



shaping your dreams



Environmental Report

2021

OSG Corporation



CONTENTS

- 01** About OSG
- 01 Company Profile
- 02 Main Business
- 03** Top Message
- 04 Basic Philosophy and Policy
- 05** Approach to Environment
- 05 Environmental Management
- 06 Environmental Accounting
- 07 Material Balance
- 08 Promotion of Resource Recycling
- 08 Reduction in Environmental Impacts
- 09 Eco-Friendly Products and Services
- 11** Approach to Society
- 11 Together with Customers
- 12 Communication with Society
- 13 Recognition by Society
- 14** Environmental Data by Factory
- 15 Inquiry

Main Business

Manufacture and sales of cutting tools, rolling dies, gauges, machine tools, and machine parts; import and sales of tools



Editorial Policy

To provide our stakeholders with detailed environmental information, OSG has published the Environmental Report since FY 2001. In consideration of the environment, we have abolished printing of this report since the 2014 edition and posted it only on our website.

ISO 14001 Certificate

Certified by: Japan Quality Assurance Organization (JQA)
Certificate No.: JQA-EM1088
Registration date: November 10, 2000

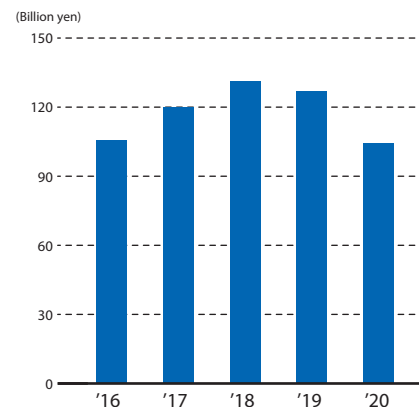
Reporting Period

Fiscal 2020 (from December 1, 2019 to November 30, 2020)

Company Profile (As of February, 2021)

Company Name:	OSG Corporation
Headquarters:	3-22, Honnogahara, Toyokawa-city, Aichi 442-8543, Japan TEL: +81-533-82-1111
Established:	March 26, 1938
Representative:	Nobuaki Osawa, President and COO
Capital:	12,223 million yen
Office:	9 offices
Sales Site:	29 sites
Number of Employees:	7,173 (Consolidated)/ 1,881 (Non-consolidated)
Consolidated Subsidiaries:	16 companies (Domestic)/ 58 companies (Overseas)

Sales Trend (Consolidated)





OSG Corporation is a comprehensive cutting tool manufacturer specialized in the manufacturing and sales of taps, end mills, drills and rolling dies. In our mainstay area of taps and threading tools, we hold the world's largest market share. Since the company's foundation in 1938, we have consistently focused on offering products of high-value-added by combining a proactive response to customer needs with high-grade manufacturing capabilities.

This philosophy is the corporate DNA of OSG, and a key driver of our global business operations and development of world-leading products in the area of cutting tools.

Global Network of OSG Group



Pursuing toward the realization of a sustainable world

As a comprehensive cutting tool manufacturer with operations across the world, OSG has continued to grow on a global scale based on our corporate philosophy that has been passed down since its foundation. Shaping customers' dreams into reality, we will contribute to the realization of a sustainable world.



(Left)
Chairman and CEO
Norio Ishikawa

(Right)
President and COO
Nobuaki Osawa

(As of February 2021)

The year 2020 was a challenging year in the face of an unexpected crisis. Many cities around the world were placed into lockdown to prevent the spread of the COVID-19 pandemic. It suspended the economic activity, which led to the rapid deterioration in the global economy.

Amid increasing uncertainty in the economic environment, we started the operation of the NEO Shinshiro Factory in May 2020. This new factory is also called "Zero-One Factory" to emphasize digitalization and innovation through out-of-the-box thinking. By breaking away from existing concepts and creating one from scratch, we aim to optimize a high-mix low-volume production through the utilization of digital technology based on the OPDM (OSG Product Data Management) system.

These days, environmental issues such as global warming and decarbonization (carbon-neutral) are global concerns that must be addressed with new initiatives for the future of the world's manufacturing industry.

