A Powerful New Age

2016 Taiwan Power Company Sustainability Report

Reporting Principles

This is the tenth issue of the annual Sustainability Report published by Taiwan Power Company (Taipower). This year, the statistics and disclosures in the report have been compiled in accordance with the “Core” option of the G4 Guidelines of the Global Reporting Initiative (GRI). This report has been verified by the British Standards Institution (BSI) Taiwan to ensure that the report meets the requirements of the Core Option of the GRI G4 Guidelines and the GRI Electric Utilities Sector Disclosures, as well as the accountability principle standards (APS) in AA1000 (Type I Moderate Level).

The contents featured in this Sustainability Report have been compiled from data submitted by relevant units of Taipower. To ensure the accuracy of report and meet stakeholders’ expectations, each year, an editorial meeting is held upon the completion of the report’s initial draft for all data-submitting units to review the contents of the report and provide feedback on the report. All contents of the report must be approved by the corresponding supervisor, the President and Chairman before publication.

Following the last report of “Change for Power”, Taipower’s 2016 Sustainability Report will adopt “A Powerful New Age” as its main structure to further demonstrate Taipower’s efforts and effects of organizational transformation in 2015, showing how Taipower’s new mission and vision have guided the company in the process of organizational transformation to make Taipower’s endeavor of being sustainability visible in public.

Period Covered by the Report

From January 1 to December 31, 2015 (For the sake of complete disclosure and comparability, the report also includes some historical data.)

Scope of the Report

This report covers Taipower’s data and information regarding sustainability issues and achievements within the areas of economic management, social responsibility and environmental sustainability.

Inquiries

This report is also available in English. You can download the full version of English report from Taipower’s website. Taipower has established a brand new section on Sustainable Development in 2015. It functions as a platform to communicate with stakeholders about its performance on sustainability issues (including issues of lower materiality such as “Contribution to Society,” which are not disclosed in this report). We also added a section for stakeholders and questionnaires to communicate with our stakeholders. In addition, the Information Disclosure section on Taipower’s website is also updated regularly to provide the latest statistics on six major aspects of the company’s operation, including management, power generation, environment and so forth. We will be very glad if you have any feedback regarding Taipower’s Sustainability Report. This will enable us to better meet your requirements and publish the next Sustainability Report in the third quarter of 2017. You can contact us by the following methods:

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Sustainability Report 2007/ Published August 2007

Sustainability Report 2008/ Published August 2008

Sustainability Report 2009/ Published August 2009

Sustainability Report 2010/ Published August 2010

Sustainability Report 2011/ Published August 2011

Sustainability Report 2012/ Published August 2012

Sustainability Report 2013/ Published August 2013

Sustainability Report 2014/ Published August 2014

Sustainability Report 2015/ Published August 2015

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Statement from the Chairman

In 2015, the year had proven to be a critical turning point in terms of sustainable development for both the international community and Taipower. Under UNFCCC, COP21 of the United Nations Climate Change Conference was held in Paris. We have also witnessed the corresponding establishment of various low carbon alliances, such as the Carbon Pricing Leadership Coalition (CPLC) and the Breakthrough Energy Coalition. Falling international fuel prices and our people's effort helped Taipower achieve an impressive profit of NT$ 61.8 billion before tax. The figure not only meant a substantial increase in surplus (compared to NT$ 47.8 billion of 2014) but also set a record. Facing rapid and dramatic changes in the external environment, Taipower has been striving for development through stability. In 2016, Taipower recreates new missions, visions and management philosophy for the company through reformation of Taipower's divisional structure so that we may stay sustainable development in both the local and international market.

In 2015, we obtained significant results in the areas of corporate governance and sustainability of environment and society, which we will illustrate through the following five aspects: "Improving operational efficacy", "Strengthening social communication and Enhancing information disclosure", "Driving organizational transformation", "Passing on the company heritage" and "Building a green enterprise":

Improving Operational Efficacy

Power generation and reliability are vital indicators of operational efficacy for a power company. In 2015, the thermal efficiency of our fossil-fired power plants (gross Higher Heating Value, HHV) reached 39.05%, with net generation reaching 126.3 GWh. The SAIDI diminished to 16.268 (min./cus./Yr.), and the line loss rate dropped to 3.72%. All of them set all new records for our company.

In 2015, our performance again received recognition through numerous awards. Internationally, in the Getting Electricity Index in Doing Business 2016, released by the World Bank, Taiwan ranked No.2 among 189 economic entities worldwide and received full marks for the reliability of supply and transparency of tariffs index. Domestically, Taipower's Sustainability Report 2015 was honored with the Energy Industry Gold Award and the Climate Leadership Award and Creativity in Communication.

Strengthening Social Communication and Enhancing Information Disclosure

Taipower is well aware of the importance of communication with the society. Externally, we have created a dedicated section on tariff rate disclosure and constructed the Taipower Green Network in 2015 to ensure bilateral communication with stakeholders on the topics of concern (i.e. tariff and sustainability). In addition, a reporting system was established for the handling of public opinion and emergencies to ensure response and proactive disclosure of relevant information to the media in time. Internally, we have organized demonstration and observation tours for relevant units to share their experiences and insights on communication. In 2015, Taipower has strengthened its communication with stakeholders by expanding both its depth and width.

Driving Organizational Transformation

In light of the development for power industry liberalization, Taipower has implemented the final review of accounting separation and separation of generation and grid functions and the promotion of relevant progress in 2015. Raising cost awareness and clarifying the balance of payment enable the divisional structure we have adopted for 2016 to operate smoothly. At the same time, Taipower has established four divisions of Power Generation, Nuclear Power, Transmission System and Distribution and Service to serve as concrete proof of Taipower's efforts and results with regards to organizational transition on January 1, 2016.

Passing on the Company Heritage

Being people-oriented and passing on the company heritage have been key management philosophies for Taipower, and these have been realized in two ways: "promoting company heritage development" and "improving human resources". With regards to the former, Taipower has continued to promote its gallery to exhibit a variety of public art pieces and strived to create a user-friendly, multi-functional art space by means of "event marketing". As for the latter, through diverse head hunting solutions to attract talents to join the company, in addition, we have established an organizational culture that emphasizes sharing and learning to foster staffs' competence to comply with changes, and would be able to avert risks of human resource gaps.

Building a Green Enterprise

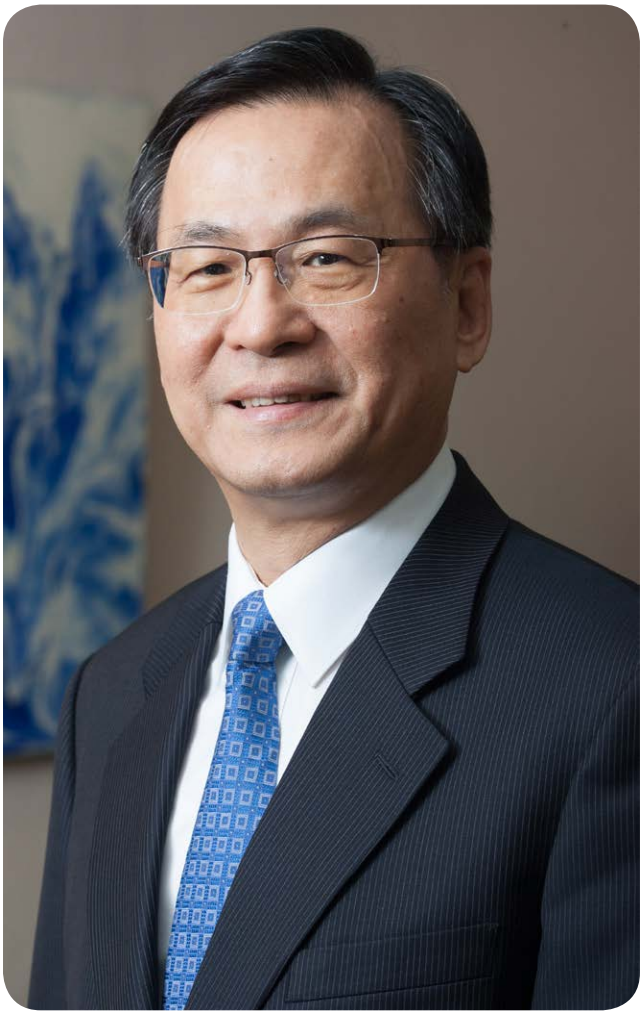
Taipower has continued to develop and promote its Green Action Plan in 2015, including onshore wind power, solar power, small hydro and geothermal plan, conversion of hydro power plants into ecological classroom and the establishment of environmental protection strategy platforms to construct a green enterprise. Through

Statement from the Chairman

the improvement of transmission system efficiency and the enhancement of grid technology, Taipower will increase its ratio of low-carbon energy generation so as to fulfill its mission to become an eco-friendly enterprise. On top of that, Taipower has also promoted demand bidding to assist customers in energy conservation whilst actively improving green energy purchase. In 2015, Taipower's corporate clients purchased more than 0.15 GWh of green power, equivalent to 3600% growth compared to that of 2014.

Looking forward to Taipower's sustainable development, the company shall embrace new corporate missions and vision as the core of our operation in 2016 through two specific approaches – "consolidating our profession" and "seeking development". In other words, Taipower will operate based on "operational performance", "social communication", "human resources" and "divisional structure" as we continue to expand our business. Our power planning will focus on "energy conservation, green energy, low carbon emission and stable nuclear power generation". Under the commitment of reliable power supply, Taipower shall achieve our carbon reduction objective by working on both the power supply and demand. At the same time, we will devote equal attention to maintaining our ecological environment and cultivating green attitude in order to create a green lifestyle. By constructing a green supply chain and becoming a green enterprise, we shall fulfill Taipower's new mission to be an environment-friendly company.

In Taipower's 70th anniversary, I'd like to express my sincere gratitude to the support and feedback from all stakeholders. Under the company's new mission and visions, Taipower commits itself from a "bureaucracy body" that primarily carried out government policies to be a "business body," which emphasizes efficiency and effectiveness. After seven decades of operation and service to the society, Taipower is expected to soar.



Note: Dr. Chu Wen-Chen has become the Chairman of Taiwan Power Company as of August 5, 2016.

Chairman

Chu Wen-Chen

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1.1 Profile of Taipower

1.1.1 Introduction

Taiwan Power Company (Taipower) was established on May 1, 1946. It is a vertically integrated electrical power utility company. Its business scope includes generation, transmission, distribution and sales of electricity. As a state-owned enterprise, Taipower bears the obligation to supply electricity as stipulated in the "Electricity Act". Power sales accounted for 98.1% of Taipower's revenue in 2015. As of 2015, the Taipower system (including independent power plants, IPPs) had a total installed capacity of 41.04 GW. Its main energy sources comprise thermal and nuclear power, combined with hydro and other forms of renewable energy. In terms of transmission and distribution, at the end of 2015, Taipower operates 606 transmission (sub) stations along 17,412 km of transmission lines and 361,201 km of distribution lines.

Founded: May 1, 1946

Coverage: Taiwan, Penghu, Kinmen, Matsu Areas

Headquarters: Taipei

Capital: TWD 330 billion

Stock: 96.92% government-owned, 3.08% private-owned

Total assets: TWD 1,935.45 billion

Annual revenue: TWD 617.56 billion

Employees: 26,659

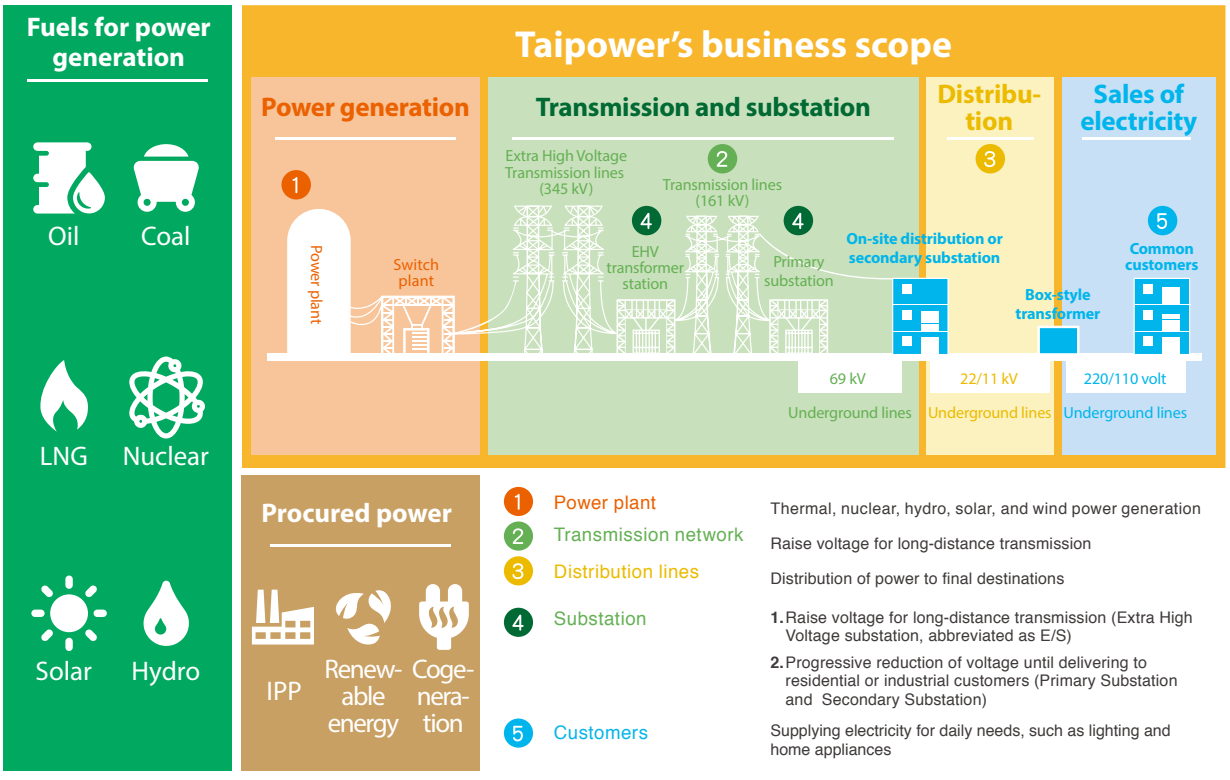
Customers: 13.61 million

Installed capacity: Taipower system 41.04 GW
(Taipower-owned 31.42 GW)

Power generated and purchased: 219,104 GWh

At the upstream of the power generation, transmission and distribution value chain are the fuel suppliers. After Taipower procures fuel from suppliers (Fuel for thermal and nuclear power generation are all imported) to generate electricity, purchases electricity from independent (gas/coal), achieve cogeneration, and build renewable power plants, all this electricity are distributed from Taipower network to customers. The vertical integration of power generation, transmission, distribution and sales ensures a stable and high-quality electricity supply.

In response to the development of the power market in the future, Taipower has initiated organizational transformation to define the boundaries of relevant tasks and responsibilities through the separation of generation and grid functions and separation of accounting system. In addition, the company has also established its four major divisions of Hydro and Thermal Power Generation, Nuclear Power Generation, Power Transmission and Supply and Power Distribution and Sales in January 2016 in order to improve the company's operational efficacy, facilitate sustainable development and deliver outstanding power services to our customers.



Taipower and Sustainability

Major Changes to Power Structure in 2015

Inauguration of new power plants	Planning for Nuclear power usage
▌The new Linkou Unit 1 was commissioned on November 20, 2015 and it is scheduled for commercial operation in 2016. It is the first ultra-supercritical pressure coal-fired unit in Taiwan that operates at high efficiency with low pollution. It functions as an important step taken by Taipower to improve its energy efficiency and facilitate friendly environment. ▌The retrofit project for Tachiachi Hydropower Plant Qingshan Branch has also been com-pleted, and it started commercial operation on December 29, 2015.	▌Nuclear power plant No. 4 waslaid-up on July 1, 2015. The government also convened the 4th national Energy Conference with the topic of “Viable Source of Power in the Future?”, and invited participants from relevant sectors to discuss possible solutions. ▌Topics of discussion include “Postponement of decommissioning of nuclear power plants 1~3 under safety assurance” and “Start-up nuclear power plant No. 4 for commercial operation”. However, given the unsolved controversies of nuclear power issues, Taipower will revise its “Power development policy”.

Plant Average Availability in 2013 - 2015

Unit		Energy Type	Average Availability in 2013	Average Availability in 2014	Average Availability in 2015
Thermal	Steam power	Oil	89.45	90.20	93.87
		Coal	90.94	92.68	90.31
		LNG	87.16	91.21	93.66
	Combined cycle	LNG	89.48	89.44	89.43
Nuclear		Uranium	90.53	92.00	75.26
Hydro		hydro	92.46	92.63	91.81
Wind		Wind	91.66	93.81	89.49(*93.23)

Note:

- Thermal Unit Availability = (1- Period Unit Impact on Power Supply/No. of Hours/Unit Max Net Output)
  Thermal Plant Average Availability = Σ (Unit Availability × Unit Max Net Output)/Σ Unit Max Net Output
- Nuclear Various Units Availability = Annual No. of Hours of Parallel Power Generation/Annual Total No. of Hours
  Due to the damage on the connecting hardware for the water channel of an atrium 10 fuel at nuclear power plant 1 Reactor 1 in 2015, the power plant was rendered non-operational for the entirety of 2015 and this has caused the decrease in average nuclear availability.
- Hydro Unit Availability = (Operational Period + No. of Standby Hours)/Annual No. of Hours
  Hydro and Nuclear Power Plant Annual Availability = Arithmetic mean of Unit Annual Availability
- Wind Power Plant Annual Availability = No. Hours of Power Generation (including non-active hours)/Annual No. of Hours
  *Average availability excluding the wind power plants damaged by typhoons in 2015

As a state-owned company, Taipower's business follows State-owned Enterprise Act. Therefore, all Taipower units, accounting, auditing, budget, business planning, utility rates, and long-term purchase and sales contracts must gain the approval of the governed authority,the Ministry of Economic Affairs.It transmits related commands of other divisions, including the MOEA Bureau of Energy, Executive Yuan’s National Development Council and the National Audit Office etc.

In addition, Taipower should obey relevant regulations , under Government Procurement Act, Accounting Act, Electricity Act, etc. As such, the promotion of any policy shall involve comprehensive consideration of all pertinent regulations. This is the most difference that sets Taipower apart from typical private enterprises.

1.1.2 Taiwan's Power Plants and Power Grid

Taipower and Sustainability

1.1.3 Participation in External Organizations

Taipower communicates with 44 organizations, including international associations, power companies of other countries and academic institutions in 2015. The following organizations below follows a list of organizations in certain projects or committees, which take into account Taipower's participation and strategic importance to Taipower organizations:

International Association for Energy Economics, IAEE

The IAEE strives to provide an interdisciplinary forum for the exchange of ideas, experiences and issues among professionals interested in energy economics to solve the issues of global energy supply and demand, economics, technology and environmental protection. The association has members in over 100 nations and 27 national chapters. Taipower is one of the main members of IAEE and attend various annual IAEE or regional conferences and seminars on relevant topics each year.

Electric Power Research Institute, EPRI

Taipower participates in numerous EPRI research projects, which make up a large portion of its external communication expenditures. In 2015, Taipower participated in a total of 19 projects (10 nuclear and 9 non-nuclear) and split the costs with EPRI while sharing and applying the results of relevant EPRI studies to improve Taipower's power operation and research performance. In November 2015, Taipower's Department of Distribution and Nuclear Power Plant 3 won EPRI's Technology Transfer Award, which serves as a concrete result of innovation from the utilization of EPRI's researches.

The Association of the Electricity Supply Industry of the East Asia and the Western Pacific, AESIEAP

AESIEAP is a regional, non-official international organization comprising the electricity supply industries of East Asia and Western Pacific regions. The chairman of Taipower serves as a board member and its executive director. To promote exchanges and cooperation amongst power utilities in the Asia-Pacific, AESIEAP holds the Conference of the Electric Power Supply Industry (CEPSI) every year, and a roundtable-style CEO Conference. The AESIEAP CEO Conference was held from October 25 through 28 in 2015, with "Energy Sustainability and Security: Choices and Challenges for Power Supply Industry" as the theme for the event. The President of Taipower represented the Chairman as a board member of AESIEAP to attend the event and AESIEAP's 41st Board Meeting.

Chinese Association for Energy Economics, CAEE

CAEE serves as a crucial platform for energy-related communication and exchange between industries, governments, and academia in Taiwan. Taipower's Chairman currently serves as a standing member of the board and the President as board member while more than 80 Taipower employees are members of the Association. The Association holds an annual conference with paper presentations and panel discussions that foster the progress of Taiwan's economy, technology, and energy expertise. Furthermore, the CAEE is Taiwan's communication channel to the International Association for Energy Economics (IAEE). Each year, Taipower dispatches a delegation to attend the annual IAEE conference to share information and expand cooperation on an international level.

East Asia Electric Technology Research Workshop

The East Asia Electric Technology Research Workshop was jointly initiated by the CEPRI, CRIEPI and the KERI. When Taiwan Power Research Institute became a member of the workshop in 2010, it was renamed to East Asia Electric Technology Research Workshop and the objective for the workshop focuses on the discussions on the latest important research topics.

The East Asia Electric Technology Research Workshop Seminar for 2015 was held in Taiwan. With "Micro Grid & ICT Applications" as the theme of the event, Taipower took the issues such as demand management, advanced metering infrastructure (AMI), renewable energy, power system simulation, material and power system maintenance and experiment measurements into the seminar topics.

In 2016, Taipower will attend various events hosted by the East Asia Electric Technology Research Workshop, CRIEPI's annual conference, AESIEAP, International Electric Research Exchange (IERE), Electric Power Research Institute (EPRI), the Taipei International Invention Show and Technomart and so forth in order to increase Taipower's international exposure through participation in domestic and foreign power technology discussion and exchange sharing while establishing channels for international collaboration.

Taipower and Sustainability

1 2 3
4 5

1. AESIEAP CEO conference
2. IAEE annual conference
3. CRIEPI-TPC annual conference
4. East Asia Electric Technology Research Workshop
5. AESIEAP CEO conference

1.1.4 Taipower's Mission and Vision

With the ongoing changes that are taking place in the external environment, the inevitable wave for sustainable development has swept the world and brought about significant changes to the format of management and business model of power industries. In response to such changes in the external environment, Taipower has revised the company's mission, vision and management philosophies in 2015 in order to guide the company's operations and change our staffs' management mentality so that Taipower may advance towards the path of becoming an outstanding, sustainable power utility group.

Taipower's Mission: to deliver stable power required by the society's needs for diverse development in an environment-friendly manner at reasonable costs.

Power is a crucial resource that is vital to the daily livelihoods of the society and the development of various businesses. Thus, maintaining reliable power supply has always been a fundamental mission for Taipower. Guided by an open attitude, we will include independent power generation, cogeneration and suppliers of renewable energy into our power supply system so that we can work together and achieve the goal of delivering reliable power supply at reasonable costs. Because current energy industries rely on non-renewable resources for development to facilitate environmentally friendly development, Taipower is committed to the active development of renewable energies while introducing clean energies that are low in pollution and carbon emission. At the same time, given the existing trends of power industry development, Taipower will also be strengthening its customer relationship management. By taking factors such as varying needs from residential and corporate customers, we shall deliver differentiated services through specific technology and smart services, thereby enabling our customers to lead "energized lifestyles of greater convenience".

Finally, facing the challenges arising from the global trend of sustainable development and the power market in the foreseeable future, Taipower will also be implementing organizational transformation to evolve from a state-owned business to a corporate organization with divisional structures. By cultivating our staffs' cost awareness to enhance our operational efficacy, Taipower shall achieve its objective for sustainable operation and management.

Taipower and Sustainability

Taipower Vision: to become a prestigious and world-class power utility group.

Excellence	We shall endeavor to strengthen our management efficacy and improve our management performance in order to compete with the international benchmark power companies whilst constantly improving ourselves so that we may grow mutually with our customers and the society as Taipower evolves to become an outstanding, sustainable power utility group.
Trustworthy	We firmly believe that the trust of the society and our customers will help us earn their respect and recognition—the highest level of achievement for corporate management that a company may attain. We pass down Taipower's spirit of "professional, down-to-earth, diligent and responsible". As we strive to provide reliable power supply, we bear "open, diverse, green and culture-oriented" attitude in mind to enhance corporate governance. Guided by philosophies of "integrity, caring, service and growth", we shall foster relationship of mutual assistance and trust with all stakeholders so that Taipower may become an inseparable partner in the lives of the general public.
A world-class power utility group	Despite being a state-owned enterprise, Taipower shall steer itself towards corporate/conglomerate operation in order to cultivate its competitive strengths while capitalizing on all opportunities for development in order to extend its management advantages to emerging sectors of energy conservation and green energy. By collaborating with our business partners to cultivate the offshore markets, we will be able to inject new energies for growth to the company.

1.1.5 Management Philosophy and Strategy

Our Management Philosophy

Taipower's corporate culture is "people first" and the "pursuit of excellence".

Taipower and Sustainability

Five-Pronged Business Strategy

Taipower's overall business strategy is annually reviewed and established. It consists of "Creating Value", "Reducing Costs", "Fulfilling Social Responsibility", "Improving Customer Service" and "Reengineering the Company". These aspects of operation are reviewed and adjusted by a rolling system annually in accordance with the changes in the business environment. Given the new corporate mission, vision and management philosophy Taipower has adopted in 2015, we have referred to the key performance indicators for international benchmark power industries in the establishment of corresponding action plans and performance measuring indicators for the five-pronged business strategies. Through comprehensive planning, execution and control system, we shall ensure precise and thorough execution of these strategies.

Inundated with the trends of low carbon economy and sustainable development in the near future, as the primary supplier of power in Taiwan, Taipower's power planning and management strategies in the future will put more emphasis on objectives such as energy conservation, green energy and lower carbon emission. Under the premise of delivering reliable power supply, we shall tackle the challenges from both the power supply and demand ends in order to accomplish our goal of reduced carbon emission and fulfill our mission as an environment-friendly company.

Taipower and Sustainability

1.2 Corporate Governance

1.2.1 Governance Structure

Organizational Structure of Taipower

Taipower modified its organizational structure on December 17, 2015 and officially launched its new divisional structure on January 1, 2016. Presently, the company consists of 17 divisions (including the four major business divisions: Hydro and Thermal Power Generation, Nuclear Power Generation, Power Transmission and Supply, and Power Distribution and Sales, and the Headquarters) that report directly to the President and Vice-Presidents.

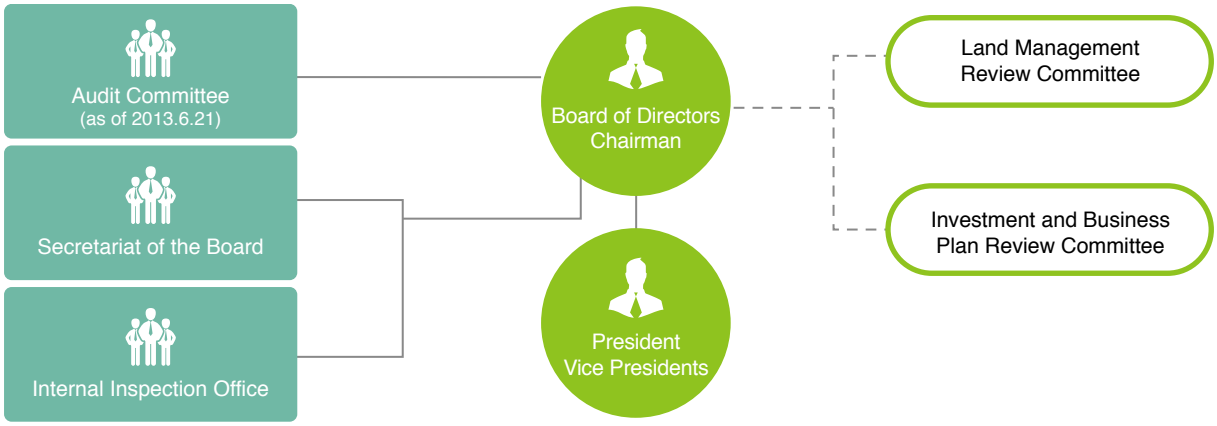
Revised on December 17, 2015

Note:
1. Taiwan Power Research Institute reports to the President directly.
2. ◎ Units that are not located at the headquarters.

Organization of the Board of Directors

According to Taipower regulations, the Board of Directors consists of 15 directors, elected by the shareholders' meeting. In accordance with the provisions of the Securities and Exchange Act, the Board shall reserve three seats for independent directors, who make up the Audit Committee. The three independent directors are expected to contribute their expertise from different professional backgrounds and extensive experience in order to help the Board oversee Taipower's management and identify potential risks in management. The Board of Directors elects five managing directors, including one independent director, among directors. The terms of Directors (including independent directors and managing directors) are two years, and can be extended with subsequent terms. Pursuant to the Administrative Law of State-Owned Enterprise, no less than 1/5 of the seats on the Board shall be reserved for candidates representing the government's stake in the company and these candidates shall be recommended by unions with official requests from the competent authority in charge of state-owned enterprises. Thus, the fifteen directors of Taipower shall include five managing directors, three independent directors (two of whom serving as managing directors), and three directors representing labor. In addition, the Audit Committee (consisting of the three independent directors) was established as the result of the board of director election during the shareholders' meeting, held on June 21, 2013, will replace the auditors.

The Taipower Board of Directors consists of the following members:



The list of directors (newly elected, incumbent and serving consecutive terms, including independent directors) from the shareholders' meeting held on June 26, 2015 is as follows:

Position	Name	Concurrent Position	Remark
Board Chairman (Managing Director)	Hwang Jung-Chiou	Chairman of Taipower	Assigned by MOEA/ serving consecutive term
President (Managing Director)	Chu Wen-Chen	President of Taipower	Assigned by MOEA/ serving consecutive term
Managing Director	Chang Tzi-Chin	Deputy Director of the Environmental Protection Agency	Assigned by MOEA/ serving consecutive term
Managing Director (Independent Director)	Ma Kai	Economic advisor, Money Weekly; Chief Editor, Economic Daily	Nominated by MOEA/ serving consecutive term
Managing Director (Independent Director)	Chen Hsin-Hung	Research Fellow, Director of the Second Research Division, Chung-Hua Institution for Economic Research	Nominated by MOEA/ serving consecutive term
Director (Independent Director)	Tsai Yann-Ching	Professor, Department of Accounting, National Taiwan University	Nominated by MOEA/ serving consecutive term
Director	Wu Tsai-Yi	President, Taiwan Research Institute	Assigned by MOEA/serving consecutive term

Taipower and Sustainability

Position	Name	Concurrent Position	Remark
Director	Ma Hsiao-Kan	Professor, Department of Mechanical Engineering, National Taiwan University	Assigned by MOEA/ serving consecutive term
Director	Lee Min	Professor, Department of Engineering and System Science, National Tsing Hua University	Assigned by MOEA/ serving consecutive term
Director	Bien Tai-Ming	Professor, Department of Land Economics, National Chengchi University	Assigned by MOEA/ newly appointed
Director	Chang Ssu-Li (Female)	Professor, Institute of Natural Resources Management, National Taipei University	Assigned by MOEA/ newly appointed
Director	Yao Chiang-Lin	Director, Chung-Hua Cross-Strait Labor Relations Development Association 6th and 7th Director, Taipower Labor Union	Assigned by MOEA/ newly appointed
Director	Shih Chao-Hsien	Representative, Taipower Labor Union	Labor union representative sent by MOEA/serving consecutive term (newly appointed in May 2015)
Director	Lin Wan-Fu	Representative, Taipower Labor Union	Labor union representative sent by MOEA/serving consecutive term
Director	Liu Han-Tong	Representative, Taipower Labor Union	Labor union representative sent by MOEA/serving consecutive term
Managing Director	Wu Sou-Shan	Chairman, Gre Tai Securities Market	Assigned by MOEA/ ncumbent
Director	Lin Chien-Yuan	Professor, Graduate Institute of Building and Planning, National Taiwan University	Assigned by MOEA/ incumbent
Director	Chou Li-Fang	Professor, Department of Public Finance, National Chengchi University	Assigned by MOEA/ incumbent (resigned in March 2015)
Director	Wu Cheng-Tai	Representative, Taipower Labor Union	Labor union representative sent by MOEA/ incumbent (retired in May 2015)

Enhance the Function and Effectiveness of the Board of Directors

The Board of Directors take responsibilities of establishing and maintaining the company's vision, determining the company's strategies, supervising the management and being accountable to the stakeholders. As a state-owned enterprise, Taipower not only arranges business operation but also plays the role of a public policy executor. Therefore, Taipower's board of directors put more emphasis on integrity management and the objectives, strategies and management of sustainable governance. The following section will cover the operations of the Board of Directors:

Board of Directors operations

A board meeting is convened once a month to review and discuss matters that management teams must report to the Board. All statements made by directors are included in the record. During the meeting, the Chairman will give instructions on tasks to be completed by respective divisions and tracked accordingly so that the progress for specific tasks can be reported during the following board meeting in order to establish a thorough performance tracking and evaluation system.

In 2015, the board was convened 14 times, with an average attendance rate of 88.3%. The records of the monthly board meetings are disclosed on Taipower's intranet and its website as reference for Taipower employees and external stakeholders.

Taipower and Sustainability

Board of Directors Project Review Meetings

The BOD has established the Land Review Com-mittee and the Investment and Business Plan Review Committee, reporting important issues to the BOD's Audit Committee, such as acquisition and sale of land, large engineering and investment projects, operational budgets and so forth while providing suggestions to help the BOD in the decision make process. In 2015, the Land Review Committee was convened 11 times and the Business Plan Review Committee 7 times.

Managing Directors Meetings

The Managing Directors Meeting was held, as the BODs adjourned, to accelerate the issuance of corporate bond and etc. In 2015, five Managing Directors Meetings were convened, with an average attendance rate of 84%.

The operation of Independent Directors and the Audit Committee

Taipower's Audit Committee comprises only independent directors serving on the BOD. The committee is responsible for the review and approval of the company's adjustments of the internal control system, internal control statements, acquisition and disposal of assets, derivative transactions, major financial loans, financial reports, planning of report review and so forth.

In 2015, a total of five Audit Committee Meetings were held and the committee approved of contents, including Taipower's financial reports over 2014, subsidy towards losses, internal control system inspection report for 2014, asset depreciation year adjustment review for 2015, unaudited financial report for the first half of 2015 and evaluation of the commissioned accountant's independence and fitness, 2015 financial report review planning, asset depreciation year adjustment review for 2016 and so forth. In 2015, the average attendance rate for independent directors in the Audit Committee Meetings was 93.3%.

Pursuant to the Securities and Exchange Act, should the independent directors raise objections or reservations in the BOD meetings, their objections/reservations should be duly noted in the records and published on the Market Observation Post System (MOPS). In 2015, the independent directors did not raise objections or reservations in the BOD meetings and their average attendance rate was 95.2%. The fact that Taipower's independent directors actively participated in the operations of the Audit Committee and Review Committee reflects that Taipower BOD has been operating soundly and that its independent directors have fully carried out their functions and duties.

Shareholders' Meeting effectiveness

Taipower held a Shareholders Meeting on June 26, 2015, in accordance with the provisions of the Company Act and Taipower's Articles of Association Providing 2014 Business Report, the Audit Committee's 2014 Financial Statement, the 2014 Corporate Bond Report, the 2013 Closure of Accounts and Loss Compensation Report, the 2015 Partial Adjustments to Real Estate, Facilities and Equipment Durability Report, the amends of the terms of Article 11 of Taipower's Article of Association and so forth.

Disclosing corporate governance information

Information on the organizational structure and operations of the BOD (including the Audit Committee) is released on the Board of Directors section and the Corporate Governance section of the Taipower website. It is also incorporated in the 2016 Taipower Report to the Shareholders Meeting and disclosed on the Market Observation Post System (MOPS).

Taipower and Sustainability

Continuing Education for Directors

In 2015, a total of 42 Taipower's directors (including independent directors) have taken part in relevant training courses on corporate governance and sustainable management, completing a total of 143 hours of training. The duration of training completed by the directors was compliant with the provisions prescribed in the Listed/OTC Company Director and Supervisor Training Promotion Directions promulgated by the TWSE. Courses completed by the directors covered topics, including environmental education, integrity management, corporate management, risk management, financial information and so forth.

Planning of Future BOD Operations

To ensure improvement in the operational performance for the board of directors, the following plans have been made for 2016:

Improving directors' knowledge and understanding of Taipower's operations

In the future, Taipower will continue to arrange for directors to visit/inspect the sites of the com-pany's major projects in order to help them better understand the situation and progress of the sites. In addition, the management will also invite directors to participate relevant taskforce on the consultation of issues pertaining to key issues on the company's operations in the future so as to raise directors' awareness on Taipower's operations and include their professional input in the decision-making process.

Construct directors' perspective on sustainability development

In response to the trends of sustainable development in the international community, Taipower shall focus on the compilation of relevant sustainability topics such as green energy, low carbon emission, corporate social responsibilities, energy policies and so forth in the format of 2~3 presentations during the monthly BOD meetings in 2016. Once every six months, a rolling review will be made on the monthly topics for the next year in order for the management to make relevant preparations in advance. Adjustments may be made anytime depending on the actual needs of the company's operations or changes in the issues of substantial public concern.

Continual improvement of the performance evaluation system

Taipower shall keep abreast with the latest local and foreign trends of corporate governance so as to implement continual reviews and improvement on the performance evaluation system for the board of directors and the aforementioned committees in order to establish an ideal performance evaluation system, which will in turn boost Taipower's efficacy in corporate governance.

Mechanism to Avoid Conflict of Interest

According to Taipower's Board of Directors Meeting Regulations, directors are required to declare the issues of interest conflict involved with BOD meeting. Any director who damages company advantage is not admitted to joining or even attending the discussion or voting regarding a matter, and is not allowed to represent an absent director in such vote. Prior to each BOD meeting, the aforementioned reminders on avoiding conflict of interest will be stated in the meeting notification.

Remuneration Policy

Taipower is a state-owned enterprise. Hence, the standards for remuneration of its directors (including the chairman) and managers (including the president) are set by the competent authorities, and reported to the shareholders.

1.2.2 Sustainability

Sustainable Development Committee

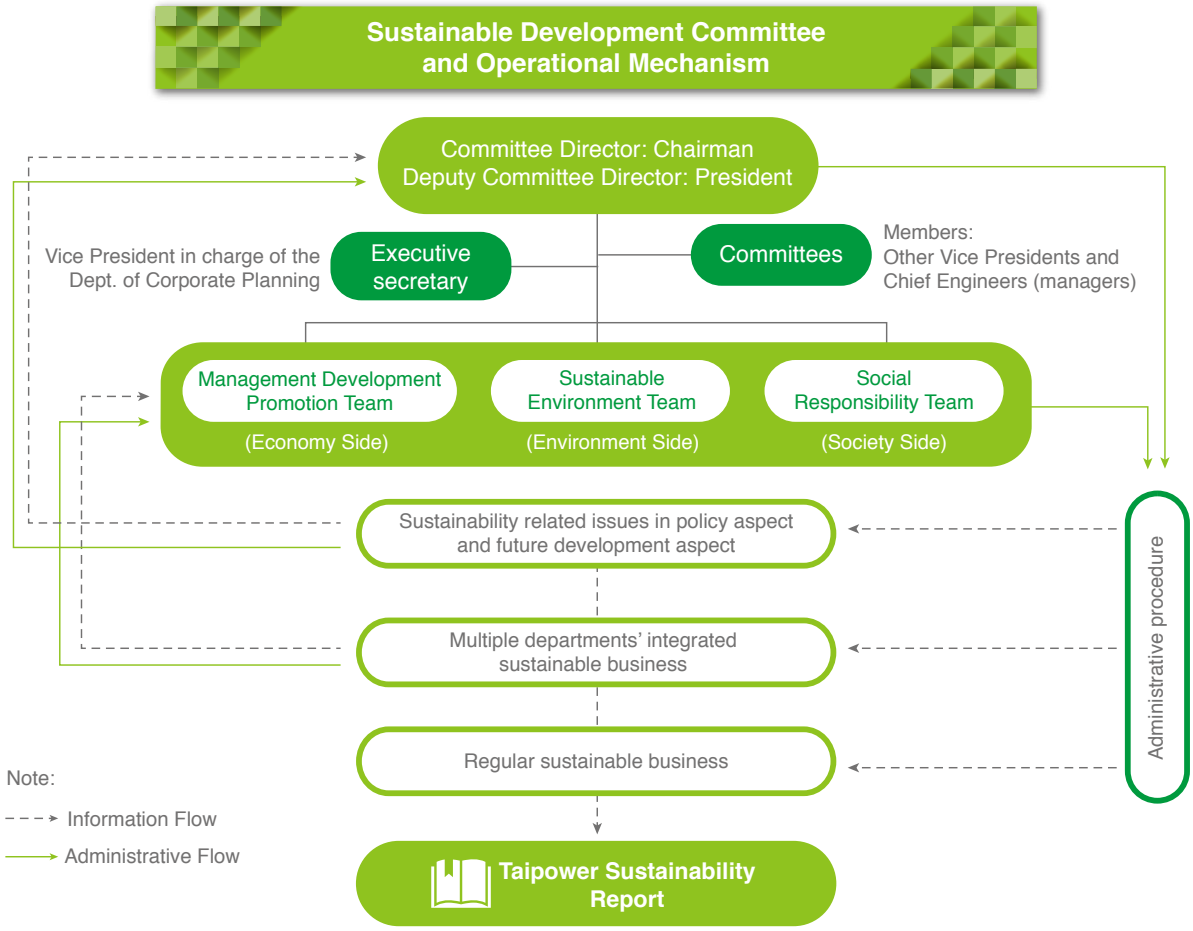
Ever since 2009, Taipower has established a Sustainable Development Committee (SDC) dedicated to the implementation of relevant sustainable development programs and activities. To fulfill its mission, Taipower established its Sustainable Development Committee in October 2015 and reviewed its purpose and model of operation prior to making adjustments to Taipower's internal organization. With the approval from the Chairman, the updated structure, function and operation of the Sustainable Development Committee are as follows:

Taipower and Sustainability

Sustainable Development Committee Structure

Effective from 2015, the Chairman serves as the director of the committee (instead of acting as the committee's advisor) and as the highest-ranking figure responsible for the committee. The Chairman steers the company towards the path of sustainable development. The President serves on the committee as the deputy director, along with a number of members on the committee to be appointed from various VPs and chief-engineers (from the management).

The Sustainable Development Committee subordinates 3 promotion teams: a Management Development Promotion Team, a Sustainable Environment Team, and a Social Responsibility Team, each of which is chaired by a Vice President.



Functions of the Sustainable Development Committee

Taipower has relegated the responsibilities for short/mid/long-term strategic planning and execution of relevant tasks to the Sustainable Development Committee, Management Meeting and meetings of relevant taskforce. The responsibilities of these bodies and results of their operations in 2015 are shown in the table below.

Strategic Category	Responsible Meeting	Responsibilities	Operational Performance in 2015
Short-term strategy	Related taskforce meeting/project platform	Formulation and execution of Taipower's short-term annual strategies	Non-periodic meetings of each taskforce
Mid/Long-term strategy	Management meeting	Formulation and execution of Taipower's mid-term management strategies	Management meeting is held once a fortnight and 26 meetings will be held in a year.
	Sustainable Development Committee	Planning of Taipower's long-term sustainable development directions and establishment of major issues	One meeting to be convened

Taipower and Sustainability

The function of the Sustainable Development Committee (SDC) involves the formulation of long-term development strategy for Taipower and steer the company towards the right path while identifying critical issues relating to sustainable development and offering feedback on the company's direction for long-term development in the management meeting in order to facilitate multi-department integrated sustainable business coordination and negotiations for the promotion of vital issues. In addition, the SDC is also responsible for establishing concrete mid-term objectives and corresponding strategies, action plans and solutions to achieve said objectives to be incorporated into the "Future Management Strategies" report that is updated yearly. The report serves as a description of Taipower's overall strategies, objectives and sustainable development related affairs and action plans and functions as a rolling reflection of Taipower's key plans for future development. After future management strategies have been adequately reviewed in the management meetings, respective taskforce will conduct short-term annual strategy and action plan formulation based on the future management strategies and report the results periodically.

Separation of function for the SDC and other taskforce meetings

Short-term Related taskforce meeting	Mid-term Management meeting	Long-term Sustainable Development Committee meeting
Seven taskforce, internal-external communication platform, green enterprise creative platform	Promote negotiation for major management issues and cross-system resource integration	Planning of long-term development direction and issues of sustainable development

Operating Mechanism of the Sustainable Development Committee

Through three promotional teams, the SDC is able to analyze changes in the external environment and policies through dimensions of management development, sustainable environment and social responsibilities and the results of these analyses are used as references for the planning of Taipower's long-term direction for sustainable development and identification of the company's key issues in order to consolidate Taipower's annual performance in sustainable development. Under the guidance and supervision of the Chairman, the SDC is in charge of the review and feedback on relevant directions on sustainable development and key issues provided by various VPs and external experts on sustainability.

Routine business of each team will be conducted by each unit following Taipower's administrative procedures. Holding meetings to discuss the business involving more than one unit, the conveners of the teams involved should realize the conclusions. Key issues concerning corporate strategies and future development should be submitted to the SDC for consideration.

Key Tasks for the Promotion Team

Management Development Promotion Team	The key tasks for the Management Development Promotion Team in the near future will emphasize the planning of the company's management directions and promotion of management reform so that Taipower could fulfill its mission of becoming a world-class power utility group and management philosophy of pursuit for excellence. With regards to management, through the establishment of Taipower's vision, philosophy and management structure, the team will formulate suitable management planning, which will guide Taipower towards diversified management. As for operation, the team will implement relevant plans for management improvement, power industry liberalization, organizational transformation and diversified management so as to strengthen Taipower's corporate operation.
Sustainable Environment Team	The key tasks for the Sustainable Environment Team will emphasize the shape of Taipower's green corporate image, facilitation of green energy, and low-carbon environment to effectuate Taipower's management philosophy of environmental friendly operation. Through aspects of green lifestyle, architectural energy conservation, green procurement and environmental friendliness, the team shall establish a green, creative platform that will expand low-carbon energy, improve power transmission/distribution efficacy, and boost grid technologies and carbon credit development so as to create a stable supply of low-carbon energy and a low-carbon environment.

Taipower and Sustainability

Social Responsibility Team

The key tasks for the Social Responsibility Team in the near future will emphasize consolidation of Taipower's corporate culture and contribution towards social charity in order to achieve company's "people first" management philosophy. For corporate culture, the team will strive to demonstrate Taipower's cultural qualities through focusing on humanities (i.e. the gallery) and employee care (i.e. Employees' Heart-to-Heart); as for social charity, the team will expand Taipower's involvement in social participation by taking the initiative to care for the general public in order to demonstrate Taipower's resolution in championing the values of social charity.

Sustainable Development Strategy

Taipower's Future Business Strategy integrates the company's directions for sustainable development in the long run and sustainable development strategies for key issues as an extension of future scenarios for Taipower's development. The report also contains the company's long-term development priorities and action plans.

Taipower intends to transform itself from a power supplier to a high-efficiency power utility operator, a smart grid adopter, a high-quality power service provider, a practitioner of Corporate Social Responsibility and an environment -friendly agent in order to achieve our goal of sustainable operation. In addition to Taipower's vision for sustainable corporate development, the company is also paying attention to vital issues of sustainability in the international community to ensure the company's promotion of sustainable development strategies is in line with the trends of global sustainable development. Referring to the 17 Sustainable Development Goals[1] (SDG) published by the United Nations in September 2015, 9 of the SDGs are intricately related to Taipower Future Development Paradigm. As such, Taipower will include the contents of SDGs as one of the key bases for its rolling inspection of sustainable development strategies in the future.

