

Major Public Welfare Activities and Sponsorships

Taipower is crucial in empowering Taiwan's economic development. Taipower continues to enhance its partnerships for coexistence and co-prosperity within society. The Company continually increases its investments in culture, art, and philanthropic activities to strengthen Taipower's image as a Practitioner of Corporate Social Responsibilities. The Company's electricity construction projects have caused changes and impacts on local environments. Neighborhood work and interaction are therefore important to ensure co-prosperity with local communities. The Company's neighborhood work is focused on supporting local philanthropic activities. Taipower's approach includes emergency relief, life support for low-income households, benefits for the elderly and people with disabilities, education, culture, and other charitable causes. In 2020, there were 4,080 neighborhood work projects and approximately NT\$112.53 million in donation.

Purchasing Agricultural and Fisheries Products for Donation to Disadvantaged Groups

In response to the impact of the COVID-19 pandemic in 2020, Taipower supported the government's relief policies by purchasing six types of vegetables and fish, including bok choy and grouper, on seven different occasions. Taipower donated its purchases to schools and disadvantaged groups across the country. The purchases helped farmers and fishermen weather financial difficulties and provided aid to disadvantaged groups in times of need to create benefits for all parties.



Seeds of Hope: Hope Cultivation Project

Since 2005, Taipower has provided summer job opportunities for indigenous college students from Taitung, Hualien, and Pingtung in their hometowns to help them reduce their tuition burdens. Taipower provides approximately 75 summer job opportunities each year. By 2020, the 16th year of the program, a total of 1,000 students had participated in the project. The purpose of the program is to encourage young indigenous people to return to their hometowns with opportunities for achievement and growth.



End-of-Year Care Program for Solitary Seniors

Since 2005, Taipower's power plants and district offices have invited isolated seniors to attend year-end dinner parties during the Lunar New Year. Taipower purchased new-year supplies and distributed gifts to the residences of attendees. The events have helped senior citizens who live alone enjoy Lunar New Year and allowed Taipower to spread warmth and fulfill its social responsibilities. Approximately 730 participants attended the "Lighting up Love" year-end dinner party in 2020.



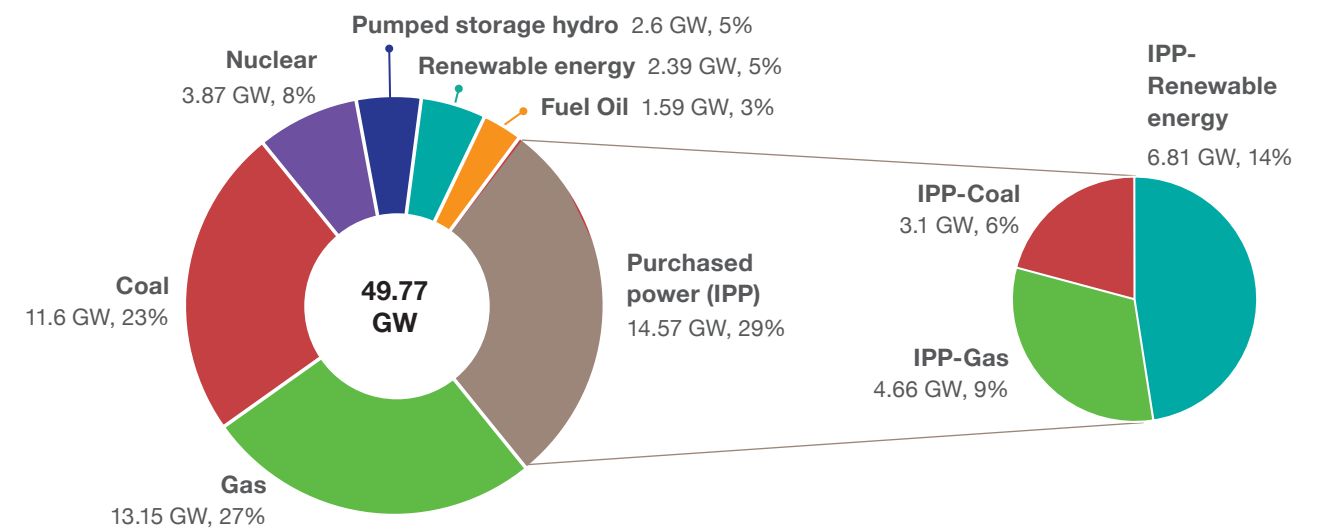
Reading Promotion: Fireflies Children's Reading Project

In 2007, Taipower established multiple after-school programs for children in remote areas of Hualien and Taitung to promote ethical and art education. Taipower uses mobile library vans, summer reading camps, and year-end angel club activities to provide underprivileged children in remote areas with assistance and resources. The Company seeks to reduce the gap between urban and rural resources and help children improve their knowledge and skills. The Company also helps students to explore their interests and potential through reading and talent activities. In 2020, more than 6,000 children were reached.