The Japanese government has set a goal of reducing greenhouse-gas emissions to net-zero by 2050. Also, the world aims to achieve the SDGs adopted by the United Nations General Assembly in September 2015 by 2030. The OSG Group will steadily contribute to the sustainable development of society by strengthening the development and the production of environmentally friendly products with energy-saving and high efficiency.

shaping your dreams

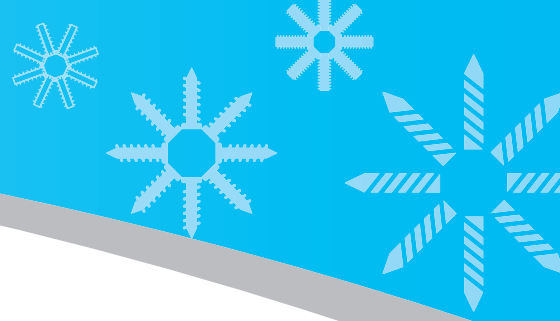
OSG introduced its new brand statement and tagline "shaping your dreams" toward the 100th anniversary.

The power of OSG lies in our assured innovative technological know-how for producing high-quality and high-performance products; our exceptional services to respond to situations diligently; and our out-of-the-box thinking to provide total solutions that anticipate our customers' needs.

As a comprehensive cutting tool provider with operations spanning across the globe, we are committed to contribute to the advancement of the manufacturing industries by shaping our customers' dreams into reality.
<http://www.osg-global.jp/brand/>



shaping your dreams



Fundamental Business Policy

- Always aware that our corporation is an institution that serves society, we provide products that are appreciated by our customers.
- We assign our employees appropriate jobs and strive to improve their daily lives.
- We strive to provide stable dividends to our stockholders.
- We implement sound business practices that earn enhanced social trust and develop the corporation into a worldwide business.

Basic Environmental Ideas

- All will work to maintain the global environment in harmony with OSG's basic business policies.
- OSG publicizes information on its three declarations made in October 1996 (i.e., Global Expansion, Health-consciousness, and Eco-friendliness).
- OSG conducts activities with consideration of the environment while offering products and services that contribute to society.
- Following societal norms, OSG promotes communication with the local community.

Environmental Policy

OSG strives to protect the global environment and act in harmony with nature under OSG's slogans of "an Eco-friendly Company" and "a Culture That Cares for the Environment."

FY2020 Targets and Results, FY2021 Targets

No	Environmental Objectives		FY2020		FY2021 Target
	Item	Content	Target	Result	
1	Energy Conservation	Total Energy Use Reduction (Energy sources: Electric power, Fuel oil and LPG) Total use of energy BM: 96,676 GJ/month	1.0% reduction 957 GJ/month reduction	1.7% reduction 1,588 GJ/month reduction	1.0% reduction 874 GJ/month reduction
2	Eco-Products	Eco-Friendly Product Development	33 points	34 points	34 points*
3	Eco-Factory	Eco-Friendly Production	37 points	70 points	37 points*

*Improvement of environmental activities Evaluation by scoring (60 points maximum)

