Sino-American Silicon Products Inc.

2019

Corporate Social Responsibility Report

Contents

About the Company

01 Stakeholder Engagement & Analysis

02 Governance & Operation

03 Innovation and Services

04 Sustainable Environment

05 Friendly Workspace

About the Report

Report Axis

Sino-American Silicon Products Inc. (hereinafter referred to as "SAS") and its subsidiary are mainly focus on business projects of research and development, design, manufacture and sale of semiconductor silicon crystal materials and their components, photoelectric and communication wafer materials, and the integration and installation of photovoltaic power generation systems. In response to global climate change and the latest developments in the field of corporate social responsibility, SAS started compiling CSR reports since 2017. In these reports, SAS discloses relevant information on material issues regarding the four aspects of corporate governance, economy, environment, and society, as well as execution & improvement results, in addition to presenting the future vision and goals in terms of sustainable development based on long-term in-depth interactions with local communities and engagement with stakeholders.

Report Editing and Final Draft

SAS compiles and organizes relevant information and edits this report through the following procedures.

- CSR Task Force

  Principal members include the President's Office and the Health and Safety Management Department. The task force is in charge of promoting energy environment related matters, overall planning, information compilation & organization, integrating communication and editing & revisions.

- Editing Procedures, Review and Final Draft

  The preliminary draft completed by the President's Office and the Health and Safety Management Department before submitted to the Audit Office and members of the Sustainable Development Committee in each department for review. Afterwards, it would be submitted to the President (Chairperson of the Corporate Sustainable Development Committee) for review, then finalized for publishing.

Reporting Standards

The contents and structure of this report are based on the core indicators in the Sustainability Reporting Guidelines released by the Global Reporting Initiative (GRI). This report also conforms to the Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies. Key issues of concern to stakeholders are disclosed and responded to in relevant chapters based on materiality analysis results.

Reporting Boundaries and Reporting Period

The reporting period and scope of this CSR report released by Sino-American Silicon (SAS) is defined as follows:

Publication Date: June 2020

Reporting Period: January 1, 2019 – December 31, 2019

Reporting Scope: The Report mainly covers the performance data for SAS Hsinchu headquarters, branch companies in Chunan and Yilan, Sunrise World PV Co (changed its name to SAS Sunrise Branch on 2020.1.3) and the semiconductor business group GlobalWafers Co., Ltd. (hereinafter referred to as "GlobalWafers") are also included. Economic and sales performance are consistent with the consolidated financial scope of the Company's Annual Report and includes the remaining subsidiaries, in addition to the companies listed above, and the entities included in this report account for more than 80% of consolidated revenue. SAS' financial data are verified and certified by KPMG in accordance with the International Financial Reporting Standards (IFRS) and the amounts are given in NT dollars.

Regarding environmental performances, the Report mainly covers the data for SAS branch companies in Chunan and Yilan as well as GlobalWafers (which has the most production plants and has the most significant environmental impact compared to other subsidiaries) with production plants. In addition, the performance data of solar power generation system for SAS Sunrise Branch are supplemented in the context. As for the social performances, the data included the headquarters and branch companies in Chunan and Yilan and GlobalWafers.

In addition, due to GlobalWafers have other compilation of corporate social responsibility reports, the relevant internal description is focus on Hsinchu headquarter, Zhunan and Yilan branch. As for GlobalWafers' data, it is included within the performance statistics. Relevant data are provided and organized by internal units and presented through internationally accepted indicators and calculation methods.

Note: GlobalWafers as described in this report is included GlobalWafers Headquarters and Chunan Plant, Taisil Electronic Materials Corporation, GlobalWafers Japan Co., Ltd., MEMC Japan Ltd., MEMC Korea Company, Kunshan Sino Silicon Technology Co. Ltd, MEMC Electronic Materials Sdn. Bhd., GlobiTech Incorporated., MEMC LLC, MEMC Electronic Materials S.p.A, Topsil GlobalWafers A/S, GlobalWafers Singapore Pte. Ltd.

In future, SAS will release CSR reports on an annual basis and provide its electronic file available for downloads & browsing in Corporate Responsibility section of the corporate website.

Previously published in June 2019

Report Assurance

The SAS Corporate Sustainable Development Committee has passed a resolution to commission an independent third-party certification body to verify the report in order to ensure the report's conformity to the GRI assurance standards and enhance the transparency and credibility of sustainability related information provided by SAS. The report was verified by DNV GL and met the requirements of GRI Standards Core Options and moderate level assurance requirements of DNV GL VeriSustain Protocol. For more details on the verification statement, please refer to the Appendix. Financial performance data were made public upon attestation by a CPA and presented in a manner consistent with the Annual Report. Greenhouse gas data are based on independent inventory results.

Contact

Should you have any comments or suggestions regarding this report, please feel free to contact us in one of the following ways:

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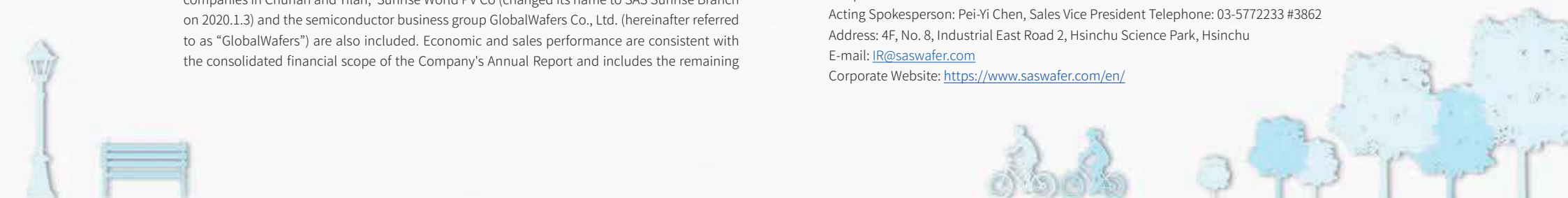


Sustainability Performance Overview

Aspects	Material Topics	2020 Goals	2019 Goals	2019 of Goal Achievements
Economic Aspect	Corporate governance	• Maintain the top 5% ranking of all listed OTC companies in the corporate governance appraisal	• Maintain the top 5% ranking of all listed OTC companies in the corporate governance appraisal	V Goal achieved
	Ethics & integrity / Anti-corruption	• Maintain zero occurrence of corruption	• Maintain zero occurrence of corruption	V Goal achieved
	Operational performance	• Revenue continuously being profitable • Maintain good financial structure	• Has positive revenue growth • Has positive profit growth	X Goal not fulfilled V Goal achieved
	Legal compliance	• Complete inventory and improvement in accordance with the internal regulations of all departments in Taiwan	• Zero occurrence of fines for violating regulations	X Goal not fulfilled
Environmental Aspect	Energy resources consumption and reduction Greenhouse gas (GHG) emission	• Plant power conservation rate of Chunan Plant >1% • The total volume of power conservation in Yilan Plant ≧ 800,000 kW	• Plant power conservation rate >1%	V Goal achieved
	Pollution prevention	• All operating parameters for preventative equipment are compliant with environmental protection permits and standards managed by the service centers • Establish “Emergency Response Program for Abrupt Accidents from Air Pollution” • Establish VOCs coefficient program in Yilan Plant	• All operating parameters for preventative equipment are compliant with environmental protection permits	V Goal achieved
	Waste management	• Ratio of the total volume that adopts resources recovery treatment to the total wastes ≧ 85%	• According to the “Regulations Governing Determination of Reasonable Due Care Obligations of Enterprises Commissioning Waste Clearance”, it is stipulated to establish the procedures for the internal waste management to check on suppliers whom process high-risk waste at least once a year.	V Goal achieved
Social Aspect	Salaries and benefits	--	• Employee spring outings • Employee autumn outings • Birthday cash presents and cakes for employees	V Goals achieved
	Employee education & training	• Attendance rate of general education courses in Yilan Plant ≧ 85% • Implementation rate of educational training program in Chunan Plant 100%	--	--
	Friendly workplace (including occupational safety and health, workplace health)	• Improvement on the ergonomics of multiple cutting station • Caring and follow-up monitoring of special groups 100% • Establish respiration protection program • Health management courses in Chunan Plant ≧ 10 courses	• Occurrence of occupational injuries ≦ 0 (excluding traffic accidents) • Caring and follow-up monitoring of special groups 100% • Walking stairs are added for the condensation water towers to enhance patrol safety	V Goal achieved V Goal achieved V Goal achieved
	Product quality and customer satisfaction	• Score for “quality aspect” on the customer satisfaction survey>8.0 • Score for “service aspect” on the customer satisfaction survey>8.0	• Score for “quality aspect” on the customer satisfaction survey>8.0 • Score for “service aspect” on the customer satisfaction survey>8.0	V Goal achieved V Goal achieved

Economic Aspect

Information Disclosure and Corporate Governance Appraisal and Rating of TWSE Listed Companies.

2013
Information disclosure appraisal A+

2014
Information disclosure appraisal A+
Ranked in the top 5% of all listed OTC companies in the 1st corporate governance appraisal

2015
Ranked in the top 5% of all listed OTC companies in the 2nd corporate governance appraisal

2016
Ranked in the top 5% of all listed OTC companies in the 3rd corporate governance appraisal

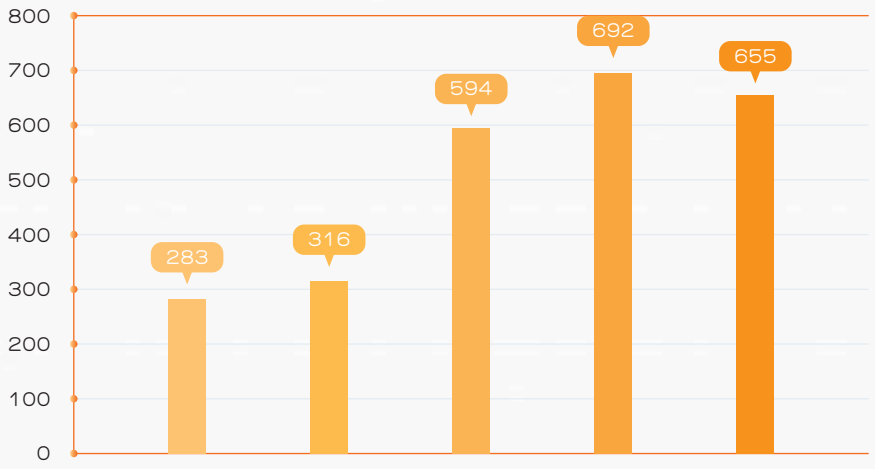
2017
Ranked in the top 5% of all listed OTC companies in the 4th corporate governance appraisal

2018
Ranked in the top 5% of all listed OTC companies in the 5th corporate governance appraisal

2019
Ranked in the top 5% of all listed OTC companies in the 6th corporate governance appraisal

Revenue (Consolidated Revenue)

Unit: NT$ 100 million



	2015	2016	2017	2018	2019
Consolidated revenue	238	316	594	692	655

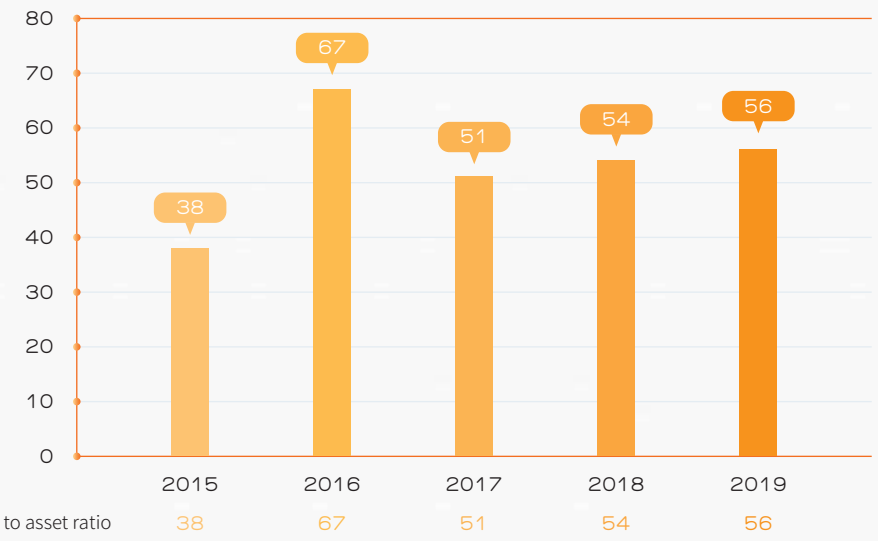
Earnings Per Share (EPS)

Unit: NTD

	2015	2016	2017	2018	2019
EPS	0.93	-2.77	1.80	3.36	3.86

Debt to Asset Ratio

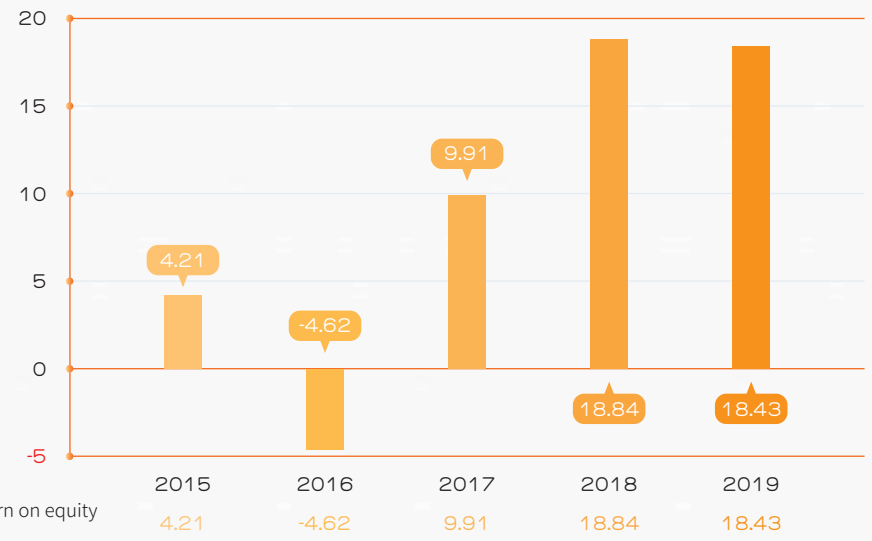
Unit: %



Debt to asset ratio	2015	2016	2017	2018	2019
	38	67	51	54	56

Return on Equity

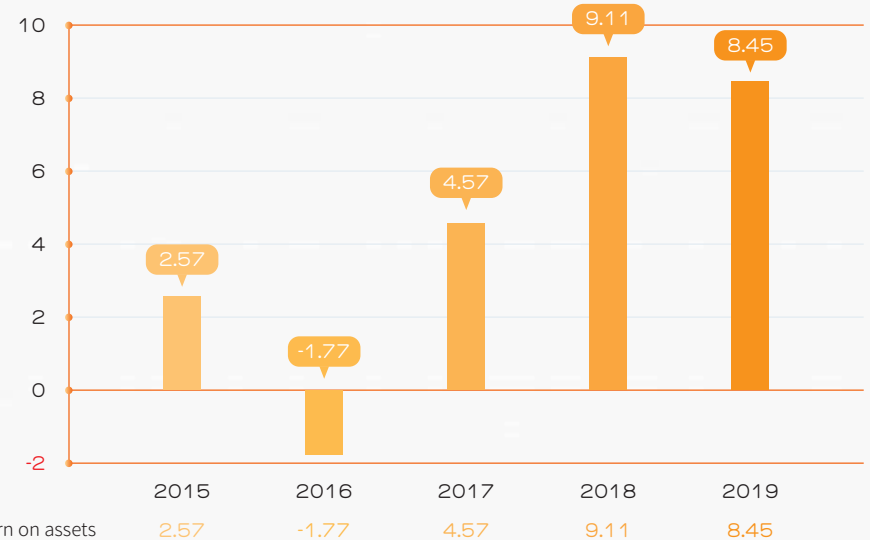
Unit: %



Return on equity	2015	2016	2017	2018	2019
	4.21	-4.62	9.91	18.84	18.43

Return on Assets

Unit: %

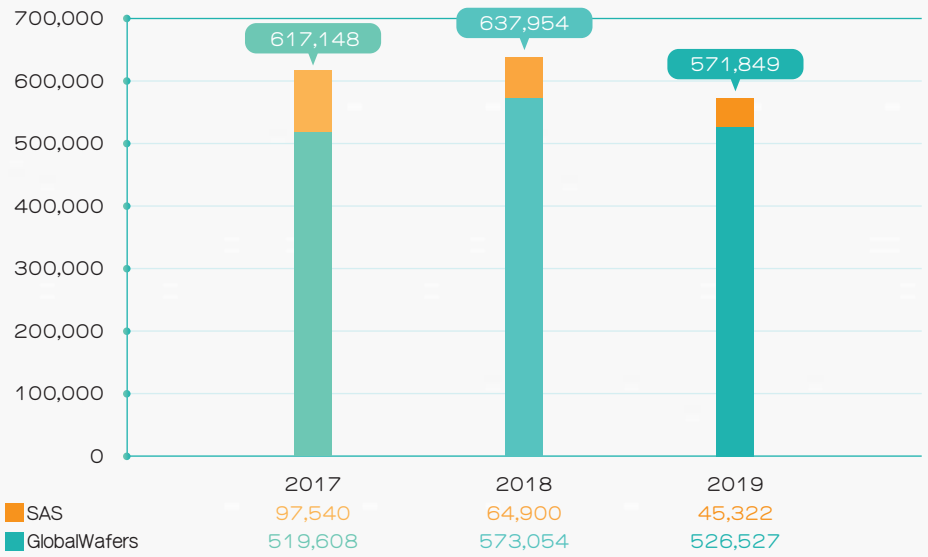


Return on assets	2015	2016	2017	2018	2019
	2.57	-1.77	4.57	9.11	8.45

Environment Aspect

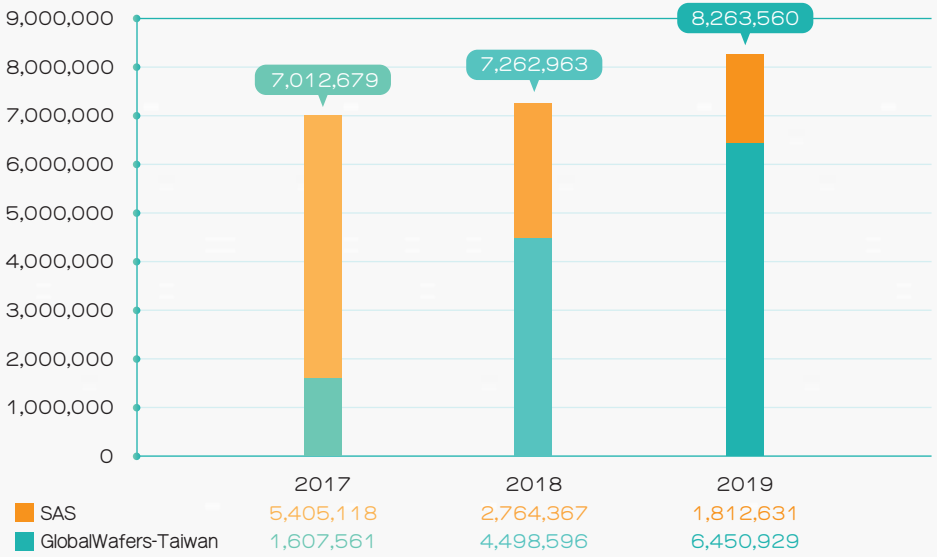
Carbon Dioxide Equivalent

Unit: Ton CO_2e/yr



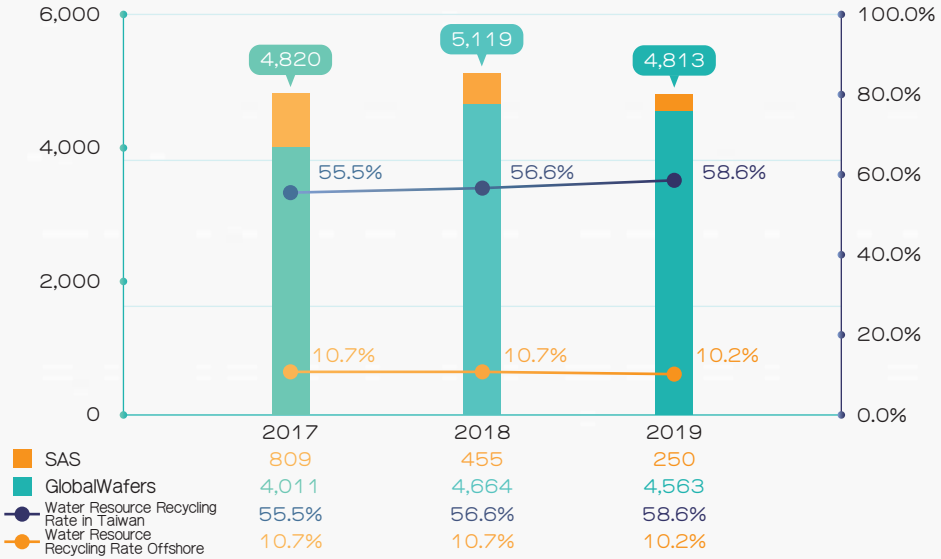
Power Conservation Effects

Unit: kWh



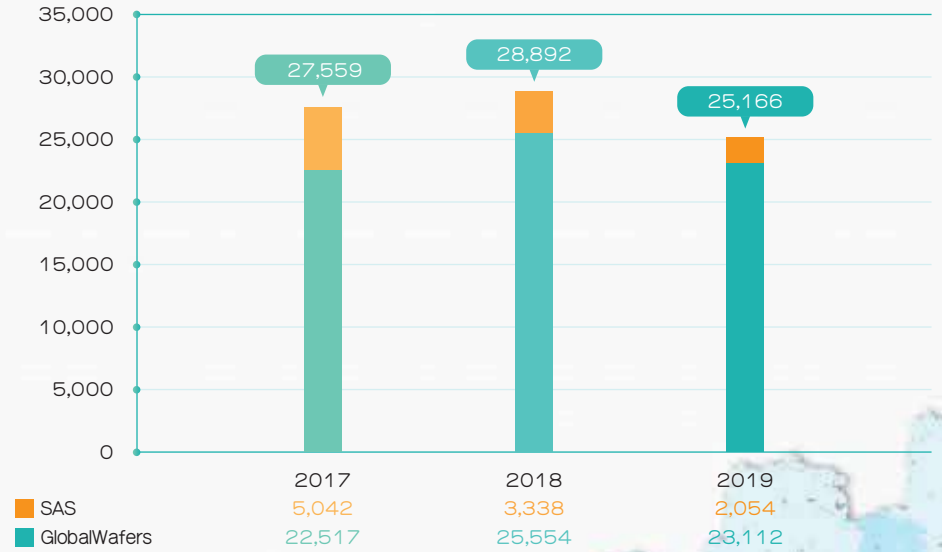
Recycled Water

Unit: KM^3



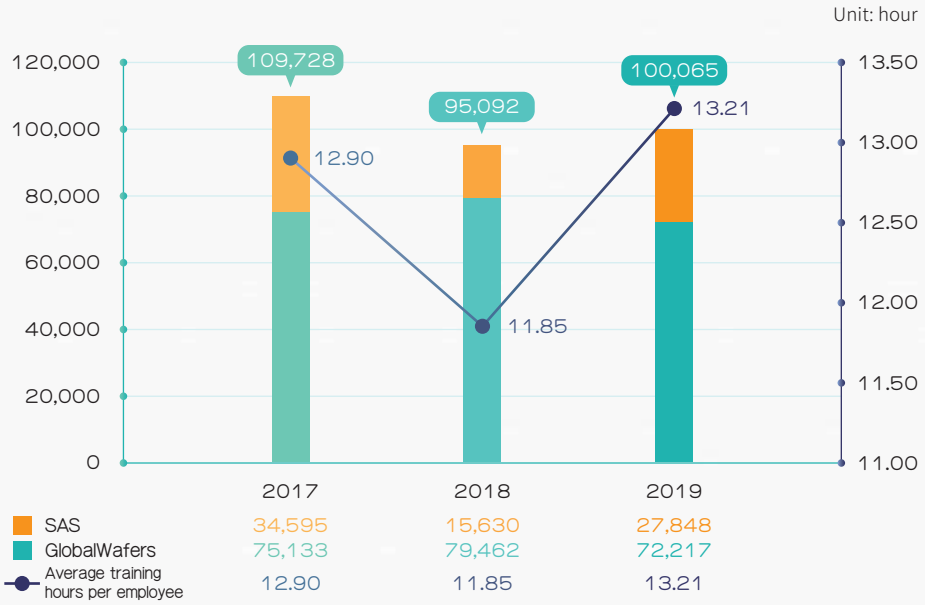
Reused Recycled Waste

Unit: Ton



Social Aspect

Average Training Hours per Employee



Message from the Chairman

SAS has adhered to the business philosophy of “Integrity, Professionalism, Innovation, and Service” since its inception. The company is fully committed towards a win-win-win vision, which are growing together with customers, pursuing excelsior with, and creating value for shareholders. Amid dedication to sustainable corporate management, SAS does not forget social responsibilities carried on its shoulders as well as creating sustainable values for economic growth, environmental protection, and social progress.

Rising Revenues and Sustainable Governance

In 2019, global solar industry was impacted by the trade tension in between China and US plus the new solar energy subsidy policy from China government. These factors made the poly-crystalline market, which was originally under downturn and turbulence, even weaker. Influenced by the trend of mono-crystal and declined market price, domestic solar energy companies faced severe survival challenges and successively turned to domestic sales in response to the policy. Some companies even conducted asset activation and sought for transformation by capital reduction or downsizing. SAS recognized a loss of NT$4.35 billion for the liabilities of onerous contract in Q2 2019. Though it had made huge impact on the business performance, the gross profit and revenue still reached all-time high in history against all odds with the joint efforts from all colleagues and the strong contribution to from the subsidiary, GlobalWafers.

1. Consolidated revenue of NT$ 65.51 billion, a decrease of 5% from the previous year; but still hit the second highest record.
2. Operating income of NT$ 13.515 billion, year over year rate of 2.5%.
3. EPS of NT$ 3.86, an increase of NT$0.5 from the previous year of NT$3.36.
4. Ranking in the top 5% of all TPEx-listed companies in six consecutive corporate governance appraisals.

SAS has a leading competitive edge in the field of PERC mono-crystal cell efficiency and will continue to develop advanced technologies, simplify product types, and develop low-cost high-efficiency cells to maintain its market competitiveness. In recent years, great emphasis has been laid on the issue of global climate change. Green power has become future energy trend. With the strong promotion of green energy policies from Taiwan government, we can expect a continuous growth in the establishment of solar power plant in Taiwan this year. Meanwhile, SAS has proactively developed solar power station and built smart electric grids to accelerate the enhancement of business profit performance. Regarding corporate governance, SAS constantly refine its performance to strengthen the commitment of pursuing the sustainable management.

Forward-looking and Industry-leading Technologies

The SAS R&D team is fully committed to the development of high-efficiency products with high added value. In 2018, the poly-crystalline silicon wafer process was converted from Slurry to DW to enhance productivity and minimize environmental pollution. N-type mono crystalline cells reached 22.7% in efficiency in mid-2019 and reached maximum 23.0% in its efficiency. SAS announced the latest N-type batteries in the Product Launch Event during shareholders’ meeting. The P-type mono crystalline cells reached 22.3% in average efficiency in 2019. As for the development of new products, New-generation Mono-Crystalline Busbar-less and Metal-Wrap-Through PERC successfully began mass production. In addition, SAS is also actively promoting deployment of patents for key technologies and accelerated development of the company’s core technologies, and titled with a total of 274 patent certificationsworldwide. SAS stepped in the field of silicon material application products and applications with its profound technology foundation and rich experiences in R&D during the recession of global solar energy market. SAS will continue to develop its R&D capabilities with the determination to advanced technologies and high-performance diversified products to enhance company’s competitiveness through value-added innovation and optimized product combinations.

Circular Economy & Facilitating Green Energy and Low Carbon

The Global Risks Report 2020 released at the World Economic Forum(WEF) in Davos pointed out the past 5 years are the warmest years in the history and natural disasters will become more frequently and more severely. Members of WEF opinioned that the environmental concern dominated the long-term global risks for the first time in the history and the five major global risks in the next 10 years in Global Risks Report are all related to the environmental issues. Global risks, such as extreme weather events, failure in the measures for alleviating and adapting climate change, server natural disasters, biodiversity loss and ecosystem collapse, human-made environment disasters, were considered as the most likelihood of occurrence which could cause severe impact. “The political situation is differentiating; the sea level is rising; and huge fire is burning due to climate change. This is a year that all the world leaders shall make joint efforts with all sectors of the community to repair and restore the collaboration system.” said the president of WEF. International society has to respond faster to avoid the worst and irreversible impact brought

SAS Chairman

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by climate change. Being one of global citizens, SAS is obligated to devote its efforts in these matters to continue promoting the reduction of greenhouse gases in respond of the theme of ""Stakeholders for a Cohesive and Sustainable World" in Davos Forum despite that our strength is tiny and we have been through market downturn during the past year.

During recent years, SAS has obtained good performance for its autonomous energy conservation improvement measures. In 2019, power savings amounted to 1,810,000 kWh. Further still, with regards to solar energy plant deployment, SAS' subsidiary, Sunrise World PV Co (Sunrise World PV Co was incorporated into SAS on 2019.12.12 and changed its name to SAS Sunrise Branch on 2020.1.3.) is fully committed to the Taiwan market and actively conducting solar energy plants investments and construction projects for the rooftop, ground-mounted and floating solar power plants, while introducing the gravitation water vortex solar power generation system to lower the water surface temperature and drastically enhance the power generation efficiency of the solar energy panel. In 2019, in our solar energy generation system, the total installation for grid-tie operation reached approx. 17MW, expected to reduce the CO_2 emission by 6,071 metric tons[1] per year. Since the start (2014) up to end of 2019, the offshore and domestic installation for grid-tie operation reached approx. 111MW, expected to cut the CO_2 emission by 75,510 metric tons[1] per year. In 2019, SAS teamed up with its subsidiary, SAS Sunrise Branch, in the construction of compound energy system on the rooftops of the Chunan Plant that integrated the 99kW self-weight photovoltaic solar system, 100 kW/350 kWh power storage system, 600 kW adjustable grid-tie power generators. SAS has also switched to micro-grid systems inside the plant. The subsystem installations were completed by Q2 this year. Up to the end of 2019, the cumulative total power generation has reached 75,168 kWh with approximate a total of 40 tons reduction in carbon dioxide emission. Moreover, this power generation system simultaneously blending the energy storage device development and integrating it to the energy management system platform in response to the future market demand for power storage management. Furthermore, the business group of SAS' subsidiary, SAS Sunrise Branch collaborated with Sunrise PV Five Co., Ltd., won the 6th Solar System Award for excellent medium and large solar system held by Bureau of Energy, Ministry of Economic Affairs in 2019. This system of SAS Sunrise Branch was located at Chiayi Dongshi, Budai and other strata subsidence agricultural land areas unfavorable for agricultural cultivation. Over 4.3 MW large floor-type photovoltaic solar system was built to effectively activate land resources and create diversified value of green energy. Obtaining the Solar System Award is the joint achievement of professional technology from the SAS solar business team. Regarding the future, SAS will continue to respond to global low-carbon and green energy trend, build more high-quality solar power plant, enhance energy safety and create green economy to make efforts for sustainable environment protection in Taiwan and even in the world.