SDGs	Relevance to Taipower	SDGs	Relevance to Taipower
	• UN's Goal: ensure access to the necessary resources and basic services for economic development and livelihood for all • Consideration for Taipower's future development: continual improvement on the ease of accessibility for power service, stability and reliability and endeavor to ensure that remote areas and disadvantaged minorities have access to power services		• UN's Goal: maintain water resource quality and supply; improving the usage efficacy of water resources while reducing wastewater discharge • Consideration for Taipower's future development: continual promotion of footprint inventory for power generation and water usage and inspection of water usage status at various power plants to enhance water usage efficacy; Taipower will also ensure that wastewater discharged (including warm wastewater) is compliant with pertinent regulations to maintain the quality of water resources in the proximity of power plants
	• UN's Goal: increase the ratio of renewable power generation and ensure that reliable and affordable power service is accessible to all • Consideration for Taipower's future development: formulate plans for various renewable energy, improve operational and energy efficacy while continuing to improve the ease of accessibility and availability of power		• UN's Goal: construct quality, reliable, sustainable and durable infrastructures and encourage relevant innovations • Consideration for Taipower's future development: to improve the power efficiency and recovery for basic power facilities and promote innovative development for environmental-friendly technologies
	• UN's Goal: to use natural resources with greater efficiency and reduce the environmental footprint for generation activities • Consideration for Taipower's future development: to improve the overall energy efficiency and required resources for the overall generation/transmission/distribution in order to reduce the environmental footprint for power supply		• UN's Goal: take corresponding actions to mitigate and adapt to changes caused by climate changes • Consideration for Taipower's future development: to actively participate in adaptation plans and mitigation actions while improving energy efficiency, developing renewable energies and enhance existing power generation system's climate resilience

[1] For more information on the contents of UN's sustainable development goals, please click on the following link: https://sustainabledevelopment.un.org/?menu=1300

Taipower and Sustainability

SDGs	Relevance to Taipower
14 LIFE BELOW WATER	• UN's Goal: prevent and dramatically reduce marine pollution to protect the marine ecological system • Consideration for Taipower's future development: to construct ecological power plants that protect the surrounding ecological systems
15 LIFE ON LAND	• UN's Goal: protect the land, maintain ecological systems and promote biodiversity development • Consideration for Taipower's future development: to construct ecological power plants that protect the surrounding ecological systems
16 PEACE AND JUSTICE STRONG INSTITUTIONS	• UN's Goal: to promote corporate ethics and ensure the validity, accountability and transparency of corporate operation • Consideration for Taipower's future development: emphasize corporate governance, integrity management and information disclosure and ensure that various communication channels operate smoothly

The five aspects of Taipower's Future Development Paradigm and corresponding priorities are shown in the diagram below:

Taipower Future Development Paradigm

Sustainable Development Strategy Management Mechanism

Taipower's Future Business Strategy includes medium-term to long-term goals, strategies, action plans, and implementation projects. To reach these goals, Taipower adopts a systematic management method. These goals are monitored and managed by a target system, where Key Performance Indicators (KPIs) are set and used to measure and represent the efficacy of actions taken.

Taipower's reviews quarterly progress by KPIs set out to track the implementation of the Future Business Strategy, and Conference on Tracking and Reviewing Subsystem Goals will be held to track, manage, and control KPIs, if needed. Each business unit also converts and integrates these goals and KPIs into its own operating performance indicators. For every quarter and at the end of the year, these KPIs will be referenced to determine bonuses, which will serve as a means to control the implementation of various objectives and the integration of performance and bonus incentive.

In summary, Taipower thinks highly of sustainable development and adopts this concept into its Future Business Strategy, which is created and implemented by units throughout the company. The final scores of KPIs are linked to performance scores, and a responsibility center manages and controls actions taken toward the set goals. Taipower is working to build consensus and alignment among its workforce to boost endeavors toward future development and sustainable operations.

1.2.3 Integrity Management

Ethics Code

Personnel

All Taipower employees abide by the Ethics Code for Personnel Resorting under the Ministry of Economic Affairs, the Points of Attention for Staff of the Executive Yuan and its Subordinate Bodies, and other policies, laws, and regulations. Any employee who requires clarification on an ethics issue or has legal compliance related questions regarding a particular case may consult specialists from Taipower's integrity unit, with full protection of their rights and interests.

In addition, Taipower also actively promotes corporate integrity. In its communications with close business partners, Taipower shares opinions on this issue and takes in opinions from others. The company encourages other businesses to take their corporate integrity seriously and clarify their reporting mechanisms for integrity issues.

Procurement personnel

Taipower's procurement personnel abide by the company's Ethical Guidelines for Procurement Personnel, and the Points of Attention for Interaction between Procurement Personnel and other Businesses. Taipower offers frequent training to its procurement personnel to help them perform their duties in compliance with the law, with a clear conscience, in a manner that is fair and honest, as well as in a manner without giving, asking, or expecting any favors. Taipower also established its Legal Affairs Office to offer information and advice. The company stresses fair and public processes to improve procurement efficiency and performance, ensure its quality, and promote the further development of its procurement system.

Management

In order to ensure clearly defined rules governing the administrative liability for personnel involved in fraud/bribery and the accountability of their managing supervisors, Taipower has amended and promulgated Taipower's Guideline on the Administrative Liability and Accountability of Personnel which involved in Fraud/Bribery and their Managing Supervisors on December 1, 2015 to facilitate the development of integrity management for the company.

Internal Control and Inspection System

Through its internal control and inspection system, Taipower is able to assist its BOD and management to inspect and review the shortcomings of its internal control system and gauge the company's operational efficacy. Inspections primarily involve on-site inspections and supplemented with written reviews. Examples include inspection visits (routine inspection), project inspection, personal information protection and so forth. In 2015, Taipower paid inspection visits at 63 units, conducted personal information security audits at 15 units and 35 project inspections. In conjunction with the division structure change in 2016, relevant inspections have been designed in accordance with the internal control systems to be implemented by the four divisions in the future.

Taipower and Sustainability

Taipower reviews its internal control and inspection system on a yearly basis to ensure improvement. For 2015, the following measures for improvements were proposed:

Improve the quality of self-evaluation implemented by units internally

Starting from 2015 onward, the process of self-evaluation by all units shall be changed from yearly implementation to quarterly review.

Establish internal control system platform for all units

To enhance the efficiency of the quarterly self-evaluation by all units, the process shall be implemented online through the aforementioned platform in order for the supervisory units/responsible personnel to verify by logging onto the platform.

Revise the job description for unit supervisors and responsible personnel

Relevant duties and responsibilities shall be included in the job descriptions for unit supervisors and responsible personnel in order to enhance the design, implementation and control of the internal control system.

The Department of Civil Service Ethics shall be included as a unit for the yearly inspection visit.

In 2015, the first inspection visit at the Department of Civil Service Ethics was conducted to fortify employee disciplines and incorporate the operations of the department under the scope of Taipower's internal control system.

Implement cross-system joint-inspection

In conjunction with the implementation of inspection visit, Taipower has also conducted workshops with relevant units in order to assist them to identify the issues of cross-system implementation and resource integration.

Implement internal control system promotion seminar

Taipower organized a 3-day training for all personnel responsible for internal control and invited experts to host the trainings in order to improve the trainees' knowledge and implementation of the internal control system, thereby helping them to become more competent in the task.

Internal audit unit to take the initiative to request all relevant units to strengthen their internal control operations

In addition to implementing the routine inspections, the internal audit unit is also responsible for paying close attention to the company's internal control operations and has taken the initiative to request all relevant units to strengthen their internal control.

For 2016, Taipower will strive to improve its internal control system in two ways: first, by improving the quality of self-evaluation conducted independently by the units and encouraging unit supervisors to pay more attention to internal control operations in addition to organizing two "Internal Control Practices Workshop" so as to strengthen the competence of internal control personnel, thereby enhancing the efficacy of internal control operations for all units; second, by revising the internal control performance assessment for all units, including the establishment of objective assessment standards, adopting an incentive scheme, assisting units that excel in internal control to organize internal control workshops in conjunction with the inspection visits so as to boost the tripartite of internal control within Taipower.

Taipower's Anti-Corruption Regulation Dissemination & Trainings in 2015

Strengthen procurement risk management to prevent fraud and embezzlement

Pursuant to the "MOEA's Procurement Risk and Anti-Corruption Seminar Implementation Plan", Taipower has chosen its nuclear power system (nuclear power plant no.1, 2, 3 and Longmen power plant) as the designated facilities to host a total of 4 "Procurement Risk and Anti-Corruption Seminars". Through bilateral communication, procurement units will have better awareness for potential fraud and abide by pertinent regulations on anti-corruption so as to establish appropriate ethics and practice for procurement.

Organization of the "Small Amount of Fee Reimbursement and Application for Government Servants" disciplinary and legal compliance training

To facilitate Taipower employees to foster the correct understanding and legal compliance on the application for small fee reimbursements for overtime pay, travel expenses and so forth to prevent them from violating pertinent regulations unknowingly, Taipower held the training at Tongxiao power plant, Chianan

power supply branches and the Central District Engineering Unit of the Department of Transmission Line and Substation Projects, helping 97, 88 and 94 participants respectively.

Organization of the "Making Profit and Offering Convenience to the People" disciplinary and legal compliance training

In order to help Taipower employees become aware of the potential laws that they may violate for making unjust profits due to their positions and to distinguish offering convenience to the people from making profit, Taipower has invited law officers to speak on the topic of "Making Profit and Offering Convenience to the People" at Taipower's North District Branch Office and Fengshan District Branch Office. 73 and 95 employees from both offices attended the training respectively.

Organization of presentations on civil service ethic laws

A total of 21 presentations on civil service ethic laws were held by various units at Taipower, with law officers invited to address a total of 2,241 participants in 2015.

Complaint Mechanism for Unethical or Illegal Conduct

In the event of a breach of ethics or illegal conduct, employees must immediately notify their supervisor. The general public and business partners may use our ethics hotline, email, or contact the ethics officer of the department concerned, to report the case and provide information. The ethics reporting channels are as follows:

Telephone	(02) 2366-7364
Fax	(02) 2368-1674
Email	d0570302@taipower.com.tw

In addition, regarding unethical or illegal conduct related to procurement, Taipower has internal and external reporting mechanisms. The company's tender documents display a notice stating "The tenderer may report any unlawful situation in our company's tender process to the Investigation Bureau of the Ministry of Justice, MOEA's Procurement Audit Unit, PCC's Central Procurement Audit Unit and the Agency against Corruption. The Investigation Department (Team, Desk) of the locality of the tender-issuing unit of Taipower is the point of entry of such a report" to inform the reporter regarding the organizations to approach.

Cases Investigated in 2015

A total of 358 ethical cases closed in 2015 and 39.11% were found to be admissible. The figure reflects the fact that Corporate Ethics Department still rely mostly on the general public and employees as their primary source of information. Among the reports, as much as 20.67% were made anonymously and the nature of such reports often lacked the means of verification and thus affected the results of investigation. Such reports may have stemmed from external competing interests or misunderstanding from poor communication by responsible units, leading some people to use reporting channels as a way to vent their dissatisfaction. Judging from the categories of cases, the categories 'clarified and closed' and 'retained for investigation' totaled 66.84 percent, indicating that investigation personnel received many false allegations or cases without proven facts. It also showed that the investigation unit had an attitude of "no-one was above the law" and "seeking truth from facts". They conducted investigations no matter whether those employees committed violation or not.

Sources of Corporate Ethics Cases in 2015

Initiative of department of Corporate Ethics	15.4%
Reported for investigation (with name)	18.4%
Reported for investigation (anonymously)	20.7%
Transferred by higher body for investigation	25.1%
Transferred by Chairman for investigation	5.3%
Other	15.1%

Handling of Corporate Ethics Cases in 2015

Criminal investigation	8.67%
Monitoring, study, and administration	6.89%
Transferred to other department for investigation	8.42%
Case clarified and closed	25.51%
Under investigation	41.33%
Forwarded for testing	9.18%

Taipower and Sustainability

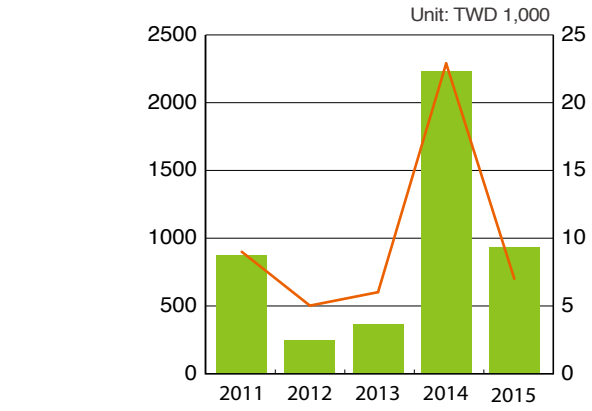
1.2.4 Legal Compliance

Penalized Environmental Incidents

In an effort to promote environmental-friendliness, Taipower has set a number of goals relating to environmental pollution for 2015, namely: 15 or less incidents of penalty for pollution by various systems and a total fine of NT$ 2.46 million or less. In 2015, Taipower's number of penalized environmental incidents and total fine were both far less than the aforementioned goals.

In order to ensure that Taipower fulfills its mission to promote environmental friendly development, the company has conducted thorough reviews on the incidents of environmental law violations and proposed the following measures:

No. of Incidents of Violation of Environmental Protection Laws and Regulations Between 2011-2015



	2011	2012	2013	2014	2015
Fine	876	246	368	2230	930
No. of environmental protection laws and regulations violation	9	5	6	23	7

Supervision and control mechanism

- Enhance unannounced inspection and supervision of environmental protection procedures.
- Conduct thorough reviews of EIA conclusions and the pledges that have been approved and request all responsible units to carry out relevant tasks in accordance with said conclusions and pledges.
- Strengthen inspection, guidance, management, and control relating to environmental protection.

Education and training

- Offer more training sessions on compliance with environmental regulations and investigation to strengthen environmental regulations training.
- Arrange for environmental protection related personnel to participate in training provided by EPA representatives.
- Each unit shall foster and strengthen their interaction with the competent environmental protection authorities and auditors while participating in relevant training sessions provided by the competent authorities in order to enhance employees' knowledge of environmental related laws and regulations.

Supplier management

- In contractor selection, bidders' environmental protection capacities and organization shall be taken into consideration.
- As a precautionary measure, the penalties (fines) prescribed in the Guidelines on Fines for Breaching the Contract of Environmental Protection Regulations shall be increased for Taipower's suppliers.

Other responses and measures

- Ensure synergy and coordination between Taipower's environmental management system and actual operations while strengthening the company's environmental protection regulation in compliance with audits.
- In the absence of environmental protection related departments at various management divisions, considerations shall be made for the establishment of designated department/position.
- Promote quotation for environmental protection facilities and ensure due implementation.
- Implement environmental protection law reviews and projects for the analysis of penalized environmental incidents.
- Encourage employees at various facilities to participate in EPA legal dissemination seminars.

- Parallel development of penalized environmental incidents for the year.
- Promptly carry out air pollution improvement for existing units.
- Shorten the timeline for the rectification of environment-related flaws at construction sites.

Anti-Corruption Measures

Taipower is a state-owned enterprise under the Ministry of Economic Affairs. Its employees are therefore bound by the Ethics Code for Personnel Resorting under the Ministry of Economic Affairs, and the Points of Attention for of the Staff of the Executive Yuan and its Subordinate Bodies. Offering, giving, receiving, or expecting banquet invitations, monetary gifts, or favors from or to stakeholders must follow the law and report to the ethics commission. In addition, to ensure the impartiality of procurement, contractors must abide by the Ethics Standards for Buyers and the points of Attention for Interactions between Procurement Personnel and Companies to strengthen a sound procurement system.

Taipower's Anti-Corruption Regulations

01 Precautions on Interaction between Taipower Procurement Personnel and other Businesses

02 Operation Directions for Taipower Spot Check Team Establishment

03 Implementation Plan for Enhanced Dissemination of Civil Service Ethics at Taipower

04 Taipower's Guideline on the Administrative Liability and Accountability of Personnel involved in Fraud/Bribery and their Managing Directors

2015 Taipower's Civil Service Ethics Awareness Assessment

In an effort to raise employees' awareness for anti-corruption so as to eliminate and reduce the risks of corruption, Taipower performed a company-wide civil service ethics risk assessment in 2015. The Department of Civil Service Ethics compiled the status of risk assessment of various units into a report to be approved by the Chairman before its submission to the competent authority. In addition, Taipower also conducted its first "Employee Civil Service Ethics Questionnaire" in 2015 to explore the following areas:

- Status of civil service ethics risk within their units
- Their inclination to report incidents of corruption/legal violations
- Their participation in and appraisal of their units' internal dissemination of civil service ethics and legal training
- Concrete suggestions for improvement upon Taipower's existing efforts in the area of civil service ethics

Concerning the aforementioned issues, results of the survey showed that 82.8% of Taipower employees believed the company has outstanding civil service ethics on the whole and based on employees' suggestions, Taipower will conduct training sessions on civil service ethics and other related operations.

Taipower and Sustainability

In 2015, a supervisor at the General Engineering Unit and an outsourced personnel member were alleged to be involved in accepting offers of travel, entertainment, and bribe from a supplier. After being investigated and questioned by the prosecution, the two were detained and charged. The Taipower supervisor involved in the incident has been dismissed for the offense and Taipower has requested the collaborating partner to replace the offending outsourced personnel. After the incident, Taipower conducted in-depth reviews and analyses on the cause of the incident and formulated the following guidelines for improvement:

- Review Taipower's existing civil service ethics inspection system and clearly define all supervisors' obligations to supervise civil service ethics at their units in order to establish independent and bilateral engineering QA system while implementing a self-inspection system of civil service ethics for onsite inspection personnel. In addition, Taipower has also revised its Guideline on the Administrative Liability and Accountability of Personnel involved in Fraud/Bribery and their Managing Directors to redefine supervisors' responsibilities and obligations to ensure proper civil service ethics.
- Terms on civil service ethics for outsourced personnel shall be included into contracts for their inappropriate conducts. Taipower has established its Precautions on Handling of Outsourcing Operations and included the Precautions on Interaction between Taipower Procurement Personnel and other Businesses as terms of the contract. The contract also clearly states that should outsourced personnel be found to violate relevant terms on anti-corruption, the supplier in question will be required to compensate Taipower in the form of a fine pro rata of the contract amount as a penalty. In addition, the personnel in question shall also compensate Taipower for joint and several liabilities.

Product Responsibility

Taipower's main product is electricity. Electricity prices follow relevant government laws, regulations, and policy directives. Additionally, Taipower handles customer information and arrears of electricity payments and suspension of electricity supply in accordance with the Personal Data Protection Act and the Electricity Act. Staff are instructed and supervised to follow these laws and regulations to prevent branch employees from unintentionally leaking private customer information, Taipower has clearly laid out corresponding methods of verifying applicant's identity/checking their identifications for all inquiries pertaining customers' personal information. This includes the personal inquiry by the customer, and inquiries made by representatives on the behalf of customers, personal visit, telephone (or fax), and online inquiries (or printout).

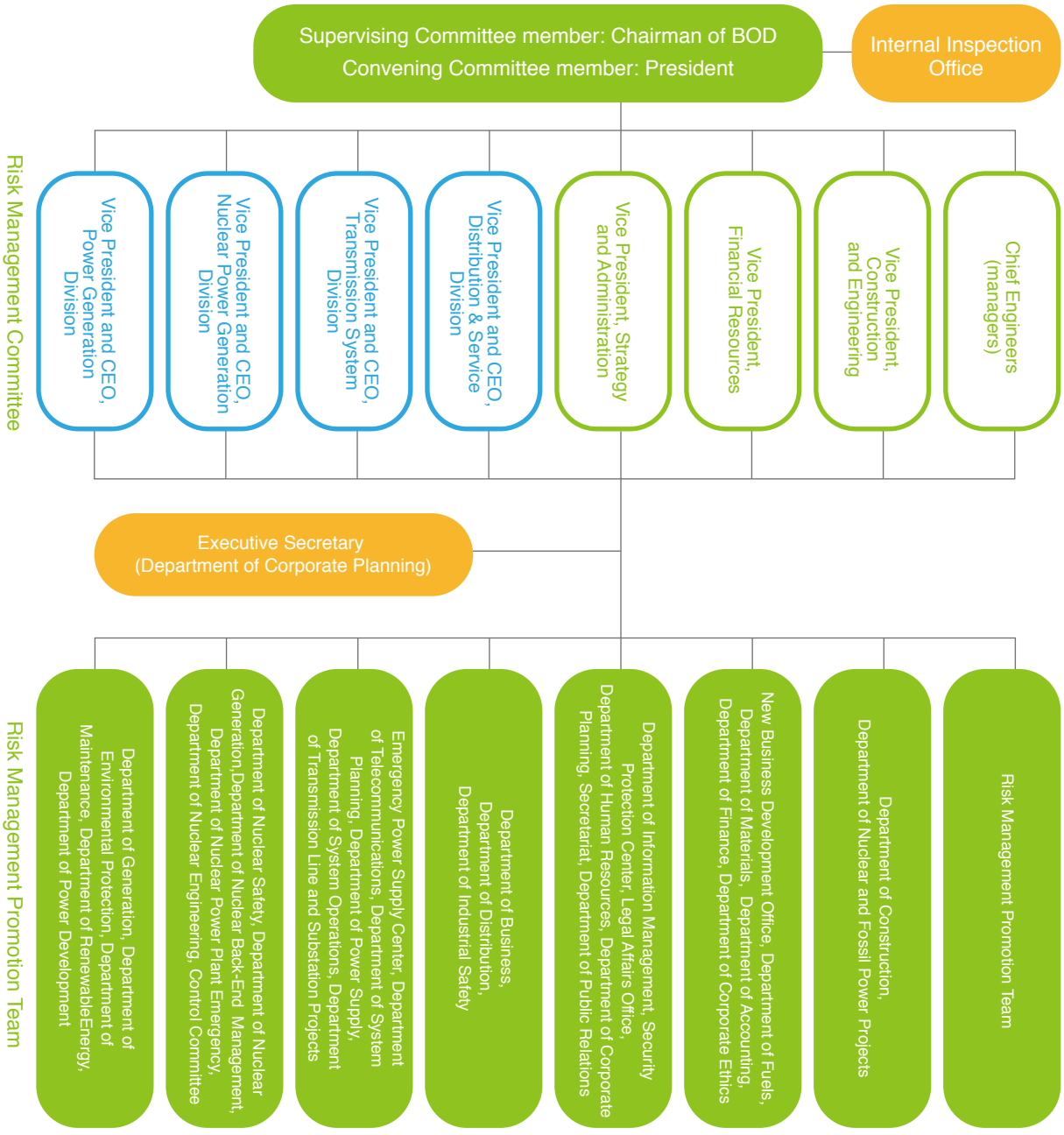
In 2015, Taipower had no violations relating to the provision of products or services.

1.2.5 Risk Management

Complying with fast changes in internal and external environments, Taipower has established its Risk Management Committee along with a Risk Management Promotion Taskforce responsible for identifying potential risks that Taipower may face each year while establishing risk management policies and risk treatement plan as the basis for Taipower's risk management operations.

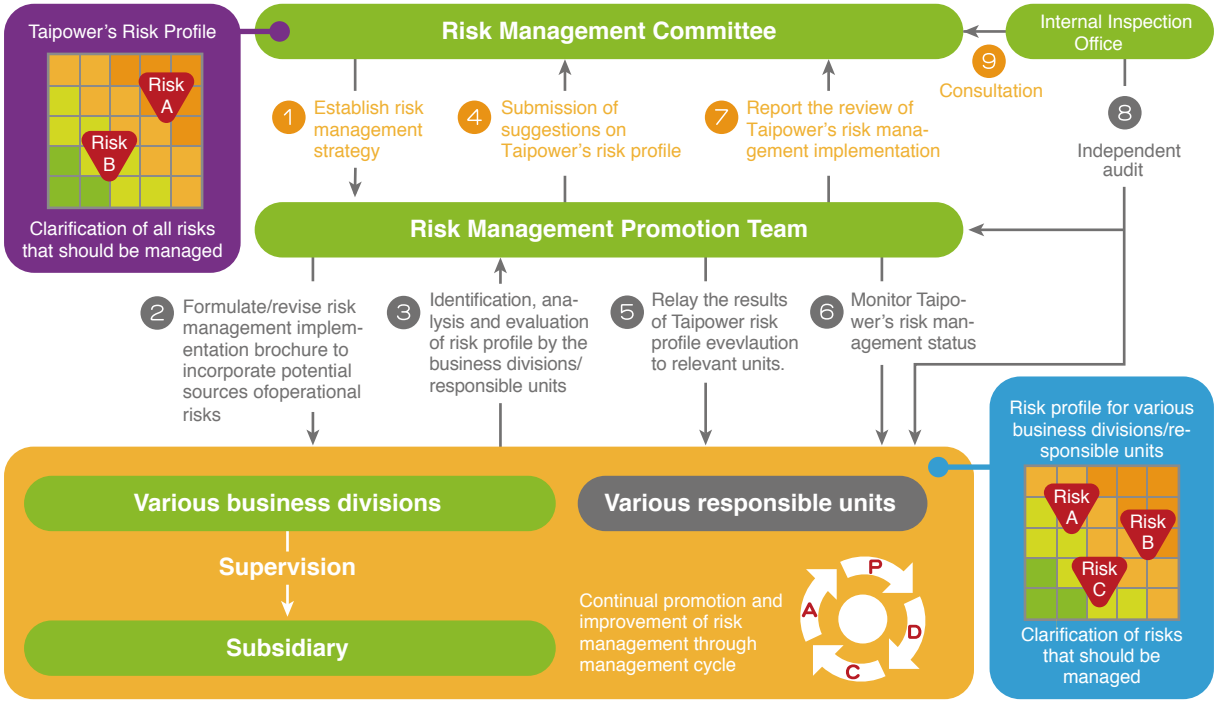
Risk Management Strategy

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



Taipower and Sustainability

Risk Management Process



Firstly, the Risk Management Committee shall establish relevant risk management strategies before the Risk Management Promotion Team formulates corresponding risk management implementation brochure, which would be delivered to various supervisory units to identify the potential risks that Taipower might face. These units would analyze and compile risk profile for the company and submit the risk profiles to the Risk Management Promotion Team to consolidate the company's risk profile, which is to be submitted to the Risk Management Committee for review. After the review, the Risk Management Promotion Team will relay the results of the review to all supervisory units for risk management and control.

The Risk Management Promotion Team is also responsible for monitoring Taipower's overall risk management status and reporting periodically to the Risk Management Committee. The Internal Inspection Office would carry out inspection visits at the corresponding units to audit the implementation of risk management plan. Each year, the Risk Management Promotion Team will report the results of risk treatment, which would be reviewed by the Risk Management Committee.

During the process of risk identification and risk profile analysis, Taipower will take the following factors into consideration:

- Issues that Taipower's stakeholders concern
- Major issues that may affect the company's operation or safety
- Major incidents stemming from new policies or undergoing changes
- Incidents tracked by supervisory units
- Timing of risk-related incidents. Risk items that may occur within 1-3 years shall be incorporated into Taipower's annual risk profile for control; medium-term (3-5 years) and long-term (5 years or later) shall be included in the company's Future Business Strategy and reported to the Sustainable Development Committee for relevant controls to be implemented.
- In addition to the aforementioned definitions of short, medium and long-term risk items, events that have the potential of substantially increased likelihood of occurrence if not handled within three years, they should be included within the scope of short-term risk management. The same principle applies for medium and long-term risks that are similar in nature.

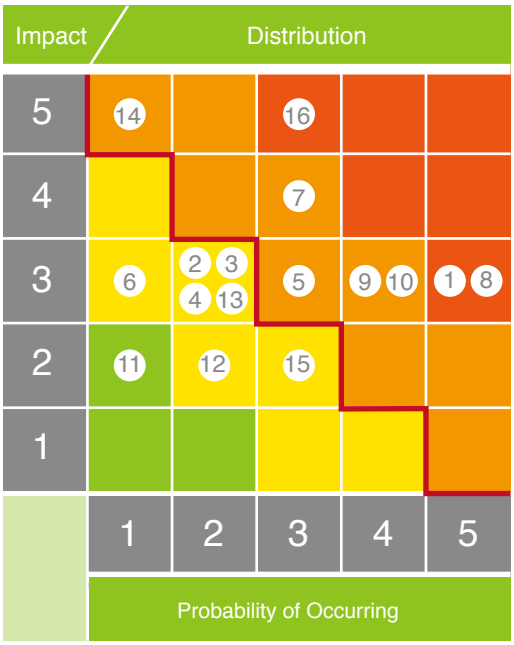
2015 Taipower Risk Profile

Taipower uses a risk profile to monitor potential risk items that the company may face. When the risk level of an incident falls below the risk tolerance line and remains in the L-zone (indicating risks of low likelihood to occur) in the risk profile for two consecutive years, the risk (with the exception of specific risk

items/scenarios tracked by supervisory units or incidents that have drawn significant public attention) may be removed from the company's risk profile. Nevertheless, the responsible unit shall continue to monitor the risk item. If concrete evidence exists to prove that a risk item/scenario will not happen in the next three years, the risk may be removed from the company's risk profile. If an item has been found to have a risk level that is past the L-zone in future risk assessment, the risk item should be incorporated into Taipower's annual risk profile once more. In addition, the risk management system should also be reviewed for fitness. The corresponding risk management implementation brochure should be revised if needed.

In 2015, Taipower identified 16 risk items for control and in contrast to the risk items identified in 2014, "Impact of Electricity Act Amendment on Taipower's sustained operation" (very high risk) and "Impact on Taipower's image due to negative news" (high risk) were the new risk items identified in 2015. As "Lack of operational wind farms" fell in the L-zone for three consecutive years, it had been removed from the risk profile.

In contrast with the risk items identified in 2014, "impeded power construction" and "tariff adjustment mechanism controversy" (very high risk and high risk respectively) were reduced to medium risk events after assessment, while "power supply reliability and safety" was adjusted from medium to high risk and "environmental events having an adverse impact on company image" was raised from low to high risk event. These assessments reflect Taipower's concern and emphasis on the environment. The eight events of very high and high risks have been handled with priority through specific countermeasures. The remaining eight risk items below the risk tolerance line are continuously monitored by the units in charge of reducing the incidents and impact of these potential risk events.



Risk Items	
① The tariff adjustments failed to reflect costs, leading to operating losses	⑨ Environmental events having an adverse impact on company image
② Power construction is impeded	⑩ Negative news having an adverse impact on company image
③ Aging workforce structure prevents the passing on of technology	⑪ Hacking of the information system
④ The occurrence of the corruption with event staff	⑫ The outbreak of labor-management disputes and employees' protests
⑤ Power supply reliability and safety	⑬ Damage to power equipment caused by natural disasters
⑥ Release of radioactive materials from nuclear power plants caused by natural disasters	⑭ Delay of Nuclear Power Plant No. 4 operation having an impact on the company's operation
⑦ Delays of interim fuel storage facilities for spent nuclear fuel	⑮ Tariff adjustment mechanism controversy
⑧ Accidents related to employee safety and health	⑯ Impact of Electricity Act Amendment on Taipower's sustainability

Remark: 1. ——— represents the risk tolerance line
2. Definition of colors ■ Very High ■ High ■ Medium ■ Low

Taipower and Sustainability

Risk Scenarios and Responses for Very High Risk Items

Risk Item	Risk Scenario	Risk Treatment
The tariff adjustments failed to reflect costs, leading to operating losses.	• Operating losses between 2006 and 2013 leads to accumulated losses exceeding the company's capital by half. • Huge capital needed for power construction but self-owned capital insufficient. • Imbalanced international coal market causes the volatile prices. • Rising oil price also causes natural gas price to surge.	• Expedite the progress for ongoing base load unit construction to increase base load power capacity. • Establish Long-term Financial Planning and Capital Expenditure Management and Control Taskforce. • Set uniform supply caps for suppliers to control the risks of distributed supply. • Consolidate fuel-oil demands of all power plants for collective procurement at prices are more competitive and incentives.
Accidents related to employee safety and health	• Injuries/deaths due to falls or electric shock • Injuries/deaths due to being caught or exposure to high temperature • Drowning • Injuries/deaths while carrying out emergency recovery operations after natural disasters	• Promote a culture of occupational safety discipline —six steps to achieve occupational safety management. • Improve existing inspection schemes and strengthen internal audits. • Strengthen access control and ensure strict compliance with relevant SOPs. • Improve emergency response drills to ensure the safety of post-disaster emergency recovery personnel.
Impact of Electricity Act Amendment on Taipower's sustainability	• Should the Executive Yuan or the Legislative Yuan approve specific regulations/amendments to existing regulations without establishing a market system for fair competition, it could result in substantial loss of customers for Taipower, impeding the company's goal for sustainable operation.	• As such, Taipower shall actively take part in the review for the amendment on the Electricity Act and draft petitions on specific issues of vital importance in order to create basis of reference for Taipower's management and legislators to take part in relevant review meetings. • Taipower's senior management shall participate in relevant review meetings and occasions to communicate with Executive Yuan officials and legislators in order to express Taipower's suggestions and proposal for amendments. • Taipower shall visit relevant legislators (primarily members of the Committee for Economic Affairs) to communicate and explain the company's position to the legislators in order to petition for amendments to be made to the Electricity Act and vie for articles that would be advantageous to Taipower.

1.3 Identification of Stakeholders and Material Issues

1.3.1 Identification of Stakeholders

Every two years, Taipower would review and inspect its group of stakeholders relevant to the company's operations. In 2014, a survey was conducted to identify the different groups of stakeholders of the company's 34 business units in accordance with the five principles outlined in the "AA1000 Stakeholder Engagement Standards (2011)" to ensure thorough coverage of all stakeholders that are relevant to different aspects of Taipower's operations. The groups of stakeholders identified in 2015 are identical to those from 2014. For standing channels of communication and results of communication for the past year with various stakeholder groups, please refer to "5.1.1 of this report on Taipower's Commitment on Major Issues and Engagement Performance with Stakeholders."

Stakeholder (Group)	Party	Stakeholder (Group)	Party
Government/ competent authority	Ministry of Economic Affairs, State-Owned Enterprise Commission, Environmental Protection Department, Legislative Yuan, Atomic Energy Council, local government agencies, Bureau of Energy	Shareholders	All shareholders
Employees	Employees, union	Media	Printed, electronic and online
Residents/general public	Surrounding community residents, general public	Board of Directors	Director
Partners	Contractors, IPP service providers, suppliers, technology exchange partners	Private organizations	Environmental conversation groups, enterprise association, academic organizations
People's representatives	Legislators, village/township elected representatives	Customers	General and large customers

Taipower and Sustainability

1.3.2 Identification of Material Issues

In order to identify key issues that relate to sustainable operation and our stakeholders, Taipower uses the GRI G4 guidelines for material analysis so as to review and identify Material issues of Taipower.

Taipower Material Issue Identification Process

Review and Identification

- ***2014:*** referred to Taipower's management issues, employee opinions, issues of concern to the international utility industry, international trends in sustainable development and the GRI G4 Guidelines to yield 25 material issues
- ***2015:*** to review key sustainability issues from the previous year and make relevant adjustments based on fitness for this year

Prioritization

- ***2014:*** to consider the extent of impact the issues could have on Taipower and different stakeholders, and have employees assess and rank the issues through survey
- ***2015:*** to consider the extent of impact the issues could have on Taipower and different stakeholders, and assess and rank the impact by Taipower's Sustainable Development Committee

Validation

- ***2014:*** Taipower's senior management to review and verify the Material Issue Matrix
- ***2015***: determine the contents and structure of Taipower's Sustainability Report based on the results of the analysis

2015 Materiality Matrix

Taipower and Sustainability

Corresponding to the previously covered Taipower risk profile, issues situated above the risk tolerance line (blocks 3-5) in the Materiality Matrix represent the material issues defined in this report; issues situated below the risk tolerance line (blocks 1-2) are those of relatively lower impact/influence. Taipower has dedicated substantial effort and resources in the preparation for its transformation to divisional structure in 2015, and as such, "organizational transformation and reform" has been the most important issue to Taipower for the year. In response to the trends towards low-carbon enterprise development (i.e. the Paris Agreement and directions for development established by the Energy Conference), Taipower has raised the corresponding significance of "Environmental footprint management" and "Response to climate change" in addition to adding "Renewable energy development" as a new material issue to the matrix. Due to the fact that the new tariff formula that has already been implemented to generate a reasonable profit margin of 3~5% for Taipower, the impact of "Electricity tariff rationalization" on Taipower's operation and sustainable development would be lower compared to the previous year. In addition, Taipower has also integrated the three material issues of "Pollutant emission management", "Waste management" and "Resource management" from 2014 into "Environmental footprint management" in 2015 in order to achieve more comprehensive consideration and management of impact on the environment that Taipower may cause with its operation.

The scope of the report will cover more in-depth and detailed description for the 13 issues situated over the risk tolerance line. In addition, in light of the status of current affairs and the characteristics of the power industry, this report will also cover relevant information on 5 items that are not within the list of material issues, and disclose information related to Taipower's "contribution to society" on our Sustainable Deelopment Website[2]. The corresponding G4 aspect, boundaries and their respective chapters in this report are as follows:

Materiality	Issue	Boundary				Corresponding G4 and Electric Utilities Sector Specific Aspect	Corresponding Chapter and Section in this Report	
		Internal	External					
		Taipower	Suppliers	Customers	Communities and environment			
Material Issues	Organizational transformation and reform	V				Taipower-specific issue that does not correspond directly to G4 Aspects	2.	Reengineering the Company
	Electricity tariff rationalization	V		V		Economic: Indirect Economic Impacts	3.2	Promoting Tariff Rationalization
	Environmetal footprint management	V			V	Environmental: Effluents and Waste, Water, Energy, Overall, Materials	5.2	Creating a Sustainable Environment
	Management and financial performance	V				Economic: Economic Performance	3. 4.1 4.2	Creating Value Raising Procurement Performance Raising Power Generation Efficiency
	Nuclear power safety and communication	V		V	V	Economic: Plant Decommissioning Environmental: Effluents and Waste Social: Disaster/Emergency Planning and Response	5.5	Enhancing Nuclear Communication
	Integrity and sustainable management	V	V		V	Standard Disclosures: Governance	1.2	Corporate Governance
	Stability and reliability of power supply	V	V			Economic: Indirect Economic Performance, Availability and Reliability Social: Access	6.1	Enhancing Reliability of Power Supply

[2] Please see "Contribution to Society" section on Taipower's Sustainable Development Website: http://csr.taipower.com.tw/tactics03_05_01.html

Taipower and Sustainability

Materiality	Issue	Boundary				Corresponding G4 and Electric Utilities Sector Specific Aspect	Corresponding Chapter and Section in this Report
		Internal	External				
		Taipower	Suppliers	Customers	Communities and environment		
Material issues	Energy efficiency	V			V	Environmental: Energy, Emissions	4.2 Raising Power Generation Efficiency 5.2 Creating a Sustainable Environment
	Stakeholder engagement and information transparency	V	V	V	V	Standard Disclosures: Stakeholder Engagement Environmental: Environmental Grievance Mechanisms Labor Practices and Decent Work: Labor Practices Grievance Mechanisms Human Rights: Human Rights Grievance Mechanisms Social: Local Communities, Grievance Mechanisms for Impacts on Society, Provision of Information	1.3. Identification of Stakeholders and Material Issues 5.1 Strengthening Stakeholder Engagement and Information Transparency 5.2 Creating a Sustainable Environment 6.2 Strengthening Customer Communication
	Demand management and energy conservation application	V		V		Economic: Demand Management Environmental: Energy, Products, and Services	4.3 Demand Management
	Supply chain management	V	V			Economic: Procurement Practices Environmental: Supplier Environmental Assessments Labor Practices and Decent Work: Supplier Assessment for Labor Practices Human Rights: Supplier Human Rights Assessment	5.4 Influencing Partners
	Response to climate change	V			V	Environmental: Energy, Emissions	5.2 Creating a Sustainable Environment
	Renewable energy development	V			V	Economic: Indirect Economic Impacts, Availability and Reliability	5.2 Creating a Sustainable Environment
Non-Material issues	Public safety and crisis response	V		V	V	Social: Disaster/Emergency Planning and Response	5.5 Enhancing Nuclear Communication 6.1 Enhancing Reliability of Power Supply
	Occupational health and safety	V	V			Social: Disaster/Emergency Planning and Response, Occupational Health and Safety	5.1 Strengthening Stakeholder Engagement and Information Transparency
	Service and product satisfaction	V		V		Social: Product and Service Label, Provision of Information	6.2 Strengthening Customer Communication
	Accessibility and availability of electricity	V		V		Economic: Indirect Economic Performance, Availability and Reliability Social: Access	6.1.4 Enhancing Accessibility of Power Services
	Ecosystem protection	V			V	Environment: Products and Services, Local Communities, Biodiversity	5.2 Creating a Sustainable Environment

1.4 2015 Performance Overview

1.4.1 Key Performance

Key Management Performance Indicators

Taipower identified five aspects of its business strategy and establishes relevant Key Performance Indicators (KPIs) and corresponding targets to measure progress on these aspects quarterly. At set intervals, the president convenes a "Conference on Tracking and Review of Subsystem Goals" to evaluate KPIs and strengthen monitoring goals not yet achieved.

Dimension	Key Performance Indicator		2014 Performance	2015		Target Achievement Rate	2016 Target
				Target	Performance		
Creating Value	1	Pre-tax income (TWD 100 million)	141.47	≧ 150	617.76	412%	≧ 184
	2 2.1	Renewable Hydro (excluding pumped storage) (100 GWh)	36.012	≧ 42.325	37.485	89%	-**
	2.2	Wind Power (100 GWh)	7.065	≧ 8.8	7.16	81%	-**
	2.3	Solar Power*		≧ 0.228	0.252	111%	≧ 0.238
	3 3.1 3.1.1	Profits through Assets Revitalization Revenue Rental Income and Wall Advertising (TWD 100 million)	2.21	≧ 2.26	3.6	159%	≧ 2.42
	3.1.2	Income from Land Surface Rights Royalties (TWD 100 million)	0	≧ 21	0	0%	-**
	3.1.3	Income from Fiber Circuit Rental (TWD 100 million)*		≧ 0.22	0.28	127%	≧ 0.37
Reducing Costs	4 4.1	Fuel Procurement Performance Coal Procurement Performance (%)	-7.71	≦ -6.65	-7.24	109%	≦ -6.70%
	4.2	Reduce Coal Inventory (No. of Days)	34	30~34	34	100%	30-34
	4.3	Cost Reduction of Construction Materials Procurement (TWD 100 million)	6.11	≧ 5.0	7.42	148%	≧ 4.6
	4.4	Cost Reduction of Construction Materials Procurement (TWD 100 million)	7.56	≧ 3.5	5.02	143%	-**
	5 5.1 5.1.1	Improve Unit Operation Performance Improve Thermal Plant Operation Performance Heat Consumption for Coal-Fired Units (kcal./kWh)	2,404	≦ 2,395	2,398	99.9%	≦ 2,371
	5.1.2	Heat Consumption for Fuel Combined Cycle Units (kcal./kWh)	1,919	≦ 1,933	1,898	102%	≦ 1,917
	5.1.3	Heat Consumption for Thermal Units (kcal./kWh)	2,218	≦ 2,221	2,202	101%	≦ 2,203
	5.2	Nuclear Power Plant Excluding Overhaul Capacity Factor (%)	100.77	≧ 100.08	100.41	100%	≧ 99.86
	6 6.1	Power Purchase Control IPP Coal-fired Fuel Cost (100 GWh)	215.235	≧ 208.885	211.629	101%	≧ 210.50
	6.2	IPP Fuel Cost (100 GWh)	171.81	≦ 184.05	178.49	103%	≧ 171.8***
	6.3	Co-generation Power (100 GWh)	94.98	≧ 89.84	87.58	97%	≧ 85.99

Taipower and Sustainability

Dimension		Key Performance Indicator	2014 Performance	2015 Target	2015 Performance	Target Achievement Rate	2016 Target
Reducing Costs	7	Operation and Maintenance Fee Control (Score/kWh)	32.59	≦ 35.82	39.68	89%	≦ 37.68
	8 8.1	Energy Operations Performance 1 Line Loss Rate (%)	4.09	≦ 4.55	3.72	118%	≦ 4.30
	8.2	Economic Dispatch Performance (TWD/kWh)	1.80	≦ 1.78	1.70	105%	≦ 1.49
Fulfilling Social Responsibility	9 9.1	Occupational Safety Performance Occupational Injury Incidence Rate	0.20	≦ 0.37	0.34	109%	≦ 0.34
	9.2	Occupational Injury Severity Rate	112	≦ 135	44	307%	≦ 81
	9.3	Occupational Injury Incidence Rate of Contractors	0.24	≦ 0.26	0.35	65%	≦ 0.32
	9.4	Major Occupational Incidents of Contractors	3	≦ 4	6	50%	≦ 4
	10	No. of Nuclear System Safety Performance Indicator Signals	White Lights = 0 Yellow Lights = 0 Red Lights = 0	White Lights ≦ 3 Yellow Lights = 0 Red Lights = 0	White Lights = 0 Yellow Lights = 0 Red Lights = 0	100%	White Lights ≦ 3 Yellow Lights = 0 Red Lights = 0
	11 11.1	Greenhouse Gas Control Performance (grams/kWh) Power Generation Unit GHG Emission Intensity	498	≦ 525	505	102%	≦ 532***
	11.2	Thermal Unit GHG Emission Intensity	698	≦ 728	675	106%	≦ 726
Improving Customer Service	12 12.1 12.1.1	Social Communication Nuclear Issues International Nuclear Issue Forum (events)	2	≧ 2	1	50%	≧ 2
	12.1.2	Communication and Advocacy Production (No. of Types)	76	≧ 10	28	280%	≧ 15
	12.1.3	Communication with Legislative Yuan Committee/Parliamentary Group (people)	90	≧ 30	33	110%	≧ 30
	12.1.4	With the Public (events)	317	≧ 200	372	186%	≧ 240
	12.2	Campus Education on Electricity (events)	136	≧ 105	112	107%	≧ 110
	12.3	Positive News Coverage (items)	75	≧ 66	77	117%	≧ 72
	13	Customer Satisfaction (score)	86	≧ 85.9	87.1	101%	≧ 85.9
	14 14.1	Improving Quality of Power Supply Feeder Automation (No.)	533	≧ 500	555	111%	≧ 400***
	14.2	Circuit Lines Added to Grid (Circuit Kilometers, CKM)	316.27	≧ 137	113.08	83%	104
	14.3	Total Capacity of Substations Added to Grid* (Megavolt ampere, MVA)	3025	≧ 720	745	103%	420
	15	Power Supply Reliability – Period of Forced Outages (min./customer · year)	17.496	≦ 17.75	16.27	108%	≦ 17.53

Note: 1. * denotes new items added in 2015

2. ** denotes items adjusted for 2016, with concise descriptions below:
   - 2.1. Hydro (excluding pumped storage) (100 GWh) has been adjusted to Hydro Unit Availability (%, base load/peak load)
   - 2.2 Wind Power (100 GWh) has been adjusted to Wind Unit Annual Availability (%)
   - 3.1.2. Income from Land Surface Rights Royalties (TWD 100 million) has been deleted in the absence of revitalized land surface development cases in 2016
   - 4.4 Reducing materials inventory (TWD 100 million) has been adjusted to Maintenance of appropriate material inventory
   - Reengineering the company involves qualitative items that cannot be quantified into statistics. For information on relevant promotions, please refer to the chapter on “Reengineering the Company.”

