amount of packing material waste. The use of special packing materials reduces packing and unpacking time, as well as transportation efficiency due to smaller packages.



Transportation of large-diameter toolings (Toki Works)



Improved packaging for delivery of peripheral equipment (Fukushima Plant)

Effectively using resources and reducing waste during sales

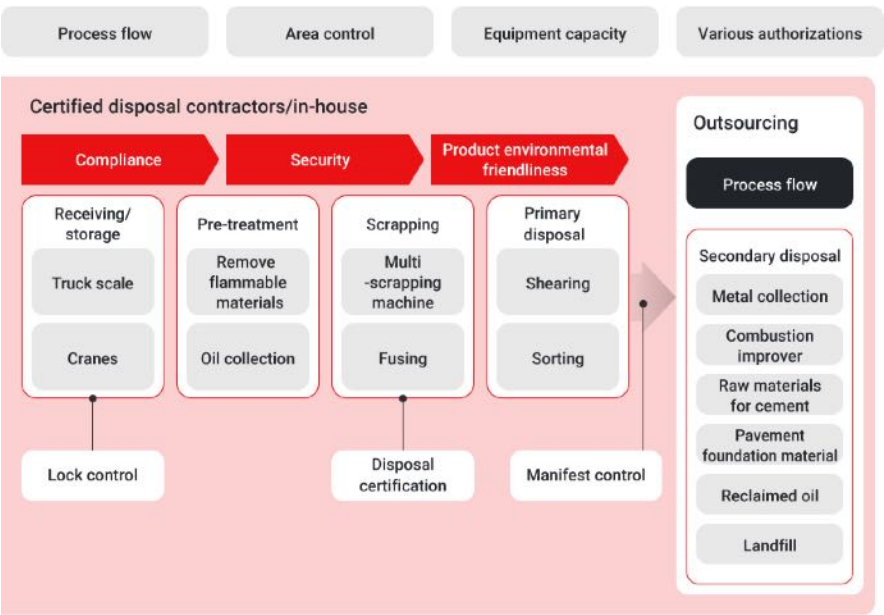
At the product sales stage, in addition to sales activities for AMADA Eco-Products, we are also working to be environmentally mindful in our exhibitions. Decorative components used in public exhibitions have been switched to system components that are reusable a number of times, and parts that are difficult to reuse are processed for recycling.

In addition, decorative components used for in-house exhibitions are transported to the Isehara Works for reuse in an effort to reduce waste.



Collection and recycling of used products

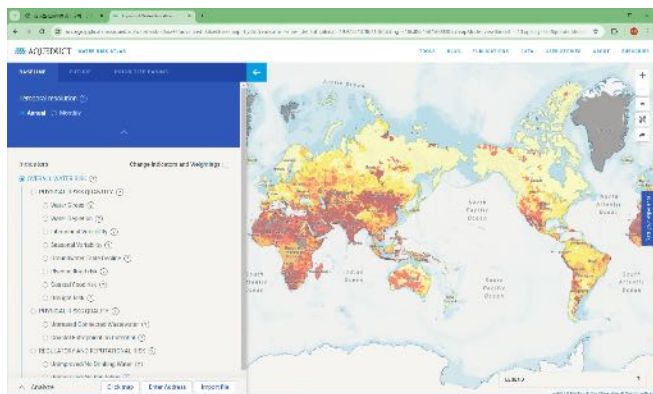
The AMADA Group certifies companies to which it outsources disposal operations based on the Group’s selection criteria to ensure that products are properly disposed of when they reach the end of their useful life. From fiscal 2008 to now, we have certified five sites across two partner companies, where recycling plants have secured compliance with various laws and regulations and product disposal is done appropriately.