Note 1:
Carbon dioxide emission: Due to the replacement of public electricity sales with solar power generation, power/carbon emission coefficients are 0.553 (kg CO_2e/ kWh) as released by Bureau of Energy, MOEA, 2018.

Employee Care and Public Cause

SAS value its employees, embraces the commitment of respecting employees, fulfilling the spirit of people-centered as well as well-caring employees and complying with the labor regulations from the government. SAS construct sound remuneration and welfare system, provide friendly workplace, guarantee employees' work safety, value employees' professional development, plan diverse training courses and upgrade employees' skills and know-how. Meanwhile, SAS also care about employees' work-life balance. With all efforts, SAS hope to build a blissful healthy workplace and continue to pursue excellence together with our employees, in face of fiercely challenging global competition.

In terms of social welfare, SAS embraces a spirit of giving back to society and has been proactive in participating in all kind of philanthropic activities. SAS lead employees to care about disadvantaged groups hoping that we can lead by example and spread love in a bid to fulfill our social responsibility as a corporate citizen, implement various practical actions and performances of corporate social responsibilities and show our determination to achieving sustainable management goals.

SAS has been consistently focusing and cultivating in line with our management philosophy, while 2020 has been a year full of uncertainties and challenges and the COVID-19 outbreak has increased several uncertain factors to the market environment. Nonetheless SAS forges ahead with innovative R&D, costs reduction and building momentum and competence. We are confident in the resource integration for solar energy and semiconductor in our global layout, hoping to continue enhancing management performances stably, create another record for business performances and achieve in becoming a green enterprise with sustainable development and stable increases in revenues and profits.

We exist for excellent corporate governance and focus on social responsibility. SAS will adhere to our vision, exert all efforts, and fulfill our commitment in friendly workplaces, environmental protection and social concern. Our goal is to become a green enterprise with sustainable development and stable increases in revenues and profits.

About the Company

Company Profile

Sino-American Silicon Products Inc. (hereinafter referred to as “SAS”), a professional wafer manufacturer, was established on January 21, 1981. The company features two main business groups – semiconductor and solar energy. The semiconductor silicon wafer business were carve-out and transferred to GlobalWafers Co., Ltd. (hereinafter referred to as “GlobalWafers”) on October 1, 2011. After that, the parent company has been focusing on the solar energy sector with production lines for solar ingots, solar wafers, solar cells, and modules. Company operations have also spanned downstream solar power generation system business, turning SAS into one of the most vertically integrated companies in Taiwan. However, the year 2018 was the cold year for solar power market. SAS proactively adjusts product sales strategies and steps into the field of silicon material application products.

SAS is committed to developing advanced technologies and constantly releases new-generation solar energy products with high conversion efficiency. This is what makes SAS stand out and the primary factor that SAS can keep on attracting niche customers. Through vertical integration strategies, SAS has achieved synergistic effect of overall upstream, midstream, and downstream industry integration and expanded its global market deployment in terminal solar power systems. The goal is to play an important role in the green solar power sector and create greater benefits for shareholders and employees.

On August 1, 2014, we acquired Sunrise Global Solar Energy Co., Ltd. a high- performance solar cell manufacturer; meanwhile, we acquired the solar energy module manufacturer, Aleo Solar GmbH, in Germany which were acquired by Sunrise Global Solar Energy on May 16, 2014.

In 2015, we were actively involved in the global solar energy generator plant investment. Via our subsidiary, SAS Sunrise Inc., we constructed the 50MW solar energy generator plant in Palo, Leyte, the Philippines which was later officially running in a commercial capacity in May 2016.

In 2016 SAS’s important subsidiary company, GlobalWafers, successfully acquired Topsil Semiconductor Materials A/S in Denmark (hereinafter abbreviated as Topsil) and SunEdison Semiconductor Limited (hereinafter abbreviated as SEMI). GlobalWafers’ product range has thus crossed from CZ into large-sized epitaxial wafers, polished wafers, silicon on insulator wafer and float zone (FZ) semiconductor wafers. Combined with GlobalWafers’ top-notch operation model and market niche and SEMI’s global bases and R&D capabilities, GlobalWafers has thus built a further integrated product line with a total of 16 operation & manufacturing bases that are strategically dispersed across 10 countries in Asia, Europe, the Americas. It has since become the world’s third largest silicon wafer supplier.

SAS Basic Information

Date of Establishment	January 21, 1981
Capital	NT$ 5.86 billion
Main Products and Technology	Solar ingots, solar wafers, solar cells and modules, solar power generation system services, silicon application products
Employee No.	SAS (Headquarter, Chunan Branch and Yilan Branch): 845 people
Chairman & CEO	Ming-kuang Lu
Vice Chairman & Deputy CEO	Tang-liang Yao
President	Hsiu-lan Hsu
Headquarters	4F, No. 8, Industrial East Road 2, Hsinchu Science park, Hsinchu, Taiwan, R.O.C.
Operating Bases	Headquarters: 4F, No. 8, Industrial East Road 2, Hsinchu Science park, Hsinchu, Taiwan, R.O.C. Chunan Branch: No. 6, Kejung Rd., Chunan Science Park, Chunan Township, Miaoli County, Taiwan, R.O.C Yilan Branch: No.1, Sec. 2, Ligong 1st Rd., Wujie Township, Yilan County, Taiwan, R.O.C
Affiliates	SAS affiliates are engaged in the following industries: semiconductor and wafer manufacturing, solar cell and module manufacturing as well as solar power generation system services

Note: With regard to number of employees, we calculated the on-the-job employees in the headquarters and branch companies as of 2019.12.31, excluding the number of employees in subsidiaries.

Shareholders Structure

Shareholders / Structure Quantity	Government Agencies	Financial Institutes	Other Juridical Persons	Individuals	Foreign Institution & Persons	Total
Number of Shareholders	8	67	262	68,756	422	69,515
Ownership (Share)	28,801,876	71,305,000	112,442,479	230,053,536	143,618,760	586,221,651
Ownership (%)	4.91%	12.16%	19.18%	39.25%	24.50%	100.00%

Record Date: 2020.4.26

SAS adheres to its vision of integrity, grows robustly by overcoming challenges and produces high performance solar wafers, cells, and modules. The company also proactively spans its operation downstream to systems which generate relevant benefits and expands the layout of the solar energy business unit, turning SAS into one of the domestic providers of professional green energy solutions. SAS is continuously seeking for the next growing momentum, hoping to pursue sustainable management growth with customers and suppliers. The main markets for SAS are Asia, Europe, and the Americas. SAS is passionately committed to making contributions to environmental protection and strives to turn into a cutting-edge global provider of green energy solutions.

Market and Product Services

Solar Business

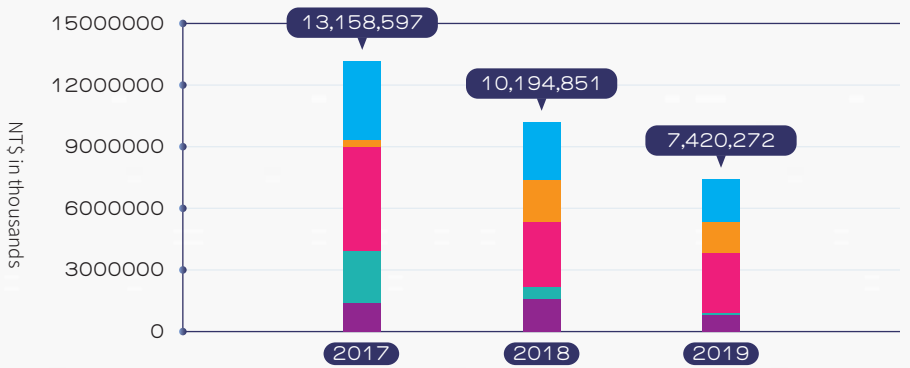
Product Sales

In 2019, global economy was subject to the handcuffs from the trade tension and the impact of geopolitics. We been through a slump in the solar energy industry affected by China-US trade tension, solar energy policy changed in various countries, declining market demands and decreasing prices and production outputs. To reduce operational risks and respond to market changes, we adjusted our product sales strategies to produce niche products and adjust our production capabilities.

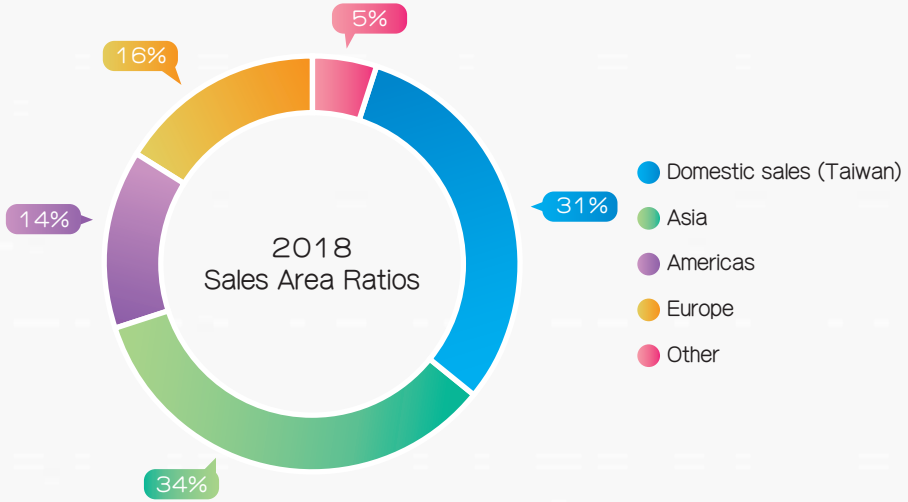
Ratios of Sales Areas

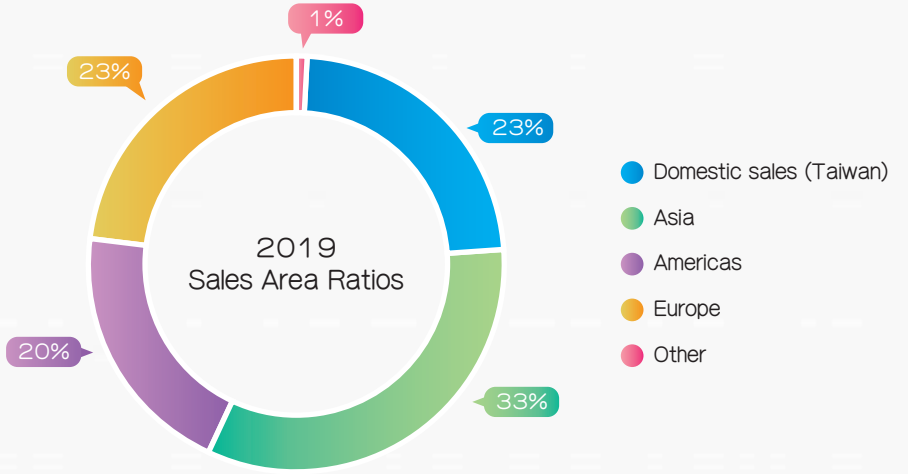
During recent years, ratios of sales areas changed in line with expansion or contraction of individual markets. As manufacturing locations shifted following module plant changes, SAS sells high-performance diversified products with corresponding adjustments in sales areas. Regarding the ratios of sales areas, Asia accounted the most with over 30%, and domestic sales accounted for 23%~31%.

Revenue



	2017	2018	2019
Other	3,842,447	2,796,322	2,051,636
Solar module products	327,950	2,066,427	1,553,577
Solar cell products	5,054,173	3,141,457	2,877,421
Solar wafer products	2,524,614	581,924	144,716
Solar ingot products	1,409,413	1,608,721	792,922





Note: The report was categorized according to the adjusted sales areas in 2019 consolidated financial statement. In 2019, we added the sales area in Europe, which was different from the sales areas (domestic sales, Asia, America and other) in corporate social responsibility report during 2016~2018. Hence, the data of 2018 is presented differently. In addition, we disclosed the data from the current year and the preceding year in the consolidated financial statements. Since the categories for sales areas had been different, we did not disclose the sales area ratio in 2017.

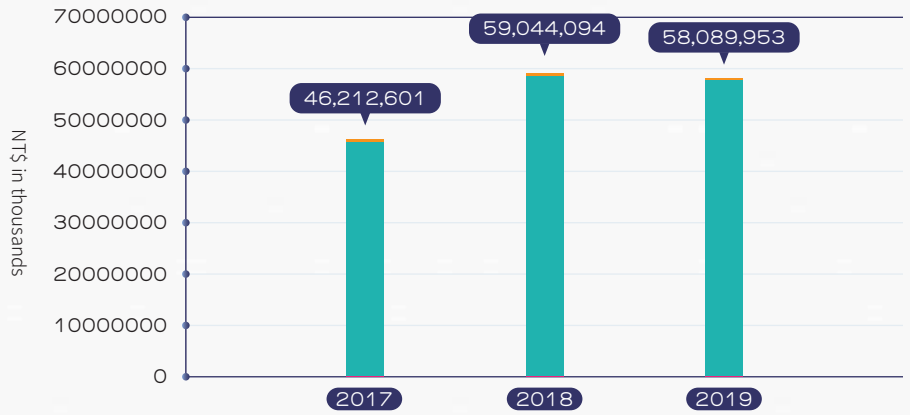
Semiconductor Business

Product Sales

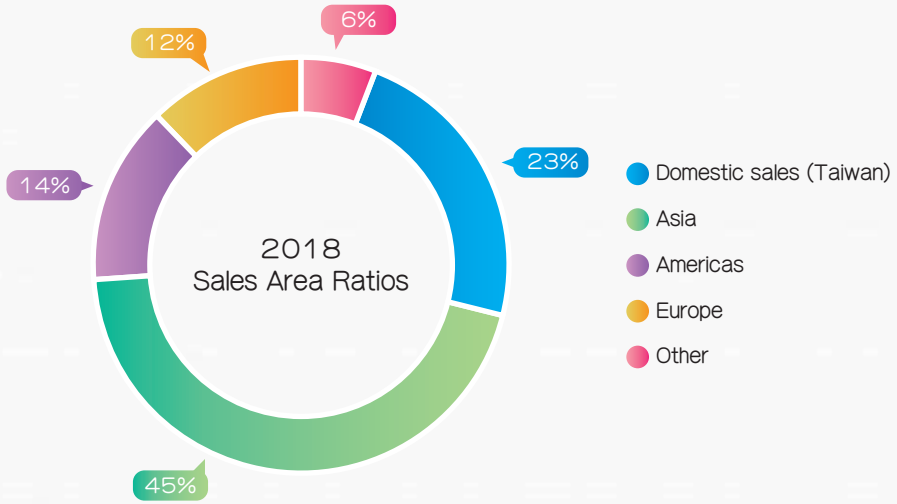
The strong market demands in 2018 created a new high record for our revenue in semiconductor business group. In the first half of 2019, clients' inventories were still high; the market demands for memories were depraved; and in addition, there were trade tension and regional political tension. Due to these impacts, the overall scale of semiconductor market had been shriveled. In the second half of 2019, as the inventories had been cleared and the market had gradually rebound, SAS' 2019 revenue hit the second-highest record with its stable operating strategies in semiconductor business group.

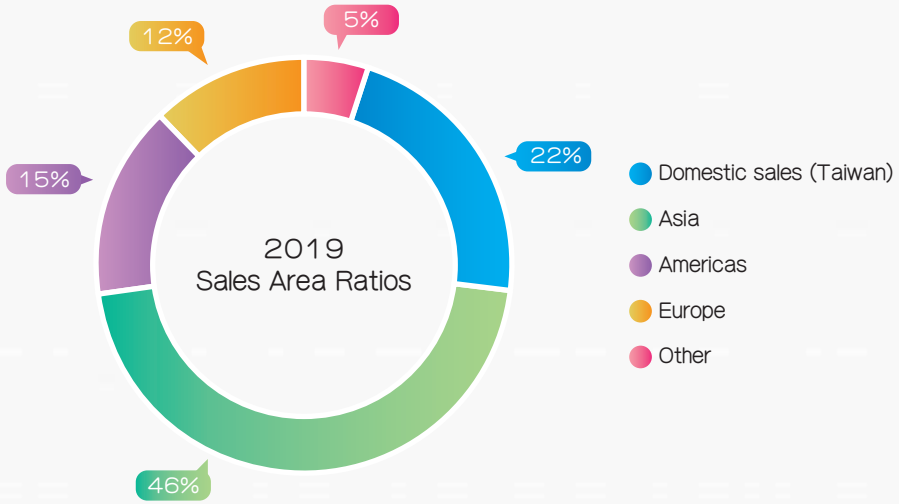
Ratios of sales areas after Topsil and SEMI were merged in 2016, GlobalWafers had successfully obtained their existing customer orders and worldwide sales networks, thereby reached a stable and balanced rise in sales area and revenue ratio, with Asia being the majority that included a domestic sales ratio of over 60%, followed by the Americas.

Revenue



	2017	2018	2019
Semiconductor ingots products	496,690	492,114	275,284
Other, semiconductor wafer products, semiconductor ingots products	45,540,327	58,447,151	57,721,510
Other	175,584	104,829	93,159





Note: The report was categorized according to the adjusted sales areas in 2019 consolidated financial statement. In 2019, we added the sales area in Europe, which is different from the sales areas (domestic sales, Asia, America and other) in corporate social responsibility report during 2016~2018. Hence, the data of 2018 was presented differently. In addition, we disclosed the data from the current year and the preceding year in the consolidated financial statements. Since the categories for sales areas were different, we did not disclose the sales area ratio in 2017.

Business Philosophy

SAS adheres to a philosophy of integrity, constant innovation, customer satisfaction, and giving back to society. It also strives to provide superior quality, technologies, and services, while striving for sustainable operations and growth in close cooperation with customers and suppliers. It aims to create outstanding value for shareholders and employees and thereby fulfill its corporate social responsibility.

01 Integrity

SAS upholds integrity and strictly observes corporate regulations and social and ethical norms to honor its commitment to the active implementation of its ethical management policy.

02 Constant Innovation

The development of new-generation ultra-high performance strengthened through innovative concepts and business models, a firm grasp of opportunities and pursuit of new knowledge, as well as a deep commitment in developing advanced technologies.

03 Customer Satisfaction

In the field of technology, strategy, and profitability, the company builds mutually beneficial cooperative relationships with its customers to create a win-win environment conducive to collective growth.

04 Give Back to Society

SAS embraces a spirit of giving back to society, shows concern for disadvantaged groups, and actively participates in social welfare and environmental protection to fulfill its corporate social responsibility.

Participation in External Associations

Associations/Organizations	Participant	Member	Role
Taiwan photovoltaic industry association		●	Director
SEMI Taiwan	●	●	Board member
Chinese professional management association	●	●	Supervisor
Taiwan mergers & acquisitions and private equity council	●	●	Chairman
Chinese professional management association of Hsinchu		●	
The allied association for science park industries		●	
The institute of internal auditors—Chinese Taiwan		●	
Computer audit association		●	

Company Chronology

Development History

Please refer to "About SAS" on SAS website.

Awards & Recognitions

April Ranked in the top 5% of all TPEx-listed companies in the 2nd Corporate Governance Appraisal

December Honored with the "Golden Energy Award" for outstanding photovoltaic products presented by the Bureau of Energy, MOEA

April
- Ranked in the top 5% of all TPEx-listed companies in the 3rd Corporate Governance Appraisal
- Honored with the 2016 National Invention & Creation Award

December Listed as a benchmark enterprise in Economic Daily News (2017 CSR Yearbook)

April Ranked in the top 5% of all TPEx-listed companies in the 5th Corporate Governance Appraisal

April Ranked in the top 5% of all TPEx-listed companies in the 6th Corporate Governance Appraisal

2016 | 2017 | 2018 | 2019 | 2020

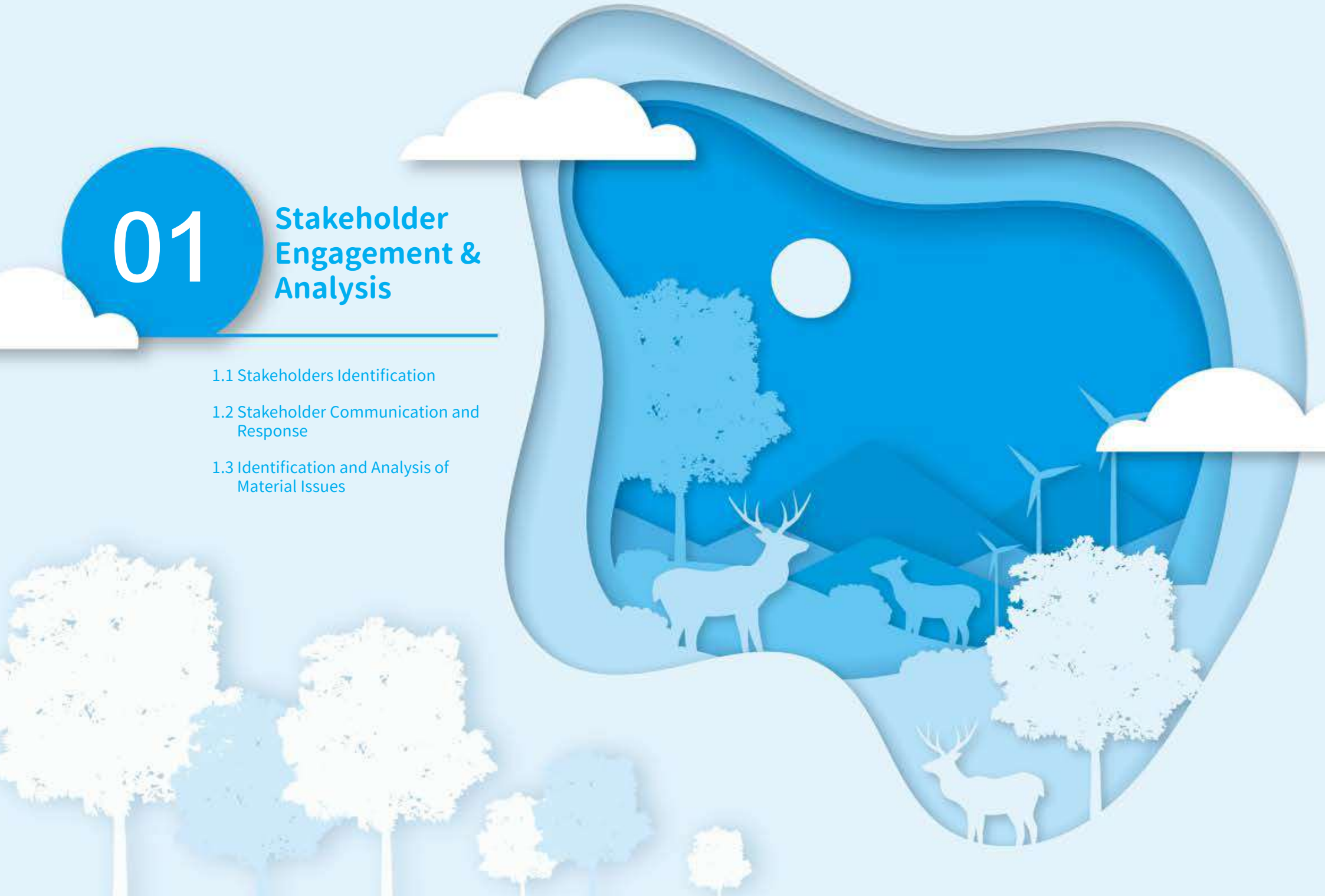
August Dr. Chun-wen Lan, chief high-tech consultant of SAS, was recognized with the prestigious Laudise Prize by the International Organization of Crystal Growth (IOCG) in 2016: the award-winning high-performance polycrystalline crystal growth technology was jointly developed by Dr. Lan and the SAS R&D team

February SAS Sunrise Energy, an SAS subsidiary, was honored with the System Integration Output Award at the 2017 Smart City Summit & Expo

November
- Honored with the Green Procurement, Green Services and Production of Low Carbon Products Performance Unit
- Honored with a Gold Award in the Electronic Information Manufacturing Industry category of the "2017 Taiwan Corporate Sustainability Awards (TCSA)" – released for the first time

April Ranked in the top 5% of all TPEx-listed companies in the 4th Corporate Governance Appraisal

01 Stakeholder Engagement & Analysis



Chapter 1 Stakeholder Engagement & Analysis

1.1 Stakeholders Identification

Identifying and communicating stakeholder are at the core of corporate social responsibility. Based on operational characteristics and cross-departmental discussion, SAS has identified its shareholders that include staff members, customers, shareholders (investors) and suppliers (contractors), governmental departments (science park bureau, environmental protection bureau, environmental protection administration, energy conversation bureau, ministry of labor and so on) and the media.

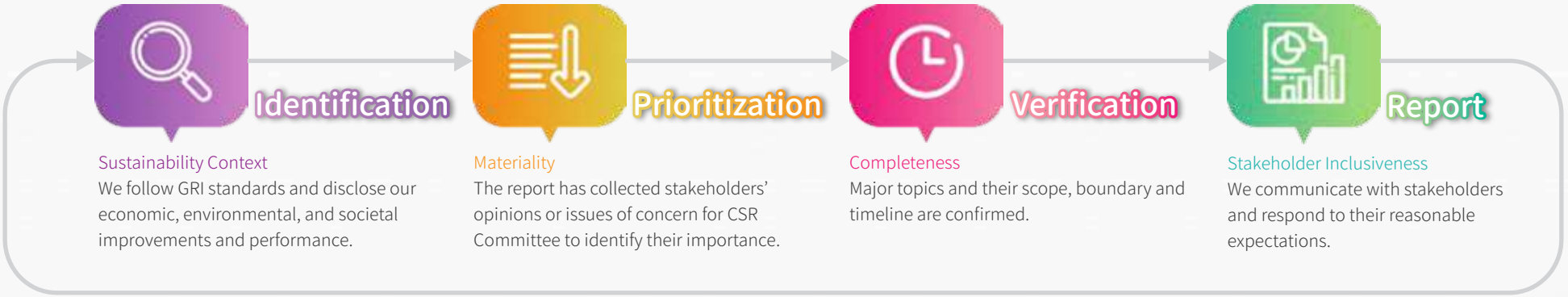
1.2 Stakeholder Communication and Response

SAS has established all kinds of communication channels in its daily operations to maintain inter-communication with stakeholders. A mailbox and a customer service hotline for external communication have also been set up on the company website to collect opinions of our primary stakeholders related to our management & activities, i.e. investors, customers, media and so on.

Primary Stakeholders	Significance to SAS	Communication Channel	Communication Frequency	Issues of Concern
Customers	Company's main source of revenue	Operation meetings Customer satisfaction survey Customer audit Customer questionnaire Appeal / complaints telephone or email	Non-scheduled Once every six months Non-scheduled Non-scheduled Non-scheduled	1. Prices 2. Quality 3. Due date 4. Environmental responsibility 5. Occupational health and safety
Employees	Employees are the company's most important assets. Only by taking good care of the employees will both parties grow in sync with each other.	Internal website and emails Company notice board Labor-management consultation meetings Complaint boxes or hotlines Performance appraisal interviews All organizational meetings	Non-scheduled Non-scheduled Four meetings per year Non-scheduled Once a year Non-scheduled	1. Salaries 2. Benefits 3. Work environment (including occupational safety and health, and friendly workplace)
Shareholders / investors	All shareholders are the company's investors. The company will handle all disclosed information with fairness as the principle.	Shareholders meeting, institutional investors conference, domestic investment institute seminars and face-to-face communication meetings. Company annual report News announcement on company websites and the market observation post system Collecting and replying to messages via telephone or emails	A total of 3 institutional investors conferences in 2019. Once a year Non-scheduled Non-scheduled	1. Business performance 2. Corporate governance 3. Integrity and ethics / Anti-corruption
Suppliers / contractors	Are the company's partners and need to maintain the same ideals as ours in order to provide services in line with our needs.	Operation meetings On-site audit Collecting and replying to messages via telephone or emails	Non-scheduled Irregularly on an annual basis Non-scheduled	1. Prices 2. Management guidelines for suppliers / Contractors
Governmental institutes (Mainly the science park bureau, environmental protection bureau, environmental protection administration, energy conversation bureau, ministry of labor and so on)	We need to main an open and pleasant communication relationship to express our determination of complying with regulations.	Correspondence of official documents, meetings (public hearings or conferences) Communicating by meeting with associations or unions In-Factory Audits	Non-scheduled Non-scheduled Non-scheduled	1. Maintain legal compliance (the energy act: our energy management saves electricity by 1% annually. Wastewater treatment standards: Restricted value for entering the sewage treatment works in industrial zone Labor standards act / occupational safety and health act: labor conditions / overwork issues) 2. Announcements of newly added / amended laws and regulations; permits review / approval for reference (waste disposal act: waste clearance contractors' supervision and management) 3. Communication regarding regulations (and drafts); communication regarding regulation explanation (air pollution reporting procedures)
The media	We establish a contact channel with the media and provide non-scheduled, correct, fair and objective industry and corporate news.	Releasing news We sporadically receive interviews by the media and provide industry news.	An average of 2-3 press releases every quarter	1. Company development direction 2. Business performance

1.3 Identification and Analysis of Material Issues

SAS is open to accommodate all kinds of opinions and reference the sustainability report guidelines issued by the Global Reporting Initiative (GRI) to define the report content by following such principles as stakeholders' inclusiveness, sustainability context, materiality, and completeness.



The identification of material issues is based on the interaction experience and communication records among the stakeholders and the president office, marketing division, procurement division, administrative division and relevant divisions for external affairs of all branch companies, besides collecting issues of concern to the employees, customers, shareholders (investors), suppliers (contractors), governmental institutes (science park bureau, environmental protection bureau, environmental protection administration, energy conversation bureau, ministry of labor and so on) and the media. In addition, by referencing the survey results for issues of concern to stakeholders in the company website, division representatives in the Corporate Social Responsibility Committee considered the concern level of stakeholders on the issue, the issue's impact on the company and the external social, environmental and economic impact to assessed the "Concern Level of Stakeholders" and "Impact on SAS" for each topic. A materiality matrix is thereby drawn, based on its "Concern Level of Stakeholders" and "Impact on SAS". Issues with high concern and high impact are thus listed as material issues. We will disclose in this report its management guidelines and other issues not yet reaching major impact will be disclosed as a summery or not disclosed in this report.