3. ***Adjustments made to the 2016 target values in conjunction with the implementation of national policies

Accomplishments of Key Operational Performance Indicators

Item	Unit	2011	2012	2013	2014	2015
1. Line Loss Rate	%	4.76	4.42	4.25	4.09	3.72
2. Power Supply Reliability						
(1) System Average Interruption Duration	min/customer˙year	18.224	19.050	18.086	17.496	16.268
(2) The System Average Interruption Frequency Index (SAIFI)	times/customer˙year	0.204	0.298	0.264	0.264	0.22
3. Employee Productivity						
(1) Sales per Employee	MWh/employees	8,792	8,755	8,852	9,086	8,879
(2) Customers per Employee	customers/employees	557	567	586	600	589
4. Nuclear Power Plant Operating Efficiency						
(1) Generation	GWh	40,522	38,887	40,079	40,801	35,143
(2) No. of Automatic Emergency Shutdowns	times/unit	0	0.33	0.67	0	0.33
5. Total Operating Efficiency of Thermal Power Plants						
(1) Gross Thermal Efficiency (LHV)	%	42.51	42.98	43.27	43.35	43.58
(2) No. of Electromechanical Accidents	times/unit	0.47	0.49	0.37	0.29	0.36
6. Environmental Protection Improvement						
(1) Particulate Pollutants	Kg/GWh	27	28	27	27	26
(2) Sulfur Oxide	Kg/GWh	356	328	302	305	315
(3) Nitrogen Oxide	Kg/GWh	364	337	327	312	307

Line loss rate in 2015 came to 3.72% and compared to the 4.09% in 2014, Taipower reduced line loss rate by 0.37%, which is equivalent to a 10% reduction and the best result Taipower has achieved in history. The reduction in line loss rate saved the company approximately NT$2.06 billion in operating costs. The total average interruption duration for 2015 came to 16.268 min/customer. Per year, and with the joint effort from generation, transmission and distribution units, Taipower was able to reduce the duration by 1.228 min compared to 2014. It was a notable achievement and set records for Taipower.

1.4.2 Management Effectiveness through Corporate Internal Control

Quality Management

Taipower actively promotes Total Quality Management. By the end of 2015, a total of 71 units had acquired ISO-9001 certification issued by the Bureau of Standards, Metrology and Inspection. Performance indicators of the past three years related to power quality (refer to the "Key Management Performance Indicators and Accomplishments on Key Operational Performance Indicators" table) such as line loss rate, thermal efficiency of generating units, period of forced outages, and strength of carbon dioxide emissions, have significantly improved.

Company-Level Material Management

To enhance the effectiveness of its management and control, Taipower adheres to the principle of centralized management, referring to materials that are annually used in large quantities or in many units, which are selected and reviewed for centralized requisition, allocation and inventory control for the sake of greater benefits. In order to effectively reduce inventory in conjunction with addressing the demands for materials at construction sites, Taipower has adopted open contract procurement policies for company-level materials to make material purchase more versatile while keeping the inventory at a reasonable level in 2015. With the duration of open contracts and additional procurement term buffer schemes coupled with multiple winning bids, it will serve as a risk-aversion protective measure for some equipment that are harder to close bid in order to reduce the risks of material shortage.

Taipower and Sustainability

In 2015, the total value of company-level materials was NT$ 10.047 billion, accounting for 69.34% of all materials used throughout Taipower. The company-level material turnover rate came to 4.45 times and was higher than Taipower operational material turnover rate of 3.75 times. To support the upgrading of the company grid, the company continued its practice of inventory management and control in 2015 as well. The value of Taipower inventories decreased to NT$ 2.256 billion in 2015, down from NT$ 2.469 billion in 2014 and NT$ 3.074 billion in 2006. Such dramatic reduction in inventory reflected the effectiveness of Taipower's collective management and the company's commitment to its management strategies of "reducing costs."

Real Expenditures to Suppliers in 2015

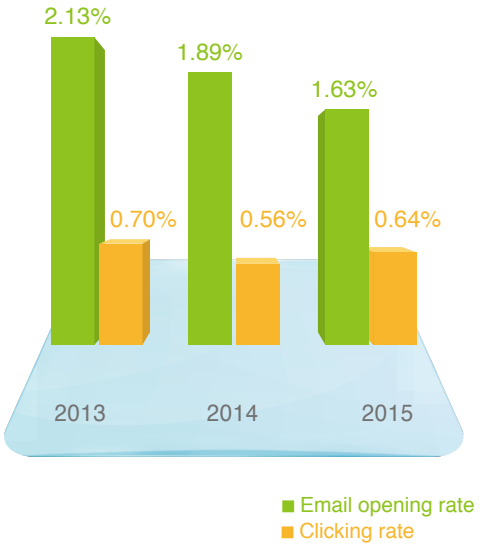
Unit: TWD million

Item	Amount	Percentage
Engineering	21,942	13.37%
Capital assets	105,668	64.39%
Labor	36,504	22.24%
Total	164,114	100%

Information Security Management

In order to ensure that the company could operate and grow in the stable and secured environment, Taipower has established information security policies approved by the President before promulgated and disclosed to all company employees and relevant external personnel authorized by Taipower to follow. In addition, Taipower has also established its internal information security auditing guidelines, which function as the basis for routine and irregular information security audits and ensure due compliance with the company's information security policies. With regard to internal information security audits, Taipower covers different aspects, including personal information protection and company-level information security audit operations and organizing relevant monthly training sessions. This includes: APT security protection technologies, social engineering protection and case studies, relay-station security and protection technologies, hacker threat trends and responses, information leakage trend and protection, digital identification and incident investigation practices, next-gen anti-virus technologies and trends, social networking websites and relevant security management and so forth.

Taipower Email Social Engineering Results from 2013 to 2015



In 2015, 9 information security responsibility level A and B units completed their conversion verifications. Taipower possesses a total of 9 ISO 27001 certificates (for information security management system verification, 2013 version). To help employees cultivate the habit of using email service safely, Taipower has been implementing social engineering exercise once every six months in accordance with the Social Engineering Exercise Plan in Prevention of Malicious Emails for MOEA and Subordinate Agencies (Organization). For 2015, Taipower's opening rate came to 1.63%, with a clicking rate of 0.64%. Both figures have met the requirements laid out in the exercise plan (email opening rate lower than 8%; the clicking rate was less than 5%). As such, Taipower has been acknowledged by the MOEA as an outstanding unit.

Financial Management

In light of the fact that new tariff formula had been approved by the Legislative Yuan on January 20, 2015, and that the sealing of Nuclear Power Plant No. 4 would not have substantial impacts on Taipower's profit, the company's operating environment has improved noticeably. As such, Taiwan Ratings have adjusted its outlook rating for Taipower from "negative" to "stable" of 2014 in March 2015.

Taipower's credit ratings in 2015 were: long-term twnAAA, and the highest rating of twn F1+, with a stable outlook. Taipower's international ratings were equivalent to Taiwan's ratings, with a long-term A+ rating (foreign currency), short-term F1 (foreign currency), long-term AA- (local currency) with a stable outlook. In October 2015, Standard and Poor has also followed the footsteps of Taiwan Ratings by adjusting Taipower's outlook from "stable" to "positive."

Reengineering the Company

In response to the trends of power industry liberalization and to meet social expectations, Taipower will reevaluate its position and operation to improve its performance and finance, ultimately promoting the company's reengineering. In 2015, Taipower has completed all preparations for its organizational transformation, including "separation of generation and grid functions" and "accounting separation" in order to officially implement its transformation to division organization on January 1, 2016. In the future, Taipower shall remain steadfast in its management philosophy to pursue growth as the company transforms from a "bureaucracy body" to a "business body" as we make use of every opportunity to change for the better, gradually achieving our vision to change Taipower into a world-class power utility group.

As of January 1, 2016

official transformation

to divisional structure

Completed

accounting separation

system

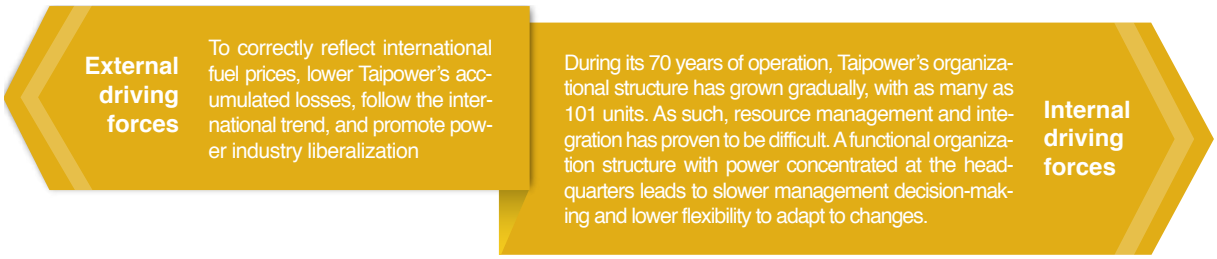
Completed

separation of generation and grid functions system

Reengineering the Company

2.1 Driving Force for Taipower's Organizational Transformation

Propelled by internal and external driving forces, Taipower has decided to actively promote organizational transformation and reengineering by adding "Reengineering the Company" to the four overall management strategies established in 2013, resulting in the five-pronged business strategies that Taipower adheres to for its operations. Hopefully, through structural reform, we will be able to strengthen our management in response to the diverse management environment in the foreseeable future.



For more information on the measures and results of internal operation optimization, please refer to 3.1.1 on Driving Operational Improvement. This chapter will focus on the external driving forces that led to Taipower's organizational transformation - the promotion of power industry liberalization policies, with detailed description on Taipower's business division transformation as a consequence of state-owned business privatization.

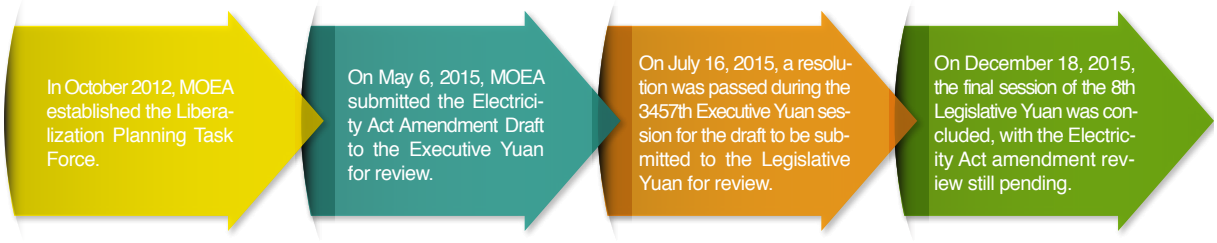
External Driving Force—Trend of Power Industry Liberalization

Milestone of the Electricity Act in Taiwan

In an effort to promote power industry liberalization, the MOEA established the Liberalization Planning Task Force in October 2012 and instructed the Bureau of Energy to set up the Electricity Act Amendment Task Force. After more than two years of planning and discussion, the MOEA submitted the draft amendment to the Executive Yuan for review on May 6, 2015. The Executive Yuan resolved on July 16 to approve of the proposal and its submission to the Legislative Yuan for review.

During the tenure of the 8th Legislative Yuan, three versions of draft amendments for the Electricity Act were submitted to the Legislative Yuan for review: the Executive Yuan's version, DPP caucus' version and legislator Yang Chiong-Ying's version. However, as the final session of the Legislative Yuan ended on December 18, 2015, none of the three drafts were actually subjected to review.

Milestone of the Electricity Act



Response - Establishment of the Electricity Act Amendment Response Task Force

The direction of amendment for the Electricity Act would result in substantial impacts on Taipower's management and operations. In order to suitably respond to and manage the changes in government policy, Taipower has established its Electricity Act Amendment Response Task Force, which has convened five meetings since 2013 to explore Taipower's response to Electricity Act amendment and provide suggestions on its amendment. In addition, the task force has also drafted petitions on the matter. On June 29, 2015, the President held the fifth meeting for the task force to review the key articles in the latest draft of the amendment that pertain to Taipower's rights and to discuss the company's stance. In the Electricity Act Amendment Draft review meeting held by the Executive Yuan, Taipower expressed the company's position and vied for articles relating to operations such as the collection of power dispatch fees, relevant regulations on licensing, power grid supply obligations, ensuring reasonable profit margin through Taipower's tariff formula and so forth in order to gain the government's consent for the adjustment of relevant articles in the amendment to mitigate the impact on Taipower's operation.

2.2 Organizational Transformation Plan

Transformation Solution - Promotion of a Multidivisional Organization

In response to the trend for power industry liberalization and to improve Taipower's management, Taipower has incorporated structural reforms as one of its key management strategies ever since 2013. After an extensive research undertaken by US consultants that lasted for a year and by taking factors, such as the limitations on state-owned businesses and the direction of power industry liberalization, into consideration, we felt that the best direction for the company's reengineering would be to establish a multidivisional organization. Given factors of uncertainty from the Electricity Act amendment, a divisional structure would offer Taipower more versatility in its response to improve all employees' cost awareness and in turn enhance the company's competitiveness.

The primary difference between Taipower's existing management system and divisional system lies in the model of authority separation: at present, Taipower is a functional organization with centralization at the headquarters. In contrast, a divisional system manages by centralizing the authority for policy making, with the responsibilities for management separated among responsible divisions. Under such structure, the headquarters will function as an "investment center" and shall only be responsible for establishing policies, coordinating the development and resource for each division. All divisions will function as "profit centers," which are managed as corporations - they will be responsible for autonomous management and their own profits/losses.

Schedule of Introduction of Divisional Structure in Taipower

The schedule of Taipower's introduction of divisional structure in 2015 is as follows:

Timeline	Implementation
June 2015	Submitted amendments to company regulations to shareholders' meeting after MOEA's approval.
August 2015	Completed drafting of performance indicators for each division.
August - October 2015	Arranged for the divisions and facilities to present their report on accounting separation and costs during the meeting
October 2015	Submitted the Amended Company Regulations and Divisions Regulations to the Board of Directors for review and approval.
December 2015	1. MOEA responded to verify its approval for Taipower's proposal to establish business divisions 2. Released Company Organization Regulations, and Division Regulations 3. Released Taipower Business Division Subordinate Unit (Managerial Position) Organization Management Principles 4. Complete Taipower and Business Division Goals for 2016 5. Completed the Separation of Generation and Grid Functions Implementation
January 2016	Organized the unveiling ceremony for Taipower's division structure

Between 2014 and December of 2015, the Chairman has convened and held 19 "Consultation on Business Division Planning" meetings to discuss a total of 36 pressing issues of major importance relating to the implementation of business division structure. The President, along with various VPs and division supervisors, has been invited to discuss the establishment of relevant management systems and corresponding measures for the implementation of business divisions. With the effort of all Taipower employees, the company was able to complete all preparations for the transition to division structure in 2015, including the separation of generation and grid functions, accounting separation, revision of company statute and the establishment of division regulations. On December 17, 2015, Taipower announced its establishment of four new divisions: Power Generation, Nuclear Power, Transmission System and Distribution and Service. The new divisional structure would take effect on January 1, 2016, and further adjustments may be made to the organizational structure depending on the status of operation and the company's goals.

Reengineering the Company

Benefits of Adopting a Divisional Structure

Foster employees' cost awareness to improve management efficacy

For the longest time, cost has seldom been a factor of top priority in the company's considerations. While responsibility and source of expense can be traced for each incident, these factors have never been reflected in our missions. With the adoption of divisional structure, each division will now function as a profit center to be accountable for its profits and losses. This would motivate our employees to cultivate their cost awareness and strive for reasonable investment in their daily operations and decision-making while thinking of solutions to reduce costs in order to increase division profits and improve overall management efficacy.

Earn the trust of competent authorities and the general public to improve Taipower's corporate image

Through the definition of responsibilities for power generation, transmission, distribution, and sales and separation of costs, Taipower's management shall become more transparent and more manageable. This should enable Taipower to earn the trust and confidence of the general public and competent authorities, thereby gaining the support of tariff review committee members. At the same time, Taipower has not only complied with competent authority's instruction to implement structural transformation but also responded to the general public's expectations for the company to reform, thereby significantly improving the company's image.

Strengthen resource integration to boost overall performance

Taipower's four divisions will collaborate on the basis of the transfer price principle. With accounting separation between divisions, the collaboration between divisions would be more efficient to integrate the company's resource and boost Taipower's overall performance.

Consolidate employees' work privilege

By improving its management and competitiveness, Taipower will benefit from more stable profits, which in turn will enable the company to consolidate employees' privilege to work, various bonuses and benefits. For the employees, this offers greater security and results in greater confidence in their career and future at Taipower. In addition, Taipower will also allocate funding for bonuses as incentives for outstanding performance for each division so as to improve employees' productivity and satisfaction.

Challenges We Face - State-owned Enterprise Operation

In contrast to corporate entities, a state-owned enterprise adopting a division structure will face adjustments in three specific aspects of its operation as below:

Operation management

Taipower must adhere to the regulations governing the operations for state-owned enterprises. Even with the initiation of the divisions, Taipower has to re-establish SOPs to adhere to the same regulations.

Being responsible for its profits/losses

Incidentally, prices of Taipower's product are neither determined by Taipower nor the market. However, Taipower's purchase of fuel has to comply with pertinent government regulations. As the company is required to operate in accordance with the government's policies, Taipower has been denied the liberty to make specific decisions relating to its operation. In addition, as such, it is imperative for Taipower to introduce the right concepts through the responsibility of being responsible for one's own profits/losses for its division in order to improve upon its system.

Performance evaluation

After the divisions have been established, relevant indicators for each division will be established in accordance with the four aspects of the balance scorecard for downward extension to their respective subordinate units. Through periodic review of responsibilities and progress of goal completion, Taipower is able to achieve effective control. The integration of performance evaluation and incentive scheme by the divisions has effectively motivated various units to strive and achieve their given objectives, thereby enhancing the company's overall performance.

Separation of Responsibilities for the Four Divisions and Future Prospects

"Commitment through separation; strength through cooperation - working together as one, Taipower shall strive to contribute to Taiwan" is the fundamental principle that the four divisions operates upon, and through our new divisional structure, these units will deliver their best performance in their designated fields to integrate the company's resources. The responsibilities and prospects for each division are as follows:

Power Generation Division

Responsible for the operation, development, maintenance and management of hydro, thermal and renewable energy power generation, the division will adopt Taipower's mission of environmental friendliness as its core value and endeavor towards the development of renewable energy, fulfill international carbon reduction commitment and fill the gap of power generation in the absence of nuclear power generation. As for renewable energy, Taipower plans to increase solar power generation, wind power in land and offshore areas. Solar power generation will primarily be managed by the private sector while Taipower will independently develop the capital-intensive offshore wind power and large solar power units. As for the gap in non-nuclear power, the division will consider natural gas as the preferred choice to fill the gap due to its relatively lower carbon emission.

Nuclear Power Division

Responsible for safe operation of nuclear power generation, power plant design, management, communication with the general public, handling of radioactive wastes and so forth, the division will focus on five major directions for development in the future: 1) prioritize nuclear power safety; 2) handle relevant communication on existing nuclear power plants to prevent premature decommissioning; 3) preparation of extended decommissioning plan; 4) handle the sealing of nuclear power plant no. 4 and prepare for relevant operations, and 5) handle the storage of nuclear wastes.

Transmission System Division

Responsible for the planning, design, construction, and operation of power grid as a vertically integrated business department, the division, in the future, shall integrate engineering and operation personnel and strive to preserve the core expertise of key personnel and prevent gaps in human resources. In the long run, the division's priority will rest on the liberalization of the power market and maintaining safe, sustainable, and efficient power supply. The division shall endeavor to ensure the reliability of the company's power transmission network in response to the trends of power carrier services in the future.

Distribution and Service Division

Responsible for the sales and purchase of power, customer service, grid planning and construction, operation, maintenance and so forth, the division, in the future, will utilize the big data of power consumption to analyze customers' power usage behavior. In addition, the division will be involved in horizontal alliances through the smart meter AMI to provide power diagnostic services for users to achieve smart lifestyles. Through "grasp of power distribution and sales channels in Taiwan" and "competent employees with expertise", Taipower hopes to become an irreplaceable supplier and distributor of power.

2.3 Preparation for Organizational Transformation

One of Taipower's critical preparations for its transformation to divisional structure was the completion of "separation of generation and grid functions," which involves the clarification of duties and responsibilities for each plant/facility, power grid and business divisions so that each unit will have a clear understanding of their own responsibilities, duties and role in the organization. This would in turn assist all facilities/plants to better focus on their operation management and ensure that all tasks are duly maintained and managed by their respective units. The other critical preparation for Taipower would be the establishment of accounting separation system, which functions by clarifying cost incidence and facilitating the transparency of operational costs. This would help employees to have a clear understanding of the generation of costs and cultivate their cost awareness.

Through the separation of generation and grid functions and accounting separation, all divisions would be able to clarify their respective responsibilities and costs. In the future, the usage of products, services, assets, and transfer of relevant resources among different divisions shall be handled in the format of internal transaction and transfer price to ensure corporate-style management for each division. Taipower has been promoting its separation of generation and grid functions and accounting separation systems in accordance with the key points of the Electricity Act Draft Amendment since 2014. The following is a summary of the process:

Reengineering the Company

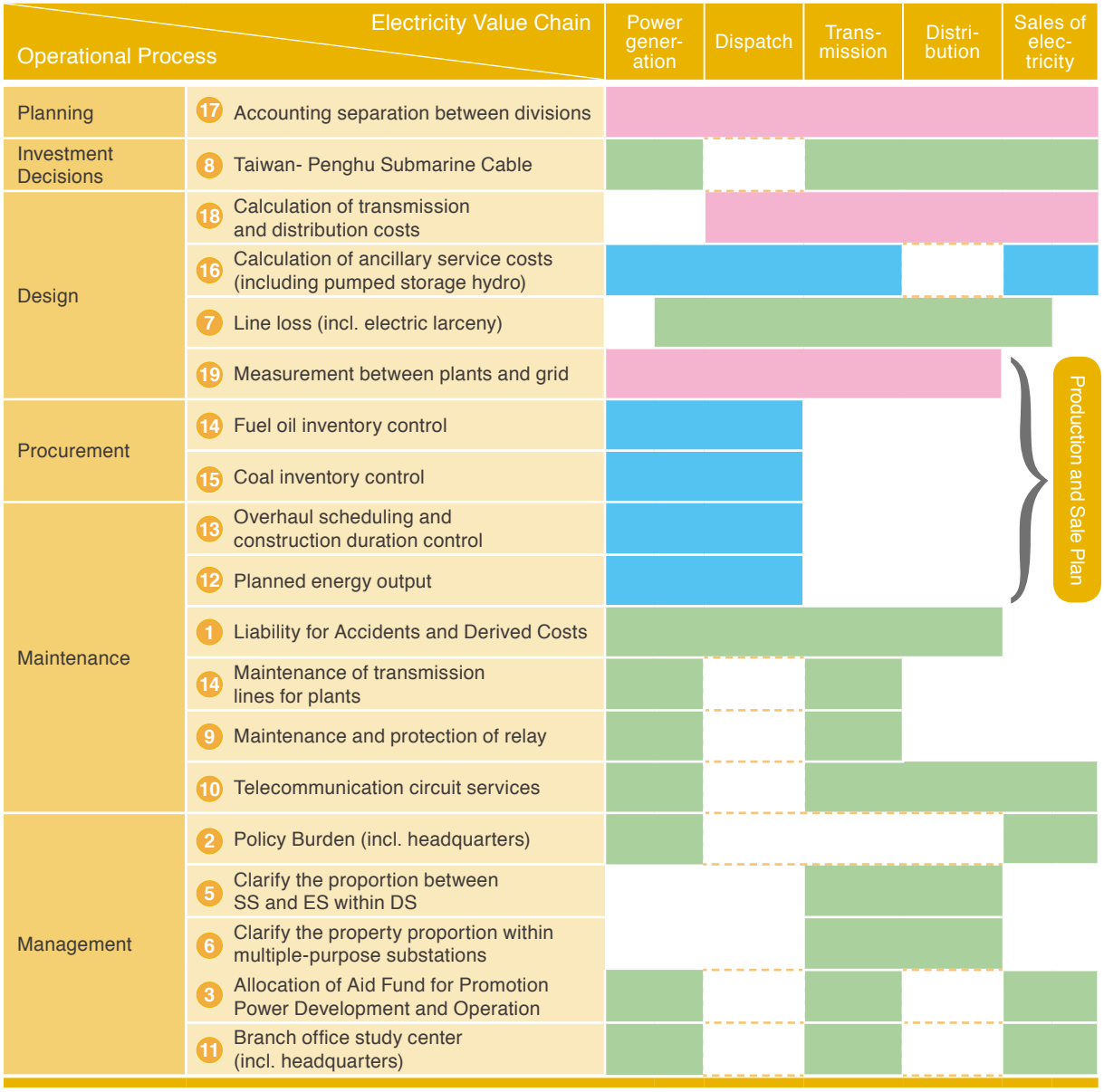
Accounting Separation

Taipower has already completed the accounting separation management report in October 2014 and all units could log in to the SAP system to check and print out the report on their own. By October 2015, accounting separation was achieved to a higher degree of sophistication to enable any group of a unit to check and print out its accounting report using the system. In addition to organizing management reform workshops in 2015 to bolster employees' cost awareness, Taipower has also arranged three rounds of cost analysis report by the business divisions and their subordinate plants to demonstrate the result of revenue and expenditure information transparency that has been made possible by the separation of accounting system. In the future, Taipower will continue to improve its separated accounting system in conjunction with the timeline of Electricity Act amendment and planning for the liberalization of the power industry.

Separation of Generation and Grid Functions

Since September 2013, Taipower's "Power Utility Industry Liberalization Response Taskforce" has built a framework consisting of the "Value Chain of Electricity Industry" (i.e. generation, dispatch, transmission, distribution and sales) and the "Business Process" (i.e. planning, investment decision, design, procurement, operational maintenance and management) to clarify the responsibilities of each division/unit and address the issues of system interface transitions. As of the end of 2015, the taskforce has held a total of 41 taskforce meetings and five project team meetings to go over the scope of coverage for 19 cost issues, definition of responsibilities and cost/profit incidence to complete the "Separation of Generation and Grid Function Implementation Guidelines." In 2015, six issues (liability for accidents and derived costs, overhaul scheduling and construction duration control, planned energy output, oil inventory control and coal inventory control) went into final trials. Taipower has also reviewed and rectified the progress of planning for various issues relating to the separation of generation and grid functions. The separation of generation and grid functions at Taipower has been fully completed as of the end of 2015 to ensure that the divisional system to be implemented in early 2016 would go smoothly.

Assignment of Responsibilities for the Separation of Generation and Grid Functions



■ issues that need to clarify the responsibility boundaries
■ issues that need to clarify the responsibilities of each power plant
■ issues that need to clarify the income and expenditure

Creating Value

Taipower believes the higher the value of its enterprise, the greater its ability to serve its stakeholders. In addition to establishing seven project teams to engage in management improvement and strengthen the company's financial management capabilities, Taipower has also been actively seeking to extend its core business resources through diversification (i.e. land asset revitalization, optical fiber line leasing and so forth). Besides, Taipower has also achieved moderate success in electricity tariff rationalization as the implementation of new tariff formula will faithfully reflect the primary costs and reasonable profits for power utility operation. In order to ensure sustainability for Taipower, the company has achieved a record-setting pre-tax income of NT$ 61.8 billion in 2015, thereby paving the way to enable the company to create even greater value in the future.

Pre-tax income in 2015

TWD 61.776 billion

Annual target achievement rate 412%

Profits through assets revitalization in 2015

TWD 360 million

Annual target achievement rate 159%

Income from fiber circuit rental in 2015

TWD 28 million

Annual target a chievement rate 127%

3.1 A Sound Financial Structure

3.1.1 Driving Operational Improvement

In order to mitigate the impact of soaring international fuel prices on Taiwan's domestic oil and power industry, the MOEA established the Taskforce to improve the Operations of Taiwan Power Company and the Chinese Petroleum Corporation in early 2012 and assist the promotion and strengthening of Taipower's financial structure. Taipower has proposed its management improvement plan for 2012-2016 and conducted rolling reviews on relevant implementation performance and progress of the goal achievement.

In order to achieve its business improvement targets, Taipower has established the following seven task forces: Coal Procurement Review, Land Vitalization, Material Control, Long-Term Financial Planning and Capital Expenditure Control, Human Resources Development, Power Planning, and Power Industry Liberalization Coping Strategies. In addition to internal members, these teams also from time to time appointed external experts to provide their suggestions. Meetings have been held periodically to improve Taipower's performance.

With due diligence from everyone at Taipower, the company has managed to achieve its improvement goal for 2015. In addition, to continue with the improvement of the company's operation in the near future, Taipower shall also actively report the latest status of the company's improvement.

Item of Operational Improvement	2012-2016 Target	2015 Target	2015 Result	2016 Target
Reducing cost and Increasing revenue	TWD 50 billion	TWD 13.5 billion	TWD 15.1 billion	TWD 13.4 billion
Improving fuel procurement performance	TWD 21.4 billion from savings	TWD 2.9 billion from savings	TWD 3.1 billion from savings	TWD 5 billion from savings
Reducing/delaying investment	TWD 172 billion	TWD 37.5 billion	TWD 39.7 billion	- TWD 21.5 billion
Lowering inventory levels of fuel and materials	TWD 5.5 billion	TWD 1.1 billion	TWD 1 billion	TWD 500 million

Note: 1. Operational improvement targets are subject to yearly rolling-review. The adjustment for 2015 target has been approved by the MOEA on August 10, 2015.
2. Reducing costs and increasing revenue for the 7th transmission and substation project was originally scheduled for completion in 2015 and no budget was allocated for it in 2016. However, due to the adjustments to the project, the additional savings of TWD 22.8 billion from 2014 and 2015 went towards the expenditure for 2016 (the 7th transmission and substation project had been approved by the Executive Yuan as of June 3 2014). In addition, the power generation plan still maintained its reduced investment by TWD 1.3 billion. Moreover, as such, the reduced costs and increased revenue for 2016 came to TWD 21.5 billion.

3.1.2 Strengthening Financial Management

Long-term Financial Planning

In order to effectively utilize and allocate financial resources, Taipower has established its Long-term Financial Planning and Capital Expenditure Control Task Force, which established and implemented a management and control mechanism for the purchase of fixed assets with a three-step control: conduct budget control and establish annual budget investment scale along with a top-down resource allocation system prior to the purchase; during the purchase, the task force would control capital expenditure and establish control scheme for tender surplus and interest revenue recovery; after the purchase has been made, the task force would activate the control system for closing operations. In 2015, the task force has held three project meetings and achieved the following results in terms of capital expenditure control:

- The task force drafted, discussed, and finalized the draft Capital Expenditure Budget of 2017, which is lower than the amount in the original draft by TWD 200 million.
- To reduce project investments, the underutilized budget amounted to TWD 33.7 billion and interest revenue amounted to TWD 5.6 billion as of December 2015 respectively.
- With the budget control system, the task force established general-purpose buildings and facility projects to collect underutilized budget up to TWD 6.6 billion in 2015.
- The task force also followed and tracked the causes for completed facilities that were inoperative. As of December 2015, the remainder of project investment pending settlement has been reduced to TWD 5.3 billion.

Creating Value

In response to Taipower's plans for organizational reform, the task force will become "Long-term Financial Planning Task Force" in 2016. In the future, it will be responsible for long-term financial planning and system review for matters pertaining renewable energy investment status, model of operation, green accounting, impact of nuclear power plant no. 4 assets, capital usage under the state-owned enterprise system, financial operations and so forth.

Boosting Fund-raising Capabilities

In addition, to ensure effective allocation of existing financial resources, Taipower has also been committed to improving its fundraising capabilities. Taipower holds monthly meetings of cash flow estimation where rolling reviews of funding gaps serve to keep liquidity risks under control. Given the considerations to reduce interest risks and fund costs, Taipower flexibly leverages the spreads between long-term and short-term interest rates, and makes long-term and short-term funding in line with movement in the financial markets.

Raising long-term funds

Taipower seized opportunities in the domestic capital market when capital was abundant and interest rates were low. Coping with changes in the bond market, Taipower raised funds through fixed-rate loans of TWD 18.5 billion and issued unsecured fixed-rate loans of TWD 32.35 billion to avert future risks from rising interest rates in 2015. In addition, its medium-to-long-term floating-rate loans were transferred among banks through competitive bidding processes to bring down its borrowing rates. As a result, the company's average interest rates on current loans stood at 1.55% for 2015, lower than its putative budget interest rate of 1.7%, as set by the Legislative Yuan.

Raising short-term funds

Driven by the objectives of ensuring financial security while lowering capital costs, Taipower has endeavored to seek new sources of funding, attempted to issue commercial papers, and raised short-term bank loans by open tenders while prioritizing fund allocations are based on relevant demands in order to secure lower-cost funding for operational uses. In 2015, Taipower raised a total of TWD 166.308 billion in short-term loans and funds, issued TWD 491.95 billion worth of commercial papers, and managed to reduce the average annual interests for short-term loans to 0.72%, which was lower than its putative budget interest rate of 1%, as set by the Legislative Yuan.

3.1.3 Diversification

Guided by the expansion strategy of "extending the power business, strengthening asset revitalization and foraying into derivative businesses," Taipower has actively developed new business, including activation of real estate, optical fiber rental, turbine blade repair and so forth in the hopes of strengthening the company's operation and creating value through the vitalization of various internal resources so as to build a sound foundation towards sustainable operation. In 2016, Taipower expects to achieve TWD 721 million in revenue from its diversifying businesses, which will generate approximately TWD 10.9 billion of income for Taipower in the following decade.

Promoting Real Estate Activation

Due to the changes in factors such as power automation, transportation, and economy, a portion of Taipower's real estate is no longer required for power-related operations. Moreover, as such, Taipower established the Land Vitalization Task Force to take charge of asset revitalization. In accordance with MOEA's oversight and evaluation system for the revitalization of land assets that are of 10 years or more in age, the Land Vitalization Task Force has held three project meetings in 2015 to discuss the feasibility of land planning and usage cases and solicitation. The task force also convened a consultation meeting for a major land vitalization case by inviting experts in real estate from the government, academia, and industries as committee members to obtain input on the subject matter.

Presently, Taipower strives to achieve land vitalization through the promotion of leftover land merger in urban areas/urban renewal and large area land bidding to secure land surface rights with the following results in 2015:

Real estate rental

- Taipower implemented 14 cases (37 locations) of temporary parking lot rentals, with a combined annual revenue of TWD 69.41 million.
- Income from annual rentals for other real estate rentals came to TWD 192.49 million.

Promotion of educational/recreational affairs

The Taipower Hotels had an occupancy rate of 38.6% in 2015, up by 8.7% from the 2014. The annual revenue came to TWD 23.91 million, an increase of TWD 1.53 million, or 6.9%, from 2014.

Land development and utilization

In accordance with the government's policy for asset vitalization, urban renewal, and non-sale of large state-owned land, Taipower has created superficies as the means to vitalize land development. In 2015, Taipower has completed the following:

- Established the "Taipower and Kaohsiung City Government's Joint Development of Multifunctional Commerce and Trade Park Land Promotion Taskforce" in response to Kaohsiung City Government's joint business solicitation plan.
- Completed the detailed plans for "Northern Taiwan Warehouse Urban Renewal Project" and "Department of Maintenance Urban Renewal Project" to be submitted to the Board of Directors for approval before submitting to Taipei City Government for review.
- Negotiated with the Construction and Planning Agency to complete the contents of the Student Dormitory on Jiaxing Street Urban Renewal Project, contingency plan and business solicitation document to be submitted to the Board of Directors for review.
- Integrated Jinguashih Geographic Park in New Taipei City into local tourism and cultural development to achieve land asset revitalization.

In 2016 Taipower will continue to promote asset revitalization and appraise lands of low usage while planning the rental of properties such as dormitories and parking lots (such as the rental of Taipower Northern Taiwan Activity Center and existing dormitories at Yuanshan Staff Dormitory, the supervision and inspection of the empty lot to the west of Wolong Substation and the temporary parking lot at section 2 of Roosevelt Road, the negotiation of rights allotment and contract signing with construction company for the 5 cases of empty lots to the north of Daan Substation).

Jinguashih Geographic Park — Real estate rental integrated with tourism development

Situated within Jinguashih Geographic Park in New Taipei City, Taipower's Benshan Mine was an artificial col that came into existence through excavation. The mine still retained its original look and as such, Taipower planned the integration of the venue's geological sight and cultural activities to recreate the memories and atmosphere back in the mining days. After overcoming the issues of land separation, the legality of land usage fitness, construction of basic power infrastructure, clarification of the scope of historic site coverage and the maintenance and management of the site, Taipower has signed a contract with the renowned U-Theatre company in November 2015 to use the site as an amphitheater. The lease officially starts on January 1, 2016. The integration of Benshan Mine and performing art not only facilitates effective use of existing space and increases Taipower's income from land rental but also achieves multiple objectives such as preserving the mine site, supporting outstanding domestic artist group and assisting the development of local tourism to create greater social value.

Optical Fiber Line Leasing

Under the premise of keeping power supply and safety, Taipower strives to promote management model versatility and development of domestic telecommunication infrastructure by launching optical fiber leasing services. After obtaining the permit from the National Communications Commission (NCC) on November 27, 2014 to lease long-distance domestic landlines, Taipower has initially offered “dark fiber” for the lease service and included the profit from optical fiber line rental as a performance indicator for the “Creating Value” strategy.

Initially, the areas of approved Taipower’s optical fiber line leasing business include Taipei City, New Taipei City, Nantou, Hualien-Taitung and Pingtung County, with potential clientele consisting of category I and II telecommunication and cable TV service providers. An open bidding for the leasing of optical fiber line in Hualien-Taitung was held on January 6 2015, with New Century InfoComm Tech Co., Ltd. and Taiwan Fixed Network winning the lease of 1455.4 KM of optical fiber line.

At the same time, Taipower has submitted an application to the NCC for the expansion of its existing telecommunication network in order to expand its business area to cover all municipalities in Taiwan. The permit from NCC was obtained on December 29 2015, with approximately 53,000 km of optical fiber line that runs throughout 642 stations and 790 areas for circuit rental. The total revenue from the rental in 2015 came to approximately TWD 27.92 million.

With the successful expansion of service area in 2015 and solicitation with relevant service providers to increase operating revenues, Taipower anticipates an excess of TWD 37 million from optical fiber line leasing in 2016. With regards to medium and long-term management strategies and commercial models, Taipower shall establish relevant development plans in accordance with the demands of the telecommunication markets and actual status of operation in order to increase income and facilitate the development of domestic telecommunication infrastructure.

Reinvested Enterprises

Since 1962, Taipower has participated in a number of private business investments in an effort to stay in line with relevant government policies. Targets of Taipower’s investments have been power-related business and the company is potentially exploring other investment items, including coal ash resource utilization, telecommunication asset revitalization, offshore wind power generation, offshore energy and minerals, construction of fleets, participation in international power utility maintenance and foray into the construction of offshore power plants and so forth.

As of the end of 2015, the company had interests through reinvestments in the Taiwan Stock Exchange Corporation Ltd., the Taiwan Cogeneration Corporation Ltd., and for the development of the Bengalla Mine in Australia, the Bengalla Mining Company Pty. Ltd., and the Bengalla Coal Salea Company Pty. Ltd., which cost Taipower a total TWD 1.275 billion in investment. In 2015, the company’s income from these reinvestments came to TWD 271 million, representing 21.25% of return on investment.

3.2 Promoting Tariff Rationalization

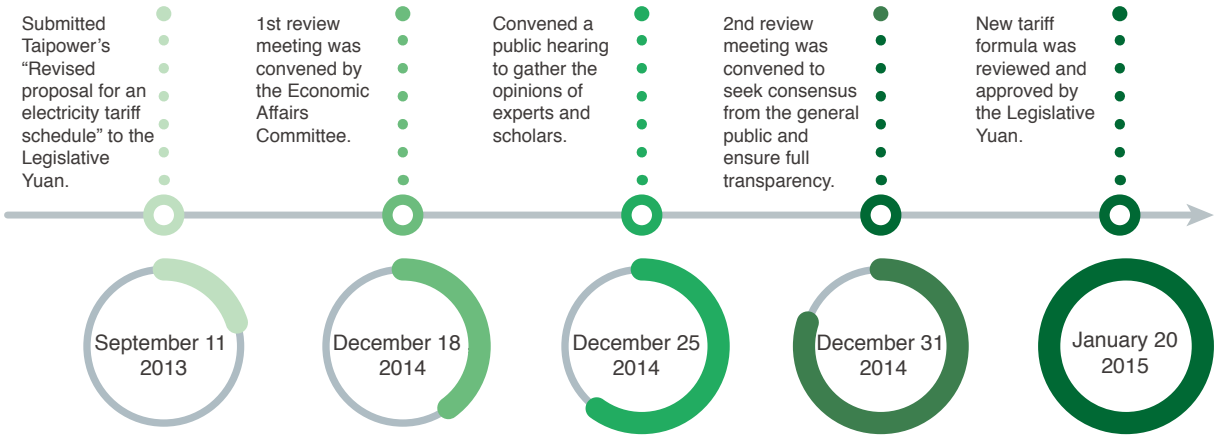
3.2.1 Striving for Reasonable Electricity Tariff to Reflect Costs

Since 2003, international fuel prices have risen significantly. In 2006, 2008, 2012, and 2013, Taipower adjusted its electricity tariffs. However, to support the government’s policies to stabilize prices, mind the people’s livelihood, and mitigate impact on industry, these adjustments did not sufficiently reflect the risen cost of fuel during that time period. This caused enormous losses in income and with such circumstances spanning a substantial period of time, Taipower’s losses had accumulated to TWD 135.5 billion as of the end of 2015. For the sake of intergenerational justice, today’s loss caused by unreasonable cheap rates should not be shifted to our next generation. This is the reason why Taipower pursues tariff rationalization in hopes of reasonable profits being able to recover the losses accumulated. This will require, on the one hand, a new pricing formula, a fair, open and transparent mechanism for the professional review and setting of tariffs, and on the other hand release Taipower policy burden.

The Goal and History of Tariff Formula Promotion

In addition to balancing operating expenses, the electricity tariff should also provide sufficient profits not only to cover its costs but to be able to invest and build new constructions for power development. As such, the Executive Yuan has been promoting revisions to the calculation of tariff formula since 2013, with the

Legislative Yuan eventually reviewing and approving of the new tariff formula on January 20 2015. In addition to reflecting the costs of power supply, the formula also allowed a 3-5% rate of return on investment. With the new tariff formula in place, the MOEA has also established the Electricity Tariff Review Committee, which is tasked with reviewing the production costs and giving a final approval to the quarterly tariff adjustments.



New Tariff Formula

Reviewed and approved by the Legislative Yuan on January 20 2015, the new tariff formula is as follows:

$$\text{Average price per kWh} = \frac{\text{Fuel + Tax and Fees + Reasonable Profit + (Depreciation + Interest) + (Personnel Expense + Maintenance Fee + Other Operating Expenses) - Income from Green Power - Other Operating Income}}{\text{Energy Sold}}$$

Note: Reasonable Profit = Base Rate x Return on Investment
Base Rate = (Replacement Value of Fixed Asset Currently in Use + Operating Fund) X Suitable Self-Owned Capital Rate (30%)
Operating fund: TWD 23.5 billion
Return on investment: 3%~5% (with accumulated losses in place, the cap on the return on investment is 5% and the ROI will go towards covering the losses in full. Once the company has made up for all its accumulated losses, the return on investment will be reduced to 3%)

Pursuant to the resolution of the Legislative Yuan, the new tariff formula shall be subject to review once every six months after two years of implementation. In addition, a cap on tariff adjustment will also be established (no more than 3% in a six-month period and no than 6% in a given year). The Electricity Tariff Review Committee will take various factors of Taipower's operation performance into consideration to review and determine the reasonable values for the tariff formula

Tariff Review and Adjustment in 2015

The new tariff formula has been subject to review and adjustment once every six months. The formula has been reviewed in the first and second half of 2015 by the Electricity Tariff Review Committee. Taipower has reduced the average tariff by 7.34% and 2.33% on April 1 and October 1 respectively.

Presently, the new pricing formula will expire at the end of 2016. Taipower will take the experience of tariff formula implementation and suggestions from the Electricity Tariff Review Committee into consideration in drafting the tariff formula in the future so as to improve the formula. This will in turn enable Taipower to benefit from reasonable profits and the surplus will be invested towards power construction so that Taipower can deliver more stable and environment-friendly power to the society, thereby creating higher value for the environment and society.

3.2.2 Pursuing Relaxation of Policy Burden

Tariff Reductions

Taipower has offered tariff reductions in accordance with pertinent laws and regulations. These reductions extend to electricity for public lighting, public water, electrified railways, educational institutions, farming, offshore islands, social welfare groups and the disabled. In 2015, these reductions totaled TWD 4.411 billion. To prevent the unfair situation where these reductions are directly borne by the people, the Electricity

Act stipulates that these reductions be covered by allocations in the budgets of the competent authorities in charge of the target group enjoying the reduction.

Pursuant to resolution in the “Conference on the Policy Burdens of Taiwan Power Company and China Petroleum Company” held on November 29 2013 to have relevant central government bodies to include budgets to cover tariff reduction starting from 2015, the majority of the government bodies have verified their allocation of funding. In 2015, these allocations have reduced Taipower’s burden by TWD 663 million.

Offshore Islands Subsidies

According to the Offshore Islands Development Act, the electricity tariff on Taiwan’s offshore islands is set as the average of the rates on Taiwan proper. The losses incurred thus should have been covered by the central governments’ budget, but Taipower has never received subsidy for this over the years. After many years of Taipower’s efforts, the Executive Yuan convened the “Conference on the Policy Burdens of Taiwan Power Company, China Petroleum Company and Taiwan Water Corporation” on 31 January 2013, which passed the resolution that the policy burdens must be gradually reincorporated into the budgets of the competent authorities for various industries and domains. Each ministry and council must, within a period of ten years, progressively allocate funding in its budget to bear its fair share of the policy burden. Accumulated losses from power supply to the offshore islands reached TWD 71.082 billion in 2015. The Ministry of Economic Affairs has subsidized TWD 537 million and TWD 1.073 billion in 2014 and 2015 respectively, leaving TWD 69.472 billion uncovered at present.

Renewable Energy Subsidies

In accordance with the Renewable Energy Development Act, the Regulations Governing Application and Approval of Renewable Energy Subsidies, and in line with the government-approved Calculation of price difference pay-back on renewable energy wholesale tariffs, Taipower applied for the subsidy for Renewable Energy and was awarded TWD 3.859 billion in 2015. In addition, the government has also subsidized Taipower for the purchase and construction of renewable power generation units. The subsidy (TWD 11 million) will be recognized as company income in 2015.

Governmental Subsidies in 2015

Unit: TWD 100 million

Item	Amount
Subsidies of renewable energy	38.59
Subsidies of offshore islands electricity tariff loss	10.73
Subsidies of renewable energy generation equipment and construction	0.11
Other government subsidies	0.03
Total	49.46

Reducing Costs

To effectively improve financial performance, in addition to striving to improve its procurement performance and generation efficiency while reducing operating costs, Taipower has also implemented measures of power demand management to balance power demand and boosted the operational performance. In the future, Taipower will utilize smart grids to help customers reduce their power consumption, thereby lowering emission costs with regards to environmental concerns so as to fulfill the company's mission of supplying reliable power in an environment-friendly and cost-effective manner.