Conserving and effectively using water resources

Of our AMADA Group Environmental Policies, “3. Efforts to live in harmony with nature” states that we will maintain an awareness of the effects of business activities on the natural environment and make efforts to live in harmony with nature by using water resources effectively and protecting biodiversity and ecosystems. With the aim of sustainable use and conservation of precious water resources, we have set a goal of reducing the Group’s overall water consumption by 10% by fiscal 2030 (compared to fiscal 2019) by conducting water risk assessment and formulating an action plan.

Leveraging global tools to assess water risks

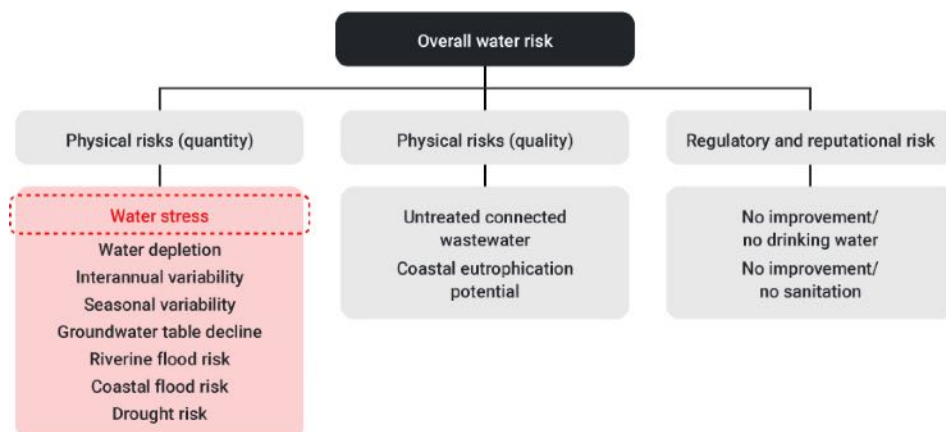


In September 2023, we used the Aqueduct tool by the World Resources Institute to assess water risks for the AMADA Group. Compared to the previous assessment, the September 2023 assessment was expanded to include all bases, not just manufacturing bases. In this assessment, water risks regarding all 66 bases in Japan and overseas have been identified and analyzed.

The overall water risk assessment results showed that the physical risks (quantity) were high risk. We found that 16 bases (seven in North America, three in Europe, and six in China) had level 4 water stress risk*, the highest level for water stress risk and presenting one of the highest risks overall. The total amount of water intake in these areas of high water stress risk (49,815 m3) for the AMADA Group accounts for 15.3% of the total water intake for all bases outside Japan (133,361 m3).

* Water stress risk is calculated as the level of water demand relative to the amount of water resources and indicates the degree of water scarcity in a region.


12 assessable indicators with Aqueduct



* Created by AMADA based on the Aqueduct Water Risk Atlas website

Reducing water consumption

Outside Japan, we reduced water consumption through more efficient water use, including irrigation management and improvement on some facilities (reduction effect of approximately 9,000 m³). In Japan, the reduction in usage of water sprinklers at the head office and other seasonal and careful usage on the premises contributed greatly to reduction (reduction effect of approximately 22,000 m³). As a result, by the end of fiscal 2022, we had already exceeded our reduction target for 2030 (10% reduction versus 2019 levels). For our track record in this area, please see the page linked below.

Environmental Targets and Plans 

Biodiversity

Basic policy

The AMADA Group has been carrying out initiatives for the conservation and regeneration of biodiversity as part of its Environmental Policy since 2010. Biodiversity conservation depends on understanding the status of ecosystems in each region. Since 2015, the AMADA Group has been surveying the biodiversity of each of its business sites in Japan employing the land use assessment tool provided by the Japan Business Initiative for Biodiversity (JBIB), and has been implementing initiatives tailored to each site.

