

CHAPTER

02

Corporate Governance



⚡ Development Vision

Sound corporate governance and management strategies are the foundation of corporate value creation. For this reason, Taipower is committed to responding to risks and opportunities, and continues to refine its business strategies. It will strengthen internal auditing and control, and implement mitigation and adaptation measures to proactively address potential risks and opportunities. Taipower remains law-abiding and adheres to a spirit of integrity to ensure its stable operation and long-term development. The Company constantly discloses various information, and enhances the value of sustainable supply chains through cooperation with suppliers.

Taipower will continue to respond to significant challenges such as energy transition, organizational transformation, and digitalization. The Company will follow the policy direction of the competent authorities through ongoing reviews and refinements to enhance the function of its Board of Directors, particularly in its role of providing sustainable management policy supervision in the areas of environment, society, and governance. The Company will also strengthen the diversity of the professions and gender equality of directors, and continue to promote the functioning of the Audit Committee. Taipower will continue to enhance the supervision and internal communication of directors (including independent directors), refine the professional training in corporate governance for directors and personnel, and deepen the corporate governance culture. Taipower persistently strives to provide a high standard of sustainable power services.

⚡ Performance Highlights

- 🏆 In 2022, Taipower achieved the highest rating of "Excellent" in the corporate governance evaluation conducted by the Ministry of Economic Affairs. This recognition highlights the Company's outstanding performance and several advantages.
- 🏆 The average attendance rate of board meetings was 99% for Directors and 100% for independent directors
- 🏆 Professional corporate training on governance for Directors (including independent directors) totaled 189 hours.

2.1 Taipower's and Governance Structures

2.1.1 Governance Structures

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Taipower currently has 16 departments and offices along with four business divisions that include the Distribution and Service Division, the Transmission System Division, the Nuclear Power Division, and the Power Generation Division. The Company has also established various subordinate units and committees to meet its business needs. These include the Taiwan Power Research Institute and the Department of Nuclear and Fossil Power Projects. In response to the latest amendment of the Electricity Act, Taipower is planning to transform into a holding company that consists of two subsidiaries: a Generation Company (Genco) and a Transmission, Distribution and Retail Company (TD&R Co.).

2.1.2 Board of Directors

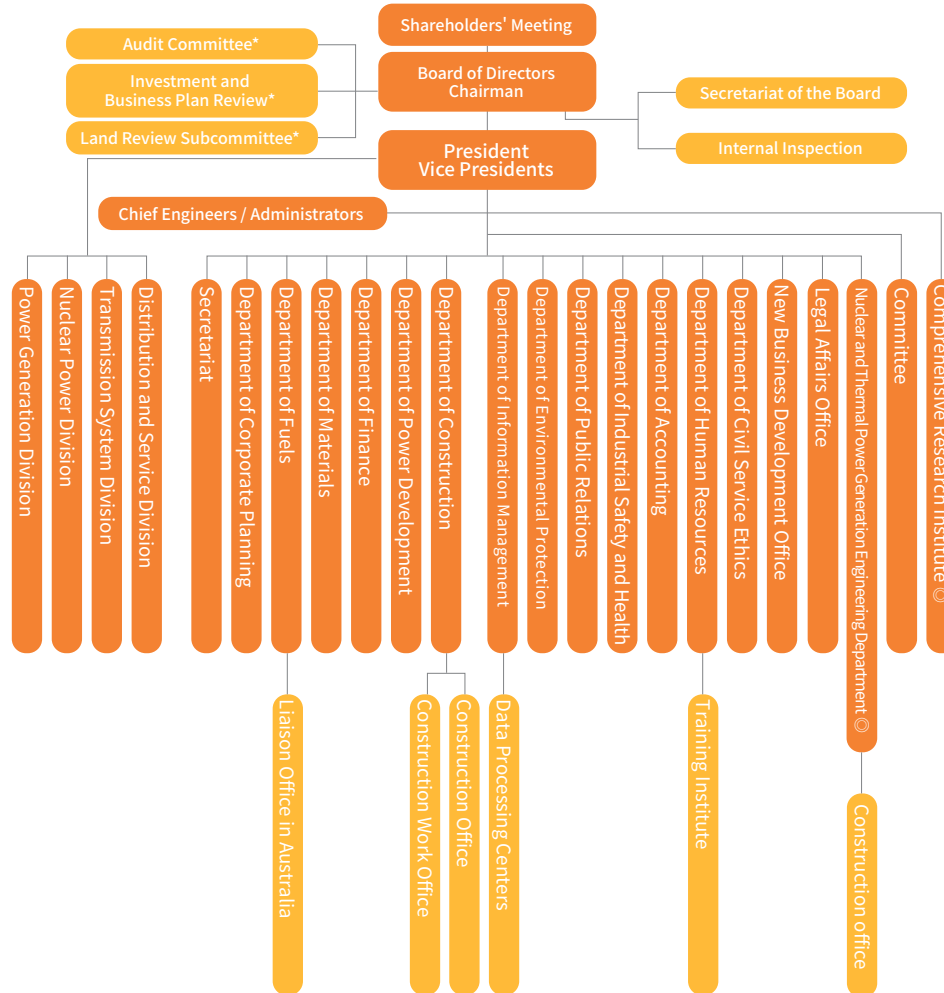
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The Structure of the Board of Directors ▶▶

According to Taipower's Articles of Association, the Board of Directors consists of 15 directors that are elected at the shareholders' meeting. In accordance with the provisions of the Securities and Exchange Act, the Board shall reserve three seats for independent directors, who also make up the Audit Committee. The Board of Directors shall elect five managing directors from among its members, one of whom must be an independent director. The term of service for directors (both independent and managing) is two years, and they are eligible for reelection. According to the Administrative Law of State-Owned Enterprises, at least one-fifth of the directors of each state-owned enterprise that represent state capital shall be recommended by the labor union. Thus, Taipower's Board of Directors consists of 15 directors, including five managing directors (one of whom serves as an independent director), three independent directors, and three labor directors.



Taiwan Power Company - Organizational Structure Chart



Note: 1. © Indicates that this unit is not under the direct supervision of the General Administration Department.
 2. The head of the Research Institute reports directly to the General Manager.
 3. * is a functional committee. Its functions can be referred to in the "Corporate Governance Report" section of Taipower's 2023 Annual Shareholder Meeting Report.

Diversity of Board Members ▶▶

The Directors of Taipower are nominated by the Ministry of Economic Affairs in accordance with the Guidelines for the Management of Directors, Supervisors and Other Important Officers Assigned by the Ministry of Economic Affairs and Subordinate Units to Public and Privately-Held Businesses and Foundations, and are appropriately nominated in accordance with Taipower's operational needs. They must also be elected at the Shareholder's Meeting. In recent years, the Company has been actively implementing the government's gender equality policy and has increased the number of female directors. Overall, the professionalism, experience, and gender ratio of Taipower's directors are diversified. The Board members in the current term (July 2021 to July 2023) are as follows:

1. Professional backgrounds: In addition to experience within the industry, many new areas of expertise have been added to the Board of Directors. These skills will help meet the long-term strategic needs of energy transition. Areas of expertise include smart grids, circular economy, intellectual property, green energy, energy, environmental protection, electrical engineering, civil engineering, economics, IT, accounting, land administration, law, etc.
2. Industry and academic experience: The directors include nine representatives from the government or academia, three independent directors, and three directors from the labor union.
3. Gender: Taipower currently has five female and 10 male directors on the board.
4. Age: The age range of directors spans from 46 to 65 years, covering a diverse distribution of both younger and middle-aged individuals.

Members of Taipower's Board of Directors in 2022 Information accurate as of December 31, 2022 (Note)

Title	Name	Concurrent Position
Acting Chairman (Managing Director)	Tseng, Wen-Sheng	Vice Minister, Ministry of Economic Affairs
President (Managing Director)	Wang, Yao-Ting	President, Taiwan Power Company
Managing Director	Lin, Faa-Jeng	President, National Applied Research Laboratories
Managing Director	Chang, Tien-Chin	Professor, Institute of Environmental Engineering and Management, National Taipei University of Technology
Managing Director (Independent Director)	Chou, Shya-Li	Vice President, Taiwan Institute of Economic Research
Director (Independent Director)	Liu, Chia-Wen	Professor, Department of Accounting, National Taiwan University
Director (Independent Director)	Liu, Chih-Wen	Specially Appointed Professor, Department of Electrical Engineering and Graduate Institute of Electrical Engineering, National Taiwan University
Director	Lin, Tze-Luen	Associate Professor, Department of Politics, National Taiwan University
Director	Chiang, Yau-Chi	Associate Professor, College of Maritime Law and Policy, National Taiwan Ocean University
Director	Chuang, Ming-Chih	Executive Secretary and Counselor, Research and Development Commission, Ministry of Economic Affairs
Director	Guo, Xiao-Rong	Director, Northern Region Branch, National Property Administration, Ministry of Finance
Director	Luo, Cui-Ling	Executive Secretary, Ministry of Economic Affairs and Executive Secretary, Legal Affairs Committee
Director (Labor Director)	Ding, Zuo-Yi	Senior Specialist, Department of Power Repair, Taiwan Power Company
Director (Labor Director)	Peng, Chi-Chung	Inspector, Department of Power Supply, Taiwan Power Company
Director (Labor Director)	You, Zheng-Da	Section Chief, Chiayi Branch Sales Office, Taiwan Power Company

Note: The former Acting Chairman Wei-Fuu Yang and President Bin-Li Chung were discharged on March 8, 2022. At that time, Wen-Sheng Tseng took over as Acting Chairman and Yao-Ting Wang as President.

Disclosure and Transparency of Corporate Governance Information ▶▶

Taipower's official website includes a Corporate Governance section. Information on the organization and operation of the Shareholders' Meeting, Board of Directors, Audit Committee, and a Shareholder's Area are published on the website and included in the annual report for Taipower's Shareholders' Meeting in accordance with laws and regulations. The annual report is also disclosed on the Market Observation Post System.

Continuing Education for Directors ▶▶

Taipower is a publicly offered company but is not listed on either the Taiwan Stock Exchange (TWSE) or the Taipei Exchange (TPEX). Despite this, the Company actively arranges continuing education opportunities for the directors to assist them in effectively implementing sound corporate governance. The training is conducted in accordance with regulations and is consistent with the continuing education system for the Implementation of Continuing Education for Directors and Supervisors for TWSE and TPEX Listed Companies. In 2022, Taipower directors (including independent directors) participated in corporate governance-related courses for a total of 189 hours. This met the threshold proscribed in the aforementioned standards. The topics covered included ESG (Environment, Social, and Governance), finance, technology, regulations, management, forums, and seminars.

