2023

Solar Applied Materials Technology Corp.

ESG Report

SOLAR and Circular Economy

Company Profile

Established in 1978, Solar Applied Materials Technology Corporation (SOLAR) is the world's leading supplier of sputtering targets. Founded upon a platform of recycling and refining precious and rare metals, we are particularly focused on the research, development and manufacturing of high-value functional materials applied in data storage, optoelectronic displays and semiconductors. We expect to create value through innovation, and have made it our mission to develop critical materials in Taiwan. By integrating resources within the company, we built a complete and fast product development cycle and a business model in the circular economy. We are able to offer clients a total solution covering everything from the supply of raw materials, manufacturing of sputtering targets, component production and maintenance, recycling and refining, to management of precious and rare metals.

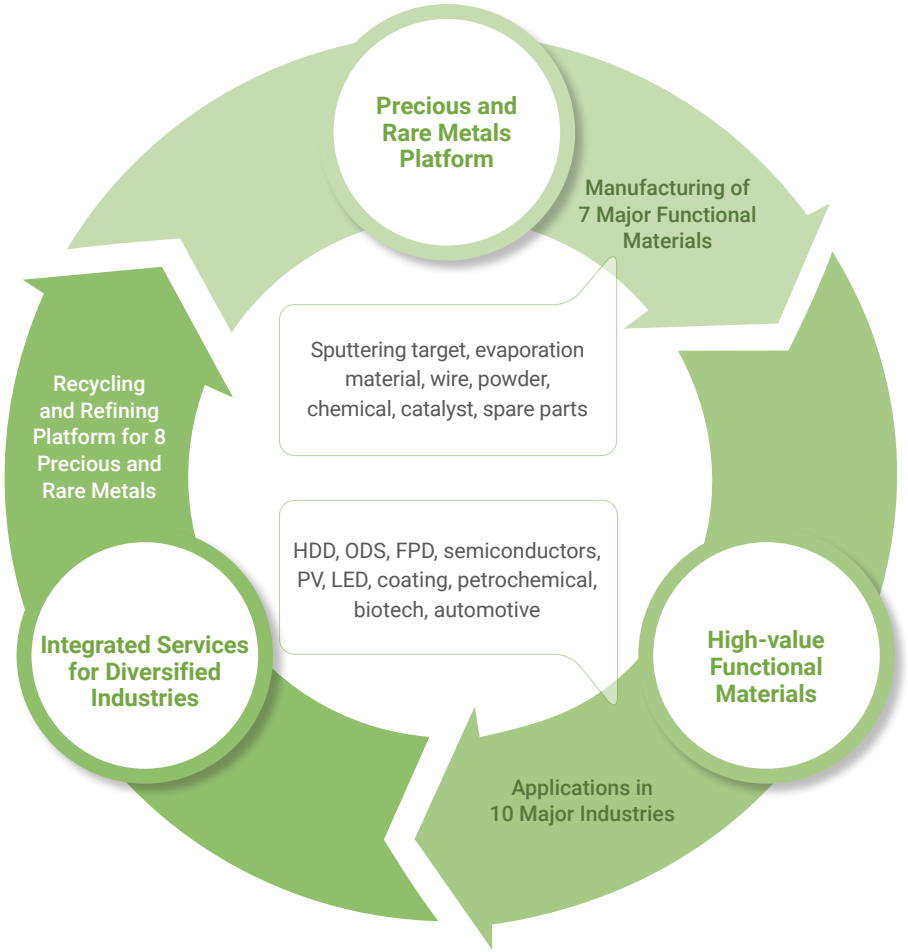
In terms of functional materials, SOLAR has developed over 3,000 alloys and 30 types of metal oxides with a combination of more than 50 elements. With extensive experience in material design, we offer products in the forms of thin-film sputtering target, evaporation material, wire, powder, chemical and catalyst. As for the recycling and refining of precious and rare metals, we have a competitive business model – our technology can raise the purity of waste materials to industrial grade 3N5 (99.95%). We also attained accreditation from the London Bullion Market Association (LBMA) in gold, silver and platinum bars. SOLAR offers recycling and refining services in five precious metals and three rare metals.

Additionally, SOLAR is actively involved in electronic waste recycling. We are dedicated to promoting a complete circular economy model for precious and rare metals, offering clients the solution to transform scraps into high-end materials. In 2019, we became the world's first sputtering target supplier to pass BS 8001 Circular Economy Certification with Level 4, the highest level. In 2020, four of our products were validated to UL 2809 Standard for Recycled Content, including potassium gold cyanide (PGC), evaporation slug, gold kilo bar and ITO sputtering target. In 2023, verification was also conducted for Potassium Silver Cyanide (PSC).

Circular Economy – Transforming Scraps into High-end Materials

With the vision of "Green, Value and Future" in mind, SOLAR recycles scraps of precious and rare metals, processing them into industrial-grade raw materials through proprietary refining and purification technologies. These refined materials are directly made into various industrial products for use by domestic and global clients, thus implementing the circular economy model of transforming scraps into high-end materials.

SOLAR's complete circular economy model for precious and rare metals



Carbon Emissions Reduced by Metals Recycling and Refining

Here at SOLAR, we believe in circular economy and urban mining. We extract precious and rare metals from electronic waste so that waste materials can be recycled and reused, thereby reducing dependence on imported resources, maximizing the use of resources, and reducing environmental impact created by resource exploitation. Our goal is to build a green circular economy. SOLAR regularly statistics on the recycled volumes of the top six metals. In 2023, the total recycled volumes of the six metals was approximately 219 tonnes. Regarding our recycled volumes in 2023, silver, platinum and ruthenium respectively reduced by 17%, 28% and 45% due to a reducing volume of imported materials. Palladium increased by 24% due to increase in waste liquid recycling.

Total amount of the top six metals recycled by SOLAR over the past three years

(unit: kilogram)

Material	Recycled Volume		
	2021	2022	2023
Gold (Au)	14,726	10,655	10,196
Silver (Ag)	169,499	134,486	111,712
Platinum (Pt)	4,552	5,286	3,800
Ruthenium (Ru)	14,513	14,534	7,973
Palladium (Pd)	484	421	521
Indium (In)	87,344	81,764	84,760
Total	291,118	247,146	218,962

Note: Recycled volume of silver (Ag) excludes the processing of imported materials from LBMA.

SOLAR recycled nearly 219 tonnes of precious and rare metals in 2023, and the recycled volumes of gold, silver, platinum, and indium was approximately 210 tonnes. Through data retrieved during 2023 and statistics collected from internal inventory, SOLAR proceeded the carbon footprint verification on these four recycled precious and rare metals and verified by BSI (impartial third-party). According to the result of verification, we conducted a differential analysis between greenhouse gas emissions generated by metals recycling and by mining. It shows that metals recycling generates much less carbon emissions than mining. The former reduces carbon emissions by 357 thousand tonnes per year, which is equivalent to the carbon footprint produced by 29,785 people in Taiwan. Our business model creates the double effect of reusing recycled resources and reducing carbon emissions. We will continue to focus on this aspect and work with our partners to facilitate a sustainable future.

Carbon emissions reduced by precious and rare metals recycling and refining of SOLAR

Mining

Urban Mining

Note 1: The annual amount of Taiwan's carbon emissions per capita reached approximately 12 tonnes

Note 2: The annual amount of carbon absorbed by Daan Forest Park reached approximately 389 tonnes

Note 3: The data represents the difference in carbon emissions generated by metals recycling and by mining

Metals recycling and refining reduce carbon emissions by

357 thousand tonnes per year

The recycled volumes of the four metal elements, Au, Ag, Pt, and In, was

210 tonnes in 2023

CO_2

Total Carbon Reduction

Equivalent to the annual amount of carbon footprint generated by

29,785 people in Taiwan

Equivalent to the amount of carbon absorbed by

919 parks of Daan Forest Park in Taiwan annually

Environment

Climate Adaptation

Under the impact of climate change, the world is increasingly facing severe climate disasters with affected regions and populations expanding gradually. Therefore, how to limit global warming to within 2˚C by the end of this century and take proactive actions is a common challenge for everyone. In response to international trends and stakeholders' concerns, SOLAR adopted the concepts and framework of the Task Force on Climate-related Financial Disclosures (TCFD) in 2022. By incorporating governance, strategy, risk management, and setting metrics and targets, SOLAR gradually assessed and clarified the risks and opportunities associated with climate change. Furthermore, SOLAR presented response to management measures to enhance the operational resilience.