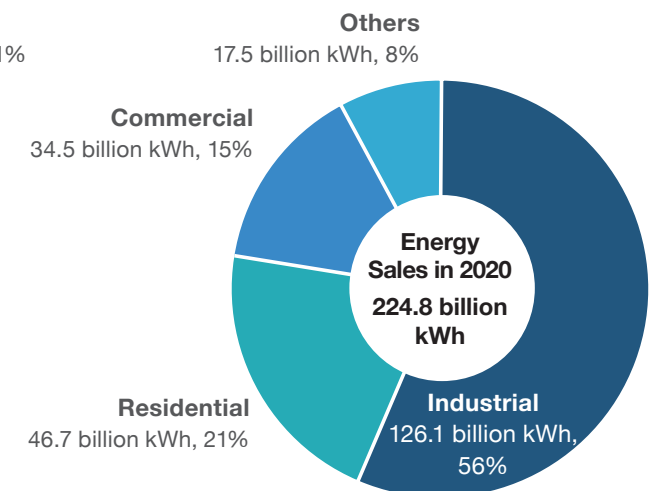
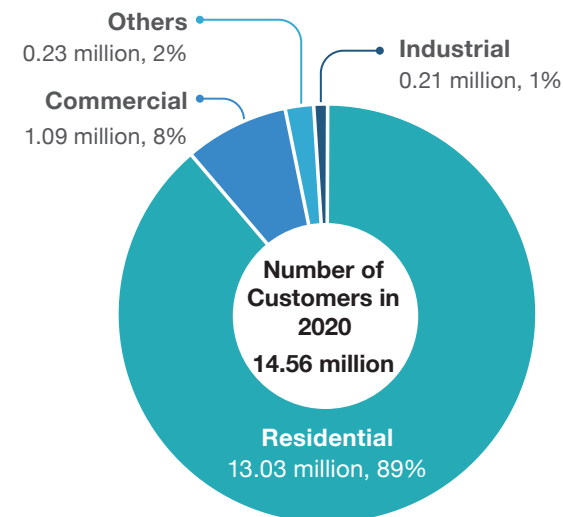
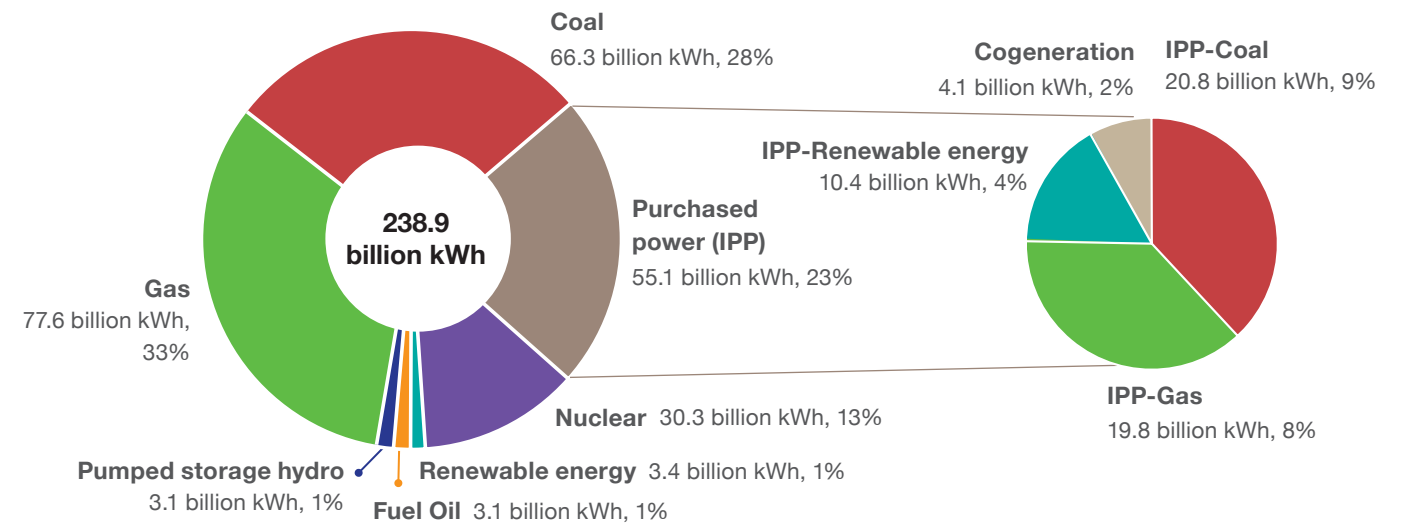