Mechanism to Avoid Conflicts of Interest ▶▶

According to Taipower's board meeting policy, for any proposals in which directors (including independent directors) or the juridical person they represent are an interested party, the director shall explain the critical content of their interest at the meeting. When their interest is likely to harm the interests of Taipower, directors shall not participate in the discussion and avoid voting on the proposal. They are also unable to act on behalf of another director. Prior to each board meeting, reminders of these conflict-of-interest recusal rules are stated in-meeting notifications.

Remuneration Policy for Directors ▶▶

Taipower is a state-owned enterprise, and hence, the standards for remuneration of its directors, including the Chairman, are set by the competent authorities (the Ministry of Economic Affairs) and reported to the Shareholders' Meeting in the absence of a Remuneration Committee. Apart from monthly compensation, independent directors may not collect earnings distributions, year-end bonuses, or other forms of compensation. As directors designated by the labor union fall under the category of Taipower employees, their compensation is determined in accordance with the Basic Principles of Employee Compensation Authorization for State-Owned Businesses and the Management Guidelines Governing Remuneration for Employees of Subordinate Units under the MOEA. They may not collect the same remuneration as other directors. In 2022, the remuneration for Taipower directors (including the Chairman, independent directors, and labor directors) constituted -0.00715% of the Company's net income after tax.

2.2 Risk Management and Response

2.2.1 Risk Management Mechanism

In response to external risks and opportunities in its business operations, Taipower constantly strives to effectively identify risk factors and develop rapid and effective response strategies. To strengthen risk management, the Risk Control Center was established, consisting of expert teams from the generation, nuclear, transmission, and distribution systems. The center monitors critical risks, enhances supervision and control based on risk levels, and works to prevent large-scale power outages from occurring. Furthermore, Taipower promotes energy transformation and decarbonization at the power source, power grid, and on the demand side. This includes increasing gas usage, reducing coal dependency, expanding green energy, and introducing zero-carbon fuels such as hydrogen and ammonia co-firing. Taipower also strengthens power grid engineering and establishes energy storage systems while implementing strategies such as demand response and energy conservation. The aim is to gradually achieve the goal of net-zero emissions in the power sector. Taipower will continue to implement risk control measures and enhance risk awareness among its personnel. It will employ a rolling process of risk identification, assessment, review, and response to mitigate potential risks and reduce operational risks.

Risk Management Steering Committee >>

In Taipower's risk management structure, the Chairman acts as a supervisor, the President acts as a committee director and the Risk Management Commission operates as a task force. The Commission is composed of the CEOs from the four major divisions (Power Generation, Nuclear Power, Transmission System, and Distribution & Service) and their VPs and the Chief Engineers/Administrators from the four major systems (Strategic Administration, Financial Resources, Construction & Engineering, and Digital Development). The Chief Engineers/Administrators are also members of the commission. The Vice President in charge of the Department of Corporate Planning also serves as the executive secretary with a deputy executive secretary that assists with the relevant staff and administration of the Commission.

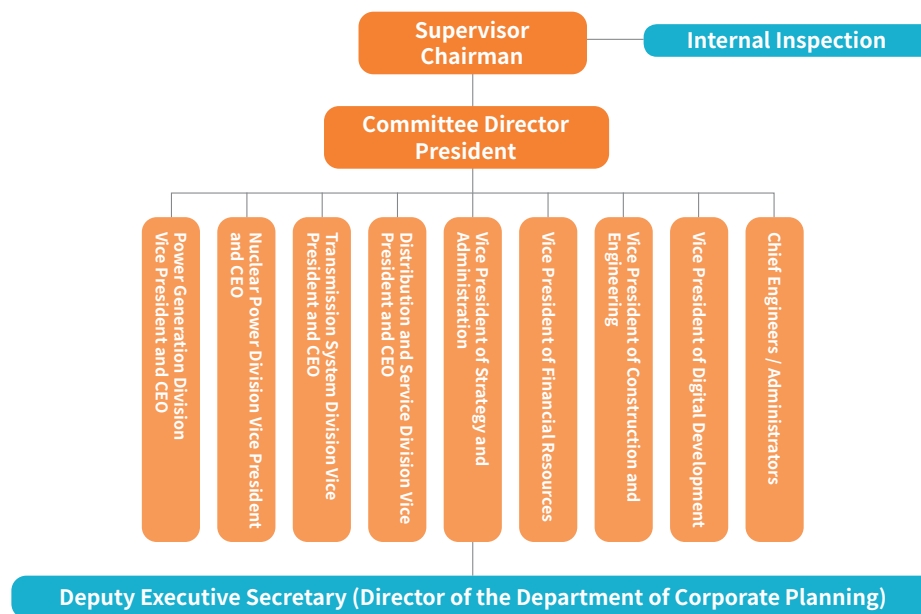
The Risk Management Commission has established a risk management implementation plan, including corporate level risks, unit level risks, an auditing mechanism, employee training, and other management mechanisms. The plan integrates the design and implementation of internal controls for each operation. The commission submits reports to the Board of Directors on the implementation of the project annually. The Board of Directors and the management department of Taipower have established a division of authority and responsibility between the Board of Directors and the management department, and other related regulations are implemented accordingly.

Risk Management Policies >>

Taipower has established four risk management policies as guidelines for organizational risk management. They are as follows:

- ✓ Provide the necessary resources to establish, maintain and continually improve the effectiveness of the risk management system in order to reduce operational risks.
- ✓ Promote risk management organization and the implementation of risk assessment, risk management, risk monitoring and risk communication.
- ✓ Ensure that employees have the ability to perform risk management, create a supportive work environment, and shape a risk-managing culture.
- ✓ Strengthen communication between staff and stakeholders, raise staff awareness of risk management and thoroughly implement related policies.

Taipower's Risk Management Organization Structure

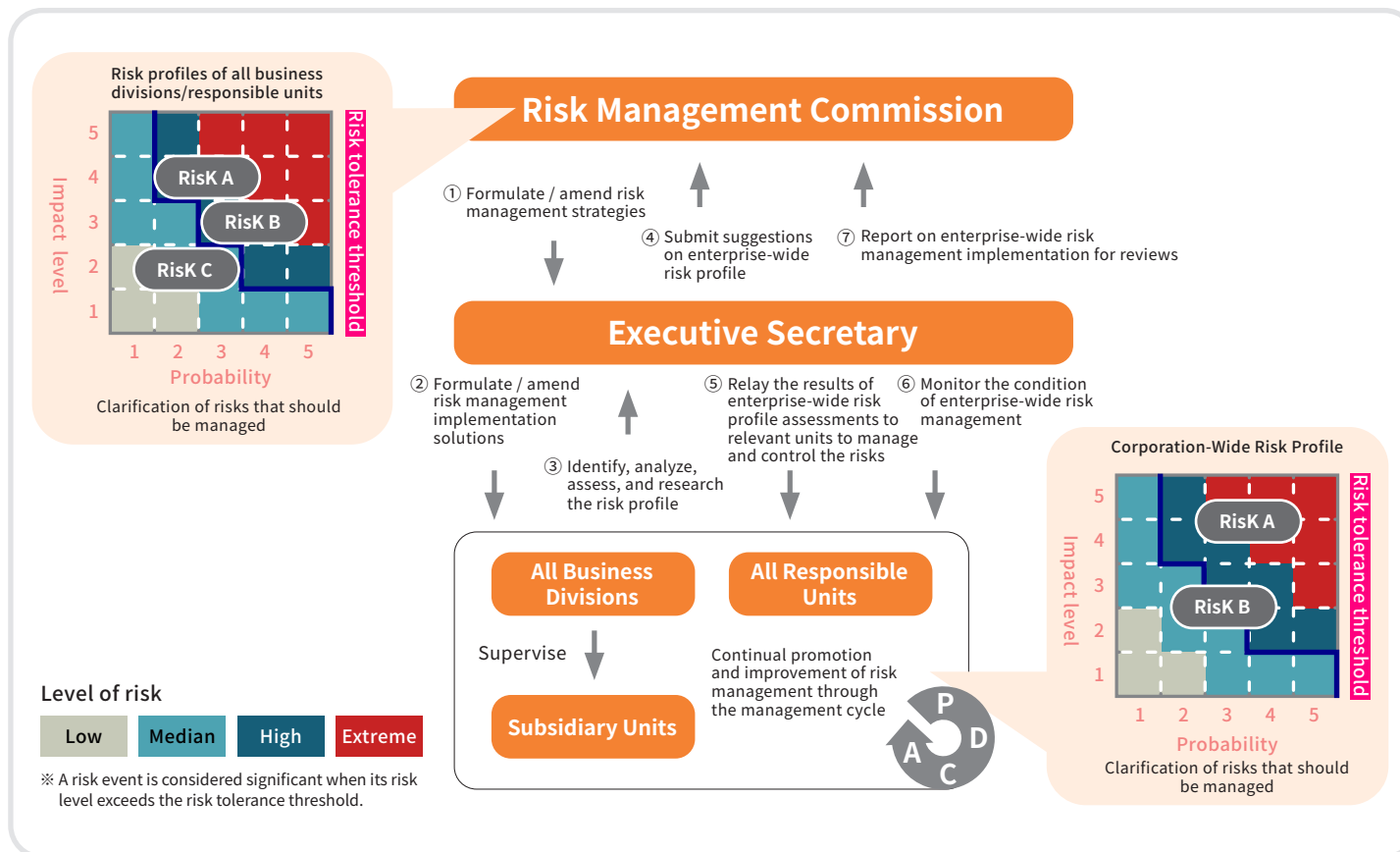


Risk Management Process

Taipower's risk management process begins with strategies established by the Risk Management Commission. Subsequently, the Department of Corporate Planning formulates corresponding risk management implementation solutions to be delivered to relevant first-tier units before they are analyzed and included in the Company's risk profiles. These risk profiles are then compiled by the Department of Corporate Planning into a company-wide risk profile to be submitted to the Risk Management Commission for review. After the review, the Risk Management Taskforce relays the results of the review back to all supervisory units for risk control.