Savings on operational material procurement in 2015

TWD 742 million

from savings. Annual target achievement rate 148%

Coal procurement expenses in 2015

TWD 3.053 billion

from savings. Annual target achievement rate 105%

2015 Line Loss

3.72%

Annual target achievement rate 118%

Reducing Costs

4.1 Raising Procurement Performance

4.1.1 Fuel

In addition to ensuring steady fuel supply for power generation, Taipower has also been collaborating with the Taipower and CPB Business Improvement Task Force of MOEA to improve the fuel procurement performance.

Fuel Procurement Savings for Taipower in 2015

Unit: TWD 100 million

Item	Savings
Coal	30.53
Ocean Freight of Coal	5.10
Oil and Diesel	0.96
Liquid Natural Gas	31.44
Total savings	68.03

For coal procurement, Taipower has established its Coal Procurement Review Task Force, with members consisting of personnel from its material department, procurement regulation enforcement department, procurement department, legal affairs and so forth. Through various meetings with the participation of external experts and scholars on energy and economics, the task force is responsible for formulating flexible coal procurement strategies. In 2015, the committee held four meetings in response to market changes and completed the annual procurement plan, thus enabling Taipower to procure coal at a lower price (approximately TWD 3.053 billion) compared with the Asia-Pacific market in 2015, and achieving the improvement target of TWD 2.9 billion as set by MOEA.

As for the procurement of natural gas, Taipower will spread out its source of supply in the future and purchase liquid natural gas from the international market as directed by the MOEA. The purchased natural gas would be distributed through CPC's natural gas receiving stations to Taipower's power plants in order to reduce the overall fuel procurement costs.

4.1.2 Materials

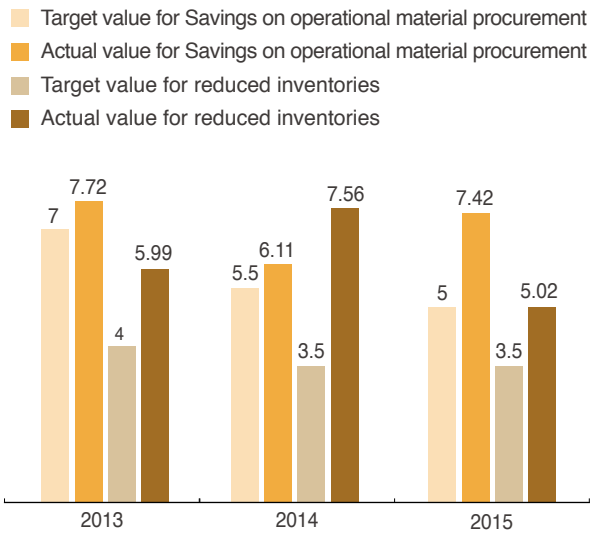
Taipower established the Material Control Task Force in August 2012 to oversee the improvement of the systems for materials procurement and inventory management, and reviewed the outcomes of these management and control systems. Within a period of five years (2012-2016), the task force has realized materials procurement savings of TWD 4.65 billion (operational savings of TWD 2.9 billion, and inventory savings of TWD 1.75 billion). As of the end of 2015, Taipower had already saved TWD 2.896 billion on operational material procurement and reduced its material inventory to TWD 2.455 billion, thus surpassing the target value for inventory reduction within five years.

Reducing Inventory

Through system design and Enterprise Resource Planning (ERP), Taipower improved the accuracy of its front-end fuel demand estimates. The company also used open contracts as a flexible delivery tool to optimize inventory reserves. In addition, to better manage and control inventories of special components and spare parts used in power plants and power generation turbines, every department overseeing power plants visited their power plants to review the quantities of spare parts used for safety and overhaul purposes. As of the end of 2015, materials inventories had decreased by TWD 2.455 billion, surpassing the original five-year inventory reduction target by approximately 40%.

Planned and Realized Procurement Savings from 2013 to 2015

Unit: TWD 100 million



Reducing Procurement Costs

Under the precondition of compliance with procurement laws and regulations, Taipower has established Key Performance Indicators (KPIs) for procurement, such as price reduction, and

centralized procurement performance, for all units to use. In accordance with centralized procurement guidelines, Taipower selected items and assigned units to take charge of procurement for these items for the entire company. This reduced the number and overall cost of procurements. In 2015, the number of centralized procurement items came to 1,829, with a contract amount of TWD 12.07 billion, and constituted 11.8% of the whole company's material procurement. Taipower is expecting to increase the number of its centralized procurement items in 2016 to approximately 2,500, thereby saving TWD 460 million in operational material procurement.

Supplier Classification System

Under the premise of remaining compliant with the Government Procurement Act, Taipower has promoted its supplier classification management and offered incentives, such as exemption from inspection, reducing item of inspection, and pre-payment and so forth, to reward outstanding suppliers. The system will encourage price competition among suppliers while reducing Taipower's procurement costs, resulting in a win-win situation for Taipower and its collaborating suppliers.

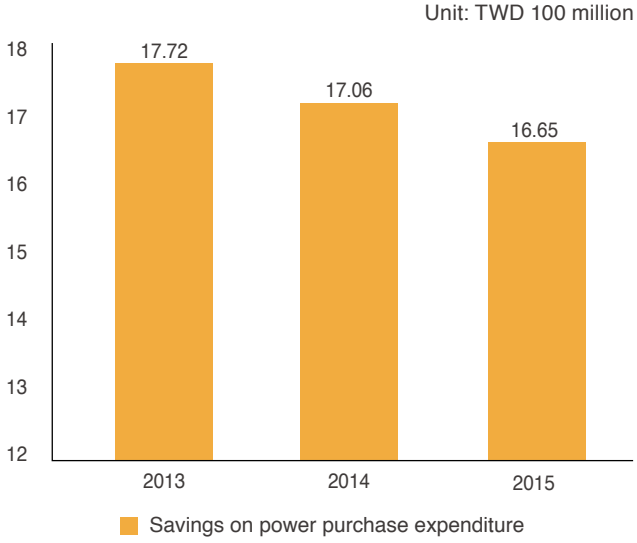
As of the end of 2015, Taipower had planned and chosen the 25kV XLPE power cable, digital electricity meter, single phase box-style transformers and low voltage current transformer as pilot items for the system, with the 25kV XLPE power cable as the prioritized material. Taipower also completed the "Company-Level Material Supplier Classification Review Committee Organization and Review Standard" and "Company-Level Material Supplier Classification Operating Standard" in 2016 Q1.

4.1.3 Power Purchase

Following the rapid development of Taiwan's economy and the increasing demand for power, given the growing difficulty of power development, the government has permitted the private sector to operate power sources that Taipower has yet developed in order to ensure stable and reliable supply of power across the nation. Taipower has complied with MOEA's "Operation Directions for Deregulated Power Industry" and "Private Power Plant Establishment Plan" for its IPP purchase and signing of contracts with IPP operators. To ensure stable operations and secure financing opportunities for IPP, duration of the contract spans for 25 years, with terms that prescribe fixed rates (i.e., does not adjust according to floating interest rates) for capital expenses in the purchase prices. In addition, the contract also clearly defines periodic adjustment schemes for fuel costs, maintenance fees, and subsidies.

Despite the continuous decline of market interest rates since 1993, Taipower was not able to adjust the capital expenses in accordance with the falling interest rates due to contract restrictions. As such, Taipower has attempted numerous negotiations with IPPs and sought the assistance of the Energy Bureau of the MOEA for mediation but failed to achieve consensus with the IPPs to amend the terms of the contract. Taipower filed a lawsuit and a complaint to the Fair Trade Commission. After the Legislative Yuan decreased the budget for power purchase and due to public pressure, the IPPs yielded and agreed to resolve the dispute by amending the contract. In 2013, Taipower managed to amend contracts with 9 IPPs and adopted the status of power generation in 2011 and the market interest rate as the basis of calculation. In the future, Taipower will be able to reduce its power purchase expenditure by approximately TWD 1.54 billion per year, amounting to a total of TWD 24.9 billion during the span of the contract.

Actual Annual Savings on Power Purchase Expenditure from 2013 to 2015



Presently, the IPP contract that Taipower has signed to expire first will happen in 2024 and two years prior to the expiry of the contract, the contract may be extended with mutual agreement from both parties. Each contract extension may be no longer than five years. With regard to the dispute that had arisen from the IPP power purchasing price, the Ministry of Economic Affairs has announced that IPP contracts shall be subjected to review in the same way where

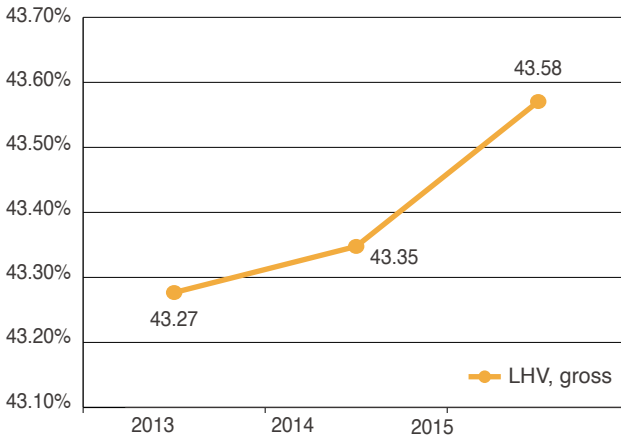
renewable power purchase pricing is done – the government shall set up a review committee that comprises representatives from the industry, the government body and the academe in order to conduct reviews that are objective and professional. Additionally, Taipower will vie for a fair, unbiased third party to establish the IPP power purchasing price to eradicate the public's doubt on Taipower's overpriced purchase of IPP power.

4.2 Raising Power Generation Efficiency

4.2.1 Thermal Units' Operating Performance

To effectively manage thermal unit's operation, Taipower has established the "Key Component Maintenance Strategy" and maintenance guideline for thermal units. In addition, Taipower established operators' license system and retraining system to ensure the stability of daily operations. To raise power generation efficiency and reduce generation costs while complying with the government's policy for energy diversification, energy conservation and carbon reduction, Taipower has also planned the replacement of old units with high-efficiency generation units. For example, the Linkou and Dalin plants (under construction) have adopted high-efficiency supercritical pressure coal-fire units while the Tongxiao plant has installed high-efficiency fuel combined cycle units.

Total LHV of Thermal Power Plants (%)



In addition, through various operations and maintenance measures to enhance the energy usage efficiency of existing units, the LHV Gross efficiency rates of thermal power plants reached 43.58% in 2015 from 43.35% in 2014. Taipower will continue to strengthen its participation in international collaboration in order to introduce relevant know-how and techniques for power and environmental friendly technologies.

In the future, Taipower will emphasize the upgrade of generation units and components at existing thermal plants. Presently, Taipower has planned to upgrade the core components of power plants in southern Taiwan (2016-2017), the overall internal component for the high and medium pressure turbine in Taichung plant (2016-2017) and Xingda plant (2017-2018) to raise power generation efficiency as a means to adhere to the management strategy of reducing production costs.

A best-practice case of high-efficiency power generation: optimized loading of units at Datan

Since the maximum power output of the Datan combined-cycle power plant is limited by an annual NO_x emissions limit of 4,844 metric tons imposed by the Environmental Impact Assessment Plan, the plant must supply power within this emission limit and in a cost-effective manner. This is why the Datan plant adopted fairly new and high-efficiency power generation units, which offer the advantages of lowering power generation cost and NO_x emissions so as to reduce Taipower's operating costs while staying true to Taipower's mission of being environment-friendly. Management models for the unit are as follows:

- Routine operating management— periodical inspection and equipment upgrade
  - Establish fuel optimization teams to calibrate engines after repair and maintenance
  - Upgrade components of steam-powered generators.
- NOx emission optimization - operating mode with optimized loading
  - Establish the operating mode with optimized loading by referring to the NO_x emission intensity curve for each unit and relay the information to the Department of System Operations as reference for load adjustment
  - Establish consensus on the characteristics of climate impacts on gas turbine units; when NO_x emission concentration approaches the permitted limit (25PPM), the personnel on duty and the Central Office of System Operations shall maintain contact and interaction to adjust the load accordingly.
  - NO_x and CO_2 emissions shall be recorded and tracked daily; any anomalies shall be handled immediately with the Central Dispatch Control Center notified to adjust the load in order to ensure that the unit is running at optimized loading to control NO_x emission.
- Actual results: by adhering to the operating mode with optimized loading, the Datan plant was able to raise its capacity factor and power supply time and again, thus fulfilling Taipower's management strategy of reducing costs

Year	Datan Plant Capacity Factor (%)	Datan Plant Power Supply (100GWh)
2013	60.75	229
2014	64.46	242
2015	66.05	249

Taipower will consider increasing generation at Datan and other high-efficiency units while lowering power generated by units operating at higher costs in order to maximize overall production and environmental benefits.

4.2.2 Operating Performance of Nuclear Units

With regard to the improvement of operating performance of nuclear unit and lowering its generation costs, Taipower's primary management measures include:

- Weaknesses of nuclear power plants were collected from their supervising units, and analyzed and reviewed.
- Safety look-out and management during major repair work were strengthened.
- Equipment improvement and renewal were enhanced.
- Review unexpected events in the year and analyze methods of improvement.

The net generation of nuclear power in 2015 reached 35,143 GWh, with the average utilization rate at 76.85% (note: if excluding nuclear power plant no. 1 reactor 1's not to operate due to the resolution of Legislative Yuan, the actual utilization rate was at 92.22%). For the statistics on nuclear power generation and utilization rate in the last decade, please refer to the "Information Disclosure" section on Taipower's website, under "Nuclear Energy Power Generation Performance" below Nuclear energy operations and performance. All nuclear power plants had lower power generation performance in 2015, compared with 2014 primarily because of a few incidents of unexpected shut-downs in 2015. The details of these events are as follows:

- The total number of days of major repairs in 2015 totaled 515.27 days and resulted in a reduction of 8,402 GWh generated. Due to the damage on the connecting hardware for the water channel of an atrium 10 fuel at nuclear power plant no. 1 reactor 1, the plant could not resume operation before the Atomic Energy Council completes its report after reparations have been made. As such, the power plant remained inoperative for the entire year of 2015. Consequently, power supply was reduced by approximately 5,140 GWh.
- Due to typhoons in 2015, the load for nuclear units was reduced and resulted in a decrease power supply by approximately 150 GWh.

Reducing Costs

- On April 26, 2015, the three-phase differential relay of the auxiliary step-down transformer of reactor no. 2 at nuclear power plant no. 3 tripped off the main generator; on December 26, reactor no.1 at nuclear power plant no.2 automatically shut down due to generators malfunction. Both incidents required Taipower to reduce loading and perform shutdown inspection on the units, resulting in a loss of power generated by approximately 590 GWh.

Utilization Rates of Nuclear Power Plants between 2013 and 2015

Unit: %

Year	Nuclear Power Plant No. 1			Nuclear Power Plant No. 2			Nuclear Power Plant No. 3			Average
	Reactor 1	Reactor 2	Average	Reactor 1	Reactor 2	Average	Reactor 1	Reactor 2	Average	
2013	73.59	97.84	85.71	93.20	91.97	92.58	86.95	99.64	93.29	90.53
2014	91.22	90.02	90.62	98.91	92.45	95.68	97.23	82.19	89.71	92.00
2015	0	90.19	45.1	89.13	100.00	94.57	91.74	80.48	86.11	75.26
Accumulated Utilization Rate after Commercial Operation	82.40	85.83	84.10	84.96	86.83	85.87	82.40	86.16	84.25	84.73

Note 1: Utilization rates of nuclear power plants = No. of hours of power generation per year/No. of total hours in that year

Note 2: Although the damage on the connecting hardware for the water channel of an atrium 10 fuel at nuclear power plant no. 1 reactor 1 in 2015 had been repaired by February 2015, Legislative Yuan's Education and Culture Committee resolved on March 17 2015 that the Atomic Energy Council has to complete its report on the incident before Taipower may be permitted to apply for nuclear power plant no.1 to resume operation. Although the Atomic Energy Council had successfully applied for the chance to present its report on 7 occasions, the Education and Culture Committee did not include the report in its schedule. Consequently, nuclear power plant no. 1 remained inoperative for the entire year of 2015.

4.3 Demand Management

4.3.1 Load Management

Taipower has practiced load management for more than 30 years and resorted to using price incentives to change customers' power consumption behavior so as to ensure power supply stability while reducing peak loads. Measures that Taipower has implemented so far include: seasonal rate, two and three-block time-of-use rate, peak-variable time-of-use rate, ice storage central air-conditioning system off-peak electricity use, central air conditioner duty cycling load control measure, three projects and two temporary electricity use reduction measures, demand-based bidding and so forth.

Power Demand Response Measures

Measure		Description	Applicable Customer	Effect
Implementing "Time-of-Use Rates" since 1979		Reflect the cost of electricity during different time periods. Encourage off-peak hour electricity use to reduce peak load.	Optional for gauge lamp and low voltage customers; Applicable to all high voltage customers	Reduced the daily peak load in 2015 by an estimated 3,763 MW
Implementing "Ice Storage Central Air-Conditioning System" since 1991		Encourage installation of ice storage system to fully utilize the off-peak electricity so as to reduce peak load. The off-peak hour electricity rate earns a 40% discount of the peak rate.	Commercial customers (i.e., hotels, hospitals, administrative agencies and so forth)	
Demand-Response Load Management Measures	Implementing "Central Air Conditioner Duty Cycling Load Control Measure" since 1991	Rotation of central air-conditioning system with 60 mins on and 15 mins off. Rotation of package air-conditioning system with 22 mins on and 8 mins off.	Non-productive customers (i.e., office buildings, schools and so forth)	
	Implementing "Interruptible Rates" since 1987	Provide reduced rates to mitigate peak load and transfer to off-peak hours.	100 kW customers and schools (depending on the contract; factories, educational institutions, etc.)	Daily peak load reduced by 671 MW
	Implement "Demand-Based Bidding Measure" since 2015	Through the customer-declared feed-back pricing method, Taipower bestows more autonomy to customers so as to inspire their power-consumption mitigation potentials and to improve system load, thereby mitigating the demands for new power development and reducing the risks of power shortages.	Customers of high-voltage or higher power demand	

Note: The peak clipping performance of "time-of-use rate" encompasses "ice storage central air-conditioning system" and "central air conditioner duty cycling load control".

To achieve continual tracking and review of load management performance, Taipower has combined internal power saving performance and peak load into the KPIs of regional branch offices for monitoring, managing and controlling. In 2015, Taipower requested a peak load capacity of 1.75 GW and 103 MW for its demand-based bidding measure. The company achieved an internal power savings of 113.5 GWh, which was far higher than the annual target of 67 GWh at an impressive achieving rate of 169%, thus reflecting Taipower's success in energy conservation in 2015.

Taipower's Internal Power Savings and Peak Loads

Year	Taipower's Internal Savings (GWh)	Peak Load (GW)
2013	188.9	2.42
2014	85.7	2.43
2015	113.5	1.75

To further improve demand management performance and comply with the government's policies for green energy and low carbon emission, Taipower has planned to strengthen its education and training for various measures so that employees will have better understanding of the details of relevant measures and ensure relevant promotions. Externally, Taipower will actively use various channels (i.e. the Internet, communities, email, press releases, press conferences, visits at major customers, seminars and so forth) for dissemination in order to boost the results of peak load clipping. On top of that, Taipower has also made new plans for key load management measures in 2016:

Time-of-Use rate

To encourage low-voltage customers to participate in demand response, Taipower will be launching a new time-of-use pricing in 2016 to offer new prices at different time blocks so as to provide more durations of reduced pricing for customers, thereby leading residential and small business customers to spread out their power consumption during peak summer seasons and alleviate the pressure on power supply.

Demand-based bidding

Since the launch of demand-based bidding in 2015, Taipower has achieved concrete results and generated buzz on the measure. As such, the company will continue to promote the measure in 2016. To enhance the peak clipping effect of the measure, in addition to improving the contents of the solution, Taipower will also be establishing a demand-based bidding platform, which will provide disclosure on relevant bidding information and online quotation inquiry services for customers to facilitate their participation.

In the future, apart from promoting new load management measures and establishing more challenging goals, Taipower will also be organizing on-site inspections for energy conservation at various branch offices during summers and at the end of the year so as to reinforce the implementation of demand management at branch offices.

4.3.2 Energy Saving Incentives

To encourage customers to save energy, Taipower introduced energy-saving incentives in July 2008. These incentive packages have been renewed four times to promote energy-saving awareness and the efficiency of the incentives. The current energy-saving incentives were introduced in August 2014. The incentive applies a discount to the customer's actual power consumption (TWD 0.6 per kWh). The incentive is TWD 84 at least, or the calculated amount (whichever is higher). The minimum incentive is raised to TWD 100 for the handicap customers. As of the end of 2015, 20,465 customers benefited from the incentives. The total saving was up to 31,337 GWh for a total amount of TWD 50.687 billion. Reduced CO_2 emissions totaled 16.33 million metric tons, equivalent to the annual absorption of 44,000 Daan Forest Parks.

Reducing Costs

Community-based energy saving

In addition to the above energy-saving incentives, Taipower also offers free energy-saving community outreach services, consisting of "diagnosis" and "advice". The service promotes energy-saving techniques and high-efficiency energy-saving products, and provides recommendations for saving energy on shared facilities. In 2015, Taipower served 200 communities (neighborhoods and buildings) in Taiwan, as well as the offshore islands. Almost 6,554 people participated in energy-saving community meetings, which were very well received.

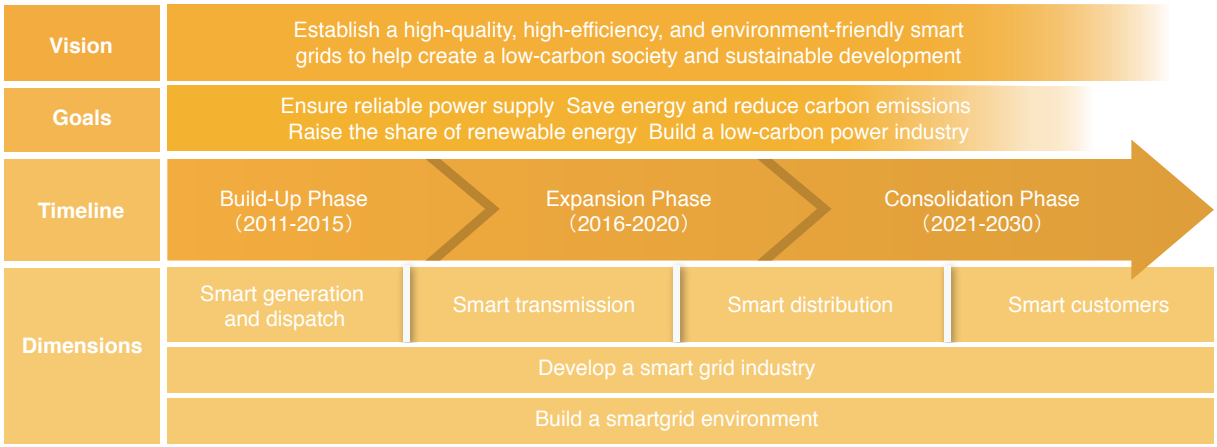
Year	Electricity Saved (100 GWh)	Money Saved (TWD 100 million)	CO_2 Emission Reduced (10,000 metric tons)	Annual CO_2 Absorption for Daan Forest Park (no.)
2013	41.6	70.9	217	5,861
2014	35.5	47.9	185	4,999
2015	47.4	36.4	247	6,667

Note: Calculation is made based on the national electricity emission factor of 528/CO_2e/kWh published by the EPA in 2015 and the annual CO_2 absorption of Daan Forest Park at 370 metric tons, which has been taken from a report published by the Bureau of Energy in 2011.

4.3.3 Optimum Use of the Smart Grid

Based on the blueprint of "Smart Grid Master Plan" formulated by the Bureau of Energy and its vision of "Building a high-quality, high-efficiency, and environment-friendly smart grids to help create a low-carbon society and a sustainable environment" and the work of the "Smart grid Promotion Team" of MOEA, Taipower has implemented and promoted a number of specific smart-grid projects.

The promotion smart-grid program is divided into a short-term/introduction phase (2011-2015), a medium-term/growth phase (2016-2020), and a long-term/consolidation phase (2021-2030) to promote generation and operations, transmission, distribution, and customers. The National Smart Grid Master Plan aims to achieve the targets of "ensuring power supply reliability, furthering energy saving and emission reduction, raising the use of green energy, and leading the low-carbon industry".



Smart Grid Promotion and Management Mechanism

Taipower has a "Smart Grid Task Force" designated as the unit responsible for smart generation, smart power transmission, smart power distribution, and smart customers. The task force sets, promotes, and reviews these for targets and their KPI values which aim to build a smart grid.

Smart Grid Targets

Target	Review Item	2015 Target	2020 Target	2030 Target
Ensure power supply stability	SAIDI (min/customer · year)	17.5	16	15.5
	Line loss rate (%)	4.64	4.54	4.42
	Number of Smart Substations (stations)	25	303	583
Promote green energy	Renewable resources (%)	15	20	30

Reducing Costs

Every month, Taipower submits a progress report on various dimensions of its Smart grids to the Bureau of Energy, MOEA. In addition, the Smart Grid Task Force meets quarterly to oversee and review progress in building a smart grid.

Promotion Performance in 2015

Targets and Performance in 2015

Target	Review Item	2015 Target	2015 Performance	2016 Target
Ensure power supply stability	SAIDI (min/customer · year)	17.5	16.268	17
	Line loss rate (%)	4.64	3.72	4.62
	Number of Smart Substations (stations)	25	25	55
Promote green energy	Renewable resources (%)	15	16	16

With regard to the dimensions of smart grid generation and dispatch, transmission, distribution and customers, Taipower's performance in 2015 was as follows:

Smart Generation and Dispatch	Smart Transmission	Smart Distribution	Smart Customers
• In 2015, 173 km of dedicated optical fiber lines and 20 optical fiber communication systems were constructed to create reliable commu-nication circuits. • Completion of the Xinshe Pilot Substation is compliant with the IEC 61850 Standard. • Application of visualization technology for rapid verification of EMS grid splitting enhances system operation safety.	• Completion of the bid review and bidding process for the Special Protection System for Nuclear Power Plant No.3 • Digitization of relay system: replacement of transmission protection relays continued and reached a 84% completion rate.	• Taipower's smart power distribution focuses on the feeder automation. Currently, 6,895 feeders (25 completed in 2015) and 22,006 units of automation switch have been completed. • Completion of the connection between the INER's Lungtan Microgrid Verification Field with Taipower's Lungtan OQ38 feeder, achieving dispatch and voltage regulation factor below 2% • Completion of appraisal for the feasibility of application for smart inverter in different line scenarios	• Promotion of low-carbon project in Penghu through the procurement of smart meter for 1,500 low-voltage customers in the area • Construction of low-voltage AMI customer service portal website is currently on its trial run.

Reducing Costs

Terminology

Smart grid

A comprehensive power system, which connects generation, transmission, distribution, and customers, through information, communication and automation technology, focused on automation, security, and close cooperation between users and suppliers to enhance the system's operating efficiency, supply quality, and grid reliability, and promote the policy objectives of expanding renewable energy use, energy saving and carbon emission reduction.

Smart generation and dispatch

An electricity grid structure allows feeding renewable energy into the grid and increases the volume of renewable energy generated. Renewable energy such as wind power and solar energy is intermittent in nature, causing voltage fluctuations when its proportion of total electricity increases. A smart grid and smart power control centers immediately distribute unstorable energy to customers or assist the exchange between areas with electricity shortages and surpluses to manage and match supply and demand.

Smart transmission

A power grid with real-time status monitoring and analysis capabilities is able to detect, assess, and handle anomalies and remove obstacles in the grid instantly.

Smart distribution

Feeder Automation allows for quick identification, isolation, and removal of feeder blockages, which decreases the time and scope of such blockages.

Smart customers

Besides saving labors, smart meters can also support various types of dynamic pricing and load management, provide real-time load information to the power companies, help customers save energy, help power companies take appropriate measures, and reduce peak load accordingly.

Advanced Metering Infrastructure (AMI)

An infrastructure consisting of smart meters, communication systems, and a meter information management system.

Fulfilling Social Responsibility

As a good corporate citizen, Taipower endeavors to respond to its corporate mission of being environment-friendly by minimizing the impact of its operations on the environment and society. The company encourages its partners to do the same, and builds a sound work environment for its employees. Doing the right thing deserves to be known. Therefore, Taipower invests in communication with its stakeholders such topics as nuclear issues and other issues of social concern. The company maintains various online channels for information disclosure and low-threshold feedback and complaints. This high level of interaction enables the company to understand the needs and expectations of the society.

Taipower GreenNet
Official launch
Sustainable Development Website
Inclusion of stakeholder questionnaire

Thermal Unit GHG Emission Intensity for 2015
675g/KWh
Target achievement rate 106%

2015 facilitated Green power purchase
156 GWh

Nuclear Safety Performance Indicator Signals in 2015
Green light for the entire year
Target achievement rate
100%

Fulfilling Social Responsibility

5.1 Strengthening Stakeholder Engagement and Information Transparency

5.1.1 Taipower's Commitment to Material Issues and Results of Stakeholder Engagement

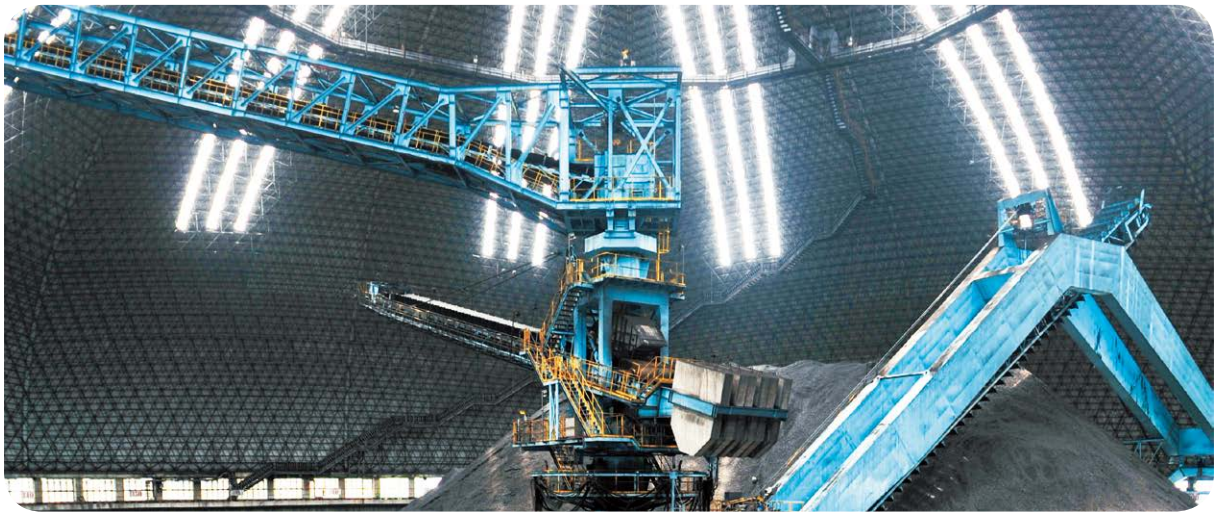
Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Stakeholder engagement and information transparency	Establish communication channels with residents in surrounding areas of power generation, transmission and substations to maintain positive interaction	Residents/ general public	• Conferences/ seminars • Site/expert visits • Seminars/ information session • Correspondence	• Organized events to care for and assist seniors living in solitude, disadvantaged minorities and social welfare groups; offered scholarships and special education subsidies, "brotherhood" events, charity breakfast for students, education programs, adopting sports teams from elementary and junior high schools in close proximity with power plants and so forth. Taipower's ratio of assistance rose from 23.39% in 2012 to 47.10% in 2015. • Organized 103 cases of care and assistance for residents living in the area of power facilities
		Government units	• Correspondence (once per year per district office) • Regional activity sponsorship	• Assisted township/city governments in the area of power plants in the promotion of spe cialty ev-ents to promote development of loc al businesses. In 2015, Taipower assisted in 12 events.
	Maintain positive and real-time communication with the media in order to satisfy stakeholders' demand for information while creating positive image for the company	Media	• Press releases • Media briefings • Public hearing/ information session • Site/expert visits • Taipower's corporate website • Market Observation Post System (MOPS)	• In 2015, Taipower published 120 press releases on issues relating to power supply and demand, tariff, environment, green energy, nuclear energy and so forth. The company offered prompt and immediate response to the media with supporting information. • Assisted the media with news coverage to facilitate communication with the general public • Proactively offered relevant information/data to the media on appropriate occasions to facilitate positive communication • Organized numerous visits and seminars to communicate with the society through the media

Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Stakeholder engagement and information transparency	Provide transparent information from an expert position and responsible attitude	People's representatives	• Participation in committee meetings at the Legislative Yuan • Mediations, public hearings • Offered relevant materials and information on the company's operations • Visit	• Taipower's senior management (VP and higher) has participated in 17 sessions at the Legisla-tive Yuan to brief the legislators on the com-pany's operations • The total number of instances of participation in mediations/public hearings by various supervisors and employees, along with the provision of information for the whole year came to 855. • Taipower's senior management (VP and higher) participated in a total of 60 meetings with Legislative Yuan committee members for com munication
		Residents/ general public	• Press release (published periodically) • The Taipower website was regularly maintained and updated	• A spokesperson system was introduced. Press releases were published at set times to inform the media and the public. • In the company's online annual report, an "Information Disclosure Section" was set up to publish operating information. Also, a separate sustainable development website was built, which was dedicated to information on this topic. • The "Corporate Governance Section" of the Taipower website discloses information on financial affairs and corporate governance. • Taipower TV publicized many public welfare events of Taipower.
	Establish a positive relationship with competitors in electrical engineering; offered dissemination and communication on relevant inquiries on power supply	Private body	• Seminar (annually) • In-bound calls/ expert visits	• "Taiwan Electricity Industry Engineering Association Conference" was held on November 18 2015. • 180 visits to national industry associations
	• Respond to and satisfy customer needs in a timely manner, as well as provide swift and convenient services to establish positive interaction • Continue to implement and publicize energy-saving measures, in line with government policies to save energy and reduce carbon emissions • Build channels of direct communication with customers and maintain positive interaction	Customers (general and very large customers) Residents/ general public	• Established a total of 24 branch offices and 271 service stations in Taiwan, Penghu, Kinmen and Mazu • In-bound calls/ expert visits • Service hotline • Customer opinion box • Information session (irregular)	• Visited 40,642 households • 1911 call agents in Taipower's service centers handled 1.45 million phone calls (92.19% of it was answered within 20 seconds). • 5,127 emails with customer feedback were handled. • Taipower visited 5,124 customers with consumption over 100000 kW to advise them to use their equipment efficiently, save electricity, and raise their awareness of the importance of saving energy • Taipower held 1,464 events on saving electricity and effective use of household appliances while encouraging the use of high-efficiency appliances. These events were attended by about 317,000 people. • Offered community-based energy saving services and consultation at 200 communities across Taiwan, covering northern, central, southern regions and offshore islands, drawing the participation of 6,554 people.

Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Integrity and sustainable management	• Establish an effective corporate governance structure • Safeguard shareholders' rights • Strengthen the function of Board of Directors • Respect stakeholders' rights • Improve information transparency • Establish a corporate culture on integrity management and fulfill Taipower's corporate social responsibilities	Shareholders	• Shareholders meeting (annually) • Taipower website and Market Observation Post System (MOPS)	• Convened one shareholders' meeting on June 26 2015 • Relevant regulations and information are disclosed on the MOPS and the corporate governance section on Taipower's website.
		Government/ Competent authorities	• Correspondence • Board of Directors Meeting (monthly)	• The appointment, management and evaluation of Taipower's directors were handled by the MOEA. The election of directors (including independent directors) in 2015 had been duly reported to the competent authorities for relevant procedures to follow. • All important issues presented at the monthly Board of Directors have been reported to the competent authorities in advance; all meeting records and agenda have also been submitted to the competent authorities for reference purposes. In 2015, 14 Board of Directors' meetings were held.
		Board of Directors (including independent directors)	• Board of Directors Meeting (monthly) and Project Review Meeting • Audit Committee Meeting (once per quarter) • Trainings for Directors	• Convened 14 Board of Directors meetings, with notification for directors to avoid conflicts of interest prior to each meeting. The Board of Directors also held 18 project review meetings. • Pursuant to pertinent regulations, Taipower also established an Audit Committee, consisting of independent directors. The Audit Committee convened 5 meetings in 2015. • Three meetings to discuss issues pertaining to the effectiveness of Taipower's internal control system were held in 2015 (2015/3/4, 2015/5/15 and 2015/10/8). • 15 directors (including independent directors) participated in training courses on corporate governance in 2015, completing 143 hours of training. • Held 12 business audit reports (monthly) • Completed the planning of Taipower's future business strategies as basis for relevant promotion (subjected to rolling update on a yearly basis)



Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Integrity and sustainable management	• Establish an effective corporate governance structure • Safeguard shareholders' rights • Strengthen the function of Board of Directors • Respect stakeholders' rights • Improve information transparency • Establish a corp orate culture on integrity management and ful-fill Taipower's corporate social responsibilities	Employees	• Inspection visits (in accordance with Taipower's annual plan) • Project inspections (implemented upon completion of specific cases) • Information security audits (in accordance with Taipower's annual plan) • Self-evaluation for internal control (once per quarter) • Improvement of internal control system (implemented on a per-case basis)	• Completed 63 inspection visits at different units, 35 project inspections and information security audits at 15 units. The frequency of internal control self-evaluation has also been changed from yearly to quarterly and the process can now be implemented through the newly constructed internal control information platform. 106 units have completed their evaluations. • The Department of Civil Service Ethics has been included as a unit for the yearly inspection visit and Taipower's internal control system. • Closely observed the operation of internal control in the company and took initiative to inform relevant units to strengthen their internal control process when necessary • In 2015, Taipower expanded its employee discipline and civil service ethics operations pursuant to the amended implementation guidelines by the Financial Supervisory Commission on January 1 2015. The amended guidelines expanded the objective of financial reports as a report target and incorporated relevant contents of Taipower's management system as items of internal control in consideration of the company's actual operations. • Taipower established its internal control improvement solution in 2015 and implemented internal control system promotion seminar to boost employees' understanding of the company's internal control system operation while enhancing the competence of internal control personnel. In addition, the company also revised the job descriptions of internal control personnel so as to strengthen the design, implementation and control of its internal control system.
Renewable energy development	Expand its use of renewable energy, in line with government policy	Government/ Competent authorities	• Correspondence • Conferences/ seminars	• Provided information on renewable energy development and attended relevant meetings held by the government • In response to the government's policy on renewable energies, Taipower purchased 1,573 GWh of renewable power from the private sector and applied for renewable energy development fund. Taipower also applied for subsidy-on renewable energy totaling at TWD 3.859 billion and facilitated the adoption of green power amounting to 156 GWh.
		People's representatives	• Correspondence • Internal and external communication meeting • Public hearing/ information session	• Provided information on renewable energy development and attended relevant meetings held by the people's representatives.

Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Renewable energy development	Expand its use of renewable energy, in line with government policy	Partners	• Internal forms/ engineering diary • Internal and external communication meeting • Education and training • In-bound calls, interviews/talks	• Completed the Liyutan Dam Jingshan Hydro Power Feasibility Study • Completed the Hushan Dam Small Hydro Power Feasibility Study • Completed the Jiji Weir Small Hydro Power Feasibility Study
Stability and reliability of power supply	• Enhance distribution line maintenance capabilities and techniques • Improve the reliability and safety of the power supply system to offer high-quality power to customers • Ensure sufficient energy sources to balance regional power demand and supply	Employees	• On-the-job training	• Organized 14 on-the-job trainings for distribution line maintenance staff to boost their professional expertise • Organized 2 power supply reliability and safety risk exercises to improve employees' emergency response capabilities and 12 "one-time system electrical/mechanical incident preview meeting and follow-up review of subsequent system electrical/mechanical incidents" to train employees in preventing similar incidents from recurring
		Government/ Competent authorities	• Correspondence (monthly) • Review/ examination meetings/ hearings • Conferences • Research programs • Site/expert visits	• Reported to Bureau of Energy on power supply reliability on a monthly basis • Attended and provided information on the energy resources mixture meeting held by the government. • Visited Kaohsiung City Government and Kinmen County Government to communicate on the contents of power generation plan • Visited Taichung City Government and Port of Keelung Taiwan International Ports Corporation to negotiate the planning and promotion of follow-up • Reported periodically to the Bureau of Energy on the progress of transmission system protection relay digitization and replacement. The replacement completion rate reached 84% of the annual target value to facilitate the improvement of power supply quality.
		People's representatives	• Correspondence (irregular) • Expert visits (irregular)	• Drafted memorandum on issues relating to power supply stability and reliability for communication with people's repre-sentatives and answering their doubts. In 2015, Taipower compiled 52 issues that might be of concern to the legislators.

Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Stability and reliability of power supply	• Enhance distribution line maintenance capabilities and techniques • Improve the reliability and safety of the power supply system to offer high-quality power to customers • Ensure sufficient energy sources to balance regional power demand and supply	Customers	• Expert visits (irregular) • Education and training	• Assisted with the organization of operation training (on 5/15, 5/21 and 7/24) to improve customers' knowledge and skills on relevant operations • Reduced the average duration of power interruptions to 16.268 (minutes/customer · year) • Reduced the average number of power interruptions to 0.22 (times/customer · year)
Demand management and energy conservation application	Assist customers with power management, reduce their demand fluctuations, as well as saved energy and reduced emissions	Customers	• Expert visits • Brochure (irregular) • Electricity bill/ per period • Opinion box, service hotline	• Taipower system's peak—off-peak spread was 4.434 GW, accounting for 12.6% of the system's peak load of 35.248 GW. This helped balance the system's load and relieve pressure from peak demand. • Taipower's yearly energy saving incentives successfully reduced power consumption by 0.474 GWh, saved TWD 3.64 billion and reduced CO_2 emission by 2.47 million tons. • Launched the trial run of high-voltage customer service portal website, which provided features such as customer information, power management, load management calculation and so forth. As of the end of 2015, 469 customers (id) registered on the website.
	Ensure stable supply of power and promote energy conservation and carbon reduction in accordance with the Smart Grid Master Plan, which was approved by the Executive Yuan	Government agency	• Progress report (monthly) • Smart Grid Task Force Meeting (once per quarter)	• The task force made 12 reports to the Bureau of Energy on the progress of the "Smart Grid Master Plan" to effectively strengthen the over all control process and progress. • The Smart Grid Task Force held four meetings to establish the direction and objectives of promotion in order to achieve effective tracking and control of objectives that have yet to be accomplished.
Energy efficiency	Improve unit operation efficiency in order to reduce fuel demand, conserve energy and reduce carbon emission	Government/ Competent authorities	• Irregular	• Planned for the introduction of high-efficiency power generation units (such as the ultra-supercritical pressure coal-fired unit at the Linkou and Dalin power plants currently under construction and the high-efficiency fuel combined cycle unit to be installed for the Tongxiao Plant renewal plan) • The LHV gross efficiency rates of thermal power plants for the year increased to 43.58% from 43.35% in 2014.
		People's representatives	• Irregular	
		Shareholders	• Irregular	
		Board of Directors	• Monthly	

Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Environmental footprint management	• All of Taipower's operating procedures are compliant with pertinent environmental protection regulations. Steps have also been taken by Taipower to minimize environmental impacts. • Save water, electricity and fuel to reduce environmental impact • Under the premise of maintaining normal unit operations, Taipower has actively promoted the reuse of gypsum. • Continue to pro-m-ote waste water reuse and waste recycling	Private organizations	• Environmental regulation public hearings • Eco-enzyme promotion events • Online, Taipower's promotional material/irregular • Internal forms/engineering diary • Taiwan Power Company Sustainability Report	• Participated in various environmental regulation draft public hearings and offered the company's opinions • 4 eco-enzyme promotion events were held at Taipower's northern, central, southern and eastern branch offices to encourage eco-friendly, energy conserving and carbon reducing behaviors through practice. • Through specific measures for water, power and fuel conservation and promotion of energy conservation and carbon reduction concepts, Taipower has sought to foster relevant awareness in employees and promoted the reduction of energy use at various departments in conjunction with the "Four Conservation Project for Government Agencies and Schools". • Taipower's Tachiachi Hydropower Plant, Xie he Power Plant, Nuclear Power Plant No. 2, Xingda Power Plant and Daguan Power Plant received ISO 14046 water footprint inventory certification.
		Government/ Competent authorities		
		Partners		
		Employees		
		Partners	• Interview/communication by phone • Contract, signed once every two years	• Contacted cement companies to discuss the process of using coal ash as cement raw meal • Communicated with coal ash processing service operator through interviews/phone calls to find out the actual status of coal ash handling and discuss relevant closeout measures
		Residents/ general public	• Taiwan Power Company Sustainability Report • Taipower's website, Sustainable Development website, Taipower's Green Grid	• Presented Taipower's achievements in managing the company's environmental footprint through its Sustainability Report and relevant websites
Nuclear power safety and communication	• Strict compliance with nuclear power regulations and procedures • Instead of being content with meeting the minimum requirements as prescribed by pertinent regulations, Taipower has pursued for excellence in safe operation. • Actively communicate with the general public to gain the public's support for energy diversification while boosting their confidence in Taipower's nuclear wa ste handling capabilities • Reduce the generation of radioactive wastes	Government/ Competent authorities	• Nuclear safety exercises • Safety performance indicators are reported on a quarterly basis.	• Participated in the "21st Nuclear Safety Exercise 2015" organized by the AEC on September 21 and the results are disclosed under "Nuclear Safety Control and Signals" of the "Information Disclosure" section on Taipower's website. The purpose of this section is to communicate with government agencies on the status of Taipower's nuclear safety performance indicators and relevant information on nuclear power safety

Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Nuclear power safety and communication	• Strict compliance with nuclear power regulations and procedures • Instead of being content with meeting the minimum requirements as prescribed by pertinent regulations, Taipower has pursued for excellence in safe operation. • Actively communicate with the general public to gain the public's support for energy diversification while boosting their confidence in Taipower's nuclear waste handling capabilities • Reduce the generation of radioactive wastes	Residents/ general public Media Private organizations	• Taipower's website, open information and communication • Online, Taipower's promotional material/irregular • Speech and presentation • International forums • Power plant visits • Northerand Southern Nuclear Exhibition Centers • Exhibitions	• External communication regarding the "Project for Final Treatment of Spent Nuclear Fuel Rods" included: ◦ Production of dissemination videos and audio clips to be broadcasted through national TV and radio networks to inform the general public on the final treatment of spent nuclear fuel rods ◦ Featured in the exclusive interview on the topic of "Spent nuclear fuel rods—no problem without a solution" by periodical publication ◦ Held 33 information sessions at universities and colleges ◦ Held 3 study camps at universities and colleges ◦ Offered courses on the introduction of nuclear wastes at community colleges ◦ Published 21 articles on nuclear energy back-end management locally and internationally ◦ Organized nuclear power plant No. 1 decommissioning communication and dissemination events at Shimen, Sanzhi, Wanli and Jinshan (in New Taipei City where nuclear power plant No. 1 and 2 are situated) on March 16, 19, 24 and 25 ◦ Held 220 nuclear energy safety speech and presentations to boost the general public's support for energy diversification and respond to their doubts and concerns on nuclear energy safety ◦ Organized the Genki Fukushima Forum and attracted 550 participants. The forum served as a means for the general public to better understand Japan's energy policies and the impact of the nuclear disaster, the reby boosting their con-fidence on the use of nuclear energy. ◦ Organized 152 visits at the Longmen Power Plant as a way to improve the public's opinion through actual visits ◦ Invited students from elementary, junior high and senior high schools in close proximity to the power plants to visit the facilities as a part of their popular science education ◦ Taipower's Northern and Southern Nuclear Exhibition Centers received 437,026 visitors. Taipower also held large events at these venues for local residents to participate. ◦ Conducted 298 communications/interviews/interactions between the power plants and local residents • Under Taipower's strict control, the total solid wastes from all nuclear pow-er plants came to 163 barrels in 2015 (2nd lowest quantity in record).

Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
		People's representatives	• Visits and Communication	• Through personal visits and communication, Taipower vied for support from committee members on relevant legislations and solutions on handling of nuclear wastes. In 2015, Taipower's management made approximately 33 personal visits.
Nuclear power safety and communication	• Strict compliance with nuclear power regulations and procedures • Instead of being content wit meeting the minimum requirements as prescribed by pertinent regulations, Taipo wer has pursued for excellence in safe operation. • Actively communicate with the general public to gain the public's support for energy diversification while boosting their confidence in Taipower's nuclear waste handling capabilities • Reduce the generation of radioactive wastes	Employees	• Employee information session (annually)	• On May 14 2015, an employee information session on the NPP1 Decommissioning Plan

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Supply chain management	Ensure material supply quality to foster sustainable and growing collaborations	Partners	• Eligibility review for fixed-term contract coal supplier (April~August each year) • Site inspection at mines • Coordination meeting with CPC (once per quarter) • Internal and external communication meeting • Education and training	• In 2015, three new eligible coal suppliers for fixed-term contract were added to Taipower's list and all three suppliers had been subjected to site inspection by Taipower's personnel at their mines. Four of the original eligible suppliers had been removed from the list of eligible suppliers due to mine depletion. • On April 14, Taipower and CPC convened a coordination meeting to discuss fuel oil supply and demand during the summer. CPC promised that fuel oil supply quality and quantity will remain unchanged. • Taipower also convened a coordination meeting to discuss natural gas supply with CPC, which promised that the supply of natural gas will be able to cope with Taipower's load adjustment changes and deliver natural gas that is compliant with relevant quality requirements. • Held the quarterly Materials Management and Control Task Force meetings • With regard to the complaints on the competitive environment from plastic manufacturers (i.e. suggesting the Industrial Development Bureau to impose a required percentage on manufacturers for export distribution) • Proposed an alternative solution for supplier evaluation (i.e. flexible implementation of written review) to increase the number of bidding suppliers • Company-level materials were collected and distributed centrally (Classic Delivery from the company's warehouses in North and central Taiwan; Direct Distribution to specific locations from manufacturers after passing final quality inspection) to reduce transportation costs.
Management and financial performance	Continue with financial planning and capital expenditure control to reduce capital costs	Employees	• Internal communication meeting	• Convened three meetings for the Long-Term Financial Planning and Capital Expenditure Control Task Force to review the power generation plan financial benefit analysis model, revise capital expenditure scale limit formula, report on the follow-up of project funding control and outcome of constructions that have yet to be completed

Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Management and financial performance	Continue with financial planning and capital expenditure control to reduce capital costs	Partners (banks and brokers)	• Financial statements (every 6 months) • Correspondence, inbound calls, personnel visits (irregular) • Taipower website and Market Observation Post System (MOPS)	• Convened one shareholders' meeting on June 26 • The average interest rates for long and sho rt term lending were reduced to 1.55% and 0.72% respectively, and total interest payments were TWD 20.479 billion, which was TWD 3.276 billion lower than the allotted budget. • Expenditures from corporate bonds were TWD 450 million, with a saving of TWD 47 million compared to 2014. • For loans that were due in 2015, Taipower has contacted the banks that provided the loans for extension and concession. 6 banks agreed to loan Taipower TWD 29.5 billion with identical terms, which was equivalent to a concession of 0.23% compared to the average interest of open offers in the last three years. The 7-year loan would save Taipower TWD 475 million in interest. • Taipower also contacted two banks to negotiate for a reduction in long-term floating debt interest. After the negotiation, the resulting interest was lower by 0.145% and with a loan of TWD 12 billion, the reduction in interests would save Taipower TWD 17.4 million per year. By extending the calculation to the date of loan repayment, the interest reduction would save Taipower approximately TWD 51 million. • Taipower contacted EPA for private placement of Taipower's corporate bonds with government fund and had raised TWD 10 billion and saved TWD 10 million from the service charges that would have gone to an equity broker.
		Shareholders	• Financial statements (every 6 months) • Shareholders meeting (annually) • "Shareholder section" on Taipower website and Market Observation Post System (MOPS) • Media briefings	
Management and financial performance	Under the premise of delivering reliable power supply, Taipower has continued to promote operational improvements in pursuit of sustainable management for the power business.	Residents/ general public	• Taiwan Power Company Sustainability Report • Taipower Website and Taipower Sustainable Development Website	• Reduced costs and increase profits, improved fuel procurement performance, reduced/delayed investments and lower fuel inventory while coordinating with supervisory authority to achieve given targets through the Board of Directors. Improvement on operations shall be reported by directors appointed by the government. • Savings on operational material procurement TWD 742 million • Reduced materials inventory to TWD 502 million • Fuel procurement savings TWD 6.803 billion
		Government/ Competent authorities	• Board of Directors Meeting (monthly) • Correspondence • Review/ examination meetings/hearings • Conferences/ seminars • Research programs	
		Employees	• Seminars/ conferences	• Promotion of Management Reform 2.0, with 19 key points planned for implementation • Target seminar was held on a quarterly basis to track the results of performance target achievement.

Fulfilling Social Responsibility

Key Material Issue	Commitment	Stakeholder Concerned (Group)	Channel of Communication and Frequency	Stakeholder Engagement Performance and Result for 2015
Organizational transformation and reform	Improve company management thr-ough organizatio-nal transformation so as to boost Taipowe-r's competitiveness and respond to future development of the power utility industry	Employees	• Routine/ irregular information sessions • Thematic presentations • Seminars/ conference	• Five division-level information sessions were held to promote communication on overviews. • 24 labor-management meetings were held for employees of different position tiers and systems. • 2 major labor-management issue information sessions were held. • 8 thematic presentations for high-ranking supervisors were held. • Completed the implementation guideline for the separation of generation and grid functions, with clarification of boundaries for duties and responsibilities for all units • Established accounting separation and completed management cost statement to enhance cost awareness for all employees • Organized employee and union representati ve information session to foster consensus on corporate reform • Income from real estate rental total TWD 286.93 million in 2015
		Board of Directors Competent authorities	• Board of Directors • Correspondence	• Amended Company Regulations and Divisions Regulations and submitted to the Board of Directors for review and approval • In 2016, established four business divisions (hydro and thermal power generation, nuclear power, transmission system and distribution and service) as a response to competent authorities' expectation for Taipower's organizational transformation
Electricity Tariff Rationalization	Eliminate policy tasks, promote rationalization of electricity tariffs, and establish an adjustment mechanism reflecting cost so as to ensure Taipower-'s sustainable operation	Government/ Competent authorities	• Correspondence, convene meetings (irregular) • Electricity Tariff Review Meeting (twice a year) • Taipower Website and Taipower Sustainable Development Website	• Actively vied for the release of various policy burdens. In 2015, Taipower reduced its policy burden by TWD 663 million • Involved in the review of "Revised proposal for an electricity tariff schedule" in conjunction with Legislative Yuan's session. The new tari ff formula was amended and approved by the Legislative Yuan on January 20 • Per resolution of the Electricity Tariff Review Committee, the average tariff has been reduced by 7.34% and 2.33% on April 1 and October 1 respectively.
Response to Climate Change	Pursuant to government policies derived from Greenhouse Gas Reduction and Management Act, Taipower has formulated its greenhouse gas reduction and climate change adaptation plan.	Residents/ general public	• Sustainability Report (once per year) • Taipower Website and Taipower Sustainable Development Website	• Implemented 9 carbon reduction promotion strategies that encompassed 28 action plans. Taipower reduced its carbon emission by approximately 6.21 million tons in 2015.
		Government/ Competent authorities	• Research programs	• Tongxiao Power Plant and Taichung Power Plant participated in the "Adaptation to Clima te Change Guidance Plan for Energy Department" organized by the Bureau of Energy. • Organized "Taichung Power Plant Climate Adaptation Research Project"

Fulfilling Social Responsibility

5.1.2 Responses to Public-Concerned Issues

Taipower's major issues of public concern in 2015 included the new pricing formula, corruption, occupational safety and relevant impacts caused by construction projects. For response on the pricing formula issue, please refer to the section on "Contents of New Tariff Formula" under "3.2.1 Striving for Reasonable Electricity Tariff Schedules to Reflect Costs" in this report.

Corruption

Former manager of northern district general engineering unit construction office indicted for accepting bribery

In 2015, a supervisor at the General Engineering Unit and an outsourced personnel were alleged to be involved in accepting offers of travel, entertainment and bribe from a supplier. After investigation and questioning by the prosecution, the two were detained and charged. The Taipower supervisor involved in the incident has been dismissed for the offense and Taipower has requested the collaborating partner to replace has been replaced the offending outsourced personnel.

Leakage of procurement committee member list by a senior manager at Taipower for the 6th transmission and substation project

A senior Taipower manager was alleged to have leaked the list of procurement committee members for the company's 6th Transmission and Substation Project. In response to the incident, Taipower has taken disciplinary actions regarding the administrative liability of the manager in question and transferred said the manager to a different position. The company has also strengthened its dissemination of relevant non-disclosure liabilities that procurement personnel are bound by in order to prevent similar incidents from happening in the future.

Inappropriate entertainment acceptance from supplier by a construction manager

A manager at Taipower's Central District Branch Office was charged for corruption in 2012 for accepting offers of entertainment from a supplier. After the situation was brought to light, the manager in question was penalized with a 1st-level demerit in his employee record in accordance with Taipower's Employee Reward and Punishment Guideline. Not only that, the manager also faced corresponding punishment pursuant to the Civil Service Discipline Act. The indicted manager was sentenced to two years in prison and five years of probation for his offense. As he received a guilty verdict for involvement in corruption, he was also dismissed from his position by Taipower in accordance with pertinent regulations. With regards to employees receiving offers of entertainment from suppliers, Taipower has strengthened relevant dissemination and preventive measures.

Taipower has actively reviewed and endeavored to improve employees' awareness of civil service ethics. To this end, the company launched the Taipower Civil Service Ethics Awareness Review Procedure in 2015. For details of the contents of this procedure and Taipower's anti-corruption policies, please refer to the contents of the "Anti-Corruption" section under "1.2.4 Legal Compliance".

Dalin - Kaohsiung Harbor Underground Cable Construction

For the "Dalin - Kaohsiung Harbor 345kV Cable Lines Construction", TBM No. 2 conducted its excavation operation under Zhonglin Road in Xiaogang District of Kaohsiung City. On September 18 2015, due to a shaft seal malfunction, the operation resulted in piping and collapse of Zhonglin Road surface. In addition to the temporary disruption of water, telecommunication services and traffic in the area, due to the presence of CPC's fuel and petroleum pipelines near the region, the local residents were concerned in the recurrence of the gas explosion.

After the accident, Taipower established its "Disaster Forward Command Post" in accordance with its Disaster Prevention and Emergency Response Standard Operating Procedures to implement emergency rescue operations, as the following measures:

Real-time monitoring of the site of accident

Aerial photographs of the site of the accident were taken daily with monitoring spots established for real-time monitoring of any change that may take place. In addition, Taipower has also utilized ground penetrating radar and prints of existing pipelines for comparison to determine the status of damage.

Rapid repair operations to mitigate impact on basic infrastructures

- For the section of thoroughfare that affected road traffic, alternative routes have been established for the general public and vehicles to pass through.
- Disruption of tap water supply (approx. 300 households affected) was restored within a day.
- Disruption of fixed network communication (approx. 4,000 households affected) was restored within 4 days.
- A temporary drain pipeline for the waste water pipes in the industrial area was completed on September 22 in conjunction with transportation via tankers. On September 25, the second drain pipe was completed to maintain normal operation of plants and facilities in the industrial area.
- CPC and CSC's damaged facilities and roads were dismantled in full by September 30, followed by extended low-pressure ground improvement operations to reinforce the affected area.

Taipower has established its "Accident Compensation Proposal Task Force" for recovery operations, convened by Taipower VP Kuang-Ming, Chuang to actively communicate and coordinate regarding the compensation and remuneration of relevant losses incurred by the disruption of water and telecommunication services. As for the compensation of agencies and units affected by the accident, the compensations would be implemented in accordance with the recovery principles spelled out in the agreement after disaster recovery operations have concluded.

Major Incidents of Occupational Safety

Southern region construction office subcontractor worker in electrical shock accident

During the repair of the TBM pump, a subcontractor worker failed to check the automatic electric shock prevention device on an ac welder, resulting in a fatal electric shock accident. Taipower has reiterated the company's stance on all on-site workers' strict compliance with relevant SOPs and installed voltage meter on ac welders to help workers determine if the electric shock prevent device is working properly.

Northern region construction office subcontractor worker in falling accident

During the installation of scaffold platform in a boile or room, a subcontractor worker failed to secure his harness properly and lost his balance whilst moving, resulting in a fatal falling accident. In addition to requesting subcontractors to ensure strict compliance with relevant SOPs for occupational safety, Taipower has also strengthened the training of on-site foreman to ensure that relevant safety supervision is duly implemented at work sites.

Nantou branch office subcontractor worker involved in accident

A worker without the proper qualification and training to operate mobile cranes was involved in the task of pole pit excavation and pole installation. The worker was unfortunately involved in a fatal accident due to misoperation. In the future, Taipower shall enforce stricter qualification verification and dissemination so that relevant equipment can only be operated by workers with relevant qualifications.

Electrical shock accident at Loung Te Substation, Yilan

A Taipower employee failed to follow the standard operating procedures for maintenance when he was performing maintenance duty in a switch room as he failed to close the switch cabinet that was still connected to power after removing the circuit breaker (CB) from the cabinet. Consequently, he was exposed to high-voltage power and resulted in the accident. After the incident, Taipower had taken steps to strengthen employee education and emphasized the importance of following the SOPs to prevent similar accidents from happening in the future.

Fulfilling Social Responsibility

With regard to the aforementioned incidents of occupational safety, Taipower has established its Regulations Governing the Handling of Occupational Safety Incidents. The contents of the regulation cover specific details of the notification, immediate reporting, cause investigation, paper work and case review for Taipower employees and subcontractor workers involved in occupational safety accidents. Materials from the case review meeting, such as the discussions and analysis on the accident, causes, prevention measures, resolutions and so forth, would be relayed to all relevant units to prevent similar accidents from recurring and ensure the safety of employees and operations.

In 2015, Taipower held six occupational safety review meetings and one expert and scholar meeting for employees at different corporate hierarchy tiers. In addition, the Chairman and President have been informed regarding these incidents during meetings. In the future, Taipower shall implement stricter and more frequent inspections and adopt harsher penalties to increase the occupational safety liabilities for relevant units.

Others - Aviation Safety Incident

Helicopter Crash in Outsourced High-Voltage Tower Cleaning Operation

Taipower commissioned Emerald Pacific Airlines to dispatch a helicopter to clean the cap and pin insulators on a high-voltage tower. Upon the helicopter's return flight after completion The aircraft accidentally ran into high-voltage cables and crashed, resulting in the death of two workers. Emerald Pacific Airlines has proposed a plan of concrete safety improvement that defined specific areas that are unfit for helicopter operations, including sensitive areas, unique topographies and unique tower shapes. Taipower has also requested Emerald Pacific Airlines to submit risk assessment for each commissioned operation before it is carried out for reference purposes. Emerald Pacific Airlines has also revised its operating manuals by establishing clearly defined regulations on factors that may impede flight safety such as weather data (air streams, visibility and so forth). The manuals also included new safety inspection measures such as pre-flight sobriety tests, potential hazard briefing and so forth. The company has also committed to enhancing employee training to prevent similar accidents from recurring.

5.1.3 Information Transparency

Taipower Website

Starting from 2016 onward, Taipower's website has gradually incorporated elements of responsive web design (RWD) to accommodate the general public's needs for multi-screen viewing. As for the information disclosure section that has received the most attention, Taipower will continue to provide the latest and most comprehensive information relating to 27 topics under the six dimensions of Taipower's operations with a sincere attitude and objective standpoint. In addition, Taipower will implement collective data management through its database to improve the quality of digital information disclosure and offer greater convenience for the general public in search for specific information as prescribed by the principle of open information.

In response to customer's demand, outage information has been improved, especially the recovery inquires and communication operations, and thus significantly relieved the workload of the customer service line 1911.

http://www.taipower.com.tw

Fulfilling Social Responsibility

Taipower Sustainable Development Website

Emphasizing its sustainable performance, the website was revamped in 2015. “Taiwan Power Company Sustainability Report” could be downloaded from our website, which also features relevant performances that have not been included in the report. The website also features a new search function for users to obtain sustainable development related information with greater ease along with a stakeholder questionnaire, which will serve as a means for Taipower to better understand the thoughts and opinions of stakeholders as references for the company’s operation. Taipower Sustainable Development Website is also linked to other related sites such as the Taipower Green Grid so as to enrich the contents and diversity of Taipower’s information disclosure.

http://csr.taipower.com.tw

Taipower Green Net

Taipower Green Net was launched on March 31 2015 for a trial run. With a minimalistic and easy-to-operate interface, the website serves as a record of Taipower employees’ dedication for the environment and local communities. Through the sharing of various green actions, the Green net represents the passion and attitude the company holds for the creation of a friendly environment and serves as a means to converge momentum that will drive the company towards becoming a green enterprise. Externally, the Green Net reflects our employees’ efforts in the protection of our environment and shapes Taipower’s green corporate image.

As of the end of 2015, Taipower Green Net featured 20 thematic articles and 90 entries on events, attracting a total of 35,043 visitors with 131,082 views. In the future, Taipower will continue to improve the Green Grid by enriching its contents, interactions and promotion.

http://greennet.taipower.com.tw

Taipower TV

Since May 1 2013, Taipower TV has produced at least one film per day. In addition to functioning as a record of Taipower’s stories of truth, compassion and beauty, the service is also a means for the general public to better understand relevant operations of the company. The videos have been viewed 1,000,000 times (roughly twice as many as the views for 2014) and are widely adopted by the media.

http://tv.taipower.com.tw; Youtube search for “Taipower TV”

Fulfilling Social Responsibility

Taipower Facebook Page

Social media has become an important channel to communicate with the general public. Therefore, Taipower established its Fan Page in 2010. By the end of 2015, the page had attracted 120,000 followers. The page provides real-time responses and direct dialogue and functions as a means for Taipower to rebuild the general public's trust in the value of the power utility business.

Search "Electric Power Fans" on Facebook

Power Information APP

To enable the public to acquire the real-time information on outage and emergency repairs, "Power Information" APP was developed to verify the position of outage and estimated repair time via mobile devices. Not only that, users will also be able to use the APP to notify Taipower of outages as an additional reporting channel. The Power Information APP has been updated in 2015 with new OMS function.

Taipower Electricity Bill

To strengthen the promotion of energy conservation and carbon reduction awareness, in addition to displaying relevant data on power usage on the electricity bills, Taipower has added more information (i.e. CO_2 emission, average power consumption by the same building or building in the same 5-digit postal code during the same period and power consumption category) to electricity bills in 2015. In addition, fuel costs would be updated along with adjustments in electricity pricing to encourage the general public to manage their power consumption more wisely.

Taipower Publications

In 2015, Taipower continued to release publications including the Monthly Journal of Taipower, Taipower's Bimonthly Heart-to-Heart and so forth in order to communicate with employees regarding important company policies and directions of relevant development while offering inspirational stories to nurture employees' spiritual growth. The publication of occupational competence related materials, such as the Monthly Journal of Taipower's Engineering and the Monthly Journal of Nuclear, serves as a means for the company to introduce the latest technological developments and practical experiences to help employees achieve growth in their expertise. Taipower has also published the Yuan magazine, which covers local history, allusions, people, culture, and the power industry. It introduces not only the richness of Taiwan's but Taipower's management principles of "honesty, caring, innovation, and service."

5.1.4 Complaint Access

Information on corruption, anti-corruption, and cases reported and investigated in 2015 is sent in "Complaint Mechanisms for Unethical or Illegal Conduct" under section "1.3.3 Integrity Management" of this report.

Other complaints included environmental, human rights, and social impact (such as the impact of Taipower's operations on local communities) issues. Besides sending letters, Taipower offers more convenient complaint accesses, as the following:

Service center	1911 (toll-free, not from public phones, maximum five minutes)
Customer opinion box	https://csms.taipower.com.tw/TPuser (the "Suggestion Mailbox" located at the top of Taipower's homepage)

In 2015, Taipower received a total of 44 complaints from the general public through various channels relating to issues of environment and nuclear power, and Taipower had addressed and responded to all 44 complaints in 2015. The complaint of sexual harassment that occurred in 2014 had also been handled in 2015. The employees involved had received counseling and were transferred to away from their original units.

Depending on their complaint accesses and their nature, complaints are handled by the relevant units to ensure they are carried out professionally and appropriately.

5.2 Creating a Sustainable Environment

5.2.1 Implementing Environmental Impact Assessments

Taipower's facilities and operations may impact local communities by water pollution, air pollution, soil pollution, noise, vibration, odor, waste, toxic substance pollution, land subsidence, and radioactive pollution, or through damage to natural resources, the landscape, and the social, cultural, and economic environment. Therefore, Taipower will always conduct scientific, objective, and comprehensive research, forecast, analyze, review beforehand, propose an environmental management plan, and hold public hearings and reviews in order to prevent and mitigate the impact of our development activities on the environment.

Before any power facility is constructed, an Environmental Impact Assessment (EIA) is conducted. Taipower always hears and studies the views of the residents of an area where a development is planned to take place through public briefings and hearings, community visits and communication with residents, and assesses the environment from physical, chemical, cultural, social, economic, and ecological points of view. Since any development will affect the local environment to a lesser or greater degree, Taipower will design environmental mitigation countermeasures, and describe these in the EIA report for practical implementation based on the degree, scope, and type of impact of the proposed development (e.g. transmission lines, energy source development).

After the EIA of a development project has been approved, Taipower will draw up a "Minimizing Environment Impact Plan", a "Minimizing Environment Impact Action List" and an "Environment Assessment Commitment Checklist" to realize its commitments made in the EIA report. In each quarter of 2015, about 47 such check lists were created and implemented. Also, earthwork projects are uploaded to the EPA website, and monitored throughout the period of the work to ensure the environment doesn't unduly suffer.

In 2015 Taipower engaged in communication with local residents, and achieved the following EIA results:

Fulfilling Social Responsibility

Development Project	Environmental Impact Assessment Achievement
NPP1 Decommissioning Project	The open session on the drafting of the Environmental Impact Statement was convened on June 27 in order for Taipower to present the contents of the project, items of environmental impact assessment and key points to relevant government agencies, local district offices, public authorities, village chiefs, and the general public. The event also served as an opportunity for Taipower to listen to local residents' opinions and concerns regarding the project. Their inputs would serve as references for the drafting of the statement. The session had 194 people in attendance.
Installation of power generation units 9 and 10 at Tashan Power Plant in Kinmen	The open session on the drafting of the Environmental Impact Statement was convened on September 23 in order for Taipower to present the contents of the project, items of environmental impact assessment and key points to relevant government agencies, local district offices, public authorities, village chiefs and the general public. The event also served as an opportunity for Taipower to listen to local residents' opinions and concerns regarding the project. Their inputs would serve as references for the drafting of the statement. The session had 115 people in attendance.
Penghu Low-Carbon Island Project	Three open sessions on the drafting of the Environmental Impact Statement were convened on October 1 and 2 in order for Taipower to present the contents of the project, the Environmental Impact Statement and impact mitigation measures to relevant government agencies, local district offices, public authorities, village chiefs, and the general public. The session had 300 people in attendance.

Ecological Power Plant

In addition to pollution prevention through the environmental impact assessment, Taipower has taken one step further to adopt environment-friendly measures to achieve the sustainable goal of co-existence and shared glory between power facilities and the environment. The promotion and planning of ecological power plants for Taipower will be implemented along the following three principles:

- Identify unique resources available at each power plant that could be incorporated into ecological preservation for long-term preservation management
- Promote the ecological features of power plant and results of preservation to highlight the image of an environment-friendly, ecological power plant that engages in clean production
- Invite elementary and junior high schools in close proximity to participate in preservation tasks at the power plant and convert the implementation and results of preservation into educational resources for schools, thereby interacting and bonding with local communities

Presently, Taipower operates four ecological power plants: Wanda Power Plant (Taiwan soy preservation and environmental education station), Tachiachi Hydro Power Plant (fry releasing and Ma An Dam Ecological Park environmental education promotion), Taichung Power Plant (little tern habitat construction) and Linkou Power Plant (wild lily repopulation). In the future, Taipower shall continue to implement ecological power plants and invite surrounding schools, environmental protection organizations and local government to participate through a variety of channels. It will fortify the general public's awareness and concept of ecological preservation and environmental ethics and respond to Taipower's sustainable mission of creating a friendly environment.

Wanda Ecological Power Plant

Wanda Power Plant is blessed with rich ecological resources and landscape. Driven by the idea of creating a more social and environmental community that facilitates continued ecological development, Taipower has revitalized the abandoned post office by transforming it into an environmental education station that was inaugurated on June 12 2015. At the same time, Taipower has also integrated the ecological data resources of flora and fauna at Wanda Power Plant by constructing ecological trails and guided tour facilities within the plant while producing videos on the local geographical environment, ecology and preservation to be played at the environmental education station. Presently, Taipower has applied for environmental education field certification to utilize Wanda Power Plant's function for environmental education and ecological preservation/repopulation to the greatest degree.

5.2.2 Response to Climate Change

Adapting to Climate Change

Due to radical changes in global climate, the risks of extreme climate have been steadily on the rise with the frequency and scale of natural disasters gradually increasing. As such, preparations should be made for the potential impact of climate changes in the future so as to mitigate damage to power facilities and minimize the impact of power shortage risks on the nation, businesses and private assets. Taipower has devised three strategies for the adaptation to climate changes:

Participate in national-level "Climate Change Adaptation Plan"

Pursuant to "the Climate Change Adaptation Policy Framework" approved by Executive Yuan's National Development Council (formerly the Council for Economic Planning and Development) in 2012, Taipower has participated in the "Energy Supply and Industry Economy" and "Life-supporting infrastructure" groups and proposed 3 national climate change adaptation plans:

1. Implementation of climate change impact assessment and vulnerability inventory analysis for Taipower's energy generation facilities and their geographical locations
2. Implementation of climate change impact assessment and vulnerability inventory analysis for Taipower's power grid system operation.
3. Plan to fortify the adaptive capacity to climate change of general electrical power industry.

Active organization of the "Climate Change Adaptation Plan of Power Facility"

Starting from 2010, Taipower has been actively participating in the "Climate Change Adaptation Plan of Power Facility" organized by the Bureau of Energy by having Xingda Power Plant be the recipient of relevant assistance to perform climate change status inventory and establishment of adaptation and response capacity. Between 2011 and 2014, Datan, Mingtan, Jianshan, Dalin Power Plant and distribution systems have been subject to impact analysis of climate change, vulnerability assessment and even flood simulation analysis and disaster potential mapping. In 2015, Taipower has chosen Tongxiao Power Plant as the target for adaptation assessment while implementing flood simulation and constructing disaster response decision-making system at Taichung Power Plant. In the near future, after planning and construction of adaptation capacity have completed, Taipower will focus on formulating the most suitable solution for adaptation and priority for implementation based on the analyses of financial, technological and investment benefits.

Fulfilling Social Responsibility

Promotion of climate change adaptation research

Starting from 2013, Taipower has launched its two-year "Taichung Power Plant Climate Change Adaptation Research", which has been completed in May 2015. The plan screened four critical climate impacts and their corresponding risk assessment for various facilities to create a list of high-risk facilities that required immediate improvement. Based on the possibility of occurrence, the identified high-risk facilities were categorized under "unbearable" and "bearable". Facilities categorized as "unbearable" were included in the list of prioritized items that require immediate adaptive actions to be taken; facilities categorized as "bearable" would have corresponding short, medium and long-term adaptation measures formulated based on their respective costs.

After completing the establishment of power plant adaptation case studies, Taipower will initiate its research for its transmission in 2016 so as to establish distribution system consecutively.

Mitigating Climate Change

"The Greenhouse Gas Reduction and Management Act" was promulgated on July 1 2015. The Act spelled out the target of greenhouse gas (GHG) emission for Taiwan in 2050: below 50% of Taiwan's GHG emission in 2005. The international community also negotiated the Paris Agreement at the 2015 United Nations Climate Change Conference (COP21) held in December 2015. Taiwan has proposed its intended nationally determined contribution (INDC) prior to COP21 to keep up with the international community by planning to steadily reduce reliance on nuclear power generation (commercial operation of nuclear power plant No. 4), prospective energy conservation (power demand growth at 1%) and by generating 17,250 MW of renewable energy by 2030. With such contributions, Taiwan will be able to reduce its GHG emission by 20% in 2030 compared to that in 2005.

Driven by internal and external forces, Taipower devotes itself to achieving the given GHG emission target. In addition to incorporating GHG inspection, promoting GHG voluntary reduction plans, participating in GHG pilot project and offset project. As such, Taipower will be keeping up mitigating climate changes as COP21 required.

For information on Taipower's approaches and results in controlling non-GHG emissions, please refer to the "Sustainable Development Section" on the Taipower Website.

Greenhouse Gas Inventory and Management

Taipower's main sources of GHG emission include thermal power generation, coal yards, transportation vehicles, insulation gas used for switchgear, freezers and air-conditioning facilities. The GHG emission volumes disclosed in this report are all from Scope I emission volumes. To prevent repetitive calculation of Taipower's GHG emission, the inventory will focus on Taipower's Scope I emission volume only, without accounting for Scope II emissions.

In 2015, thermal power plants accounted for about 99.3% of Taipower's GHG emissions, while 0.7% came from other sources ("common process"). The overall power generation in 2015 hasn't changed significantly from that of 2014, with the sole exception being the reduction in nuclear power generation, which was compensated with thermal power generation. As such, not only has overall emission surpassed that of 2014 but the net emission intensity from power generation also grew slightly from 0.498 kg CO_2e to 0.505 kg CO_2e per kWh.

For the sake of GHG information transparency, the Taipower website provides Taipower emission figures over the years, which showed a declining trend from 2005 to 2014. To make its GHG statistics credible, Taipower has entrusted a certification agency to conduct ISO 14064-1 verification. In 2015, a total of 18 units undergone ISO 14064-1 verification, with verification ratio constituting 99.32% of Taipower's company-wide GHG inventory.

National and Taipower Electricity Emission Factors

Unit: kg CO_2e/kWh

Item	2008	2009	2010	2011	2012	2013	2014	2015
National electricity emission factor	0.557	0.543	0.535	0.536	0.532	0.522	0.521	0.528
Taipower Electricity Emission Factor	0.514	0.492	0.489	0.496	0.488	0.478	0.478	0.487

Note:

1. The National Electricity Emission Factor has been defined by the Bureau of Energy as follows: National Electricity Emission Factor = (net emissions of Taipower + net emissions of IPPs + net emissions from cogeneration - emissions from line loss)÷(net generating capacity of Taipower + electricity sold by IPPs to Taipower + electricity from cogeneration sold to Taipower - electricity volume from line loss)
2. The Taipower Electricity Emission Factor has been defined by the Bureau of Energy as follows: Taipower Electricity Emission Factor = (net emissions of Taipower - line loss)/(net generating capacity of Taipower - electricity volume from line loss)
3. The national power emission factor and the emission intensity of Taipower are inventoried and calculated from power generation from thermal, hydro, nuclear and renewable energy sources and GHG mission volumes.

Scope I Greenhouse Gas Emissions of all Units for 2011 - 2015

Unit: Thousand tons of CO_2e

Gas Type	CO_2	CH_4	N_2O	SF_6	HFC	Total
2011	83,944	69	316	227	20	84,576
2012	84,206	75	314	186	59	84,840
2013	81,682	65	300	147	58	82,252
2014	84,896	70	322	121	18	85,427
2015	85,361	171	293	118	21	85,964

Scope I Greenhouse Gas Emissions from Thermal Power Plants

Unit: Thousand tons of CO_2e

Item	2013	2014	2015
Oil-Fired Units	4,053	5,035	7,915
Gas-Fired Units	20,844	22,337	24,523
Coal-Fired Units	56,783	57,005	52,938
Total	81,680	84,377	85,376

Management and the reduction of SF_6

Most modern power generation facilities (including switchyards, substations and distribution lines) use SF_6 for insulation switchgear equipment, with the quantity of equipment being large and varied. Through its SF_6 reporting and management information system, Taipower has achieved precise control of SF_6 use and emission. Taipower recycled and collected SF_6 gas in empty cylinders for storage and delivered them to the Taiwan Power Research Institute for refining before being transferred to the magnesium alloy industry for further use. This helps to increase the life span of SF_6 and reduce greenhouse gas emission. In 2015, the SF_6 recycled inventory came to approximately 249.4 kg, with purified emissions at roughly 30,627.9 kg.

Greenhouse Gas Early Action Project and Offset Project

After the Environmental Protection Administration published the “Promoting Principle of Early Action and Offset Project ” (the Principle) in 2010, Taipower has followed this principle to handle the relevant cases and has achieved a reduction volume which could be used in the future for replacement (trading) purposes. After the promulgation of the Greenhouse Gas Reduction and Management Act in 2015, the aforementioned principle has been annulled at the end of 2015 and has been replaced by the Greenhouse Gases Offset Projects Regulations.

Fulfilling Social Responsibility

● Early Action projects

When a combined-cycle unit has an emission level lower than that announced by the EPA, the plant may, according to the Principle, apply with the EPA for examination and grant of a credit for the Early Action Project. Taipower's Early Action Projects (between 2000 and 2013), including Xiehe, Taichung, Xinda and Dalin Power Plants, have passed the examinations by EPA for emission reduction.

List of Early Action Project

EPA Audit Year	Power Plant	Years of Preliminary Project	Emission Reduction
2012	Dalin	2005 — 2010	Approx. 178,000 metric tons
2013	Xiehe	2000 — 2008	Approx. 5,877,000 metric tons
	Taichung Xingda (thermal)	2000 — 2011	
	Dalin	2000 — 2004, 2011	
2014	Xingda (combined-cycle)	2000 — 2010	Approx. 724,000 metric tons
	Xingda	2012	
	Taichung	2012	
2015	Xingda	2013	Approx. 35,000 metric tons
	Taichung	2013	

● Offset projects

Offset project refers to the registration of a certified emission reduction for a power plant through the submission of a preliminary project to the EPA for relevant certification to be conducted. In 2015, Taipower filed 12 applications for replacement plans.

Responsible Unit	Project	Crediting Period (Years)	Expected Carbon Emission Reduction (Thousand tons)	Current Status
Taiwan Research Institute	7.03 MW Photo-Voltaic Plant Project	7	43.1	Approved EPA examination and registered (2013.01)
Department of Generation	Wansong, Bihai Hydro Power Generation Project	7	1,843.0	Approved EPA examination and registered (2013.01)
Xiehe Power Plant	Xie #4 Blower Motor Rotation Control Improvement	10	237.0	Approved EPA examination and registered (2014.01)
Taichung Power Plant	Taichung #4 Steam Turbine Efficiency Improvement	10	258.6	Approved EPA examination and registered (2014.01)
Xinda Power Plant	Xin #1 Boiler and Steam Turbine, Control System and Efficiency Improvement	10	526.3	Approved EPA examination and registered (2014.08)
Xiehe Power Plant	Xie #3 Blower Motor Rotation Control Improvement	10	To be confirmed	Confirmed;under examination by EPA
Taichung Power Plant	Taichung #3 Air Pre-Heater and Steam Turbine Efficiency Improvement	10	To be confirmed	
Department of Renewable Energy	Taichung and Xingda-Voltaic	7	To be confirmed	
Department of Renewable Energy	Taichung Longjing Photo-Voltaic	7	To be confirmed	
Datan Power Plant	Datan Natural Gas Power Generation	10	To be confirmed	
Tongxiao Power Plant	Tongxiao Natural Gas Power Generation as an Alternative for Fuel Oil	10	To be confirmed	
Department of Renewable Energy	Taipower Wind Power Generation (I)	7	To be confirmed	

Renewable Energy Development

In response to the global trend of sustainable development and the government's polices to develop renewable energy resources, Taipower assessed the feasibility of various renewable energy applications and has been vigorously developing wind power since 2002. In addition, Taipower has implemented solar project Phase 1 since 2008. The government promulgated the "Renewable Energy Development Act" in 2009 and aggressively promoted the development of renewable energy. As such, Taipower established a Department of Renewable Energy in 2011 to take charge for the entire process from planning, tendering, constructing supervision to operating and maintaining renewable-power power generation facilities.

The MOEA revised the objective of renewable energy development for the future in May 2015 by increasing the installed capacity of renewable energy power generation in 2030 from 13.75 GW to 17.25 GW. The objective for solar power generation has been raised to 8.7 GW and wind power generation to 5.2 GW.

Renewable Energy Promotion Objectives Planned by the Bureau of Energy in 2015

Type of Energy \ Year		Installed Capacity (MW)					
		2013	2014	2015	2020	2025	2030
Wind energy	Inland	614	637	737	1,200	1,200	1,200
	Offshore	0	0	15	520	2,000	4,000
Hydro energy		2,081	2,081	2,089	2,100	2,150	2,200
Solar energy		392	615	1,115	3,615	6,200	8,700
Geothermal energy		0	0	0	100	150	200
Biomass energy		741	741	741	768	813	950
Total renewable energy		3,828	4,074	4,697	8,303	12,513	17,250

According to the renewable energy promotion objectives published by the Bureau of Energy in May 2015, the installed capacity for renewable energy (including hydro) should constitute 11.6% of the existing power system. However, it is currently at 7.7% and leaves much to be desired for the development of renewable energy in Taiwan.

Status of renewable energy in 2015

- Wind power generation

As of the end of 2015, Taipower has completed the installation of 169 units at 16 wind power plants, with a total installed capacity of approximately 294 MW. In 2015, Taipower's total wind power generation came to roughly 716 GWh, which is sufficient to accommodate the usage by 199,000 households[3]. In 2015, the IPP wind power generation came to 787 GWh, which is sufficient to accommodate the usage by 218,000 households.

- Solar power generation

As of the end of 2015, Taipower has completed the construction of 16 solar power plants, with a total installed capacity of approximately 18 MW. In 2015, Taipower's total wind power generation came to roughly25GWh, which is sufficient to accommodate the usage by 6,900 households. In 2015, the IPP solar power generation came to 786 GWh, which is sufficient to accommodate the usage by 218,000 households.

Carbon Reduction Achieved Through Renewable Energy Generation in 2015

Type of Renewable Energy		Generation (GWh)	Carbon Reduction (Thousand tons)	Reforestation (Thousand hectares)
Taipower	Wind	716	373	38
	Solar	25	13	1.3
IPP	Wind	787	410	41
	Solar	786	409	41
Total		2,314	1,205	120.1

*Note: Carbon reduction by reforestation is calculated based on a study commissioned by the Forestry Bureau. According to this study, as of 2010, each hectare of forest absorbs 9.9 metric tons of carbon dioxide per year.
Electricity emission factor is calculated based on 0.521 kg CO_2/kWh published by the Bureau of Energy in 2014.

[3] Calculation is based on the average monthly power consumption for a typical residential customer at 300 kWh per month and 3,600 kWh per year.

Fulfilling Social Responsibility

Green power purchase

In conjunction with the "Pilot Program for Voluntary Purchase of Green Power" implemented by the MOEA, Taipower has launched a number of relevant services starting from July 1, 2014, including the processing of application for green power subscription, subsidizing additional fees for green power, issuing green power purchase certificates and so forth in order to boost the general public's environmental protection awareness and enhancing their understanding of renewable energy.

In 2015, a total of 3,460 customers subscribed for green power equivalent to 156,369,100 kWh, with actual amount purchased amounting to 152,465,462 kWh. The pre-tax revenue from green power totaled TWD 153,917,867. For 2016, Taipower's promotion of green power will put an emphasis on increasing the general public's participation, with the target of increasing the number of subscribing customers to 4,000 households so as to foster the general public's understanding of green power and expand the scope of promotion from there to facilitate the development of renewable power.

Future renewable energy development plan

To achieve the renewable energy promotion target for 2030, Taipower has planned a series of wind and solar power development solutions:

Type of Power Generation	Name of Project	Project Description
Wind power	Wind Project Phase 4	• Planned for 8 wind turbines at Luzhu Wind Farm, with a total installed capacity of 7.2 MW. • Taipower has renewed the electricity licence for Luzhu Wind Power Station in June 2015.
	Wind Project Phase 5	• Planned for 18 wind turbines at Luzhu Wind Farm, with a total installed capacity of 36 MW. • The proposal has been approved Taipower's Board of Directors in October 2015 and submitted to the State-owned Enterprise Commission for review in December.
	Penghu Low Carbon Island Project	• Planned for 11 wind turbines with a total installed capacity of 33 MW. These units are expected to have safety scheduling done in 2018. • Taipower has earned approval for its renewable energy power generation equipment proposal in February 2015 and the tender for the project has been closed in July.
	Offshore Wind Project Phase 1	• Planned for 22 wind turbines with a total installed capacity of 110 MW. These units are expected to have safety scheduling done in 2019. • Taipower has earned approval from the Executive Yuan for the project in March 2015.
Solar power	Solar Project Phase 2	• Total installed capacity expected to reach 11.3 MW. • The project has been reviewed and approved in the management meeting in November 2015 and Taipower will follow up with relevant reporting and submission procedure.
	Solar Project Phase 3	Under planning

Taipower is planning to invest TWD 400 billion in the next 15 years to achieve the objectives of generating 1,800 MW of offshore wind power, 1,000 MW of solar power and 700 MW of inland wind and geothermal power by 2030. If all relevant projects were to be completed according to the schedule, Taipower will increase its green power generation by 8.5 TWh and by 2030, Taipower's annual contribution of green power will reach approximately 14.2 TWh, which is equivalent to 35.5% of the national generation capacity (Taipower and IPPs combined) at 40 TWh with a carbon emission reduction by roughly 7,398,000 metric tons. This would be a substantial advancement towards sustainable development objective of friendly environment and low-carbon power.

5.2.3 Resource Management

Taipower Material Flow Management Information System

Given the fact that information transparency has become an important indicator of the sustainable development and social responsibility of a company, Taipower has established a company-wide material flow management system (MFMS) for a total of 52 units covering hydro, thermal, nuclear, supply and distribution systems from 2009-2013 for the rapid control of raw materials utilization, pollutant emissions, recycling, and sales of by-products, based on the concept of balancing inputs and outputs. The record of material inputs and outputs of the company was duly tracked to offer insight into usage efficiency and improvement. Thus, Taipower is able to reduce or optimize the use of materials and resources, while also reducing cost and achieving its corporate mission of creating a friendly environment.

Taipower will record input-output materials and environmental benefits in March of each year.

Water Resources Management

Taipower's materials flow platform covers water consumption of thermal power generation not including total water consumption and wastewater discharge, since the platform is still under promotion. Taipower sets targets of water use and water footprints to manage water resources at its power plants. More information on water recycling and reuse measures taken at power plants and their results can be found in Section "5.2.4 Waste Management and Reduction".

Plant water consumption

In addition to recovering and reusing part of the boiler water, some plants have planned measures to collect rainwater to reduce the use of running water, and currently water consumption of thermal power plants has stabilized. Taipower has set targets for water use by thermal power plants, which should not exceed the average volume of the most recent three years. The water consumption of thermal power plants in 2015 was as follows:

Water Consumption							
2015 Target	2015 Actual	Total Water Use	Running Water Use	Well, River, and Sea Water Use	Water Reuse Volume	Water Reuse Rate	Wastewater Emission
≤ 92.1 tons/GWh	82.18 tons/GWh	10.473 million tons	10.41 million tons	63,000 metric tons	1,557,549 metric tons	14.87%	550,393 metric tons

Note: Water reuse rate = water reuse volume ÷ total water use
56% of wastewater emission was discharged into the ocean, with the remaining 44% into rivers.

Water footprint inventory for water used in power generation

To enhance power plants' water resource management capabilities, Taipower has conducted its "Power Generation Water Footprint Inventory Preliminary Project" in 2013 and 2014 to better understand the status of water resource utilization at power plants. The Datan and Taichung Power Plants were chosen as the designated units for the Phase 1 water Footprint Inventory. In 2015, in accordance with the ISO 14046 water footprint inventory standards published in July 2014, Taipower performed water scarcity footprint inventory at Tachiachi, Xiehe, Nuclear Power Plant No. 2, Xingda and Daguan Power Plants and obtained verification certificate from a third-party.

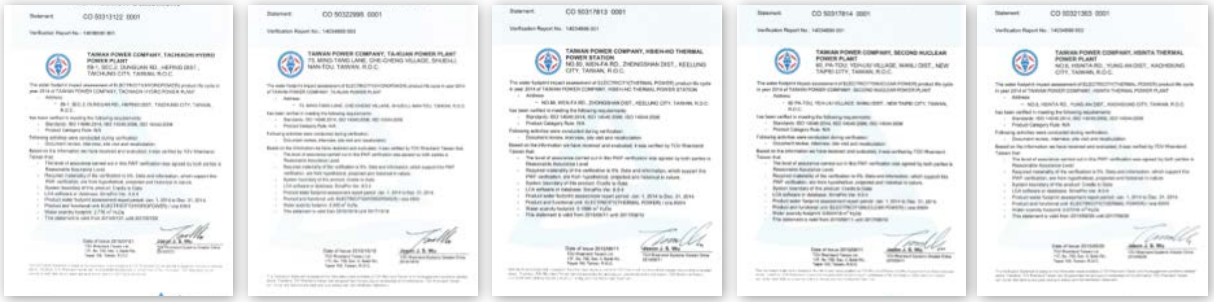
Power Plant	Water Scarcity Footprint (tons/kWh)	Date of Certification
Tachiachi Hydro River	2.776	2015/07/21
Xiehe	0.1699	2015/08/11
Nuclear Power Plant No. 2	0.004418	2015/08/11
Xingda	0.07316	2015/09/29
Daguan	2.345	2015/10/19

Note: Water footprint inventory in 2015 was implemented in accordance with ISO 14046 standards, which made no distinctions between blue and green water and thus differed from the inventory method for the preliminary plan in 2013. As such, comparison cannot be made.

In the future, Taipower will expand the scope of its ISO 14046 water footprint inventory to include other power plants. In 2016, Nuclear Power Plant No.3, Taichung Power Plant and Datan Power Plant will be chosen as the targets for inventory.

Fulfilling Social Responsibility

Water Footprint Certification



Energy Management

Power consumption is defined as the power consumed for the operation of generation units (also called "production power"). In principle, the production power consumption of new units is identified upon installation. As units aging, their power consumption will gradually increase. Yet through skillful operation, repair, and maintenance, their power consumption can still be kept in check.

Taipower endeavors to manage production power quantities and set specific targets for production power use, which should not exceed the average of the most recent three years. Production power rate at thermal power plants has decreased in 2015, which reflected the success of Taipower's thermal unit energy efficiency management. Other energy efficiency improvement please refers to Section "3.2.1 Thermal Units' Operating Performance".