Strategy

- Assessing the potential impact of climate change risk factors on the operational risks and opportunities of SOLAR
- Building renewable energy facilities to reduce greenhouse gas emissions
- Implementing energy management system to enhance energy efficiency in usage

Risk Management

Each functional unit manager will utilize the TCFD framework to identify and evaluate the risks and opportunities associated with climate change. Based on the types of risks and opportunities identified, the respective functional unit managers will be authorized to develop corresponding strategies, and they will integrate these strategies into daily risk management measures to enhance the operational resilience of SOLAR

Metrics and Targets

Carbon emissions management

- Since 2012, SOLAR implemented ISO 14064-1 (Scope 1, Scope 2). In 2022, SOLAR further added Scope 3 and received reasonable assurance from impartial third-party
- In 2023, SOLAR maintained the operation of the ISO 50001 energy management system and obtained third-party verification. A company-wide energy saving goal of 1% was established, and each department was asked to propose energy-saving plans for implementation
- In 2023, two product carbon footprints assessment were completed (self-inspected according to ISO standards), effectively capturing product carbon emission data, and continuously seeking improvement opportunities
- In 2023, SOLAR expanded its solar photovoltaic system in its plant areas continuously to promote renewable energy to reduce dependence on purchased energy and decrease greenhouse gas emissions

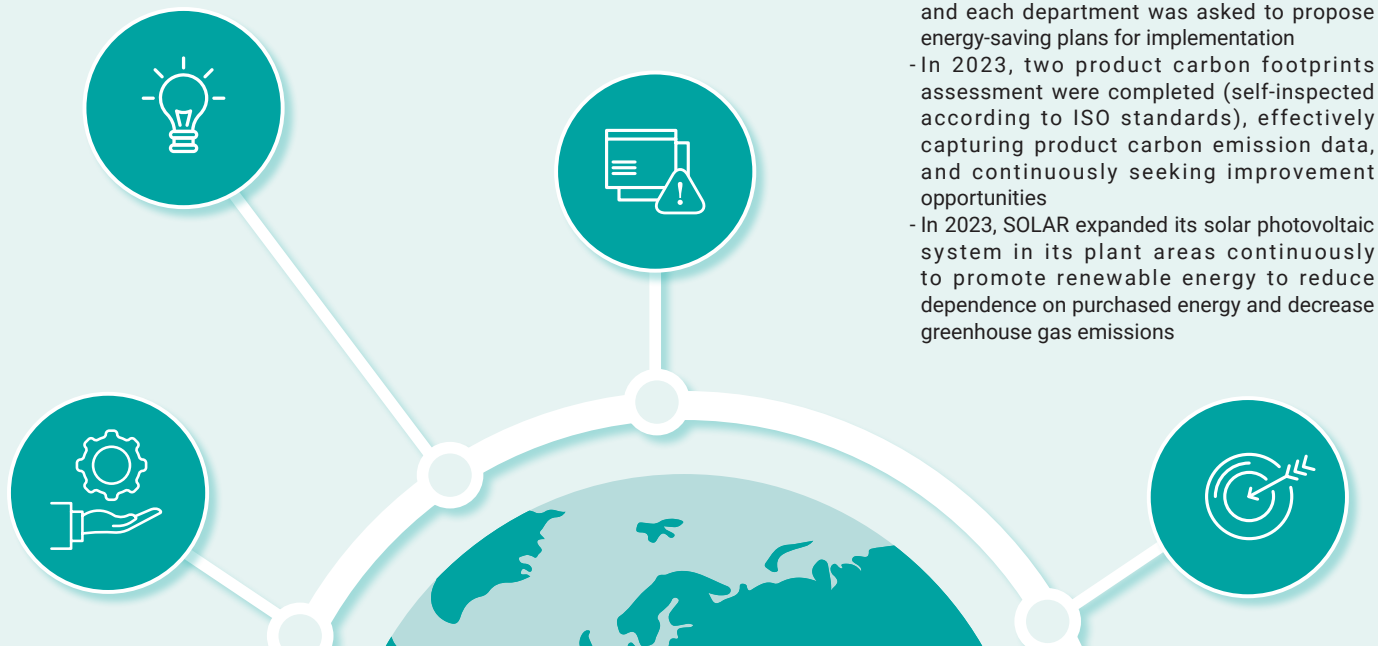
Governance

The supervision and management by the board of directors

- Regular reporting of progress and achievements to the board of directors
- Supervision and management are regularly conducted by directors with sustainable expertise

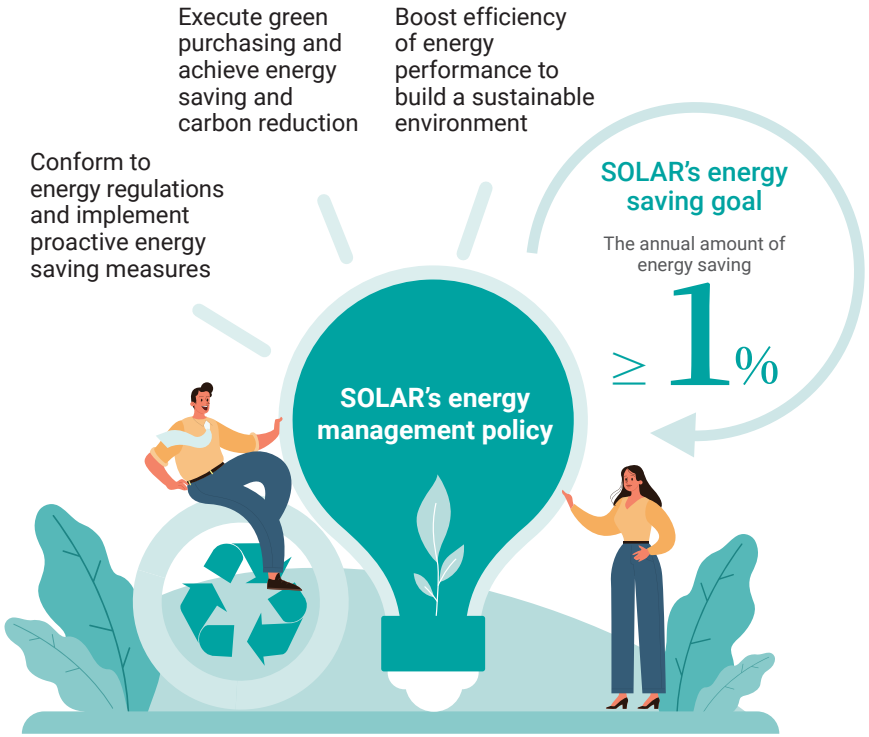
The supervision and management by the management team

- Establishing the Sustainable Development Committee, with President serving as the chairperson of the Committee, to provide guidance and supervision for sustainable promotion projects and strategic plannings
- Establishing a dedicated Sustainable Development Department responsible for driving ESG projects
- Conducting regular meetings to track the progress and outcomes of ESG projects
- Continuously monitoring international trends and external issues



Energy Management

In 2020, SOLAR began to introduce ISO 50001 energy management system in Guangxin Building in Solar Park. Due to the urgency and necessity of energy saving, In 2022, SOLAR expanded the sites of implementation of ISO 50001 energy management system, including three manufacturing sites in Taiwan (TTIP Plant, Solar Park, ESTP Plant), and we received reasonable assurance from SGS (impartial third-party). By inventorying significant energy-consuming equipment systematically, setting goals, proposing multiple energy saving action plans, reducing energy consumptions and improving the efficiency in energy usage to achieve the goal of energy saving.



Status of Energy Consumption

We mainly use non-renewable energy purchased externally. In 2023, SOLAR consumed 198,357GJ of purchased non-renewable energy (electricity) and 58,035 GJ of non-renewable energy (natural gas, gasoline and diesel), which totaled to 256,410 GJ of energy consumption.

▼ Energy consumption over the past three years

Category	unit	2021	2022	2023
Natural gas, gasoline and diesel (A) (Note 1)	kWh	18,773,056	22,058,611	16,120,869
	GJ	67,583	79,411	58,035
Purchased electricity (B) (Note 2)	kWh	59,471,382	59,853,860	55,099,082
	GJ	214,097	215,474	198,357
Total renewable energy (C)	kWh	458,960	385,308	320,182
	GJ	1,652	1,387	1,153
Sale of renewable energy (D)	kWh	458,960	385,308	315,232
	GJ	1,652	1,387	1,135
Total energy consumption (A+B+C-D)	kWh	78,244,349	81,912,471	71,224,901
	GJ	281,680	294,885	256,410

Note 1: Calculation of non-renewable energy = consumption * carbon emissions coefficient. We use the list of various energy commodities' heat values published by the Bureau of Energy, Ministry of Economic Affairs, to convert to carbon emissions coefficients (natural gas = 9.3; motor gasoline = 9.07; diesel = 9.77).
Note 2: Deduct electricity used for rented factory buildings
Note 3: 1 kWh =0.0036 GJ

In 2023, the energy consumption of SOLAR per NT$1,000 revenue was 0.03124 GJ which was higher than 2022. In the future, SOLAR expects to find out more opportunities for continuous improvement in energy saving by implementing ISO 50001 energy management system in three plants in Taiwan.. We aim to demonstrate achievements and benefits in energy management through the operation of the energy management system in the future, ultimately achieving energy consumption reduction and efficiency improvement in energy usage.

▼ Energy intensity over the past three years

Year	2021	2022	2023
Total energy consumption (GJ/year)	281,680	294,885	256,410
SOLAR's revenue (NT$1,000)	13,622,814	11,081,066	8,207,459
Energy intensity (GJ/NT$1,000)	0.02068	0.02661	0.03124

In response to Taiwanese government's sustainable environment policies, we have installed solar panels with a peak power of 836.82 kWp on the roofs of Solar Park and ESTP Plant and the parking lot of TTIP . Our PV system generated 385 thousand kWh of power and reduced 191 tonnes of carbon dioxide emissions in 2022, and generated 320 thousand kWh of power and reduced 158 tonnes of carbon dioxide emissions in 2023. Furthermore, we were planning to install more solar panels at the parking lot of Solar Park and replace the aging rooftop solar modules in Solar Park and ESTP to achieve more efficient solar power generation. The construction is scheduled for completion in 2024, after which it will be operational for electricity generation.