The Department of Corporate Planning is also responsible for monitoring company-wide risk management status and reporting its implementation results periodically to the Risk Management Commission. Each year, the Department of Corporate Planning reports on risk handling and control results. These reports are reviewed by the Risk Management Commission. Risk management policies are reviewed and revised for the next year based on changes to internal and external environments.

Risk Management Commission



Risk Control Center ▶▶

Taiwan experienced power outages on May 13 and May 17, 2021, and less than a year later, another major outage that affected 5.49 million households occurred on March 3, 2022. These incidents highlighted the inadequacy of current risk management and control measures. As a response, Taipower established the "Risk Control Center" with General Manager Wang Yao-Ting as the Chief Risk Officer. The center brings together experts from the power generation, nuclear energy, power supply, and distribution systems to form a risk management team. This team aims to identify critical risks from a broader perspective, identify potential risk factors that could affect cross-system operations, power generation, supply, and distribution. They will then implement risk mitigation measures based on risk levels and progressively strengthen the supervision and control of power supply operations to prevent the recurrence of large-scale power outages.



Daily risk operation item inspections

The Risk Control Center conducts a daily inventory of risk operation items reported by various units for the upcoming one to three days. This is achieved through daily meetings for discussion and confirmation by the risk control team. Additionally, communication software without time or space limitations is utilized to ensure 24/7 comprehensive control, including nights and holidays, to ensure the safety and reliability of the power system. This means that in addition to the existing on-site unit control, risk operations are also simultaneously reported to Taipower's headquarters departments responsible for nuclear energy, power generation, power supply, distribution, as well as the Risk Control Center.



Rigorous communication mechanisms across units and systems

The on-site units assess work tasks that are deemed to have a lower level of risk significance. Under the supervision of the Risk Control Center, if they identify hidden high-risk factors that are interconnected with cross-system or cross-unit risks, the risk significance level of the respective task is elevated. The Risk Control Center plays a pivotal role in coordinating various systems or units and rigorously examining process workflows. When necessary, adjustments to the operation schedule may be requested to mitigate hidden risks that could have lateral implications. For instance, when operating the 345kV ultra-high voltage power lines, the management and supervision levels are increased to prevent human errors. Additionally, a controlled operation mode, such as the implementation of gas-insulated switchgear, is introduced, along with more advanced measures. The Risk Control Center oversees the comprehensive operation and inspection processes, before, during, and after work procedures. With the current rigorous risk control system in place, incidents similar to the one at the Hsinta Power Plant can be prevented from happening again.



Enhanced Training and Active Supervision

The Risk Control Center plans to implement regular and ad hoc dual audits. The regular audits include daily risk control meetings to review risk control forms and management actions. Monthly, there will be at least four on-site audits conducted by the Risk Control Center, and a large-scale joint audit will be conducted once every six months. Ad hoc audits are further divided into project-based and focus-based audits. Project-based audits target specific issues or units, such as at the Hsinta Power Plant after its major incident. Focus-based audits are conducted on specific topics or units as deemed necessary.



Recognizing Exemplary Risk Management and Demonstrating Commitment to Stable Power Supply

The primary focus of the Risk Control Center in the first phase of this year will be on ensuring the grid security of the 345kV ultra-high voltage lines and the Science Parks. In the second phase, the scope will expand to include the 161kV, 69kV lines, and the risk management status within the internal transformer departments of the regional divisions. Furthermore, in response to business needs, Taipower's Generation, Power Supply, and Distribution divisions are expected to establish new risk control departments. Consequently, each division will strengthen its supervisory and auditing efforts towards risk management practices in various plants and departments.



2.2.2 Risk Assessment and Identification

In conducting risk identification and analysis, Taipower will take the following factors into consideration:

1. Issues that pertain to Taipower's stakeholders
2. Material topics that affect the Company's operations or safety
3. New policies or changes due to major incidents
4. Incidents tracked by the supervising agency or affairs that the competent authorities have deemed to warrant specific attention

Risk Incidents and Countermeasures ▶▶

Taipower uses its risk assessment mechanism to monitor potential risks. When an incident is classified as extremely high risk, it will be listed as a top priority. Incidents classified as high-risk are the second priority and may require specific plans so that necessary resources are provided to ensure they are fixed. Risks at the medium level are simply monitored continually by the relevant departments. Low-level risk indicators are handled in accordance with the Company's general procedures.

In 2022, Taipower identified 13 risk events. Each risk event has its own risk scenario and corresponding control measures planned in advance. The effectiveness of control measures and their risk changes are reviewed on a continuous basis to improve the effectiveness of prevention beforehand and response afterward. Through this systematic risk management, Taipower is able to analyze risks and sustainability issues, strengthen risk awareness, master opportunities, and move toward its vision of sustainability.

Risk Category	Risk Identified
Power Supply Operation Risks	<ul style="list-style-type: none"> • Critical power infrastructure security and resilience compromised • Short-term imbalance between supply and demand • Medium and long-term major power generation projects behind schedule • Medium and long-term major transmission and substation projects behind schedule
Environment and Climate Change Risks	<ul style="list-style-type: none"> • Impact of environmental pollution • Lower-than-expected carbon emission reduction
Legal Compliance and Issue Risks	<ul style="list-style-type: none"> • Severe safety and health accidents • Negative news expansion • Violation of major regulation • Outbreaks of labor-management disputes and employee protests
Strategic and Financial Risks	<ul style="list-style-type: none"> • Accrual of losses resulting in greater impacts to the Company's operations • Insufficient cultivation of core technology • Failure of protection in the information system

Processes to Remediate Negative Impacts ▶▶

In order to enable stakeholders to raise concerns and seek remedies for potential and actual negative impacts caused by Taipower, including those related to human rights, Taipower has established an effective, accessible, fair, and transparent complaint mechanism. Stakeholders can submit complaints through multiple channels, including the user feedback mailbox on the official website, the 24/7 customer service hotline at 1911, and the Taipower APP.

To assist employees in solving difficulties that cannot be resolved by other administrative systems, Taipower has set up a Personnel Difficulties and Matters of Grievance Processing Committee and formulated Guidelines for Processing Matters of Grievances Concerning Working Personnel. Please refer to section 7.2.2 Labor-Management Communication and Collective Bargaining for further information.

Taipower has committed to putting an end to sexual harassment. To create an environment that is safe from sexual harassment for all Taipower employees and visitors, Taipower formulated Guidelines for Measures of Prevention, Complaint, Investigation, and Punishment of Sexual Harassment. In addition to continuing to disseminate information on sexual harassment and its prevention to all units, Taipower has set up a grievance channel. The dedicated Sexual Harassment Complaint Review Commission (hereinafter referred to as the Review Commission) is responsible for handling sexual harassment complaints. The structure, procedures, and grievance channel for the Commission are as follows:

Employee Grievance Channel

Grievances Handling Commission	Commission Structure	Procedures
Personnel Difficulties and Matters of Grievance Processing Committee	<ul style="list-style-type: none"> • The Vice President in charge of human resources serves as the Chairman of the Commission, while the head of relevant headquarters units and the Power Labor Union appoint equivalent representatives as committee members. Each unit's taskforce shall be convened by the unit supervisor, and its members shall consist of three to six relevant department heads from the unit. The corresponding labor union branch of the unit will appoint an equivalent number of employee representatives as members. 	<ul style="list-style-type: none"> • Employees may file a complaint with their unit's processing taskforce. Upon receipt of a case, each processing taskforce shall first investigate the facts and promptly communicate with the parties concerned to resolve the matter. If the taskforce is unable to resolve the problem or the party concerned does not accept the results, the case shall be referred to the Grievances Handling Commission. • A case processed by the handling committee shall not be filed again within two years.
Sexual Harassment Complaint Review Commission	<ul style="list-style-type: none"> • The Review Commission consists of eleven members. The President shall appoint the Vice President in charge of human resources to serve as the Chairman of the Commission. • The remaining ten members shall be employed or appointed concurrently from the Company's first-level executives, social justice figures, representatives of non-governmental organizations, experts and scholars, and the female members shall be no less than one-half. 	<ul style="list-style-type: none"> • After a complainant or his/her representative files a complaint to the Company's Review Commission, the complaint will be sent to the member on duty that month for immediate confirmation of acceptance within three days. Within three days of the acceptance, the Chairman of the Commission shall designate a special task force to conduct an investigation. • Upon completion of the investigation, an investigation report will be submitted to the Review Commission for deliberation. The investigation shall be completed and a resolution shall be made within two months (with a one-month extension as necessary) from the day following acceptance. Both parties shall be notified.
<p>Taipower Sexual Harassment Grievance Channel</p> <p>The Company is subject to sexual harassment complaints through the following contact channels: Grievance hotline: (02) 2366-7730 Grievance e-mail: a960601@taipower.com.tw</p>		

2.3 Climate Change Management

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Taipower follows the framework of the Task Force on Climate-related Financial Disclosures (TCFD) when gradually incorporating climate change risks into its climate change management. It discloses information regarding climate risks and opportunities in line with its principles.

Governance

As a provider of electricity in Taiwan, Taipower's Board of Directors recognizes that addressing medium- to long-term climate change is a significant management challenge. Predicting future climate change and accurately assessing the potential social changes and their impacts on Taipower's business environment is highly challenging. However, despite the high level of uncertainty, Taipower strives to avoid or mitigate future losses through highly accurate risk assessment and analysis. Through this process, Taipower aims to identify new business opportunities and achieve sustainable operations that align with society's expectations.

Taipower upholds operational transparency and believes that a sound and efficient board of directors provides a solid foundation for corporate governance. In driving climate change and sustainability management strategies, the board also plays supervisory and guiding roles, authorized the establishment of the Sustainable Development Committee to assist in overseeing corporate sustainability and climate change-related practices and regularly reporting its activities and resolutions to the board.