Production Power Use by Thermal Power Plants in 2014-2015

Unit	2014	2015
Power consumption (GWh)	3,614	3,767
Power consumption target (%)	≤ 4.09%	≤ 3.97%
Actual power consumption (%)	3.86%	3.56%

The power conservation target for nuclear power production power use has been set to reduce by 0.2 % (for period of non-major repair) and 0.01% (for period of major repair). Other measures to improve the energy efficiency of nuclear units and their results can be found in Section "4.2.1 Thermal Units' Operating Performance".

In 2015, three causes were attributed to the failure of Taipower's nuclear power plants to achieve their production power use conservation target: 1) the scheduled major maintenance of EOC-27 generation unit at Nuclear Power Plant No. 1 has been delayed due to an issue with the fuel supplier while other generation equipment (such as TBCW and CWP) that required large power consumption have already been maintained and kept at standby. This has increased production power use and affected the actual performance; 2) Due to the typhoons during summer, load reduction or desynchronization, thus leading to reduced generation and affected the actual performance; Nuclear Power Plants No. 1 and No. 2 were subjected to load reduction or desynchronization, thus leading to reduced generation and affected the actual performance; 3) Due to the high temperature of seawater in summer, the thermal dilution pumps for the two reactors at Nuclear Power Plant No. 3 were constantly in operation, leading to increased production power use.

Nuclear Power Plant Production Power Use Conservation Target and Performance in 2013-2015

Unit: MWh

	2013	2014	2015
Target	3,368.72	3,388.57	3,438.17
Performance	21,735.83	23,945.10	2,002.47

Non-Production Resource Management

In 2015, Taipower continued the implementation of Executive Yuan's "Four Savings Project for Government Agencies and Educational Institutions". The company's target is to reduce consumption of power and oil by 1% and water by 2% every year. Through stimulating all branches and power plants to save energy

and reduce emissions, Taipower has been tracking the usage of energy (water, electricity and oil) on a monthly basis while implementing annual evaluation to identify units of outstanding performance. Taipower's full-fledged energy conservation and carbon reduction initiative has achieved moderate success so far. In 2014, Taipower submitted the results of the project in the proposal of its "Smart Energy Saving Measures at Taipower's Old Buildings" for the participation in the "Innovative Application Award". Taipower received third place in the event in 2015. Taipower has also specially launched its online document approval system for paper conservation. The target for electronic document approval has been set at 40% in accordance with Executive Yuan's "Electronic Document for Energy Conservation Promotion Solution". In 2015, Taipower achieved 87.13% of electronic document approval and far exceeded Executive Yuan's requirement. Results of other savings can be found under "Office resource savings" in the section of "Environmental Footprints of Taipower Operation in 2015".

In the future, Taipower will continue to strengthen its measures for the conservation of water, electricity and oil in response to the government's four savings project. Taipower will start to ban the use of mercury lamps from 2017 in order to promote the use of energy-saving illuminations. By starting from small places, Taipower will lead all staffs to cultivate the corporate value of being environmentally friendly.

Aspect	Taipower HQ's Water, Electricity, Oil and Paper Conservation Measures for 2015
Saving water	• Active use of the recovery system for rainwater and cooling tower discharge water on the rooftop. The collected water is used for watering plants and cleaning floors. • Replaced cooling towers for air-conditioning systems to water-saving models in order to reduce water consumption.
Saving power	• The indoor temperature was kept at 26-28 °C in summer. • The elevators operate in smart energy modes during certain time periods. • Replaced existing water fountains with new energy-saving models and configured energy-saving blocks for office-hours and after work hours to reduce water fountain power consumption • Replaced the chillers for existing air-conditioning systems to new energy-saving models in order to improve energy efficiency
Saving oil	• In the case of meetings in Taipei City, employees are encouraged to use public transport to reduce the use of company cars. • Reservations for company cars or vans are merged if the destinations and times are close together. • Company cars are centrally deployed and regularly maintained so that idle times is kept to a minimum.
Saving paper	• Taipower encouraged all units to switch to online document approval system to handle official documents and correspondence of simple cases/reference purposes.

Environmental Footprints of Taipower Operation in 2015

Power purchased 50,043 GWh

INPUT

- Total power transmitted to customers
  Coal: 24.5 million tons
  Natural gas: 11,966 million m^3
  Heavy oil: 2,470 thousand kl
  Light oil: 130 thousand kl
  Uranium fuel (U_3O_8): 2,265 Thousand pounds
- Water Use
  Water consumed by thermal power plants: 10.47 million tons
- Company-wide office energy usage
  Power consumption: 122 GWh
  Oil consumption: 1,206 kl
  Water Use: 1,393 thousand kl

Power Generated 169,061GWh

Nuclear Power Plants: 35,143 GWh

Thermal Power Plants: 126,405 GWh

Pumped storage hydro power plants: 3,023 GWh

Renewable energy power plant: 4,490GWh

- Company-wide office resource savings
  Power consumption: 4 GWh
  Oil consumption: 99 kl
  Water Use: 174 thousand kl

Total power transmitted to customers 206.5 TWh

OUTPUT

- Emissions from thermal power plants
  CO_2e: 85,426 thousand tons
  SO_x: 41,271.6 metric tons
  NO_x: 40,843.5 metric tons
  PM: 3,455 metric tons
- **Waste cables:** 5,241 metric tons
- By-products from power generation:
  Coal ash: 2,007 thousand tons
  Gypsum: 532 thousand tons
  Low-level radioactive waste: 163 barrels
  Used nuclear fuel: Approx. 102.6 metric tons (424 rods)

Fulfilling Social Responsibility

Among power has purchased by Taipower in 2015, 2,527 GWh came from biogas and waste generation, representing 5.05% of all procured power and 1.2% of all generated power in 2015.

Environmental Accounting

Since August 2003, Taipower established its environmental accounting system and developed the EAS information platform to be integrated with Taipower's existing accounting operations and information system. This would allow all units to complete their expense reimbursement and collect materials in a timely manner. The system will effectively transform environment-related activities (including environmental protection, occupational safety and health) into financial or accounting information. As of the end of 2007, the system has been promoted in all Taipower units. All environmental expenditure from 2012-2015 is listed below, including TWD 5.09 billion for procurement of renewable energy in 2015, an increase of TWD 4.1 billion from 2014.

Environmental Expenditure 2012-2015

Unit: TWD billion

Year	Environmental Protection	Occupational Safety	Health	Total
2012	7.07	4.87	1.38	13.32
2013	8.8	4.79	1.42	15.01
2014	14.2	4.77	1.22	20.19
2015	18.3	5.66	1.31	25.27

Unit: TWD billion

5.2.4 Waste Management and Reduction

Taipower wastes are being divided into solid waste and wastewater. Taipower is committed to reducing, recycling, and reusing its waste as much as possible. When waste cannot be reduced, recycled, or reused, Taipower disposes of it in accordance with the Waste Disposal Act and other relevant laws and regulations. The following will cover Taipower's management guideline and performance for waste and wastewater management.

Waste Management

Waste management system

In addition to the Waste Disposal Act, the Chairman has instructed the establishment of "Taipower's Coal Ash Resource Reuse Promotion Task Force" during the management meeting in June 2015 to take charge of the research and promotion of coal ash use. In July 2015, the scope of operation for the task force was expanded to become "By-product Resource Reuse Promotion Task Force", which is primarily responsible for coordinating cross-unit collaboration to formulate by-product resource reuse optimization strategies and response solutions, including closeout strategies and implementation of coal ash and gypsum, review of existing coal ash sales regulations at power plants, promotion of green label certification for fly ash and gypsum products and planning of relevant incentive schemes to encourage all units to increase their fly ash concrete use rate.

Reuse of industrial waste

- Reuse of coal ash

Taipower has encouraged its engineering units to reuse fly ash in civil construction, where it is used to fill trenches. This would raise the volume and reutilization rate of the fly ash and reduces the environmental burden. In 2015, coal ash production was 2.007 million tons, of which 1.807 million tons, or 90.0%, was reused. The total sales revenue came to TWD 249 million.

- Reuse of gypsum

To improve air quality, coal-fired fire power plants are outfitted with flue gas desulfurization installations, which remove sulfur oxides from the flue gas. Limestone slurry is then used to create gypsum through the chemical processes of absorption, neutralization, oxidation, and crystallization. The resultant raw gypsum ($CaSO_4 \cdot 2H_2O$) can be reused by local cement makers and fire retardant board makers. Taipower produced approximately 532 thousand tons of gypsum in 2015.

Bidding for industrial waste

Other industrial wastes, such as waste wires and cables, metal scrap materials, etc., are being reused by Taipower through waste disposal contractors through an open bidding process. In accordance with government regulations, bidding contractors should be qualified Industrial Waste Processors and perform their reuse operations according to regulations to reduce the environmental risks involved in waste treatment.

In 2015, the quantity and amount of bidding for industrial waste were both lower compared to 2014 because Taipower had less construction projects in 2015. Consequently, the reduction in material use also led to a decrease in material returned by about 19.76%. Prices for raw materials also reached a low point in 2015 and this had caused the amount from distribution and sales system waste cable sales to be the lowest in Taipower's history. In addition, due to the decommissioning of units at Linkou Power Plant, the Linkou tender contract has been terminated by the end of August 2014.

Industrial Waste Bidding Quantity

Unit: Thousand tons

Industrial Waste Type	2013	2014	2015
Waste wires, cables and metal scrap materials centralized for auction sales	5.424	6.532	5.241
Coal ash production volume	2,042	2,065	2,007
Coal ash bidding quantity	1,418	1,668	1,628

Industrial Waste Bidding Amount

Unit: TWD million

Industrial Waste Type	2013	2014	2015
Waste wires, cables and metal scrap materials	801	958	641
Coal ash	109	254	249
Total	910	1,212	890

Note: Reuse after sales through auction.

Waste Water Management and Reduction

Waste water management approach

Taipower recycles waste water from power generation as much as possible, and tracks its waste water recycling rate on a monthly basis. Waste water that needs to be discharged is discharged in accordance with "the Water Pollution Control Act" and its Sub-Laws. The waste water is discharged through approved outlets. The quality of the effluent water is monitored by a certification body commissioned for the purpose. As for radioactive liquid waste, in addition to complying with the water pollution laws and regulations mentioned above, "the Ionizing Radiation Protection Act" and its related enforcement rules and regulations are to be complied with as well. Radioactive liquid waste must first be treated through the radioactive waste processing system. The small quantities that cannot be recycled must be filtered and analyzed by random sampling to ascertain that the radiation doses of the radioactive waste are compliant with norms before they can be discharged. Otherwise, the waste is sent to the concentrator where it is heated and reduced into a solid state and stored in barrels.

Regarding the management of warm waste water from nuclear power plants, Taipower has drawn up operational procedures for its nuclear power plants in accordance with the Effluent Standards. These operational procedures clearly stipulate that the discharge port must be 500 meters from the exit point of the plant, and one meter below the water surface, while the temperature difference between the effluent water and the surface water must not exceed 4°C, and must never exceed 42°C. All nuclear power plants have installed

temperature sensors and monitoring alerts at their waste water outlets in the sea. Whenever the temperature of the effluent water approaches the limit values, response measures are taken in accordance with the power plant's operational procedures to reduce the temperature of the effluent water.

Wastewater reuse

While adhering to the concept of water conservation, Taipower has been actively pursuing the goal of zero wastewater discharge. Rainwater collection (power plants and dormitories) and wastewater re-use projects are being promoted to reduce the use of tap water inside the power plants.

Due to the excessive salt concentration (that may cause serious corrosions as well as salinization of the soil) in the wastewater from the flue gas desulfurization (FGD) process, the recycled water in 2015 was unusable and therefore was not calculated in the total waste water quantity. The main wastewater recycling applications are boiler sealing, demineralizing water, and containing coal dust. Unrecyclable water is treated in accordance with regulatory standards before it is discharged into receiving waters, such as the ocean and rivers. All discharges into receiving waters were approved by the local environmental protection units and complied with the applicable effluent water standards.

Thermal Power Plant Wastewaters Reuse

Unit: Thousand tons

Item	2012	2013	2014	2015
Reuse of rainwater	43.5	152.9	168.4	176
Reuse of wastewater	1,686.6	1,424.4	1,572	1,557.5

5.3 Building a Sound Working Environment

5.3.1 Human Resource Management

Employee Categories

Taipower employees are all full-time employees. There is no fixed-contract or open-contract personnel, nor foreign nationals.

Employee Category		2013		2014		2015	
Total employees		26,629		26,533		26,659	
Local employees	Male	23,590	88.6%	23,414	88.2%	23,387	87.7%
	Female	3,039	11.4%	3,119	11.8%	3,272	12.3%
Direct personnel	Male	22,065	82.9%	21,898	82.5%	21,909	82.2%
	Female	1,601	6.0%	1,642	6.2%	1,771	6.7%
Indirect personnel	Male	1,525	5.7%	1,516	5.7%	1,478	5.5%
	Female	1,438	5.4%	1,477	5.6%	1,501	5.6%

Note: As distinguished by work nature, "technical" and "operations" in work nature are classified as direct manpower, and "management" in work nature is classified as indirect manpower.

For subcontractors, Taipower's outsource of human resources are separated into "manual dispateched labor" and "manual and service contract labor" based on the nature of their employment. In 2015, the numbers of Taipower's subcontractor personnel are as follows:

Type of Employment	No.
Manual dispatched labor	281
Manual and service contract labor	1,031

Note: 1. Manual outsourced labor refers to manual labors performed by outsourced personnel dispatched at Taipower and are therefore subject to the supervision of relevant units. It is used to fulfill business needs through hiring engineers with technical expertise and managers with management expertise in procurement and contract management.

2. Manual and service contract labor refers to tasks such as cleaning, janitorial services, document processing, call center agents, drivers and so forth. Among the outsourced manual and service contract labor personnel, approximately 31% were male and the remaining 69% were female.

3. The statistics above include manual labor only.

In response to Taipower's key management point of emphasizing human resources, the company will review the status of personnel retirement/turnover at divisions and the cultivation of core talents while taking into consideration factors, such as the growth/decline of business, trend of energy policy development and annual personnel recruitment plan to implement rolling adjustments for human resource allocation, to achieve a structure of reasonable human resource. For outsourced personnel, Taipower has established its "Manual Outsourced Labor Personnel Downsizing and Replacement Solution" to review relevant personnel allotment over the years while boosting employees' service concept and introducing automated equipment in order to achieve the objectives of downsizing personnel requirement and saving relevant costs.

5.3.2 Labor-Management Communication Channels

Labor-management Meetings

Communication Channel	2015 Performance
Labor-management Meetings	24 labor-management meetings were held at company and subsystem levels in 2015.
Information and discussion sessions	2 information sessions on major labor-management were held. 5 division-level information sessions to promote communication on overviews were held.
Entry-level employee meetings	There were 194 entry-level employee communication meetings were held in 2015, where unit heads communicated with entry-level employees and listened to their concerns.
Thematic presentations	To help employees better understand the current operation of Taipower to foster consensus and cohesion, Taipower has held 8 thematic presentations by high-ranking supervisors in 2015.
Training	Promoted online course of "The counseling skills for supervisor and subordinate", which focuses on the personal counseling between supervisors and their subordinates, particularly on situations involving promotion, punishment/reward, evaluation or dissatisfaction with work. Through one-on-one counseling, supervisors are encouraged to find out their subordinates' issues in work and life and express their concerns. Supervisors at various units will be encouraged to take the course in March 2016 in order to improve their counseling skills.
Intranet	The W3 website is an important platform of internal communication for Taipower and highlights of the improvements on the intranet in 2015 are as follows: • Homepage template: by making the layout more interesting, it will be more appealing for employees to browse through, thereby improving internal communication efficacy. • Employee forums: gather issues of concern to employees; Taipower will analyze critical issues to have a better grasp of employees' use of the forum. The intranet also featured a new "New Hire Exchange Section" for new employees to ask questions regarding their work and life so that they can become accustomed to working at Taipower as soon as possible. • The "Transfer Information" section: improves transparency on the issue of staff transfer; featured a new search function for employees to find their desired information. • The "New Hires" and "Activities" sections: the "New Hires" section helps new employees understand their rights and interests and understand company channels, while the "Activities" section announces and reports a variety of activities to bring the company and its employees closer together and strengthen internal communication.

Group Agreement Negotiations

On 24 October 2013, Taipower and the Taipower Labor Union (TLU) signed a Collective Bargaining Agreement (CBA) containing 8 sections and 48 articles. To avoid affecting the interests of employees, in accordance with Article 41 of the CBA, Taipower should communicate with TLU about the creation, reorganizations, and mergers of units in advance.

In 2015, 10 consultative meetings were held to implement or clarify articles of the signed CBA. Presently, TLU is the only organization covered by the group agreement negotiation and only Taipower employees may become members of the TLU. Since outsourced personnel are not Taipower's employees, the terms of the group agreement negotiation do not apply to them.

Employees Covered by the Collective Bargaining Agreement

Item	2013		2014		2015	
Total employees	27,082		26,533		26,659	
Taipower Labor, union members	25,954	95.8%	26,064	98.2%	26,200	98.2%

Grievance Mechanism

Taipower's "working personnel difficulty and grievance matter processing guidelines" helps solve issues that cannot be solved through the company's administrative system. The Points cover the following:

- Adjust tasks and transfer to another division, unit, or district, for personal or family reasons
- Company support in the event of major changes in the family
- Handle queries and complaints regarding the company's system, measures, contracting and oversight of engineering works, financial and procurement matters, and hand-over inspections
- Investigate and handle other complaints

Difficulties and complaints concerning transfers to new service districts are handled in accordance with the company's "Regulations Governing Personnel Transfers to Service Districts". In addition, every unit has a "working personnel difficulty and grievance matter processing team" to those whose member employees can file their complaints in writing or orally. The team will handle the case and reply to the employee within one month. The headquarters has a "working personnel difficulty and grievance matter processing committee" to handle cases which are not handled by the complaint teams on the department level as well as appeal to cases from employees that do not accept the outcomes of the complaint process under their department's complaint team. In April 2015, the aforementioned regulation has been amended per resolution by the Human Resources Development Task Force to strengthen the visit system and enhance human resource deployment versatility in the hope of effectively resolving difficulties that employees have encountered.

5.4 Facilitating Responsible Partnership

5.4.1 Supplier Management

Taipower's suppliers fall into three categories: fuels, materials & equipment, and power suppliers. To safeguard the reliability of the nation's power supply, the company selects suppliers based on their supply capabilities and superior product quality and will only collaborate with legitimate suppliers that are compliant with pertinent local regulations governing environment, human rights, labor practices and so forth in the hopes of facilitating local economic development and fulfilling Taipower's corporate social responsibilities.

As a state-owned enterprise, Taipower's procurement practice complies with the Government Procurement Act and the principles of public interest and fairness. Suppliers' practices of human rights should also be handled in accordance with the previsions of Article 98 of the Government Procurement Act. The management mechanisms for the three categories of suppliers are described below.

Fuel Suppliers

Fuel oil and natural gas suppliers

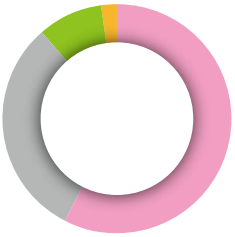
Taipower currently purchases them from the CPC Corporation and Formosa Petrochemical Corporation, and both are contractors with supply capability and also conform to the relevant governmental laws and regulations.

Suppliers of coal and nuclear fuel

Taipower meets all of its needs for coal and nuclear fuel through procurement from foreign suppliers. In 2015, Taipower procured 24.37 million tons of coal, with the following distribution of procurement sources:

Taipower's coal procurement through fixed-term contracts makes use of selective tendering. In accordance with the provisions of the "Government Procurement Act", a shortlist of qualified suppliers must be published and be subjected to review and amend annually. When joining a tender, suppliers of coal and nuclear fuel are required to submit documentary proof from the

Ratio of coal procurement from different regions in 2015



Indonesia	14.08 million tons	58%
Australia	7.57 million tons	31%
Russia	2.24 million tons	9%
China	0.48 million tons	2%

competent authorities of the jurisdictions of their residence in order to ensure that these suppliers comply with the laws and regulations of their jurisdiction, including compliance with the local laws and regulations regarding the environment, human rights, labor matters, and social aspects. For instance, with regard to coal suppliers located in Australia, Taipower abides by and requires their compliance with Australia's norms for environmental protection and human rights measures that are applicable.

In 2015, a list of qualified vendors on a regular basis contract totaled 43 qualified vendors, including 22 in Australia, 14 in Indonesia, 2 in China, 2 in Russia, 1 in South Africa, 1 in the United States, and 1 in Canada. In addition, three new vendors have been added to Taipower's list of qualified vendors in 2015 and the company has dispatched designated personnel to carry out on-site inspection at their mines. Four of the qualified vendors in the list failed to update on the lifespan of their mines and as such have been removed from the list.

Suppliers of Materials and Equipment

Taipower has established a list of qualified material and equipment suppliers, who are screened according to the following process:

"Regulations Governing the Review of Suppliers Website" are released on the Taipower website.

Suppliers file online requests for review.

Taipower conducts reviews based on "Suppliers Manufacturing Capabilities through In Site Inspection and Documentary Screening".

In 2015, 91 reviews were conducted, and average processing time from supplier request to qualification confirmation letter was 59.92 days (target: 63.05).

Interim inspection rules: In accordance with the "Standard Norms for Company materials" and in view of the nature of the products concerned semi-completed products may be inspected. From completed electricity meters or other semi-completed products, for instance, three samples may be taken for inspection. If one sample does not meet the standards, the supplier must improve the entire batch and request a second inspection.

In 2015, 173 interim inspections were carried out. No supply contracts were terminated or amended.

Should the need for relevant material or important power equipment procurement arise, Taipower will open selective tenders in accordance with Article 20 of the procurement act and "Points of Attention for the Review of Manufacturing Capabilities and Management of Qualified Suppliers of Electrical Equipment to Taiwan Power Corporation Ltd." In accordance with the aforementioned regulation, when suppliers apply to have their qualifications approved, Taipower will implement on-site appraisal or document review to verify said supplier's compliance with Taipower's regulations. In addition, Taipower will establish relevant interim inspection procedures depending on the characteristics of the equipment/material to ensure suppliers deliver products of the promised quality. If a supplier's business/scale falls under the category of businesses covered under the scope of relevant environment laws, the supplier will also be required to provide relevant permits and approvals issued by competent authorities for environmental protection as substantiating documentations.

Procurement of electrical equipment (such as cables and gas-insulated switchgear) must comply with government policy, such as the "power equipment localization policy". Therefore, important components must be produced, assembled, or cut in domestic factories, and Taipower will evaluate supplier bids on this aspect. In the case of switching to domestically-produced cables, Taipower currently procures 100% of its cables from domestic suppliers. In 2015, Taipower had 148 qualified suppliers for power equipment that covered 1,240 equipment items.

Fulfilling Social Responsibility

Taipower's Material Procurement Performance for 2015 is as follows:

No. of Material Procurement Tenders	Total Bid Amount	Percentage of Local Procurement	Violation of Contract/Procurement Act by Supplier
983 incidents	TWD 19,412 million	88.5%	Three of Taipower's suppliers were found to have violated the terms of contract/procurement act. According to Item 3 under Article 102 of the Government Procurement Act, the offending suppliers have been published and blacklisted on the Government Procurement Gazette.

Power Suppliers (IPP Operators)

The procurement of power from IPP operators by Taipower has been implemented in accordance with "Directions Governing the Deregulation of the Power Industry", "Application Information for Power Plant Construction" and "Deregulating Private Power Plant Solution" of MOEA. Phase 1 and 2 of deregulation enabled private operators to set up power plants in restricted areas, and by year and capacity to present the power purchase needs. Private operators in the northern power-needing region (north of Lungtan E/S) are eligible to participate in electric pricing comparison bidding with priority, where the procurement process succinctly includes a power supplier filling the local (power lacking area) demand with priority. At the present phase 3, bidders shall be screened on a first-come, first-served basis at the open price with the approval from the MOEA.

In 2015, Taipower signed power procurement contracts with 9 IPP operators. As the scope of the contract only covered the rights and obligations between the buyer and the seller, there are no specific requirements relating to the labor rights and performance for IPP's personnel. Nevertheless, IPP operators are still required to abide by pertinent labor laws, regulations and guidelines. Taipower has been supervising and reviewing the operations of IPP. For instance, in 2015, the company has reviewed the Generator Broiler Maintenance Standards submitted by an IPP in Mailiao to check the IPP's maintenance records for the past 5 years for compliance with the manufacturer's maintenance guidelines and recommendations. Taipower has requested the IPP to draft a plan for improvement. Therefore, the IPP has expressed its plan to prepare budgets for the implementation of large-surface broiler pipe renewal and other improvements between 2015 and 2018. Taipower will be monitoring relevant progress for the improvements.

For IPP operators that have performed poorly or resulted in risks for Taipower, relevant penalties will be imposed in accordance with the contract or their contracts may be terminated. In 2016, Taipower has made no plans to find new IPP suppliers.

5.5 Enhancing Nuclear Communication

5.5.1 Nuclear Safety and Crisis Response

Planning for Nuclear Safety

Ensuring nuclear safety

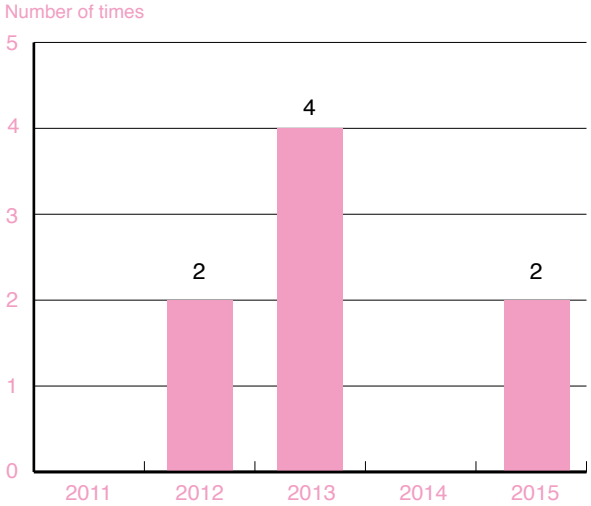
Action taken thus far	Future Focus
• Nuclear, radiation, and occupational safety were strictly enforced. Workplace safety inspections were stepped up. “Management by Walking Around” was practiced to enforce the Taiwan Occupational Safety and Health Management System (TOSHMS), and to identify high potential hazards and implement operational management to detect, anticipate, and pre-empt risks. • Continued the improvement of environment management system to achieve the objective of environmental protection enhancement and pollution prevention • All nuclear power plants have operational procedure manuals that specify all types of operation and management standards. To enhance management efficacy of nuclear power plants, Taipower promoted the “Sixth Five-Year Nuclear Operational Plan”, “Measures to Strengthen Nuclear Energy Operations”, including “Scheduling and Quality of Sophisticated Overhauls”, “Preventive Measures to Reduce Human Error”, “Strengthen Maintenance of Key Components, Improve the Reliability of Equipment”, and “Strengthen the Oversight Function of the Headquarters over the Department of Nuclear Energy”. • Continued to improve the seismic resistance and layer-2 safety shutdown of Nuclear Power Plants No. 1, No. 2, and No. 3	• Handle the nuclear waste and decommissioning plans to seek a breakthrough in nuclear back-end operations • Strengthen governance and oversight of headquarters, and enhance management efficiency • Enhance nuclear safety culture and ensure the safe and stable operation of units to improve operational performance • Take nuclear safety culture to a new level as well as extend to all employees, support staff, and contractors. • Manage major repair, upgrading equipment reliability and expand nuclear energy benefits • Strengthen power plant management and implement risk control and asset management • Replace major equipment of nuclear power plants • Continue implementing five-year nuclear operational plans • Create a mechanism for staff to share and study experiences in order to reduce human error

Nuclear safety operating performance

To further manage and control operational safety at its nuclear power plants, Taipower employs the Nuclear Safety Mechanism of the Atomic Energy Council (AEC), whereby nuclear power plants’ safety systems performance is recorded each quarter and published on the Nuclear Safety Mechanism section on AEC’s website. Throughout 2015, Taipower’s nuclear safety indicators stayed in the green zone (green light designates the best performance), reflecting the outstanding safety performance of Taipower’s nuclear power plants. In addition, the Boiling Water Reactor Owners Group (BWROG) and the Pressurized Water Reactor Owners Group (PWROG) have affirmed the effectiveness of disposal actions taken by Taipower.

In 2015, the six generators at Nuclear Power Plant No. 1, No. 2 and No. 3 generated a total of 35.143 TWh, with an average capacity factor at 76.85% and two unexpected automatic emergency shutdowns.

Nuclear Safety Operating Performance in 2011 - 2015 (Unexpected Automatic Emergency Shutdowns)



Note: For details of the unexpected shutdowns in 2015, please refer to “Section 4.2.2 Operating Performance of Nuclear Units”.

Fulfilling Social Responsibility

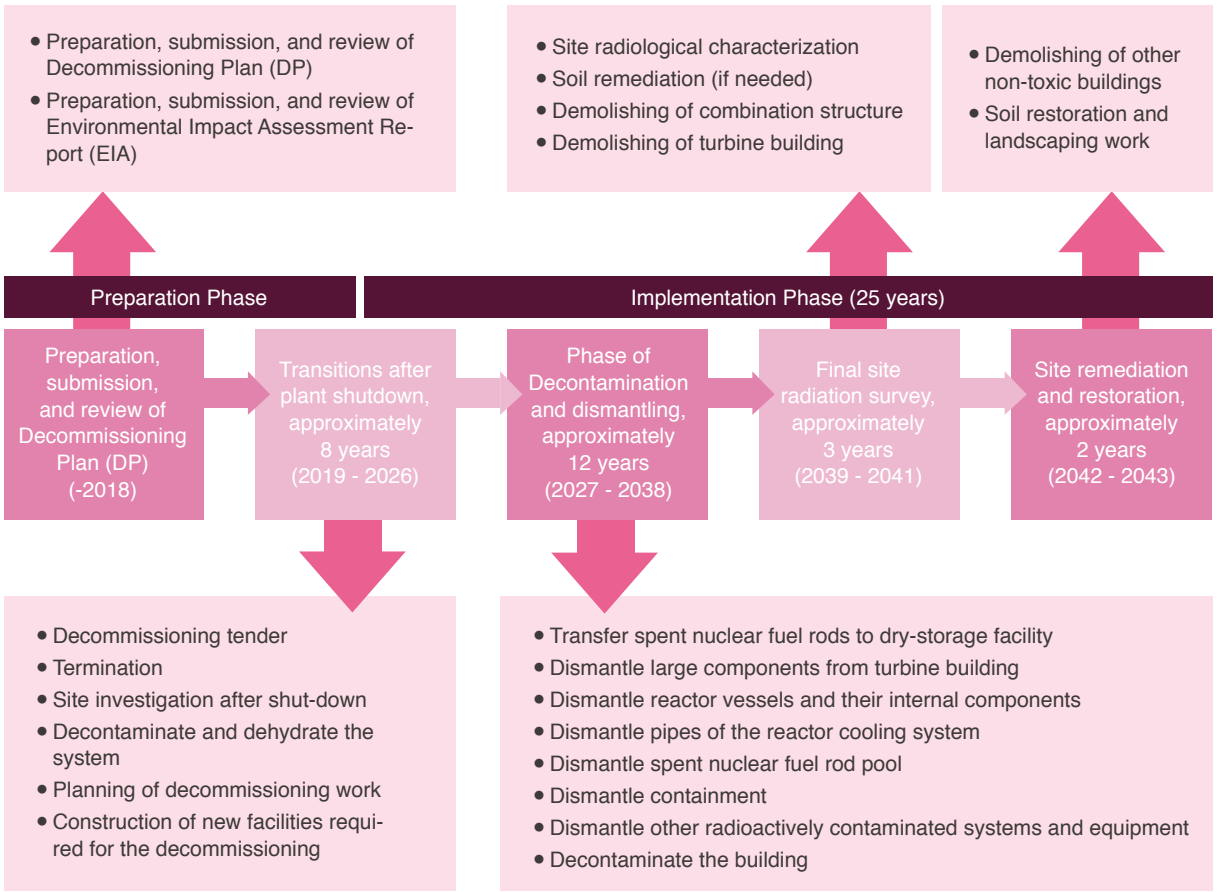
Decommissioning Plan

Decommissioning regulations and planning principles

According to the “Nuclear Reactor Facilities Regulation Act”, the phase out of a nuclear power plant shall be completed since its operation has been fully terminated in 25 years, including the demolition of the facilities. The operator must propose a decommissioning plan 3 years before the permanent shutdown of nuclear reactor facilities.

Pursuant to this law, Taipower has begun planning for the decommissioning of Nuclear Power Plant No. 1, giving due consideration to “the feasibility of technology”, “decommissioning safety”, “cost-efficiency”, and “needs in actual operation”. A comprehensive investigation has been conducted to ensure that the decommissioning will proceed under optimum arrangements and in full compliance with applicable laws and regulations. The decommissioning plan has already been submitted to the AEC in November 2015.

Planning of NPP1 Decommissioning Process

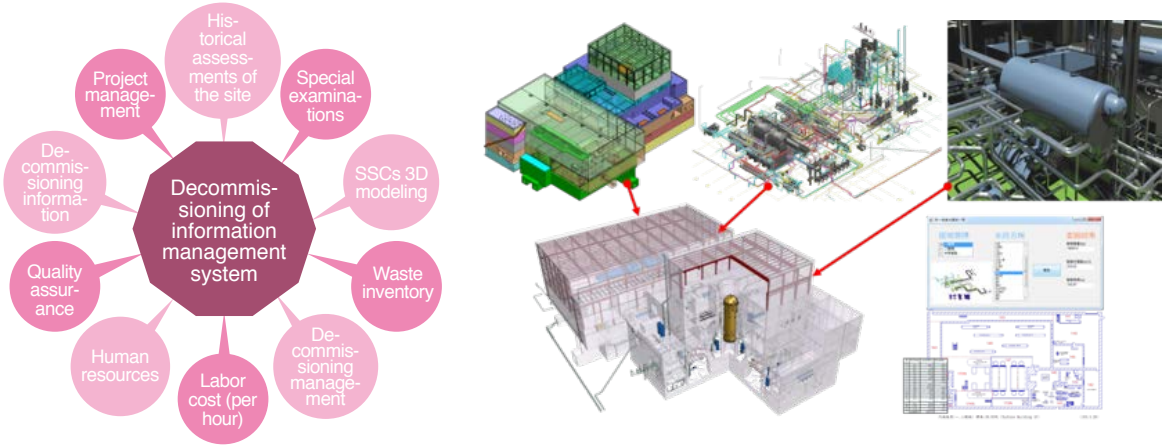


Decommissioning process and progress

To execute the decommissioning plan, Taipower has coordinated cross-departmental work associated with the decommissioning plan of the NPP1 in 2012, and actively participated in such international organizations as the Electric Power Research Institute (EPRI) and the Co-operative Programmed for the Exchange of Scientific and Technical Information Concerning Nuclear Installation Decommissioning Projects (CPD) of the Nuclear Energy Agency (NEA), the specialized agency within the Organization for Economic Co-operation and Development (OECD) to work with advanced countries, visit power plants in various stages of decommissioning, and collect decommissioning reports for reference purposes.

Taipower’s current decommissioning activities include establishing a quality assurance program; developing a quality assurance manual; completing a strategic analysis and planning (including operation scheduling, organization and human resource planning) to design the radiological site characterization for the NPP1 site (using the method of the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM; NUREG-1575) of the United States Nuclear Regulatory Commission (USNRC) to confirm the scope and extent

of residual radioactive and hazardous substances); mapping out the decommissioning operation; calculating estimates of radioactive waste volumes; creating a decommissioning information management system (ongoing); and building a 3D model of the entire facility (ongoing).



Decommissioning costs and capitals

The dismantling and decommissioning cost of nuclear power plants is estimated at TWD 67.5 billion (Nuclear Power Plant No. 1: TWD 18.2 billion; Nuclear Power Plant No. 2: TWD 24.2 billion; and Nuclear Power Plant No. 3: TWD 25.1 billion; excluding the final treatment of dismantling materials). Based on the user-pays principle, Taipower has been funding for nuclear energy back-end operations since 1987 with approval from the Executive Yuan. As of the end of February 2016, the fund had accumulated to TWD 252.429 billion. In addition, every five years or whenever there are major changes in technology, regulations, or the scale of nuclear power generation, Taipower recalculates the total cost of nuclear back-end operations, and it quarterly recalculates the rate of assessment of nuclear power generation to ensure that funds for back-end operations will be sufficient.

Land reuse after decommissioning

The residual radiation of the site after decommissioning will be conformed with the standards for reuse. With the exception of the restricted area (including the temporary storage facility for radioactive wastes prior to the completion of the final storage facility), the remaining land will be used for power utility related purposes, such as the construction of power facilities.

Measures for Strengthening Nuclear Safety

Adoption of “Defense in Depth” safety design principle

Taipower adopts the concept of “defense in depth”, which involves the construction of multi-layered defense shields for the safety design of nuclear power plants to ensure nuclear safety. Every layer of shield contains independent and multiple security facilities or measure. Even though one or two defense shields may possess ample functionalities to fully prevent releasing of fission products from nuclear reactions, the safety design of the nuclear power plant requires that should any one layer of defense shield fail for any reason, the other layer of defense shield will still provide security and protective defense functionality. The purpose of multiple layers of defense is to reduce the probability of nuclear incidents within the nuclear plant, and to mitigate the impacts of it.

The layers of defense in depth to prevent the release of nuclear fission products include:

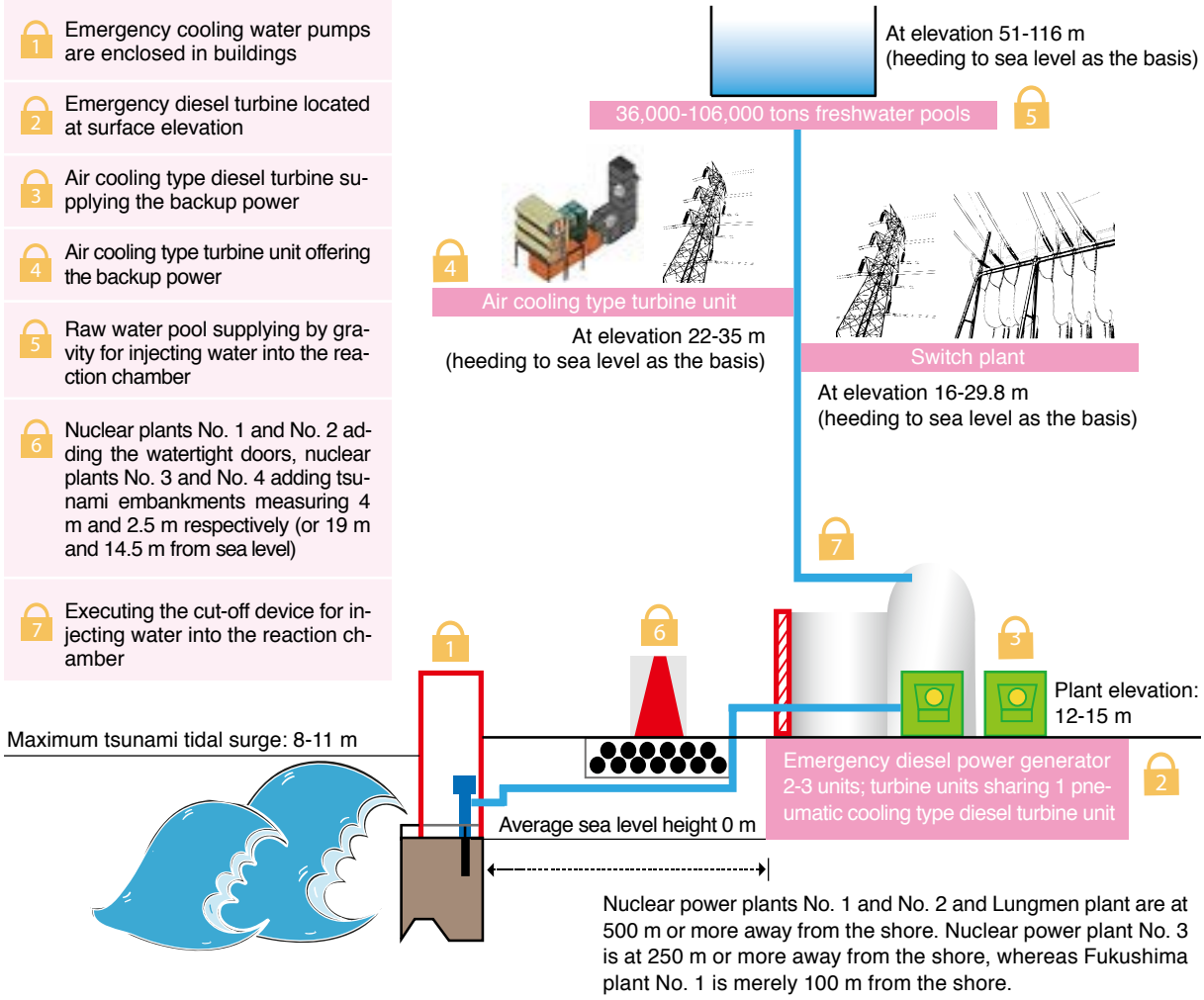
- Fuel pellet: The nuclear fuel is solidified into pellet forms. The nuclear reaction takes place within these pellets, and most radioactive substances will remain within the pellets.
- Fuel rod consists of a zirconium alloy to effectively contain radio-active substances in the cladding.
- Connection between the reactor pressure vessel and the closed coolant system will ensure that fission products will be contained in the closed coolant circulation system.
- Containment building ensures that most radioactive substances from the reactor or cooling system are isolated from the outside environment.

Fulfilling Social Responsibility

After the Fukushima nuclear disaster, Taipower has assessed its nuclear power plants and determines the specific advantages (as shown in the figure below) that will offer adequate resistance against earthquakes and tsunamis.

Taipower Nuclear Power Plant Multi Disaster Prevention Safety Depth Advantages

1. Emergency cooling water pumps are enclosed in buildings
2. Emergency diesel turbine located at surface elevation
3. Air cooling type diesel turbine supplying the backup power
4. Air cooling type turbine unit offering the backup power
5. Raw water pool supplying by gravity for injecting water into the reaction chamber
6. Nuclear plants No. 1 and No. 2 adding the watertight doors, nuclear plants No. 3 and No. 4 adding tsunami embankments measuring 4 m and 2.5 m respectively (or 19 m and 14.5 m from sea level)
7. Executing the cut-off device for injecting water into the reaction chamber



Reinforcing control measures

Taipower has made extra efforts to maintain stable operations of its nuclear power plants as part of its mission to safeguard the company's assets and the safety of the population, other than complying with nuclear safety laws and regulations. These additional efforts include maintaining close communication and cooperation with such international bodies and organizations as the International Atomic Energy Agency (IAEA), the Institute of Nuclear Power Operations (INPO), and the World Association of Nuclear Operators (WANO) in order to refine its safety management, to be in line with the international practice, and to continue raising the nuclear safety.

Key Safety Management Programs have included:

- Adjust nuclear safety strategies and improve its effectiveness upon nuclear power plant safety meetings and periodically review personnel performance
- Continue the nuclear safety liaison meetings to monitor the operations and status of nuclear power plants so that the headquarters may offer immediate assistance to eliminate risks and keep the units running steadily
- Make nuclear power plant directors, managers, and team leaders manage by walking around, observing and participating in on-site work to direct practices as needed and prevent negligence to enhance staff performance

Emergency response mechanism at the nuclear power plant

Taipower's radioactive accident response scheme covers:

Regular preparations	Implement exercises in accordance with emergency response plan	• The Nuclear Power Plant Emergency Response Committee staff receive regular training for emergency response to keep them up to date with their expertise. The emergency response training includes general training, biannually, and specialist training annually.
	Implement emergency response plan drills	• Every nuclear power plant has to conduct a drill annually. Taipower, central and local governments, military, police, and medical units all participate in the nuclear safety exercise that is by turns held at each nuclear power plant. In addition to its authority, Taipower also invites professionals and scholars to form an evaluation group to assess exercises on each response measure to make the emergency response plan more effective. • In 2015, the "21th Nuclear Safety Exercise" was held, and emergency drills were held at Nuclear Power Plants No. 3 and No. 2 in July and October respectively.

	Establish KPIs for emergency response	• Each nuclear power plant conducts emergency response readiness KPI" and reports quarterly to the AEC as a part of the control measures of nuclear safety regulatory organization to ensure the readiness of nuclear units. Related KPIs including:
		  • Drills/exercise performance
		  • Participation in drills of the emergency response organization
		  • Reliability of the warning and reporting system

Response to accidents	Adopt emergency response measures	• In the event of a nuclear accident, nuclear power plants shall comply with the relevant procedures to perform specific rescue operations. • Establish the Central Disaster Response Center for Nuclear Accident, Nuclear Accident Radioactive Monitoring Center, Nuclear Accident Disaster Response Center and Nuclear Accident Support Center pursuant to the "Nuclear Emergency Response Act" to jointly carry out various rescue operations, to keep the public safe, and to effectively control the accident and the neighboring residents and environments stand to be jeopardized
Post-accident recovery operations	Damage appraisal and recovery measures	• After verifying the cause of a nuclear accident and performing all emergency response measures and confirming it is irrelevant to a nuclear accident, the emergency response center will be dismissed. • After receiving the notification from the Nuclear Accident Recovery Measure Promotional Commission, Taipower will assign relevant tasks to different units to evaluate the facility damage and recovery/restoration of the facilities and the neighboring environment. • The Emergency Control Chief will evaluate the status of the power plant before issuing the order to set up the plant recovery team and commence the recovery operations.

Fulfilling Social Responsibility

5.5.2 Response to nuclear safety incidents

Nuclear Safety Incident Management Mechanism

Taipower has established comprehensive management mechanism for nuclear safety incidents. For each incidence of anomaly, Taipower would submit an “Anomaly Incident Report” to the AEC. The Anomaly Incident Report contains the following items of analysis.

- Summary of the incident (including what had transpired, causes for the incident and key improvement measures)
- Situation prior to the anomaly (including the malfunction status of systems/components related to the incident)
- Course of event (detailed description of the sequence of the incident in chronological order, with time stamp for each item)
- Cause analysis, course of incident handling/inspection or repair (including the automatic/manual operation of the safety system)
- Radioactive substance leakage and leakage status
- Radiation exposure injury sustained by personnel and extent of injury
- Potential impact (assessment of actual and potential impact on safety)
- Corrective action and preventive measures [including RER Retraining Classification Form (SOP 113 Form F)]
- Similar incidents that occurred at the plant in the past
- Event scale: (determined in accordance with the International Nuclear Event Scale (INES))

Through anomaly incident reports, Taipower has analyzed the causes and the resulting impact for each nuclear safety incident and has planned corrective actions and preventive measures to ensure similar incidents will not occur in the future.

Incidents in 2015 that Raised Public Concern

The International Nuclear Event Scale (INES) categorizes nuclear safety events into 7 levels depending on the severity of the incident. In 2015, no nuclear safety events occurred at Taipower’s nuclear power plants. Nevertheless, three incidents took place that attracted public attention. The following is a summary of these incidents:

Emergency shutdown of Reactor No. 1 at Nuclear Power Plant No. 2

- On December 26 2015, the generator of Reactor No. 1 triggered an automatic emergency shutdown due to a protection relay malfunction. After prompt replacement of the part in question and ensuring normal operation after stress test, Taipower received approval from the AEC to resume the operation of the reactor on the 27th and managed to achieve full load operation by the 30th.
- Response: Taipower will gather information on the use of similar relays both locally and internationally through relevant international organizations and use digital relays in place of solid-state relays. In addition, the company will change existing trip logic design to prevent similar incidents from recurring.