Stakeholders engagement

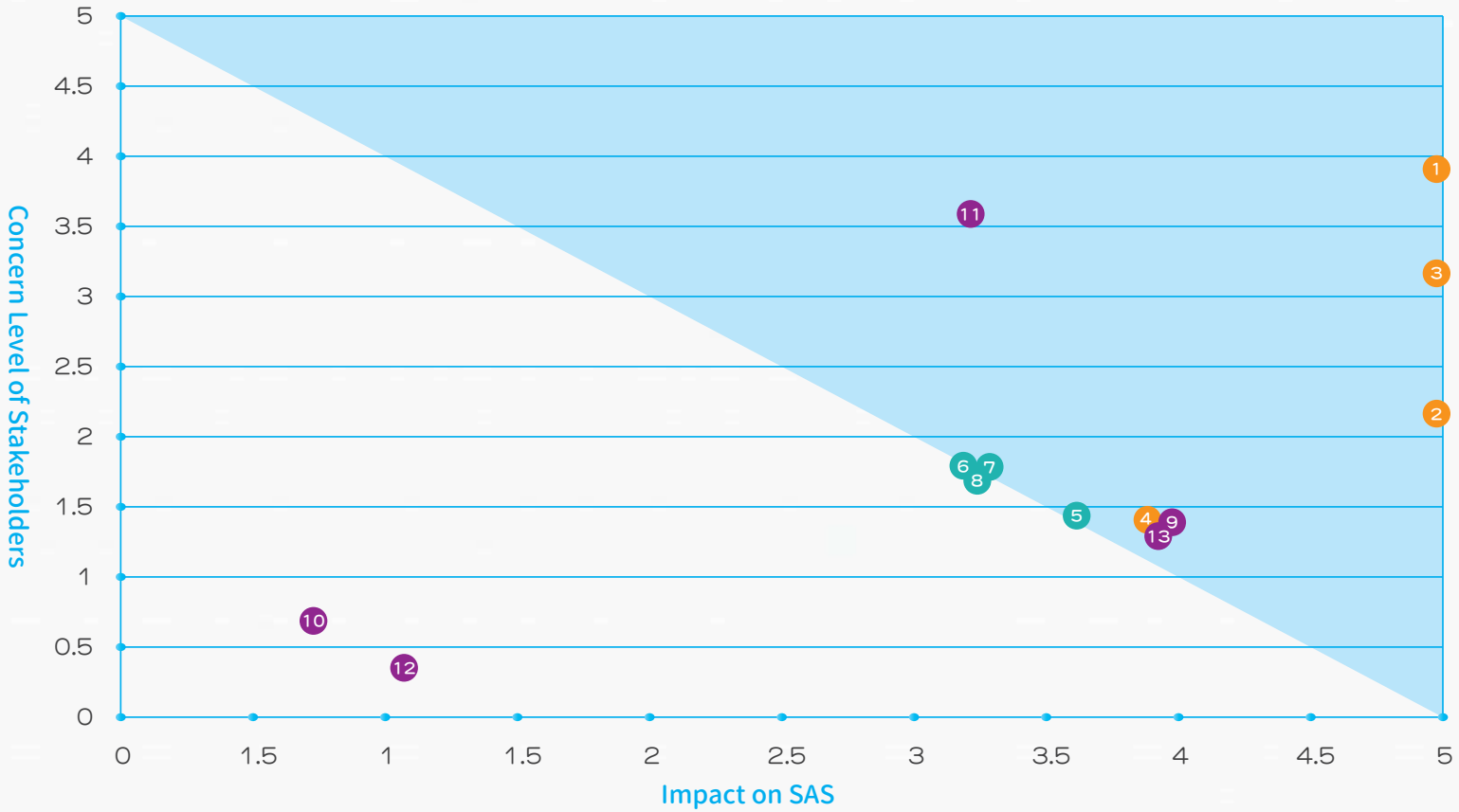
- 6 major groups of stakeholders identified.

Collect stakeholders' issues of concern regarding sustainable development

- 13 topics on sustainable development collected.

The impact of sustainable development issues on SAS

- The corporate sustainable development committee has identified 11 material aspects.



Economic Aspect

Serial No.	Issues	Material
1	Legal compliance (including economic, environmental, and social aspects)	V
2	Corporate governance	V
3	Business performance	V
4	Ethics & integrity / anti-corruption	V

Environment Aspect

Serial No.	Issues	Material
5	Energy resources consumption (including measures like energy conservation & carbon reduction)	V
6	Greenhouse gas (GHG) emission	V
7	Waste management (including reuse)	V
8	Pollution prevention (air and water)	V

Social Aspect

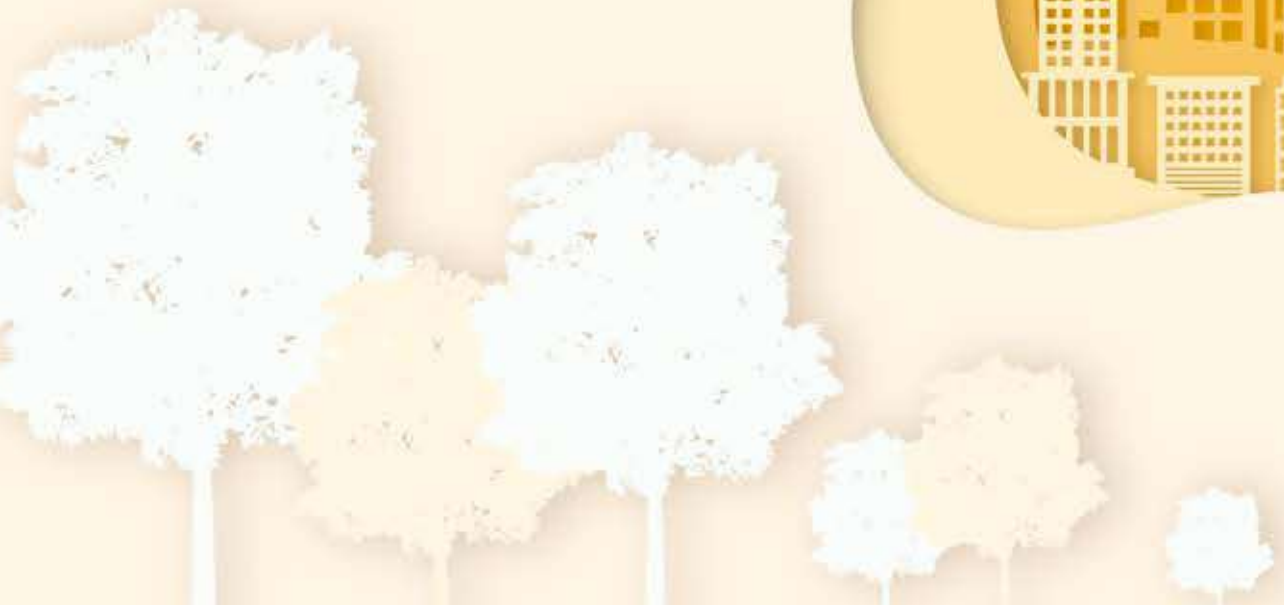
Serial No.	Issues	Material
9	Employee education & training	V
10	Local job opportunities	
11	Friendly workplace (including occupational safety and health, workplace health)	V
12	Labor's human rights	
13	Product quality and customer satisfaction	V

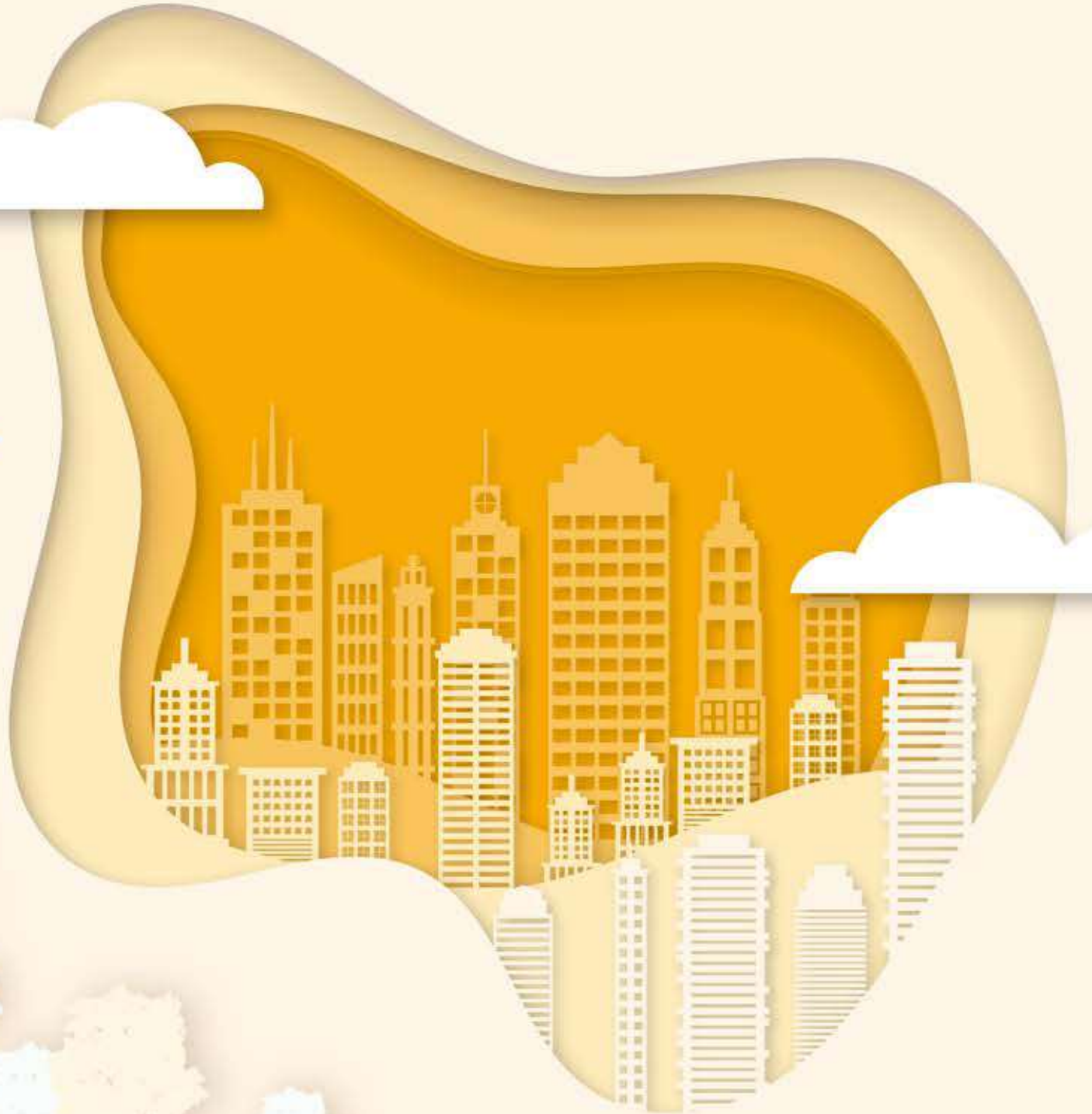
The Boundary and Scope of Material Issues

Material Topics		Boundary: Within the Organization						Boundary: Outside the Organization	Corresponding GRI Standards	Corresponding Chapters
		SAS			Subsidiary					
		Headquarters	Chunan Branch Company	Yilan Branch Company	Other Subsidiaries	GlobalWafers	SAS Sunrise Branch			
Economic Aspect	Legal compliance (including economic, environment and social aspects)	●	●	●		●			GRI 419 GRI 307	2.2.4 Legal compliance
	Corporate governance	●	●	●		●			GRI 102-Governnace	2.2 Corporate governance
	Business performance	●	●	●	●	●	●		GRI 201	2.3 Operation performance
	Ethics & integrity / anti-corruption	●	●	●		●			GRI 102-Ethics and integrity GRI 205	2.2.2 Ethics and integrity
Environmental Aspect	Energy resources consumption (including energy conservation & carbon reduction)		●	●		●	●		GRI 301 GRI 302 GRI 303 GRI 305	4.1 Energy resources consumption and reduction
	Greenhouse gas (GHG) emission		●	●		●			GRI 305	4.1 Energy resources consumption and reduction
	Waste management (including reuse)		●	●		●			GRI 306	4.3 Waste management
	Pollution prevention (air and water)		●	●		●			GRI 305 GRI 306	4.2 Pollution prevention
Social Aspects	Employee education & training	●	●	●		●			GRI 404	5.3 Education training
	Friendly workplace (including occupational safety and health; workplace health)	●	●	●		●			GRI 403	5.4 Friendly workplace
	Product quality and customer satisfaction		●	●		●			GRI 102-43	3.2 Customer and product service

Note: Sunrise World PV Co was incorporated into SAS on 2019.12.12 and changed its name to SAS Sunrise Branch on 2020.1.3.

02 Governance & Operation





Chapter 2 Governance & Operation

Material Issues

Corporate governance, ethics & integrity (anti-corruption), operating performance, legal compliance.

Significance to SAS

SAS complies with the principles of ethics, integrity, and transparency in all its corporate governance practices. The company strives to establish an effective corporate governance framework and strengthens board functions, internal management, risk control, and high-performance products and product differentiation strategies to actively fulfill its corporate social responsibility and generate long-term benefits for all shareholders and stakeholders.

Policies

- To serve customers with vertical integration
- To establish and secure our competitiveness through resources integration, cost reduction, and high-performance products and product differentiation strategies
- To actively expand power plant deployment so as to strengthen downstream products export and thereby achieve increased sales volume

Commitment

- Maximization of shareholders' rights and corporation sustainable development.

Goals

Short-term Goals

- To develop new customers, strengthen the collaboration with the structured market zones that are not in China and enhance the capability to respond to market changes
- To actively deploy our solar power plant business with the core in Taiwan and conduct planned investments on the power plant with profitability.

Mid-term Goals

- To expand cooperation with strategic customers and to extend product services with the goal of becoming a cutting-edge green energy solutions provider
- To strengthen and expand market development and accelerate development of next-generation highly efficient and competitively priced new products
- To conduct in-depth downstream system business development, to strengthen vertical integration and global development, and to increase revenue ratios

Long-term Goals

- To have a firm grasp of market trends and industry pulse and timely adjustment on management strategies and to continue with R&D of new-generation ultra-efficient products so as to strengthen the company' s overall maneuvering competitiveness
- To develop new partners for solar power system investment and collaboration as well as to create terminal export opportunities for long-term stable returns
- To establish a corporate culture ingrained in business integrity and to implement a sound corporate governance system to achieve the goal of sustainable growth

System

External System

- Compliance with such regulations as the Company Act, Securities and Exchange Act, Business Mergers and Acquisitions Act, Guidelines for Online Filing of Public Information by Public Companies, Fair Trade Act, and Labor Standards Act.

Internal System

- Establishment of an internal control system, Articles of Incorporation, Procedures Governing the Acquisition and Disposal of Assets, Endorsement / Guarantee Management Guidelines, Operating Procedures Governing Loaning of Funds, Procedures Governing Derivative Transactions, Corporate Governance Best Practice Principles, Corporate Social Responsibility Best Practice Principles, Ethical Corporate Management Best Practice Principles, Risk Management Guidelines, Code of Ethical Conduct, Guidelines for the Handling of Reported Cases of Illegal and Unethical Conduct, Rules Governing the Exercise of Rights and Participation in Resolutions by Juristic Person Shareholders With Controlling Power, Operating Procedures for the Handling of Material Internal Information, Management Procedures for the Prevention of Insider Trading, Guidelines for the Reporting of Public Information, Management Guidelines for Liability Commitments and Contingencies, Operating Procedures for Transactions between Conglomerates, Specific Companies, and Related Parties, Rules Governing Supervision and Management of Financial and Business Matters Between Affiliated Enterprises, and Management Guidelines for Long- and Short-Term Investments.

Resources

- The R&D investment in 2019 came to NT$1,844,789,000 which accounted for **3%** of total revenue and expenses.

Concrete Action

- Initiating Annual Operation Plans and formulation of KPIs for each department to strengthen internal operational management and control.
- Regular convening of business and production & marketing meetings to review goal achievement status and propose improvement & response strategies.
- Establishing an incentive system for improvement proposals to boost process research and product quality betterment.
- Formulating appropriate measuring methods upon identifying potential risk factors by each department (risk measurement including risk analysis and assessment).
- Strengthening compliance b laws, regulations and relevant industry laws as well as regular internal reviews the status of compliance based on laws and regulations governing the industry to which the company belongs.
- Implementing a legal affairs mechanism and internal audits to facilitate our determination for sustainable development.

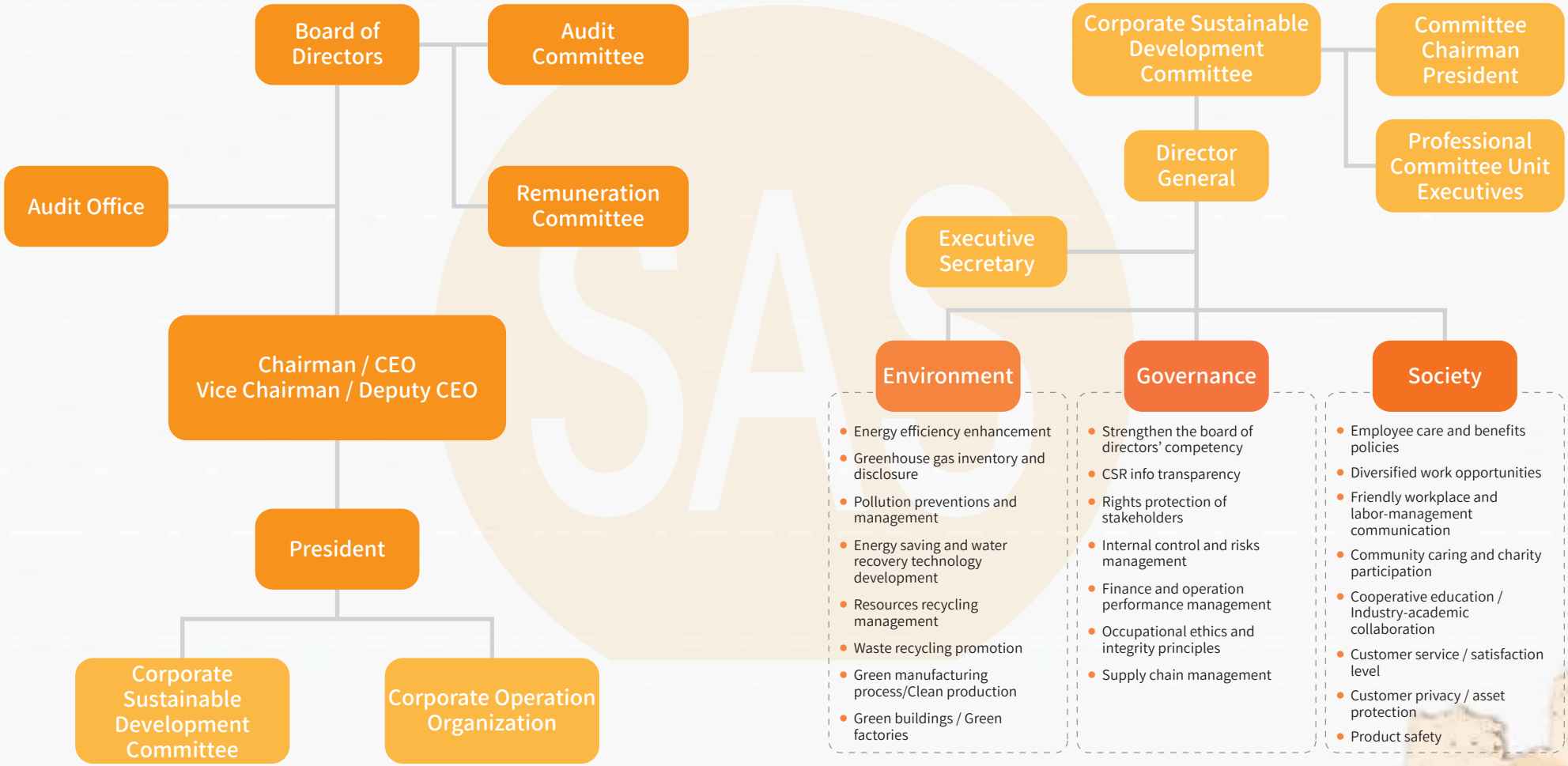
2019 Achievements & Performances

- Consolidated revenue of **NT$65.51 billion**.
- Consolidated gross profit of **NT$19.268 billion** and annual growth rate of **3.36%**; operating income of **NT$13.515 billion** and annual growth rate of **2.5%**.
- Net profit after tax belonged to the parent company of **NT$2.248 billion** and annual growth rate of **15.3%**
- EPS of **NT$3.86**, an increase of **NT$0.5** from the previous year of **NT$3.36**.
- ROE is **18.43%**.
- In 2019, the contracted solar energy installations reached a total capacity of **17 MW** in Taiwan alone. Since the start (2014) to the yearend of 2019, the domestic and offshore contracted solar energy installations reached approx. **111 MW**.
- By the end of 2019, Headquarter, Chunan Branch and Yilan Branch of SAS achieved worldwide acquisition of **274** patents in total.
- Ranking in the top **5%** of all TPEx-listed companies in six consecutive corporate governance appraisals.

2.1 Sustainable Organization

SAS established a Sustainable Development Committee in April 2016 to realize its sustainable operation goals and fulfill its corporate social responsibility. The committee is the company's highest body in charge of CSR implementation. The organizational structure of the committee is illustrated as below. The President serves as the Chairperson and department executives as members of this committee who plans and coordinates CSR and sustainable development directions and goals.

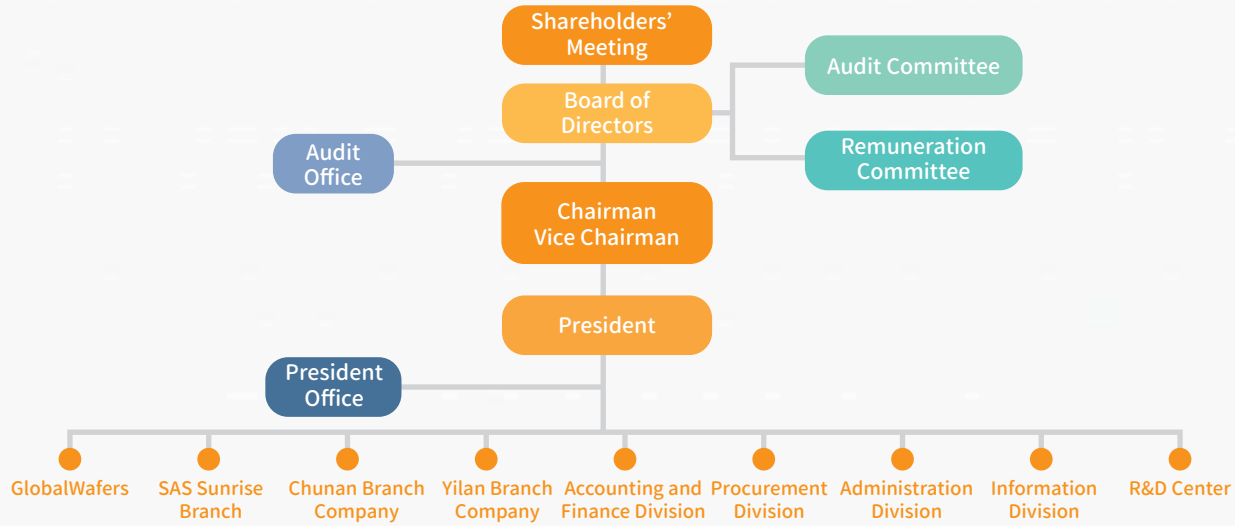
The committee is further divided into three task forces, (the environmental, governance, and social sections) to ensure implementation of activities in the aspects of environment, society, and governance. Specific members are designated to take charge of cross-department integration and check on the progress and execute CRS implementations. Tracking, inspection, and reviews are carried out on a regular basis. The chairperson reviews the task performance and achievements on an annual basis and continued to examine and improve them. Each division conducts teamwork to execute and implement corporate sustainable commitment. In addition, the committee reported key implementation points, annual goals, and implementation performances of the year to the board of directors on August 8, 2019.



2.2 Corporate Governance

SAS has made a long-term commitment to promote business integrity policies to form a corporate culture characterized by ethical corporate management. The company has also strengthened information disclosure transparency and has been ranked in the top 5% of all TPEx-listed companies in corporate governance appraisals for the past 6 consecutive years. This achievement highlights the company's determination to pursue sustainable corporate management.

2.2.1 Corporate Governance Structure



Summary of Key Points for the Corporate Governance Organization

- The SAS board of directors comprise 12 directors of whom 3 are independent directors.
- Two of the 12 directors are female.
- The Audit Committee and Remuneration Committee both consist of independent directors.
- The organizational charter of all committees is publicly disclosed in the corporate website.
- Results of annual self-performance appraisals conducted by the board of directors are publicly disclosed on the corporate website.
- Results of annual self-performance appraisals conducted by the audit and remuneration committees are publicly disclosed on the corporate website.
- The Company established corporate governance officer to implement corporate governance and strengthen the function of the board

Note: The subsidiary, Sunrise World PV Co was incorporated into SAS on 2019.12.12 and renamed as SAS Sunrise Branch on 2020.1.3.

Board Operations

The SAS board of directors comprises 12 directors of whom 3 are independent directors and each armed with profound knowledge and expertise, namely, in professional technologies, business management, legal and financial affairs, strategy management. Moreover, each director has diversified academic and industrial experiences helpful to making corporate management decisions in order to fulfill supervision and management responsibilities. Important motions are submitted to the Audit Committee for preliminary review and discussion prior to resolution by the board. Board resolutions are made public on company website for enhanced information transparency and for protection of shareholders' rights and interests.

To elevate professional competence and legal literacy of Company's directors, board members continue to participate in relevant training courses during their term of office. Each person has to participate in at least 6 hours of training courses each year.

Directors' Recusal For Conflicts Of Interest

The recusal for conflicts of interest that recorded in both Management of Operation of Board Meeting and Audit Committee Charter contain the following provision: If a director or a juristic person that the director represents is an interested party in relation to an issue item, the director shall state the important aspects of the interested party relationship at the respective meeting. When the relationship is likely to prejudice the interest of the Corporation, the particular director may state his/her opinions and respond to inquiries but shall not participate in discussion or voting on that issue item and shall recuse himself or herself from the discussion or the voting on the item. The said director may also not exercise voting rights as proxy for another director.

Pursuant to the regulations set forth in Article 192-1 of the Company Act, a candidate nomination system has been adopted for SAS board (including independent directors) elections. Shareholders elect the directors from the nominees listed in the roster of director candidates. A total of 11 SAS board meetings were held in 2019 with an average attendance rate of 92%. Board composition, professional and educational background and attendance record of board members as below:

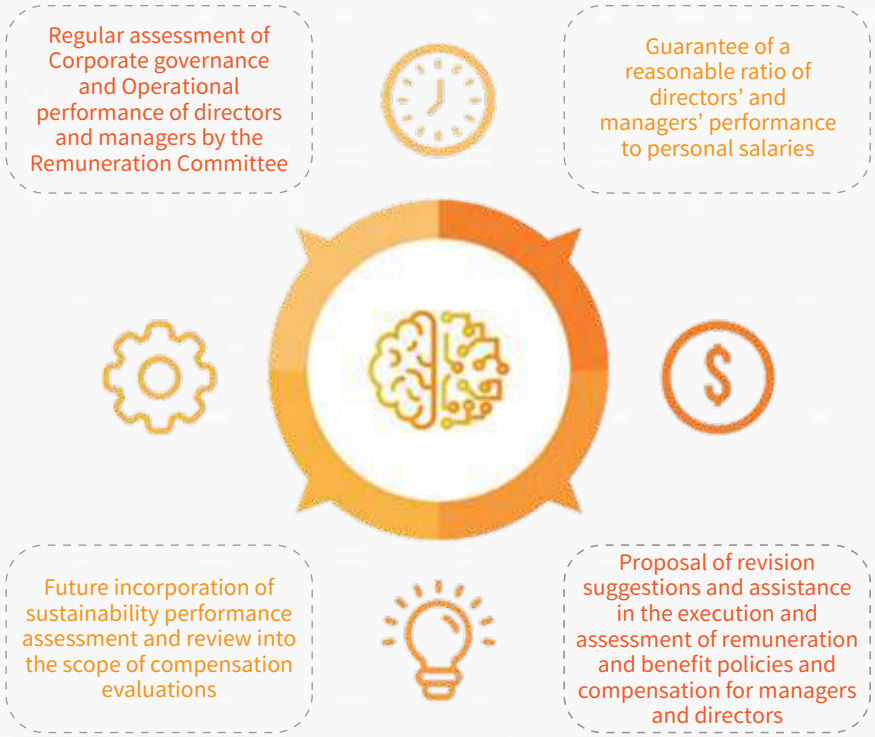
Board Members' Professional and Educational Background and Attendance Record in 2019

Title	Name	Gender	Primary Professional (Educational) Background	Actual Attendance	Presence by Proxy	Actual Attendance Rate	Notes
Chairman	M.K. Lu / Ming-Kuang Lu	Male	Honorary Doctorship in Engineering from National Chiao Tung University / successful completion of the advanced MBA training program for entrepreneurs offered by National Chengchi University President of lite-on Semiconductor Corp. and Lite-On Power Semi and vice president of Silitek Corp.	11	0	100%	
Vice Chairman	Tang-Liang Yao	Male	MA Degree from the Graduate Institute of Management at Tamkang University Assistant vice president of the manufacturing division of Lite-on Power Semi and president of Sino-American Silicon Products Inc.	11	0	100%	
Director	Hsiu-Lan Hsu	Female	MA in Computer Science from University of Illinois Executive vice president of Sino-American Silicon Products Inc.	11	0	100%	
Director	United Renewable Energy Co., Ltd. Representative: Chuan-Hsien Hong	Male	PhD in Electrical Engineering from National Tsing Hua University Research division director of the photovoltaic solar energy division at the Industrial Technology Research Institute, vice president of Sinonar Amorphous Silicon Solar Cell Co., CEO and Chairman of Neo Solar Power Energy Corp.	11	0	100%	
Director	Wen-Huei Tsai	Male	Accounting Department, National Chengchi University Director of Actherm Inc. and Ene Technology Inc.	11	0	100%	
Director	MaoYang Co., Ltd. Representative: Rong-Kang Sun	Male	Department of Law, Chinese Culture University / Chairman of Yuanjie Investment Corporation	11	0	100%	
Director	KaiJiang Co., Ltd. Representative: Hau Fang	Male	MA in International Business Administration from National Chengchi University Vice president of Taiwan United Medical Inc.	10	1	91%	
Director	KunChang Investment Co., Ltd. Representative: Yu-Da Chang	Male	MA from the Graduate Institute of Finance, National Taiwan University Vice president of Weilian Investment Co., Ltd.	10	1	91%	
Director	HungMao Investment Representative: Chu-Wang Chen	Male	Bachelor's Degree in Engineering from the University of California, Berkeley / greater china chief executive officer of VIA Technologies Inc. / special assistant to VIA president	3	8	27%	
Independent Director	Ting-Ko Chen	Male	PhD in Business Administration from University of Michigan/ General Consultant of Ruentex Group / group consultant, president of Charoen Pokphand Enterrise, New York, vice president of Formosa Plastics J-M Eagle USA, chairman of SinoPac Securities Co., Ltd., professor/director/ dean of the College of Management, National Taiwan University, dean/ professor and dean of the College of Management, Tamkang University, chair professor and dean of the College of Management, Asia University / visiting chair professor of College of Management, National Taiwan Normal University	11	0	100%	
Independent Director	Shing-Hsien Lin	Male	Master of Commerce, Tulane University, USA , BA from the Department of Electrophysics, National Chiao Tung University, president and CEO of Lite-On Technology Corporation, vice chairman of Lite-On Group, president of Silitek Corp., President of Texas Instruments Taiwan	10	1	91%	
Independent Director	Mong-Hua Huang	Female	Master of Commerce, Tulane University, USA President of Leotek Electronics Corporation, manager and senior accounting officer of Texas Instruments Taiwan, president office director (vice president) of Silitek Corp., Chief auditor (vice president) of Lite-On Group, senior vice president of Lite-On Technology Corporation	11	0	100%	

For concurrent positions of SAS directors in SAS and other companies, as well as director remuneration and resolutions by the board of directors, please refer to the 2019 SAS Annual Report.