Appendix | Corporate Highlights

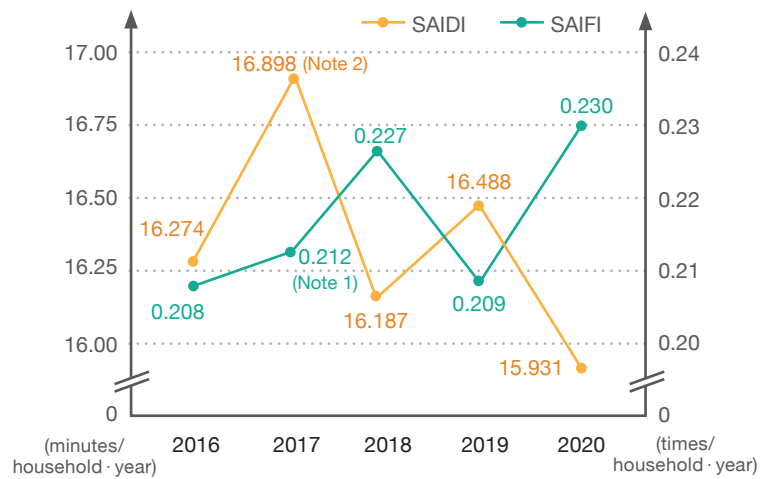
Installed Capacity in 2020



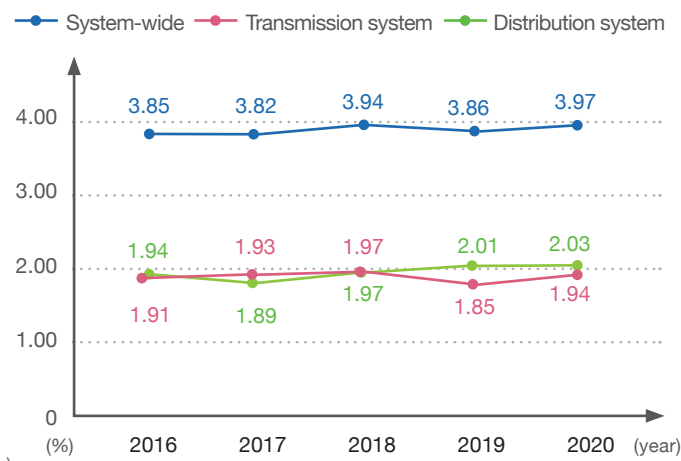
Net Generation and Purchase Power in 2020