Fire alarm of Reactor No. 2 at Nuclear Power Plant No. 3

- On April 26 2015, a small fire broke up due to an auxiliary transformer on Reactor No. 2 at Nuclear Power Plant No. 3 and was put out quickly within 17 minutes. Reactor No. 2 was shut down safely with no radiation leakage; Reactor No. 1 was not affected by the incident in any way and resumed normal operation. After investigation, the cause of the incident pointed to a damaged auxiliary transformer (source of power at the plant). Since the plant is equipped with 345KV and 161KV power along with 3 units of emergency diesel generators as backup, the incident had no impact on power supply for reactor cooling. General maintenance and testing had been completed on May 8 2015.
- Response: Regarding the testing of NPBD bus inspection, Taipower has followed the suggestion of vendors to make relevant adjustments and improvements based on the previous experience of operators abroad to improve the effectiveness of equipment inspection while exploring the feasibility of design improvement. At the same time, Taipower has revised its maintenance operating procedure for Nuclear Power Plant No. 3 to reduce the likelihood of accidents through procedures.

Stuck bolt on Reactor No. 2 at Nuclear Power Plant No. 3

- During the major routine maintenance conducted on November 12 2015 on Reactor No. 2 at Nuclear Power Plant No. 3, a bolt on the reactor cap was found to be difficult to remove. The situation is common and has no impact on unit safety. Corresponding standard operating procedures and a number of service providers have already been established in the international industry to handle such issues. After contacting the original vendor Westinghouse Electric, Taipower received the response from Westinghouse Electric on November 17 2015, suggesting that the bolt in question "does not need to be removed" and that the reactor is guaranteed to operate safely. However, to address the general public's concern for nuclear power safety, Taipower has decided to have the bolt in question removed by Westinghouse Electric and AREVA to perform a "full repair" by installing a screw insert to surpass the required safety standard. The bolt repair was completed on December 24 2015 and the unit was reconnected to the grid to generate power on January 12 2016.
- Response: For tasks pertaining to bolt installation in the future, pneumatic cylinder will be used to offset the weight of the bolts to prevent damage on the thread. In addition, the procedure and standards for damage inspection have been revised to prevent similar incidents from recurring in the future.

5.5.3 The Issue of Nuclear Power Plant No. 4

Sealing of Nuclear Power Plant No. 4

Origin

The Legislative Yuan decided to suspend construction on Nuclear Power Plant No. 4 ("NNP4") on 26 February 2013, except for contracts already awarded and safety inspections. Jiang Yihua, the former Premier of the Executive Yuan, announced in an international press conference on 28 April 2014 that Reactor No. 1 of NNP4 will be mothballed once pre-operational safety checks are completed. Construction of Reactor No. 2, meanwhile, will be suspended immediately.

Responses

In keeping with the government's instructions to mothball NPP4, Taipower mapped out three different strategies: keeping NPP4 available for future commission and minimizing costs; strengthening nuclear communication during this period; and making preparation for commercial operation. Based on the Principles for mothballing Nuclear Power Plants from the AEC, Taipower has mapped out the NPP4 Mothballing Plan, which was reviewed and approved by the AEC on January 29 2015, with the system mothballing preparation scheduled for completion by the end of June and the mothball phase starting from July 1. The operation has been temporarily planned for 3 years before further instruction is issued by competent authorities.

Fulfilling Social Responsibility

Mothballing Strategy	Implementation Status
Keep NPP4 available for future commission, and minimize costs	Mothballed nuclear power plant with a small cost and retained high-value assets, thereby leaving room for the next generation to choose their preferred source of power generation. The mothballing operation budgeted TWD 3.885 billion in 2016, including suspension compensation of TWD 2.529 billion (recognized) and relevant costs of TWD 1.28 billion (including maintenance fee and plant management fee). The budget will be planned yearly. Based on this principle, all relevant system maintenance and testing shall be conducted as usual during the mothball period. For Reactor No. 1, MMCS will serve as the control platform for the continued implementation of scheduled maintenance operations and periodic inspections. As for Reactor No. 2, a webpage of control list will also be established in accordance with relevant operating procedures for scheduled maintenance to be conducted to ensure that the facilities and warehouse are properly maintained.
Use the mothballed period to strengthen nuclear communication	To facilitate awareness and knowledge on the energy issue and nuclear power safety, Taipower has engaged in communication with its stakeholders on the topic of nuclear power. Refer to the table of “Engagement Channels and Results in 2015” for details on what has been accomplished so far.
Make preparation for commercial operation	Taipower has duly carried out the mothball operation while implementing scheduled maintenance to keep all equipment at NPP4 in optimal conditions so as to resume operation after the mothball operation has concluded. Taipower has taken steps to carry out the mothballed operation for NPP4 in accordance with the QA solution to ensure the quality and function of all equipment during the mothballed period so that should the seal be undone in the future, NPP4 will be able to remain operational for 40 years as scheduled and that these assets would not suffer from depreciation.

Engagement Channels and Results in 2015

Engagement Channel	Participant	Session	Purpose and Issue
International forums	Taipower President Chu Wen-Chen, Fukushima University Disaster Recovery Research Center Professor Tamba Fuminori and Japan Institute of Energy Economics Section Chief Murakami Tomoko	1 session	Organize a forum to serve as a means for the general public to better understand Japan’s energy policies and the impact of the nuclear disaster, thereby boosting their confidence in the use of nuclear energy
Communication with legislators	Legislator and office secretary	33 people	Through visits, Taipower has strived to gain the support of legislators on relevant legislations and the handling of nuclear wastes.
Speech and presentations	Universities, business organizations and administrative agencies	220 sessions	Enhance external support for energy diversification and reduce nuclear safety concerns
Visit program at the Longmen Power Plant	Government agencies, village chiefs, private organizations, students	152 group visits	After actually visiting the Longmen Power Plant, most of the visitors had changed their negative ideas and associations with nuclear power.

Through comprehensive face-to-face communication, Taipower has endeavored to reduce the general public’s concerns about nuclear safety while vying for their support for energy diversification so as to achieve the objectives of reliable power supply, reasonable tariff and sustainable development.

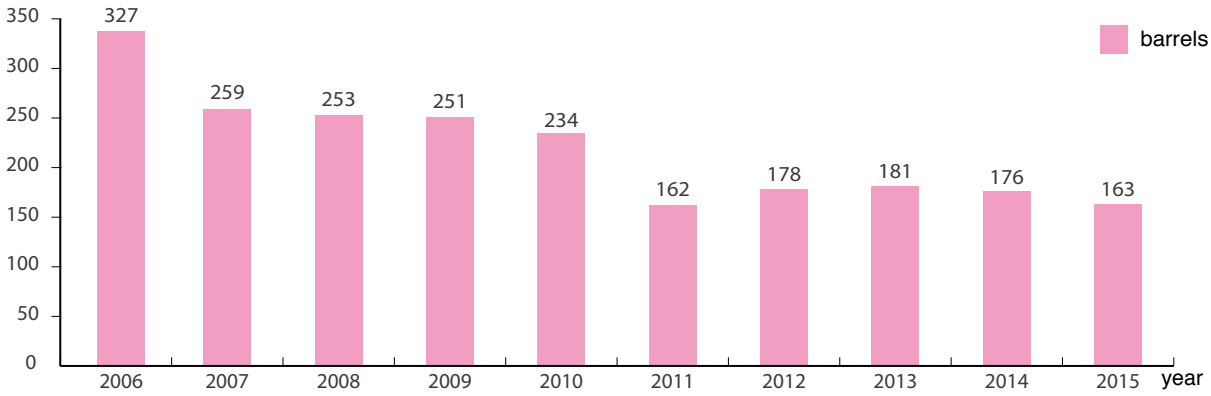
5.5.4 Nuclear Waste Disposal

Disposal of Radioactive Wastes

The low-level radioactive waste generated by the nuclear power operations can be incinerated, compressed, or solidified, and stored properly in zinc-coated barrels. Under Taipower's strict control, the total solid wastes from all nuclear power plants came to 163 barrels in 2015 (2nd lowest quantity in record).

Each nuclear power plant has radioactive waste storage capacity sufficient for the entire lifecycle of the plant. In the future, all low-level radioactive waste will be disposed to the final disposal site.

Drums of Low-Level Radioactive Solidified Waste from Nuclear Power Plants in Taiwan



Low-Level Radioactive Waste Reduction Plan

In addition to achieving the objectives of three five-year operating periods (1989-2003), "low-level radioactive waste reduction" has been introduced as a key performance indicator starting from 2004. For 2015, in objective of the 6th five-year operating period (2014-2018), the generation of solidified waste, dry waste and particulate resin have been subjected to control. Each nuclear power plant has established their "Low-Level Radioactive Waste Reduction Implementation Plan" for the dedicated task force to promote relevant tasks.

Improving Customer Service

As a utility, Taipower stays true to its service philosophy of seeking improvement to deliver power with excellent quality, reliability and accessibility. Efforts have also been made to provide a variety of channels to communicate with customers, enable them to experience the value of the power services delivered by the company, and furthermore help Taipower to grow to a world-class power utility group.

Public communication activities in 2015

372 sessions

Target achievement rate

186%

Feeder automation completed in 2015

555 units

Target achievement rate

111%

System average interruption duration index in 2015

16.27 min/household・year

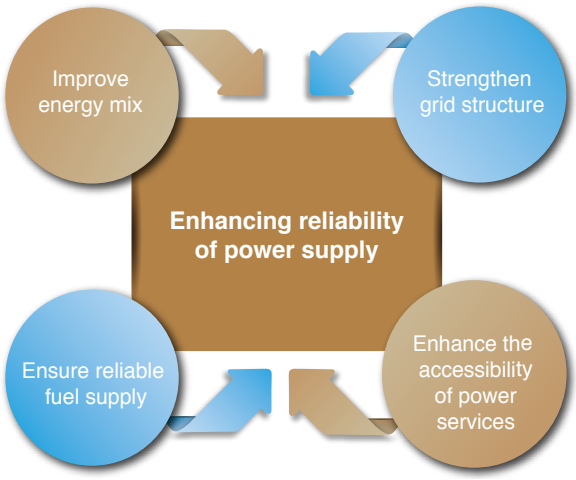
Target achievement rate

108%

Improving Customer Service

6.1 Enhancing Reliability of Power Supply

Taipower commits itself to deliver safe and reliable power services. By comprehensive reviewing and upgrading its supply chain, from the fuel supply to its power plants, continuous improvement and diversification of its generation, to enhance its transmission and distribution, Taipower ensures that Taiwan and offshore customers all enjoy excellent and reliable power supply.



6.1.1 Ensuring Reliable Fuel Supply

Taipower adheres to the following strategies to ensure its fuel supply to power plants is stable, sufficient, timely, cost-effective, and of the required quality.

Energy Supply Diversification

Coal

- Setting caps per country and per supplier for long-term coal contracts
- Investing in offshore mining operation

LNG

- Exclusive supply of LNG by CPC; efforts are made to track CPC's source of supply
- CPC has long-term contracts with Malaysia, Indonesia, Qatar, Australia, Papua New Guinea and the United States

Nuclear

- Setting a cap of no more than 60% from a single uranium region or enterprise group
- Spreading out to 2~3 suppliers for subsequent processing services of conversion, enrichment and fabrication

Improving Customer Service

Fixed-Term Supply Contracts

Through signing various fixed-term contracts, Taipower reduces the uncertainty factors in procurement and thus achieves steady fuel supply.

Coal

- Fixed-term contracts at 60-85%, with the remaining achieved through spot contracts

LNG

- Signing fixed-term contract with CPC
- CPC has signed long-term procurement contracts with foreign suppliers for a total annual volume of 9-12 million tons

Nuclear

- Uranium procurement is conducted through long-term contracts, supplemented with medium-to-short-term and spot contracts
- Uranium procurement is made through long-term contracts, which comprises at least 50% of uranium supply

Fuel oil

- Fuel oil is procured from local suppliers through fixed-term contracts to guarantee supply safety

Safety Inventories

Coal

- By law, coal inventory must suffice for 30 days
- Taipower adopted 34 days of inventory as its target in 2015. Since the duration was shorter by 2 days compared to the previous year, the inventory cost had therefore decreased

LNG

- In accordance with the stipulations of the "Taipower and CPC Contract and Early-Warning Mechanism for Natural Gas Supply and Demand", inventories of natural gas are kept at the Yongan and Taichung Plants, at 80,000 and 50,000 tons respectively
- Together with CPC, Taipower has planned for corresponding responses in the event of accidents and established the terms of coordination that both parties have to abide by

Nuclear

- The safe inventory level for uranium is set at three year's usage volume
- All units at the nuclear power plants required one batch of nuclear fuel component in the inventory

Fuel oil

- Fuel oil inventory in 2015 was kept between 10-15 days
- Diesel inventory was established in accordance with the specific supply and transmission conditions at various power plants

Stable Coal Transportation

Taipower currently owns 6 coal carriers, which transported 8 million tons of coal, or 25% of shipping ratio in 2015.

In addition to ensuring reliable supply of generation fuel, Taipower has also actively liberalized procurement restrictions and coal sources to make the bids more competitive. Also, through making good use of market fluctuation to procure coal at spot market, Taipower was able to reduce the cost for fuel procurement.

6.1.2 Improving Energy Mix

Issues of Future Electricity Supply and Demand

To ensure the reliability of power supply, Taipower evaluated the nation's future electricity supply and demand first to learn the trends and issues to plan for the improvements at its energy mix. The issues of future electricity supply and demand are as follows:

Power shortage worsens, risk of outages grows

Given the fact that most of the units in operation are approaching their scheduled year for decommissioning, the total capacity for units which retired between 2015 and 2026 is expected to reach 10.79 GW (including NPP1, 2 and 3). According to Taipower's "Long-Term Power Development Plan for 2015", under the condition of NPP4 mothballed, the reserve margin will be less than 10% since 2018, or even reaching -3% in 2024, which will cause severe shortage of power and hurt industry development and living standard.

Longer to construct power plant leads gaps to power supply

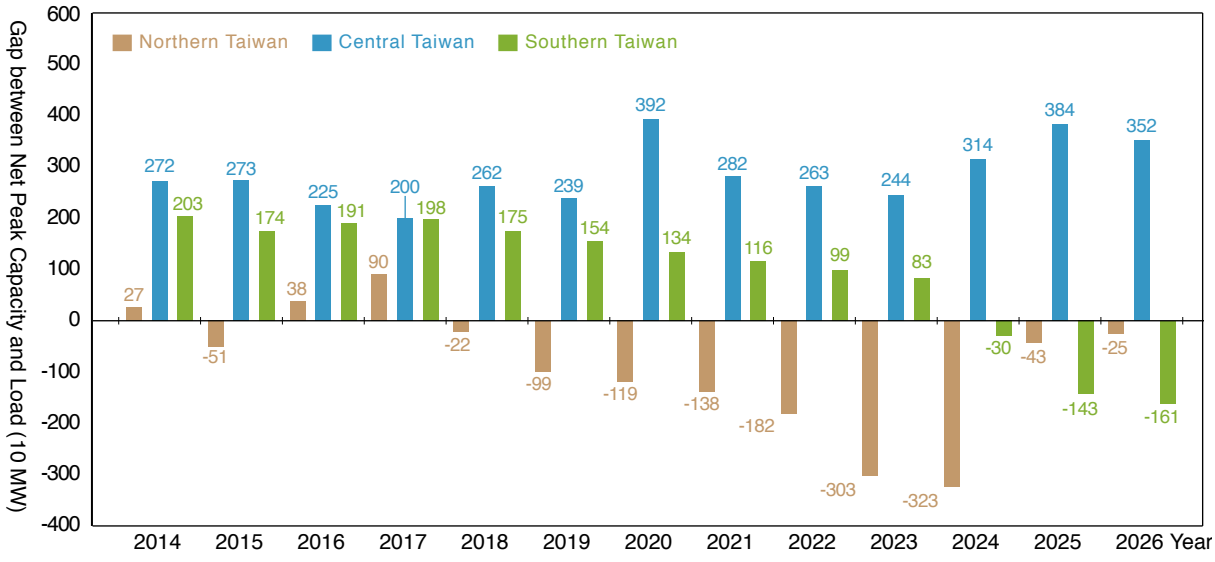
Due to the growing awareness for environmental protection in Taiwan and the NIMBY effect, the time required to construct new power plants has grown significantly longer (more than 10 years for LNG units and over 12 years for coal units). If the progress of ongoing projects such as the Datan, Tongxiao (combined cycle), Shenao (renewal and expansion), Gaoyuan (thermal) and Xingda (renewal and expansion) are on schedule, they are expected to enter commercial power generation by 2022. Prior to 2026, newly included capacity will reach 7.26 GW. Compared to the retired capacity, there will still be a gap of 3.53 GW in power supply.

Imbalance of regional supply and demand

According to "Long-Term Power Development Plan 2015", when Nuclear Power Plant No. 4 is taken out of operation, Taipower estimates northern Taiwan will face a shortage of 510 MW in 2015. The shortage will continue to escalate to 3.23 GW by 2024, exceeding the system's capacity for safe transmission. From 2024 onward, when Nuclear Power Plant No. 3 is decommissioned, southern Taiwan will also face power shortages.

In these circumstances of an overall power shortage and scheduled overhaul of generation units, the shortages of northern and southern Taiwan cannot be compensated from surplus power from central Taiwan, and the risk of outages increases significantly. The future power supply and demand in northern, central, and southern Taiwan is shown as the figure below.

Long-Term Power Development Plan 10405



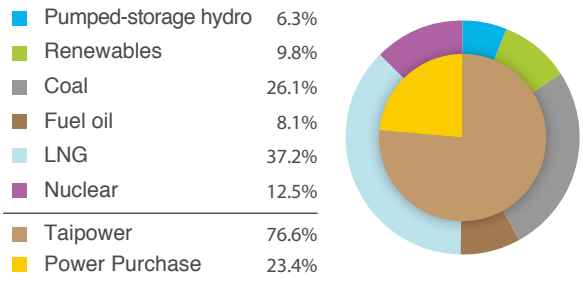
Improving Customer Service

Insufficient base load increases cost of electricity

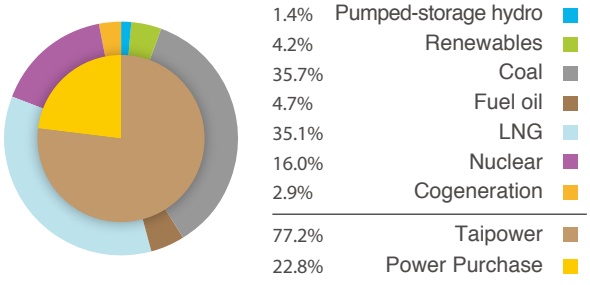
Base load power delivers sufficient power over a long period at low cost. Presently, the base load of Taiwan's power comes from coal and nuclear power. As of the end of 2015, coal-fired installed capacity accounted for 26.1% of the system capacity while nuclear power accounted for 12.5%. Nevertheless, the sum of both is still less than the ideal proportion from 55% to 65% for base load capacity.

The Fukushima nuclear disaster changed people's perspective on nuclear power and turned public opinion against nuclear power plant operation. This had hampered the dialogue on NPP4 while the development of coal-fired power plants also faced opposition. As most large hydro power plants are located at national parks, relevant developments had proven to be difficult. Consequently, the shortage in base load capacity, Taipower turns to increase the ratio of liquefied natural gas (LNG) power generation. However, natural gas power plants in Taiwan only use LNG as fuel, which is more expensive than pipeline natural gas. Using the average LNG contract price in 2014, the cost of fuel is expected to reach TWD 3.1/kWh (roughly triple of coal-powered generation) for the power generated at Tongxiao Power Plant. In short, replenishing the base load through LNG will drive up the cost of electricity considerably.

Taipower system installed capacity ratio as of the end of 2015



Taipower system power generation ratio as of the end of 2015



Insufficient storage capacity for LNG resulting in reduced power supply reliability

CPC's storage capacity for LNG is limited to a turn-over of 6-12 days. In the event that gas delivery is hampered, such as typhoon preventing vessels from berthing and discharging, the gas-fired power plant will be rendered inoperative, and cause power supplies quickly to become tight. Increased reliance on LNG in the future to make up for base load shortage will only reduce the already limited LNG inventory and in turn affect normal power supply in the future.

With the aforementioned concern, coupled with the sealing of NPP4 and decommissioning of other existing nuclear power plants, the reserve capacity for all systems in the foreseeable future will remain under the government's target value of 15% for extended periods. As such, Taipower has formulated short and medium-to-long term plans to prevent risks from power outage in the short term. Through medium-to-long power development and smart power saving plans, Taipower aims to achieve the objective of reliable power supply.

Planning for Power Improvement

Short-term measures

Due to limited land space and dense population in Taiwan, acquiring land for power plants and cable connection has proven to be difficult. The challenge is further exacerbated by the "NIMBY" effect and overwhelming public concern on greenhouse gas emission in recent years. With such daunting obstacles in place, the construction of power plants today would take more than 10 years to complete. Consequently, the gap in power supply caused by the sealing of NPP4 could not be filled by simply increasing sources of new traditional thermal power in the short term. Taipower has therefore drafted the following measures to mitigate the risks of power shortage:

- Strengthen load management measures (i.e. revising "Interruptible Rates", implementing "Demand-based Bidding Measure", piloting the "Air-Conditioning Automatic Demand Response Solution" and so forth) to enhance energy efficiency so as to slow the growth of electricity consumption. For more information, see "Section 4.3 on Demand Management" in this report;
- Strengthen maintenance and repair of power generation units and optimize unit overhaul schedules to improve reliability;
- Expedite the progress of ongoing constructions such as Linkou, Dalin, Tongxiao Power Plants for early commercial operation.

Planning for medium-to-long term

Taipower's long-term power sources are planned and fine-tuned annually based on factors such as government forecasts of economic trends, the development of industrial structure, population growth, tariff pricing, climate conditions and so forth. The company also relies on the opinions and forecasts of scholars and experts in developing its plans. The main measures for improvement are shown as follows :

- Full-fledged promotion for renewable energy development

  To achieve higher energy autonomy while mitigating carbon dioxide emission, the expansion of renewable energy development has already been incorporated into Taipower's long-term power development plan. In accordance with the MOEA's decision to enlarge the scale of renewable power development in May 2015, Taipower has increased the total target installed capacity for renewable energy to 17.25 GW for 2030.

- Accelerating plans for new generation

  As most of the renewable energy that can be developed in Taiwan fall under the category of intermittent energy, supplement of power from traditional thermal power plant would still be necessary. In response to the sealing of NPP4, in addition to accelerating the progress of installing new units at Datan and Tongxiao Power Plants, Taipower has also been actively planning new Xiehe and Gaoyuan LGN plants and the renewal and expansion of Shenao, Xingda, Dalin and Tashan in Kinmen. If these plans go smoothly, these new power generating facilities would be ready for commercial operation starting from 2022. As most of the newly built LNG units rely on the completion of CPC's 3rd LNG reception station, they will only be ready for operation in 2024. (For more information please refer to the section on "Long-Term Power Development")

- Full promotion of energy conservation to mitigate power demand

  Consensus of energy conservation was reached during the 4th Energy Conference in 2015 and as such, the government has already initiated its "Smart Energy Saving Project" in which the central government will work together with local governments. Between April 2015 and March 2016, the objective of saving energy by 2% has been achieved by relevant agencies and civil affair departments.

Presently, Taipower has included "reserve capacity rate" as a key indicator in the monitoring of its energy mix performance with the intention of achieving the target 15% as approved and set by the government. In the event of significant changes/economic reform that resulted in substantial adjustment in the future economic growth rate, Taipower shall implement a rolling review of the target and revise its energy development plans accordingly.

In summary, Taipower will be actively promoting energy conservation for the general public, accelerating the development of green energy and continuing to develop new sources of power generation to minimize the gap in power supply in the future. Nevertheless, as power demand continues to grow alongside economic development and the inevitable retirement of existing units, the reserve capacity prior to 2026 remains on the low side and risks of power shortage in medium and long-term still exist.

Long-Term Power Development

Generation projects

Contents of Taipower's existing nuclear power, thermal and hydro power projects currently under renewal and expansion are as follows (for details please refer to "Section 5.2.2 Creating a Sustainable Environment"):

Type of Power Generation	Name of Project	Description
Nuclear Power Plant	Nuclear #4 No. 1 and No. 2 Project	• Constructing two single advanced Boiling Water Reactor Units of 1.35 GW each, with a combined annual power generation capacity of 19.3 TWh. An alternative to coal-fired power generation, these units will prevent estimated CO2e emissions of 16.2 million metric tons per year. • The plan that implements the government policy of "Work on Reactor No. 1 of NPP4 will be halted and safety inspections will be conducted; after that, the unit will be sealed. All work on Reactor No. 2 of NPP4 will be halted," announced on 28 April 2014. The shutdown and sealing activities are currently being prepared. On 29 August, 2014, the Executive Yuan approved the shutdown and sealing implementation plans with the mothball operation tentatively planned for 3 years and pending for further instructions from the competent authority to take follow-up action.

Improving Customer Service

Type of Power Generation	Name of Project	Description
Thermal Power Plant Project	Dalin Power Plant Overhaul Project	• Generators No. 1 and No. 2 that have been in operation for more than 46 years have been chosen for renewal and modification. Taipower will be installing two single ultra-supercritical pressure coal-fired units of 800 MW capacities that costed approximately TWD 104 billion in investment. • Generators No. 1 and No. 2 are scheduled to be operational by February 2018 and July 2018, respectively. • By the end of 2015, construction progress was 76.12%.
	Linkou Power Plant Renewal and Expansion Project	• Three single ultra-supercritical pressure coal-fired units of 800 MW capacities are being installed, for a total investment value of about TWD 152.5 billion. • Generators No. 1, No. 2 and No. 3 are scheduled to be operational by August 2016, April 2017, and July 1 2019, respectively. • By the end of 2015, construction progress was 68.95%.
	Tongxiao Power Plant Renewal and Expansion Project	• Three single ultra-supercritical pressure LNG-fired units of 892.6 MW capacities are being installed, for a total investment value reduced to TWD 79.557 billion after rolling review and control. • Generators No. 1, No. 2 and No. 3 are scheduled to be operational by July 2017, January 2018, and July 2018, respectively. • By the end of 2015, construction progress was 40.98%.
Hydro Power Plant Project	Dajia River Hydro Power Plant Chingshan Branch Retrofit Project	• Installed four units of mounted vertical axis Francis type turbine generator. After completion, the net peak system generation capacity will reach 368 MW. • Installation of the four generators has been completed in 2015 and generators No. 1, No. 2, No. 3 and No. 4 were ready for dispatch by June, May, August and September 2015 respectively. The license for the plant was renewed on December 29 2015 for official commercial operation.
	Liyutan Dam Jingshan Hydro Power Project	• Relevant plans scheduled for implementation in April 2016.

Long-term power capacity planning

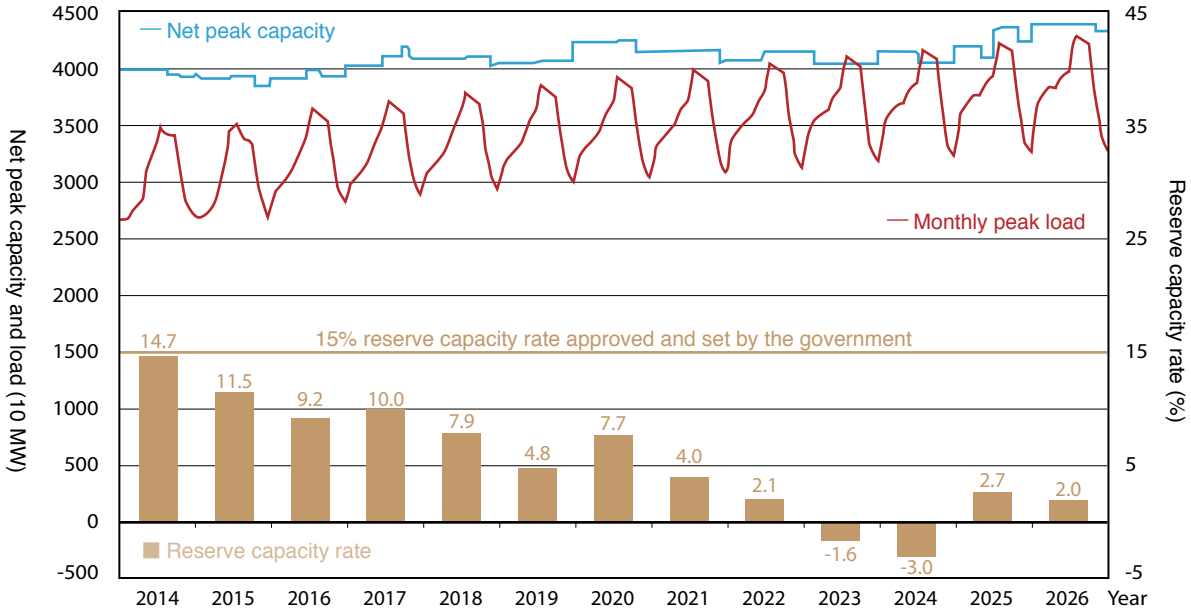
System Installed Capacity Planning for 2016 through 2026
(in accordance with Taipower's Long-Term Power Development Plan 10405)

Unit: 10 MW

Unit Type	End of 2015		New Capacity					Retired Capcity	End of 2026	
	Capacity	%	Taipower Plant Under Constr-uction	Taipower Plant Under Planning	IPP	Total	%		Capacity	%
Pumped-storage hydro	260.2	6.3	0.0	0.0	0.0	0.0	0.0	0.0	260.2	5.2
Renewables	402.3	9.8	3.3	16.4	611.9	631.6	31.4	0.0	1033.9	20.5
Hydro	208.9	5.1	0.0	2.0	0.0	2.0	0.1	0.0	210.9	4.2
Other	193.4	4.7	3.3	14.4	611.9	629.6	31.3	0.0	823.0	16.4
Thermal	2,926.8	71.3	667.8	709.6	0.0	1,377.4	68.6	564.7	3,739.4	74.3
Coal	1,069.7	26.1	400.0	120.0	0.0	520.0	25.9	50.0	1539.7	30.6
Fuel oil	332.5	8.1	0.0	2.8	0.0	2.8	0.1	311.2	24.2	0.5
LNG	1,524.5	37.1	267.8	586.8	0.0	854.6	42.5	203.6	2175.5	43.2
Nuclear	514.4	12.5	0.0	0.0	0.0	0.0	0.0	514.4	0.0	0.0
Total	4,103.7	100.0	671.1	726.0	611.9	2,008.9	100.0	1079.1	5,033.5	100.0

Note: 1. The planning of "Taipower's Long-Term Power Development Plan 10405" has excluded the generation from NPP4.
2. Discrepancy in figures' decimal point results from rounding

Long-Term Load and Reserve Capacity Rates
(in accordance with "Taipower's Long-Term Power Development Plan 10405")



Electricity Procurement Measures

Due to Taiwan's high population density, construction of new power plants has proven to be difficult for Taipower and as such, the company has been procuring power from independent power producer (IPP) operators and qualified cogeneration operators. Taipower procured a total power of 50.092TWh in 2015, which constituted 22.9% of its total power supply for the year. It has become an important source of power in Taipower's system as it helps to reduce the ratio of fuel oil and LNG generation (both are costly), thereby reducing generation costs. Through power procurement, Taipower is able to achieve two objectives: improving its energy mix while enhancing its management efficacy. Taipower's current power purchase structure is as follows:

- Independent Power Plant (IPP): by the end of 2015, nine private power plants have signed power purchase agreement (PPA) with Taipower, with an available capacity of 7,652.1 MW.
- Cogeneration: by the end of 2015, Taipower had contracts with 52 providers for a total installed capacity volume of 5.7177 GW, and guaranteed peak capacity of 2.0367 GW.

For 2016, Taipower is gradually increasing the capacity of procured power as the government liberalizes its renewable energy policy over the years in response to the company's mission of creating a sustainable environment.

6.1.3 Strengthening Grid Structure

Transmission and Substation System Improvement Plan

To meet the needs of the added power sources and increased load as well as to solve the issues of high utilization of power transmission equipment and impossibility of supplying power from nuclear sources to UHV users, Taipower continued the implementation of its 7th Transmission and Substation Project to improve both the supply capacity of the transmission system and quality. As the international economy remained slow, the growth of domestic power demand has also softened as a result. In addition, factors such as the postponement of some of Taipower's power development and transmission plans. Nevertheless, Taipower has proposed the "7th Transmission and Substation Project (Amended)" in accordance with the provisions of the "Regulations Governing the Budgeting Processes of Bodies under the Central Government" [4].

The total sum of investment in the "7th Transmission and Substation Project (Amended)" comes to TWD 236.9 billion, covering the period from January 2010 through December 2021. The investment will create 103 new substations, with a total capacity of 18,554 MVA, and 1,966 circuit kilometers (CKM). The completion rates of the annual and overall target of the "7th Transmission and Substation Project" for 2015 were 86.04% and 71.90% respectively.

[4] The "7th Transmission and Substation Project (Amended)" was submitted to MOEA on 17 June 2014 by way of communication No. 10300597900. The Executive Yuan approved the plan by way of its communication No. 1030030140 on June 3 2014.

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Annual Completion Rates of the 7th Transmission and Substation Project for 2015

Item	2015 Target	2015 Performance	2015 Completion Rate
Circuit construction (CKM)	124.635	105.579	84.71%
Substation construction (MVA)	541.63	473.25	87.38%
Budget depletion (TWD 100 million)	160	145.23	90.77%

Note: Statistical data cover January through December 2015.

Accumulative Completion Rates of the 7th Transmission and Substation Project

Item	2021 Target	2015 Target	2015 Performance	Overall Completion Rate
Circuit construction (CKM)	1,966.19	1,492.875	1,391.843	70.80%
Substation construction (MVA)	18,554.15	12,603.51	1,3547.06	73.01%
Budget depletion (TWD 100 million)	2,368.71	1,516.12	1,501.35	63.38%

Note: Statistical data cover January 2010 through December 2015.
As Taipower adjusted its planning of capital expenditure, coupled with the fact that many constructions in 7th Transmission and Substation Project have been postponed over the years due to political factors and protests, the difficulty in its implementation has been higher than ever. To reduce Taipower's capital expenses, a portion of the planned constructions have been delayed so that Taipower could tackle the project from different approaches through the reuse of existing materials and versatile material deployment. And as such, the target value for MVA has been lowered (the accumulated target for MVA in 2014 was 13,214.48, which has been lowered to 12,603.51 in 2015).

In response to the anticipated growth in power grid load in northern Taiwan by 2019, Taipower has launched its first regional project "Northern Region First Phase Power Grid Plan" to address the bottleneck of power supply. The project is expected to accommodate the regional power demand for the "Taipei Far Eastern Telecom Park", "Fuzhou Public Housing", "Jiangcui North-side Development Project", "Bade (Danan Area) Urban Plan" and other large development and redevelopment projects in proximity.

The Northern Region First Phase Power Grid Plan is scheduled between January 2016 and December 2023. The project will involve the construction of two new primary substations with a total capacity at 360 (MVA); 24.08 circuit kilometers (CKM) with a 161 (kV) 80 (MVar) shunt reactor. The total investment is TWD 4.899 billion.

Distribution and Sale System Improvement Measures

In conjunction with the "Bureau of Energy's Smart Grid Master Plan", Taipower has established its distribution feeder automation installation target by starting in areas of high profit so that Taipower could quickly detect and locate the area of the faulty lines. This would in turn minimize the affected area of power outage and duration and thus reduce the average outage time from 60 minutes to within 5 minutes. Taipower has also been actively involved in improving personnel's repair techniques by organizing a total of 14 OJT training in 2015.

Distribution Feeder Automation Installation Target and Results

Year	2011-2015	2016-2020	2021-2030	1998 - 2015 Actual
Target completed (units)	2,500	1,500	2,500	22,006
Distribution line performance	• As of the end of 2015, Taipower has completed a total of 361,201.48 CKM (overhead 229,695.11 CKM and underground 131,506.37 CKM) of distribution lines (under 22.8 kV). • Compared to 2014, Taipower was able to shorten its construction period for its distributi on line construction by 2 days, which is one of the reasons for Taipower's 2nd place rank ing for the item of "Getting electricity" in the World Bank's report of Doing Business 2016.			
Feeder Automation Performance	• Taipower completed a total of 555 new automatic switches in 2015 and has thus accom plished the objective set by the Bureau of Energy's smart grid distribution feeder autom ation for 2011-2015.			

6.1.4 Enhancing the Accessibility of Power Services

Subsides to Offshores

To enable users on the offshore to obtain power services that are equivalent to those on the main island of Taiwan, Taipower complies with the government mandate to provide power to the offshore. And their tariff rates are based on the regulations stipulated in the Offshore Development Act and the Subsidy Regulations on Losses of Electric Utility Operator for Offshore. In 2015, Taipower offered electricity bills subsidies to the offshore, amounting to TWD 4.828 billion. The accumulated losses from the subsidies for Taipower between 2000 through 2015 came to TWD 71.082 billion.

Urgent Repair after Disasters

Disaster/emergency management guidelines

Taipower has a thorough system for disaster prevention and emergency response. Having established policies and regulations, including Disaster Prevention and Rescue Guideline, Extreme Disaster and Handling Guideline, Various Disaster and Emergency Reporting Procedure and Disaster Prevention and Emergency Response Standard Operating Procedures to serve as the basis for appropriate response, all units will be able to respond to natural disasters and major power accidents in an effective and timely manner. In addition, Taipower has also been organizing periodical education and training for faster disaster response while carrying out random tests so as to improve the promptness of disaster reporting and handling.

In addition to these regulations and routine trainings, Taipower has also created the following disaster management procedures:

	Disaster Response Measures	Customer Service
Before disasters	• Convene meetings to establish disaster prevention and rescue strategies and objectives • Follow up on disaster prevention and rescue operations and organize annual typhoon preparation practice	
During a disaster	• Assemble the “Emergency Response Task Force” headed by the President. All operation supervisors, VPs and managers will become chiefs of their designated groups to mobilize relevant personnel and equipment for rapid power restoration operations. • Depending on the scale of the disaster in question, Taipower will notify the following administrative bodies: Office of Disaster Management of Executive Yuan, Executive Yuan Spokesperson Office, the National Fire Agency and the State-Owned Enterprise Commission. • In conjunction with the government’s disaster rescue needs, Taipower will also establish Forward Command Post so as to handle relevant responses in close proximity to the affected area while providing relevant data on the disaster, status of recovery and tasks requiring customers’ coordination as suggestions for local government and leaders in charge.	• The Distribution Group will be responsible for taking customers’ calls in accordance with the “Customer Call Handling Standard Operation Procedure” and creating customer call logs for follow-up status of the disaster and progress of recovery to answer to callers’ inquiries properly. • Set up a “1911” customer service hotline for customers to submit requests for repair. Upon receiving such calls from customers, the responsible personnel will immediately check the customer service system for existing repair records. If no record exists, relevant information will be relayed to the recovery unit; if a request has already been made, the call would be forwarded to the repair department for response. • To speed up the process of recovery and prevent the customer service lines from getting clogged up (thereby compromising customers’ rights), Taipower has created a variety of communication channels such as the “Blackout Updates and Queries” section on Taipower’s website and the “Power Information App” for the general public to check or report power outages.

Improving Customer Service

Disaster response in 2015

Typhoon Soudelor devastated Taiwan on August 8, 2015 and disrupted power supply to as many as 4.99 million households, which set the record for the most severe power outage to ever take place.

The typhoon led to three incidents of supporting item inclining/collapsing and one incident of cap and pin insulator damage. Taipower's branches in the disaster areas were immediately involved in the recovery operations and more than 90% of the customers had restored within the same day as the typhoon struck. Repairs on all damaged equipment were completed by August 26.

Based on the experience in the typhoon disaster rescue and recovery operation for 2015, Taipower has compiled the following points that will improve the rescue and recovery performance in the future:

- Powerful gales are capable of lifting objects and causing to contact power lines, thereby resulting in power outage. In the future, Taipower will increase the frequency of circuit inspections, trim trees that are close to power lines and reinforce the support for power poles prior to typhoons.
- After the departure of a typhoon, Taipower will also dispatch personnel to inspect all transmission lines and poles (towers) that might be affected. For power lines in mountains that were rendered inaccessible due to landslides/cave in, Taipower will dispatch helicopters to perform the inspections. Extra high voltage lines, key transmission lines for primary systems and tower bases shall be prioritized for inspection to be completed within three days.
- Convene accident review meetings to analyze specific case studies and formulate corresponding measures so that similar accidents will not recur in the future.

6.1.5 Maintaining Power Supply Reliability

To monitor the operational status of power supply equipment, Taipower has established specific targets for relevant power supply reliability index (SAIDI and SAIFI) to assess operating performance. The mechanisms to manage the reliability of power supplies are as follows:

Management Mechanism	Action under the Mechanism	Action Taken in 2015
Periodic review and analysis	• Routinely convened Electrical Facilities Incident Review Meetings • Periodically review average interruption performance of the distribution system and analyze the causes of major outage incidents so as to formulate corresponding improvement measures and determine the optimal strategy for each incident • Establish "Transmission Line Lightning Hazard Prevention Management Plan" and "Salt Corrosion Hazard Prevention Management Plan" on a yearly basis to prevent the likelihood of transmission line tripping caused by natural disasters	• Monthly meetings were held to review the causes of electromechanical incidents in the previous month, and devise improvement strategies. • Carry out in-depth investigations of major incidents and formulate improvement measures • Improve inspection and hotwash operations by personnel • Convened three "Annual Underground Transmission Line Accident Prevention Management Plan Performance" review meetings

Improving Customer Service

Management Mechanism	Action under the Mechanism	Action Taken in 2015
Distribution feeder automation	• Accelerated feeder automation engineering, feeder map updating, comprehensive management and control process for outages, repairs without planned power interruptions, to reduce the scope, duration, and frequency of repair-related power inter-ruptions	• By the end of 2015, feeder automation work on 361,201.48 circuit kilometers were completed.
Risk management	• Screening of important risk factors to power supply, putting risk management in practice, strengthening inspection and maintenance of critical equipment to ensure the stability and reliability of power supply	• Risk management improvement focused on two objects of management and control: the stability and security of the system affected by shortages (such as power outages and voltage dips in science parks), and damage to power equipment caused by natural disasters (such as typhoons, lightning, salt corrosion) through monthly performance tracking.
Training of personnel	• Regular education and training of distribution line maintenance staff and dispatcher to enhance their technical skills and maintenance capabilities • Monthly incident reporting drills to strengthen the response capability of on-duty staff	• 14 on-job education and training sessions were held. • Besides the routine drills, the Area Dispatch and Control Centers (ADCC) and Extra High Voltage Earthing Switches (ES) underwent telephone tests for emergency dispatch in May and November respectively to ensure and maintain normal operations and prevent human errors. • Taipower organized dispatch personnel status monitoring indicator and operation guide testing from May 11 through 29 to ensure that core expertise and know-how are passed down to new employees.
Strengthen to audit	• Taipower will implement non-routine equipment operation evaluation and supervise each district office to improve their accident prevention and improvement plans.	• Each month, Taipower will dispatch responsible personnel to each power supply area to conduct audit in accordance with the “Annual. Underground Transmission Line Accident Prevention Management Plan Performance”. Taipower conducted a total of 12 audits in 2015. • Implemented four “Follow-Up on Dissolved Gas Analysis Anomaly for Oil-Filled Cable” audits • Lightning and salt corrosion hazard prevention operation is supervised on a monthly basis to ensure reliable power supply.

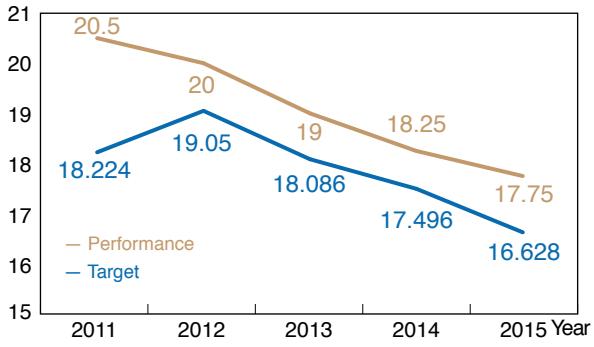
Improving Customer Service

Targets and Performance for Power Supply Reliability

Performance \ Year		2011		2012		2013		2014		2015	
		Target	Performance	Target	Performance	Target	Performance	Target	Performance	Target	Performance
Average power outage duration (min/household·year)	Performance of forced outage	14.197	13.894	13.894	13.331	13.469	13.141	13.290	12.713	12.731	12.321
	Unexpected outage	6.303	4.330	6.106	5.719	5.531	4.945	4.960	4.783	5.019	3.947
	Total	20.5	18.224	20	19.050	19	18.086	18.250	17.496	17.75	16.268
System average interruption (times/household·year)	Performance of forced outage	0.070	0.066	0.069	0.067	0.068	0.064	0.068	0.064	0.064	0.058
	Unexpected outage	0.230	0.138	0.221	0.230	0.212	0.2	0.222	0.2	0.216	0.163
	Total	0.3	0.204	0.29	0.298	0.28	0.264	0.29	0.264	0.280	0.220

Note: Average power outage duration (min/customer · year) = system-wide duration of power interruptions ÷ total number of customers
Average frequency of power interruptions (times/customer · year) = system-wide number of power interruptions ÷ total number of customers

Power Supply Reliability – Average power outage duration



In 2015, the average power interruption duration per customer was 16.268 minutes per year, with the average power interruption frequency at 0.220 per customer per year. In addition to reaching the annual targets (17.75 minutes and frequency of 0.28), Taipower had also set the best record in both areas in its history.

In the future, Taipower shall continue to improve upon the reliability of its power supply. In addition to including science park power outage and frequency of voltage dips as key items for routine inspection and follow up, Taipower will strengthen its responsibility area system for line maintenance personnel so as to improve upon relevant inspection operations while enhancing the underground cable excavation damage prevention system. By reinforcing the management system with tiered responsibility distribution, Taipower will be able to provide better power supply services to customers.

6.2 Strengthening Customer Communication

6.2.1 Multiple Communication Channels

Taipower offers a variety of communication channels to its customers to express their needs and opinions regarding the company's power supply services.

Additionally, to lower service barriers resulting from language, culture, or literacy, the Taipower service call center offers service in Mandarin, Taiwanese, and English to facilitate communication with different customer groups.Additionally, to lower service barriers resulting from language, culture, or literacy, the Taipower service call center offers service in Mandarin, Taiwanese, and English to facilitate communication with different customer groups.

6.2.2 Handling Process of Customer Requests

To safeguard the rights and interests of its customers, Taipower has established "Regulations Governing the Handling of Customer Requests" to ensure that customer suggestions and complaints are resolved and settled in a reasonable and timely manner. Existing channels of customer complaint include letters, phone calls, fax and emails written to Taipower's customer opinion box. After verifying the contents of the complaint to be under Taipower's scope of operations, the complaints would be accepted and logged by the responsible unit through the "Customer Complaint Handling System" for follow-up on the status of complaint handling. In 2015, Taipower received a total of 2,201 customer requests; 44 (2%) of these were com-plaints filed by the general public relating to issues of environment and nuclear power concerns. Most of the requests were related to line relocation (542 requests; 24.6%), charge by meter (344 requests; 15.6%) and power supply quality (341 requests; 15.5%).