Climate-related risks and opportunities

	Risk / Opportunity Description	Potential Financial Impact	Potential Timing of Occurrence																					
Physical Risk - Acute	<p>Climate change-induced catastrophic weather risks, such as destructive typhoons and floods, may lead to damages at power generation and electricity transmission/distribution facilities, resulting in supply interruptions including blackouts and increased costs. For example, in 2022, Typhoon Surigae caused power outages for over 7,000 households in Yilan.</p> <p>Climate risk analysis Taipower utilized the Representative Concentration Pathways (RCPs) proposed by the Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report (AR5), including the RCP2.6, RCP4.5, RCP6.0, and RCP8.5 scenarios. Using publicly available data from the Taiwan Climate Change Projection and Information Platform (TCCIP), Taipower analyzed the "average change rate of annual maximum daily rainfall" (as shown in the figure below) to identify potential near term (-2035), medium-term (2046-2065), and end of century (2080-2100) scenarios. Compared to the reference period (1986-2005), Taiwan, in the worst-case scenario (RCP8.5), may experience an increase of 35.34 millimeters (mm) in the maximum daily rainfall, potentially reaching 221.34 mm. This increase raises the chances of "short-duration heavy rainfall" situations that pose the risk of inundation of existing urban drainage systems, power plants, and power grids.</p>	<p>The average change rate of the annual maximum daily rainfall across the country Base period: 198.00mm</p> <table border="1"> <thead> <tr> <th>Scenario</th> <th>Near-term</th> <th>Medium-term</th> <th>End-of-century</th> </tr> </thead> <tbody> <tr> <td>RCP2.6</td> <td>~10</td> <td>~12</td> <td>~10</td> </tr> <tr> <td>RCP4.5</td> <td>~10</td> <td>~15</td> <td>~15</td> </tr> <tr> <td>RCP6.0</td> <td>~10</td> <td>~10</td> <td>~20</td> </tr> <tr> <td>RCP8.5</td> <td>~10</td> <td>~17</td> <td>~35</td> </tr> </tbody> </table>	Scenario	Near-term	Medium-term	End-of-century	RCP2.6	~10	~12	~10	RCP4.5	~10	~15	~15	RCP6.0	~10	~10	~20	RCP8.5	~10	~17	~35	Increased operating costs and capital expenditure	Short term
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	<p>Climate change leads to an increased frequency of drought, which can result in the shutdown of hydroelectric power facilities. For example, in 2021, the Techi Dam power plant, which relies on water from the Dajia River for hydropower generation, had to suspend operations for the first time due to low water levels caused by drought.</p> <p>Climate Risk Analysis Taipower utilized scenarios proposed by the Intergovernmental Panel on Climate Change (IPCC) in their Fifth Assessment Report (AR5), including RCP2.6, RCP4.5, RCP6.0, and RCP8.5. By leveraging the information and adaptation knowledge available in the Taiwan Climate Change Projection Information and Adaptation Platform (TCCIP) from publicly accessible data, an analysis of the "average change rate of annual maximum consecutive dry days" across Taiwan was conducted for the near-term (-2035), medium-term (2046-2065), and end-of-century (2080-2100) periods under different scenarios (see figure below). Compared to the baseline period (1986-2005), Taiwan faces an increase in the maximum number of consecutive dry days in the worst-case scenario (RCP8.5). The number of such days is projected to increase by 14%, from 46 days to 52 days. This increase poses operational challenges for 12 hydroelectric power plants across Taiwan, leading to a significant reduction in hydroelectric power generation capacity.</p>	<p>The average change rate of the annual maximum consecutive dry days across the country Base period: 46 days</p> <table border="1"> <thead> <tr> <th>Scenario</th> <th>Near-term</th> <th>Medium-term</th> <th>End-of-century</th> </tr> </thead> <tbody> <tr> <td>RCP2.6</td> <td>~2</td> <td>~4</td> <td>~4</td> </tr> <tr> <td>RCP4.5</td> <td>~4</td> <td>~5</td> <td>~6</td> </tr> <tr> <td>RCP6.0</td> <td>~4</td> <td>~6</td> <td>~7</td> </tr> <tr> <td>RCP8.5</td> <td>~4</td> <td>~6</td> <td>~14</td> </tr> </tbody> </table>	Scenario	Near-term	Medium-term	End-of-century	RCP2.6	~2	~4	~4	RCP4.5	~4	~5	~6	RCP6.0	~4	~6	~7	RCP8.5	~4	~6	~14	Increased operating costs and capital expenditure	Short term
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Transition Risk - Policy and Legal	Taiwan officially enacted the Climate Change Adaptation Act in 2023, which includes the target of achieving net-zero emissions by 2050. In response to this law, adjustments to the energy structure are expected to align with the requirements of the Climate Change Adaptation Act.	Increased operating costs	Short to medium-term Medium to long-term																					
Transition Risk - Technology	Energy transition will render traditional technologies or assets obsolete. To align with Taiwan's net-zero transition plan and implement the "Increase Gas, Reduce Coal" policy, Taipower aims to increase the use of natural gas while decreasing coal consumption. Additionally, Taipower plans to expand the capacity of renewable energy installations, prioritizing mature technologies such as wind power and solar power. In the long term, Taipower aims to maximize renewable energy generation, with an eventual target of 60% of power generation. This will be achieved through the integration of gas-fired units with carbon capture, utilization, and storage (CCUS) technologies, as well as the introduction of hydrogen-based power generation to establish a carbon-free electricity system.	Increased operating costs	Medium to long-term																					
Transition Risk - Reputation	As the challenges related to climate change intensify, there is an increased risk of accidents, delayed responses to natural disasters, changes in taxation, and other practices, all of which contribute to rising operational costs.	Decreased revenue	Medium to long-term																					
Opportunity - Resource Efficiency	The feasibility study of the gas combined cycle power plants planned for an increase in net efficiency from 60.7% in 2019 to 62.5% in 2022 (Note: Net efficiency of the power plants is based on the site conditions, LHV).	Decreased operating costs	Short to medium-term																					
Opportunity - Energy Source	Since the Paris Agreement, there has been a growing global demand for carbon capture and storage technologies, presenting potential new revenue sources for Taipower. Internationally, emerging carbon-free power generation technologies are being developed, such as the use of hydrogen or ammonia as alternatives to fossil fuels, or implementing carbon capture, utilization, and storage (CCUS) to capture, store, and reuse CO ₂ emitted from power generation processes. Taipower is actively planning to demonstrate and eventually adopt Hydrogen (Gas-fired power plants) and Ammonia Blending (Coal-fired power plants) as well as Carbon Capture, Utilization, and Storage (CCUS) technologies. Taipower is also collaborating with international technology-leading companies to drive these initiatives forward. In order to achieve net-zero carbon emissions by 2050, Taipower is planning a pilot demonstration project for carbon capture at the Taichung Power Plant, which involves the installation of carbon capture equipment.	Increased revenue and decreased operating costs	Medium to long-term																					

Moving towards Net Zero Emissions ▶▶

Taipower's main sources of greenhouse gas emissions include the power generation process, coal yards, fuel-consuming equipment such as vehicles and engines, insulating gases used in electrical switches, and refrigerants used in air conditioning systems. To monitor the Company's greenhouse gas emissions, Taipower conducts annual greenhouse gas inventories and internal verification supervision. In addition, third-party verification organizations are commissioned to conduct external verification of greenhouse gas emissions from thermal power generation. In 2022, Taipower's Scope 1 greenhouse gas emissions were approximately 98.48 million tons.

Since 2015, Taipower has been implementing energy management system installations in power plants. This initiative has successfully assisted units such as Datan, Hsinta, Nanbu, Dajia River, and Takuan Power Plants in obtaining new version certification. The energy management system installations have been completed in the Nanbu, Dajia River and Takuan Power Plants. In 2020, Taipower also assisted in the implementation of energy management system in Linkou and Talin Power Plants, and in September and December 2021, external verifications were conducted and certifications were obtained.

Taipower has completed the greenhouse gas inventory and calculation guidelines in accordance with the regulations of the Environmental Protection Administration. The following emission quantities are derived from the greenhouse gas inventories conducted by various units of Taipower, following the aforementioned guidelines.

Greenhouse Gas Emissions from 2020 to 2022

	CO ₂	CH ₄	N ₂ O	SF ₆	HFC	PFCs	NF ₃
2020	9,266	23	30	13	2	0	0
2021	9,808	26	32	8	3	0	0
2022	9,772	25	31	12	3	0	0

Unit: 10,000 tons of CO₂e

Emissions of Thermal Power Units from 2020 to 2022

	2020	2021	2022
Emissions of coal-fired units	5,934	6,253	6,156
Emissions of oil-fired units	244	316	279
Emissions of gas-fired units	3,089	3,244	3,347

Unit: 10,000 tons of CO₂e



Taipower actively supports the government's goal of achieving net-zero emissions by 2050. In the short term, the Company is focused on expanding renewable energy, reducing coal usage, and strengthening the power system. Over the long term, Taipower aims to transition to carbon-free technologies such as hydrogen and ammonia power, carbon capture and storage (CCS), geothermal energy, and marine energy. Taipower also plans to adopt new technologies like long-term energy storage and high-voltage direct current (HVDC) transmission to accommodate intermittent renewable energy.

To achieve net-zero emissions, Taipower has developed strategies from three approaches: the supply side, the demand side, and the grid side.

1. The Supply Side: To achieve net-zero emissions in power generation, Taipower is actively exploring emerging carbon-free technologies. These include the development of new technologies that use hydrogen or ammonia as alternative fuels for power generation, as well as the implementation of carbon capture, utilization, and storage (CCUS) technologies to capture and store CO₂ emissions from the power generation process. Taipower is planning demonstration projects for hydrogen (gas-fired units) and ammonia co-firing (coal-fired units) and CCUS, and is collaborating with international technology leaders to drive these initiatives. Taipower is proactively preparing for future technologies by aligning with global trends. In 2025, Taipower plans to establish a carbon reduction technology park at the Taichung Power Plant for testing purposes, with a carbon capture capacity of 2,000 tons per year. The park will also feature a plant factory and an exhibition center to communicate carbon reduction technology information and showcase the Company's achievements in carbon reduction to the public.

Taipower's short to medium-term strategies for power generation align with the government's energy transition goals. In the long term, Taipower will focus on developing advanced carbon-free technologies as outlined below:



Promoting Green Energy

To achieve the goal of promoting green energy, Taipower aggressively promotes renewable energy and sets up both offshore and land-based wind power, solar photovoltaic, geothermal, and small and micro hydropower facilities. In addition to its own development projects, Taipower continues to strengthen its construction of the grid to create a friendly grid-connection environment that encourages the private sector to join in the development of renewables, Taipower is cooperating with the private sector to push forward renewables, and contribute to the country's low-carbon energy structure.