Remuneration Committee

SAS established a Remuneration Committee on December 20, 2011 to implement a systematic compensation scheme. The Remuneration Committee is in charge of formulating and reviewing performance assessment and remuneration policies, systems, standards, and structures for directors and managers.



For the organizational charter of the Remuneration Committee, please refer to the SAS official website.

The average attendance rate for the two Remuneration Committee meetings in 2019 both reached 100%. Attendance record of independent directors is as indicated in the table below:

Attendance Record of the 2019 Remuneration Committee's Independent Directors

Title	Name	Actual Attendance	Presence by Proxy	Actual Attendance Rate (%)	Notes
Conveyor	Ting-Ko Chen	2	0	100%	
Board Member	Shing-Hsien Lin	2	0	100%	
Board Member	Mong-Hua Huang	2	0	100%	

Audit Committee

SAS established an Audit Committee on June 26, 2014 to strengthen the internal monitoring mechanism in corporate governance. The committee consists entirely of independent directors, mainly responsible for reviewing and discussing Company's financial statement, the appointment (dismissal) of CPAs and their capability qualification, independency and performance, CPA's audit fee, implementation and amendment to the Company's internal control system, legal compliance and the existing and potential risk control and management, etc.

For the organizational charter of the Audit Committee, please refer to the SAS official website.

For major resolutions of the Audit Committee, please refer to the SAS 2019 Annual Report.

The average attendance rate for the 11 Audit Committee meetings in 2019 reached 97%. Attendance record of independent directors is as indicated in the table below:

Attendance Record of the 2019 Audit Committee's Independent Directors

Title	Name	Actual Attendance	Presence by Proxy	Actual Attendance Rate (%)	Notes
Independent Director	Ting-Ko Chen	11	0	100%	
Independent Director	Shing-Hsien Lin	10	1	91%	
Independent Director	Mong-Hua Huang	11	0	100%	

Performance Evaluation

To implement corporate governance and enhance the functionality of the board and functional committees and establish performance goals to strengthen operation efficiency, the Company conducted performance evaluation procedures each year in accordance with "Regulations for Performance Evaluation on Board of Directors and Functional Committees" and completed the evaluation before the end of Q1 of the following year and submitted to the board of directors 2019 Performance evaluation results were submitted to the board of directors' meeting on March 19, 2020 and the results were excellent.

Board of Directors

- Submission of motions to the board of directors for discussion in accordance with the laws
- Comply with Directors' Avoidance of Conflicts of Interest
- Auditing the company' s accounting system, financial status and financial statements, auditing reports, along with tracking conditions.
- Board directors and certification accountants conduct communication. In events of new accounting bulletins or major adjustments in financial reports, there will be meetings for Q & A with accountants and for discussions
- Assessment and monitoring of existing or potential risks
- Whether board directors have all completed the training hours as required by governing authorities
- Attendance rate of each board meeting is 2/3 and above
- Over 1/2 of board of directors attending shareholders' meetings
- Board directors and the company' s management executive maintain an excellent communication channel.

Remuneration Committee

- The Remuneration Committee chairman is able to direct meeting proceedings and thereby ensures effective and efficient discussions and resolutions.
- All Remuneration Committee members possess professional knowledge of the industry and compensation management competence.
- All remuneration committee members are all fully aware of the core targets of the organizational operation, and familiar with all remuneration plans within the company as well as all composition factors of the board directors' and managers' salaries.
- Formulate and regularly review the company' s salary policies, systems, standards, and structure.
- The assessment results of the board directors' and managers' performance indicators are applied as the key basis for remuneration planning and distribution so as to make objective and fair decisions.
- Formulate and regularly review the board performance assessment system to see if it connects with the payment guidelines for the board emoluments.
- Regularly report to the board of directors the remuneration committee' s discussion and resolutions.

Audit Committee

- Clear understanding of the roles and responsibilities of the entire Audit Committee and its individual members.
- Regularly report to the board of directors the audit committee' s activities, problems uncovered and relevant suggestions.
- All Audit Committee members possess professional knowledge of the industry including diverse experience and professional backgrounds.
- Annually and regularly review the audited and non-audited public funds and services provided by CPA and affirm the scope of audit services provided.
- Reviewing, along with certification accountants, any audit-related problems, and challenges, as well as response of the governing authorities.
- Regularly meet with internal auditor to assess the effectiveness of internal audit results. Meeting with individual auditors at least once a year or whenever necessary.
- During the review process, the audit committee effectively identify and assess major risks and evaluate the necessary steps to take for risk control.
- Has evaluated and monitored the company' s existing or potential risks.
- Review with prior approval of proposed transactions with interested parties to ensure conformity to relevant policies and report approved transactions to the board.

2.2.2 Ethics and Integrity

To implement ethical corporate management, SAS has formulated integrity-based internal regulations to be observed by all staff members.

Integrity and Ethical Norms

Integrity and Virtuousness is one of the company's core values. To create an environment conducive to ethical corporate management, SAS has formulated relevant guidelines and a communication mechanism to be observed by all directors, managers, and staff members. Integrity risks are minimized through a rigorous management mechanism and effective controls in order to fulfill the vision of generating value and benefits for customers, shareholders, and stakeholders.

To ensure that all our employees can conduct operational activities by following the highest ethical standards, SAS has stipulated important internal regulations such as "Ethical Corporate Management Best Practice Principles", "Code of Ethical Conduct", and "Procedures for Ethical Management and Guidelines for Conduct", which have been publicly announced on the corporate website and internal website for referencing by employees at any time. These regulations concretely outline what SAS board directors, managers and employees need to take into notice when executing their businesses. Employees are given training & education on ethical management policies to ensure full understanding and compliance with these regulations, as well as effective implementation in their daily operations. The goal is to enhance the quality of conduct and occupational ethics of all staff members.

Anti-Corruption

SAS is committed to anti-corruption and active prevention of unethical conduct. In addition to the signing of "IPR and Confidentiality Agreements" with all employees to ensure that they refrain from sacrificing the company's rights and interests for the sake of their personal benefits. The "Ethical Corporate Management Best Practice Principles" clearly stipulate that staff members, during the process of engaging in commercial activities, shall not directly or indirectly offer, promise, request or accept any improper benefits or commit unethical acts including breach of ethics, illegal acts, or breach of fiduciary duty for purposes of acquiring or maintaining benefits.

For Ethical Corporate Management Best Practice Principles and other internal regulations, please refer to SAS website.

Reporting Channel and Informant Protection

To ensure implementation of ethical management, "SAS has formulated Guidelines for the Handling of Reported Cases of Illegal and Unethical Conduct" and established a well-defined disciplinary and appeal system for violations of the ethical corporate management rules. An employee suggestion box, email box, and grievance hotline are set up and announced on the internal website to encourage internal and external personnel to report unethical or improper behaviors. The identity of the informant and the reported content will remain strictly confidential. The HR departments are in charge of verification and follow-up handling. Disciplinary measures will be imposed based on the severity of the offense if infractions of ethical management regulations are verified. The Legal Department is responsible for the implementation of ethical corporate management policies and the formulation, monitoring and execution of prevention plans. The implementation status is reported to the board of directors on an annual basis. No instances of corruption were reported in 2019.

Intellectual Property Management Guidelines

In 2010, SAS adopted the Taiwan Intellectual Property Right Management System (TIPS). The company passed the basic and advanced certifications in 2010-2011 and 2012-2015, respectively. In 2016, SAS became the first company in the solar industry to pass the AA-level certification. Since the TIPS adoption, we have gradually established patent management guidelines and systematic e-management. We have also purchased a patent retrieval system for former case searches and organized proposal review meetings. The goal is to enhance patent quality and strengthen patent deployment for different technologies and products. In addition, SAS has gradually enhanced confidentiality control, as seen in the control and audit over the use of electronic storage devices (USB),emails sent externally, signing NDA with critical employees, strengthening filming regulation in the plants to ensure effective protection of business secrets and prevent leakage of critical R&D results. To this date, SAS has obtained 274 patent certifications. In future, the company will continue to expand globally in its patent deployment for accumulated competitiveness.

Recusal for Conflicts of Interest

SAS places much emphasis on integrity and ethical principles and has stipulated in its “Ethical Corporate Management Best Practice Principle”, “Code of Ethical Conduct”, and “Procedures for Ethical Management and Guidelines for Conduct” that when a director, manager, or other stakeholder who attends board meetings or a juristic person that he/she represents is an interested party in relation to an issue item, the director/manager/stakeholder shall state the important aspects of the interested party relationship at the respective meeting. When the relationship is likely to prejudice the interest of this company, the said director/manager/ stakeholder shall not participate in discussion or voting on that issue item and shall recuse himself or herself from the discussion or the voting on the item. The said director/manager/ stakeholder will not exercise voting rights as proxy for another director.

To implement the avoidance of conflict of interest, SAS stipulated that Company’s employees shall not enable the following personnel or enterprise to obtain improper benefits by using the convenience of their position:

1. The person, his/hers spouse, parents, children, family members within 2nd degree of kinship.
2. Enterprises that the aforementioned person directly or indirectly enjoyed relevant financial interests.
3. Enterprises that the person worked concurrently as chairman, director, independent director or senior managerial officer.

SAS has provided directors, independent director, or managers with proper channels to actively explain whether they have potential conflict of interests with the company.

2.2.3 Internal Audit System

The Auditing Office, which is subordinate to the board of directors, assists directors and managers in the design of an adequate internal control mechanism to ensure sound company management and reasonable achievement of operating objectives as the following:

1. Operation performances and efficiency.
2. The report shall be reliable, promptly, transparent and complied to relevant regulations.
3. Compliance with relevant laws and regulations.

The internal audit personnel of the Company shall hold detached spirit and faithfully conduct its duties with objective and fair standpoint and professional care. In addition to regularly reporting to members of the audit committee (independent directors) about the audit business, chief audit officer shall participate in the board meeting to report the audit business as a non-voter. Internal audit personnel shall hold on to the integrity principle when executing its business and shall not conduct matters conflicting the code of conduct for internal audit personnel.

The goal is to implement the company’s self-monitoring mechanism and respond to environmental changes in a timely manner. Hence, the Company regularly conducts self-evaluation on internal control system, covering the design and implementation of various internal control system. The results of the self-evaluation will be served as reference as to whether the design and implementation of the internal control system shall be adjusted.

2.2.4 Legal Compliance

To promote legal compliance and ethical regulation and concepts effectively and continuously on all colleagues, SAS has established relevant policies and regulations in accordance with the regulations in our country and abroad. In addition, SAS also strictly asked all employees to comply with and understand relevant regulations through constant education training and promotion and regular review on self-evaluation system.

In 2019, there was 1 case of penalty with a total fine of NT$ 120,000 due to the violation of the occupational safety and environmental protection. As such, we had strengthened our internal management and requested all factories within the group to conduct cross auditing hoping to uncover potential risks as seen from different perspectives and as a result, to enhance internal management.

Penalty for Violation in 2019

Item	Penalty of Fines(NT$)	Matter of Violation	Correction Measures
1	120,000	1. Pneumatic pressure delivery liquid pressure gauge used in Yilan Plant 1 Chemical tank is malfunctioned. 2. Sulfuric acid alarm at the waste water zone in the sulfuric acid storage tank work place of Yilan Plant 1 lost its alert function, which could result in immediate danger. 3. Emergency shower equipment was not established at the waste water zone in the sulfuric acid storage tank work place of Yilan Plant 1.	1. We immediately replaced the pressure gauge and confirmed that the gauge display functions normally. Then we subsequently conducted an inventory check and prepared a check form for instrumentation and alarm function of each system in the factory. 2. We immediately conducted repair work on the sulfuric acid alarm at the waste water zone and conduct comprehensive inventory check on the air pollution, waste water system, which had chemical tank with alert system and prepared check form to regularly inspect whether the alert system functioned properly. 3. We comprehensively checked the air pollution and waste water system whether they required to be installed with emergency shower system and established them immediately. After the installation, we regularly conduct maintenance and repair according to the monthly checklist to ensure its proper function.

To comply with the regulations for various sectors, SAS has stipulated respective policies or guidance:

Securities Regulations	Strict Management Mechanism SAS shares are listed on Taipei Exchange (TPEx) and must abide by securities and exchange act of R.O.C. and relevant laws and policies. ◎ The president office has established excellent communication channels with relevant supervising authorities and constantly monitors the latest legal developments. The office is also responsible for searches of the latest legal announcements and changes. Upon identifying the latest developments, the office will notify relevant department to take responsive measures as required. ◎ With regard to questions submitted by relevant department, the legal affairs department will further analyze relevant regulations and propose accurate responsive strategies upon communicating and confirming with supervising authorities.
Labor Laws and Regulations	Strict Compliance with Relevant Labor Laws ◎ Formulating work systems and management guidelines that meet or exceed the requirements set forth in labor laws and regulations; develop excellent working conditions and communication mechanisms; building positive labor-management relations characterized by pleasant interactions amongst staff members. ◎ Valuing employee salaries and benefits; proactively cultivate talents; implement labor laws; ensure employees' rights prior to the implementation of major policies and changes in the fields of remuneration and holiday systems, employees will be notified through labor-management meetings, electronic newsletters, and HR announcements to safeguard employee rights and interests.
Data Management	◎ Major policies and documents: employment contracts and business confidentialities and IPR agreements, code of ethical conduct, handling procedures for intellectual property disputes, and confidentiality agreements. ◎ Management mechanism: education on the importance of intellectual property and business secrets though posters and slogans, employee training and education, and signing of confidentiality agreements with employees in charge of relevant operations.
Corporate Governance / Supervision Over Subsidiaries	◎ Major policies and documents: code of ethical conduct; guidelines for the handling of reported cases of illegal, unethical, and dishonest conduct ◎ Management mechanism: relevant contents are incorporated into education for current employees and orientation training for newly inducted employees to ensure compliance by all employees with said code of conduct in the performance of duties.
Environmental / OSH Laws and Regulations	◎ Major policies and documents: identification and management of environmental, energy management, and OSH related laws and other relevant requirements. ◎ Management mechanism: monthly review of conformity to the latest amendments of relevant environmental, energy management, and OSH related laws and other relevant requirements; regular assessment of conformity to applicable legal requirements.

Each year, we publicize relevant laws and regulations to our employees to promote their awareness regarding legal compliance. In addition, we also established courses related to health care and eco-friendly, and health & safety. In 2019, we had courses on:

Legal Compliance

- Overview on the Personal Data Protection Act and brief overview on EU GDPR
- Case explanation for disputes between the labor and the capital
- Overview on Insider Trading Act
- Learning about laws related to ethical management
- Promotion on Information security (safety of email social interaction and the introduction to malware and prevention thereof)
- Intro to Business Secret Act and case detection practices

Health Care

- CPR+AED resuscitation training
- Seminar on the prevention against workplace violence/sexual harassment
- Seminar on interpersonal relationship-the art of distance
- Series of seminars and activities on weight loss and fat reduction (How to become fitter by dieting, the requirement and distribution for calories, aerobic exercise, tricks for eating out, do not lose your muscles/opportunities)
- Series of seminars on healthy diet (Getting to know anti-cancer diet, my healthy plate, for your healthy stomach, the common sense about small intestine you should know)
- Series of seminars on emotion management (What is depression and prevention against suicide, reconcile with negative emotions, review your personal pressure, maintain sufficient self-mind electricity)
- Prevention against skin diseases and daily skin protection
- Super rescue on shoulder and neck paid

Environmental Protection, Safety and Health

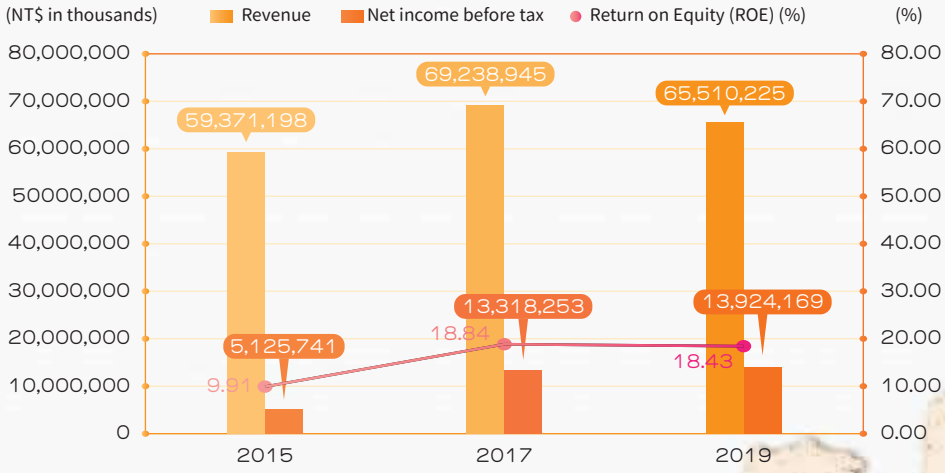
- Management on the hazards of special gas and special chemicals
- Course and drill on emergency response
- Hearing protection
- Education and training on high-altitude work vehicle
- Promotion on transportation safety (Promotion on the concepts of defensive driving)
- On-the-job education training on health and safety
- Labelling of hazardous chemicals and general education rules
- Education training on in-plant emergency rescue and first-aid for chemical spill
- Education training on emergency treatment
- Identification of chemicals and explanations of protection equipment
- Construction safety management for contractors entering the plant
- Prevention against special procedure hazards (Dismantling of chemical pipelines, confined space, fire work)
- Overview on in-plant waste management
- Discussion on eco-friendly equipment - eco-friendly regulations (waste water management and air pollution control) and audit practices

2.3 Operation Performance

SAS has always held on to the ethical management principles and taken the primary goal to create values for shareholders, customers, and employees. In 2019, global solar energy industry was under the impact of China-US trade tension and the new official government policy from China for solar energy subsidy program. These factors have made the poly-crystalline market, which was originally under downturn and turbulence, even weaker. Under the several influences, such as the trend of mono-crystal and price drop in the market, domestic solar energy companies have faced severe survival challenges and successively turned to domestic sales in response to the policy. Some companies even conducted asset activation and sought for transformation by capital reduction or downsizing to strengthen and improve their nature. In 2019, domestic installation volume was around 1.3GW, which did not meet our expectations. In response to the market status, the Company has reduced inventory and adjusted product combination by adjusting production capabilities. In addition, the Company attempts to reduce business risks by appropriate allocation of manpower. SAS recognized a loss of NT$4.35 billion for the liabilities of onerous contract in Q2 2019. Though it has made huge impact on our business performance, SAS still hit another high record for business performances in gross profit and operating income against all odds with the joint efforts from all colleagues and the strong input to corporate performances from the subsidiary, GlobalWafers. To conclude, the consolidated revenue of the group reached NT$65,510,230,000 in 2019 representing 5.39% decrease from the previous year: NT$69,238,950,000; Net income after tax attributed to the parent company reached NT$2,248,390,000 and EPS of NT$3.86.

For more details on operational performance and financial data, please refer to the SAS 2019 Consolidated Financial Statement.

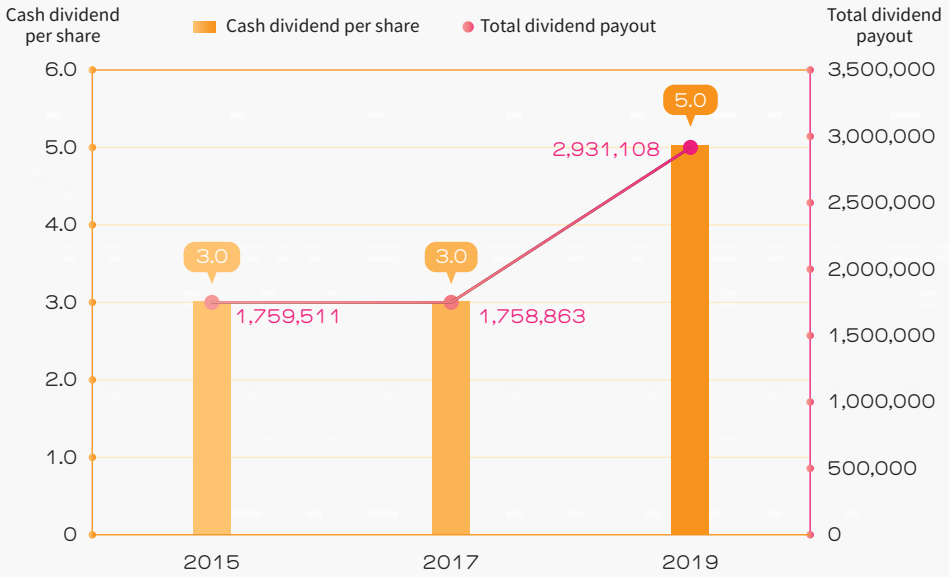
Financial Performance (Consolidated)



Overall Economic Environment and Industry Trends

2019 was a challenging year for solar industry resulted by the capacity migrating to monocrystal and geopolitical tariff issue, application also shifts to achieve the connection to grid at an equal price sooner, product size and conversion efficiency in are extensive and abundant in monocrsralline application. The decreasing subsidy and demand shifting to monocrystal urged multicrystal makers to focus on monocrystal instead, an turning sales target from abroad to domestic, prices were impacted by oversupply. However, in such condition, SAS continuously worked on enhancing conversion efficiency of the high-efficiency solar cell, differentiating multicrstal ingot application from peers, aggressive cost control, phasing out uncompetitive products, improving finance structure and actively yet cautiously selecting customers and alliances to escalate the SAS' operating efficiency and competitiveness. Regarding to the solar industry in 2020, there are still many uncertain factors. Although the market research agency, PV-info Link, estimated that the whole-year installation volume in 2020 could be up to 134GW, the COVID-19 outbreak added more uncertain factors to the market. To enhance overall performance, SAS will continually dedicate on innovation, cost reduction, accumulating its competitiveness, synchronizing its management strategy with the ever-changing market and vertical integration via solar power plants. SAS is confident in its global deployment and resource integration in solar and semiconductor business, aiming to solidify its operation performance and contribute new summit, becoming a sustainable and green business with solid foundation of revenue and profit, creating higher value for the shareholders.

Cash Dividend



2019 Annual Economic Value Analysis

Unit: NT$1,000

Generated Direct Economic Value	Annual report: income	65,510,225
Distributed Economic Value	Operational costs	46,242,686
	Employee salaries & benefits	12,976,437
	Payment to investors	1,758,764
	Payment to the government	11,714
	Community resources	46

2.4 Risk Management

Regulations on Risk Management

In response to the rapidly changing management environments and to ensure the company's stable management and sustainable development, SAS has stipulated risks management policies and risks management guidelines. The three major objectives of the risks management system stimulation:

◎ Proactively engage in all businesses to enhance the quality and quantity of income, within the limits of acceptable risks standards

◎ Strengthen the width and depth of risks control and management and respond, when necessary, with negative listings regarding standardized and key principles

◎ Thoroughly facilitate systems, computer operation and disciplines to ensure the compliance with risks control and management

SAS' risks management procedure includes risks identification, risks assessment, risks supervision, risks reporting and disclosure, and response to risks. With this risk management procedure, we aim to effectively implement and facilitate the company's risks management strategies.

SAS has stipulated an assessment method for risks management for the referencing of risk management. Regarding quantifiable risks, we adopt rather stringent statistics analysis and technique for analysis management and manage such quantifiable risks with a progressive method. With risks that cannot be easily quantified, we assess them with a qualitative method, i.e. with linguistic description to express the possibility and impact of a risk occurrence. Relevant operation and risks management information are also disclosed in the company annual report and company website.

Climate change risks and opportunities

In December 2015, nearly 200 countries strengthened their response to the threats posed by climate change and mitigated greenhouse gases through the Paris Agreement had become a key issue in global economic development. In June 2017, the Financial Stability Committee (Financial Stability Board, FSB) announced the Task Force on Climate-Related Financial Disclosures(TCFD), we follow the structure recommended by TCFD: governance, strategy, risk management, metrics and targets the four core elements to reveal information about climate change.

Climate-related financial information disclosure structure

Governance
- Board of Directors monitors the related risks and opportunities to the climate
- Corporate Sustainability Committee

Strategy
- Identified climate-related risks and opportunities
- Impact of climate-related risks and opportunities on operations, strategies and financial planning

Risk management
- Process for identifying and evaluating climate-related risks
- Process to manage climate-related risks

Metrics and Targets
- Metrics used to evaluate climate-related strategies and risk management processes
- Various categories of greenhouse gas emissions and related risks
- Setting targets with the management of climate-related risk and oppurtunity as well as the KPI to each target.

Member of the SAS Corporate Sustainability Committee collects risks and opportunities related to climate change, and integrate with concerns of stakeholders concerns.Issues will be assessed and scored by the representatives of each group of the Corporate Sustainability Committee before presenting to the Corporate Sustainability Committee at the annual meeting. Afterwards, the management plans and targets that draft by the relevant members and their teams based on the risk of each issues will be reported to the latest Board of Directors Meeting.

Climate-related risks and opportunities

Types	Climate-related risks	Potential financial impact	Response measures and goals
Transformation risk	Policies and regulations Being Responsible to the disclosure of greenhouse gas emissions. Current and revised energy regulations	Increased operating costs Policy changes result in write-off selling of existing assets and early scrapping	- Continue to track and identify the trend in variation of regulations - Developing low-carbon and renewable energy • Continue to expand the map for solar power plant; actively conduct investment on rooftop, ground–mounted, and introduce floating solar; generation system to reduce water temperature and enhance the power generation efficiency of solar panels. • It is expected that the goal for installations of solar power will be totaled of 30MW in 2020 and the domestic and globally overall installation of 141 MW. - Management and conservation for energy and resource • Communicating with customers and devoting in obtaining customers' certification. The silicon sapwood produced by the during the process will be reused in the crystal growth stage as silicon materials in order to reduce raw material expenditures and product carbon emissions. • Optimizing waste water treatment and controlling the dosing volume of calcium carbonate to reduce calcium carbonate sludge. In addition, establish the adoption of recycling treatment method for total wastes in each plant ≧ 85%. • Establishing complex energy system on the rooftop of Chunan plant and replacing externally purchased electricity by solar power. • Continue to establish energy-saving measures. Annual energy conservation rate in each plant in every year shall be at least >1%. - R&D and optimization of product and services • For the production process of poly-crystalline silicon wafer , transforming from Slurry to DW to enhance efficiency and greatly reduce the use of carrier and output volume of waste cutting oil (sludge). • Enhance the conversion efficiency of N-type monocrystalline batteries and P-type monocrystalline batteries.
	Technology Investment and transformation of new/ low-carbon technologies	Capital investment in technology development	
	Market Preferences and changes in customer behavior. Increasing of the costs for raw materials and waste disposal	Changes in consumer preferences lead to a decline in demand for products and services. Combinations and sources of the revenue change. Increased input costs	
	Reputation Industrial stigma	Decline in demand for products/services	
Physical risk	Immediate Increased frequency and severity of extreme weather events (typhoons, heavy rainfall). Long term Rising of the average temperatures	Loss or interruption of capacity Increased operating costs	
Type	**Climate-related opportunities**	**Potential financial impact**	
Resource recovery ratio	Recycling Reducing the use of water resources	Reduce operating costs	
Energy sources	Using low-carbon energy	Reduce operating costs	
Products and services	Developing low-carbon products and services R&D and innovation on products and services	Enhanced income by the demands on low-carbon products and services Improving competitive position to reflect changes in consumer preferences	
Market	Making good use of public sector incentives	Work with the public sector to enter new markets and raise revenue Reduce operating costs	
Toughness	Energy planning and energy conservation measures. Resource substitution and diversity	Reduce operating costs	

03 Innovation and Services

Chapter 3 Innovation and Services

Material Topics

Product quality and customer satisfaction

Significance to SAS

SAS engages in manufacturing solar energy products and application products related to poly-crystalline. The company's green product range includes ingots, wafers, cells, modules, and power plants. RoHS testing is carried out for products at the source (wafers, cells) and laboratory testing results of hazardous substance contents must be certified by third-party impartial units to ensure conformity to international laws and regulations and customer requirements in the field of hazardous substances.

SAS also requires its raw material and packing material suppliers to submit reports on laboratory testing of hazardous substance contents certified by third-party impartial units to ensure conformity of the upstream supply chain to product safety and toxicity requirements. The goal is to realize eco-friendliness and environmental protection at the source.

The core mission for SAS is to provide customers with satisfying services and high-quality products. The company deeply awares that superior product quality is a key prerequisite to corporate competitiveness. As such, task-specific specialist teams are set up to take charge of product development, costs, manufacturing, quality, and customer services. Product quality is constantly improved to achieve the goals of customer satisfaction and sustainable operations.

SAS commits to provide its customers with the best services possible as well as realizing an excellent service quality is the key to improve customer satisfaction and consolidate customer loyalty. Professional customer service teams aim to maintain fluent communications with customers, strive to receive customer opinions and satisfy customers' needs to earn their long-term support.

SAS schedules regular meetings with customers to maintain excellent communications with customers and conduct discussions on production, sales quality and engineering technologies. The company develops new-generation products in cooperation with its customers and enhances product power conversion through technical discussions with the supply chain. It further optimizes the usage of social resources to reduce environmental pollution. The goal is to ensure in-depth cooperative relationships with customers and much customer satisfaction with products, technologies, and services.