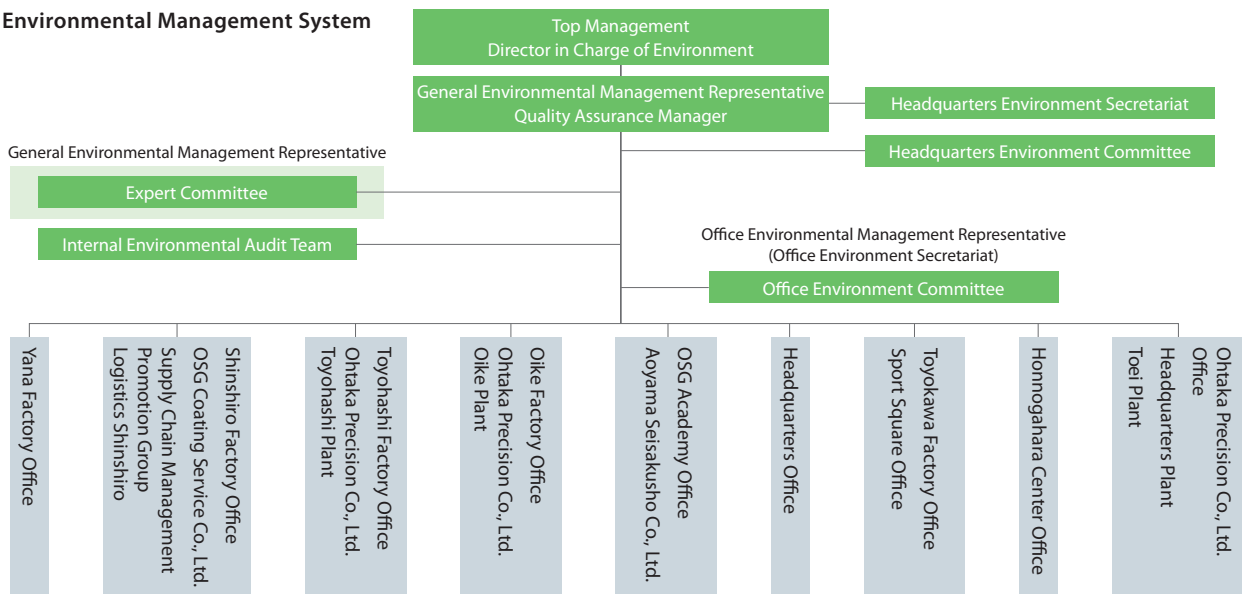


Environmental issues that impact the next generation are an important task for OSG to address. We are actively working on the promotion of efficient use of resources and environment-conscious manufacturing, and the provision of environmentally friendly products and services to our customers, with the aim of reducing environmental impacts and building a recycling-oriented society.

Environmental Management

To proactively tackle environmental issues with the company-wide environmental strategies, OSG has set up the Headquarters Environment Committee. Environmental management activities are primarily conducted by departments close to the workplace with a large environmental impact based on our environmental management system headed by a director in charge of environment as top management and a quality assurance manager as a general environmental management representative.

Environmental Management System



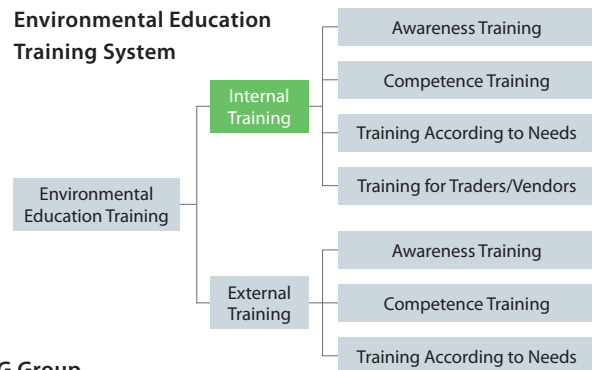
Environmental Education

OSG provides ISO 14001 internal environmental auditor training for newly appointed supervisors to develop skills as a qualified internal auditor for environmental management systems.

We also train persons in charge of environment at each office to raise their knowledge and develop their practical skills through the education of environmental laws and regulations.

In addition to the above, emergency response training is conducted for persons in charge at each office in order to ensure thorough awareness.

Environmental Education Training System



Establishment of Environmental Management System in the OSG Group

Status of Acquisition of ISO 14001 Certification

Nov. 2000	Nine offices of OSG	ISO 14001 Certification Acquisition
Oct. 2004	NODA Precision Inc.	ISO 14001 Certification Acquisition
Dec. 2005	Sanwa Seiki Co., Ltd. Shiga Seisakusho	ISO 14001 Certification Acquisition
Oct. 2007	Nihon Hard Metal Co., Ltd. Kyushu Factory	ISO 14001 Certification Acquisition
Oct. 2007	Aoyama Seisakusho Co., Ltd.	ISO 14001 Certification Acquisition
Oct. 2008	Ohtaka Precision Co., Ltd.	ISO 14001 Certification Acquisition
Oct. 2008	Taiho Sangyo Corporation	ISO 14001 Certification Acquisition
Jun. 2014	Nihon Hard Metal Co., Ltd. Head Office and Factory	ISO 14001 Certification Acquisition

Environmental Accounting

OSG's environmental accounting system is based on the Environmental Accounting Guidelines of the Ministry of the Environment.

Promoting understanding of our efforts to environmental conservation activities through the environmental accounting, we aim to maintain a good relationship with society

Costs and Effects over the past three years (Thousand yen)

		FY2018	FY2019	FY2020
1	Positive costs	231,247	223,520	51,026
2	Maintenance costs	64,521	66,326	63,824
3	Environmental damage compensation	0	0	0
4	Effects of environmental conservation	29,965	37,169	12,103

Costs and Effects in FY2020 (Thousand yen)

Category	Item	Major activities	Investment in equipment
1 Positive costs for achieving environmental targets	Pollution prevention costs	—	0
	Global environmental conservation costs	Updating air conditioning heat source, switching to LED lighting, etc.	51,026
	Resource environmental costs	—	0
			Subtotal 51,026
2 Maintenance costs for environmental management system	Labor costs associated with environmental conservation activities	Secretariat operating, management operating	14,000
	Costs of environmental education and its preparation	Participation in seminars, preparation of Environmental Report	659
	Costs related to environmental audits	External examination, maintenance of registration	997
	Costs of environmental regulations	Measurement of specific chemical substances, etc.	0
	Costs of waste disposal and recycling	Waste disposal	43,574
	Costs of circulation measurement	Various environmental measurement and analysis	4,584
	Environmental conservation costs in social activities	Activity costs for The Japan Cutting & Wear-resistant Tool Association Environment committee	10
		Subtotal 63,824	
3 Compensation costs for environmental damage	Costs for improvement of contaminated soils and recovery of destroyed nature	—	0
			Subtotal 0
			Total 114,850
4 Effects of environmental conservation	Total of environmental improvement effects	Updating air conditioning heat source/transformer, energy saving by LED lighting	12,103
			Total 12,103