▼ Results of our rooftop solar panels over the past three years

Year	2021	2022	2023
Power generation (kWh)	458,960	385,308	320,182
Carbon reduction (tonne CO_2e/year)	234	191	158

Note: Solar power includes those generated by TTIP, Solar Park and ESTP Plant. Our carbon reduction data are calculated based on 2022 Electricity Carbon Emission Factor released by Taipower (0.509 kg CO_2e/kWh in 2021; 0.495 kg CO_2e/kWh in 2022; 0.494 kg CO_2e/kWh in 2023).

Greenhouse Gas Inventory and Management

Climate change is a pressing global concern. It affects a wide range of realms, including natural environment, global competition, economic development, etc. It is crucial to take actions to reduce greenhouse gas (GHG) emissions and combat climate change. In 2012, SOLAR introduced ISO 14064-1, International Standard for GHG Emissions Inventories and Verification, in order to understand GHG sources and emissions through annual internal inventory management and impartial third-party verification. ISO 14064-1 provides a reference for how much emissions should be reduced and how carbon reduction measures should be executed. SOLAR further added Scope 3 in 2021 to holistically examine GHG emissions by including the following categories: (a) indirect GHG emissions from transportation; (b) indirect GHG emissions from products used by organization; (c) indirect GHG emissions associated with the use of products from the organization. Additionally, SOLAR has started organizing employee trainings since 2020 to equip them with knowledge on GHG as well as carbon reduction goal and measures. This also demonstrates our determination in sustainable development.

Greenhouse Gas Emissions

SOLAR's GHG emissions mainly come from purchased power and stationary combustion, which account for 94% of total emissions. In 2023, our GHG emissions under Scope 1 and Scope 2 amounted to 32,942 tonnes of CO_2e, showing a year-over-year decrease of 21%. Our GHG emissions under Scope 3 amounted to 151,851 tonnes of CO_2e. Our data received reasonable assurance from BSI (impartial third-party) in 2024, as stated in the verification opinion statement.

▼ GHG emissions (under Scope 1 and 2) over the past three years

(unit: tonne CO_2e)

Scope	Category	2021	2022	2023
Scope 1	Stationary combustion	8,338	9,694	3,628
	Process emissions	0	0	0
	Mobile emissions	954	721	629
	Fugitive emissions	946	988	1,411
Scope 2	Indirect energy emissions	29,854	30,527	27,274
Total		40,092	41,930	32,942

▼ GHG emissions (under Scope 3) in 2023

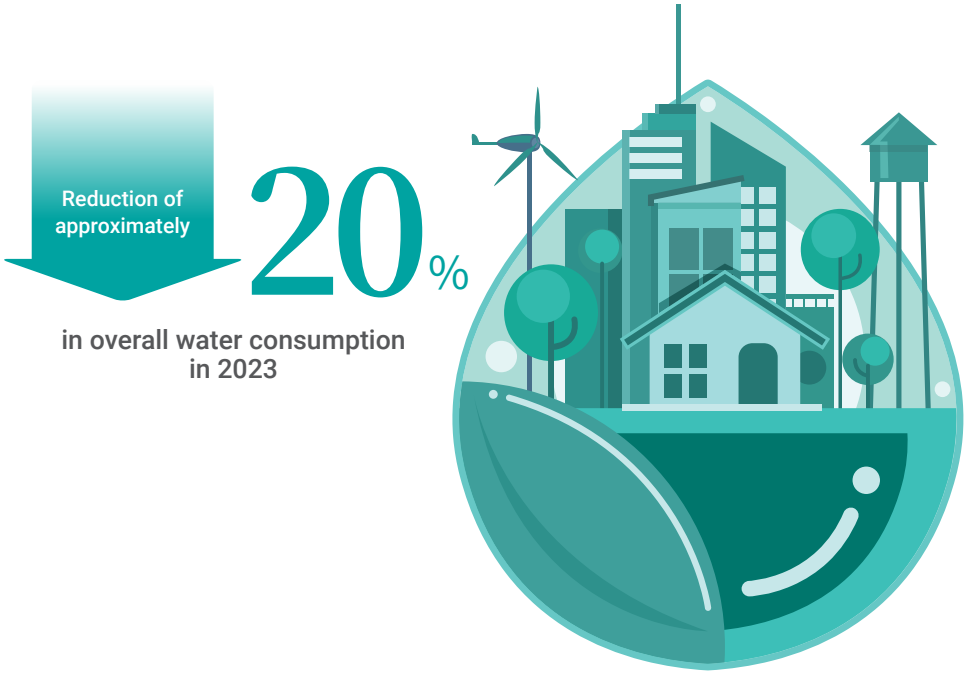
(unit: tonne CO_2e)

Category			Emissions
Category 3: indirect GHG emissions from transportation			
3.1	Emissions from upstream transport and distribution of goods	GHG emissions from transport of raw materials and consumables procured during the inventory period	290
3.2	Emissions from downstream transport and distribution of goods	GHG emissions from transport of products during the inventory period	-
3.3	Emissions from employee commuting	Employees commuting includes car, motorbike, etc.	886
3.4	Emissions from client and visitor transport	Client/visitor transport includes car, motorbike, public transport, etc.	-
3.5	Emissions from business travel	Business travel includes transport by land, sea and air (e.g., domestic travel by high-speed rail)	45
Category 4: indirect GHG emissions from products used by organization			
4.1	Emissions from purchased goods	Raw materials and consumables associated with plant production	136,497
		Purchased energy associated with production but excluding emissions categorized under Scope 1 and Scope 2	6,291
4.2	Emissions from capital goods	Equipment procured during the inventory period	-
4.3	Emissions from disposal of solid and liquid waste	Waste disposal inventory, such as annual disposal volume and transport of disposal (consumer waste, recycled products, etc.)	103
4.4	Emissions from the use of assets	Scope 1 and Scope 2 GHG emissions generated by assets leased from others, such as electricity, gasoline and diesel used at a rental property, during the inventory period	-
4.5	Emissions from the use of services that are not mentioned in the above subcategories	Emissions from the use of consulting, cleaning and maintenance services	-
Category 5: indirect GHG emissions associated with the use of products from the organization			
5.1	Emissions from the use of products	GHG emissions from the use of products that are manufactured during the inventory period (assumption)	-
5.2	Emissions from downstream leased assets	Scope 1 and Scope 2 GHG emissions generated by assets leased out to others, such as electricity, gasoline and diesel used at a leased property, during the inventory period	-
5.3	Emissions from end-of-life products	Waste generated after products are used, such as packaging material, during the inventory period	-
5.4	Emissions from investments	Electricity, gasoline and diesel used at investment locations	7,739
Category 6: other sources			
6.1	Others	Emissions from other sources	-
Total			151,851

Water Resources Management

Water is an indispensable substance to human survival. It is also an important lifeline to business operations. The lack of water resources has gradually become an important issue. SOLAR values water recourses management. We properly manage water intake and discharge of wastewater. In 2023, our water intake and wastewater discharge in Taiwan respectively reached 450.796 million liters and 239.131 million liters, with total water consumption of 211.665 million liters.

In 2023, the southern region of Taiwan faced a severe drought challenge. In response, SOLAR actively participated in the government's water conservation measures and promoted a wastewater diversion project in our factories. Through specialized diversion, it effectively treated and controlled water intake based on its different quality characteristics. Simultaneously, it reviewed the rationality of water usage in various processes to avoid unnecessary overuse. As a result, there was a significant reduction of approximately 20% in overall water consumption in 2023.



▼ Water consumption over the past three years

(unit: million liter (cubic meters))

Year	2021	2022	2023
Total water intake	436.702	562.858	450.796
Total water discharge	184.376	307.343	239.131
Total water consumption	252.326	255.515	211.665

SOLAR encourages operations personnel to propose water saving solutions. We built a wastewater treatment system dedicated to recycling and reusing water resources and improving water efficiency. Specifically, our system reclaims wastewater used during manufacturing process and recycles rainwater collected on site for use in tower washing or other purposes. We recycled 12,322 tonnes of wastewater in 2023.

▼ Water recycling and statistics over the past three years

(unit: tonne)

Year	2021	2022	2023
Reuse of effluent in manufacturing processes (Note1)	389	0	0
Rainwater recycling (Note2)	2,503	2,320	1,872
Reuse of wastewater from manufacturing processes (Note3)	0	0	0
Reuse of wastewater from back-end processes in tower washing (Note4)	287	0	0
Water reclaim system (Note5)	7,106	10,436	10,460
Total volume of recycled water	10,285	12,756	12,332

Note 1: Effluent recycling is mainly used in the incinerator dust wash-off process. We replace tap water with wastewater to save the cost and usage of tap water. Based on the kilogram of incinerator dust, we use 200 times as much wastewater to wash off dust (for example, 30kg incinerator dust * 200 times of wastewater = saving 6 tonnes of tap water = reducing the generation of 6 tonnes of wastewater).
Note 2: Statistics from the flow meters of rainwater harvesting tank
Note 3: Calculation = 15~20 batches are generated per month; the consumption of tap water per batch used to be 15~20 tonnes, but after improvement we saved around 1 tonne of tap water. By reusing 1 tonne of water, we can reduce the generation of 15~20 tonnes of wastewater per month.
Note 4: In the first round, each batch of powder needs to undergo 18 rounds of washing process with 60L of water added; in the second round, each batch of powder needs to undergo 3 times of washing process with 170L of water added. Calculation = (number of batches * number of washing in the first round * volume of water added) + (number of batches * number of washing in the second round * volume of water added).
Note 5: Water reclaim system in the wastewater treatment plant of Solar Park

Waste Management

We have waste management system in place for treating the waste generated by three plants. In 2023, 2,909.76 tonnes of waste were generated in Taiwan, of which 1,531.91 tonnes (52.65%) were recycled and reused. Among the non-hazardous waste, the total volume of solid waste was 2,015.574 tonnes, of which 1,073.84 tonnes were recycled and reused, and 100.81 tonnes were incinerated with energy recovery.