Management Mechanism

- SAS requires suppliers of raw materials and packing suppliers to provide RoHS reports while certificates the product. Hazardous substance contents must meet customer requirements.
- RoHS testing must be carried out for poly-crystalline products and cells on an annual basis to ensure that hazardous substance contents meet customer requirements.
- In the harsh environment where the solar energy market was shriveling during 2019. SAS took "Developing new customers & Exploring the applications and markets for poly-crystalline related products" as its primary task and future prospect. SAS customer service team proactively learns about customers' demands. Moreover, SAS has produced customized poly-crystalline related application products through technology collaborations. In 2019, SAS obtained the product quality certificate from the customers and completed product transition smoothly.
- To fulfill customers' expectations, SAS has built product quality monitoring mechanism and pre-warning system (quality control was conducted comprehensively from production process to final products) to ensure the stability and consistency of product quality.
- In the field of marketing and promotion (including advertising, sales promotion, and sponsorship), SAS strictly abides by relevant laws and regulations to prevent violations of voluntary guidelines, governing marketing & promotion, and avoid false or misleading advertisements.
- SAS conducts customer satisfaction surveys on a regular basis and collects customer opinions regarding services, quality, costs, and innovation. The goal is to gain a better understanding of customers as a reference for constant improvements to ensure sustainable operations and development with customers.
- Average weighted customer satisfaction scores must exceed **8 points** (Highly satisfied) to indicate that customers have a high level of confidence in SAS products and service quality.

2019 Key Achievements

- RoHS tests for raw materials, packing materials, solar chips and solar cells were compliant with customers' requirements with no feed backs of defects.
- In 2019, SAS continued to obtained product quality certificate from customers and built product quality monitoring mechanism and early-warning system.
- Achieved rate for improvement proposals reached **100%**: This outcome is one of the short-term goals and commitments for 2019. Our original intention is to provide better product quality and services to customers. Hence, the management has encouraged all teams to submit proposals in all kinds of management aspects, including quality, R&D, information, production, safety, and energy conservation, to create the greatest benefits to the organization.
- Extended the commitment from 2018, the solar energy cell conversion efficiency continued to be improved:
  a. Mono-Si P-type solar cell conversion efficiency was effectively enhanced by **0.38%** in 2019 (from 21.85 % to 22.23%).
  b. In 2019, SAS continued to develop Mono-Si N-type solar cells and achieved **22.70%** for its actual conversion efficiency (it can achieve 23.00% at maximum conversion efficiency). In addition, SAS held product launch party during 2019 shareholders' meeting and announced the brand-new **N-type** solar cells.
  c. SAS obtained the certification for seal of Made in Taiwan (MIT) for solar cells.
- Regarding the average weighted score for customer satisfaction in 2019, SAS scored **8.7 points** in poly-crystalline products (Highly Satisfied) and **8.6 points** in solar cells (Highly Satisfied).

Future Goals

- SAS continues to conduct technology collaboration with customers to produce silicon material application products with better profitability and devotes into product mass production. Meanwhile, SAS customer service team also seeks for methods to improve the yield with the current production process based on customers' demands and enhances the competitiveness of the organization and the importance of SAS.
- No severe/major deficiencies detected in customer audits: SAS places great emphasis on customer audit processes and results since such audits provide a clear understanding of areas requiring improvement. The management teams view audit results as a driving force for organizational progress. Setting the goal of "zero severe/major deficiencies" to increase customers' confidence in SAS product quality and services.
- Customer satisfaction scores of over **8 points** (Highly Satisfied) in all aspects: The organization will continue with improvements to meet even exceed customer expectations. SAS will continuously to rely to customers' demands via various communication platforms. Thus, SAS stipulated the highest standards in its on-going pursuit of product quality and services to ensure sustainable corporate management.
- SAS takes "Developing new customers & Exploring the applications and markets for poly-crystalline related products" as its primary task and future prospect to pursue the most benefits for the corporation.

3.1 Innovation Management

Current State and Development Trends of the Solar Energy Industry

The solar power industry is the industry with the largest growing potential in the 21st century. Following the gradual depletion of non-renewable resources such as coal, petroleum, and natural gas reserves, traditional energy sources will face irreversible changes. Renewable energy, solar energy in particular, will become the key element in the energy structure. Regarding renewable energy, the Bureau of Energy, Ministry of Economic Affairs, has promoted the "Development of wind energy in parallel with solar energy to launch energy transformation" and executed measures centered on photovoltaic and wind power generation. The goal is to reach a 20% of electricity generated by renewable resources by 2025. Among the objectives, the objective for cumulative installation volume for solar energy is to reach 20 GW, including roof-type installations of 3 GW and Ground–mounted installations of 17 GW. The "2-Year Photovoltaic Promotion Program" approved by the Executive Yuan in October 2016 expected to generate an installed solar power capacity of 1.52GW (1,520MW) by June 2018. This program aims to build on the fundamentals via its short-term goal and carry out root-tackling measures and optimize the environment via mid- and long-term goals. Installation goals for the roof-top and ground-mounted types. The roof-top type is aimed to include rooftops on government-owned lands, in private factories, agricultural facilities and others. The ground-mounted type is aimed to include salt industry lands, severe land subsidence areas, water bodies and landfills.

According to the latest report from SolarPower Europe, the number of solar installations in 2019 could achieve 128.4 GW and will grow to 180 GW in 2023. After that, the number will even enter the "TW" era. In addition, the report also pointed out that the year 2018 was the most distant year for global solar market. Although global demands are still increasing, China, as the largest solar energy market, has inhibited global growth since the re-organizing of solar energy policies.

Continued Innovation and Development of Cutting-edge Products and Technologies

SAS has many years' experience in solar crystal growth and its high-efficiency multi-crystalline products are leading the industry and unrivaled worldwide. The company also possesses powerful R&D capabilities in thermal field simulation and design. The A3+ wafer launched in 2011 had since leaped onto the world stage. In September 2012, its Aegis wafer was honored with the Silicon Innovation Award, the most prestigious international award in the solar energy industry. The company earned the world's first patent for high-efficiency wafer technology (patent number: I452185) in September 2014. The A5+ wafer with its world-leading conversion efficiency went into mass production in late 2014. In 2017, the patented crystal growth technology was awarded with the 2016 National Innovation Silver Award by the Intellectual Property Office, Ministry of Economic Affairs. The company is capable of continuous development of high-quality multi-crystalline solar products.

In line with the latest market developments, the adoption of diamond cutting method for the cutting of solar wafers marked a critical change in the solar industry in 2017. SAS started adopting this technology in the fourth quarter of 2017. It has completed 51% conversion in all processes by end of 2017 and 100% conversion by 2018. Diamond cutting processes does not require any oil cutting and therefore help decreasing raw material consumption, reducing air pollution, waste generation and transportation-based environmental impact.

In 2018, China, the largest solar market, was re-organizing their solar energy policies, which inhibited the global growth and influenced the development of solar energy market. SAS R&D power accumulated through the past years strategized stepping into and explore the field of silicon material application products and applications with its profound technology foundation during the recession of global solar market.

The SAS R&D investment are reflected in the number of patent applications. In an 2013 analysis and survey conducted by the Science & Technology Law Institute of Institute for Information Industry, alongside Ocean Tomo, an authority in intellectual property, on IPR management and achievements of TWSE/ TPEx-listed companies in Taiwan, SAS was ranked among the “top 50 Taiwanese listed enterprises regarding its US patent value”. Since 2013, Institute for Information Industry has not updated the rankings, however, this achievement indicates that SAS has become a benchmark enterprise with high-value patents. The headquarter, Chunan branch and Yilan branch of the company earned a total of 274 patents in 2019.

Past R&D Awards

2008 Technology Award, MOE Outstanding Innovation Award

2010 Industrial Development Bureau TIPS Industry Demonstration

2011 Science park R&D Award

2013 PVSEC Outstanding Technology Development & Research Contribution Award

2017 Intellectual Property Office, Ministry of Economic Affairs. 2016 National Innovation Award Silver Award

2010 MOE Industry Program Excellent Industry Contribution Award

2012 Solar Industrial Silicon Innovation Award

2016 IOCG Laudise Prize Award

2019 Product launch party for N-type cell

- R&D Achievements in 2019:
  - Development of silicon material application product
  - Ultra-high efficiency mono crystalline silicon solar cells
- Future R&D Development Program:
  - Ultra-high efficiency P-type mono crystalline silicon solar cells
  - Development and mass production of high-efficiency N-type mono crystalline silicon solar cell technology

2019 Taiwan-made MIT Smile Product Certificate

Continued Product Innovation

3.2 Customer and Product Services

Customer Service

SAS is committed to providing its customers with the best services and deeply convinced that an excellent service quality is the key to improve customer satisfaction and consolidate customer loyalty. SAS adheres to a philosophy of sustainable operation. In addition to maintaining business performance, the company also places great emphasis on listening to customers' opinions and satisfying customer demands to earn their long-term support and achieve sustainable operation goals.

SAS is a professional manufacturer of solar wafers and cells and provides cutting-edge process technologies and product services to satisfy customer demands. It is customer satisfaction orientated, with emphasis on customer needs and professionalism. It adopts a customer perspective with customer demands as the main reference. It also aims to provide customers with comprehensive services to achieve the goals of customer satisfaction and sustainable operation.

Product Quality and Customer Satisfaction

SAS has long been committed to the goals of"customer satisfaction, requirements conformity, total quality control and continued improvements" to increase customers' confidence in SAS products and services. Providing high-quality services and products to satisfy customers is the company's main mission. Professional teams are set up to take charge of product development, costs, manufacturing, quality, and customer services. Professional services are provided in response to customer problems and feedback in a rapid and active manner to assist customers handling and resolving problems so as to earn their trust and satisfaction.

SAS schedules regular meetings with customers to maintain excellent communications with customers and conduct discussions on production, sales quality and engineering technologies. The company develops new-generation products in cooperation with customers and enhances product power conversion through technical discussions with the supply chain. SAS also further optimizes the usage of social resources to reduce environmental pollution. The ultimate goal is to ensure in-depth cooperative relationships with customers and much customer satisfaction with our products, technologies, and services.

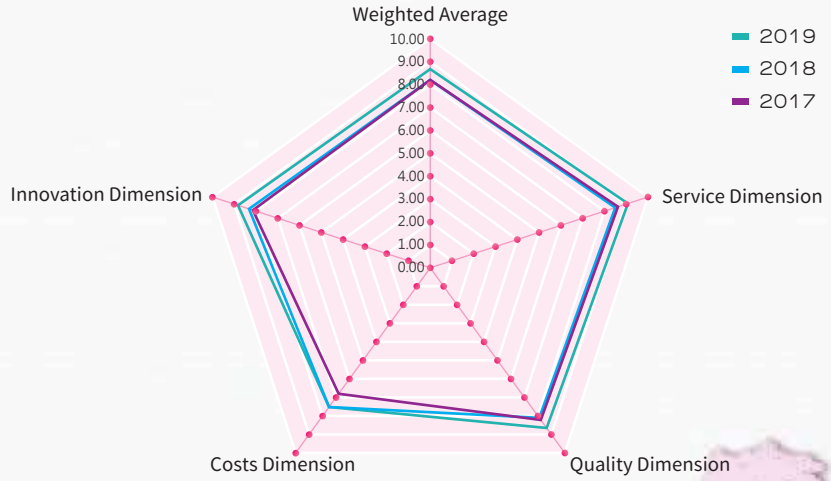
SAS therefore conducts customer satisfaction surveys on a bi-annual basis. Upon collection and organization of customer opinions, dedicated teams convene exclusive meetings to formulate strategies and directions of improvement with customer opinions as the main indicator. With regard to items with relatively low to zero satisfaction, the company conducts follow-up interviews with customers to clarify issues. Shortcomings will be analyzed, and improvement strategies formulated to transform the concept of enhanced customer satisfaction into concrete action, hoping to earn the trust and praise from even more customers. The goal is to become our customers' best collaborative partner and to work with our customers in sustainable operations and development.

Poly-Crystalline Products' Customer Satisfaction

The scope of satisfaction surveys for consists of five major dimensions hoping to understand the needs of all customers from each different dimension: services, innovation, quality, costs, and weighted average (general evaluation). The full mark for each dimension is 10 points (10 indicates the most satisfied, 6 indicates somewhat satisfied). If scores fall below 6 points, internal improvements are required. Customers assess each dimension and give their score accordingly. They also identify shortcomings or directions for necessary improvements as a strategic reference for follow-up internal improvements.

In 2019, the solar energy market in recession caused a huge impact on the solar energy product sales which led to a proactive change in SAS marketing strategies. SAS has started to put its main focus in silicon material application products rather than limiting itself in solar product.

In 2019, poly-crystalline products' weighted average satisfaction reached 8.7 points (highly satisfied) out of 10.This indicates customers' positive recognition regarding quality and services provided by SAS although SAS has just stepped out of the solar applications product field for a short period of time. As for individual dimensions, satisfaction level in weighted average, services, quality, and innovation all exceeded 8 points (highly satisfied; we even reached 9.1 points in service dimension). Although for the costs dimension, we scored only 7.5 points (somewhat satisfied, no improvements required), we still actively communicated with our customers and listened to the customer regarding this dimension. We also seek solutions via bilateral collaboration to satisfy customers' needs. Besides regular meetings and technology seminars, SAS visited customers face to face, called them on the phone, emailed them and listened to their opinions trying to stand in customers' shoes to continuously enhance customer relations.

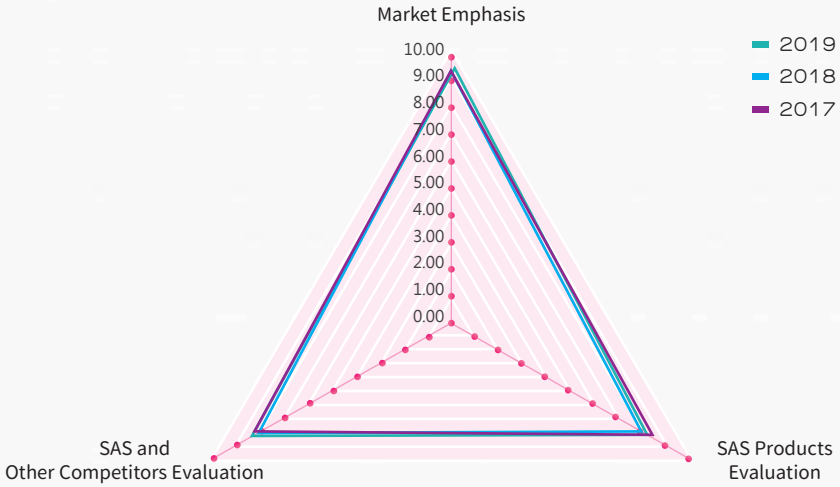


Dimensions for Multi-Crystalline Products Customer Satisfaction Survey

Solar Cells Customer Satisfaction

Since 2016, the 21 items of customer satisfaction assessment has been converted into 3 major dimensions for evaluation i.e. market emphasis, SAS products review, and comparison of SAS and other competitors, with a full mark of 10 points for each dimension.

In 2019, the overall weighted customer satisfaction points for polar cells was i8.63 points out of 10 points. As for individual dimensions, the weighted average for satisfaction regarding delivery, quality, overall services, and product innovation all exceeded 8 points. Compared with previous years, the satisfaction scores were towards positive stability. This indicates that we have maintained certain customer satisfaction.



Dimensions for Solar Cells Customer Satisfaction Survey

In 2019, the weighted average for customer satisfaction exceeded 8.6 points (high satisfaction). This indicates that we have remained diligent despite the market recession and have maintained certain customer satisfaction. Even with the positive feedback from customers, SAS does not rest on its laurels. The company continues to invest in necessary equipment, upgrade product qualities, and conduct on-going technology development striving to break through the challenges from the market and the economic environments. The company still aims to constantly increase customer satisfaction and provide high-quality products and services in accordance with the quality policy and goals of the company. Improvement items are proposed and tracked throughout the progress to implement SAS' constantly improving spirit and thereby achieve continued enhancement in the field of service quality and competitiveness.

Customer Satisfaction of Products from Semiconductor Business

GlobalWafers overall satisfaction ≧ 80 points account for 69%. Compared to 2018, 50%, overall satisfaction ≧ 80 points has shown significant enhancement. This shows that we have listened to customers' voice and our efforts in pursuit of advanced technologies and stable quality have gradually recognized by our customers.

Product Services

SAS adheres to the cells production with high-efficiency conversion, as well as constant innovation and development of high-efficiency products. SAS can fast integrate up-stream and down-stream technology development capacity through supply chain integration and technology interchange. The time required for product launch is shortened with product reliability enhanced and quality confidence increased in order to align products more efficiently to the demands of end users. In terms of quality, SAS has stringent procedures, processes, and controls in collecting customer information, product design and development, and manufacturing processes. Outstanding and stable product quality is ensured based on systematic management at every aspects. SAS also convenes daily, weekly, and monthly for management review meetings, plus annual review meetings to ensure continuous product improvements. PDCA is constantly carried out to enhance products and services, reduce costs and expenditures, and in turn, give back to society.

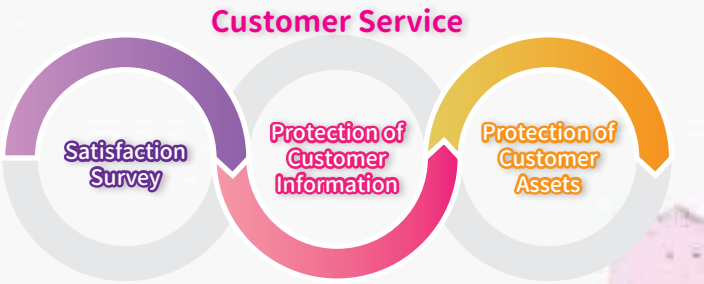
3.3 Protection of Confidential Customer Information

Customer Privacy

Not only committed to providing excellent customer services, SAS also places great emphasis on protection of customer privacy and confidentiality. Relevant agreements are signed with customers to protect their classified information. Meanwhile, all staff members are required to strictly abide by SAS IPR policies and protect confidential information of customers in a rigorous manner.

In recent years, allegations of customer information leakage have emerged. SAS not only formulates confidentiality agreement regulations but also invests resources in the establishment of information security systems to ensure proper protection of customer data. Regular and irregular audits are conducted to ensure the integrity of information security system operations. At the same time, internal personnel are required to strictly abide by SAS IPR policies and rigorously protect confidential information of customers in business activities. Relevant trainings are administered on an annual basis to emphasize the importance of confidentiality. Advocacy of confidentiality concepts is in place to guarantee customer privacy and prevent losses caused by information leakage. In 2019, no relevant customer complaints were raised, and no penalties imposed by governing authorities.

SAS Customer Service Principles



Protection of Intellectual Property

In 2010, SAS adopted the Taiwan intellectual property management system (TIPS) and has since successively passed the basic certification (2010-2011) and advanced certification (2012-2015) and obtained the AA-level certification in 2016. The company will remain committed to the protection and management of intellectual property. In recent years, we have been solidifying our confidentiality controls and have step by step established an information classification system to define confidentiality levels for internal and external documents and create corresponding labels and circulation control methods. At the same time, the company has formulated usage regulations for electric equipment and adopted virtual desktop cloud services, centralized management of backup information, an external e-mail inspection system and restricted the use of electronic storage devices. An in-plant filming management system and signing NDA with critical employees have also been established to prevent information security issues. Internal electronic TIPS audit forms are also in place. Even more importantly, SAS organizes regular intellectual property training to reinforce the staffs' understanding and awareness of the importance of confidentiality management and to shape the confidentiality management into part of the corporate culture. The goal is to apply excellent intellectual property management to safeguard the rights and interests of the company and its customers, improve customer trust, and increase product market share.

3.4 Product Liability

Product Safety and Liability

Since the scope of silicon material application products are relatively extensive, SAS submits all products to certified and impartial third-party laboratories for testing to ensure conformity to the EU RoHS directive (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment) and customer requirements regarding hazardous substances. SAS also requires its raw materials and packaging material suppliers to submit regular laboratory testing reports on hazardous substance contents conducted by certified and impartial third-party laboratories. The goal is to implement requirements of product safety and non-toxicity requirements and to strengthen environmental protection and eco-friendliness.

In addition, SAS is fully aware of the risks associated with solar cells and backend modules such as environmental impact of chemical substances used in manufacturing processes, risks of product used in different environments, and risks at different stages after the product's end of lifecycle. Despite the fact that there are currently no international laws and regulations for solar cell products labeling, SAS, upon much deliberation, still insists on completing labeling and indication of product ingredients, harmful substances, and safety of usaging to the customers. In terms of marketing, SAS provides a detailed description of potential product risks in the media such as a handbook of the product with specifications and ensures of legal, environmental, and customer requirements conformity based on different sales areas.

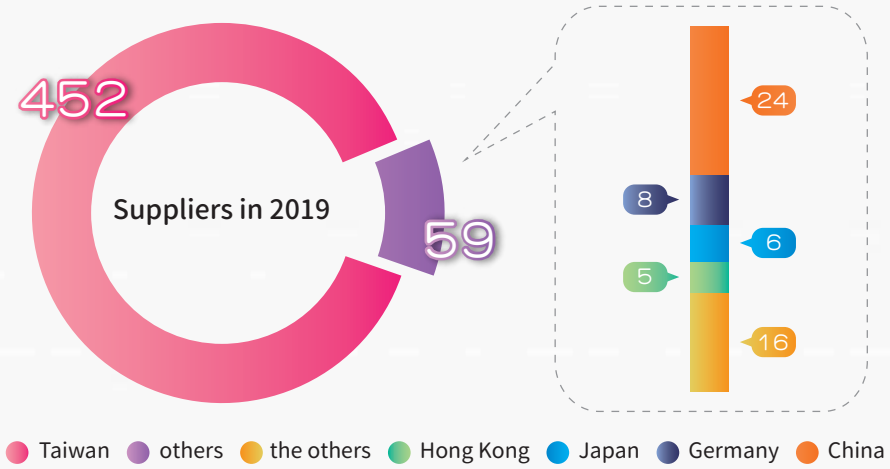
3.5 Up- and Down-stream Supply Chain

In view of increasing requirements for eco-friendliness, the demand for solar energy is growing and the cost for electricity generation is decreasing. Once the cost for solar power generation drops to the same price as market electricity, solar power will become one of the most competitive options available on the energy market. This will allow the market to expand further and thereby maximize eco-friendly effects. To pursue the ultimate objective of "price competitiveness", the whole solar industry chain embraces the development goal of high efficiency at minimum costs.

Localized Supply Chain

SAS has its main production base in Taiwan and has therefore been actively cooperated with Taiwanese suppliers to implement the goal of supply chain localization. In 2019, Chunan Branch and Yilan Branch had 511 suppliers in total, of which 452 were in Taiwan, accounting for 88.45% of all suppliers.

Facilitating supply chain localization will achieve the goal of reducing production cost through lowered transportation cost and cycle stocks to strengthen the solar industry's cost competitiveness. SAS adheres to concepts of green procurement from localized procurement to the management of raw materials. Localized procurement can enhance national competitiveness, increase local employment, stimulate local economic activities as well as minimize environmental impact and damage caused by long- distance transportation of raw materials, and thus reduce the importance of timeliness.



04

Sustainable Environment

Chapter 4 Sustainable Environment

Material Topics

Energy resource consumption (including energy conservation measures), Greenhouse Gas(GHG)emissions, waste management, pollution control (air, water)

Significance to SAS

As a member of the green energy industry, SAS is firmly committed to legal compliance, air pollution control, and waste water treatment. In addition, the company implements GHG reduction and adaptation actions and continued to implement energy conservation measures in response to global climate change. The company also actively embraces circular economy concepts and ensures optimal use of resources (energy resources, water resources, raw material resources) through reduction, reuse, and recycling to balance economic development and environmental protection. In addition to the aforementioned three Rs, SAS has also been giving focus to the fourth R (Redesign) hoping to implement improvements at the source and thereby achieve reduction, reuse, recycling, and sustainability through product/process design planning.

Management Mechanism

Through the implementation of the ISO 14001 environmental management system (2015 version) and the adoption of product life cycle concepts, SAS aims to achieve a genuine reduction of materials at the source by relying on improvements in the manufacturing process and product design stages. Cooperated with the promotion on environment management system, we established the goals for energy conservation and material conservation and constantly implement water recycling and waste reduction measures to cherish our resources as well as to achieve the outcome of reducing greenhouse gas emission. Regarding the prevention against air pollution and water pollution, we regularly maintain and patrol on pollution prevention equipment and maintain the treatment performance of equipment. In addition, to enhance the treatment efficiency of acid exhaustion gas in Yilan plant, we purchased a new set of washing tower in 2019 to increase the treatment and detention period of the exhaustion gas. With respect to waste management, traditional cleaning and disposal are transferred into the concept of effective resource management in order to reduce waste generation. Meanwhile, audit management on waste clearance companies is enhanced to ensure that waste is disposed in an appropriate manner. SAS insists on stringent compliance with all relevant laws and regulations in its operations and conducts conformity assessments for all internal and external issues related to the environment. Should any legal risks be detected, detected, immediate, preventive improvement measures are carried out and policy implementation is ensured through comprehensive management and actual operations.

2019 Key Achievements

- The total installation for grid-tie operation exceeded 17 MW and reduced the CO_2 emission by 6,071 tons per year
- The energy conservation measures, and management of the year can reduce about 966 metric tons of CO_2 emission in Chunan Branch and Yilan Branch.
- The amount of calcium fluoride sludge per unit product produced in Yilan Plant 1 was reduced 1.52% compared to 2018.

Future Goals

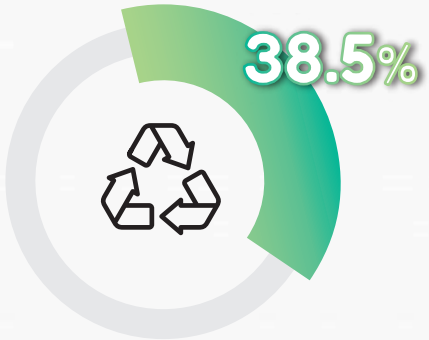
- Yilan plant power conservation volume ≧ 800,000 kW; Chunan plant power conservation rate > 1%
- Total volume of wastes recycling recovery ≧85%

4.1 Energy Resources Consumption and Reduction

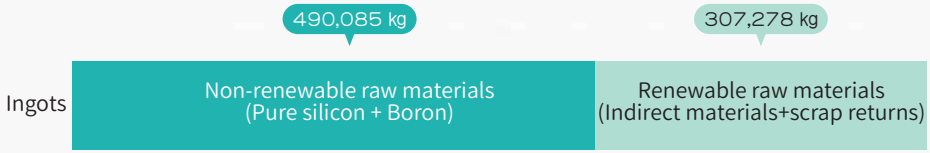
4.1.1 Raw Materials Management

The main materials used by SAS in its production of ingots are silicon. Although it is impossible to use recycled wafers for solar cell production processes, the company uses discarded silicon which are recycled in the plants for the crystal growth stage whenever possible. The company also uses a certain proportion of externally purchased recycled materials. This helps save material costs and reduce the waste.

Renewed raw materials usage percentage for ingots:



Usage of Recycled Materials in 2019



Note: Recycling rate = total weight of renewable raw materials / (total weight of non-renewable raw materials + total weight of renewable raw materials)

In addition, SAS designs and develops production processes based on ecological concepts through the implementation of the ISO 14001 environmental management system (2015 version), adoption of product lifecycle concepts, and the fourth R (Redesign) of the cyclic economy concept to implement green design and clean production methods. The process designed with technical improving, enhancing production capacity, and reducing consumption of raw materials to ensure reduction of energy consumption and pollutant emissions to the source as well as decreased operating costs, energy consumption, and environmental impacts.

4.1.2 Energy Management

Carbon Emission Quantity

In recent years, the issue of global warming has received growing attention. SAS has therefore actively invested in solar power plants since 2015. The company constructed a power plant in Palo on Leyte Island, Philippines, in cooperation with its subsidiary Sunrise World PV Co (Sunrise World PV Co was incorporated into SAS on 2019.12.12 and changed its name to SAS Sunrise Branch on 2020.1.3.) and made an all-out commitment to the deployment of solar power plants in Taiwan in line with the "Nuclear-Free Homeland" Policy of the Taiwanese government and the Million Rooftop PVs and the Two-Year Solar Power Promotion Program of the Bureau of Energy to assist the government to the promotion of renewable energy power generation. The total grid-connected capacity exceeded 17 MW in 2019, resulting in an annual reduction of CO_2 emissions by 6,071 metric tons.

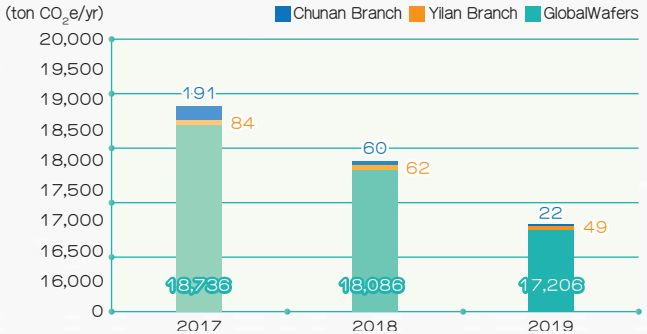
SAS Greenhouse gas emission sources can be divided into the following three categories: Category 1 is GHG, which includes GHG generated during the production process and fuel combustion (such as natural gas, gasoline, and Diesel), direct emissions of each plant as well as fugitive emissions of septic tanks and fire equipment. Category 2 is indirect emissions which generated by externally purchased energy sources including electricity and steam. SAS plants' emissions in category 2exclusively stem from externally purchased electricity. Category 3 encompasses other indirect emissions generated by business trips, product and material transportation, production of materials by suppliers, and waste recycling and treatment. The results of a GHG emission inventory carried out by SAS showed a downward trend year by year in the last 3 years in Category 1 (direct energy emissions), with total greenhouse gas emissions in 2019 amounting to 571,849 metric tons of CO_2 e, of which category 1 accounted for 3.02% (17, 277 metric tons of CO_2 e); Category 2 accounted for 96.98% (554,572 metric tons of CO_2 e), total greenhouse gas emissions showed a downward trend compared to the previous year, and it might caused by market downturn, declining demand, price decline and other factors. In addition, we plan new energy conservation programmes every year and continue to manage the energy conservation measures that has already in progress to reduce energy resource use and greenhouse gas emissions by resource integration and capacity adjustment.