Green Infrastructure initiatives

The AMADA Group is engaged in the Green Infrastructure initiative as defined and supported by Japan's Ministry of Land, Infrastructure, Transport and Tourism. Green infrastructure refers to efforts to promote sustainable and attractive national, urban, and regional development by utilizing the diverse functions of the natural environment. In November 2021, we installed green infrastructure to the garden exterior on the south side of AMADA FORUM at the Isehara Works. We reopened the garden as a "rain garden" equipped with a rainwater harvesting function. This permeable green space collects and cleans rainwater before gently allowing it to seep into the soil. In addition to mitigating the load on drainage pipes during heavy rains, preventing the flooding of sidewalks and driveways, and improving water quality, it also offers beautiful scenery as a garden made with white gravel, masonry, and plants. In spring 2022, we also added a rain garden on the west side of the Third Plant at the Fujinomiya Works West Block. During heavy rainfall, the rain garden is effective in controlling rainwater runoff, purifying water quality, and funneling it into the soil. At other times, it serves as a biodiversity-friendly green space for grassland ecosystems.



Rain garden (Isehara Works)

Fujinomiya Works rain garden awarded the Excellence Award at the 3rd Green Infrastructure Awards

The Rain Garden initiative at the Fujinomiya Works received an Excellence Award in the Disaster Prevention and Mitigation category at the 3rd Green Infrastructure Awards organized by the Green Infrastructure Public-Private Partnership Platform, which is comprised of the national government, private companies, academic groups, and other organizations. This award was selected by a screening vote of platform members (approximately 1,600 companies and organizations).



Local initiatives for preserving biodiversity

Fujinomiya Works

The AMADA Group works to preserve biodiversity through its “AMADA Forest Creation program.”

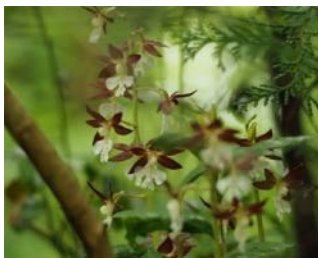
Approximately 60% or around 430,000 m² of the Fujinomiya Works premises is forested land. On these premises, we have confirmed the presence of around 1,100 species of plants and animals. When the forest in front of the Second Factory was reforested, we found trees such as konara oak and Japanese snowbell, as well as Japanese lady’s slipper orchid, a kind of orchid listed as a Category II (Vulnerable/VU) endangered species by the Ministry of the Environment and Shizuoka Prefecture.

Approximately 80% of these forests are artificially planted Japanese cypress. Since it has been more than 50 years since the trees were planted, we are planning to proactively improve the forest into one rich with plants and wildlife.

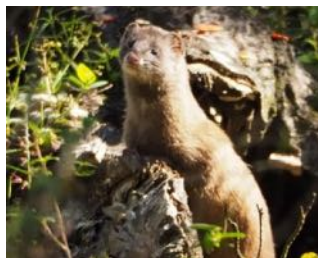


Forest at the Fujinomiya Works (Fujinomiya City, Shizuoka Prefecture)

Wildlife identified at the Fujinomiya Works (partial)



Calanthe discolor - Orchid



Japanese weasel



Indolestes peregrinus - Dragonfly



Cyanoptila cyanomelana (juvenile) - Flycatcher

Isehara Works

The rooftop garden near the Isehara Works main building was created about 45 years ago. What started out as a handful of trees are now several dozen. A variety of birds can be seen in the garden. Among these birds are the Japanese tit (*Parus minor*), which can be observed in the nesting boxes.

The vegetation has been designed to ensure a balance of trees, primarily those favored by wild birds and butterflies, and allow visitors to enjoy flowers blooming in all four seasons.