Material Balance

In order to contribute to the realization of a low-carbon society and the creation of a resource recycling society, OSG understands and manages the various environmental impacts of our business activities. We remain committed to initiatives such as reducing energy use and using waste from our manufacturing processes as recycled materials.

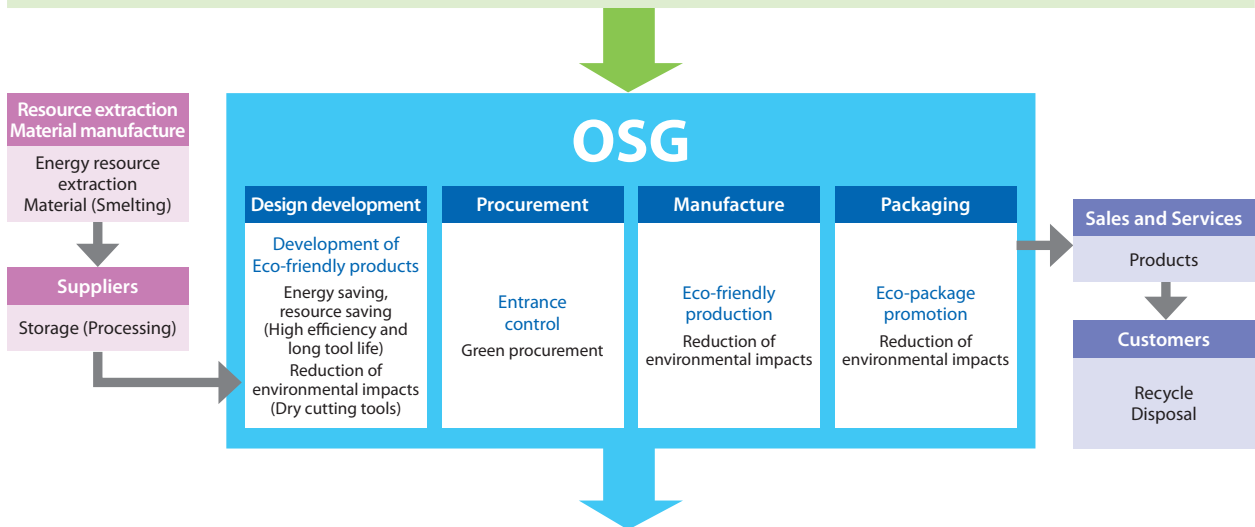
INPUT

(Natural resources, Energy)

Energy	
Purchased electric power	88,511,000 kWh
Crude oil power generation	89 kL
Air conditioning	321 kL
Gas (LPG)	345 t
Water supply	102,874 m ³
Water for industrial use	15,953 m ³
Well water	3,307 m ³
Paper: Copy paper (A4 size)	3,140,000 sheet

Resources	
Raw Materials (Metal)	1,327 t
(Substances subject to PRTR)	175 t
Oils (Cutting fluid, Grinding fluid)	490 kL
Others	Sub-materials

7



OUTPUT

(Waste materials, Emissions to water and atmosphere)

Manufactured Products	
Production	37,659 million yen
Packaging supplies	194 million yen

Emissions Waste Material	
Amount for re-use	741.8 ton
Recycled amount	883.9 ton
Reclaimed amount	2.9 ton
Total output	1,629 ton

Water Emissions	
Drainage water	122,134 m ³

*Most drainage water is domestic drainage water.
*We have balanced our water use so that the amount of drainage water equals our water usage. 50-60% of actual drainage water is estimated to be from the use of water-soluble coolants and the evaporation from air conditioning, etc.

Atmospheric Emissions	
CO ₂ emissions	
Production	40,169 tons-CO ₂

Promotion of Resources Recycling

OSG has promoted zero emission activities to reduce waste. We developed a system to recycle reusable and recyclable resources, and established a structure to ensure the proper disposal of waste from our operations. Therefore, our recycling rate has been over 99% since 2005.