System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) from 2016 to 2020

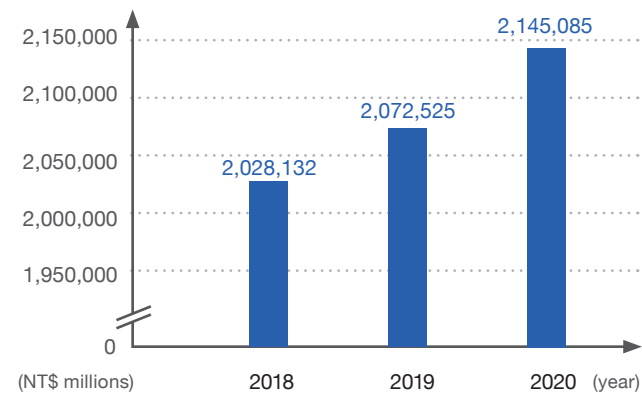


Line Loss Rate from 2016 to 2020

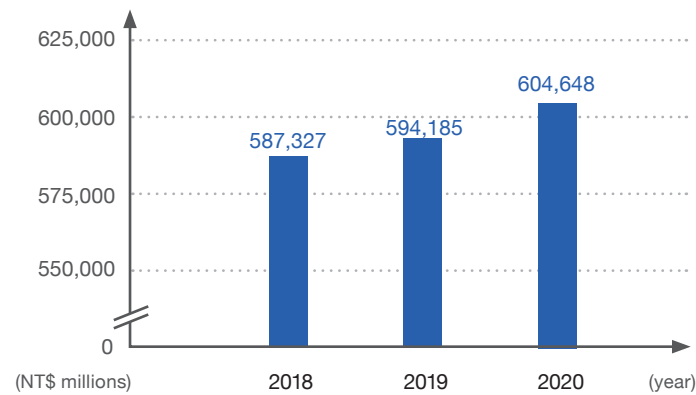


Notes: 1. Data excludes the impact of the blackout on August 15 2017. The blackout was mainly due to the gas supply interruption of CPC Corporation, and Taipower was not held responsible. The average interruption frequency related to the blackout on August 15 was 0.553 (times/household · year).
2. Data excludes the impact of the blackout on August 15 2017. The blackout was mainly due to the gas supply interruption of CPC Corporation, and Taipower was not held responsible. The average interruption duration related to the blackout on August 15 was 32.572 (minutes/household · year).

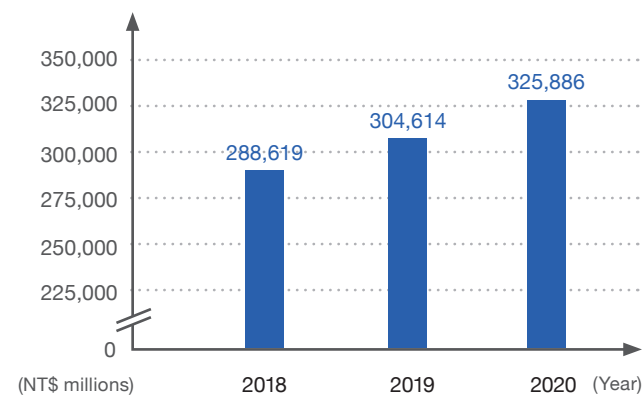
Total Assets



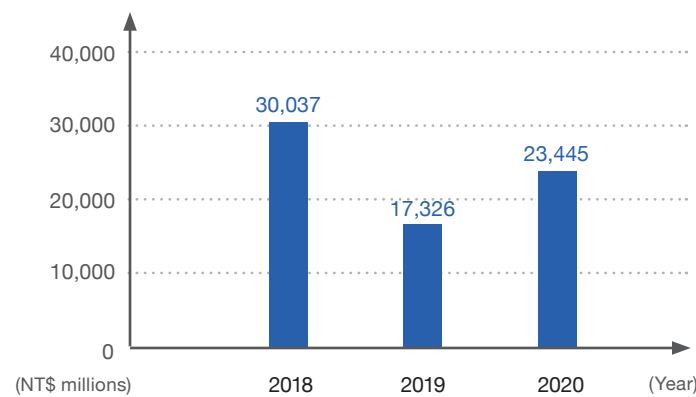
Operating Revenue



Stockholders' Equity



Net Profit/Loss Before Tax



Note: Figures above have been audited by CPAs and compiled in accordance with the International Financial Reporting Standards (IFRS) since 2013. As a state-owned enterprise, figures in Taipower's financial report are based on the final audit accounts of the National Audit Office. Therefore, the aforementioned figures in 2019 are audited final accounts and are slightly different from those in the 2020 Sustainability Report.

Appendix | Key Performance Indicator Evaluation Results

Objectives and Key performance indicator	2020			2021 Target
	Target	Performance	Target achieved	
1. Complying with the rate control mechanism and reach the annual earnings target				
Pre-tax income (NT\$100 millions)	≥ 143	234	☑	≥ 37.5
Control of operations and maintenance expenses (cents/kwh)	≤ 32.93	30.37	☑	≤ 32.05
2. Controlling capital expenditure in the electricity industry				
Fixed asset construction and improvement to expand execution (capital expenditure execution rate) - annual budget execution rate of special projects and general construction and equipment plans (%)	≥ 95	98.39	☑	≥ 90
3. Improving the supply of fuels, materials, and operational performance				
Coal procurement performance (%)	≤ -4.91	-11.97	☑	≤ -6
Maintain sufficient coal inventory (number of days)	30-35	33	☑	30-38
Ratio of collective asset procurement (%)	≥ 24	46.53	☑	≥ 36.30
Ratio of asset procurement cost reduction (%)	≥ 15	16.58	☑	≥ 15
4. Promoting new businesses and managing investments				
Diversification benefits (NT\$100 millions)	≥ 19	16.15	(Note)	≥ 14.5
5. Enhancing Taipowers' corporate image				
Customer satisfaction (score)	≥ 90.2	95.7	☑	≥ 85
Engineering construction quality (score)	Construction Inspection Avg. score ≥ 80	87.1	☑	Construction Inspection Avg. score ≥ 80
6. Providing customers with value-added services				
Mobile payment services (10,000 customers)	≥ 34	70.2	☑	≥ 63
7. Promoting demand response and energy conservation				
Reducing electricity demand during peak hours - demand bidding (including participation in ancillary services by demand response) applying for reduction of capacity (10 MW)	≥ 80	169	☑	≥ 80
Smart energy-saving and technical services (10MWh)	≥ 8,600	9,641	☑	≥ 9,000
Electricity saving plan achievement rate (%)	≥ 95	100	☑	≥ 95
8. Improving hazard identification knowledge and ability				
Increasing employees' abilities to predict dangers (class)	Held ≥ 2 class	2	☑	Held ≥ 4 class
Implementing and deeply rooting the activation of the zero disaster campaign (score)	The avg. score of completion is ≥ 85	88.9	☑	The avg. score of completion is ≥ 85
Strengthening the safety awareness of employees at the power plant (class)	Held ≥ 4 class	4	☑	Held ≥ 4 class
9. Promoting virtual reality training for industrial safety				
This item is a qualitative indicator. For details, please refer to 7.2 A Sound Working Environment				