Toki Works

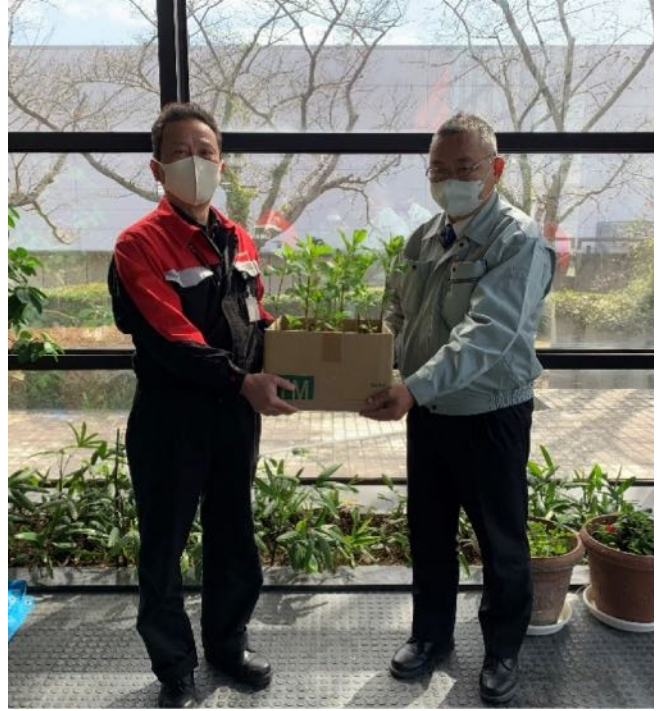
The biotope at the Toki Works was designed to facilitate the effective use of on-site spring water, and also as a small reservoir for irrigating plants. It covers an area of 200 m² and holds approximately 100 tons of water. The pond is heart-shaped when viewed from above. Local granite known as “mino kurama” is used around the edges of the pond.

Water, greenery, and stones come together in harmony at the biotope, which also serves as an oasis for employees. Even foxes make occasional visits here.



Ono Plant

At the Ono Plant (Ono City, Hyogo Prefecture), Ono City's Roads and River Division provided us with fragrant eupatorium, a plant species endemic to Kakogawa River, at the end of March 2022, and we transplanted it to our plant premises for cultivation. The fragrant eupatorium that sprouted in March 2023 were donated to the same division of the city.



Donation of fragrant eupatorium to Ono City

Management of Chemical Substances

Basic policy

The AMADA Group is taking stronger efforts regarding regulated chemical substances to ensure that customers can use its products with peace of mind.

We will practice appropriate management of chemical substances to ensure that we provide our customers with safe machines made of safe materials.

Managing chemical substances contained in products

Addressing chemical substances contained in products

At the AMADA Group, we control chemical substances contained in major products through management via the chemSHERPA^{*1} scheme in accordance with regulations as appropriate by country; for Japan, this is as Class I Specified Chemical Substances under the Act on the Regulation of Manufacture and Evaluation of Chemical Substances; for the United States, the TSCA^{*2}; for Europe, the RoHS^{*3} Directive, POPs^{*4} Regulation, and REACH^{*5} Regulation; and for China RoHS^{*6}.

*1 Chemical information SHaring and Exchange under Reporting PARTnership in supply chain

*2 Toxic Substances Control Act

*3 Restriction of Hazardous Substances

*4 Persistent Organic Pollutants

*5 Registration, Evaluation, Authorisation and Restriction of Chemicals

*6 Administrative Measure on the Control of Pollution Caused by Electronic Information Products (China RoHS)

Management of chemical substances for oils and fats

AMADA brand hydraulic oil, lubricating oil, cutting oil, and other oils and fats sold by the AMADA Group are compliant with regulations related to contained chemical substances. In addition, hazards are classified based on the GHS^{*7} and the results are listed in the SDS^{*8}.

*7 GHS: Globally Harmonized System of Classification and Labelling of Chemicals

*8 SDS: Safety Data Sheet, a document containing hazard and toxicity information on chemical substances to be issued when a product is transferred or provided to other businesses

Chromate treatment

For the surface treatment of mechanical parts designed in-house, we have shifted from hexavalent chromium, which has a large environmental burden, to the more environmentally friendly trivalent chromate.

Safety management and control of chemical substance use in the manufacturing process

In addition to products supplied to customers, all of the AMADA Group's manufacturing plants are working to reduce the amount of regulated chemical substances during the manufacturing process, based on the Groupwide Medium-term Environmental Plan.