Recycling Rate
Over 99%

Waste Recycling

Metal scrap	427.3 tons
Cardboard boxes (sold for re-use)	60.9 tons
Waste oil (sold for re-use, recycled)	442.6 tons
Oil sludge (sold for re-use, recycled)	197.8 tons
Diatomaceous soil (sold for re-use, recycled)	244.2 tons
Waste grinding wheels (recycled)	31.4 tons
Waste plastic (recycled)	50.5 tons
Wood chips (recycled)	110.4 tons
Others (recycled)	60.6 tons
Total	1,625.6 tons

Reductions in Environmental Impacts

OSG has strived to reduce energy consumption, CO₂ emissions and waste output. Focusing on efficient energy use and switching to energy-saving equipment, we have worked to promote continuous improvement in environmental impact throughout the entire company.

Energy Consumption

Compared to the previous year, energy consumption was reduced by 13.8% through energy-saving measures, such as updating transformers and switching to LED lighting across the entire company. However, due to the significant decrease in production under the coronavirus pandemic, the energy consumption per unit of production was 24.3 GJ/million yen, a 30% increase from the previous year.

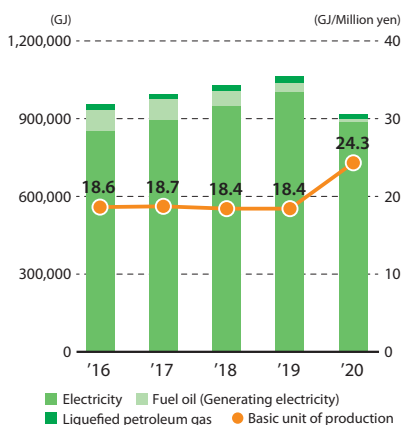
CO₂ Emissions

Production decreased considerably because of the coronavirus pandemic, and our CO₂ emissions per unit of production increased by 20% compared to the previous year. Total CO₂ emissions were reduced by the effects of energy-saving activities and a decrease in production.

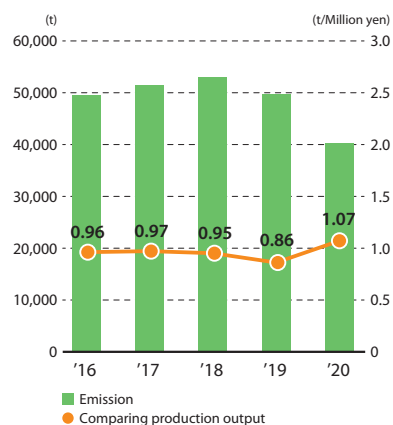
Waste Emissions and Valuable Materials Ratio

We are continually engaged in waste reduction activities and efforts to recover valuable materials from waste based on the 3Rs. The total volume of waste was reduced by 21.1% from the previous year due to a decline in production activities.

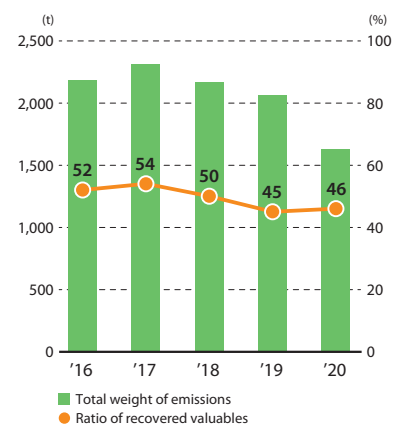
Energy Consumption



CO₂ Emissions



Waste Emissions and Valuable Materials Ratio





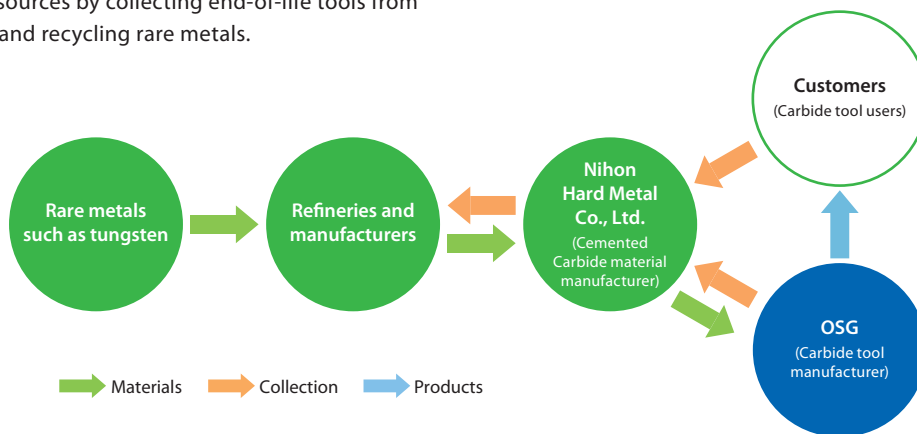
Eco-Friendly Products and Services

OSG is striving to produce eco-friendly products and provide them to our customers. We are actively working to reduce environmental impacts by enhancing regrinding services and developing energy-saving products and high-efficiency products that enable high speed and long-life.