Recent achievements and future plans are as follows:

- ◆ In 2020, Taipower completed a 150MW salt field solar power plant in Tainan. In 2021, a demonstration wind farm project was completed with an installed capacity of 109.2MW. The 0.84MW geothermal power plant in Renze, Yilan is expected to be connected to the grid in 2023. There are also plans for future offshore power generation testing at Green Island.
- ◆ By 2025, Taipower plans to invest in 9 stations and 10 lines of power grid infrastructure to accommodate solar power integration, providing a grid capacity of 6.5GW. By 2030, in support of offshore wind power development, Taipower plans to invest in 7 stations and 7 lines of power grid infrastructure, providing a grid capacity of 11GW.



Increasing Natural Gas

Taipower is striving to transform its power generation structure from the "primarily coal with gas as support" model of the past to a "primarily gas with coal as support" model. The Company is actively renewing and expanding power plants by adding new gas-fired units that have lower carbon emissions and are cleaner than coal-fired units, and pursuing the construction of additional high-efficiency gas-fired combined cycle units, so that the generation system can progress towards lower carbon emissions. To ensure a stable supply of natural gas, Taipower, in conjunction with CPC, has pursued the construction of a third gas receiving terminal. It is hoped this will aid in the unloading and storage of natural gas, stabilize the regional power supply capability, reduce air pollution, and improve energy supply security and the overall power supply economy.



Reducing Coal Use

Considering the impact of coal-fired generation on air pollution and greenhouse gas (GHG) emissions, Taipower plans to conduct a feasibility assessment on the renewal or retirement of environmental protection equipment in existing coal-fired power plants provided a stable power supply can be ensured. At the same time, eco-friendly coal is being adopted to effectively control the air pollution and carbon emissions in the generation process, so that coal-fired units can continue to serve as vital backups.

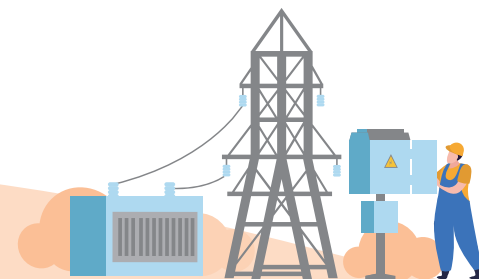


2. The Grid Side : In addition to developing grid connections through existing systems to permit the extensive future addition of renewables, Taipower has initiated Phase 1 of its Offshore Wind Power Grid Strengthening Project. The project will undertake grid reinforcement to accommodate potential offshore wind power projects. Additionally, solar power and an inventory of potential land sites are reviewed on a continuous basis by the Bureau of Energy at the Ministry of Economic Affairs. These grid reinforcement projects utilize a case activation and adjustment approach. Given the gradual and proportional increase in renewable generation, Taipower is actively promoting smart grids as a critical component of a stable power supply. The overall schedule is divided into three stages. The first stage consists of the ongoing deployment of infrastructure. The second stage entails practical operations, where promotion and expansion are the primary tasks. The last stage is to effectively integrate and achieve wide application. According to the policy of national net zero-emissions by 2050, the proportion of renewable energy will reach 60-70% in 2050. In response to the corresponding increase in green power equipment, Taipower's very long-term (post 2030) plan will evaluate and introduce long-term energy storage and build new pumped-storage variable frequency hydro units to maintain a stable power supply. The Company will introduce hydrogen production technology for hydrogen energy storage, produce green hydrogen from surplus renewable power, and provide raw materials required by domestic industrial and transportation sectors, while maintaining the stability of the system. In terms of energy storage, Taipower plans to achieve stability in the energy storage battery system by 2025 with a target capacity of 1,000MW (160MW self-built, 840MW procured). This will help the system to mitigate the effects of the intermittent characteristics of renewables. In the event of an outage, this will allow the system to withstand the tripping of a large unit without triggering a low-frequency relay action that trips off the user load. Recent achievements include the completion of the Donglin Pumped Storage System project (10MW) and the Luyuan Dam Pumped Storage System project (20MW). Taipower will continue to promote the Longtan Energy Storage System project (60MW). In terms of solar energy storage, Taipower has already commissioned the Tainan Salt Field Solar Energy Storage System (15MW), and in the coming years, the Changbin Solar Power Station Energy Storage System project (5MW) will be completed.

3. The Demand Side : Demand-side management typically entails demand response and energy conservation. Demand response can, in turn, be divided into two categories depending on the economic incentives: price-based or incentive-based. Price-based responses, such as seasonal electricity prices and time-of-use rates or providing time-zone differentiated rates, allow users to decide to reduce power consumption in specific periods according to price signals. In contrast, incentive-based responses, such as planned, temporary and demand-based bidding measures, provide tariff deduction incentives and agreed load shifting during periods of tight power supply or high cost. Taipower has actively implemented demand response through five mechanisms. These include holding large user forums and power-saving activities, screening target users, producing publicity materials, strengthening cooperation with government units, and cooperating with industrial and commercial conferences for publicity.

In the domain of energy conservation, Taipower has pursued energy-saving advocacy and promoted various activities in line with the government's policy. Measures include:

- ◆ Planning new power-saving measures: asking users to save electricity during specific hours through the Home Energy Saving Program with smart meters
- ◆ Advocating through multiple channels: continuously expanding the organization of various power conservation advocacy meetings, media exposures, and creative power conservation competitions, etc.
- ◆ Promoting energy-saving consumption diagnosis: providing users with power-saving recommendations
- ◆ Providing smart digital services: e-billing and the Taiwan Power APP
- ◆ Coordinating with government policies: the County-City Collaborative Electricity Saving Initiative for Residential and Commercial Users discloses information about residential, commercial, and industrial electricity consumption in each county and city on the website, and continues to optimize the data



2.4 Integrity and Compliance

2.4.1 Integrity and Compliance

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Ethical Code ▶▶



All Personnel

All Taipower employees shall abide by laws and regulations such as the Code of Ethics for Personnel under the Ministry of Economic Affairs and the Directions on Lobby Registration and Checks for the Executive Yuan and its Subordinate Agencies. Any employee who requires clarification on any ethical issue or has legal compliance-related questions may consult specialists from Taipower's Department of Civil Service Ethics, with full protection of their rights and interests.



Procurement Personnel

Taipower's procurements shall abide by the Company's Ethical Guidelines for Procurement Personnel, and the Points of Attention for Interaction between Procurement Personnel and other Businesses. The Company offers frequent training for its procurement personnel to help them perform their duties fairly, honestly and in compliance with pertinent laws without giving, asking, or expecting favors. Taipower has also established an Anti-Corruption and Legal Affairs Office to offer consultation services. The Company emphasizes fair and open procurement processes in order to improve procurement efficiency, performance, and quality.



Management

Taipower seeks to ensure that reviews for individuals with administrative liabilities or suspected in fraud or bribery cases are dealt with in a timely, effective and fair manner. As such, the Company reviews the administrative liabilities of both individuals involved in fraud/bribery and their managing supervisors to ensure the implementation of Taipower's integrity management.

Anti-Corruption Measures ▶▶

As a state-owned enterprise, Taipower executes specific policies and measures from the Executive Yuan's National Integrity Building Action Plan. The Company has implemented the Ministry of Economic Affairs' Guidelines for the Implementation of the National Integrity Building Action Plan in its planning and promotes various ethics-related tasks. Taipower has also integrated these measures within the private sector, as the Company employs the highest integrity standards for itself and in its external interactions.

Every year, Taipower sets up a plan for supervising the integrity of its business administration. Part of this plan seeks to implement Management by Wandering Around (MBWA). Through on-site visits, case file investigations, and comprehensive seminars, Taipower is able to ensure the understanding and implementation of civil service ethics within each unit. The aforementioned tasks are conducted in order to improve work deficiencies, enhance work performance, and demonstrate the function of civil service ethics within the organization. In 2022, a total of 59 units were inspected through on-site and phone interviews. The civil service ethics units have effectively implemented tasks related to civil service ethics.

Additionally, Taipower holds an Ethics Conference once a year. Attendees are responsible for planning an Integrity Work Plan, as well as performing consultations, supervision, and evaluations of the subsequent implementation of the ethical operations. For details on the conference, please refer to the Ethics Conference section of Taipower's official website.

Taipower launched a Business Risk and Integrity Investigation Authority Communication Platform in 2019. The platform seeks to reduce integrity risks and eliminate inappropriate interference. The Company has also organized regular meetings and visits, invited prosecutors to give speeches, and held business transparency seminars to ensure smoother business operations for Taipower. In 2022, a total of 69 Taipower units visited local prosecutors or chief prosecutors in their districts. Taipower invited prosecutors to give 23 lectures to promote business transparency. The Company will continue to pursue good relations with judicial authorities and to promote business transparency.

Regarding interactions between procurement personnel and suppliers, Taipower makes reference to the Ethical Code for Personnel under the Ministry of Economic Affairs and has promulgated a set of Precautions on Interactions between Taipower Procurement Personnel and Other Businesses. The precautions not only provide specific guidelines for interactions between procurement personnel and suppliers, but also safeguard the professionalism, integrity and reputations of procurement personnel. The Company continues to strengthen employee integrity education and training and to promote avoidance of conflicts of interest in accordance with the Implementation Plan for the Enhanced Dissemination of Civil Service Ethics at Taipower.

Taipower has established two procurement integrity platforms: the "2022 High-Calorific Value Coal Spot Purchase" and the "Offshore Wind Power Second Phase Project - Wind Farm Material Procurement with Installation." These platforms facilitate cross-sector communication and collaboration between Taipower, the Northern and Central Prosecutors' Offices, anti-corruption agencies, investigation units, and relevant vendors from both public and private sectors. Additionally, Taipower has set up a dedicated section called the "Procurement Integrity Platform" located on the Business Announcements/Information Disclosure section of its website. Through this platform, Taipower proactively provides relevant information on procurement cases for external scrutiny and oversight, aiming to enhance the planning and execution of procurement projects.

Procurement Integrity Platform ▶



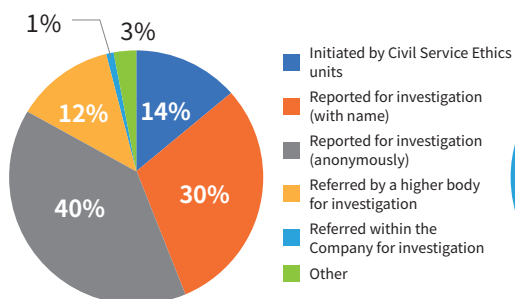
Promotion of Anti-Corruption Campaigns ▶▶

Taipower actively conducts anti-corruption advocacy for employees and suppliers, enhances understanding of the ethics and laws among relevant personnel, and consolidates an anti-corruption consensus between Taipower and its suppliers to prevent corruption. The training sessions held in 2022 included the publication of a monthly integrity e-newsletter, employee integrity project promotion, online training courses, and integrity seminars.