Reducing chemical substances by introducing new paint technology (Fujinomiya Works)

By applying the new Nitrotherm spray system utilizing nitrogen gas, paint transfer efficiency improved dramatically at the Fujinomiya Works. As the heated ionized nitrogen lowers the paint viscosity, much less diluting solvents are necessary.

Following the introduction of this new technology, paint usage was reduced by 27%, volatile organic compound (VOC) emissions by 35%, and paint sludge (industrial waste) by 25%.

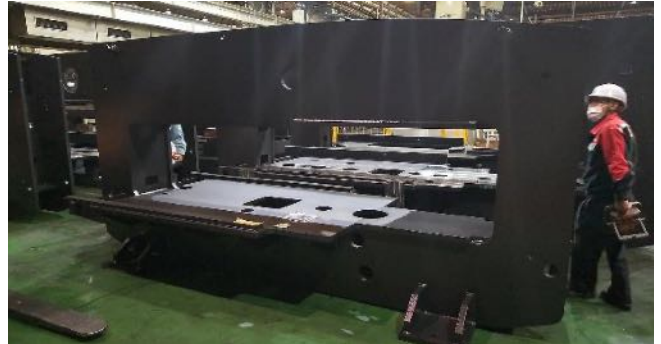


Reducing paint usage by adjusting paint composition

In the frame painting process for punching/combination and bending machines, we adjusted paint composition and quantified paint use, implementing measures to reduce the amount of paint used. As a result, processes that previously required three coats of paint can now form the same pattern with only two coats of the adjusted paint composition. This resulted in a 14–24% reduction in paint usage.



Example of conventional three-coat method



Example of two-coat method with adjusted paint composition

Green procurement

The AMADA Group regards green procurement, the procurement of materials with low environmental load, as one of its important environmental conservation activities.

AMADA has established the AMADA Group Green Procurement Guideline for green procurement and is advancing environmental management, including for its suppliers, to provide customers with products that have lower environmental load.

In recent years, environmental laws and regulations concerning chemical substances have become increasingly strict around the world.

The AMADA Group will disseminate its approach and requirements for the management and communication regarding chemical substances in products in the supply chain in accordance with the Green Procurement Guidelines and act accordingly.

We evaluate suppliers through a green procurement partner survey as a method of confirming the status of their implementation of the AMADA Group's requirements.




Depending on the resulting evaluation level, we will request that some suppliers make improvements to their management systems, or even conduct an audit.

Through these efforts, we also support environmental risk management and the promotion of appropriate chemical substance management at our suppliers.

We thank all of our suppliers and stakeholders at large for their cooperation.

AMADA Group Green Procurement Guideline

Details of green procurement management are stipulated in the AMADA Group Green Procurement Guideline, linked below, and other documents.

AMADA Group Green Procurement Guideline	English version (350KB) 
AMADA Group List of regulated chemical substances	English version (611KB) 
Green procurement partner survey	English version (157KB) 

* RoHS Directive: A directive by the EU with the key objective of eliminating certain hazardous substances in electrical and electronic equipment

External Evaluations

Inclusion in and assessment for ESG-related indicators

Member of the MSCI Japan ESG Select Leaders Index

2023 CONSTITUENT MSCI JAPAN
ESG SELECT LEADERS INDEX

Since June 2023, AMADA has been included in this index developed by Morgan Stanley Capital International (MSCI), which selects companies with outstanding environmental, social, and governance (ESG) initiatives. AMADA has also received an AA rating in the MSCI ESG Ratings, which assesses companies around the world that are involved in ESG activities.

Member of the FTSE Blossom Japan Sector Relative Index



**FTSE Blossom
Japan Sector
Relative Index**

Since March 2022, AMADA has been a member of this index, developed by FTSE Russell reflecting the performance of companies demonstrating strong ESG practices in Japan.