▼ Volume of waste generation over the past three years

(unit: tonne)

Type of waste		2021	2022	2023
Hazardous waste	Type A waste	52.58	49.98	68.59
	Type B waste	17.45	13.58	11.47
	Type C waste	695.36	459.65	254.95
	Subtotal	765.39	523.21	335.01
Non-hazardous waste	Type D waste	2,035.26	5,229.02	1,890.85
	Type E waste	77.90	112.69	65.16
	Type R waste	488.41	914.59	320.28
	Non-precious metal	426.40	281.48	298.46
	Subtotal	3,027.97	6,537.78	2,574.75
Total		3,793.36	7,060.99	2,909.76

Note: According to the Resource Circulation Administration Ministry of Environment 's waste and resource recycling code disclosure the output quantities for categories A, B, C, D, E, and R

▼ Volume of method of waste treatment over the past three years

(unit: tonne)

Type of waste		Volume of waste generation	Diverted from disposal			Directed to disposal				
			Recycling	Other recovery operations		Incineration (with energy recovery)	Incineration (without energy recovery)		Landfilling	Other disposal operations
			offsite	onsite	offsite	offsite	onsite	offsite	onsite	offsite
Hazardous waste	Type A waste	68.59	0	23.08	0	0	0	0	0	45.51
	Type B waste	11.47	0	7.77	0	0	0	3.70	0	0
	Type C waste	254.95	58.56	0.09	54.83	0	0	0	0	141.47
	Subtotal	335.01	58.56	30.94	54.83	0	0	3.70	0	186.98
Non-hazardous waste	Type D waste	1,890.85	167.27	283.50	272.27	100.81	2.15	202.93	385.47	476.45
	Type E waste	65.16	0	0	45.80	0	0	0	0	19.36
	Type R waste	320.28	174.34	0	145.94	0	0	0	0	0
	Non-precious metal	298.46	0	0	298.46	0	0	0	0	0
	Subtotal	2,574.75	341.60	283.50	762.47	100.81	2.15	202.93	385.47	495.81
Total		2,909.76	400.16	314.44	817.31	100.81	2.15	206.63	385.47	682.78

Social

SOLAR highly values the development and interests of our employees. We strive to build a workplace where safety, respect, ethics, equality and diversity are valued, enabling our employees to fulfil their potential and ambition here. We continue to work towards building a better, healthy, diverse and inclusive workplace to attract more talents. Our people are the core strength behind our sustainable operations.

Human Resources Policy

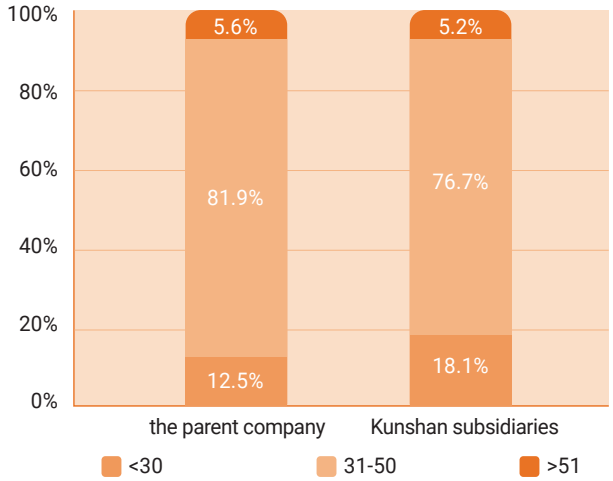
Our talent development mission is aimed at building the best team for each business unit to strengthen our competitive edge on a continuing basis through comprehensive selection, training, placement and retention of talents. In order to achieve organizational goal, we launched three phases of talent development (TD) strategies as follows: (a) three TD strategies from 2016 to 2018 for transformation during crisis; (b) five TD strategies from 2019 to 2021 for our return to glory; (c) eight TD strategies from 2021~2030 for a decade of prosperity. We continue to create value and empower our people to become more competitive through diversified talent development programs.

SOLAR has designed various management training programs that are in line with our talent development mission. Direct Labor focuses on skill training and certification, while InDirect Labor keep on developing expertise. Supervisory personnel strengthen their capabilities through new-generation management and TWI (Training Within Industry) courses. Additionally, the training blueprint includes digital and ESG (Environmental, Social, and Governance) skills from 2023 to facilitate the company's dual-axis strategy of digital and zero-carbon transformation.

Workforce Structure and Composition

As of the end of 2023, SOLAR has 1,487 employees, with 1,063 employees in the parent company and 424employees in Kunshan subsidiaries. In terms of age distribution, early adulthood constitutes the primary workforce – employees in both the parent company and Kunshan subsidiaries aged between 31 and 50 account for 81.9% and 76.7%, respectively. Employees below the age of 30 account for 12.5% and 18.1%, respectively. Employees above the age of 51 account for 5.6% and 5.2%, respectively.

▼ Age distribution of our employees



Workforce structure and composition

Note1 : As of December 31, 2023, SOLAR has 1063 employees in the parent company and 424 employees in Kunshan subsidiaries.
Note2 : All employees of Solar are Full-time employees.

Region	Category	Group	Female		Male		Total	
			Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Taiwan	Age	<30	24	2.3%	109	10.3%	133	12.5%
		31-50	198	18.6%	672	63.2%	870	81.9%
		>51	10	0.9%	50	4.7%	60	5.6%
	Type of contract	Indefinite	230	21.6%	704	66.2%	934	87.9%
		Fixed-term	2	0.2%	127	11.9%	129	12.1%
	category of employment	Full-time employees	232	21.8%	830	78.1%	1062	99.9%
		Part-time employees	0	0%	1	0.1%	1	0.1%
China	Age	<30	20	4.7%	57	13.4%	77	18.1%
		31-50	87	20.5%	238	56.1%	325	76.7%
		>51	3	0.7%	19	4.5%	22	5.2%
	Type of contract	Indefinite	86	20.3%	236	55.7%	322	75.9%
		Fixed-term	24	5.7%	78	18.4%	102	24.1%
	category of employment	Full-time employees	110	25.9%	314	74.1%	424	100%
		Part-time employees	0	0%	0	0%	0	0%

In 2023, the new hires in the parent company were mostly aged between 31 and 50 (11.2% of total employees), and the resigned employees were likewise mostly aged between 31 and 50 (11.4% of total employees). In the Kunshan subsidiary, the new hires were mostly aged between 31 and 50 (6.1% of total employees), and the resigned employees were mostly aged between 31 and 50 (11.8% of total employees).

Proportions of new hires and resigned employees by age group and gender and region

Note1 : As of December 31, 2023, SOLAR has 1,063 employees in the parent company and 424 employees in Kunshan subsidiaries.
Note2 : Calculation = number of new hires and resigned employees / total number of employees.

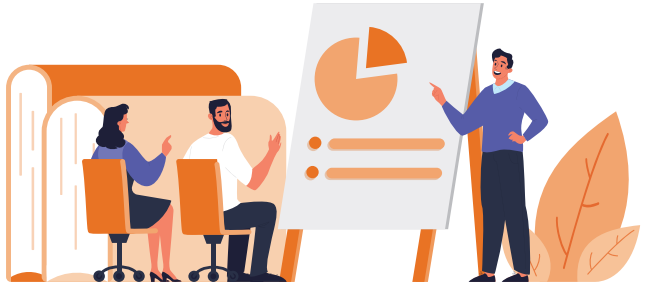
Region	Age		Female		Male		Total	
			Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Taiwan	New hire	<30	11	1.0%	51	4.8%	62	5.8%
		31-50	22	2.1%	97	9.1%	119	11.2%
		>51	0	0.0%	3	0.3%	3	0.3%
		Total	33	3.1%	151	14.2%	184	17.3%
	Resigned employee	<30	15	1.4%	59	5.6%	74	7.0%
		31-50	28	2.6%	93	8.7%	121	11.4%
		>51	0	0%	5	0.5%	5	0.5%
		Total	43	4%	157	14.8%	200	18.9%
China	New hire	<30	2	0.5%	16	3.8%	18	4.2%
		31-50	4	0.9%	22	5.2%	26	6.1%
		>51	0	0%	0	0%	0	0%
		Total	6	1.4%	38	9.0%	44	10.3%
	Resigned employee	<30	7	1.7%	18	4.2%	25	5.9%
		31-50	10	2.4%	40	9.4%	50	11.8%
		>51	0	0.0%	4	0.9%	4	0.9%
		Total	17	4.1%	62	14.5%	79	18.6%

Diverse Learning Channels

SOLAR encourages mid-level and senior management to promote knowledge sharing and self-directed learning among employees through effective and diverse learning programs. We built various learning channels, including e-learning, team sharing, corporate internal training, external training, course taught by consultant, reading club, experiential and interactive course, and online discussion forum. Our corporate culture and knowledge are shared via "hybrid courses" consisted of both digital learning materials and brick-and-mortar courses.