■ Carbide Material Recycling

Raw materials of carbide tools include rare metals such as tungsten and cobalt.

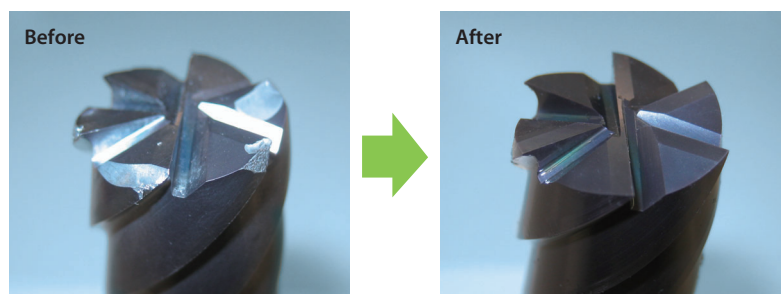
OSG group promotes recycling of carbide tools. For customers' CSR activities and zero-emission promotion, we utilize these resources by collecting end-of-life tools from our customers and recycling rare metals.



■ Regrinding Services

Cutting tools such as taps, end mills and drills become worn and dull after repeated use.

These tools can be returned to their original as-new condition by regrinding. OSG group provides regrinding services and meets customer's various needs.



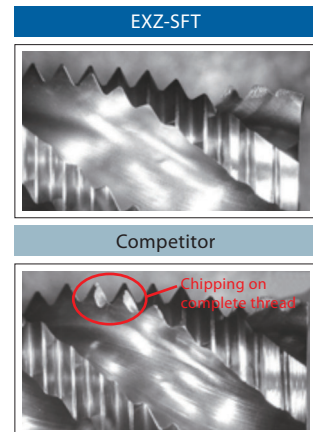
EXZ-SFT: High Durable General Purpose Spiral Tap

Benefits

The EXZ-SFT series has excellent tool durability that exceeds our bestselling EX-SFT and realizes stable tapping performance with long tool life. Highly efficient production can be achieved with both durability and stability, which contributes to the waste reduction of tools and materials as well as labor-saving.

The newly developed "Special surface treatment"

The biggest challenge in tapping is chip evacuation. Coated taps are excellent in wear resistance and welding resistance; however, chip evacuation can be a problem, especially in general-purpose machines. This surface treatment ensures the stable chip formation equivalent to non-coated taps and has the effect of suppressing breakage and chipping with improved wear resistance.



<EXZ-SFT>

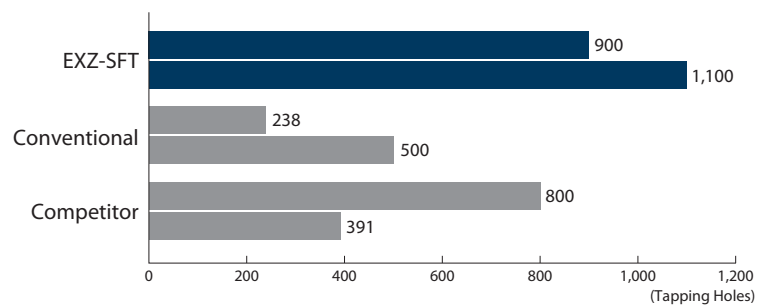


<Performance>

Cutting data: M3X0.5 S45C

Stable tapping performance can be achieved even in difficult small-diameter deep-hole (2D) applications. The EXZ-SFT series has tool durability of 200% compared to conventional tools.

Work material	S45C
Size	M3X0.5
Machine	Vertical M/C BT30
Coolant	Water soluble
Cutting speed	15m/min
Tapping length	6mm(blind)





As a good corporate citizen, OSG plays an active role in the sustainable development of society and fulfills social responsibilities through open communication with all stakeholders.

Together with Customers

OSG offers products that enable high-precision machining with high efficiency in order to help customers reduce their environmental impact. Aiming to turn our customers' dreams into reality, we will strive to achieve the highest level of customer satisfaction through providing products and services that meet and exceed the customers' expectations.