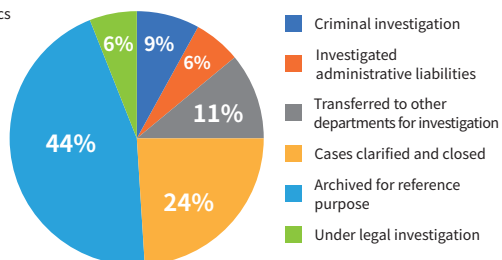
Cases Investigated in 2022 ▶▶

There were 492 ethical investigation cases closed in 2022. They were categorized according to the source of the cases, as shown in the figure below. Among them, the ratio of "anonymously reported" cases is still high at 40%. Nevertheless, as long as the content of reports is specific and has verifiable information, Taipower conducts proper investigations.

Sources of Corporate Ethics Cases in 2022



Handling of Corporate Ethics Cases in 2022



Cases in Which Employees Are Charged with Regulatory Violations ▶▶

In 2022, Taipower had one employee who was prosecuted for violating the Anti-Corruption Act. The case involved suspicions of accepting bribes related to the formulation of procurement regulations for a vendor. In response to the above incident, Taipower reiterated its anti-corruption position and approach. In accordance with its anti-corruption policy, Taipower will reinforce integrity education and training and anti-corruption related advocacy for its employees and vendors to prevent the recurrence of similar incidents.

Cases in Which Employees Are Sentenced for Violating the Anti-Corruption Act ▶▶

In 2022, Taipower had one case where an employee failed to comply with procurement regulations. The employee colluded with a vendor to falsely report payment items for computer purchases and to misappropriate funds. This action constituted a violation of the Anti-Corruption Act, specifically the offense of embezzlement by a public servant taking advantage of their position. The court rendered a final judgment in this case, sentencing the employee to 2 years of imprisonment with a 5-year probation period.

Internal Risk Control ▶▶

The internal control system is designed and implemented by the management department. The first and second lines of defense are reviewed, adjusted, and improved on a continuous basis according to risk identification and self-assessment results. To further confirm the effectiveness of the internal control system, the internal control of a third line of defense is carried out. In accordance with the Financial Supervisory Commission's Regulations Governing the Establishment of Internal Control Systems by Public Companies and the Enforcement Rules for Internal Inspection of National Corporations under the Ministry of Economic Affairs, Taipower's Internal Inspection Office of the Board of Directors devised and executed an Annual Inspection Plan in 2022.

In 2022, patrol inspections took place at 66 units. There were also an additional 18 special project inspections. The Company then completed an annual internal control system self-assessment report. The scope of the assessments included all of Taipower's operating units, allowing the Board of Directors and the President to assess the effectiveness of the Company's overall internal controls. The report also served as the primary basis for the Company's 2022 Annual Internal Control System Statements. Future improvements in internal auditing are proposed as follows:

(I) Assist in implementing internal control audits and the control of high-risk matters

1. Assist the Business Division in promoting internal control audits, verify the risk issues identified by the Business Division or the issues presented by the CEO. Hold an annual internal control audit review meeting to share and exchange information.
2. Strengthen the inspection and tracking of high-risk internal control issues by using patrol inspections, project inspections, and the internal control information platform. Assist the management department in implementing internal control of high-risk issues.

(II) Examine immediate responses to risks, reinforce prevention management, and enhance the value of inspections

1. Conduct project inspections based on Taipower's preventive mechanisms for power outage incidents, continuously monitor the progress of relevant units, strengthen control measures for high-risk internal control issues, and conduct in-depth investigations based on significant corrective actions from higher authorities such as the Audit Department and Control Yuan, to assess the improvements made by each unit.
2. Align with Taipower's 2023 annual goals of "stable power supply," "grid resilience," "financial sustainability," and "net-zero emissions," develop inspection directions and focus areas to assist units in preventive management and enhance operational efficiency.

2.4.2 Compliance

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Taipower is a state-owned public utility and its operations are governed by the Company Act, the Securities and Exchange Act, and other general laws and regulations, in addition to the Administrative Law for State-Owned Enterprises and the Electricity Act. Consequently, Taipower's organization, accounting, auditing, budgeting, business planning, utility rates, and development and management of electricity resources must be approved by the Ministry of Economic Affairs. Specifically, the Ministry's State-owned Enterprise Commission is responsible for supervising and managing the various operations at Taipower. The Bureau of Energy is the regulatory authority for the electricity industry, and is responsible for communicating and transmitting relevant instructions to other ministries, such as the National Development Council, or the National Audit Office. The implementation of corporate policies must comprehensively account for the provisions of various laws and regulations and their impacts on policy development.

Legal Compliance and Awareness Campaigns ▶▶

In an effort to boost employee awareness of the Company's legal affairs and to ensure compliance, the Legal Affairs Office organizes multiple sessions of its "Practical Legal Issues – Case Studies and Solutions Seminar" at different units along with other training events each year. The office also provides legal consultation services to help units address and resolve legal issues in their operations and to ensure that all employees abide by the pertinent regulations.

Administrative Sanctions for Labor Issues ▶▶

In 2022, there were three labor penalty cases that fall within the scope of this report (the cases were directly connected to Taipower rather than related legal entities). All three cases were associated with violations of the Labor Standards Act. Key points are as follows:

- (1) Taipower was fined NT\$50,000 for failing to include the "full attendance bonus" in the calculation base for hourly wages, resulting in inadequate payment for overtime hours. This case mainly arose due to the difference in wage categorization between Taipower and the labor authorities. The salary and benefits provided to Taipower employees are governed by the Administrative Law of State-Owned Enterprise and relevant regulations from superior supervisory authorities, implementing a unified salary system. The categorization of wages is not within the Company's authority and is determined by the authorities. The aforementioned cases have all been appealed through the statutory remedial procedures and are currently under administrative litigation. A review has been conducted on the previous penalties, and response strategies have been proposed, reiterating the Company's stance and practices.
- (2) Taipower was fined NT\$50,000 for failing to notify the labor union within the statutory 24 hours when employees' working hours exceeded 12 hours due to an unforeseen incident. Additionally, a fine of NT\$20,000 was imposed for not providing compensatory leave to employees within 7 days after suspending their rest days due to an unforeseen event. Furthermore, the Company was fined NT\$50,000 for failing to pay overtime wages for working on a "compensatory workday." In the future, the unit will enhance its promotion and awareness of relevant labor laws and regulations to prevent similar incidents from occurring again.

Administrative Sanctions for Industrial Safety ▶▶

Taipower received 21 penalties for industrial safety in 2022 and the types of cases are as follows:

- Failure to implement work communication and adjustments
- Failure to inspect the workplace
- Failure to use insulated protective equipment, protective devices, and facilities
- Failure to inform labor about the working environment or hazardous factors in advance
- Failure to set up necessary safety and health equipment and measures

In response to the aforementioned violations, Taipower has planned training (re-education) sessions and strengthened pre-job training for employees in accordance with the Guidelines for Enforcement of Violations of Safety and Health Regulations by Contractors of Taiwan Power Company. When the same types of failures or violations of the Terms and Conditions of Safety and Security of the Ministry of Economic Affairs occurs, the Company rigorously imposes additional fines. In addition, based on the result of big data analyses, units with more violations or serious cases will be selected for enhanced inspection and listed as targets of enhanced inspection for the year.

In the future, Taipower will continue to participate in the Ministry of Labor's Inter-ministerial Platform Conference on Disaster Reduction at State-owned Public Enterprises and in the Ministry of Economic Affairs' Disaster Reduction Working Group. Taipower will continue to participate in quarterly conferences to discuss and review matters related to industrial safety and disaster reduction and will promote the implementation of occupational safety and health in its business.

Administrative Sanctions on Environmental Protection Issues ▶▶

In 2022, a total of NT\$330,000 in environmental fines was imposed on Taipower. The number of penalties (excluding policy penalties) was a decrease from the previous year. The case with the highest environmental penalty amount in 2022 involved an electrostatic precipitator (EP) malfunction at Unit 3 of Taichung Power Plant. During the EP malfunction, the opacity level of the Continuous Emission Monitoring System (CEMS) exceeded the emission standards, violating Article 20, Paragraphs 1 and 2 of the Air Pollution Control Act. The Company was fined NT\$600,000. At the time of the EP malfunction, the Taichung Power Plant's ongoing operation was essential to maintaining a stable power supply and Unit 3 could not immediately be shut down. Consequently, the plant submitted a written report to the Taichung City Environmental Protection Bureau within the required timeframe, thus meeting the criteria for an exemption from penalties under Article 89 of the Air Pollution Control Act. Despite this, the Taichung City Environmental Protection Bureau insisted on imposing the penalty. The case was subsequently reviewed and settled on March 25, 2022, and it was determined that the violation was not attributable to factors directly within the control of the power plant but rather to policy factors.

Environmental penalties are particularly prone to negative evaluation by the general public and seriously affect the Company's image and operations. Therefore, the following proactive actions for environmental protection will be taken to effectively prevent environmental penalties and maintain the Company's image:

- Implementation of an environmental management system and follow-ups on items that did not meet requirements
- Inspections of environmental protection for on-site operations without prior notice
- Annual discussions on environmental protection violations
- Construction of indoor coal bunkers and the improvement of wastewater treatment plants
- Promotion of the setting of prices for individual environmental protection facilities and implementation requests

The Company's thermal power plants and engineering units are committed to continuing to improve the operational processes that have failed to meet environmental regulations. Unit supervisors and deputy supervisors have also been asked to strengthen on-site environmental protection management by wandering around and verifying compliance with environmental protection regulations.

	Number of Sanctions	Penalties Amounts (Thousand NTD)
2020	6	680.5
2021	7	5,384.5
2022	3	330

Note: The number of penalties in the table has excluded policy-related penalties. The statistics for the past three years are as follows:

In 2020, there were seven policy-related fines and the amount of fines was NT\$5,761 thousand.

In 2021, there were three policy-related fines and the amount of fines was NT\$650 thousand.

In 2022, there was one policy-related fine and the amount of the fine was NT\$600 thousand.