SOLAR is fully committed to and invested in talent development. Our training system is comprised of five major sections as follows: (a) training for new hires; (b) general training; (c) professional training; (d) management training; (e) self-directed development. We cover both general and specialized trainings through job design and training/development. Our people are empowered to choose and plan their career paths.

Training for new hires	basic onboarding training and on-the-job training for new hires
General training	corporate culture, values, customer satisfaction, quality, safety and hygiene, etc.
Professional training	specialized course and project-based learning assigned based on job functions
Management training	MA program, management training, various trainings on leadership and operations management
Self-directed development	on-the-job training, self-directed learning, group discussion, etc.



SOLAR plans different training courses for various job functions based on human resources strategy and policy. We strive to enhance learning efficiency and improve work quality and performance of our employees through a variety of general trainings and self-development courses. Our employees may not only improve competency in cross-functional collaboration and project management but also apply learning into practice to create a positive cycle of persistent improvement. In 2023, we executed 997 employee training courses, with an average training hours of 16.2 hours per employee.

▼ Annual average training hours per employee

Item	Managerial role		Non-management (IDL)		Non-management (DL)		Total
	Female	Male	Female	Male	Female	Male	
Number of employees during the reporting period (A)	63	151	209	191	70	803	1,487
Hours of training received during the reporting period	750	2,231	2,180	3,646	751	14,602	24,158
Average training hours during the reporting period (C) C=B/A	11.9	14.8	10.4	19.1	10.7	18.2	16.2

Note 1: We have 1,487 employees as of December 31, 2023.
Note 2: The statistical scope includes the parent company and Kunshan subsidiaries.

Friendly Workplace

Effective Communication Channels

SOLAR has built a diverse, equal and healthy workplace through comprehensive human resources policy. We established effective communication channels to accommodate different ideas and voices. Moreover, we hold campaigns against infringing acts in the workplace, offering training courses to new hires and sending notice to current employees on an irregular basis to raise awareness. We also conduct preventative surveys every year to highlight employees who are exposed to high risks and offer them assistance.

If any of our employees suffers from physical or mental harm during the execution of duties due to the infringing acts committed by employer, supervisor, co-worker, client or other third party in the workplace, or if anyone has any comment or feedback to share, he or she can report directly to the CEO's email or a physical mailbox for employees.

Cordial Labor Relations

In addition to strengthening cross-functional communication, SOLAR encourages voluntary consultation and collaboration between employees and employer, so as to enhance communication, build consensus and work jointly towards an agreed resolution. We organize employer-labor meeting on a long-term and regular basis. This meeting is attended by an equal number of representatives from both sides (namely, six representatives from each plant) and discussed through presentation and proposal. A resolution is made with approval from three-fourths of the representatives, creating the vision of a mutually beneficial relation and a win-win situation. In 2023, SOLAR held 4 quarterly employer-labor meetings, where the number of attendees met the quorum in every meeting.

Gender Equality is Implemented

SOLAR highly values gender equality in the workplace. We formed a Gender Equality Committee in accordance with the Act of Gender Equality in Employment. Not only did we implement gender equality, we also followed the principle of equal pay for equal work in employment, compensation and reward system regardless of race, ethnicity, social class, ancestry, religion, physical and mental disabilities, gender, sexual orientation, family responsibilities, marital status, political belief and age. Our female employees account for 29.4% of total managerial roles. When it comes to career development, we value personal competence, not gender. Additionally, in 2023, SOLAR added a female independent director to the board to promote a diverse, equal, and inclusive workplace.

Labor Human Rights are Respected

Here at SOLAR, we believe everyone should be treated with respect. We invest in manpower and ensure various regulations and labor management are in line with the principles of human rights and justice. Meanwhile, we comply with laws and regulations. We prohibit the use of child labor and forced labor, slavery and trafficking of persons. Our employees' rights to freedom of association and collective bargaining are respected without any form of discrimination. We also implement humane treatment by reasonably arranging work hours and rest hours for employees and providing reasonable salary and benefits. Furthermore, we continue to improve employee benefits and interests in connection with regulatory changes and external information, and periodically examine whether these are in compliance with laws and regulations.

During the reporting period, none of the following major human rights violations occurred at SOLAR: (a) evidence of any operational base that may violate or seriously endanger the freedom of association and collective bargaining; (b) use of child labor at any operational base; (c) sexual harassment incident; (d) forced labor at any operational base.

Various facilities are available for use in the dormitory

Diversity and Inclusion

According to statistics from the Ministry of Labor, Tainan has the fourth largest population of migrant workers in Taiwan. SOLAR values the human rights of migrant workers just as much as those of Taiwanese workers. We make sure migrant workers receive equal treatment and enjoy the same or even better benefits. Each migrant worker is entitled to a single room in employee dormitory, rent subsidy and free use of paid TV channels. Employee dormitory is equipped with a gym, karaoke facility and new basketball shooting machines for free use. A bar in the common area and self-service laundry are also available for use.

Occupational Safety and Health Management

In compliance with the Environment, Health and Safety (EHS) Policy, we have introduced ISO 45001 Occupational Health and Safety (OH&S) Management System to ensure everyone's safety at work. We built a team and management system responsible for OH&S and set forth stringent policy, procedures and management standards to promote internal occupational safety. Apart from SOLAR employees, other workers who are not employees also fall within the scope of the externally verified occupational safety management system, and comprehensive implementation of various occupational safety management system measures will be thoroughly enforced. All SOLAR plants (including the Kunshan subsidiary) have completed ISO 45001:2018 verification, and the Taiwan plant has completed CNS 45001:2018 occupational safety and health management system verification. According to regulations, re-verification is conducted every three years to ensure the continuous effectiveness of the management system. SOLAR passed the SGS audit verification in 2022, and the validity period of the above certifications extends until 2024.

In 2023, SOLAR executed 50 improvement plans to reduce risks and seize the improvement opportunities, including reducing chemical hazards, reducing exposure to musculoskeletal hazards, reducing dust hazards, reducing noise hazards, reducing the risk of fire and explosion and reducing other safety and health risks.

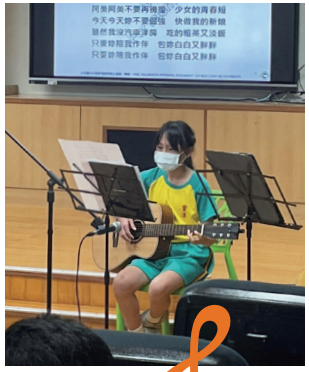
Occupational health and safety improvement plans in 2023

No.	Indicator	Number of improvement plans
1	Reduce chemical hazards	8
2	Reduce exposure to musculoskeletal hazards	6
3	Reduce dust hazards	9
4	Reduce noise hazards	5
5	Reduce the risk of fire and explosion	3
6	Reduce other safety and health risks	19
Total		50

Occupational Health Services

SOLAR is concerned about employee health and safety management. We organize a number of events and seminars every year to promote physical and mental well-being and enhance awareness on employee health and safety. SOLAR considers employees as its most valuable assets The parent company offers annual health check-ups to employees who have joined SOLAR for more than a year. In 2023, 1,208 employees participated in health check-ups. Moreover, employees are classified based on their health conditions. Those with abnormal conditions are recommended to have a follow-up examination and a face-to-face consultation with the on-site physician.

Regarding health protection, SOLAR conducts health screening for employees who perform special tasks in accordance with applicable regulations. We combine workplace monitoring with on-site inspection and assessment to build a safe work environment. We also protect the safety of employees who are exposed to high occupational risks, including those working with noise, ionizing radiation, hazardous substances (dust, specific chemicals, organic solvent) and lead. Employees involved in tasks with special health hazards (as defined above) are required to undergo special health screening prior to work commencement. For employees currently hired by SOLAR, we arrange special health examinations for them every year. If an employee is classified as under second-tier health management, we offer on-site physician consultation, health education and follow-up. In 2023, 717 of our employees completed special health examinations.



Holding the “Follow Your Dreams” project event at Chongxi Elementary School

Solar Charity Foundation

We place a strong emphasis on social participation. Since there are still many people in our society who need long-term support, we founded Solar Charity Social Welfare Foundation on April 28, 2008 (hereinafter as Solar Charity Foundation) with the purpose of pursuing educational equality for the underprivileged and supporting the vulnerable. By setting up a foundation and holding charity events, we wish to set an example and send our kind regards to the wider community, thereby inspiring more acts of kindness. We are actively involved in social charity events every year, mostly in local services but occasionally in cross-regional services.

Music Project: “Follow Your Dreams”

In response to the Sustainable Development Goals (SDGs) of “Quality Education” and “Reduced Inequalities”, SOLAR is devoted to promoting the development of arts and culture in rural areas. Since 2021, we have partnered with Guitar Maniac Co., LTD. to launch a music project called “Follow Your Dreams”, which is designed to promote guitar culture and discover young musical talents. Recognizing that children in rural area often lack learning resources, we sponsor guitar lessons for two students selected separately from Sin-Shan Elementary School and Chong-Xi Elementary School (near the Solar Park). We hope to bring more music elements and resources into children’s daily learning routine.