Quality Management System

OSG has been providing excellent products and services with which customers are satisfied while protecting the environment. Based on the principles of the quality management system, "customer focus" and "continual improvement", we will continue to enhance customer value through the efforts of each employee of the OSG group.

Under the quality certification system of OSG, to establish a quality assurance system which can provide a world-class quality trusted by customers, we conduct quality system audits toward global expansion.



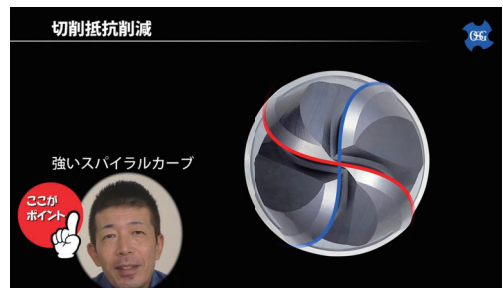
OSG Web Showroom

Participation in Various Exhibitions

As a comprehensive cutting tool manufacturer, OSG actively participates in exhibitions and holds seminars to enhance communication with our customers through our products.

This year exhibitions and seminars were held online due to the spread of the coronavirus.

These photos are of our online exhibitions in 2020.



Product video with some advice

Online Exhibitions:

OSG Web Showroom	July, 2020
INTERMOLD Online	October, 2020
JIMTOF 2020 Online	November, 2020



JIMTOF2020 Online

Communication with Society

Aiming to strengthen the relationship with the local community, we will contribute to the sustainable development of society and fulfill our social responsibility as a company.

Donated Infection Prevention Tools "Fox Finger" to Local Municipal Hospitals

On June 9, 2020 (Tue), we made a donation of Fox Finger infection prevention tools, masks, and protective clothing to Toyokawa City Hospital, Toyohashi Municipal Hospital, and Shinshiro Municipal Hospital in the local area.

Fox Finger was developed as infection prevention tools by our technical team at OSG Design Center to avoid direct contact with objects such as doorknobs and buttons. This product is created for use by medical personnel and has a shape that is both ergonomic and easy to use.



Norio Ishikawa, Chairman of OSG Corporation and Takashi Matsumoto, Director of Toyokawa City Hospital

Fox Finger

Space Parachute Challenge for Children with Dreams of Space

The 3rd Space Parachute Challenge was held at the Coconico Toyohashi Development Center for Children's Futures on July 19, 2020 (Sun). As a measure to prevent the spread of COVID-19, the workshop was carried out six times with a small group of five children. This challenge gave children an opportunity to experience the importance of thinking for themselves and learning independently through making a parachute with the instruction without letters devised by inventor Keisuke Iwatani.

OSG exhibited the micro-debris tracking microsatellite IDEA OSG1.



A child flying a parachute

Picking up Trash at Workplace Surroundings

Every year, we carry out cleanup activities to help beautify the local environment under the direction of the Safety and Health Committee at each office. Through this activity, each employee raises awareness of environmental issues.



Employees picking up trash

World Festival

On December 15, 2019 (Sun), the World Festival sponsored by the Toyokawa International Association was held at Toyokawa City Concert Hall. During the festival, various programs, including the introduction of the culture of Japan and other countries and a performance by the cheerleading team of Toyokawa High School, were given. At the exhibition booth, events to experience the culture, food, and art of the world were also held. It was an opportunity to get familiar with OSG as a company expanding its business globally.



Norio Ishikawa, Chairman of OSG Corporation



Osawa Scientific Studies Grants Foundation

Osawa Scientific Studies Grants Foundation was established in July 1991 as a public interest incorporated foundation to contribute to the promotion of science and technology in Japanese manufacturing, which supported the own business of the founder, the late Hideo Osawa. Since then, a total of over 890 million yen has been granted for research and development as well as international exchange focusing on industrial engineering related to metal machining and the underlying science and engineering (as of fiscal 2020).

The foundation will continue to support research activities to raise the level of the manufacturing industry and lead to future development based on the thought of the founder.



Issuance of establishment permit (July 1991) (Left) Hideo Osawa, Founder of Osawa Scientific Studies Grants Foundation

Recognition by Society

Evaluation by third-party for business activities in 2020

The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology

In fiscal 2020, 2 employees received "The Award for Creativity." This award is given to those who have made significant contributions to technical improvement with outstanding creativity at their workplace. OSG has been awarded for the 11th consecutive year, with 22 employees recognized for their achievements.



Mr. Agata, recipient of the award

Environment Special Award 2020 from Japan Cutting & Wear-resistant Tool Association

The "Environment Special Award" of the Japan Cutting & Wear-resistant Tool Association is awarded to member companies with particularly excellent results in environmental management, such as CO2 emissions and waste control, based on the environmental survey.