Greenhouse Gas Emissions

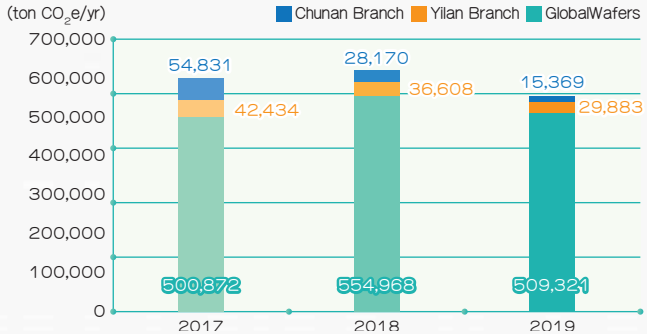
Unit：ton CO_2e

Site	Item	2017	2018	2019
Chunan Branch	Scope 1	191	60	22
	Scope 2	54,831	28,170	15,369
	Total Emissons	55,022	28,229	15,391
Yilan Branch	Scope1	84	62	49
	Scope2	42,434	36,608	29,883
	Total Emissons	42,518	36,671	29,931
GlobalWafers	Scope1	18,736	18,086	17,206
	Scope2	500,872	554,968	509,321
	Total Emissons	519,608	573,054	526,527
Total	Scope1	19,011	18,028	17,277
	Scope 2	598,137	619,746	554,572
	Total Emissons	617,148	637,954	571,849

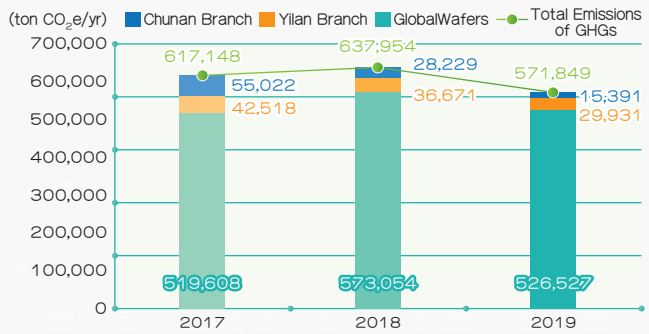
Scope 1：Greenhouse Gas Emissions Amount



Scope 2：Greenhouse Gas Emissions Amount



Total Emissions of Greenhouse Gas



Note:1. The calculation scope in 2017 covered Chunan Branch (Plant 1 and Plant 2) ,Yilan Branch (Plant 1, Plant 2 and Plan 3) and GlobalWafers
2. In 2018, the Chunan Branch Plant 1 and the Yilan Branch Plant 2 were cancelled. Starting from 2018, the calculation scope covered Chunan Branch (formerly Plant 2),Yilan Branch (Plant 1 and Plant 3) and GlobalWafers.
3. Inventories are conducted based on the GHG Coefficient Management Chart (Version 6.0.4) announced by the Environmental Protection Administration.
4. Power/carbon emission coefficients are 0.553 (kg CO_2e/ kWh) as released in 2018 by the Bureau of Energy, MOEA.

Energy Consumption

SAS is a solar cells manufacturer. Not only do we aggressively review our internal energy consumption conditions to reduce energy waste, we also actively promote renewable energy sources. In 2019, SAS teamed up with its subsidiary, Sunrise World PV Co (it is now SAS Sunrise Branch), in the construction of compound energy system on the rooftops of the Chunan Plant that integrates the 99kW self- weight photovoltaic solar system, 100 kW/350 kWh power storage system, 600 kW adjustable grid-tie power generators. SAS also switched to micro-grid systems inside the plant. The subsystem installations are expected to be completed by Q2 this year, while simultaneously blending the energy storage device development and integrating it into the energy management system platform in response to the future market demand for power storage management.

We conducted strategic adjustments on production capabilities and resource integration in response to the solar market in recent years. Energy consumption had been gradually reduced each year.

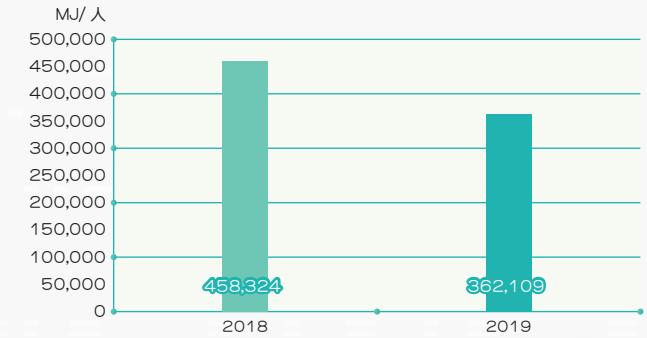
Quantity of Energy Consumption in Chunan Branch and Yilan Branch

Unit: MJ

Energy Categories	Item	2017	2018	2019
	Externally purchased electricity	666,304,246	420,796,022	305,637,552
	Renewable energy (solar power)	192,074	5,760	277,186
	Natural gas	1,711,381	247,086	14,358
	Diesel	196,962	151,126	53,259

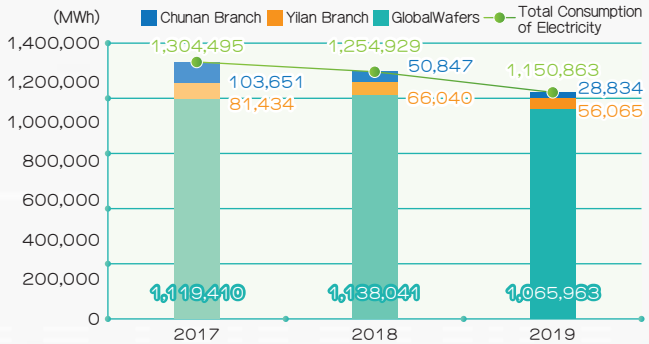
Note:1. The calculation scope in 2017 covered Chunan Branch (Plant 1 and Plant 2) and Yilan Branch (Plant 1, Plant 2 and Plan 3).
2. In 2018, the Chunan Branch Plant 1 and the Yilan Branch Plant 2 were cancelled. Starting from 2018, the calculation scope covered Chunan Branch (formerly Plant 2) and Yilan Branch (Plant 1 and Plant 3).
3. The conversion unit: 1 kWh = 3.6 million Joule; 1 cubic meter of natural gas = 47.7 million Joule; 1 liter of Diesel = 31.524 million Joule.

Energy Intensity



Note:1. Calculation scope covered Chunan Branch (formerly Plant 2) and Yilan Branch (Plant 1 and Plant 3).
2. Energy Intensity is calculated as units of energy (MJ) per unit of full-time employees (people).
3. Due to the different between semiconductor manufacturing process and the manufacturing process of solar, we did not include Data from Globalwafers. Data boundary from solar business in 2017 is different from 2018 and 2019. Hence, we did not calculate the performance data in 2017.

Total Consumption of Electricity



Note:1. The calculation scope in 2017 covered Chunan Branch (Plant 1 and Plant 2) ,Yilan Branch (Plant 1, Plant 2 and Plan 3) and GlobalWafers.
2. In 2018, the Chunan Branch Plant 1 and the Yilan Branch Plant 2 were cancelled. Starting from 2018, the calculation scope covered Chunan Branch (formerly Plant 2), Yilan Branch (Plant 1 and Plant 3) and GlobalWafers.

Energy Conservation Measure

Every year we establish an energy conservation plan with the target of reaching an electricity conservation rate of over 1% for each plant. In 2019, Chunan Plant and Yilan Plant's annual energy conservation was 1,812,631 kWh and we were able to reduce 966 metric tons of CO_2 emission. However, if we included the conservation records of all Taiwanese sites of GlobalWafers (the Headquarter, Chunan Plant and Taisil), it would be 8,263,560 kWh conserved energy and reduced about 4,404.5 metric tons of CO_2 emission. The calculated energy conservation performances were mainly based on the newly added energy conservation measures but it also included some cross-year performances extended from the energy consumption measured from the previous year. Following supplementary explanations on the conservation performances.

Energy Conservation Achievements in 2019 from Chunan Branch and Yilan Branch

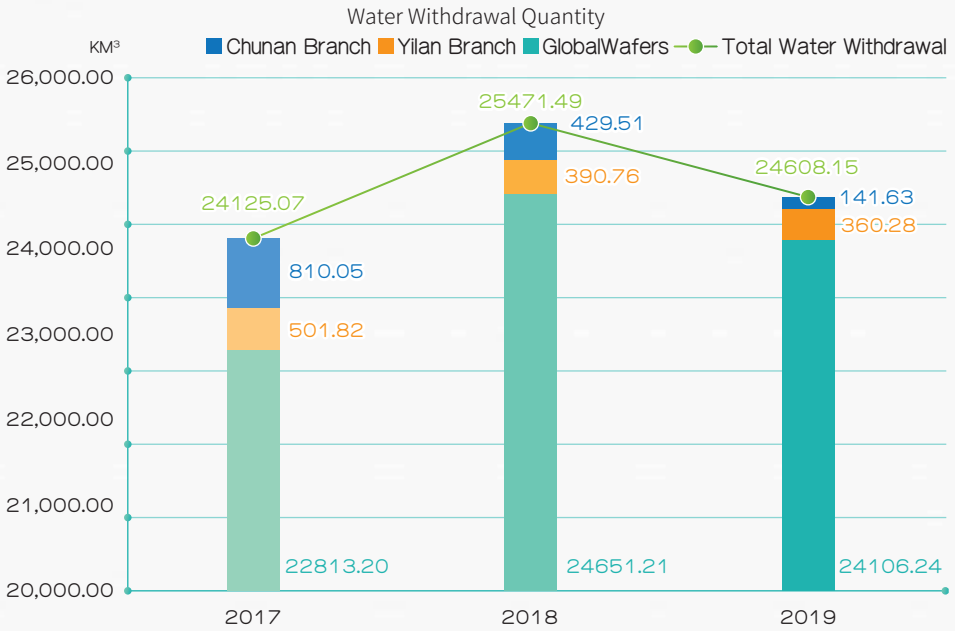
Type	Measures	Total Power Savings (kWh)	CO_2 Emission Reductions ($kgCO_2e$)
Manufacturing process	1. During the crystal growth process, on/off management for the processing cooling water valve (Closing the processing cooling water valve not required) * Electricity saving calculation: With the management measures, the electricity of 1 cooling water pump (kWh) for closing 1 processing cooling water pump 2. Enhance the number of crucibles which can be baked in crucible baking furnace each time to reduce the number of times to boot up the crucible baking furnace * Electricity saving calculation: Differences in the number of booting up times for the crucible baking furnace before and after the improvement (times) × Electricity for each booting up time of the crucible baking furnace (kWh/time) 3. Replacing processing equipment by high efficiency production capacity equipment * Electricity saving calculation: The gap of energy consumption per unit for replacing processing equipment by high efficiency production equipment (kWh/pcs) × Product volume (pcs)	1,038,209	553,365
Air pressure system	1. Vacuum generator for the production equipment was changed to central vacuum system * Electricity saving calculation: The gap of product energy consumption per unit before and after the improvement (kWh/pcs) × Product volume(pcs)	296,715	158,149
Air conditioning system	1. Variable frequency conversion for chilled water pump and cooling water pumps in the chilled water system * Electricity saving calculation: The power gap (kW/RT) before/after installing air frequency conversion × refrigeration capability (RT) × utilization time * The improvement was completed in 2018/5. The period for energy conservation statistics: 2019/1~2019/5 2. Add one Make-up Air Unit (MAU) for joint operation (there were two pieces originally and now add on the third) *Electricity saving calculation: The air-conditioner electricity fee includes the third make-up air unit (MAU) that we add to the existing two MAUs Note: The air-conditioner electricity consumption for the 2 MAUs is based on variable frequency energy conservation formula. $\sqrt[3]{\frac{\text{required wind volume}}{\text{full volume of the windmill}}} \times \text{rated power of motors} \times \text{utilization time}$ *The improvement was completed in 2018/4. The period for energy conservation statistics: 2019/1~2019/4 3. Changing IE1 motors to IE3 motors for cooling water pumps * Electricity saving calculation: The power gap of replacing IE1 motors with IE3 motors (kW) × Utilization time (h)	368,318	196,313
Lighting sources	Replacement of T5 lighting with T8 lighting * Electricity saving calculation: The power gap of replacing T5 with T8 (kW) × no. of light tube replaced × Utilization time (h) * The improvement for Yilan Plant 1 was completed in 2018/9. The period for energy conservation statistics: 2019/1~2019/9	32,393	17,265
Renewable energy	Installation of solar panels on the rooftops of plant buildings for power generation * Electricity saving calculation: the solar energy kWh as actually measured	76,996	41,039
Total		1,812,631	966,132

Note: 1. Note: Power/carbon emission coefficients are 0.553(kg CO_2e/ kWh) as released by Bureau of Energy, MOEA, 2018.
2. According to the announcement from Bureau of Energy, Ministry of Economic Affairs, annual electricity conservation is the electricity saved each year by implementing electricity conservation measures. The calculation period starts from the next month of the implementation date up to 12 months. However, for those with calculation period over different years, the conserved electricity shall be calculated according to the years.

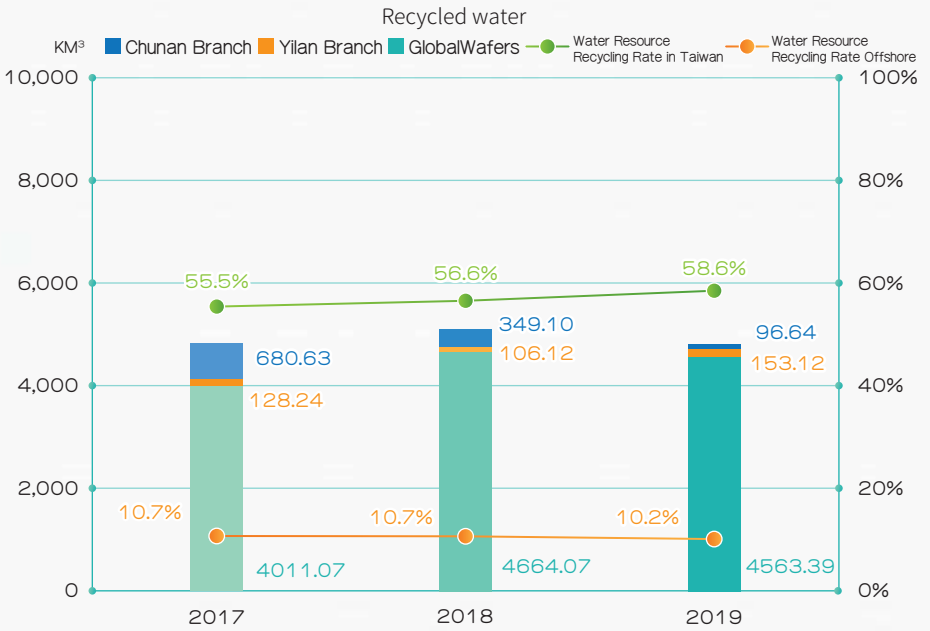
4.1.3 Water Resources Management

In recent years, global climate change has caused extreme precipitation patterns in Taiwan which underscores the importance of water resource management. SAS plants mainly use running water supplied by the Taiwan Water Corporation. The company does not use ground water therefore does not cause damage to ecosystems through excessive pumping and resulting ground subsidence. The water supply and raw water sources of the Chunan Plant and Yilan Plant are Dongxing Water Purification Plant/Yongheshan Reservoir and Longde Water Purification Plant/Xincheng River, respectively. The raw water source areas have not been designated national or international natural reserves or sensitive water bodies (related areas, special functions, rare, threatened, endangered systems, or habitats of endangered species as determined by experts). In the field of water resource conservation, SAS plant employees are fully committed to recycle (including rainwater and process water recycling) and reuse. Preservation of precious water resource has been incorporated as a crucial part of the water recycling operation.

We conducted strategic adjustments on production capabilities and resource integration in response to the market in recent years. Water withdrawal quantity has been gradually reduced each year.



Note: 1. The calculation scope in 2017 covered Chunan Branch (Plant 1 and Plant 2) , Yilan Branch (Plant 1, Plant 2, and Plan 3) and GlobalWafers
2. In 2018, the Chunan Branch Plant 1 and the Yilan Branch Plant 2 were cancelled. Starting from 2018, the calculation scope covered Chunan Branch (formerly Plant 2), Yilan Branch (Plant 1 and Plant 3) and GlobalWafers.



Note: 1. The calculation scope in 2017 covered Chunan Branch (Plant 1 and Plant 2) ,Yilan Branch (Plant 1, Plant 2, and Plan 3) and GlobalWafers.
2. In 2018, the Chunan Branch Plant 1 and the Yilan Branch Plant 2 were cancelled. Starting from 2018, the calculation scope covered Chunan Branch (formerly Plant 2) , Yilan Branch (Plant 1 and Plant 3) and GlobalWafers.
3. Water Recycling Rate = Volume of recycled water ÷ Total volume of water withdrawn.

4.2 Pollution Prevention

Regarding pollution and emissions, SAS installs adequate pollution control equipment with corresponding treatment capabilities to maintain the efficiency of treatment operations. Every piece of equipment is regularly maintained and inspected. Dedicated specialist personnel are appointed to conduct relevant operations in accordance with relevant regulations to reduce pollutant emission concentrations, ensure compliance with legal standards, and minimize environmental hazards and impacts with the ultimate goal of realizing the vision of environmental protection and sustainability.

4.2.1 Air Pollution Prevention

Different production and manufacturing processes result in slightly different process waste gases. Chunan Plant generates four major types of waste gases: acid exhaust, alkali exhaust, VOCs, and particulate matter pollutants, while Yilan Plant, three major types of waste gases: acid exhaust, alkali exhaust, and VOCs. On handling waste gases, we have central waste gas scrubbers for acid and alkali exhaust. Due to varied characteristics in different factories, VOCs in Chunan Plant are treated in waste gas scrubbers, and VOCs in Yilan Plant are treated in activated carbon adsorption towers. Particulate matter pollutants are generated only in Chunan Plant and treated with bag- type dust collectors.

The operation of SAS air pollution control equipment conforms to contents set forth in the operational permit for controlled substances. In 2019, to enhance the treatment efficiency of acid exhausted air, our Yilan Plant 3 purchased another washing tower in addition to the original prevention equipment to distribute the exhaustion gas treatment volume so that the exhaustion gas and the circulated water in the washing tower can have sufficient contact and the treatment and detention time of the exhaustion gas can be increased in order to enhance treatment efficiency. In addition, it is also beneficial to maintain flexible arrangement on dirt cleaning and tower cleaning procedure and the treatment performance of the washing tower when the washing tower had cumulative dirt.

Yilan Plant 3 Addition of washing tower

Annual inspections are conducted in a required frequency in order to determine the emission concentration of controlled substances in accordance with relevant laws. In Chunan Plant, annual inspections are conducted on acid pollutants, VOCs, and particulate matter pollutants. In Yilan Plant, inspections are conducted on acid pollutants once every five years, and on VOCs every year. The air pollutants emissions as disclosed below do not include the acid pollutants in Yilan Plant that are inspected once every five years out of consideration for the consistency of the annual calculation scope.

Air Pollution Emission Quantity

Unit: (ton/yr)

Pollution Item	Chunan Branch and Yilan Branch	GlobalWafers (Sites in Taiwan)	Total
Particulate matter pollutants (Par)	0.6757	1.8987	2.5744
Nitric acid (HNO_3)	0.0069	3.6576	3.6645
Hydrofluoric acid(HF)	0.0003	0.0602	0.0605
Hydrogen chloride(HCl)	0.0015	0.0614	0.0629
Volatile organic compound(VOC)	1.7890	1.1072	2.8962
Nitrogen Oxides(NOx)	-	8.8900	8.8900
Ammonia(NH_3)	-	3.3395	3.3395
Phosphoric Acid(H_3PO_4)	-	0.0040	0.0040
Sulfuric Acid(H_2SO4)	-	0.00004	0.00004

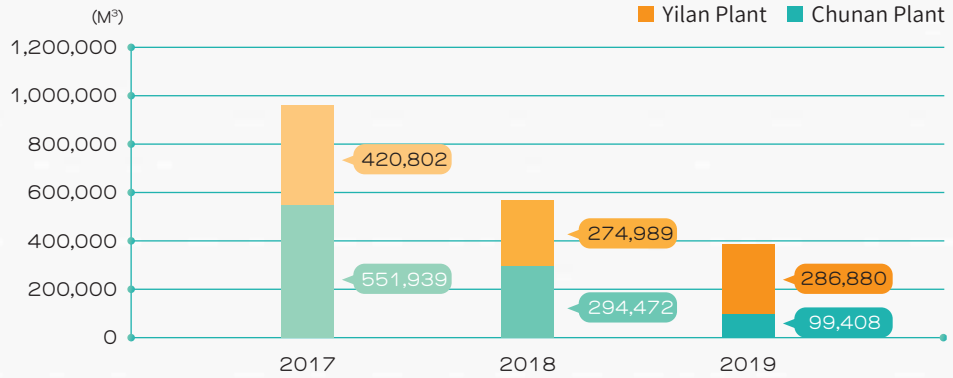
Note: 1. The calculation scope in 2017 covered Chunan Branch (Plant 1 and Plant 2) and Yilan Branch (Plant 1, Plant 2, and Plan 3).
2. GlobalWafers' sites in Taiwan: The Headquarter and Chunan Branch of GlobalWafers and Taisil.
3. Emission quantity estimation is based on third-party certified laboratory test report statistics and the raw materials quantity consumed that year (or product outputs).
4. Expose fixed pollution source emissions according to the fixed pollution source operating license.

4.2.2 Water Pollution Prevention

Due to the different locations of the plants, waste water is discharged and treated in the Wastewater Treatment Plants of the Hsinchu Science Park Administration in Chunan and Li Ze Industrial Zones where real-time monitoring and responsive measures are conducted. Pre-discharge water quantity and quality monitoring facilities (tracking of PH values and fluoride concentrations) have been established to facilitate regular monitoring and reporting. The quality of discharged water meets or exceeds relevant regulations. Administrations also dispatch personnel to conduct spot checks at the discharge outlets on a non-scheduled basis, as a measure for two-tier water quality control. No major instances of leakage or overflow in SAS plants were reported in 2019.

The primary focus of SAS in its pollution control strategy is on the principle of source reduction, waste liquid segregation and classification. Upon classification based on individual properties, waste water is treated by plant treatment facilities. Chunan Plant 2 features chemical and biological treatment facilities (treatment by aerobes and anaerobes) to ensure optimal wastewater treatment results. In 2019, the pH values of wastewater discharged by plants all fell in the range of 6 and 9 (the required standard for both areas is 5-9), while SS concentrations were maintained below 250mg/l (the required standards by the Hsinchu Science and Industrial Park Administration and Li Ze Industrial Zone Service Center are < 300mg/l and < 320mg/l, respectively). COD was maintained below 250mg/l (the required standards by the Hsinchu Science Park Administration and Li Ze Industrial Zone Service Center are < 500mg/l and < 480mg/l, respectively), and fluoride concentrations were kept below 11mg/l (the required standard for both areas is <15 mg/l). This clearly indicates that the SAS wastewater treatment facilities are high in performance and stability.

Waste Water Discharge Volume



Note: 1. The calculation scope in 2017 covered Chunan Branch (Plant 1 and Plant 2) and Yilan Branch (Plant 1, Plant 2, and Plan 3)
2. In 2018, the Chunan Branch Plant 1 and the Yilan Branch Plant 2 were cancelled. Starting from 2018, the calculation scope covered Chunan Branch (formerly Plant 2) and Yilan Branch (Plant 1 and Plant 3).
3. Tests and inspections in the Chunan and Yilan Plants are conducted in accordance with the regulations of the Hsinchu Science Park Administration and the Long Te (with Li Ze) Industrial Park Service Center attached to the Industrial Development Bureau, MOEA, respectively.
4. GlobalWafers, our subsidiary, did not collect this data. Therefore, the disclosed figure didn't include GlobalWafers, and will included GlobalWafers afterwards.

4.3 Waste Management

SAS waste management strategies mainly focus on source reduction from process design improvements and reduced use of raw materials to reduce the production of wastes; moreover, there is in-factory recycling and reuse to make efforts in enhancing reproduction ratio of the recycled processing materials where we not only reduce the production of wastes, but also reduce the use of raw materials and purchased semi-final products as well as reducing consumables and transportation energy consumption; furthermore, Furthermore, the recycling and reuse of external resources helps increase the salvage value of waste. Finally, external waste treatment businesses are commissioned (to incineration, physical treatment, chemical treatment, and landfills). In addition to compliance with "Regulations Governing Determination of Reasonable Due Care Obligations of Enterprises Commissioning Waste Clearance", we have also established management procedure for in-factory wastes. In addition, we have inspected the waste treatment companies with high risks at least once a year. Additionally, regarding new waste companies, we conduct review on written information, inspect their treatment plant onsite and audit whether the treatment equipment (facilities) of the treatment plant has sufficient capabilities to properly treat the collected wastes before signing contract with them. All generated waste is currently processed domestically without any instances of offshore treatment.

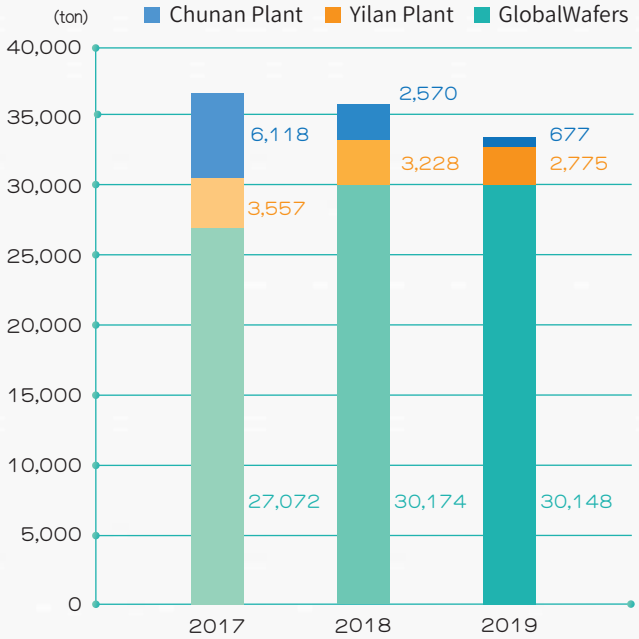
For the total waste treatment volume in Yilan Plant in 2018, there is around 50% calcium fluoride sludge. Hence, how to reduce the calcium fluoride sludge is our primary task for waste reduction. In 2019, we adopted optimized waste water treatment method in Yilan Plant 1 to test the reduction performances of calcium fluoride volume. Major optimization measures include: 1. Extend waste water reaction time, regularly calibrate detection electrode to effectively control the dosing volume of calcium carbonate to avoid overdose; 2. Regularly replace and clean the filter cloth of the dryer to increase drying efficiency and reduce water content of the sludge; 3. Dry the temporary stored sludge to further reduce its water content. Through the optimization measures, calcium fluoride sludge produced from each unit product in Yilan Plant 1 in 2019 has lowered 1.52% compared to 2018. In addition, we planned to launch optimized waste water treatment measures parallelly in Yilan plant 3 in 2020 to reduce the calcium fluoride sludge.

Our business wastes have been reduced gradually during the three most recent years. In particular, the reduction amount was most significant in Chunan plant. The year 2018 is the cold winter for solar energy industry. SAS followed the market to adjust its production capability and products. In 2018, SAS cancelled Chunan branch company plant 1 and Yilan branch company plant 2. In addition, DW wafer was introduced in Chunan plant to replace SW wafer. By adopting this measure, the use of supporting agent and the production volume of waste cutting oil (soil) can be greatly reduced. In 2019, the solar energy market continued to shrink. Hence, we proactively transformed our sales strategies. Chunan factory has taken on the silicon material application products as its core and adjusted its production capacity so that the grinded waste water volume (sludge produced from treating waste water) and waste production volume of crucible were greatly reduced.

For our total output volume of business wastes from sites in Taiwan, general business wastes accounted for 98.9% (10,626.46 tons), hazardous business wastes accounted for 1.1% (118.43 tons). Among them, the method that applied the most on general business wastes in order are reuse 69% (7,358.88 ton), physical treatment 9% (928.54 tons); for the method that applied the most on reuse (56%, 66.76 tons) , followed by incineration treatment (20%, 23.78 tons).

No major instances of leakage in all factories and no major instances of violations by commissioned waste treatment (and re-utilization) contractors were reported in 2019.

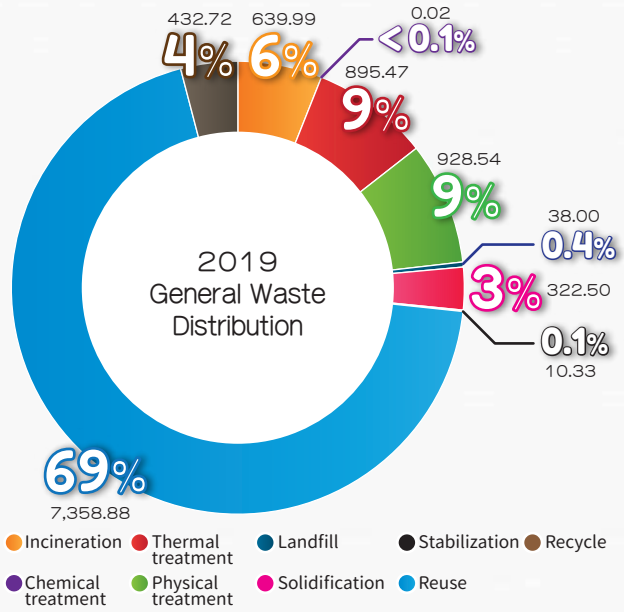
Waste Output Quantity



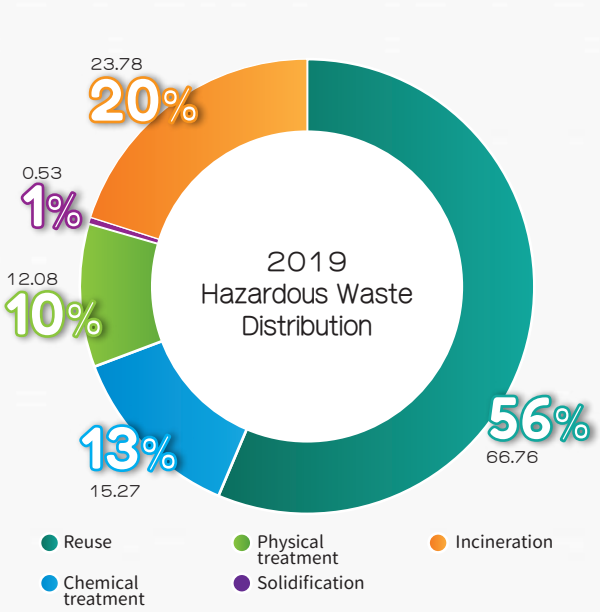
Note: 1. The calculation scope in 2017 covered Chunan Branch (Plant 1 and Plant 2) ,Yilan Branch (Plant 1, Plant 2, and Plan 3) and GlobalWafers.
2. In 2018, the Chunan Branch Plant 1 and the Yilan Branch Plant 2 were cancelled. Starting from 2018, the calculation scope covered Chunan Branch (formerly Plant 2), Yilan Branch (Plant 1 and Plant 3) and GlobalWafers.