Member of the S&P/JPX Carbon Efficient Index



AMADA is a member of this index, which was developed by the U.S.-based S&P, Dow Jones Indices and the Japan Exchange Group. With the TOPIX as its underlying index, this index weights component stocks with a focus on environmental information disclosure status and carbon efficiency (carbon emissions per unit of revenue).

Member of the Morningstar Japan ex-REIT Gender Diversity Tilt Index

Since April 2023, AMADA has been a member of this index, developed by Morningstar to recognize companies with outstanding gender diversity initiatives.

Member of the iSTOXX® MUTB Japan Platinum Career 150 Index



This index was developed jointly by Mitsubishi UFJ Trust and Banking Corporation and STOXX Ltd. (an index provider affiliated to Deutsche Börse). It assesses companies that are proactive in developing the careers of their employees according to the following three criteria: Long-term perspective, self-directed learning, and contribution to society.

A- rating for Climate Change and B rating for Water Security in CDP's 2023 questionnaires



CDP is an international nonprofit organization that provides an environmental disclosure system established by a coalition of institutional investors from around the world. It scores and publishes evaluation results for each company's transparency of environmental information disclosure, management involvement, and other factors. The Company has received assessment results for CDP's Climate Change questionnaire since 2018 and for its Water Security questionnaire since 2019. As of 2023, AMADA has received an A- rating in Climate Change and a B rating for Water Security.

Initiative endorsements and certifications

Certified as a "DX Certified Operators" by the Ministry of Economy, Trade and Industry



In November 2024, AMADA were certified as a "DX Certified Operators" under the DX Certification System by the Ministry of Economy, Trade and Industry. The DX Certification System is a system in which the government certifies companies that are deemed to be ready to promote DX in accordance with the Digital Governance Code, which summarizes the requirements for business managers to respond to social change through digital technology.

First RE100 member from Japan's machine tool industry



In August 2023, AMADA joined the RE100 international environmental initiative, with the aim of achieving 100% renewable energy use for business activity at all of our sites, including that of Group companies. Our membership in RE100 marks the first among machine tool industry companies in Japan.

Endorsed the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)



We recognize that addressing climate change is one of the most important management issues for corporate management, and in April 2022 we declared our support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We disclose information based on the TCFD framework, including assessments (scenario analysis) of the impact of climate change-related risks and opportunities on our business.

Certified in the Science Based Targets (SBT) for reduction of greenhouse gases



The AMADA Group has set certified targets of reducing CO₂ emissions from all business sites and factories (Scope 1 and Scope 2) by 46.2% from the fiscal 2019 level by fiscal 2030 and reducing CO₂ emissions from Category 1 (purchased goods and services) and Category 11 (use of sold products) of Scope 3 (indirect activities other than Scope 1 and Scope 2, including processes from procurement of raw materials to sales, consumption, and disposal of products) by 27.5% by fiscal 2030.

Participant in the GX League by Japan's Ministry of Economy, Trade and Industry



AMADA became a participant in the GX League in fiscal 2024. This is a forum for companies that aim to achieve carbon neutrality by 2050 and social change to take on the challenge of green transformation (GX) and work together with government and academia to achieve sustainable growth in the present and future society.

Acquired ISO 14001 certification, an international environmental standard



In 1998, we obtained ISO 14001 certification for the Isehara Works, and are continuing to renew this certification.

Currently, 10 Group companies, one vocational training corporation, one sales office, and one union have jointly obtained one certification at 10 locations: Isehara Works, Fujinomiya Works, Ono Plant, Toki Works, Kansai Technical Center, Miki Plant, Noda Works, Fukushima Plant, Isehara-Suzukawa Works, and Kawaguchi Works.