In June 2023, The Chairman of Solar, Chii-feng Huang and Chairman Ben-Jan Hong from Guitar Maniac Co., LTD visited Chongxi Elementary School. They invited students to showcase their guitar learning achievements and enjoyed the event with teachers and students. The “Follow Your Dreams” will continue in the future with the aim of narrowing the gap in art education between urban and rural areas. This music project seeks to provide high-quality music education environments for rural children, allowing them to pursue their musical dreams without being limited by physical appearance or other external conditions.

Collaboration and Sharing Between Industry and Academia

In addition to teaching in schools, SOLAR has actively tapped into industry-academia exchange. Since 2008, we have launched an industry-academia exchange program offering students opportunities of internship, seminar and research presentation at SOLAR during academic year, school semester and summer vacation. Several universities and colleges across Taiwan participated in our program, including National Taiwan University, National Tsing Hua University, National Cheng Kung University, National Chung Hsing University, National Chung Cheng University, National Sun Yat-sen University, National Taiwan University of Science and Technology, National Kaohsiung University of Science and Technology, Southern Taiwan University of Science and Technology, Ming Chi University of Technology, Kun Shan University, etc.

To further deepen collaboration with major universities and colleges, Solar established the Solar Industry-Academia Friendship Committee in 2023. This initiative aims to accelerate industry-academia exchanges and talent matching. It provides local students with comprehensive skill learning opportunities while cultivating high-quality technical talents. Through this collaborative platform, mutual benefit and symbiosis among the three parties are promoted, fostering more outstanding professionals for industrial development.

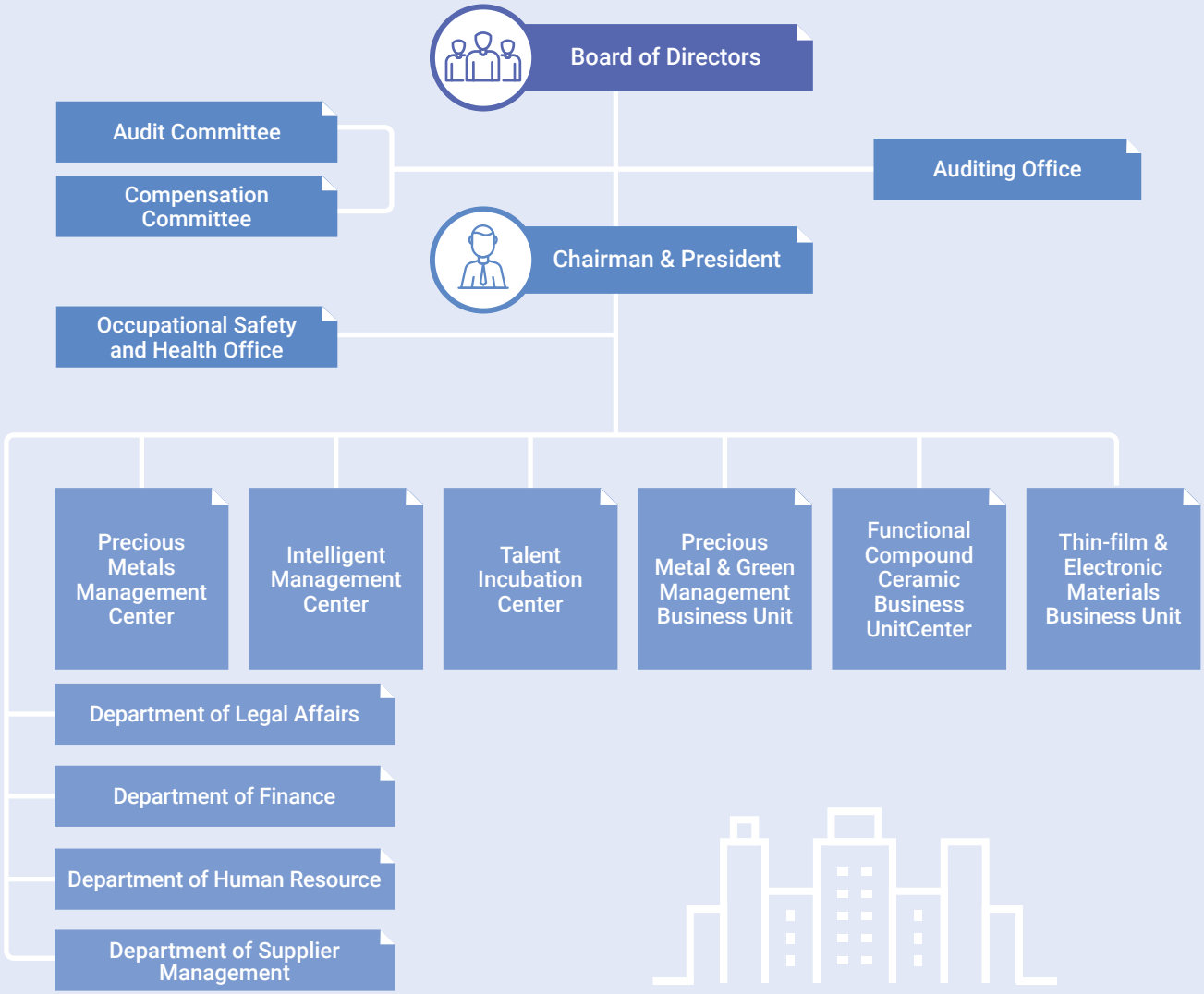
Governance

Sustainable Operations

SOLAR values corporate governance. We fulfil our responsibilities as a business operator, protect the rights of our shareholders, and consider the interests of other stakeholders. To implement good corporate governance, we established policies regarding ESG, safety and health, environmental protection, information security, intellectual property, quality, energy management, and biodiversity and no deforestation. Additionally, we established a governing body to assist with business operations and provide effective supervisory mechanism. For more detailed information regarding our policies, please refer to our official website.

▼ SOLAR official website QR Code

Our Organizational Chart



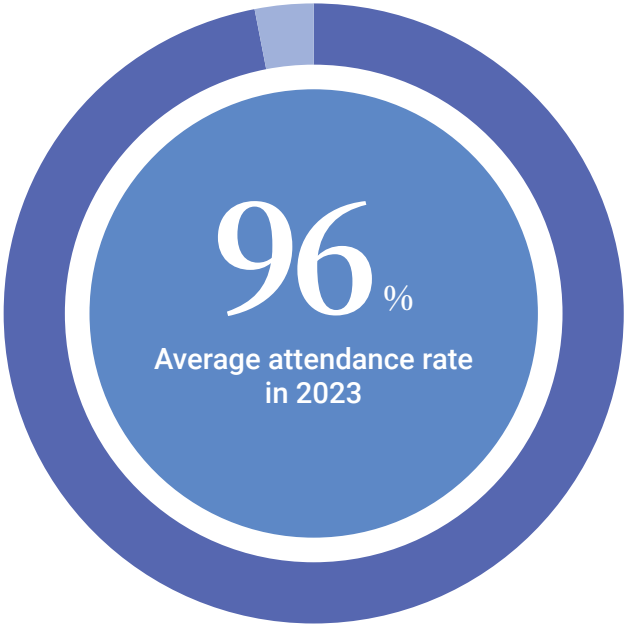
Functioning of the Board of Directors

The board of directors ("the Board") at SOLAR prioritizes the long-term interests of the company and shareholders, exercises the Board's powers objectively and independently, and follows the principles of corporate governance. According to Article 4 of Procedures for Election of Directors, the election of the Board is based on the following criteria: directors (including independent directors) at the Company shall be elected from among persons with disposing capacity by the shareholders' meeting. The number of directors (including independent directors) is stipulated in the Company's Articles of Incorporation. The registered cumulative voting method shall be adopted in the election of directors (including independent directors). The candidate nomination system shall be adopted in the election of directors (including independent directors). Candidates who receive votes representing the most voting shares shall be elected in order according to the number of votes they receive. Various functional committees are established under the Board to strengthen its functions. SOLAR adheres to high-standard corporate governance policy to ensure effective functioning of the Board, thereby protecting the rights and interests of shareholders.

In accordance with SOLAR's internal regulations and the "Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies", we elect board members based on their judgement and competency in operations and management, accounting and financial analysis ability, crisis management, industry knowledge, perspective on global markets, leadership and decision-making ability. During the reporting period, SOALR had 9 members in the Board, including 4 independent directors (who accounted for 44% of total board members). The Board is composed of professionals from different backgrounds who are well equipped with the knowledge, skills and competency required for execution of duties. Independent directors specialize in the financial, and legal fields. Other directors specialize in the fields of metal materials, industrial engineering, financial management and electronics.

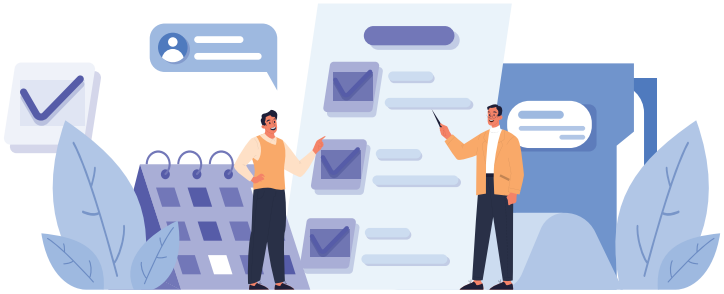
SOLAR has established functional organizations such as Audit Committee, Compensation Committee, Internal Audit Unit, and Corporate Governance Officer. These functional organizations report important strategies to the Board through regular meetings, ensuring effective communication. The Board follows corporate governance principles, reviews business performance, and discusses important strategic issues relevant to economic, environmental and social impacts as well as risks and opportunities. Any resolution made by the Board is posted on the TWSE Market Observation Post System (MOPS) immediately to keep stakeholders informed. Meanwhile, SOLAR has made the following information public and accessible for domestic and foreign investors: (a) the articles of incorporation, (b) regulations governing the board meetings, (c) functioning of the Board, (d) the recusal of board members from matters concerning conflict of interests.