Note: Failing to reach the target of diversification benefits was mainly due to the impact of the global pandemic on the development plan of the Bengalla Coal Mine, which had caused the decline in coal prices and affected earnings.

Objectives and Key performance indicator	2020			2021 Target
	Target	Performance	Target achieved	
10. Strengthening the contractor's operation safety				
Remote instant care application: completing the priority application for power transmission and delivery contract projects (line)	Complete \geq 186 lines	296		Complete \geq 500 lines
Forum for senior executives and contractors on occupational disaster prevention advocacy (sessions)	Held \geq 1 session	2		Held \geq 1 session
11. Striving for occupational safety and health awards				
Participating in the selection of occupational safety and health by the Ministry of Labor and the Ministry of Economic Affairs (unit)	\geq 12 units	19		\geq 6 units
Participating in the selection of excellent healthy workplaces by the Ministry of Health and Welfare (unit)	\geq 4 units	6		None ^(Note)
Obtaining CNS45001 verification of occupational safety and health management system (unit)	\geq 24 units	47		None ^(Note)
12. Occupational safety performance				
Occupational accident rate	\leq 0.22	0.17		\leq 0.15
Occupational safety accident (frequency)	0	24		0
13. Promoting power development plans				
Achievement rate of the Company's renewables plan (%)	\geq 90	99.03		\geq 95
14. Ensuring the stable operation of generation units				
Hydro unit availability (%)	\geq 95.08	96.81		\geq 95.08
Coal-fired unit availability (%)	\geq 97.50	98.58		\geq 97.50
Thermal unit heat consumption rate (kcal/ kWh)	\leq 2,138	2,095		\leq 2,132
Number of overdue unit maintenance schedules (excluding nuclear power) (time)	\leq 3	0		\leq 2
Wind turbine annual availability (%)	\geq 92.5	93.03		\geq 92.5
Solar power annual generation (GWh)	\geq 268	254.2		\geq 358
15. Abiding by the mission of being environmentally friendliness and achieving the vision of becoming a green enterprise				
Electricity carbon emission factor (deducting nuclear power generation) (kg/kwh)	\leq 0.637	0.590		\leq 0.634
Lower the net emission intensity of thermal units compared to 2016 (%)	Lower than 5.3% compared to 2016	Lower than 6.52% compared to 2016		Lower than 7% compared to 2016
Reducing air pollution emission intensity compared to 2016 (%)	Reduce 15% compared to 2016	Reduce 62.72% compared to 2016		Reduce 50% compared to 2016
Smart management and service (%)	Cumulative rate reach 17.125%	Cumulative rate reach 46.95%		Cumulative rate reach 52%
Communication of environmental protection information in the power industry (people)	\geq 555,000	996,814		\geq 480,000
16. Ensuring the safety and stable operation of nuclear power				
Nuclear reactor trips (frequency)	\leq 1	1		0
Abnormal incidents caused by operational negligence (times/plant-year)	\leq 2	0		\leq 2
Improving nuclear safety performance: nuclear safety performance indicator signals (times)	White lights \leq 2 Yellow lights = 0 Red lights = 0	White lights = 0 Yellow lights = 0 Red lights = 0		White lights \leq 2 Yellow lights = 0 Red lights = 0
Safety index rating (stars)	\geq 2.8 stars	2.95 stars		\geq 2.8 stars

Note: The goal marked "None" are deleted in 2021.