Number of Customer Requests in 2013-2015

Year	2013	2014	2015
Incident	2,270	1,752	2,201

Sources of Customer Request in 2015

Source	Letter	Tele-phone	Fax	Customer opinion box	Total
Incident	559	18	220	1,404	2,201
Ratio	25.4%	0.8%	10.0%	63.8%	100%

Improving Customer Service

6.2.3 Key Customer Service

To improve Taipower's customer-oriented services, the company has dispatched designated personnel to pay visits to customers. Through routine visits to high-voltage customers, village (borough) office and national power industry associations, Taipower has delivered power consumption technical consultation services while gaining better understanding of customers' needs and opinions so as to establish sound, bi-lateral communication with customers. Moreover, customer opinions would serve as the basis of improving customer services in the future. Taipower's key customer service performance for 2015 is as follows:

Target of Service	Key Achievement in 2015
Private organizations	180 visits to national industry associations
Customers	Visited 40,642 households
	Establishment of the online service for high-voltage customers. By the end of 2015, 452 customers had registered for the test run.

6.2.4 Customer Satisfaction Survey

Each year, Taipower conducted customer satisfaction survey as required by the State-Owned Enterprise Commission of MOEA through an external agency to find out the general public's level of satisfaction and opinions on Taipower in terms of "service quality", "company image", "customer feedback", and "overall satisfaction". Results of the survey and feedbacks from customers would be analyzed and reviewed for responsible units to draft improvement solutions so that Taipower could satisfy customers' needs and expectations. Each year, Taipower sets targets for the customer satisfaction scores to manage and control service quality. (For more details, refer to "Section 1.4.1 Key Performance" of this report).

Target Group	Target Group and Period	Dimension Surveyed
• General customers: low-voltage users who had business contact with Taipower over the past year • Medium-to-large customers: users with contracts of 100 KW or more	November 20 through December 8 2015	• Company image and social perception • Service quality • Overall customer satisfaction • Customer feedback

In 2015, Taipower scored 87.0 points in the customer satisfaction survey and achieved the target of scoring 85.9 points for customer satisfaction for the year. Taipower's customer satisfaction has been steadily increasing over the past three years and this reflects that the company is gradually gaining more acknowledgement from customers for its efforts on customer service.

Customer Satisfaction Scores in 2013-2015

Year	2013	2014	2015
Satisfaction score	85.7	86.0	87.0

Prospects

Prospects

Creating Value

Issue	Current Strategy	Action and Target in 2016
Management and financial performance	Strengthen operation and management improvement; promote reform measures to improve system management	• Reduce cost and increase revenue with a target of TWD 13.429 billion • Reduce fuel and material inventory to TWD 530 million
	Extend the reaches of the power business, strengthen asset revitalization; diversify businesses to help the company become a power utility group	• Expand real estate rental for installation of solar energy generation • Achieve revenue of TWD 37 million from fiber circuit rental business • Appraise lands of low-utilization for the planning of property • Discuss the reinvestment to establish offshore wind power development infrastructure service firm
	• Pay close attention to changes in the capital market and use various financial tools to expand channels for fund raising • Deploy long and short-term fund flexibly and acquire loans when appropriate to reduce interest expenditure • Flexibly adjust the ratio of floating and fixed interest loans to ensure sound debt structure	• Implement strict control of capital expenditure and investment profit based on the company's financial status • Set cap for capital expense and annual investment budget to ensure appropriate adjustments to capital expenses under the premise of ensuring power supply reliability • Make proper use of financial tools to raise funds and set loan limit when appropriate to achieve capital diversification.
	Continue to implement financial planning	Transition to "Long-Term Financial Planning Task Force" will be completed in 2016. The task force will be responsible for the planning and review under state-owned enterprise capital use and financial operation in light of future investment prospect for renewable energy, green accounting, impact and response on NPP4 assets.
Electricity tariff rationalization	• Pursue reasonable costs and profit for the company • Pursue relieving Taipower's policy tasks and burdens (such as tariff concession) to promote tariff rationalization	• Lobby MOEA to coordinate for competent authorities that have not planned their budget for tariff reductions in order to relieve Taipower's policy burdens • Participate in and follow the tariff formula review that is implemented biannually • Lobby MOEA to budget subsidies over a 10-year period to compensate Taipower's losses on offshore island power generation by 2023

Fulfilling Social Responsibility

Issue	Current Strategy	Action and Target in 2016
Stakeholder engagement and information transparency	• Public information: improve information transparency, strengthen the company's internal and external communication • Media: to communicate with the media with an honest attitude and convey correct information • Legislator: in addition to participating in meetings of the committee at the Legislative Yuan, Taipower's senior management have also taken the initiative to visit legislators for communication and provide relevant information on the issues of their concern. • Fulfill corporate social responsibility: care for the disadvantaged, support public welfare activities of NGOs and groups	• Disseminate knowledge and information on power and energy issues • Implement issue management and policy marketing: for issues of current affairs that have attracted the attention of the general public, Taipower will respond to and clarify in a timely manner to address doubts and communicate regarding the issues in question; Taipower will also prepare an inventory of issues that have the potential of becoming popular topics of news exposure in advance for the year and initiate discussions at the appropriate occasion to shape Taipower's positive image. • Taipower's senior management shall continue to participate in committee meetings at the Legislative Yuan, take the initiative to visit legislators for communication, attend mediations or public hearings in conjunction with legislators' needs to describe Taipower's operations and respond to legislators' inquiries when necessary. • Commend units that have demonstrated outstanding performance in the promotion of "Taking Initiative to Care" and offer appropriate rewards
	Continue to conduct expert service and visit key stakeholders to reinforce external communication	Visit high-voltage customers, villages, communities, nationwide industry to offer information on issues of their interest
Response to climate change	• Collaborate with the government in the promotion of "Climate Change Adaptation Plan" • Conduct research of climate change adaptation for power generation, transmission and distribution facilities • Manage green energy and low-carbon promotion platform and control it on a biannual basis • Continue to implement greenhouse gas reduction from the power supply and demand side • Encourage the private sector to develop renewable energy and promote to purchase green energy	• Participate in sub laws of the establishment of Greenhouse Gas Reduction and Management Act and strive for reasonable allotment of responsibilities • Promote ISO 50001 Energy Management System to reduce energy costs and lower greenhouse gas emission • Plan river ecology and habitat improvement and devise environmental friendly measures • Launch a two-year climate change adaptation action plan for transmission lines • Formulate annual action plans for the nine promotion strategies outlined in Taipower's Green Energy and Low Carbon Master Plan to reduce the company's CO2e by 6.2071 million tons • In conjunction with the government's promotion of green energy industry policy, Taipower has established its "Calculation of Construction Fee for the Incorporation of Rooftop Photovoltaic Power Generation into the Grid as Type III Renewable Energy Generation Equipment" to create an incentive for potential applicants. • All units shall establish their respective green power promotion objectives and strengthen their promotion to large local corporations, organizations, collaborating vendors and other entities to subscribe for green power.

Prospects

Fulfilling Social Responsibility

Issue	Current Strategy	Action and Target in 2016
Environmental footprint management	• Participate in the Executive Yuan's "Four Savings Project for Government Agencies and Educational Institutions" and reinforce the company's resource conservation measures for water, electricity and oil consumption • Implement water footprint inventory for power plant at water consumption in accordance with ISO 14046 standard to effectively manage the required water resources for power generation • Pursue the objective of "Zero Waste Water Emission" • Continue the promotion of by-product resource reuse as a part of environmental protection strategy	• Plan the upgrading of existing thermal units by introducing high-efficiency air pollution prevention equipment to reduce pollution and power generation costs; the improvement of air pollution prevention equipment for units of No. 1-4 at Taichung Plant is expected to be completed between 2016-2020 • Taipower's annual targets for office power conservation, water conservation and oil conservation for 2015 were 1.2 GWh, 27.8MWh and 12 kl • Plan the completion of water footprint inventory for NPP3, Taichung Power Plant and Datan Power Plant in 2016 • Promote plant and dormitory rain water collection and waste water reuse plan • The "By-product Reuse Promotion Task Force" will coordinate the optimization of resource usage for all offices and departments through relevant planning and design of incentive mechanism. • Improve environment information management efficacy through the environmental accounting and material flow management information system • Completion of the indoor coal storage construction plan for Taichung Power Plant; Taipower's first indoor coal storage is scheduled to completion before 2021
Renewable energy development	Develop renewable energy in line with government policy	• Communicate with local community regarding the "Penghu Low-Carbon Island Wind Power Project" • Submit preparatory construction work application for "Photovoltaic Project Phase II" • Submit preparatory construction work application for "Offshore Wind Project Phase I" • Implemented planning for the following renewable power generation projects: "Wind Project Phase V", "Photovoltaic Project Phase III", "Small Renewable Power Generation" and "Ludao Geothermal Unit Experimental Project" • Follow up on clean coal generation, fuel cell and distributed generation technology development and assess appropriate timing for introduction
	Promote small hydro generation feasibility research and generation plan	• Continue to promote environment-friendly hydro power generation plans • Perform an inventory on existing water facilities across Taiwan for small hydro generation feasibility research
Supply chain management	Ensure material quality and reduce material supply risks to maintain safe power supply	• Review and manage the company's qualified suppliers • Complete the supplier grading system and enhance suppliers' self-management • Devise feasible responses for company-level materials that are of high shortage risks
	Re-examine IPP contracts in the light of their compliance	As IPP contracts can only be amended with the consent from both parties, reaching consensus would require multiple negotiations and communications. Taipower's objective for 2016 is to negotiate with IPP operators for at least six times

Fulfilling Social Responsibility

Issue	Current Strategy	Action and Target in 2016
Nuclear power safety and communication	• Engage in external communication on nuclear power safety and radioactive waste management through diverse channels in ways that would be easy to be understood • Promote long-term general science education and engage in in-depth media management in order to facilitate communication on the issue of nuclear power	• Establish a communication plan for nuclear back-end and continue to promote holistic communication on nuclear energy • Communicate through cards, FAQs, printed materials, educational videos, media dissemination and training camps in accordance with the government's energy policy promotion in a discourse that is easy for the general public to understand to continue communication with the general public
	• Plan multi-party nuclear safety exercises and emergency drills at the plants • Continue to promote post-Fukushima improvements by enhancing nuclear power plants' seismic resistance and tsunami proof capabilities to effectively reduce the risks of nuclear disaster	• Ensure safe and stable power plant operations • Make appropriate planning for decommissions • Regularly conduct nuclear power plant emergency drill • Implement "beyond design bases accident" exercises and establish "ultimate response guideline" as response guidelines in the event of station blackout and ultimate heat sink • Increase the emergency power and water source capacity in order to respond to "beyond design bases accident" • Strengthen existing power plants' response capabilities for complex emergencies • Implement overall safety protection examination for nuclear power plants • Conduct stress tests to verify the effectiveness of overall safety examination

Reducing Costs

Issue	Current Strategy	Action and Target in 2016
Management and financial performance	• Strengthen source management to achieve reasonable procurement of materials and parts • Promote centralized procurement to improve procurement performance by reducing procurement frequencies and cost	• Maintain material inventory at TWD 15.663 billion (including materials and specific parts) • Expand the scale of centralized procurement items to approximately 2,500, reducing operational material procurement costs by TWD 460 million • Implement company-level supply and demand review through the ERP system's MRP function • Strengthen reuse for unbundled cables and old materials in the inventory and implement cross-department common material sharing and integration • Establish reasonable procurement performance indicator and check implement performance implementation based on unit procurement scale and characteristics
Management and financial performance	Ensure a timely, sufficient, and economical fuel supply through fixed-term contracts	• Coal procurement target: to procure coal at 6.7% less than the actual market price • The three year fuel oil contract with CPC will expire at the end of 2016 and the tender has been scheduled. • Complete the LNG procurement strategic report and LNG spot procurement contract template • Complete the initial draft of "Letter of Intent for Commissioned Operation of LNG System" and convene negotiation with CPC at an appropriate time to complete the commissioned operation system in preparation for Taipower's independent procurement of LNG in the future

Prospects

Reducing Costs

Issue	Current Strategy	Action and Target in 2016
Energy efficiency	Continued reduction of power usage in production at nuclear power plants	• Power usage reduction target: 3,511.64 MWh • Power usage reduction by 0.2% for period of non-major repair and 0.01% for period of major repair
	Assess and plan the upgrade of thermal units to improve generation efficiency	• Upgrade of core component for #1 and #2 in southern power plants in 2016/2017 • Overhaul of internal components of the high and medium pressure turbines for #1 and #2 at Taichung Power Plant in 2016/2017
Demand management and energy conservation	Foster energy saving concepts to reduce power demand	Continue to disseminate various means to conserve energy at government agencies, schools and communities to reduce power demand
	Encourage customer to participate in demand management to reduce peak load and lesser TPC's investment in power development	• Improve "demand management measure" through means of "creative measure naming, lowering mitigation threshold, lengthening implementation duration, sweeten price incentive" while expanding the scale of demand-based bidding with the target set at 500 MW • Establish a demand-based bidding platform, which will provide disclosure on relevant bidding information through digital process and online inquiry services for customers to facilitate their participation and invigorate the bidding system
	Build Advanced Metering Infrastructure (AMI), promote customers' management on energy consumption	• Promote the "Online Service Portal for High-Voltage Customers" to encourage customers to manage their energy consumption • Conduct big data application researches to analyze optimal power system unit scheduling, power system status prediction and load prediction • Utilize "High-Voltage AMI Query System" for preventive replacement of faulty meter and reduce non-technical line loss • Utilize AMI data for the analysis of customer and business power consumption behavior as the basis for the formulation of demand management measure and promotion to target customers • Utilize the application of ICT in small air-conditioning automatic demand response measure to be implemented for small and medium household and business customers in order to achieve the objective of peak load clipping
	• Utilize and continue the development of advanced power transmission failure and range measurement system in order to minimize the area of line malfunction inspection and work days to reduce costs • Incorporate power transmission and transformer status standard maintenance system to cut down the fees on equipment maintenance	• Make use of the time of relevant accidents to occur to perform failure analysis result comparison and system improvement • Conduct "Transmission Cable Partial Discharge Online Monitoring System" pilot project to review, assess and explore the feasibility of developing a circuit breaker risk assessment value-added application platform

Reengineering the Company

Issue	Current Strategy	Action and Target in 2016
Organizational transformation and reform	• Collect and analyze power industry liberalization cases in other countries as reference for the proposed amendments • Submit and communicate Taipower's amendment proposals with MOEA • Participate in the discussion of the Electricity Act Amendment held by the government • Hold "Response to Electricity Act Amendment" meetings for the amendments • Make Taipower's operation difficulties better known by participating in seminars, hearings, and conferences	• Provide opinions and/or proposals for amendments to the Electricity Act, the authorities and lawmakers • Adjust or develop response policies for possible changes • Participate in the establishment/amendment of related regulations under Electricity Act to ensure Taipower's sustainability
	Promote accounting separation and separation of plants and grid functions to boost employees' cost awareness	Review and rectify issues of resource allocation and operation for the four business divisions of hydro and thermal power generation, nuclear power generation, power transmission and power distribution and sales

Improving Customer Service

Issue	Current Strategy	Action and Target in 2016
Stability and reliability of power supply	• Inspect and maintain critical equipment • Conduct meetings to review electrical and mechanical causes of incidents on a regular basis • Manage planned power interruptions for maintenance work	• Target value for average duration of power interruptions: 17.250 (minutes / household · year) • Target value for frequency of power interruptions: 0.280 (times / household · year)
	• Hold exercises to simulate power shortages that impact system reliability and security risks • Conduct the renewal and digitization of protection relays	• Organized two risk exercises to improve emergency response capabilities • Target for renewal and digitization of protection relays: 87%
	Implement power development assessment based on the 15% reserve capacity set by the government to improve long-term power supply reliability	Complete the Long-Term Power Development Plan for 2016 to improve long-term power supply reliability and stability

Financial Performance

Taiwan Power Company - Balance Sheet

as per December 31 2015 and December 31 2014

Unit: TWD 1,000

	2015.12.31		2014.12.31	
Assets	**Amount**	**%**	**Amount**	**%**
Current assets				
Cash and cash equivalents	$ 1,951,967	-	2,233,900	-
Notes receivable, net	154,199	-	157,126	-
Accounts receivable, net	42,042,444	2	46,330,134	2
Other receivables	5,360,029	-	2,857,734	-
Inventories	32,719,350	2	34,934,093	2
Prepaid expenses	1,690,492	-	1,258,841	-
Other current assets	178,600	-	96,020	-
	84,097,081	4	87,867,848	4
Non-current assets				
Financial assets carried at cost	79,204	-	79,206	-
Investments accounted for by the equity method	2,276,986	-	2,281,681	-
Property, plant and equipment	1,572,944,516	82	1,569,218,207	82
Investment-based real property	14,941,114	1	14,469,573	1
Intangible assets	461,869	-	512,732	-
Deferred income taxes	3,730,033	-	540,328	-
Nuclear back-end fund	251,626,973	13	243,078,954	13
Other non-current assets	5,294,926	-	8,374,151	-
	1,851,355,621	96	1,838,554,832	96
Total assets	$ 1,935,452,702	100	1,926,422,680	100

Liabilities and Stockholders' Equity	**Amount**	**%**	**Amount**	**%**
Current liabilities				
Short-term debts	$ 71,313,487	4	64,003,340	3
Short-term bills payable, net	160,233,466	8	196,433,640	10
Accounts payable	29,551,121	2	43,162,861	2
Contract payable	40,319,899	2	30,736,136	2
Other payables	33,458,945	2	32,000,422	2
Current portion of long-term debts	112,184,751	6	119,305,870	6
Other current liabilities	2,587,140	-	3,407,116	-
	449,648,809	24	489,049,385	25
Non-current liabilities				
Bonds, net of current portion	391,752,950	20	419,001,043	22
Loans, net of current portion	353,882,274	18	351,934,006	18
Liabilities reserve	397,614,748	21	383,762,741	20
Reserve for land value increment tax	56,176,002	3	56,578,765	3
Long-term contract payable	4,441,826	-	2,269,706	-
Deferred income	777,070	-	898,023	-
Net confirmed benefit debt	23,221,350	1	8,556,895	1
Others	5,323,790	-	19,829,238	1
	1,233,190,010	63	1,242,830,417	65
Total liabilities	1,682,838,819	87	1,731,879,802	90
Stockholders' Equity Attributable to the Company				
Ordinary share capital	330,000,000	17	330,000,000	17
Losses to be compensated	(77,410,691)	(4)	(135,468,273)	(7)
Other interests	24,574	-	11,151	-
Total stockholders' equity	252,613,883	13	194,542,878	10
Total liabilities and stockholders' equity	$ 1,935,452,702	100	1,926,422,680	100

Taiwan Power Company - Statements of Income

From January 1 through December 31 of 2014 and 2015

Unit: TWD 1,000

	2015		2014	
	Amount	%	Amount	%
Operating revenues				
Sale of electricity	$ 605,662,757	98	632,392,456	98
Other operating revenues	11,894,819	2	10,231,232	2
Total operating revenues	617,557,576	100	642,623,688	100
Operating costs	525,581,320	85	600,579,693	93
Gross profit	91,976,256	15	42,043,995	7
Operating expenses				
Marketing	7,244,739	1	6,097,524	1
General and administrative	2,616,222	-	1,370,769	-
Research and development	3,188,651	1	3,379,048	1
Total operating expenses	13,049,612	2	10,847,341	2
Operating net profit	78,926,644	13	31,196,654	5
Non-operating income and expenses				
Income from interests	3,912,896	1	3,556,397	1
Other benefits and losses	(654,644)	-	(647,530)	-
Financial cost	(20,650,828)	(3)	(20,485,498)	(3)
Share of corporate profit or loss recognized using the equity method	241,564	-	402,600	-
Total operating income and expenses	(17,151,012)	(2)	(17,174,031)	(2)
Pre-tax net profit	61,775,632	11	14,022,623	3
Minus: Income tax payments (returns)	(2,338,630)	-	110,028	-
Net profit of reporting period	64,114,262	11	13,912,595	3
Other comprehensive income:				
Items that will not be reclassified subsequently to profit or loss				
Remeasurement of defined benefit plans	(7,297,182)	(1)	182,015	-
Share of other comprehensive income recognized using the equity method	(22)	-	-	-
Relevant income tax for items that will not be reclassified	1,240,524	-	(30,943)	-
Total of items that will not be reclassified subsequently to profit or loss	(6,056,680)	(1)	151,072	-
Items that may be reclassified subsequently to profit or loss				
Share of other comprehensive income recognized using the equity method	14,490	-	(1,770)	-
Relevant income tax for items that may be reclassi-fied subsequently to profit or loss	(1,067)	-	301	-
Total of items that may be reclassified subsequently to profit or loss	13,423	-	(1,469)	-
Other comprehensive income of the reporting period	(6,043,257)	(1)	149,603	-
Total comprehensive profit or loss of the reporting period	$ 58,071,005	10	14,062,198	3
Earnings per share (TWD)	$	1.94		0.42

Taiwan Power Corporation Employee Compensation and Benefits in 2015 and 2014

Unit: TWD 1,000

	2015	2014
	Amount	Amount
Employment retirement benefits		
Defined contribution plan	$ 645,559	643,315
Defined benefit plan	777,843	707,296
	1,423,402	1,350,611
Other employee benefits		
Payroll expenses	20,910,144	20,555,007
Insurance costs	9,480,773	2,032,250
Other	11,740,132	11,467,285
	42,131,049	34,054,542
Total	$ 43,554,451	35,405,153
Total of functional expenditure		
Operating costs	$ 36,994,345	30,268,981
Operating expenses	6,560,106	5,136,172
Total	$ 43,554,451	35,405,153

GRI G4 Index

General Standard Disclosures

Indicator	Indicator Description	Corresponding Chapter and Section	Page Number
Strategy and Analysis			
G4-1	Statement from the most senior decision-maker of the organization about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability	Statement from the Chairman	2
G4-2	Description of key impacts, risks, and opportunities	Statement from the Chairman 1.2.5 Risk Management	2 29
Organizational Profile			
G4-3	Name of the organization	1.1.1 Introduction	7
G4-4	Primary brands, products, and/or services	1.1.1 Introduction	7
G4-5	Location of the organization's headquarters	1.1.1 Introduction	7
G4-6	Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	1.1.1 Introduction	7
G4-7	Nature of ownership and legal form	1.1.1 Introduction	7
G4-8	Markets served (including geographic breakdown, sec- tors served, and types of customers/beneficiaries)	Corporate Highlights 1.1.1 Introduction	— 7
G4-9	Scale of the organization	1.1.1 Introduction	7
G4-10	Total workforce by employment type, gender, employment contract and region	5.3.1 Human Resource Management	96
G4-11	Percentage of employees covered by collective bargaining agreements	5.3.2 Labor-Management Communication Channels	97
G4-12	Describe the organization's supply chain	1.1.1 Introduction 5.4.1 Supplier Management	7 98
G4-13	Significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain.	1.1.1 Introduction	7
G4-14	Explanation of whether and how the precautionary approach or principle is addressed by the organization	1.2.5 Risk Management	29
G4-15	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	No such situation to report.	—
G4-16	Memberships in associations	1.1.3 Participation in External Organizations	10
Identified Material Aspects and Boundaries			
G4-17	List all entities included in the organization's consolidated financial statements or equivalent documents	Taipower does not have such financial statements. This report only covers Taipower itself.	—
G4-18	Explain the process for defining the report content and the Aspect Boundaries, and how the Reporting Principles have been implemented	1.3.2 Identification of Material Issues	34
G4-19	List all the material Aspects identified in the process for defining report content	1.3.2 Identification of Material Issues	34
G4-20	For each material Aspect, report the Aspect Boundary within the organization	1.3.2 Identification of Material Issues	34
G4-21	For each material Aspect, report the Aspect Boundary outside the organization	1.3.2 Identification of Material Issues	34
G4-22	Explain the effect of any restatements of information provided in previous reports	Corporate Highlights (Noted in the financial information)	—
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	No such situation to report.	—
Stakeholder Engagement			
G4-24	List of stakeholder groups engaged by the organization	1.3.1 Identification of Stakeholders	33
G4-25	Basis for identification and selection of stakeholders with whom to engage	1.3.1 Identification of Stakeholders	33
G4-26	Organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group	5.1.1 Taipower's Commitment to Major Issues and Results of Stakeholder Engagement	66

GRI G4 Index

Indicator	Indicator Description	Corresponding Chapter and Section	Page Number
G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns	5.1.1 Taipower's Commitment to Major Issues and Results of Stakeholder Engagement 5.1.2 Responses to Public-Concerned Issues	66 78
Report Profile			
G4-28	Reporting period	Reporting Principles	1
G4-29	Date of most recent previous report	Reporting Principles	1
G4-30	Reporting cycle	Reporting Principles	1
G4-31	Contact point for questions regarding the report or its contents	Reporting Principles	1
G4-32	Report the 'in accordance' option the organization has chosen, and the GRI Content Index for the chosen option	GRI G4 Index	134
G4-33	Policy and current practice with regard to seeking external assurance for the report	Third-Party Assurance Statement	140
Governance			
G4-34	Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts	1.2.1 Governance Structure 1.2.2 Sustainability	14 18
G4-35	Process for delegating authority for economic, environ- mental and social topics from the highest governance body to senior executives and other employees	1.2.2 Sustainability	18
G4-36	Whether the organization h a s appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body.	1.2.2 Sustainability	18
G4-37	Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics	1.2.2 Sustainability	18
G4-38	The composition of the highest governance body and its committees	1.2.1 Governance Structure 1.2.2 Sustainability	14 18
G4-39	Report whether the Chair of the highest governance body is also an executive officer (and, if so, his or her function within the organization's management and the reasons for this arrangement)	1.2.1 Governance Structure	18
G4-40	Nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members	1.2.1 Governance Structure	18
G4-41	Processes for the highest governance body to ensure conflicts of interest are avoided and managed	1.2.1 Governance Structure	18
G4-42	The highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	1.2.1 Governance Structure 1.2.2 Sustainability	14 18
G4-45	The highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities	1.2.2 Sustainability 1.2.5 Risk Management	18 29
G4-46	The highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics	1.2.2 Sustainability 1.2.5 Risk Management	18 29
G4-47	The frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities.	1.2.2 Sustainability 1.2.5 Risk Management	18 29
G4-48	Report the highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered	Reporting Principles	1
G4-49	The process for communicating critical concerns to the highest governance body.	1.2.1 Governance Structure 5.2.2 Labor-Management Communication Channels	14 85

GRI G4 Index

Indicator	Indicator Description	Corresponding Chapter and Section	Page Number
Ethics and Integrity			
G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	1.2.3 Integrity Management	23
G4-57	The internal and external mechanisms for seeking ad- vice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines.	1.2.3 Integrity Management	23
G4-58	The internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines.	1.2.3 Integrity Management	23
Electric Utilities Sector Disclosures - Organizational Profile			
EU1	Installed capacity (MW), broken down by primary energy source and by regulatory regime.	Corporate Highlights	—
EU2	Net energy output broken down by primary energy source and by regulatory regime.	Corporate Highlights	—
EU3	Number of residential, industrial, institutional and commercial customer accounts.	Corporate Highlights	—
EU4	Length of above and underground transmission and distribution lines by regulatory regime.	1.1.1 Introduction	7
EU5	Allocation of CO_2e emissions allowances or equivalent, broken down by carbon trading framework.	Not applicable as Taiwan does not have a carbon emission trading system at present.	—

Specific Standard Disclosures

Aspect	Indicator	Indicator Description	Corresponding Chapter and Section	Page
Economic				
Economic Performance	DMA	Disclosure on Management Approach	1.1.5 Management Philosophy and Strategy 2. Reengineering the Company 3. Creating Value	12 41 48
	G4-EC1	Direct economic value generated and distributed (EVG &D) separately at country, regional or market level, including revenues, operating costs, employee wages and benefits, payments to providers of capital, payments to government (by country), and community investments	Corporate Highlights Financial Performance	— 132
	G4-EC2	Risks and opportunities posed by climate change that have the potential to generate substantive changes in operations, revenue or expenditure	1.2.5 Risk Management	29
	G4-EC3	Coverage of the organization's defined benefit plan obligations	3.2.2 Pursuing Relaxation of the Policy Burden	53
Indirect Economic Impacts	DMA	Disclosure on Management Approach	3.2 Promoting Tariff Rationalization 6.1 Enhancing Reliability of Power Supply	52 110
	G4-EC7	Development and impact of infrastructure investments and services supported	6.1 Enhancing Reliability of Power Supply	110
	G4-EC8	Significant indirect economic impacts, including the extent of impacts	3.2 Promoting Tariff Rationalization	52
Procurement Practices	DMA	Disclosure on Management Approach	5.4.1 Supplier Management	98
	G4-EC9	Proportion of spending on local suppliers at significant locations of operation	5.4.1 Supplier Management	98
Availability and Reliability	DMA	Disclosure on Management Approach	6.1. Enhancing Reliability of Power Supply	110
	EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	6.1.2. Improving Energy Mix	113

GRI G4 Index

Aspect	Indicator	Indicator Description	Corresponding Chapter and Section	Page
Demand-Side Management	DMA	Disclosure on Management Approach	4.3. Demand Management	60
Plant Decommissioning	DMA	Disclosure on Management Approach	5.5.1. Nuclear Safety and Crisis Response	101
System Efficiency	EU11	Average generation efficiency of thermal plants by energy source and by regulatory regime	1.1.1. Introduction	7
	EU12	Transmission and distribution losses as a percentage of total energy	Corporate Highlights 1.4.1. Key Performance	— 37
Environmental				
Materials	DMA	Disclosure on Management Approach	4.1 Raising Procurement Performance	56
	G4-EN1	Materials used by weight or volume	Environmental Footprints of Taipower Operation in 2015	93
Energy	DMA	Disclosure on Management Approach	5.2.3 Resource Management	91
	G4-EN3	Energy consumption within the organization	5.2.3 Resource Management	91
	G4-EN6	Reduction of energy consumption	4.2 Raising Power Generation Efficiency 5.2.3 Resource Management	58 91
	G4-EN7	Reductions in energy requirements of products and services	4.3 Demand Management	60
Water	DMA	Disclosure on Management Approach	5.2.3 Resource Management	91
	G4-EN8	Total water withdrawal by source	5.2.3 Resource Management	91
	G4-EN9	Water sources significantly affected by withdrawal of water	No such situation to report.	—
	G4-EN10	Percentage and total volume of water recycled and reused	Environmental Footprints of Taipower Operation in 2015	93
Emissions	DMA	Disclosure on Management Approach	5.2.2 Response to Climate Change	85
	G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	5.2.2 Response to Climate Change	85
	G4-EN16	Direct greenhouse gas (GHG) emissions (Scope 2)	5.2.2 Response to Climate Change (To avoid recalculating the GHG emissions, Taipower monitor and control the data of scope 1 emission and do not inventory the scope 2 emissions)	85
	G4-EN18	Greenhouse gas (GHG) emissions intensity	5.2.2 Response to Climate Change	85
	G4-EN19	Reduction of greenhouse gas (GHG) emissions	5.2.2 Response to Climate Change	85
	G4-EN20	Emissions of ozone-depleting substances(ODS)	No such situation to report.	—
Effluents and Waste	DMA	Disclosure on Management Approach	5.2.4 Waste Management and Reduction	94
	G4-EN22	Total water discharge by quality and destination	5.2.3 Resource Management	91
	G4-EN23	Total weight of waste by type and disposal method	5.2.4 Waste Management and Reduction	94
	G4-EN24	Total number and volume of significant spills	No such situation to report.	—
	G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	No such situation to report.	—

GRI G4 Index

Aspect	Indicator	Indicator Description	Corresponding Chapter and Section	Page
Products and Services	DMA	Disclosure on Management Approach	1.2.4 Legal Compliance 4.3 Demand Management 5.2 Creating a Sustainable Environment	26 60 83
	G4-EN27	Extent of impact mitigation of environmental impacts of products and services	4.3 Demand Management 5.2 Creating a Sustainable Environment	60 83
Compliance	DMA	Disclosure on Management Approach	1.2.4 Legal Compliance	26
	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	1.2.4 Legal Compliance	26
Overall	DMA	Disclosure on Management Approach	5.2.3 Resource Management	91
	G4-EN31	Total environmental protection expenditures and investments by type	5.2.3 Resource Management	91
Supplier environmental assessment	DMA	Disclosure on Management Approach	5.4.1 Supplier Management	98
	G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	5.4.1 Supplier Management	98
Environmental Grievance Mechanisms	DMA	Disclosure on Management Approach	5.1.4 Complaint Access	83
	G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	5.1.4 Complaint Access	83
Labor Practices and Decent Work				
Labor/ Management Relations	DMA	Disclosure on Management Approach	5.3.2 Labor-Management Communication Channels	97
	G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	5.3.2 Labor-Management Communication Channels	97
Supplier Assessment for Labor Practices	DMA	Disclosure on Management Approach	5.4.1 Supplier Management	98
	G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	5.4.1 Supplier Management	98
Labor Practices Grievance Mechanisms	DMA	Disclosure on Management Approach	5.3.2 Labor-Management Communication Channels	97
		Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	5.3.2 Labor-Management Communication Channels	97
Human Rights				
Freedom of Association and Collective Bargaining	DMA	Disclosure on Management Approach	5.3.2 Labor-Management Communication Channels	97
	G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	No such situation to report.	—
Supplier Human Rights Assessment	DMA	Disclosure on Management Approach	5.4.1 Supplier Management	98
	G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	5.4.1 Supplier Management	98
Human Rights Grievance Mechanisms	DMA	Disclosure on Management Approach	5.1.4 Complaint Access	83
	G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	5.1.4 Complaint Access	83

GRI G4 Index

Aspect	Indicator	Indicator Description	Corresponding Chapter and Section	Page
Society				
Local Communities	DMA	Disclosure on Management Approach	5.2.1 Implementing Environmental Impact Assessments	83
	G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	5.2.1 Implementing Environmental Impact Assessments	83
	G4-SO2	Operations with significant actual or potential negative impacts on local communities	5.2.1 Implementing Environmental Impact Assessments	83
	EU22	Number of people physically or economically displaced and compensation, broken down by type of project	No such situation to report.	—
Compliance	DMA	Disclosure on Management Approach	1.2.4. Legal Compliance	26
	G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	No such situation to report.	—
Supplier Assessment for Impacts on Society	DMA	Disclosure on Management Approach	5.4.1 Supplier Management	98
	G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	5.4.1 Supplier Management	98
Grievance Mechanisms for Impacts on Society	DMA	Disclosure on Management Approach	1.2.3 Integrity Management 5.1.4 Complaint Access	23 83
	G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	1.2.3 Integrity Management 5.1.4 Complaint Access	23 83
Disaster/ Emergency Planning and Response	DMA	Disclosure on Management Approach	5.5.1 Nuclear Safety and Crisis Response 6.1.4 Enhancing the Accessibility of Power Services	101 119
Product and Service Labeling	DMA	Disclosure on Management Approach	1.2.3. Integrity Management 1.2.4. Legal Compliance	23 26
	G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	No such situation to report.	—
	G4-PR5	Results of surveys measuring customer satisfaction	6.2.1. Multiple Communication Channels	123
Compliance	DMA	Disclosure on Management Approach	1.2.4. Legal Compliance	26
	G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	No such situation to report.	—
Access	EU28	Power outage frequency	Corporate Highlights 6.1.5. Maintaining Power Supply Reliability	— 120
	EU29	Average power outage duration	Corporate Highlights 6.1.5. Maintaining Power Supply Reliability	— 120
	EU30	Average plant availability factor by energy source and by regulatory regime	1.1.1. Introduction	7
Provision of Information	DMA	Disclosure on Management Approach	6.2.1. Multiple Communication Channels	123

Third-Party Assurance Statement

INDEPENDENT ASSURANCE OPINION STATEMENT

2016 Taiwan Power Company Sustainability Report

The British Standards Institution is independent to Taiwan Power Company (hereafter referred to as TPC in this statement) and has no financial interest in the operation of TPC other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance opinion statement has been prepared for the stakeholders of TPC only for the purposes of verifying its statements relating to its sustainability, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by TPC. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to TPC only.

Scope

The scope of engagement agreed upon with TPC includes the followings:

1. The whole report focused on systems and activities during the 2015 calendar year on the Taiwan Power Company and relevant operations in Taiwan.
2. The evaluation of the nature and extent of the TPC's adherence to all three AA1000 AccountAbility Principles in this report as conducted in accordance with type 1 of AA1000AS (2008) assurance engagement and therefore, the information/data disclosed in the report is not verified through the verification process.

This statement was prepared in English and translated into Chinese for reference only.

Opinion Statement

We conclude that the 2016 TPC Sustainability Report Review provides a fair view of the TPC programmes and performances during 2015. The CSR report subject to assurance is free from material misstatement based upon testing within the limitations of the scope of the assurance, the information and data provided by the TPC and the sample taken. We believe that the 2015 economic, social and environmental performance indicators are fairly represented.

Our work was carried out by a team of (CSR) report assurors in accordance with the AA1000 Assurance Standard (2008). We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that TPC's description of their approach to AA1000 Assurance Standard and their self-declaration of 'in accordance' with the GRI G4 sustainability reporting guidelines: the Core option were fairly stated.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- review of issues raised by external parties that could be relevant to TPC's policies to provide a check on the appropriateness of statements made in the report
- discussion with managers and staffs on TPC's approach to stakeholder engagement. However, we had no direct contact with external stakeholders
- 30 interviews with staffs involved in sustainability management, report preparation and provision of report information were carried out
- review of key organizational developments
- review of the findings of internal audits
- review of supporting evidence for claims made in the reports
- an assessment of the company's reporting and management processes concerning this reporting against the principles of inclusivity, materiality and responsiveness as described in the AA1000 AccountAbility Principles Standard (2008)

Third-Party Assurance Statement

Conclusions

A detailed review against the AA1000 AccountAbility Principles of Inclusivity, Materiality and Responsiveness as well as the G4 sustainability reporting guidelines is set out below:

Inclusivity

In this report, it reflects that TPC has continually made a commitment to its stakeholders, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for economic, social and environmental information in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the TPC's inclusivity issues.

Materiality

The TPC has established relative procedure in company level, as the issues which were identified by all departments have been prioritized according to the extent of impact and applicable criterion for sustainable development of company. Therefore, material issues were completely analyzed and the relative information of sustainable development was disclosed to enable its stakeholders to make informed judgments about the company's management and performance. In our professional opinion the report covers the TPC's material issues.

Responsiveness

TPC has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for the TPC is developed and provides the opportunity to further enhance the TPC's responsiveness to stakeholder concerns. In our professional opinion the report covers the TPC's responsiveness issues.

GRI-reporting

TPC provided us with their self declaration of 'in accordance' with the G4 sustainability reporting guidelines: the Core option (at least one Indicator related to each identified material Aspect). Based on our review, we confirm that social responsibility and sustainable development performance indicators with reference to the GRI Index are reported, partially reported or omitted. In our professional opinion the self declaration covers the TPC's social and sustainability issues.

Assurance level

The moderate level assurance provided is in accordance with AA1000 Assurance Standard (2008) in our review, as defined by the scope and methodology described in this statement.

Responsibility

This sustainability report is the responsibility of the TPC's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Competency and Independence

The assurance team was composed of Lead auditors and Carbon Footprint Verifiers experienced in Engineering sector, and trained in a range of sustainability, environmental and social standards including AA1000 AS, ISO14001, OHSAS18001, ISO14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

Peter Pu
Managing Director BSI Taiwan
13 June, 2016

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2015 Awards

The World Bank "Doing Business Report 2016" ranking

- Taiwan ranked second worldwide on the "Getting electricity" area

Tenth "Asian Power Awards" from Asian Power Magazine

- Bronze Medal Award for the "Smart Grid Plan of the Year" for Taipower's "Underground Cable and Accessory Electromechanical QR-CODE Equipment Maintenance Schedule Management System"
- Silver Medal Award for the "Coal Power Project of the Year" for the "Uninterrupted Coal Transportation and Unloading Control System Update Improvement" at Taichung Power Plant
- Gold Medal Award for the "Environmental Upgrade of the Year" for "NOx Reduction Plan for Datan Plant through Improvement of Unit Combustion Calibration"
- Gold Medal Award for the "Nuclear Power Generation Plan of the Year" for "Safety-related Barrel Tank Seismic Resistance Capability Improvement Plan for NPP3"

"15th Gold Medal for Public Works" of the Public Construction Commission, Executive Yuan

- Exceptional Facility Award for "Dajia River Power Plant Qingshan Subsidiary Plant Reconstruction Project - Type II Power Plant Generation Equipment and Accessory Equipment Construction"
- Exceptional Facility Award for "Penghu Primary Substation Construction"

"2015 Taiwan Corporate Sustainability Award" of the Taiwan Institute for Sustainable Energy (TAISE)

- "Gold Award" in the Energy Industry Group for the 2015 "Corporate Sustainability Award"
- "Climate Leader Award" and "Creative Communication Award" for the "Corporate Sustainability Award"

"The 24th ROC Enterprise Environmental Protection Award" of the Environmental Protection Administration, Executive Yuan

- "Silver Award" for the Datan Power Plant
- "Bronze Award" for the Dajia River Power Plant

Ministry of Economic Affairs' "28th Nationwide Unity Activities Contest"

- The project "Maintenance Frequency Reduction for Trash Catchment Bars" at Dalin Plant Smile Circle won the "Silver Cup in the Supreme Category"
- The project "Maintenance Frequency Reduction for Main Turbine High Pressure Hydraulic System" at Taichung Plant Steam Turbine Circle won the "Bronze Cup in the Supreme Category"
- The Project "Reduction for Dry Radioactive Waste Barrel from Major Repair" at NPP1 won the "Bronze Cup in the Supreme Category"

In the Top 2000 Survey by CommonWealth Magazine in 2015:

- Among the 2,100 enterprises identified for outstanding operational performance in Taiwan, Taipower ranked 1st for the service industry category.

The "National Sustainable Development Award for 2015" from Executive Yuan's Sustainable Development Committee

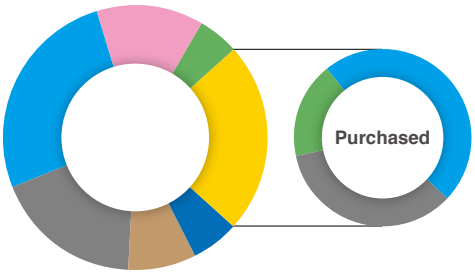
- The "National Sustainable Development Award (Enterprise category)" for 2015 given to Taipower's Dajia River Power Plant, the first instance of a state-owned enterprise to win this prestigious award.

For further details on these awards, please visit the Taipower Sustainable Development website.

Corporate Highlights

Installed Capacity (41.04 GW)

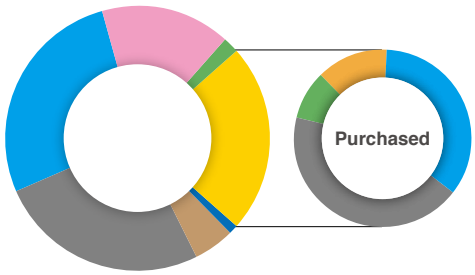
Purchased	9,618 MW	23%
Pumped storage hydro	2,602 MW	6%
Oil	3,325 MW	8%
Coal	7,600 MW	18%
Gas	10,635 MW	26%
Nuclear	5,144 MW	13%
Renewable energy	2,112 MW	5%



IPP - Gas	4,610 MW	11%
IPP - Coal	3,097 MW	8%
Renewable energy	1,911 MW	5%

Power Generation (219,104 GWh)

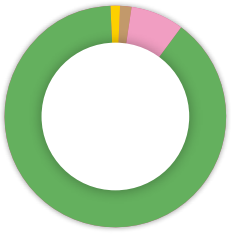
Purchased	50,043 GWh	23%
Pumped storage hydro	3,023 GWh	1%
Oil	10,259 GWh	5%
Coal	57,080 GWh	26%
Gas	59,066 GWh	27%
Nuclear	35,143 GWh	16%
Renewable energy	4,490 GWh	2%



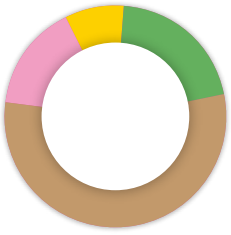
IPP - Gas	17,849 GWh	8%
IPP - Coal	21,163 GWh	10%
Renewable energy	4,799 GWh	2%
Cogeneration	6,232 GWh	3%

Customers (13,614,000)

Residential	12,176,000	89.4%
Commercial	1,025,000	7.5%
Industrial	209,000	1.5%
Others	204,000	1.5%

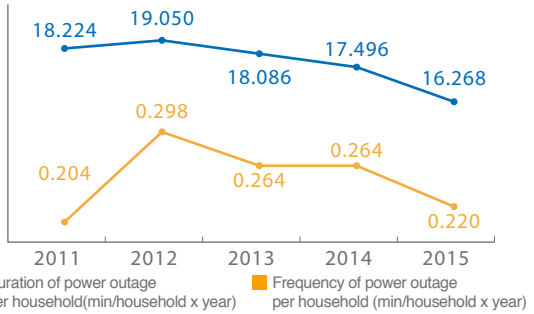


Sales (206,491GWh)

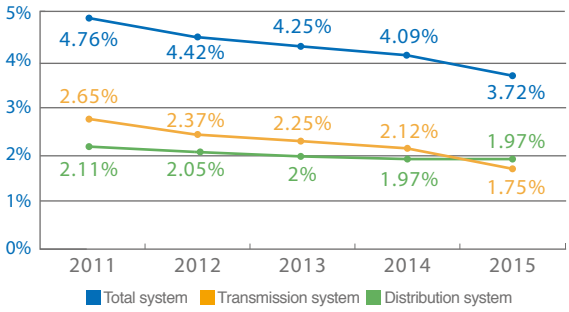


Residential	42,197 GWh	20.4%
Industrial	114,242 GWh	55.3%
Commercial	32,511 GWh	15.7%
Others	17,542 GWh	8.5%

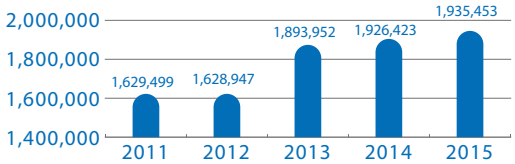
Duration and Frequency of Average Power Outage from 2011 to 2015



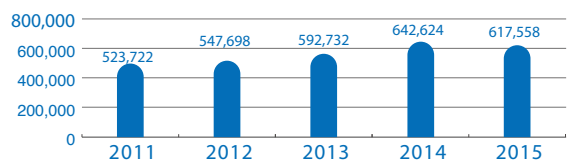
2011-2015 Line Loss



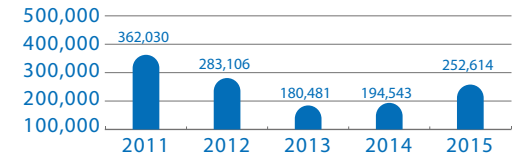
Total Assets (TWD million)



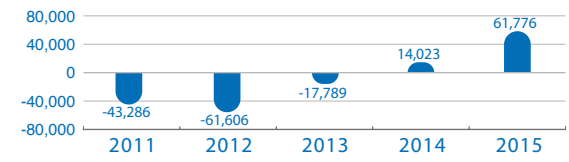
Operating Revenue (TWD million)



Stockholders' Equity (TWD million)



Gain/Loss before Income Tax (TWD million)



Note: Figures above have been audited by accountants using the ROC GAAP established in 2012 and the IFRS established in 2013.As a state-owned enterprise, figures of Taipower's financial report have been determined based on the final audit accounts of the National Audit Office. As such, the aforementioned figures of Taipower's assets in 2014 are slightly different from those in the 2015 Sustainability Report.

Always for you