The board meeting is held at least once every quarter. Eleven board meetings were held in 2023 with an average attendance rate of 96%.



Board Performance Evaluation

SOLAR has implemented the board performance evaluation since 2020. At the end of each fiscal year, the Board conducts a performance evaluation for the year. The performance of the Board will be periodically reviewed to examine efficiency and strengthen its supervisory role. In addition, a professional and independent organization or a team of external experts will conduct the evaluation at least once every there years. In 2023, the overall Board of Directors' performance evaluation was conducted by an external organization, the Taiwan Investor Relations Institute.



▼ SOLAR implemented the board performance evaluation by external experts

Frequency	Duration	Participant	Method	Scope of Evaluation	Result
1 Once every three year	2023 January 1~ December 31	The Board Individual board members Functional committees	The Taiwan Investor Relations Institute conducted the evaluation through questionnaires and interviews	✓ Decision quality of the Board and functional committees ✓ The director members' participation extent and operational efficiency in company operations ✓ Extent of director members' engagement in corporate social responsibility ✓ Awareness of the Board's responsibilities ✓ Composition and professional development of the Board ✓ Internal control and risk management	All indicators have reached a certain standard, paving the way for more comprehensive measures. For example, planning to achieve one-third female directors and elevating the Sustainability Development Committee to a functional committee could be the next stage.

Audit Committee

Organization

(1) Founded on July 20, 2016
(2) Audit Committee is composed of four independent directors

- Independent Director Feng-Chi Kao (convener)
- Independent Director Chun-Hung Tung
- Independent Director Chia-Hsin Chang
- Independent Director Pi-Chuan Sun

Key Responsibilities

(1) Assist the Board in fulfilling its oversight of the quality and integrity of accounting, financial reporting and auditing procedures of the Company
(2) Strengthen internal supervisory mechanism within the Company
(3) Establish or revise internal control system, and verify the effectiveness of such system
(4) Review matters concerning the personal interests of directors
(5) Substantial asset transaction or derivatives trading
(6) Substantial monetary loan, endorsement or provision of guarantee
(7) Offering, issuance, or private placement of any equity-type securities
(8) Appointment, dismissal or remuneration of a certified public accountant
(9) Appointment or dismissal of finance, accounting, or internal auditing officers

State of Implementation

Audit Committee holds at least one meeting every quarter. Eight meetings were held in 2023 with an average attendance rate of 100%.

Compensation Committee

Organization

(1) Founded on December 16, 2011
(2) Compensation Committee is composed of four independent directors

- Independent Director Feng-Chi Kao (convener)
- Independent Director Chun-Hung Tung
- Independent Director Chia-Hsin Chang
- Independent Director Pi-Chuan Sun

Key Responsibilities

(1) Periodically evaluate the performance of directors and managers, and formulate policies, framework, standards and structure concerning compensation
(2) Periodically evaluate the compensation paid to directors and managers
(3) Compensation, as mentioned above, includes cash remuneration, stock option, offering of stock ownership, retirement benefits or severance pay, allowances or stipends of any kind and other substantive incentive measures; its scope shall be consistent with that set out in the “Regulations Governing Information to be Published in Annual Reports of Public Companies”

State of Implementation

Compensation Committee holds at least two meetings per year. Five meetings were held in 2023 with an average attendance rate of 100%.

Corporate Governance Officer

Organization

(1) The department of finance serves as a dedicated unit for corporate governance
(2) On November 6, 2023, the Board approved the appointment of Shen-Lung Wang as the chief governance officer. Mr. Wang is a qualified lawyer and will undergo further training as required by law

Key Responsibilities

(1) Provide information required for directors to execute their duties
(2) Assist directors with legal compliance
(3) Company incorporation registration or alteration of registration
(4) Process matters related to board meetings and shareholder meetings in compliance with laws
(5) Prepare and review meeting minutes for board meetings and shareholder meetings

State of Implementation

(1) Assist directors with execution of duties, provide information of the Company to directors, and facilitate smooth communication between directors and various business unit managers
(2) Provide relevant training information to directors, and arrange for the professional development of directors
(3) Facilitate communication among Audit Committee, CPA and chief auditor
(4) Assist with performance evaluation of the Board and committees, and submit performance evaluation to the Board
(5) Send meeting agenda to directors and provide meeting information 7 days prior to the board meeting; issue a reminder if any subject of discussion requires the avoidance of conflict of interests; send meeting minutes to directors within 20 days after the meeting
(6) Assist with handling affairs related to shareholder meetings

Internal Audit

Organization

(1) An internal audit unit is established under the Board as per regulatory requirements
(2) Audit unit is composed of five auditors (including chief auditor)
(3) Appointment and dismissal of chief auditor is approved by Audit Committee and the Board

Key Responsibilities

(1) Assist the Board and managers to inspect and evaluate the soundness and effectiveness of internal control system
(2) Provide consultation and feedback for improvement of internal control system to ensure effective execution of internal control

State of Implementation

(1) Formulate annual audit plans based on regulatory requirements and self-assessment of risks and internal control
(2) Conduct auditing, issue report, and follow up on improvements
(3) Periodically report to the Board and Audit Committee on the execution of audit work to ensure smooth communication
(4) In 2023, there were no significant abnormalities found during the execution of audit projects. The internal audit unit summited the internal control statement to the Board and received approval.

Risk management

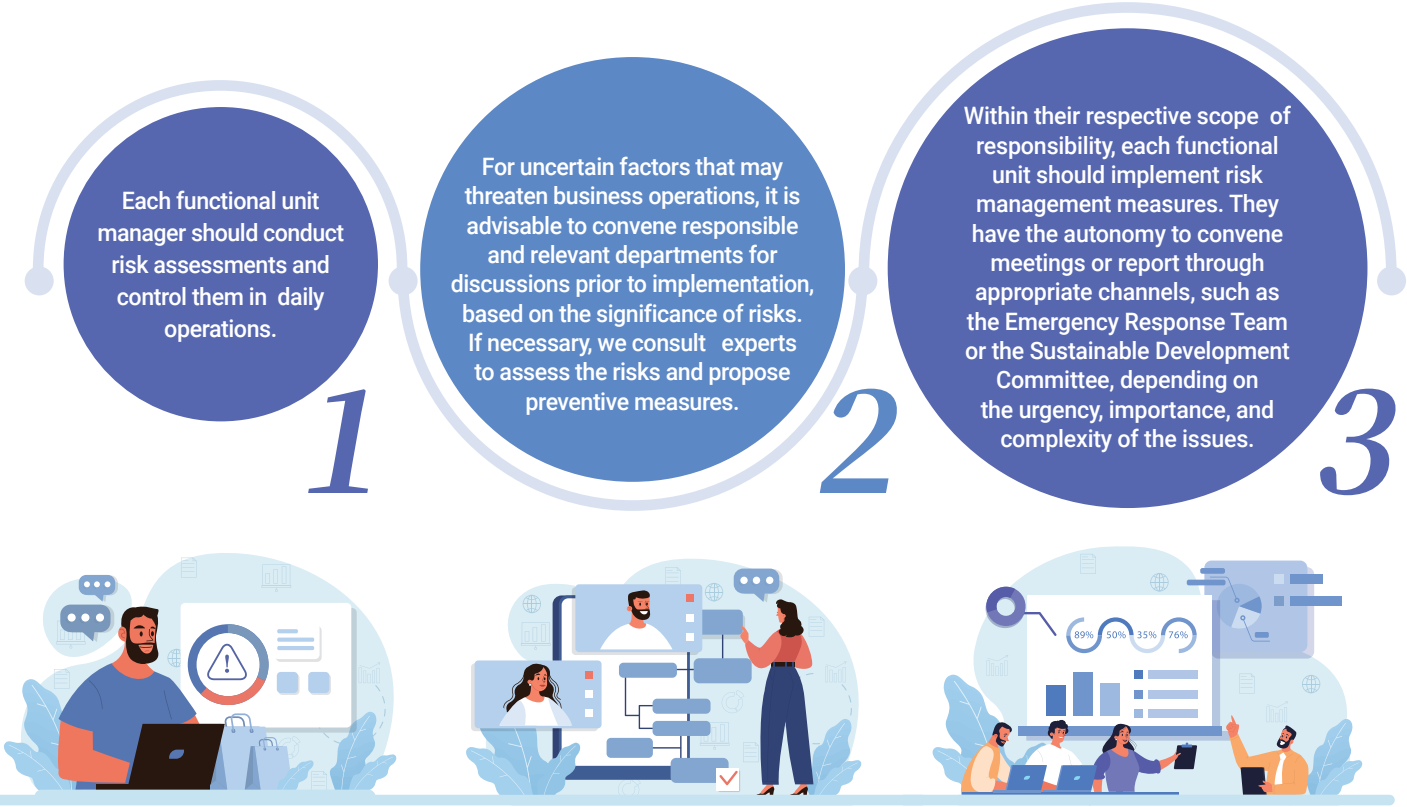
Risk Management Strategy

Affected by market, environment, climate change, information security, and the change of financial market, the volatility of various operational factors that affect the business has increased, leading to higher operational risks. It is crucial for the company to acknowledge the necessity and urgency of risk management. As a result, SOLAR has formulated risk management procedures, identified and defined the scope of risk management, assigned organizational responsibilities, strengthened corporate governance, and established an effective risk management mechanism.