OSG was recognized as a model of other companies for its continuous efforts to improve environmental management, such as the reduction of waste emissions for the third consecutive year, the achievement of resources recycling rate of almost 100% for the fifth consecutive year, and the stabilization of CO2 emissions per unit of production for the fifth consecutive year.



Environment special award shield

The 2020 "Cho" Monozukuri Parts Grand Award: Machine and Robot Parts Award

The AE-VML anti-vibration long carbide end mill was awarded the "Machine and Robot Parts Award" at the 2020 "Cho" Monozukuri Parts Grand Award sponsored by The Monozukuri Nippon Conference and Nikkan Kogyo Shimbun. It is the third consecutive year that OSG won this award since 2018.

This award, which honors contributions to the development of Japanese industry and society, is given to parts and materials that play a significant role in helping to address the challenges faced by the Japanese manufacturing industry such as the declining birthrate and aging population, environmental conservation, stable supply of resources and energy, and intensifying international competition.



Machine and Robot Parts Award for third consecutive year



Environmental Data by Factory

INPUT

Energy Input (per year)

	FY2019	FY2020
Purchased electricity	40,100,000 kwh 100%	32,010,000 kwh 80%
Heavy oil for Power generation	418 kL 100%	0 kL*2 0%
Heavy oil for Air conditioning	415 kL 100%	321 kL 77%
LPG for Surface treatment	115 t 100%	121 t 105%
Water (Tap water)	35,463 m ³ 100%	26,213 m ³ 74%

*2 Reduced the use of in-house power generation

OUTPUT

Emissions of CO₂ and Industrial Waste*1

	FY2019	FY2020
CO ₂ emissions	18,328 t 100%	13,798 t 75%
CO ₂ emissions per unit	0.75 t/million yen 100%	0.57 t/million yen 76%
Industrial waste emissions	661 t 100%	562 t 85%

*1 Valuable materials are not included in industrial waste emissions.

Yana Factory



Shinshiro Factory



	FY2019	FY2020
Purchased electricity	25,970,000 kwh 100%	2,8070,000 kwh 108%
LPG for Air conditioning	370 t 100%	223 t 60%
Water (Tap water)	60,471 m ³ 100%	58,007 m ³ 96%
Water (Industrial water)	22,288 m ³ 100%	15,953 m ³ 72%

	FY2019	FY2020
CO ₂ emissions	11,868 t 100%	12,099 t 102%
CO ₂ emissions per unit	1.12 t/million yen 100%	1.14 t/million yen 102%
Industrial waste emissions	204 t 100%	190 t 93%

*1 Valuable materials are not included in industrial waste emissions.

Toyohashi Factory



	FY2019	FY2020
Purchased electricity	10,920,000 kwh 100%	9,570,000 kwh 88%
Heavy oil for Air conditioning	0 kL —	0 kL —
Water (Tap water)	7,043 m ³ 100%	5,931 m ³ 84%

	FY2019	FY2020
CO ₂ emissions	4,990 t 100%	4,123 t 83%
CO ₂ emissions per unit	0.92 t/million yen 100%	0.76 t/million yen 83%
Industrial waste emissions	171 t 100%	142 t 83%

*1 Valuable materials are not included in industrial waste emissions.

Oike Factory



	FY2019	FY2020
Purchased electricity	18,660,000 kwh 100%	14,120,000 kwh 76%
Water (Tap water)	6,286 m ³ 100%	4,998 m ³ 80%
Water (Well water)	0 m ³ —	0 m ³ —

	FY2019	FY2020
CO ₂ emissions	8,528 t 100%	6,085 t 71%
CO ₂ emissions per unit	0.50 t/million yen 100%	0.35 t/million yen 71%
Industrial waste emissions	143 t 100%	113 t 79%

*1 Valuable materials are not included in industrial waste emissions.

Inquiry

OSG website
<http://www.osg.co.jp/>

IR information
http://www.osg.co.jp/about_us/ir/

OSG Corporation Environmental Report 2021

Published: May 2021
Published by: Quality assurance/
ISO team, Quality assurance group,
Quality assurance department
Next scheduled report: May 2022

Contact us

For feedback or questions about this report, please contact us using the information below.

OSG Corporation Shinshiro Factory
Quality assurance/ISO team, Quality assurance group,
Quality assurance department

1-2 Maruyama, Arumi, Shinshiro-city, Aichi, 441-1317
TEL: +81-536-25-1315
FAX: +81-536-25-1310
E-mail: infoeco@osg.co.jp