Objectives and Key performance indicator	2020			2021 Target
	Target	Performance	Target achieved	
17. Promoting the decommissioning of nuclear power generators as well as handling of nuclear waste				
This item is a qualitative indicator. For details, please refer to 6.1 Strengthening Environmental Management and 3.2 Planning for New Sources of Energy				
18. Research and application of key technologies				
Complete the installation of smart meters	1. Smart meter installation: 1.1 million units completed installations (Cumulative) 2. Smart meter installation: The success rate of data transmission to the MDMS system reached 90%	1. Smart meter installation: 1.1 million units completed installations (Cumulative) 2. Smart meter installation: The success rate of data transmission to the MDMS system reached 91.26% (Cumulative complete 1 million of communication module installation, with 912,628 modules can transmit data to the MDMS)		1. Smart meter installation: 1.5 million units completed installations (Cumulative) 2. Complete 1.5 million installation of communication module. The success rate of data transmission to the MDMS system reached 90%
Establishing a disaster prevention micro-grid demonstration field (site)	\geq 2	3		None ^(Note)
The establishment of existing substations and the application of feeder GOOSE protection strategy and breaker operating time (number of substations)	\geq 14 substations (31.8%)	14		None ^(Note)
Amount contributed to research and development (minimized cost + increased revenue) (NT\$ millions)	\geq 5,701	7,331		\geq 7,267
Investment in energy saving, carbon reduction, and green power industry research (NT\$ millions)	\geq 3,230	2,370		\geq 3,650
19. Planning and establishing ancillary services and a capacity reserve trading pilot platform				
Non-traditional units participating in ancillary service power interchange	Complete \geq 2 ancillary service business model	3		None ^(Note)
Research and analysis of foreign power interchange information and cultivation of core power interchange capabilities (sessions)	Held \geq 10 sessions	14		None ^(Note)
20. Improving the resilience and power supply capabilities of the power grid				
Power supply reliability - reduction of the average interruption duration (min/household. year)	\leq 16.80	15.9307		\leq 16.70
Dispatching performance (%)	100 \leq CPS \leq 120	113.60		100 \leq CPS \leq 120
Line loss rate (%)	\leq 4.30	3.97		\leq 4.25
21. Promotion and application of smart grid				
Promoting feeder automation (units)	\geq 900	1,304		\geq 900
Accepting achievement rate of green energy grid-connections (%)	\geq 90	97.92		\geq 90
Assisting the operators of type III renewable energy generation equipment to handle the interconnection review - cases exempting from system shock analysis (working days)	\leq 15	8.08		\leq 15
Assisting the operators of type III renewable energy generation equipment to handle the interconnection review - cases requiring system shock analysis (working days)	\leq 20	8.35		\leq 20
22. Planning the transformation into a holding company with subsidiaries				
This item is a qualitative indicator. For details, please refer to 1.3 Promoting Corporate Transformation				
23. Human resource development and technology inheritance				
This item is a qualitative indicator. For details, please refer to 7.1 Human Resource Management Strategies				
24. Strengthening talent cultivation and learning effectiveness				
Average hours of internal and external learning (hours/person)	\geq 30	58.8		\geq 30
25. Promoting employee care and growth				
Organizing communication activities with grassroots colleagues in all units (sessions)	\geq 176	186		\geq 176
Promoting employee assistance programs of all units (cases)	\geq 30	35		\geq 30
Organizing various sharing meetings (sessions)	\geq 10	12		None ^(Note)

Note: The goal marked "None" are deleted in 2021.

Appendix | GRI Standards Index

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	2.3.1 Ethical Management	
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	3.2.1 The Transition to a New Generation of Energy	
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Appendix | SASB Materiality Map for the Industry