The risk management scope of SOLAR covers various types of risks faced in daily operations, including market risk, operational risk, investment risk, environmental risk and so on. We regularly conduct operational impact analysis and risk identification, adopt corresponding risk management strategies, and thereby promote our sound operation and sustainable development.

Risk Management Process

Our risk management is authorized by the President, who delegates the daily implementation of risk management measures to the respective functional unit managers based on the types of risks. Moreover, we emphasize the importance of comprehensive risk control by all employees and the proper execution of internal control system regulations to ensure the risk management can be executed effectively.



Intellectual Property Management

SOLAR has formulated four intellectual property (IP) policies, “Keep improving intellectual property management systems and implement compliance with Corporate Governance Regulations ”, "Strengthen employees knowledge about intellectual property", "Respect others' intellectual property rights to reduce operational risks", and "Protect and accumulate intellectual property ", to protect relevant IP rights. Dedicated IP department has been set up to implement the aforementioned policies through formulating management rules and strengthening advocacy for IP knowledge to avoid corporate IP losses and mitigate infringement risk. Additionally, SOLAR values innovation and R&D and has formulated an incentive system to encourage innovations as well as a system to protect intellectual property assets.

▼ SOLAR's intellectual property policy and goal

Keep improving intellectual property management systems and implement compliance with Corporate Governance Regulations

- Take the initiative to implement the newly added intellectual property management provisions in the “Corporate Governance Best Practice Principles for TWSE/TPEx Listed Companies” and the intellectual property indicators added to the “Taiwan Corporate Governance Evaluation System”.
- SOLAR has implemented and passed the Taiwan Intellectual Property Management Specification (TIPS A-level) certification and continues to improve the intellectual property management system.

Respect others' intellectual property rights to reduce operational risks

- Each department shall comply with the "Management Regulations for Confidential Information" to classify information and establish appropriate confidentiality measures to reduce the risk of information leakage by managing access control to specific locations, documents, and personnel, etc.

Strengthen employee knowledge about intellectual property

- SOLAR has established a department specifically for intellectual property affairs, formulated intellectual property management systems, and raised awareness on intellectual property rights.
- Through educational training courses, lectures by experts, and bulletin displays, SOLAR communicates national intellectual property laws and regulations, intellectual property policies, or relevant intellectual property knowledge to employees.

Protect and accumulate intellectual property

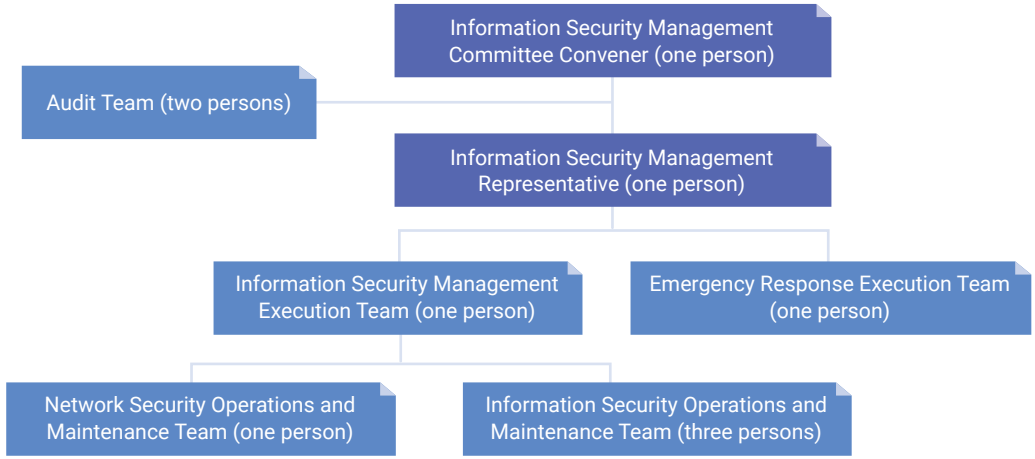
- SOLAR has formulated the "Procedures for Patent Application Management" and "Regulations for the Registration and Management of Trade Secrets" to standardize the process of generating and protecting of patents and trade secrets.
- Through the Research and Development Innovation Incentive System, SOLAR encourages the employees to actively innovate and preserves their results of innovation, and accumulates them to become SOLAR's competitiveness.

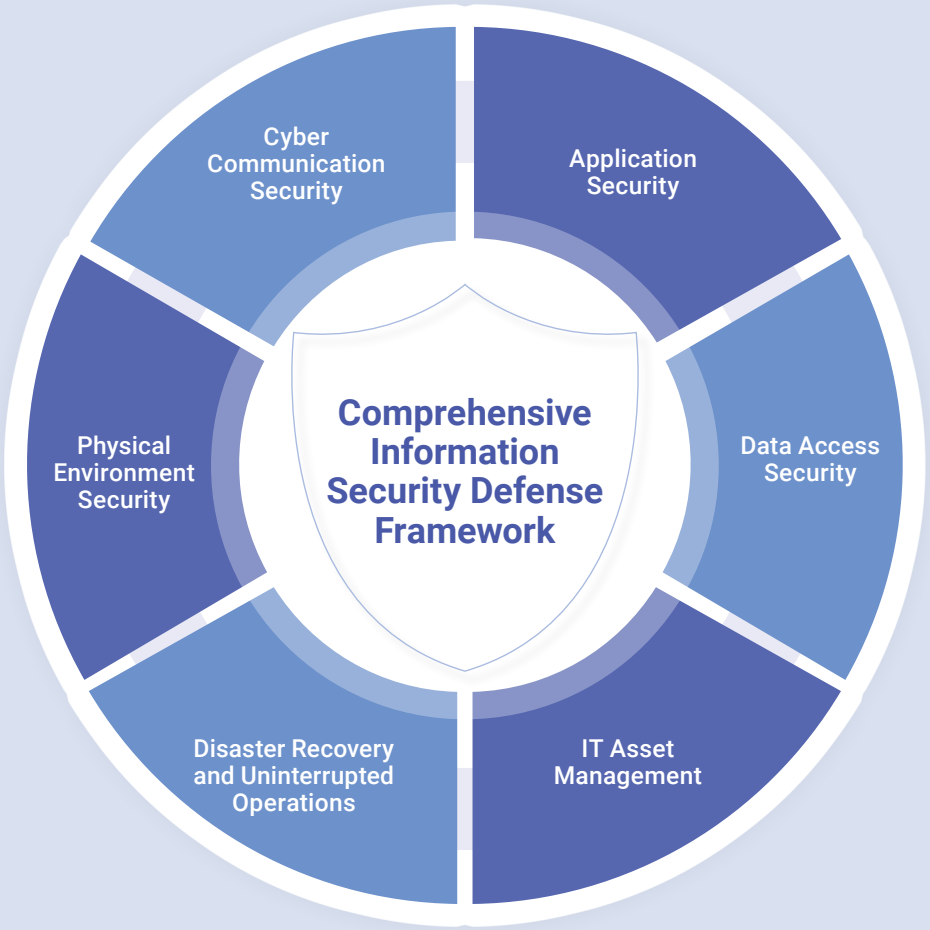
Information Security Management Geared to International Standards

Information security and protection of confidential information are the commitments we have made to our clients, shareholders and employees. SOLAR has launched an information security management system, specifically set out relevant policies, management procedures and guidelines, and further published the "Information Security Policy" to declare our determination in defending and promoting information security. We strive to remain competitive in market and safeguard the interests of our clients and partners.

Our Information Security Office coordinates the formulation of relevant policies, execution, risk management and compliance audit. We also set up an Information Security Committee to hold a review meeting every year and report the results of information security management, including relevant topics, framework, system, evaluation of the introduction of new information security product or technology, results and review. In 2023, SOLAR appointed a chief information security officer and personnel to systematically deal with information security challenges, ensure the information security policies and measures executed, and enhance the organization's overall capability in managing cybersecurity risks continuously . SOLAR designed a security framework from a comprehensive perspective, while setting out various guidelines to ensure safe, stable and effective function of each system inside the framework.

▼ Information Security Management Committee





Passing Third-party Verification

- **ISO 9001** Quality Management System
- **ISO 14001** Environmental Management System
- **ISO 14064-1** Greenhouse Gas Emissions Inventory and Verification
- **ISO 14067** Carbon Footprint of Products
- **ISO 17025** Laboratory Quality Management System
- **ISO 27001** Information Security Management System
- **ISO 45001** Occupational Health and Safety Management System
- **ISO 50001** Energy Management System
- **CNS 45001** Taiwan Occupational Safety and Health Management System (TOSHMS)
- **IATF 16949** Automotive Quality Management System
- **AEO** Authorized Economic Operator
- **BS 8001** Circular Economy
- **UL 2809** Environmental Claim Validation Procedure for Recycled Content

Solar Applied Materials Technology Corp.

2023 ESG Report