Evaluations and commendations for sustainability activities

Awarded the Kanto Bureau of Economy, Trade and Industry Director-General's Award for excellent plant greening



The Amada Fujinomiya Works received the Kanto Bureau of Economy, Trade and Industry Director-General's Award for excellent plant greening in fiscal 2021. The purpose of this award program is to further promote plant greening by recognizing plants that proactively promote plant greening and have made remarkable improvements to the environment inside and outside their sites, following the spirit of the Factory Location Act. The Isehara Works and the Fujinomiya Works simultaneously received the Japan Greenery Research and Development Center Chairman's Award in fiscal 2016, while the Isehara Works received the Kanto Bureau of Economy, Trade and Industry Director-General's Award in fiscal 2019.

Winner of the Excellence Award in the Disaster Prevention and Mitigation Category of the 3rd Green Infrastructure Awards



The Rain Garden (Fujinomiya Works)

The Rain Garden initiative at the Fujinomiya Works received an Excellence Award in the Disaster Prevention and Mitigation category at the 3rd Green Infrastructure Awards organized by the Green Infrastructure Public-Private Partnership Platform, which is comprised of the national government, private companies, academic groups, and other organizations. Each award is selected by a screening vote of members (approximately 1,600 companies and organizations). The Rain Garden initiative was introduced in 2022 on the west side of the West Block No. 3 Plant at the Fujinomiya Works as part of our Green Infrastructure initiative. During heavy rainfall, the rain garden is effective in controlling rainwater runoff, purifying water quality, and funneling it into the soil. At other times, it serves as a biodiversity-friendly green space for grassland ecosystems.

Acquired Kurumin certification as a company supporting childcare



The Kurumin certification system is based on Japan's Act on Advancement of Measures to Support Raising Next-Generation Children to certify companies that have formulated a general business owner action plan, and that have achieved the goals set forth in the plan and meet certain standards. To date, we have worked to support development of the next generation through the provision of a next-generation development allowance, extension of the eligible duration for the shortened working hour system, and a unique childcare leave system. In addition, as a result of efforts to improve awareness of the paternity leave system and of training for managers to actively encourage the system, the rate of male employees taking childcare leave increased significantly. This has led to high praise of our efforts to create a corporate culture that is more accepting of childcare leave.

Certified Health & Productivity Management Outstanding Organization (Large Enterprise Category) for 2024



AMADA was recognized as a Certified Health & Productivity Management Outstanding Organization for 2024 in the Large Enterprise Category under the certification program of the same name by the Ministry of Economy, Trade and Industry. This program is designed to visualize and verify corporations, including large corporations and small and medium-sized enterprises, that are practicing excellent health management. By considering and strategically implementing employee health and productivity management from a management perspective, we are working to create a rewarding workplace where a diverse range of employees can engage in their work with vigor and enthusiasm, and to strengthen foundations so that employees can work with peace of mind and in good physical and mental health. In fiscal 2023, AMADA was recognized for its efforts to strengthen structures surrounding health and productivity management, including the establishment of the Health Management Promotion Committee and the appointment of Representative Director, President Takaaki Yamanashi as Chief Health Officer (CHO).

Third-Party Assurance



Independent Assurance Statement

September 26, 2024

Mr. Takaaki Yamanashi
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 the following data of the Company group in Japan and overseas for the fiscal 2023, 142 GWh of energy consumption, 66.6 % for the ratio of renewable electricity consumption and CO₂ emissions which are 6.75 kt-CO₂ for Scope1, 40.9 kt-CO₂ for location-based Scope2, 9.02 kt-CO₂ for market-based Scope2 and 2.23 Mt-CO₂e for Scope3 (Categories 1,2,3,4,5,6,7,8,11,12,13) (collectively, "the Environmental performance data"). The purpose of this process is to express our conclusion on whether the Environmental performance data were calculated in accordance with the Company's standards. The Company's management is responsible for calculating the Environmental performance 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 Environmental performance 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 Environmental performance 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.

A handwritten signature in black ink, consisting of a stylized 'T' followed by a series of loops and a final flourish.

Takashi Fukushima
Representative Director
Sustainability Accounting Co., Ltd.

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