Topics	Chapter	Accounting metric	Corresponding content
Activity metrics	Value chain	IF-EU-000.A	Total number of users: 14.56 million Customer power consumption (sold) by percentage: Industrial: 56%, Residential: 21%, Commercial: 15%, Others: 8% User power supply: Industrial: 12.61 billion kWh, Residential: 4.67 billion kWh Commercial: 3.45 billion kWh, Others: 1.75 billion kWh
	Value chain	IF-EU-000.B	Industrial: 12.61 billion kWh, Residential: 4.67 billion kWh Commercial: 3.45 billion kWh, Others: 1.75 billion kWh
	Value chain	IF-EU-000.C	In 2020, there were 17,790 circuit kilometers of transmission lines and 389,119 circuit kilometers of distribution lines
	3.1.1	IF-EU-000.D	Total power generation of 18.39 billion kWh, thermal generation of 14.7 billion kWh (61.5%), nuclear generation of 3.03 billion kWh (12.7%), renewables generation of 0.34 billion kWh (1.4%), and pumped-storage hydropower generation of 0.31 billion kWh (1.3%)
	3.1.1	IF-EU-000.E	Total purchasing power of 5.51 billion kWh
Greenhouse gases emission and energy resource planning	6.3.2	IF-EU-110a.1	Scope 1 GHG emissions of 93.35 million tons, yet no regulations of emission limit and emission disclosure in the country
	6.3.2	IF-EU-110a.2	Emissions of 93.35 million tons of CO ₂ e in 2020
	6.4.1	IF-EU-110a.3	Regarding the short, medium, and long-term strategies and objectives of Taipower's management on scope 1 emissions, please refer to 6.4.1
	3.1.2	IF-EU-110a.4	Given Taiwan's renewable energy and other sources of electricity are all connected to the grid and mixed with other sources of electricity, it is impossible to distinguish renewables users independently
Air quality	6.4.1	IF-EU-120a.1	(1) NO _x : 137 kg/GWh (2) SO _x : 102 kg/GWh (3) PM: 7 kg/GWh
Water resources management	6.4.2	IF-EU-140a.1	The total water consumption of thermal power plants was 9,20,0887.29 cubic meters
	6.4.2	IF-EU-140a.2	No violation of water resources regulations by Taipower in 2020
	6.4.2	IF-EU-140a.3	Please refer to 6.4.2 for the Water resources management
Coal ash management	6.4.3	IF-EU-150a.1	Total coal ash production in 2020 was 2.209 million tons, with a reuse rate of 89.7%
	6.4.3	IF-EU-150a.2	For the detailed status of coal ash accumulation, please refer to 6.4.3 Table of "Diameter, Height, and Actual Controlled Ash Level of Fly Ash Silo of Various Coal-fired Power Plants"
Energy affordability	2.4	IF-EU-240a.1	In Taiwan, it does not differentiate users based on 500MWh, 1000MWh, and provides the average retail electricity price of the following users: (1) residential 2.5596 (dollar/kWh), (2) commercial 3.1787 (dollar/kWh), (3) industrial 2.4461 (dollar/kWh)
	2.4	IF-EU-240a.2	
	3.1.2	IF-EU-240a.3	Taipower currently does not have statistics on the requirements for this metric, supplementing the 2020 System Average Interruption Duration Index (SAIDI) of 15.931 minutes/household and the System Average Interruption Frequency Index of 0.230 (SAIFI) times/household
	5.1.1	IF-EU-240a.4	External factors such as the COVID-19 pandemic and the breaking of the production reduction agreement in oil-producing countries affected the user's electricity affordability in 2020
Workplace health and safety	7.2.1	IF-EU-320a.1	(1) Total Recordable Incident Rate (TRIR) of 0.383%, (2) fatality rate of 0%, and (3) Near-Miss Frequency Rate (NMFR) of 0.174%
User efficiency and demand	NA	IF-EU-420a.1	Not applicable (LRAM is the profit calculation system adopted by the US power industry)
	4.1	IF-EU-420a.2	Smart meter mastered 81% of the country's electricity consumption information
	5.1.2	IF-EU-420a.3	A total of 0.119 billion kWh of electricity were saved in 2020
Nuclear safety and crisis management	NA	IF-EU-540a.1	Not applicable. This metric requires that the number of nuclear power plants must be classified according to the US NRC Action Matrix Column. Currently, there are only two nuclear power plants in operation in Taiwan
	3.1.1	IF-EU-540a.2	Regarding Taipower's measures to ensure nuclear energy safety, please refer to 3.1.1 for details
Grid resiliency	2.3.2	IF-EU-550a.1	Three labor penalties, 13 work safety penalties, and no information security penalties
	3.1.2	IF-EU-550a.2	(1) System Average Interruption Duration Index (SAIDI) of 15.931, (2) System Average Interruption Frequency Index (SAIFI) of 0.230, and (3) the SAIDI/SAIFI formula of the Customer Average Interruption Duration Index (CAIDI) may not be synchronized with the power supply reliability, which cannot faithfully represent the performance of power supply reliability in use, so the evaluation is not adopted

Appendix | Assurance Statement



ASSURANCE STATEMENT

SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE TAIWAN POWER COMPANY'S CORPORATE SOCIAL RESPONSIBILITY REPORT FOR 2021

NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by Taiwan Power Company (hereinafter referred to as TPC) to conduct an independent assurance of the Corporate Social Responsibility Report for 2021 (hereinafter referred to as the Report). The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the sampled text, and data in accompanying tables, contained in the report presented during on-site verification (2021/05/31~2021/06/18). SGS reserves the right to update the assurance statement from time to time depending on the level of report content discrepancy of the published version from the agreed standards requirements

INTENDED USERS OF THIS ASSURANCE STATEMENT

This Assurance Statement is provided with the intention of informing all TPC's Stakeholders.