2.5 Strengthening Supplier Management

As a state-owned enterprise, Taipower manages all types of suppliers in accordance with the requirements of laws and regulations. Suppliers must satisfy all environmental, social, and other legal requirements for all services and materials they provide. The Company uses these regulatory criteria to select appropriate partners during its tendering and evaluation processes.

2.5.1 Supplier Management

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Taipower's suppliers include providers of fuel, materials, and equipment necessary for power generation and as well as suppliers of external electric power. The Company monitors the potential risks associated with suppliers with different characteristics and manages their quality, output, and impact on the environment and society. Management of different types of suppliers is described as follows:

Fuel Supplier Management ▶▶

The main fuels used in Taipower's thermal power plants are natural gas, coal, and fuel oil. Nuclear power plants also require nuclear fuel. Taipower adheres to the four strategies of energy supply diversification, long-term supply contracts, safe inventories, and stable coal transportation to ensure stable fuel supplies. The Company provides power plants with fuel promptly and of a suitable quality and quantity to ensure the safety and stability of the power supply. Detailed measures and actions are described below:







Energy Supply Diversification

 <p>LNG</p> <ul style="list-style-type: none"> • Supplied by CPC; Continual tracking of CPC's sources of supply. • CPC has long-term contracts with sources in Qatar, Australia, Papua New Guinea, and the United States to achieve the goal of energy supply diversification. 	 <p>Coal</p> <ul style="list-style-type: none"> • Caps are set on coal originating from each single coal source country and supplier for long-term contracts. 	 <p>Fuel Oil</p> <ul style="list-style-type: none"> • Fuel oil is supplied by CPC Corporation. • Diesel fuel is supplied by both CPC Corporation and Formosa Petrochemical Corp. 	 <p>Nuclear</p> <ul style="list-style-type: none"> • Nuclear fuel processing is spread out across 2-3 suppliers.
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Long-Term Supply Contracts

By signing various long-term contracts, Taipower is able to reduce uncertainty in procurement and achieve a steady fuel supply.

 <p>LNG</p> <ul style="list-style-type: none"> • Signed fixed-term contracts with CPC • Plans to construct LNG receiving stations at Taichung and Hsieh-ho power plants and to independently import LNG that will be used by some of the newly constructed gas units. 	 <p>Coal</p> <ul style="list-style-type: none"> • Fixed-term contracts for 70-80% of the coal supply with the remainder replenished by spot contracts. 	 <p>Fuel Oil</p> <ul style="list-style-type: none"> • Procured from local suppliers through fixed-term contracts to guarantee security of supply. 	 <p>Nuclear</p> <ul style="list-style-type: none"> • Given that current long-term contracts and inventories are sufficient to accommodate demand, uranium procurement has been suspended. • Signed long-term contracts for all nuclear fuel enrichment services.
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Safe Inventories



LNG

- Accordance with the stipulations of the Taipower and CPC Contract and Early Warning Mechanism for LNG Supply and Demand, Taipower urges CPC to maintain ready LNG inventories of more than 80,000 and 100,000 tons for dispatch to the CPC Yong'an and Taichung Plants respectively.
- Planned corresponding responses with CPC in the case of accidents and established terms agreed to by both parties.



Coal

- The law requires that coal inventory must be sufficient for at least 30 days of the average daily amount consumed in the previous year.
- Taipower has adopted 40 days of inventory as its planned basis for 2022, in which one day of inventory is defined as the average daily usage of coal in the previous year.



Fuel Oil

- The operating stock of fuel oil is 140,000~190,000 kilotons.
- The diesel inventory is established in accordance with the specific supply and transmission conditions at each power plant.



Nuclear

- The safety stock for uranium is set at three year's volume of use.

Stable Coal Transportation

Taipower's coal carriers transported approximately 3.4 million tons of coal with a 11.58% shipping ratio in 2022. The self-management of coal transportation ensures stable fuel supply and dispatching

Natural Gas Procurement >>

In response to the current energy transition policy, Taipower's thermal power generation has entered an era of primarily using gas with coal as support. As a result, the steady supply of natural gas has a critical influence on the stability of electricity supply. At this stage, all of Taipower's natural gas is supplied by the CPC Corporation (hereinafter referred to as CPC). Hence, Taipower is actively working with CPC to establish an even more complete contact mechanism to cope with the impacts of the external environment on the electricity supply. Taipower's natural gas expenditure reached \$252.1 billion in 2022.

Taipower will disperse its sources of natural gas procurement in the future. In addition to purchasing LNG from CPC, Taipower plans to construct its own LNG receiving stations at the Taichung and Hsieh-ho power plants. Related feasibility studies have been approved by the government and the government's approval has been granted to purchase LNG from the international market to be used by newly constructed gas-fired power generation units at the Taichung, Hsieh-ho and Tung Hsiao Phase 2 power plants. This not only enables Taipower to have greater autonomy in its sourcing of LNG to reduce the overall cost of fuel procurement but also works to the Company's advantage in power dispatching and providing system characteristics that increase LNG supply stability and safety.

The Natural Gas Supply and Demand Contact Mechanism and Early Warning System for Taipower and CPC

Frequency	Means of Communication
Annually	<ul style="list-style-type: none"> • Each year before the end of May, Taipower sends revised data to CPC if monthly estimates for gas consumption in the second half of the year require revision. • Each year before August 20, Taipower sends CPC monthly estimates of total gas consumption and maintenance schedules for all gas units for the following year. • Each year before the end of October, Taipower officially informs CPC of any revisions to its monthly estimates of total gas consumption.
Quarterly	<ul style="list-style-type: none"> • Both parties take part in a quarterly supply coordination meeting to discuss relevant issues on LNG usage.
Monthly	<ul style="list-style-type: none"> • Before the 25th of each month (N), Taipower sends a written "Planned Daily Gas Consumption Table" for the next two months (N+2) and its planned monthly gas consumption for the next three months (N+3) to CPC by mail. In turn, CPC is required to verify its 45-day/90-day shipping schedule with international suppliers prior to the 15th of each month. This ensures that appropriate dispatching is performed according to Taipower's requests.
Daily	<ul style="list-style-type: none"> • CPC updates its LNG usage and inventory notice by no later than 10:30 a.m. every day (including holidays) through fax or email. • Prior to 4:00 p.m. on each workday, Taipower faxes its Daily LNG consumption estimates for the next fortnight to CPC. If the gas usage for the next fortnight affects LNG supply and the shipping schedule cannot be changed, CPC will contact Taipower and ask for appropriate adjustments to the daily estimates on LNG usage for the following two weeks. • Should CPC's gas pipeline construction affect the normal LNG supply for Taipower, CPC will try to schedule construction during holidays and send notice to Taipower in advance so that Taipower can make relevant adjustments without compromising power supply safety.
Under Special Circumstances	<ul style="list-style-type: none"> • If the planned construction of CPC's gas pipeline project is expected to affect the normal gas supply of Taipower, it should be scheduled during holidays whenever possible. CPC should also provide written notification to Taipower in advance, allowing Taipower to cooperate while ensuring the safety of power supply is not compromised. • As Taipower is responsible for supplying power to CPC's Yong'an and Taichung LNG storage systems, in the event of power outage/rationing that affects the supply of LNG, Taipower will coordinate with CPC first to make optimal arrangements.



Coal Procurement ▶▶

For coal procurement, Taipower has established a Coal Procurement Review Taskforce, with membership consisting of personnel from the Department of Materials, Procurement Regulation Enforcement, Procurement, and the Legal Affairs Office. To make decisions more comprehensive and information more transparent, external experts in energy, economics, and legal affairs are invited to serve as advisory committee members. To ensure that environmental protection requirements are met, high-quality coal is provided to all coalfired power plants.

Taipower has enhanced the competitiveness of its bidding projects by revising its procurement regulations and diversifying its coal sources. In the process of conducting the "2022 Coal Procurement", Taipower has strategically timed its coal purchases and effectively utilized the quantity selection rights in each long-term contract. When compared with market prices, Taipower has successfully reduced its coal purchasing expenses by approximately NT\$27.5 billion.

Coal Expenditure (Billion)	2021		2022	
	Total Procurement Quantities (Unit: Ten Thousand Tons)	Ratio (%)	Total Procurement Quantities (Unit: Ten Thousand Tons)	Ratio (%)
	820.78		2,120	
Coal Source	Total Procurement Quantities (Unit: Ten Thousand Tons)	Ratio (%)	Total Procurement Quantities (Unit: Ten Thousand Tons)	Ratio (%)
Australia	1,499	52%	1,460	50%
Indonesia	1,222	43%	1,290	44%
Russia	92	3%	122	4%
Colombia	54	2%	42	1%
South Africa	8	0%	23	1%
Canada	0	0%	9	0%

Electricity Suppliers ▶▶

To ensure a stable supply of electricity and to enhance economic vitality and flexibility, the government lifted restrictions on private power producers and adopted Taipower's avoidable costs generation as a pricing principle. Starting in 1996, Taipower was permitted to purchase thermal electricity generated by independent power producers (IPPs) in accordance with an announcement from the Ministry of Economic Affairs that allowed for the establishment of private power plants. The process works as follows: the Ministry of Economic Affairs first conducts qualification reviews. Qualified operators then submit their electricity prices for bidding before Taipower signs a contract with the winning bidder.

For the purchase of electricity generated through cogeneration and renewable energy, the procedure is governed by the Enforcement Rules of the Cogeneration System and the Renewable Energy Development Act. Taipower is obligated to purchase the electricity wholesale, but is not required to follow the bidding procedures outlined in the Government Procurement Act.

However, as of January 2017, following the promulgation of the most recent amendments to the Electricity Act, the Ministry of Economic Affairs will no longer permit privately-owned power plant license applications. Taipower's power supply capacity will now be determined by the electricity industry's regulatory authority when assessing the power supply. When there is electricity demand, a procurement procedure will be initiated. Contracts will be reviewed and the starting price for bidding will be set. Then public bidding will be handled following the provisions of the Government Procurement Act. A public meeting will be held to explain the bidding process to potential suppliers that are interested in bidding. The bidding will be closed and finalized after a qualification and specification review, as well as bargaining and comparing prices.

As of the end of 2022, Taipower has signed contracts with 11 independent power producers (IPPs), 47 co-generation power providers, and has 50,980 contracts for renewable energy including solar, wind, hydropower, and others. A full 62.5kWh of electricity was purchased from external sources in 2022.