Treatment Amounts for Industrial Waste Respective Treatment Measures in Taiwan

Unit: ton



Unit: ton



Note: 1. The calculation scope covered Chunan Branch (Originally as Plant 2) ,Yilan Branch (Plant 1 and Plant 2) and GlobalWafers(GlobalWafers' Headquarter and Chunan Plant;Taisil).
2. Data filing is submitted in accordance with the "Industrial Waste Report and Management Data System" by the Environmental Protection Administration.

05 Friendly Workspace

Chapter 5 Friendly Workspace

Material Topics

Friendly workplace, Staff training

Significance to SAS

SAS values its employees as its important asset and provides them with an excellent and comprehensive benefits system, abides by all regulations and stipulates a host of work systems and governing guidelines in compliance with labor laws, as well as respecting employees' consent regarding labor service provision, never imposing forced or compulsory provision of labor services. The company builds a friendly work environment for its employees to ensure workplace safety. It cares about the physical and mental health and work-life balance of its employees. It provides an all-round diverse learning environment for the staff members to grow continuously.

Management Mechanism

- Establishment of an Employee Benefits Committee and active pursuit of more benefit measures for employees such as group insurance policies, monitoring meals, staff outings, and year-end banquets.
- In line with the new policy in the Labor Standards Act, we amend our leave system and management mechanism accordingly and sign labor agreements with our employees. Workers will not be forced or mandated to provide labor services.
- The Company has introduced the occupational health and safety management system (ISO 45001)focusing on social expectations, managerial and staff participation. Occupational health and safety (OHS) is no longer regarded as an independent operation but has to be viewed from the angle of operation soundness and sustainability.
- Training plans for the following year are formulated by various departments in line with the company operation goals, department KPI, and competency demands. At the end of each quarter, reviews and assessments to the status of the goals. The results of these reviews and assessments serve as a key reference for courses which assistant needed improvements.

2019 Key Achievements

- 100% Concern and follow-up monitoring of special groups
- 0 increase of occupational injuries ≤0 (excluding traffic accidents)
- Walking stairs were added in Yilan Plant for the condensation water towers to enhance patrol safety.

Future Goals

- Establish respiration protection program
- Labor-saving devices were established in poly-crystalline cutting station in Chunan Plant to reduce muscular and skeletal injury risks on employees.
- Achieve attendance rate of 85% for the general education courses in Yilan Plant
- Achieve execution rate of 100% for the education training program in Chunan Plant
- Achieve 100% in concerning and follow-up monitoring of special groups
- Over 10 health management courses in Chunan Plant

5.1 Talents Recruitment and Human Resources

SAS stands with the spirit of respect for the labor rights of its employees and equal employment opportunities. During the recruitment and hiring process, the company does not adopt any discriminatory decisions that have a negative impact on employment, salaries, promotions, and rewards based on ethnicity, skin color, age, gender, sexual orientation, gender identity and expression, race or nationality, disability, pregnancy, religious beliefs, political affiliation, group backgrounds, veteran status, protected gene information, or marital status. The company also provides fair, equal, and safe employment opportunities and environments and widely recruits professional talents of varied gender, age, experience, and expertise with the goal of becoming a further innovative and competitive enterprise.

In 2019, Headquarter, Chunan and Yilan Branch of SAS plus GlobalWafers had employed a total of 7,574 full-time employees, and 845 full-time employees in SAS(Headquarter, Chunan branch and Yilan Branch). In terms of gender, male and female employees accounted for 75.5% and 24.5% of the total workforce, respectively. In terms of age, employees aged under 30, between 30 and 50, and over 50 made up 24.4%, 72.2%, and 3.4% of the total workforce, respectively. The average age of employees was 38.

Based on work localities, the majority of the company's employees work in the Yilan Plant (81.1%), followed by Chunan (14.5%) and Hsinchu (4.4%).

Based on work characteristics, employees can be further divided into direct personnel (68.9%) and indirect personnel (31.1%). In terms of employment types, SAS solely employs full-time personnel and does not hire any part-time or temporary workers. In terms of employment contracts, employees on fixed-term contracts and non-fixed term contracts account for 16.4% and 83.6% of the total workforce, respectively. In terms of education level, bachelor above degree account for 75.1% of all employees.

2017~2019 Staff Structure Analysis

Manpower Structure \ Year		2017		2018		2019	
		SAS	GWC	SAS	GWC	SAS	GWC
Gender	Male	1,207	5,268	693	5,371	638	5,145
	Female	394	1,637	226	1,737	207	1,584
Formal/ Informal	Formal (general employee)	1,601	6,175	919	6,558	845	6,286
	Informal (dispatched worker、part-time worker)	0	730	0	550	0	443
By Job Offer	Permanent	1,380	5,814	791	6,324	706	6,054
	Temporary (Contract Employee)	221	361	128	784	139	675
Area	Taiwan	1,601	1,584	919	1,660	845	1,590
	Foreign	0	5,321	0	5,448	0	5,139
Subtotal		1,601	6,905	919	7,108	845	6,729
Total			8,506		8,027		7,574

Hiring of Local Personnel and Disabled Persons

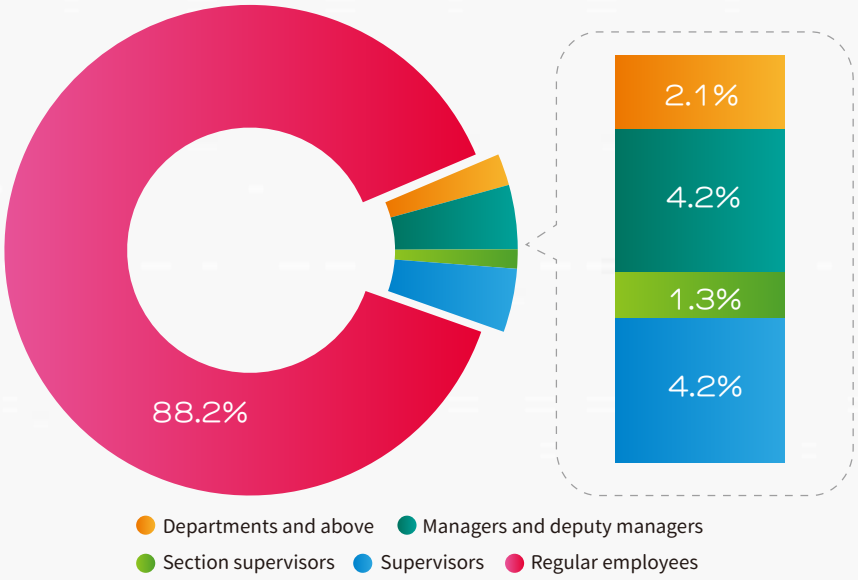
Based on social concern principles, SAS has set up employment routes to support employment of the mentally and physically challenged. In 2019, the company employed a total of 11 mentally and physically challenged employees, accounting for 1.3% of the total workforce. SAS strictly abides by all national laws and regulations governing the hiring of the mentally and physically challenged. In addition, SAS also provides job opportunities to local residents. By end of 2019, the local hires accounted for 70.7% of the total workforce.

Note: 1. Data provided by the headquarter, Chunan Branch and Yilan Branch of SAS.
2. "Local" means the employee is located in the same city according to his/her registered household location as the factory where he/she served.

Executives

In terms of managerial positions, the company has a total of 287 executives, of which 75.6% are male and 24.4%, female. In terms of managerial levels, the company has 51 high-ranking executives (i.e., division managers or above), 103 managers and assistant managers, 31 directors and 102 section chiefs.

Level	SAS (The Headquarter, Chunan Branch and Yilan Branch)				GlobalWafers' Sites in Taiwan (The Headquarter and Chunan Branch of GWC and Taisil)				Total			
	Male	Female	Total	Percentage	Male	Female	Total	Percentage	Male	Female	Total	Percentage
High-ranking Executives	10	3	13	1.5%	35	3	38	2.4%	45	6	51	2.1%
Managers and Assistant Managers	26	6	32	3.8%	50	21	71	4.5%	76	27	103	4.2%
Directors	5	2	7	0.8%	17	7	24	1.5%	22	9	31	1.3%
Section Chief	12	7	19	2.2%	62	21	83	5.2%	74	28	102	4.2%
General Employee	585	189	774	91.6%	989	385	1374	86.4%	1574	574	2148	88.2%
Total	638	207	845	100.0%	1153	437	1590	100.0%	1791	644	2435	100.0%



In 2019, the number of new recruits in the headquarter, Chunan Branch and Yilan Branch of SAS plus GlobalWafers' sites in Taiwan was 237. Broken down by gender, male new recruits accounted for 6.9% of total workforce, and female new recruits, 2.8%. Broken down by age, new recruits aged under 30 made up 4.9%, followed by those aged between 30 and 50, accounting for 4.7%. By end of 2019, the number of new recruits remaining in service was 175. When employees submit their resignation, the HR department will immediately schedule a resigned interview to understand reasons for the resignation. This also enables the HR department to provide active assistance in adjustments and detailed explanations regard to work contents, personal characteristics, and identified problems to achieve the goal of talent retention. In addition, when there are vacancies in the corporate group (including solar power business group and semiconductor business group), the Company will notify all plants in priority for internal recruitment. For those willing to transfer positions, human resources will help arranging interview and subsequent transfer matters after obtaining the approval from the unit executive.

2017-2019 New Recruits Statistics Analysis

Year		2017										2018										2019									
Region		Yilan		Chunan		Hsinchu		GWC (Taiwan Area)		Total		Yilan		Chunan		Hsinchu		GWC (Taiwan Area)		Total		Yilan		Chunan		Hsinchu		GWC (Taiwan Area)		Total	
Gender	Age	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%
Male	< Age 30	240	7.5%	33	1.0%	0	0.0%	134	4.2%	407	12.8%	10	0.4%	13	0.5%	2	0.1%	45	1.7%	70	2.7%	57	2.3%	0	0.0%	1	0.0%	24	1.0%	82	3.4%
	Age 30~50	121	3.8%	17	0.5%	0	0.0%	110	3.5%	248	7.8%	15	0.6%	6	0.2%	6	0.2%	98	3.8%	125	4.8%	39	1.6%	0	0.0%	1	0.0%	44	1.8%	84	3.4%
	≧ Age 50	0	0.0%	0	0.0%	0	0.0%	5	0.2%	5	0.2%	0	0.0%	0	0.0%	2	0.1%	5	0.2%	7	0.3%	0	0.0%	0	0.0%	1	0.0%	1	0.0%	2	0.1%
Female	< Age 30	79	2.5%	7	0.2%	1	0.0%	37	1.2%	124	3.9%	5	0.2%	1	0.0%	3	0.1%	17	0.7%	26	1.0%	6	0.2%	0	0.0%	3	0.1%	28	1.1%	37	1.5%
Region	Age 30~50	43	1.4%	3	0.1%	2	0.1%	32	1.0%	80	2.5%	4	0.2%	3	0.1%	7	0.3%	36	1.4%	50	1.9%	9	0.4%	1	0.0%	3	0.1%	17	0.7%	30	1.2%
Gender	≧ Age 50	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.0%	1	0.0%	2	0.1%
Total		483	15.2%	60	1.9%	3	0.1%	318	10.0%	864	27.1%	34	1.3%	23	0.9%	20	0.8%	201	7.8%	278	10.8%	111	4.6%	1	0.0%	10	0.4%	115	4.7%	237	9.7%

2017-2019 Resigning Employees Statistics Analysis

Year		2017										2018										2019									
Region		Yilan		Chunan		Hsinchu		GWC(Taiwan Area)		Total		Yilan		Chunan		Hsinchu		GWC(Taiwan Area)		Total		Yilan		Chunan		Hsinchu		GWC(Taiwan Area)		Total	
Gender	Age	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%	No. of people	%
Male	< Age 30	120	3.8%	52	1.6%	9	0.3%	47	1.5%	228	7.2%	89	3.5%	109	4.2%	4	0.2%	55	2.1%	257	10.0%	57	2.3%	2	0.1%	1	0.0%	48	2.0%	108	4.4%
	Age 30~50	113	3.5%	83	2.6%	2	0.1%	58	1.8%	256	8.0%	114	4.4%	226	8.8%	8	0.3%	52	2.0%	400	15.5%	64	2.6%	29	1.2%	3	0.1%	64	2.6%	160	6.6%
	≧ Age 50	2	0.1%	4	0.1%	0	0.0%	9	0.3%	15	0.5%	3	0.1%	11	0.4%	2	0.1%	9	0.3%	25	1.0%	0	0.0%	3	0.1%	1	0.0%	3	0.1%	7	0.3%
Female	< Age 30	56	1.8%	14	0.4%	0	0.0%	23	0.7%	93	2.9%	29	1.1%	24	0.9%	0	0.0%	14	0.5%	67	2.6%	15	0.6%	2	0.1%	2	0.1%	22	0.9%	41	1.7%
	Age30~50	47	1.5%	13	0.4%	3	0.1%	34	1.1%	97	3.0%	47	1.8%	79	3.1%	4	0.2%	22	0.9%	152	5.9%	14	0.6%	11	0.5%	5	0.2%	39	1.6%	69	2.8%
	≧ Age50	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	0.1%	2	0.1%	2	0.1%	7	0.3%	13	0.5%	0	0.0%	1	0.0%	1	0.0%	3	0.1%	5	0.2%
Total		338	10.6%	166	5.2%	14	0.4%	171	5.4%	689	21.6%	284	11.0%	451	17.5%	20	0.8%	159	6.2%	914	35.4%	150	6.2%	48	2.0%	13	0.5%	179	7.4%	390	16.0%

Note: The percentage of new recruits and resigning employees is measured against the total workforce at the end of the said year, and covered GlobalWafers' sites in Taiwan and Chunan Plant as well as Taisil.

5.2 Remuneration and Benefits

Remuneration Policies

SAS offers competitive salaries (including fixed salaries and holiday bonuses) to attract and retain outstanding talents. Annual salary adjustment standards are formulated based on the company's operational performance, salary adjustment range of the entire industry, consumer price indices, and employee performance. In addition, compensation is provided in accordance with the profitability of the company to increase employee cohesion, motivate employees to exceed annual business goals, create profits, and share joint achievements. Promotion recommendations are submitted on an annual basis based on work performance and contribution appraisals.

No. of full-time employees, average salary, and median salary of the personnel with positions not as managerial officers in 2019.

Item		SAS(The Headquarter, Chunan Branch and Yilan Branch)			GlobalWafers(The Headquarter and Chunan Plant)		
		2018	2019	Deviation from the preceding year	2018	2019	Deviation from the preceding year
Personnel with positions not as managerial officers	Full-time employees (no. of people)	1,261	796	-36.9%	576	601	4.3%
	Average salary (NT$1,000)	662	786	18.7%	1,409	1,489	5.7%
	Median salary (NT$1,000)	NA	768	NA	NA	1,460	NA

Note:
1. "Full-time Employees" refer to those whose work hours reach the regular number as required by the company or by the law. In cases of non-regulated work hours, the average weekly work hours exceed 35 hours.
2. "Positions not as managerial officers" refers to all employees except those with positions as managerial officers or part-time employees and those satisfied to be exempted from the statistics. "Executive Positions" refer to company managers in accordance with the application scope of "Managers" as defined by governing authorities: presidents and their equivalents, vice presidents and their equivalents, assistant managers and their equivalents, financial department directors, accounting department directors and other position holders entitled to manage company affairs and sign on behalf of the company Consistent with the boundaries of the internal reporting personnel (managers) and annual report disclosure (as managers) at shareholders meetings.
3. "Salary" refers to the employees' remuneration of the year, which adopted calculation basis as the duties occurred, including regular salary (basic wage and the fixed allowance and bonus paid monthly), overtime salary (regardless of tax or no tax) and non-regular salary (allowance, bonus, employees' remuneration which are not distributed on a monthly basis, etc.).
4. The statistical concepts (average no. of employees each month) of weighted average in the aforementioned no. of employees are different from the no. of employees in section 5.1 (on-the-job employees as of 12/31 during the year).

Leave System

SAS provides a leave system and defined work systems and management guidelines in accordance with the Labor Standards Act. Regarding working hour policies, the company strictly abides by the requirement of imposing two rest days within every seven working days. Of which, one is a fixed day off and the other, a flexible rest day. The company also signs contracts with its employees and respects the employee's willingness to provide labor services. Workers will never be threatened or forced to provide labor services through any illegal means. The HR system allows our staff members to check on personal attendance records and remaining leave hours to ensure their rights and interests regarding working hours and leave.

Insurance and Pension System

In addition to the health and insurance policies as legally required, SAS also provides group insurance for every employee exceeding the benefits set forth in labor laws. Insurance policies include term life insurance and other accident insurance for accidents, air travel accidents, severe burn injuries, as well as limited medical insurance and hospitalization insurance. The goal is to provide comprehensive protection measures and to minimize personnel losses.

For workers who meet the regulations of the old labor pension system, SAS offers a 2% monthly contribution deposited in a pension fund account in the Bank of Taiwan. At yearend, sufficient pensions funds were deposited to ensure the rights and interests of our retired employees. For employees who meet the criteria of the new pension system, a 6% monthly contribution is deposited in the employee's labor pension account.

Unpaid Child Care Leaves

SAS employees are entitled to unpaid childcare leaves. Employees with a minimum of six months in service may apply for unpaid childcare leaves to take care of children under the age of three. A total of 78 staff members applied for such leaves b etween 2017 and 2019 in the headquarter, Chunan Branch and Yilan Branch.

Execution Results of Unpaid Child Care Leave Application

Item	Gender	Total Number/Ratio		
		2017	2018	2019
Total employee staff number eligible for unpaid childcare leave	Male	182	87	54
	Female	66	44	11
Total number of employees who actually took unpaid childcare leave	Male	13	11	3
	Female	23	23	5
Total number of reinstated employees upon the expiration of their childcare leaves	Male	13	5	7
	Female	16	17	15
Total number of employees who actually resumed their duties upon the expiration of their childcare leaves	Male	10	3	0
	Female	13	7	6
Ratio of employees who resumed their duties upon the expiration of their childcare leaves (reinstatement rate)	Male	76.9%	60.0%	0.0%
	Female	81.3%	41.2%	40.0%
Total number of employees still in service 12 months after expiration of their unpaid childcare leaves	Male	1	5	2
	Female	7	6	7
Ratio of employees still in service 12 months after expiration of their unpaid childcare leaves (retention rate)	Male	50.0%	50.0%	66.7%
	Female	100.0%	46.2%	100.0%

Note: GlobalWafers, our subsidiary, did not collect this data. Therefore, the disclosed figure didn't include GlobalWafers, and will included GlobalWafers afterwards.

Employee Meals

SAS provides free meals for its employees during working hours at staff restaurants. The goal is to provide a comfortable dining environment and diverse meal choices to cater to staff members' different culinary demands. A restaurant monitoring task force has been established to ensure the meal quality and nutritional value and implement staff health and catering controls.

Employee Benefits Committee

The SAS Employee Benefits Committee was established in 1988 to actively strive for employee benefits and welfare measures, including emergency relief to help those in face of drastic changes in life to survive the hardship. Cash compensation is also given to those newly married, giving birth, and processing funerals employees. Festival and birthday gifts in the form of cash, education scholarships, illness & hospitalization subsidies, concessions in designated shops are also provided, plus regular outings, yearend parties, and sponsorship for social welfare organizations, sporadic family days, to which all staff members and their families are invited in order to build cohesion and identification with the company. The Company also established employee clubs to enhance the physical and mental health of our colleagues, advocated proper recreations, exerted teamwork, cultivated the spirit of mutual assistance and the exchange of feelings between colleagues.

Promotional poster for staff family day

5.3 Education and Training

All-Round Learning Environment

SAS organizes annual training courses and provides an all-around, diversified learning environment to enhance employee skills and literacy, optimize the use of human resources, and ensure continued personal development. Training plans for the following year are formulated by various departments in line with the company operation goals, company, department KPI, and competency demands. At the end of each quarter, reviews and assessments of goal achievement status are conducted with regard to courses offered in the said quarter. The results of these reviews and assessments serve as a key reference for improvements for upcoming courses. The SAS training system encompasses the following five categories: competency training for new recruits, professional competency training, general management competency training, intellectual property training, and health and safety management training. This system provides suitable training courses for employees in their different stages of career development.

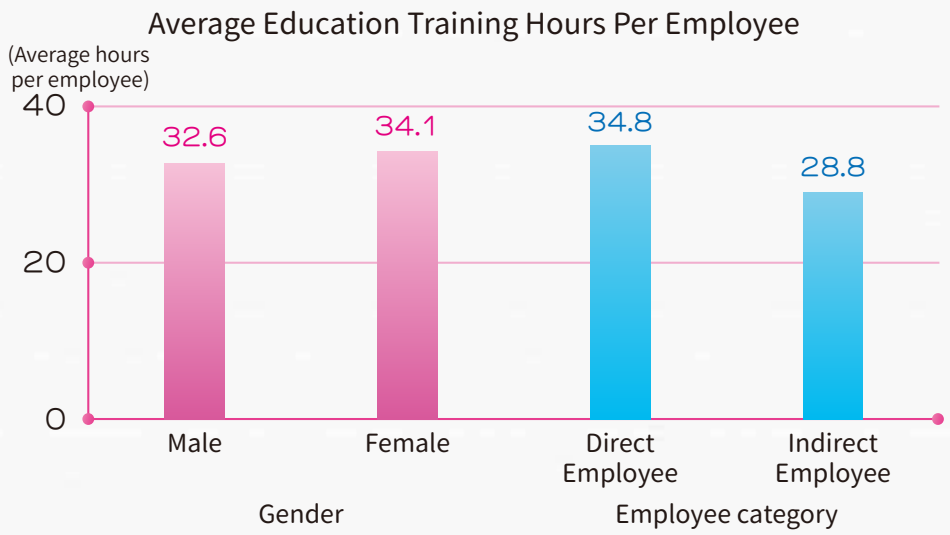
SAS has established an “E-Library Academy” to allow employees an opportunity to read and review training materials at any time. The stored data covers a wide range of diverse topics, easily accessible to busy staff members, thereby creating a reading culture in the company. The Academy also offers training materials for every professional field, allowing employees interested in cross-disciplinary learning an opportunity for self-study and rapid personal growth. SAS believes that continuous learning leads to continuous improvements in overall company operational performance. In 2019, SAS invested a total of 100,065 training hours. Divided by gender, male and female employees received an average of 32.6 and 34.1 training hours, respectively. In terms of employee types, direct personnel and indirect personnel receives an average of 34.8 hours and 28.8 hours, respectively.

2017 - 2019 Employees Receiving Education Training and Hours

Item	Sites	2017	2018	2019
Training Hours	Headquarter, Chunan Branch and Yilan Branch	34,594.5	15,629.5	27,848.0
	GlobalWafers	75,133.0	79,462.0	72,217.0
	Total	109,727.5	95,091.5	100,065.0
Amount of Participate Employees	Headquaryer, Chunan Branch and Yilan Branch	1,601	919	845
	GlobalWafers	6,905	7,108	6,729
	Total	8,506	8,027	7,574
Average Training Hours Per Employee in SAS and GWC (hr/person)		12.90	11.85	13.21

2017 - 2019 Number of Employees Receiving Education Training and Hours(Headquarter, Chunan Branch and Yilan Branch)

Training Type	2017				2018				2019			
	Number of Sessions	Number of People	In Session Total Hours	Total Instruction Hours for the Entire Company	Number of Sessions	Number of People	In Session Total Hours	Total Instruction Hours for the Entire Company	Number of Sessions	Number of People	In Session Total Hours	Total Instruction Hours for the Entire Company
Competency training for new recruits	124	548	815.5	3,609.0	36	71	235	478.5	42	121	270.0	799.0
Professional competency training	1,673	30,865	3,546.0	29,156.0	706	6,851	2,384	12,042.5	1,495	32,248	2,065.5	23,158.5
General management competency training	134	1,396	253.5	1,829.5	226	2,201	411	3,108.5	210	2,370	387.5	3,890.5
Total	1,931	32,809	4,615.0	34,594.5	968	9,123	3,030	15,629.5	1,747	34,739	2,723.0	27,848.0



Note: 1. Date collected from the Headquarter, Chunan Branch and Yilan Branch.
2. Direct Personnel: Operation personnel directly engaged in production related operations, including those engaged in technological tasks and team leaders in production sites.
3. Indirect Personnel: Personnel not directly engaged in production related tasks, including management, product design staff, accounting staff, procurement staff, engineers and so on.

Talent Cultivation

SAS highly values research and development and is committed to the cultivation of industry and academic talents. In addition to organizing campus lectures with the goal of introducing current and future trends of the solar energy industry and providing students with assistance in their planning of future careers, the company also offers internship opportunities and plans factory visits for related academic departments and institutes. These activities allow students to gain an early understanding of workplace environments and career planning through shared experiences and exchanges with SAS workers. To deepen the links between the company and university campuses and pave way for long-term cultivation of future talents, SAS sets up an industry-academia collaboration mechanism for students to fuse the theoretical knowledge learned in the classroom with practical work and provide them with internship opportunities prior to officially entering a workplace, thereby increasing their competitiveness in the job market.

5.4 Friendly Workspace

SAS firmly embraces the concept of "Workplace Health and Safety". In addition to strict compliance with occupational health and safety laws and other relevant legal requirements, the company is committed to organizational operations and staff participation. The company also continues to provide optimized resources for health and safety facilities improvements in the plants in accordance with the nature and risks of the organization to prevent injuries and hazards. The ultimate goal is to safeguard the health and safety of employees, contract workers, and relevant third parties.

5.4.1 Safe Work Environment

Occupational Health and Safety Management System

We have introduced the occupational health and safety management system (ISO 45001: 2018), with heightened focus on stakeholder expectations and managerial and staff participation. Occupational health and safety (OHS) is no longer regarded as an "independent operation" but has to be viewed from the angle of sound operation and sustainability. We adheres to the provision of safe and healthy work environments and modified pollution prevention and occupational hazards eradication, while conducting counselling with workers and their representatives, with the entire workforce made aware of individual liabilities and engaged in the environmental health and safety activities.

Occupational Health and Safety Organization

All SAS plants convene quarterly meetings of OHS committees. The President or Vice Presidents in the plants are appointed to oversee the meetings as the chairman. Also present throughout the meetings are all department supervisors and labor representatives. Discussions cover OHS related matters including OHS management plans, operational environment monitoring/improvements/ strategies, OHS training/ audits/management appraisal, accident prevention and education as well as and health management and promotion. Meeting deliberations are recorded, implemented, and improved with continuous tracking.

Labor Representatives Ratio in the Occupational Safety Committee

Sites / Function	SAS		GWC(Taiwan Area)	
	Chunan Branch	Yilan Branch	GWC	Taisil
Labor representative	7	5	20	32
Committee members	17	14	7	19
Ratio	41 %	36 %	35%	59%

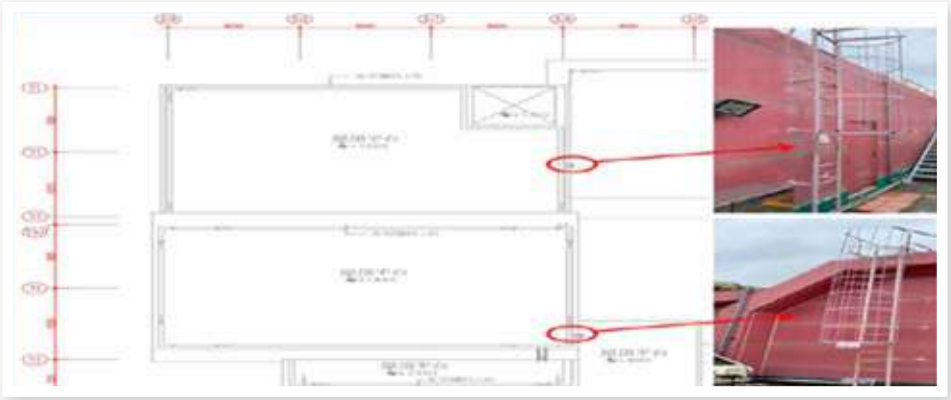
Note: Ratio = No. of labor representative / Total no. of committee members x 100%

Occupational Hazards Management

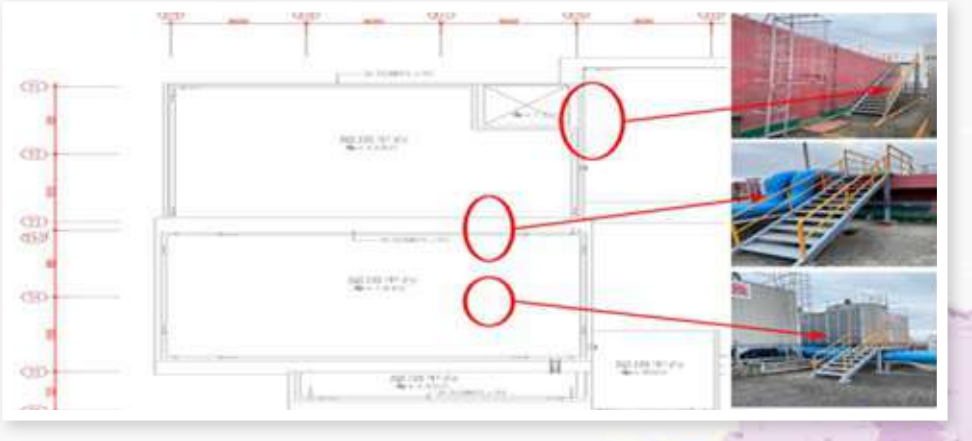
SAS is fully aware of the importance of workplace safety. Hence, SAS has promoted the activity of "Everyone's attention on engineering safety is our safety culture" and emphasized on the importance of discipline and employee autonomous management. Employees are encouraged to actively report false alarm incidents and watch out for each other regarding workplace safety. The goal is to continuously strengthen employees' safety awareness and enhance workplace safety.

On the roof of the Yilan Plant III, there were originally 2 ladders for the two zones with different heights. However, considering the convenience and potential safety risks during patrol, SAS established 3 new work ladders in 2019 to reduce the operational risks during patrol and provide employees with friendly work environment.

Original 2 ladders were established on the roof of the plant



SAS established 3 new work ladders



Contractor Management

SAS cooperates with a huge number of contractors in an effort to spur the industry development. We have formulated clearly defined contractor management guidelines to safeguard the health and safety of our partners and fulfill our pledge to provide a safe and healthy work environment.

When signing contracts with contractors, we request that they comply with OSH related laws and regulations and abide by relevant requirements of the company regarding personnel qualifications, construction work, machine tools and materials, and safety equipment. Accident occurrence rates are minimized through a series of management measures including pre-contracting and pre-construction hazard notices, construction application management by responsible units, access controls for contractors, management of construction operations, and post-construction verification in addition to sporadic on-site audits by health and safety management personnel in plant areas.