RESPONSIBILITIES

The information in the TPC's CSR Report of 2021 and its presentation are the responsibility of the directors or governing body (as applicable) and management of TPC. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the report content within the scope of verification with the intention to inform all TPC's stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognized assurance guidance, including the Principles contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) 101: Foundation 2016 for report quality, and the guidance on levels of assurance contained within the AA1000 series of standards and guidance for Assurance Providers.

The assurance of this report has been conducted according to the following Assurance Standards:

Assurance Standard Options		Level of Assurance
A	SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)	n/a
B	AA1000ASv3 Type 1 (AA1000AP Evaluation only)	Moderate

Assurance has been conducted at a moderate level of scrutiny.

SCOPE OF ASSURANCE AND REPORTING CRITERIA

The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:

Select specific reporting criteria included in the contract

Reporting Criteria Options

1	GRI Standards (Core)
2	AA1000 Accountability Principles (2018)

- AA1000 Assurance Standard v3 Type 1 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2018) at a moderate level of scrutiny; and
- evaluation of the report against the requirements of Global Reporting Initiative Sustainability Reporting Standards (100, 200, 300 and 400 series) claimed in the GRI content index as material and in accordance with.

ASSURANCE METHODOLOGY

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, CSR committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and/or stakeholders where relevant.

In response to COVID-19 pandemic situation the assurance process was conducted via Microsoft Teams.

LIMITATIONS AND MITIGATION

Financial data drawn directly from independently audited financial accounts and Task Force on Climate-related Financial Disclosures (TCFD) has not been checked back to source as part of this assurance process.

STATEMENT OF INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from TPC, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 20121, ISO 50001, SA8000, RBA, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions.

FINDINGS AND CONCLUSIONS

VERIFICATION/ ASSURANCE OPINION

On the basis of the methodology described and the verification work performed, we are satisfied that the specified performance information included in the scope of assurance is accurate, reliable, has been fairly stated and has been prepared, in all material respects, in accordance with the reporting criteria.

We believe that the organisation has chosen an appropriate level of assurance for this stage in their reporting.

AA1000 ACCOUNTABILITY PRINCIPLES (2018) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

Inclusivity

TPC has demonstrated a good commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, CSR experts, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, TPC may proactively consider having more direct two-ways involvement of stakeholders during future engagement.

Materiality

TPC has established effective processes for determining issues that are material to the business. Formal review has identified stakeholders and those issues that are material to each group and the report addresses these at an appropriate level to reflect their importance and priority to these stakeholders.

Responsiveness

The report includes coverage given to stakeholder engagement and channels for stakeholder feedback.

Impact

TPC has demonstrated a process on identify and fairly represented impacts that encompass a range of environmental, social and governance topics from wide range of sources, such as activities, policies, programs, decisions and products and services, as well as any related performance. Measurement and evaluation of its impacts related to material topic were in place at target setting with combination of qualitative and quantitative measurements.

GLOBAL REPORTING INITIATIVE REPORTING STANDARDS CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

The report, TPC's CSR Report of 2021, is adequately in line with the GRI Standards in accordance with Core Option. The material topics and their boundaries within and outside of the organization are properly defined in accordance with GRI's Reporting Principles for Defining Report Content. Disclosures of identified material topics and boundaries, and stakeholder engagement, GRI 102-40 to GRI 102-47, are correctly located in content index and report. For future reporting, it is encouraged to have more descriptions of TPC's involvement with the management enhancement on supplier's health and safety related issues and how effort were given to mitigated the impacts. When reporting on goals and targets for material topics, the expected results are suggested to be set, if applicable, with quantitative objectives.

Signed:

For and on behalf of SGS Taiwan Ltd.



David Huang
Senior Director
Taipei, Taiwan
14 July, 2021
www.sgs.com



AA1000
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000-8/V3-MHFAJ