Fuel Supply ▶▶

Taipower currently purchases fuel oil exclusively from CPC, but diesel from both CPC and the Formosa Petrochemical Corporation. Both contractors have ample supply capability and conform to the relevant governmental laws and regulations. The appropriate operating stock of fuel oil and diesel oil is set according to the supply and transmission conditions at each power plant, and the fuel expenditure in 2022 reached \$23.1 billion.

Nuclear Fuel ▶▶

The procurement of nuclear fuel involves the purchase of uranium and subsequent processing services for conversion, enrichment, and fabrication. To comply with the government's nuclear-free homeland policy, Taipower has suspended uranium procurement as the current inventory is sufficient for the operation of nuclear power plants until they are decommissioned. Demand for Nuclear fuel processing services will exist until 2025, and has been covered by long-term contracts. In 2022, nuclear fuel expenses reached \$0.893 billion.

Suppliers of Materials and Equipment ▶▶

The Materials Supply Chain

Taipower provides professional internal training and consultation for issues associated with the Government Procurement Act. Training ranges from front-end material numbering, supplier capability reviews, and the establishment of qualified supplier lists and management to requisition and demand management, procurement, acceptance, and logistics operations. Taipower is also actively implementing supply chain digitalization and has established Enterprise Resource Planning (ERP), a Supply Chain Management (SCM) platform, and a Warehouse Management System (WMS) to achieve internal and external network collaboration and to construct a comprehensive system.

The Equipment Supply Chain

Taipower used ISO 9001 to integrate its evaluation/re-evaluation/inspection/feedback steps on defects when executing supplier management and auditing. This ensures the quality, cost, and delivery of power-related equipment and devices provided by suppliers. Taipower also revised relevant regulations to establish a quality assurance program for electrical equipment. The Company requires suppliers to develop the capacity to design and supply qualified products and to prevent non-compliance throughout the production process from design to service.

2.5.2 Creating a Sustainable Supply Chain

Review and Procurement Standards for Taipower Suppliers ▶▶

Supplier Review Standards Pursuant to the Government Procurement Act

To ensure material quality, maintain power supply safety, and to improve procurement efficiency, Taipower reviews the bidding documents of suppliers in keeping with the Government Procurement Act.

In 2022, Taipower received a total of 3,328 material procurement tenders from 1,055 domestic suppliers and 45 foreign suppliers, for a total of 1,100 suppliers. A total of approximately NT\$113.3 billion in tenders was awarded. Domestic tender awards totaled approximately NT\$99.6 billion and accounted for approximately 88% of the Company's procurement of property. Among them, the tender awards for selective tendering came to roughly NT\$71.8 billion and accounted for approximately 63% of Taipower's total procurement of property. There were 61 contracted suppliers (the tender awards for items that fell under the purview of the localization policy came to approximately NT\$34 billion and accounted for approximately 32% of Taipower's total procurement of property.) The tender awards for other types of tenders amounted to approximately NT\$41.5 billion which accounted for approximately 37% of Taipower's total procurement of property.

Process of Screening the List of Selectively Tendered Materials, Equipment and Qualified Suppliers

To improve the effectiveness of management and control, Taipower has adopted the principle of centralized management. Where the utilization of equipment is frequent and numerous units intend to use the said equipment, the overall consideration of supply and demand must be reserved and the application of purchase, procurement, final acceptance, storage, and transportation of equipment should be handled in a unified manner to save costs.

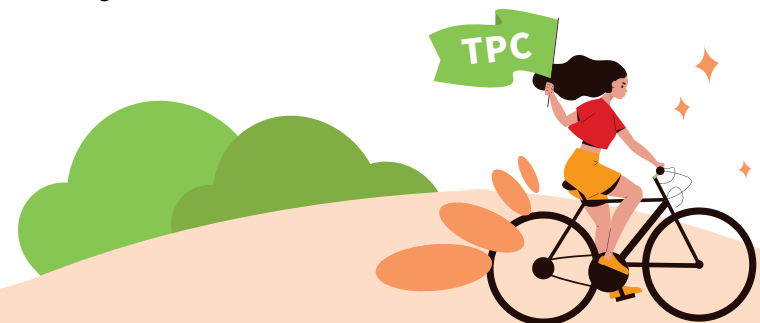
To facilitate the efficient processing of these tenders, Taipower has established a list of qualified material and equipment suppliers, who are screened according to the following process:



Taipower has established the General Principles of Reviewing Supplier Equipment Manufacturing Capacity in Selective Tendering and Review of Supplier Capability as a supplier selection mechanism. Suppliers wishing to participate in a bidding process must obtain a Certificate of Manufacturing Capacity. When applying for manufacturing capability review, the supplier shall provide the Company with a relevant equipment list, independent inspection report, incoming material inspection, independent inspection form, maintenance plan, and other documents. In addition, the supplier's quality management system must be certified by relevant local professional organizations to ensure its performance capability, manufacturing quality, and safety.

Bidding Evaluation for Primary Power Generation Equipment Suppliers of Thermal Power Plants

1. Taipower employs a restricted bidding process to recruit technical service consulting firms. In the evaluation criteria titled "vendor's understanding of service matters," Taipower incorporates environmental regulations, aimed at selecting consulting firms that possess comprehensive knowledge of environmental regulations and the latest developments. This facilitates the consideration and inclusion of the latest environmental regulations and environmental impact assessment commitments in the bidding specifications for primary power generation equipment, ensuring compliance by suppliers.
2. Currently, Taipower has established environmental chapters in the bidding specifications for primary power generation equipment procurement projects or associated facility construction projects. It requires contractors to follow construction site management practices and comply with environmental laws and regulations such as air pollution control, water pollution control, waste management, marine pollution control, and environmental impact assessment. The specifications also stipulate that a certain percentage of the contract amount (environmental protection fees) must be allocated exclusively for environmental protection measures. The objective is to minimize the environmental impact during the construction process within the framework of environmental protection regulations.



Supplier Evaluations and Audits ▶▶

Taipower conducts supplier re-evaluation based on its Re-evaluation Guidelines of Power Equipment and its Review of Supplier Capability and Management of Qualified Manufacturers policy. Suppliers with Certificates of Manufacturing Capacity must conduct re-assessments before the expiration dates of their validity periods (up to three years) to maintain their qualifications.

During the re-evaluation process, Taipower conducts a comprehensive evaluation of supplier manufacturing capacities, quality management systems, manufacturing equipment, and lists of equipment that require inspection, suppliers of components or raw materials, delivery conditions in the most recent three years, and improvement measures for misusing equipment. Suppliers that meet the requirements are issued Certificates of Manufacturing Capacity. When suppliers fail to meet requirements, they are given a limited period in which they can propose improvement measures. Suppliers that fail to propose improvement measures without valid reasons are required to re-apply for their Certificates of Manufacturing Capacity.

In 2022, Taipower strengthened its auditing of material suppliers. Among 154 qualified suppliers in selective bidding, 28 were re-evaluated which accounted for 18%* (The eligibility period of re-evaluation was three years, and the eligibility cycles of different materials from the same supplier were also different, therefore the re-evaluation was conducted on those who had expired eligibility periods). In addition, the Company conducted inspections during the manufacturing process and on-site audits of suppliers a total of 416 times.

Note: The number of suppliers assessed for risk accounted for 18% of the 28 selective tendering suppliers, which represents 18% of all the total of 154 (144 domestic and 10 international) suppliers.

Sustainable Supply Chain Goals ▶▶

Greater Emphasis on Supplier Governance

Suppliers are crucial partners in ensuring the stable power supply of the Company. In addition to qualities such as product quality, delivery timing, price, and technical capabilities, Taipower will prioritize supplier corporate governance, environmental considerations, and social aspects in the future. Together with its partner suppliers, Taipower aims to construct a more resilient and sustainable supply chain, demonstrating its corporate social responsibility.

Future Plans

To practice sustainable supply chain management and fulfill its corporate social responsibility, Taipower's procurement specifications will not only include material quality requirements but also place significant importance on evaluating suppliers based on their environmental safety and occupational health, financial practices and corporate governance, as well as their labor conditions. Taipower will establish a list of qualified suppliers and conduct selective bidding to enhance procurement efficiency while aligning with the Company's business strategy and social responsibility. As a pilot project, Taipower has already implemented these measures for industrial gas procurement.

Moving forward, Taipower will conduct planning and implement research strategies for sustainable supply chain management, leveraging experienced institutions or teams. In addition to the existing focus on quality, delivery, cost, and service (QDCS) evaluation systems, Taipower will collaborate to develop supplier codes of conduct, supplier sustainability commitments, supplier ESG evaluations, and practical guidelines. Initially, these measures will be applied to company-level materials and suppliers. Once proven effective, they will gradually expand to other materials and suppliers, ultimately achieving sustainable supply chain management. The research project is expected to be completed in the second quarter of 2024.

Implementation Plan of Taipower's Anti-corruption Procurement Platform

Taipower has established an anti-corruption platform to improve risk prevention, incorruptibility, public-private cooperation, administrative transparency, national supervision, and other factors that help ensure that procurement projects can be completed on schedule and at the appropriate quality. The anti-corruption platform has established a transparent procurement system that facilitates cross-domain cooperation, ensures compliance and appropriateness of various decisions and operations, avoids disputes, and increases audit frequency. In cases where there are reasonable doubts, these are handled immediately to avoid risk expansion. Throughout the implementation of this plan, Taipower regularly visits relevant units to ensure their compliance in decision-making and operations. The Company also establishes cross-domain communication channels and invites the Prosecutors Office, the Agency Against Corruption, and investigative agencies to participate in procurement processing. Taipower also invites professional institutions, external experts, scholars, and civic groups to participate.

The "2022 Procurement of High Calorific Value Bituminous Coal" Integrity Platform held two business liaison meetings and conducted one educational advocacy event in 2022. The "Offshore Wind Power Phase 2 Project - Wind Farm Equipment Procurement with Installation" Procurement Integrity Platform visited the prosecutor's office, integrity agencies, and police departments three times, held one business liaison meeting, conducted two educational advocacy events, and organized one corporate integrity seminar in 2022. In the future, we will improve the planning and execution of procurement cases by utilizing information disclosure, organizing business liaison meetings, visiting and inviting integrity agencies for mutual visits, and inviting prosecutors to give speeches, in order to prevent undue external interference.