Contractors' Toolbox Meeting

Emergency Response Management

When emergency accidents occurred, it is often that there is no sufficient time to decide who shall be responsible to do what, how to do, how to obtain support from the externals. However, it will lead to serious consequences if effective control measures were not done within a short period of time. Hence, we have planned the emergency response drill for the potential emergency situation in accordance with the hazard identification and risk evaluation results for the operations in the plant so that the familiarity and safeness for first-timing rescue on site could be enhanced and the loss in personnel, equipment and properties could be reduced when accidents occurred. In 2019, we completed 3 emergency response drill for chemical leak (SiH4, Ammonia, strong acid leak) and whole-factory evacuation drill. The goal is to familiarize colleagues on responsibilities division, response procedure, evacuation flow, review the on-site drill results and revise the emergency response plan and the appropriateness of the process and equipment (facilities) in the workplace.





Whole-factory evacuation drill




Emergency response drill for chemical leak

Occupational Hazard Management

SAS constantly organizes training activities and has established an accident reporting and investigation mechanism to maintain a safe and healthy workplace. Accident causes must be analyzed. and adequate preventive measures must be taken. We utilize Disabling Frequency Rate (FR) and Disabling Severity Rate (SR) as defined by the Ministry of Labor as key indicators for the assessment of safety and health management efficiency to achieve continuous improvements in safety and health performance. No occupational fatalities or diseases were reported in 2019. Occupational injuries were mostly caused by broken objects, fell, bumping, being caught (pinched) by objects. With regard to the contracts, no disabling injury in the SAS plants or occupational fatalities occurred in 2019.

2017~2019 Disabling Frequency Rate (F.R) and Disabling Severity Rate (S.R)

Item	Region	2017			2018			2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Numbers of People that Has Occupational Injury	Hsinchu	0	0	0	0	0	0	0	0	0
	Chunan	6	0	6	3	1	4	0	0	0
	Yilan	4	0	4	4	1	5	4	0	4
	GWC	14	1	15	24	7	31	17	2	19
	Total	24	1	25	31	9	40	21	2	23
Numbers of Lost Working Days(Days)	Hsinchu	0	0	0	0	0	0	0	0	0
	Chunan	281	0	281	28	9	37	0	0	0
	Yilan	130	0	130	54	5	59	16	0	16
	GWC	550	17	567	601	205	806	545	5	550
	Total	961	17	978	683	219	902	561	5	566
Total Working Hours (Hr)	Hsinchu	50,272	38,024	88,296	47,064	38,456	85,520	36,024	43,296	79,320
	Chunan	971,040	264,000	1,235,040	661,216	186,136	847,352	242,192	49,808	292,000
	Yilan	1,296,488	464,640	1,761,128	1,292,680	434,520	1,727,200	1,005,432	358,464	1,363,896
	GWC	9,396,250	2,673,488	12,069,738	9,323,233	2,756,332	12,079,565	9,074,710	2,643,485	11,718,195
	Total	11,714,050	3,440,152	15,154,202	11,324,193	3,415,444	14,739,637	10,358,358	3,095,053	13,453,411
Disabling frequency rate (F.R)	Hsinchu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Chunan	6.33	0.00	4.95	4.54	5.37	4.72	0.00	0.00	0.00
	Yilan	3.11	0.00	2.30	3.09	2.30	2.89	3.98	0.00	2.93
	GWC	1.49	0.37	1.24	2.57	2.54	2.57	1.87	0.76	1.62
	Total	2.05	0.29	1.65	2.74	2.64	2.71	2.03	0.65	1.71

Item	Region	2017			2018			2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Disabling severity rate (SR)	Hsinchu	0	0	0	0	0	0	0	0	0
	Chunan	296	0	232	42	48	44	0	0	0
	Yilan	101	0	75	42	12	34	16	0	12
	GWC	59	6	47	64	74	67	60	2	47
	Total	82	5	65	60	64	61	54	2	42
Occupational disease rate (ODR)	Hsinchu	0	0	0	0	0	0	0	0	0
	Chunan	0	0	0	0	0	0	0	0	0
	Yilan	0	0	0	0	0	0	0	0	0
	GWC	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0

Note: 1. Disabling Frequency Rate (FR) = total number of disabled employees × 10^6 / Total work hours
2. Disabling Severity Rae (SR) = Total number of workdays lost to injuries × 10^6 / Total work hours
3. Occupational disease rate (ODR) = Total cases of occupational disease × 200,000 / Total work hours
4. The occupational statistics disclosed in 2017 and 2018 corporate social responsibility report are the total data of the headquarters and the branch offices. In addition to the total data, we also listed the occupational data at each zone this year, which shall not affect the statistical results during the past years.

2018~2019 Absence Statistics Analysis

Year	Region	2018			2019		
		Male	Female	Total	Male	Female	Total
Absence rate (AR)	Hsinchu	0.66%	0.99%	0.83%	0.26%	0.58%	0.44%
	Chunan	2.44%	3.74%	2.68%	0.69%	0.31%	0.63%
	Yilan	4.70%	6.34%	5.10%	1.99%	4.19%	2.52%
	GWC	1.55%	3.40%	1.97%	1.68%	3.03%	1.99%
	Total	1.87%	3.68%	2.29%	1.69%	3.09%	2.01%

Note: 1. Absence rate (AR)= Total days of absence / Total working days x 100%
2. Definition of absence: Sick leaves (menstrual leaves), personal leaves, occupational injury leaves, and absenteeism excluding granted vacations, maternity and paternity leaves, and bereavement leaves.
3. GlobalWafers' statistics in 2017 didn't categorized into different gender. For consistency of information, in this report we do not reveal absenteeism rates for 2017.
4. 2018 corporate social responsibility report are the total data of the headquarters and the branch offices. In addition to the total data, we also listed the attendance rates at each zone this year, which shall not affect the statistical results during the past years.

5.4.2 Healthy Workplace

The physical health of employees is a key factor for the maintenance of work-life balance. Exceeding legal requirements, SAS has hired general practitioners to provide free on-site services including health consultation, guidance, and assessment, as well as follow-up tracking health issues, referrals, and medical services. In addition, SAS is committed to the three pillars of maternal care, prevention of ergonomic hazards and prevention of burnout. The company safeguards the physical and mental health of our staff members through a wide range of health care initiatives, sporadic health talks, and health promotion activities in an effort to create a blissful and healthy work environment.

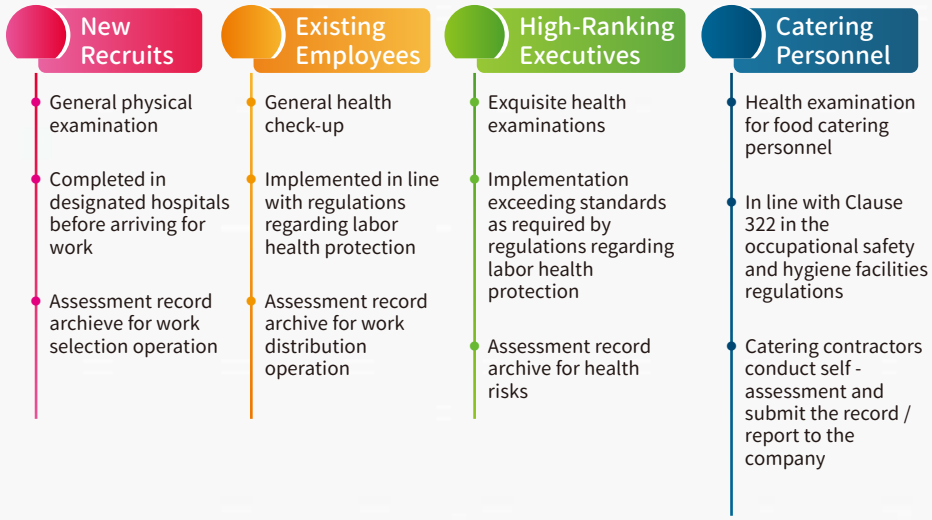
The Four Pillars of Health Protection

Pillars	Execution Direction	Achievements in 2019
Maternity care	Assessment of health risks is conducted for female employees during pregnancy, after childbirth, and prior to return to the workplace. The mental and physical health of pregnant, postpartum, and breastfeeding employees is guaranteed via the provision of consultation and concern.	First-level management: 10 people Second-level management: 0 people Health risk assessment completion rate: 100%
Prevention of burnout	Based on employee health examination data, Framingham Risk Scores and burnout scale, high-risks groups are screened and identified. Workplace physicians are arranged to give consultations and health guidance with follow-up tracking and concern. Meanwhile, department supervisors are notified for stringent control and management of their work hours so as to prevent occurrence of employee burnout.	Tracking management: 24 people
Prevention of unlawful violation	To provide a healthy and positive workplace, we conduct a risks assessment for the entire factory once every two years. Positivity courses like unlawful violation and spiritual growth are arranged to construct an excellent work environment.	Seminars on topics as in prevention against workplace violence, prevention against sexual harassment, interpersonal relationship.
Prevention of ergonomic hazards	We conduct ergonomic hazard risks surveys on all departments based on their work content/operation. Operation observation, personnel interviews and medical treatment record investigation are conducted to screen and identify priority improvement targets (operation). Next, based on their operation hours, loading of weight, postures and work conditions, a quantitative risk assessment is in place for the risk grade calculation (KIM) to gradually improve the operation/construction by the year and to prevent the ergonomic hazards.	Risk assessment on ergonomic hazards: 3 cases

Note: Data collected from the Headquarter, Chunan Branch and Yilan Branch.

Health Promotion and Reinforcement of Health Concepts

SAS embraces the concept of diversified employee health care. Analysis of health data is carried out annually based on employee health check reports. Annual health management plans that meet relevant needs and cover planning of improvements are formulated to maintain employees' physical health. In addition, SAS carries out customized health checks taking in consideration of various physique of different operating personnel. Health check items and frequency exceed legal requirements and are combined with free cancer screening (colon cancer, cervical cancer, mammography, and oral cancer) in conjunction with hospital services to maintain a firm grasp of employee health conditions without any oversights. Upon completion of health check operations, professional on-site medical personnel will conduct follow-up tracking regarding abnormal results. This data serves as a key reference for health improvement activities and health promotion initiatives.



SAS organizes a wide range of health promotion activities including vision care, blood donation, first aid training, bone mineral density tests, health seminars and weight-loss activities. In 2019, a total of 6,041 employees participated in these training courses. In addition, information related to health and major diseases is shared to raise employees' health awareness and provide information on weight management. The company also provides free influenza vaccination and comprehensive inoculation consultation for its employees to protect them from contracting contagious diseases (e.g. influenza) and other illnesses. Convenience of employee vaccination inside plants is enhanced and a safety protection network is established to guarantee employee health.

2017~2019 Health Promotion Activities

Unit: Persons

Year	2017	2018	2019
SAS (Headquarter, Chunan Branch and Yilan Branch)	1,419	1,587	1,485
GWC (Taiwan Area:The Headquarter and Chunan Branch of GWC and Taisil)	2,311	4,443	4,556
Total number of people	3,730	6,030	6,041

The health center utilizes annual health check and incoming employee data in conjunction with work burnout questionnaire and working time analysis results to identify medium- and high-risk groups. Health management measures such as one- on-one counseling with physicians, individual health education guidance, and work pattern adjustments are adopted to minimize risks for identified groups. Furthermore, convenient blood pressure self-check stations have been established in the company to allow employees to measure their blood pressure in a convenient manner. Health education related information is posted in offices to reinforce self-health care awareness among employees.

To ensure workplace environmental safety, there have been installations of 24-hour Automated External Defibrillators (AED) inside the factories and arranged for factory employees to attend CPR + AED education training so as to equip them with basic first-aid capabilities which can thus be applied on the site of incidents in a bid to construct a workplace conducive to employees health and safety. We are honored with the special safe workplace certification of safe workplace by the Ministry of Health and Welfare.

Safe places

CPR + AED first-aid training

Prevention against workplace violence / prevention against sexual harassment courses

Interpersonal relationship/distance of art courses

Bone mineral density test

Vision care activities

Weight-loss competition activities

Weight-loss competition activities

Tracking and Concern for Special Groups

The SAS health center aims to gain a better understanding of groups with abnormal results in physical exams, e.g., new recruits, high-risk groups, and maternity health protection groups. In addition, the company would arrange for consultations with physicians, depending on individual needs, as well as expressing concern and psychological support.

The company will also provide concern and psychological support for staff suffering from occupational injuries or traffic accidents. Depending on individual needs, counseling is also provided by visiting professional physicians to facilitate an early return to their posts. For lingering cases, RPNs will provide continued tracking and concern through phone calls and report the recovery status of each case to unit supervisors.

2017 – 2019 Special Groups Tracking and Numbers of Service Sessions

Number of Service Sessions	2017	2018	219
Yilan Plant	366	171	322
Chunan Plant	1077	829	269
Hsinchu Plant	29	21	43
Total number of people	1472	1021	634

Number of People in Special Groups Being traced	2017	2018	2019
Yilan Plant	112	67	28
Chunan Plant	419	34	21
Hsinchu Plant	8	2	5
Total number of people	539	103	54

Note: GlobalWafers, our subsidiary, did not collect this data. Therefore, the disclosed figure didn't include GlobalWafers, and will included GlobalWafers afterwards.

Safe and Healthy Workplace

SAS has designated parking spaces for expectant mothers to provide a convenient and safe work environment for our female employees during pregnancy. The company also supports breastfeeding and has therefore established nursery rooms in its plants to provide breastfeeding mothers with a worry-fee and comfortable space. SAS also offers childbirth subsidies and exclusive concessions for SAS employees at designated child-care centers and kindergartens to provide worry-free childcare services to SAS employees while they are at work.

In addition, we have planned theme health promotion activities, health seminar, consultation from the doctors served at the plant according to the statistical analysis based on the health examination results. Moreover, with the combination of medical and health care services in the employee clinic at Hsinchu Science Park, we promoted the preventive healthcare and disease prevention and strengthen the health awareness of our colleagues. The health promotion contents we promoted in 2019 include weight loss and fitness, four cancer screening and lung cancer screening, injection of flu vaccine and vision care. Various seminars and activities regarding the aforementioned themes were held to provide current health knowledge and concepts to our colleagues.

We put extensive attention on the control and management of epidemic infectious disease, established a complete disease prevention system and stipulated an active report system for infectious disease to maintain various normal business operations. Moreover, we provided employees with prompt epidemic information regarding the foreign and domestic epidemic situation irregularly and also announced them on our internal website in order to remind our colleagues to enhance personal sanction and knowledge for disease prevention. We hold free flu vaccination activities in the plant each year to enhance flu immunity of employees. Furthermore, for our colleagues going on business trips, we provided them with "disease prevention bag for business trip" for them to carry with them at all times; and meanwhile, we provided them with the outbreak situation of the their trip destination and the health care promotion for disease prevention to ensure that colleagues on business trips are free from disease threats.

In 2019, we were even honored with the certificate "Disease Prevention Envoys" from Taiwan Immunization Vision and Strategy.

Physical and Mental Balance and a Blissful Workplace

SAS views its employees as its key assets. Only with healthy employees can we raise the corporate productivity. As such, besides a firm commitment to providing a safe, healthy, and friendly workplace, the company organizes several staff outings through its Benefits Committee on an annual basis. These outings will hopefully replenish employees' energy and build team cohesion. Family members are encouraged to participate in these outings for employees to bond and build a strong rapport amongst themselves, to show concern for family members after work hours, and to enhance work-life balance.

SAS listens to the voice of its employees. Various channels such as labor-management consultation meetings, employee suggestion boxes, OSH committees, meetings on the old pension system, and a staff benefits committee allow employees to freely express their views and opinions. Employees are able to fully express their opinions via meeting exchanges and discussions. This enables an effective bidirectional communication channel between the labor and the management, rendering win-win results for both parties. In addition, the HR Department sends out electronic weekly newsletters containing articles, columns, English learning sections, and events and health information. These newsletters provide employees with new knowledge and an opportunity to participate in internal and external events. This also enables employees to achieve a work-life balance and maintain their physical and spiritual health while performing their work duties.

SAS also appoints dedicated management personnel who help facilitating the work and daily lives of foreign blue-collar migrant workers. Annual activities are organized to show constant concern for the foreign staff members and to understand their needs and problems so as to conduct timely communication and assistance for them to enjoy work and lead a happy life in Taiwan.

5.5 Social Participation

Since 2003, compassionate manufacturers in the Hsinchu Science Park have been organizing Christmas gift collection activities on Christmas Eve to fulfill the dreams of underprivileged children. SAS continues to promote this Dream Fulfillment Activity in cooperation with Accton Cultural & Educational Foundation. These little gifts help fulfill the dreams and desires of these children. We are all Santa Clauses who can spread hope and love to these children. Each year, our employees have all taken part in the gift sponsorship activities with great enthusiasm. Over the years, a great number of Christmas gifts have been given to children in remote areas and social welfare organizations through the platform of this activity. In addition, we even extend our colleagues' gratitude by donating the same monetary money converted from the amount of moon cakes donated by our colleague. We gathered everyone's love and conveyed to the minority groups. In 2019, we started to proactively contact remote elementary schools, Huashan Social Welfare Foundation and World Vision International (Taiwan) to understand the resources they required and provided appropriate assistance to improve the living inconvenience of elementary schools and the new year festival dinner for elderly who lived alone.

Welfare activity outtake of SAS and its subsidiaries in Taiwan

SAS 中美矽晶製品股份有限公司
Sino-American Silicon Products Inc.

Outtake of gather love, happy blood donation activities

Blood donation activities held by the health center each year, society care, advocate on “A bag of blood saves a person’s life, share your passion, extend the love”.

GRI Guideline Index

Index No.	Description	Corresponding Chapters	Page No.	Note / Reasons for Non-Disclosure	External Guarantee / Assurance
Organizational Profile (Core Selection)					
102-1	Organization name	About the company -Company profile	09		◎
102-2	Activities, brand, products, and services	About the company - Company profile -Market and product services	09 10		◎
102-3	Headquarters location	About the company - Company profile	09		◎
102-4	Operation site	About the company - Company profile	09		◎
102-5	Nature of ownership and legal form	About the company - Company profile	09		◎
102-6	Markets served	About the company - Company profile -Market and product services	09 10		◎
102-7	Organization scope	About the company - Company profile	09		◎
102-8	Employees and other works' data	5.1 Talent recruitment and human resources	51		◎
102-9	Supply chain	3.5 Up- and down-stream supply chain	39		◎
102-10	Organization and major changes in its supply chain	About the company - Company profile	09	There are no major changes in organization and supply chain in 2019.	◎
102-11	Precaution principles or guidelines	2.4 Risk management	31		◎
102-12	External advocacy	–	–	Not attending relevant advocacy.	◎
102-13	Association membership status	About the company - Participation in external associations	12		◎
Strategy (Core Selection)					
102-14	Decision maker disclaimers	Message from the chairman	07		◎
Ethics and Integrity (Core Selection)					
102-16	Values, principles, standards, and conduct guidelines	2.2.2 Ethics and integrity	26		◎

Index No.	Description	Corresponding Chapters	Page No.	Note / Reasons for Non-Disclosure	External Guarantee / Assurance
Governance (Core Selection)					
102-18	Governance structure	About the Company 2.1 Sustainable organization 2.2.1 Corporate governance framework	09 22 23		◎
Stakeholders Communication (Core Selection)					
102-40	Stakeholders group	1.1 Stakeholder identification	15		◎
102-41	Group agreement	–	–	There are currently no union organizations. Therefore, no employees have signed group agreements.	◎
102-42	Identification and selection of stakeholders	1.1 Stakeholder identification	15		◎
102-43	Guidelines for communication with stakeholders	1.2 Stakeholder communication and response 3.2 Customer and product services	15 37		◎
102-44	Identified material aspects and boundaries	1.3 Identification and analysis of material aspects	16		◎
Report Profile (Core Selection)					
102-45	Content in consolidated financial report	About this report	01		◎
102-46	Defining report content and topic boundaries	1.3 Identification and analysis of material aspects	16		◎
102-47	Listing of material aspects	1.3 Identification and analysis of material aspects	16		◎
102-48	Information re-compiling	About this report	01		◎
102-49	Report change	About this report	01		◎
102-50	Reporting period	About this report	01		◎
102-51	Date of the previous report	About this report	01		◎
102-52	Reporting cycle	About this report	01		◎
102-53	Contact person able to answer questions regarding the report	About this report	01		◎
102-54	Announcement of compliance with GRI report principles	About this report	01		◎
102-55	GRI guideline index	GRI guideline index	67		◎
102-56	External guarantee / assurance	Verification disclaimer	73		◎

Index No.	Description	Corresponding Chapters	Page No.	Note / Reasons for Non-Disclosure	External Guarantee / Assurance
Category: Economy					
Economic Performance (Material Aspect – Operation Performance)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 2 governance and operation	16 20		◎
201-1	Direct economic value generated and distributed by organizations	2.3 Operation performance	29		◎
201-2	The financial impact, other risks, and opportunities that climate change caused on organizational activities	2.4 Risk management	31	Other risks caused by climate change on organizational activities are illustrated, but the financial impact is not yet quantified.	◎
Anti-Corruption (Material Aspect – Integrity / Anti-Corruption)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 2 governance and operation	16 20		◎
205-1	Operation bases that have conducted corruption risks assessment	2.2.2 Ethics and integrity	26		◎
205-2	Communication and training regarding anti-corruption policies and procedures	2.2.2 Ethics and integrity	26		◎
205-3	Confirmed incidents of corruption and action taken	2.2.2 Ethics and integrity	26		◎
Category: Environment					
Materials (Material Aspect -Energy Resources Consumption and Reduction)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 4 sustainable environment	16 41		◎
301-1	The weight and volume of all raw materials	4.1.1 Raw materials management	42		◎
301-2	Renewable materials used	4.1.1 Raw materials management	42		◎
Energy (Material Aspect - Energy Resources Consumption and Reduction)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 4 sustainable environment	16 41		◎
302-1	Energy consumption quantity within the organization	4.1.2 Energy management	42		◎
302-3	Energy intensity	4.1.2 Energy management	42		◎
302-4	Reduce energy consumption	4.1.2 Energy management	42		◎

Index No.	Description	Corresponding Chapters	Page No.	Note / Reasons for Non-Disclosure	External Guarantee / Assurance
Water (Material Aspect - Energy Resources Consumption and Reduction)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 4 sustainable environment	16 41		◎
303-1	Total volume water withdrawal by source	4.1.3 Water resources management	45		◎
303-2	Water sources distinctly affected by water withdrawal	4.1.3 Water resources management	45		◎
303-3	Total volume of water recycled and reused	4.1.3 Water resources management	45		◎
Discharge (Material Aspect - Energy Resources Consumption and Reduction, Greenhouse Gas Emission, Pollution Prevention)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 4 sustainable environment	16 41		◎
305-1	Direct (Scope 1) greenhouse gas emissions	4.1.2 Energy management	42		◎
305-2	Indirect energy (Scope 2) greenhouse gas emissions	4.1.2 Energy management	42		◎
305-5	Reduced greenhouse gas emissions	Message from the chairman 4.1.2 Energy management	07 42		◎
305-7	NOx, SOx, and other major gas emissions	4.2.1 Air pollution prevention	46		◎
Waste Water and Objects (Material Aspect – Waste Management and Pollution Prevention)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 4 sustainable environment	16 41		◎
306-1	Water discharge quantity classified by water quality and discharge destination	4.1.3 Water resources management 4.2.2 Water pollution prevention	45 47		◎
306-2	Waste classification by types and disposal methods	4.3 Waste management	47		◎
306-3	Severe spills	4.3 Waste management	47		◎
306-4	Waste transportation	4.3 Waste management	47		◎
306-5	Water bodies affected by discharged water or other discharges (on the ground surface)	4.2.2 Water pollution prevention	47	Waste water treated by in-plant waste water treatment system was directed into the sewage management of the science park / the Industrial Development Bureau and discharged after treated by the management unit. Hence, it had made smaller impact or influence on the water body or relevant habitats.	◎

Index No.	Description	Corresponding Chapters	Page No.	Note / Reasons for Non-Disclosure	External Guarantee / Assurance
Legal Compliance Regarding Environmental Protection (Material Aspect – Legal Compliance)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 2 governance and operation	16 41		◎
307-1	Environmental Protection Regulation Violation	2.2.4 Legal compliance	27		◎
Category: Society					
Labor-Management Relationships (Material Aspect)					
401-1	New recruits and resigning employees	5.1 Talent recruitment and human resources	51		◎
401-2	Benefits provided to full-time employees (excluding temporary and part-time employees)	5.2 Remuneration and benefits	54	The company allocates employees' remuneration in accordance with the company's profit status but did not distribute stocks to employees.	◎
401-3	Maternity leave	5.2 Remuneration and benefits	54		◎
Occupational Health and Safety (Material Aspect – Friendly Workspace)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 5 friendly workspace	16 50		◎
403-1	Representatives of occupational safety & health committees	5.4.1 Safe work environment	57		◎
403-2	Injury types; rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities	5.4.1 Safe work environment	57		◎
Training and Education (Material Aspect – Employee Educational Training)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 5 friendly workspace	16 50		◎
404-1	Average hours of training received by each employee per year	5.3 Education training	56		◎
404-2	Enhance employees' occupational competency and the number of transition assistance programs	5.1 Talent recruitment and human resources 5.3 Education training	51 56		◎
404-3	Percentage of employees regularly receiving performance and professional development appraisal	5.2 Remuneration and benefits 5.3 Education training	54 56		◎

Index No.	Description	Corresponding Chapters	Page No.	Note / Reasons for Non-Disclosure	External Guarantee / Assurance
Employee Diversity and Equal Opportunities					
405-1	Governing department and employee diversity	5.1 Talent recruitment and human resources	51	Undisclosed information about the board of directors	◎
405-2	Ratio of based salary and remuneration of women to men	5.2 Remuneration and benefits	54	No gender pay gap	◎
Customer Privacy					
418-1	Complaints verified to have violated customer privacy or lost customer data	3.3 Protection of confidential customer information	38	No complaints regarding customer privacy violation or customer data loss	◎
Compliance with Social Economic Regulations (Material Aspect)					
103	Management guidelines	1.3 Identification and analysis of material aspects Chapter 2 governance and operation	16 20		◎
419-1	Laws and regulations violating social and economic spheres	2.2.4 Legal compliance	27		◎

Verification Statement Issued by Independent Third-party

DNV·GL

Independent assurance statement

Scope and approach

Sino-American Silicon Products Inc. ("SAS" or the "Company") commissioned **DNV GL Business Assurance Taiwan** ("DNV GL") to undertake independent assurance of the 2019 Corporate Social Responsibility Report (the "Report") for the year ended 31 December 2019.

We performed our work using DNV GL's assurance methodology VeriSustain[TM], which is based on our professional experience, international assurance best practice including international Standard on Assurance Engagements 3000 (ISAE 3000) and the Global Reporting Initiative (GRI) Sustainability Reporting Standards.

We understand that the reported financial data and information are based on data from SAS's Annual Report and Accounts, which are subject to a separate independent audit process. The review of financial data taken from the Annual Report and Accounts is not within the scope of our work.

We planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance opinion. We are providing the evaluation of reporting principles and selected performance information with a Moderate level of assurance, according to the DNV GL VeriSustain[TM].

Responsibilities of the Directors of Sino-American Silicon Products Inc. and of the assurance providers

The Directors of SAS have sole responsibility for the preparation of the Report. In performing our assurance work, our responsibility is to the management of SAS; however, our statement represents our independent opinion and is intended to inform all of SAS stakeholders. DNV GL was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement.

We have no other contract with SAS and this is the 4th year that we have provided assurance. DNV GL's assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been provided in good faith. DNV GL expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

Basis of our opinion

A multi-disciplinary team of sustainability and assurance specialists performed work at headquarters and site level. We undertook the following activities:

- Review of the current corporate responsibility issues that could affect SAS and are of interest to stakeholders;
- Review of SAS approach to stakeholder engagement and recent outputs;
- Review of information provided to us by SAS on its reporting and management processes relating to the Principles;
- Interviews with selected Directors and senior managers responsible for management of corporate responsibility issues and review of selected evidence to support issues discussed;
- Site visited to the major production site at Chunan, and data checked from Ilan and include HQ, to review process and systems for preparing site level corporate responsibility data and implementation of corporate responsibility strategy;
- Review of supporting evidence for key claims and 2019 data in the report. Past two years' data reported in the report are not within the scope of our work. Our checking processes were prioritised according to materiality and we based our prioritisation on the materiality of issues at a consolidated corporate level;
- Review of the processes for gathering and consolidating the specified performance data and, for a sample, checking the data consolidation.
- An independent assessment of SAS's reporting against the Global Reporting Initiative (GRI) Sustainability Reporting Standards (Core Option).
- The verification was conducted based only on the Chinese version Report.

[1] The VeriSustain protocol is available on dnvgl.com

DNV·GL

Opinion

On the basis of the work undertaken, nothing came to our attention to suggest that the Report does not properly describe SAS's adherence to the Principles. In terms of reliability of the performance data, in accordance with Moderate level assurance requirements, nothing came to our attention to suggest that these data have not been properly collated from information reported at operational level, nor that the assumptions used were inappropriate.

Observations

Without affecting our assurance opinion we also provide the following observations.

- Besides questionnaire surveys, analysing the data/information from stakeholder communication to understand the needs and expectations of stakeholders is suggested.
- Strengthening the materiality assessment process by integrating the key issues raised from relevant management system, i.e., QMS, EMS, OHS and TIPS management system, etc.
- Standard process for collecting data/information from operation and conducting audit to verify the accuracy of the data/information to improve the data reliability and accuracy is suggested.

Stakeholder Inclusiveness
The Company has identified the expectations of stakeholders through internal mechanisms in dialogue with different groups of stakeholders. The stakeholder concerns are well identified and documented. The significant CSR issues identified through this process are reflected in the Report.

Sustainability Context
Corporate Social Responsibility Report provides an accurate and fair representation of the level of implementation of related Corporate Social Responsibility (CSR) policies, and meets the content requirements of the GRI Standards.

Materiality
The process developed internally has not missed out any significant, known material issues, and these issues are fairly covered in the Report. A methodology has been developed to evaluate the priority of these issues.

Completeness

The Report covers performance data against the GRI Standards core indicators that are material within the Company's reporting boundary. The information in the Report includes the company's most significant initiatives or events that occurred in the reporting period.

Accuracy and Reliability

The Company has developed the data flow for capturing and reporting its CSR performance. In accordance with Moderate level assurance requirements, we conclude that no systematic errors were detected which causes us to believe that the specified CSR data and information presented in the Report is not reliable.

For and on behalf of DNV GL Taiwan
Date: 12 May, 2020

Nasa Chen
Lead Verifier
DNV GL – Business Assurance Taiwan

David Hsieh
Sustainability Service Manager,
Greater China

Statement Number: 00004-2020-ACSR-TWN

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