TECO Corporate Social Responsibility Report

2016
CSR Report

TECO


TECO

About this Report

TECO has been issuing the CSR reports on an annual basis since 2010. These reports disclose sustainability strategies and implementation performance information in the three dimensions of environment (E), society (S), and governance (G). The goal is to give stakeholders a better understanding of TECO's efforts and commitments to continued improvements in the sustainable development in these three areas.

As of 2012, annual reports are verified by a professional third-party organization to increase the credibility of the company's CSR reports through third-party inspections. These verifications serve as the basis for the systematic inspections of CSR development and formulation of improvement goals by the company, demonstrating the determination of the company to promote sustainable development.

Reporting Process

1. **Confirmation of report orientation** (the CSR task force determines the core direction, reference standards, and verification standards)
2. **Submission to the CSR Committee for approval** (Note 1)
3. **Organization of report contents**
4. **Third-party assurance**
5. **Confirmation by CSR Committee**
6. **Posting on the corporate website**

Note 1: The TECO CSR Committee is a functional organization chaired by the President. Business division managers serve as ex-officio members. Various subordinate task forces have been formed. Responsible committee members track progress and submit reports to the committee in accordance with GSE strategies and goals. The task forces are also responsible for report compilation.

Report scope and boundaries

This report covers concrete responses, measures, and performance related to major issues of concern to key stakeholders as determined by the company through materiality analysis. Prior to 2013, the scope of reports was confined to operating areas in Taiwan including company HQ, manufacturing plants and the TECO Technology Foundation. In 2014, the scope was widened to encompass affiliates and TESEN Electronic. As of 2015, overseas affiliates such as TECO-Westinghouse and Taian Technology (Wuxi) are also included. The report presents achievements and performance data in the dimensions of environmental protection, corporate governance, and social engagement from January 1 to December 31, 2016. Financial figures are given in New Taiwan Dollars, while environmental protection, health, and safety related performance is expressed through international generic indicators.

Reporting Principles

The content and structure of this report is based on the Core Options of the G4 Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI). The GRI G4 Content Index is attached to this report for reference purposes.

Report Assurance

Internal Assurance

Relevant issues and performance are reviewed and verified in strategy meetings, monthly business meetings of the company and business divisions, and quarterly KPI review meetings (linked to executive salaries). Provided data is subject to review and approval by department executives. In addition, internal annual audits (coupled with external verification) of the quality management system (ISO9001), occupational health and safety management system (OHSAS 18001), environmental management system (ISO14001), and GHG emissions further guarantee the accuracy of provided data.

External Assurance

TECO commissions PwC to verify the report which was compiled in accordance with the GRI G4 Core Options with limited assurance, based on Assurance Standards Announcement No. 1 of the Republic of China (ROC) (formulated with reference to ISAE3000). The assurance statement is attached to this report.

Report compilation units

This report has been compiled by the CSR Committee and is available in Chinese and English.

It is posted on the corporate website.

Publication frequency: Annually (Previous issue: August 2016)

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CSR website: http://tecocsr.teco.com.tw

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Chairman Sophia Chiu
2017/08

1.1 Management Pledge

TECO's glorious history spans six decades since its inception in 1956, and the company is currently entering its second six decades at a steady and rapid pace. TECO started out as a manufacturer of motor related industrial products. Through constant efforts in the development of motor and electromechanical technologies and active expansion into global markets, the company generated revenue growth momentum and advances in industrial and technological development in Taiwan. The evolution of the company has been inextricably intertwined with global industry trends. TECO has been providing a major impetus to industrial development in Taiwan. However, the company gradually became aware of increasing environmental burdens generated by industrial development and the rising global demand for clean energy sources and therefore unveiled its "TECO GO ECO" vision in 2008. The company became actively engaged in the green energy industry. In addition to the enhancement of the energy usage efficiency of existing products, the company started to develop products utilizing clean energy sources in the field of wind and vehicle power to make a dedicated contribution to energy conservation and carbon reduction. In recent years, the company has responded to new trends such as Industry 4.0 and IoT by developing smart and automated applications. TECO has fused its core electromechanical technologies with information and communication technology capabilities of the group to boost innovations in smart technologies and further consolidate the company's sustainable competitiveness with the ultimate goal of "Driving A Smarter Future!!".

"Energy Conservation, Emission Reduction, Smartness, and Automation"

In view of the dramatic changes and impacts generated by global warming and the greenhouse effect on the environment upon which the survival of mankind depends, TECO's unavoidable task as a corporate citizen is to pursue continued industrial and

technological development with a simultaneous focus on the reduction of environmental burdens. As of 2008, TECO's development strategy focuses on energy conservation and green technologies. The company is firmly committed to the development of products featuring green technologies and utilizing green energy including industry-leading energy conservation solutions such as highly efficient motors and motors with integrated inverters and top-performance home appliance series with outstanding energy conservation characteristics. Over the past decades, TECO has also invested massive resources in the exploration of green energy sources such as wind and vehicle power and made dedicated contributions to the development of sustainable green energy by relying on its superior electromechanical integration capabilities.

In addition to a firm commitment to the development of green technologies and energy-saving solutions, TECO became the first company in Taiwan to join hands with its main suppliers in the completion of environmental and water footprint inventories for a motor product series in 2016. The company implements further inspections and monitoring of its raw materials supply chain and production processes with the ultimate goal of realizing entirely green product life cycles and supply chains.

Following the increasing maturity of cloud and 4G network infrastructure starting in 2014, TECO views IoT as the main driving force of the next industrial revolution. The company therefore actively pursues innovations on its existing foundation and embraces a smartness and automation-centered and innovative growth strategy based on a fusion of its product technologies with information and communication technology. The company develops intelligent equipment monitoring systems, energy management systems, cloud-based intelligent AC systems, and other industrial and consumer products through the integration of technological innovations of the group. In the field of smart production, the company maintains its solid and down-to-earth traditional approach. The ultimate goal is to solve customer problems in the field of manufacturing and user experiences by combining core product technologies with innovative applications. The company also utilizes IoT technologies in the provision of economical solutions in the field of smart preventive maintenance, energy management, and equipment allocation. It actively promotes smart upgrades of the traditional manufacturing sector.

On the occasion of its 60th anniversary, TECO will carry out an optimization of its smart green production line in the Chungli Plant in Taiwan. Automated management, 3D vision robotic arms, automated guided vehicles, and automatic coil winding machinery will be adopted for the electrical wire production area in an effort to form the largest and most complete smart industrial motor production line in Asia and the first of its kind in the world. This move is expected to generate competitive advantages in the areas of effectiveness and cost reduction for future products. The Chungli Plant utilizes smart motors developed by the TECO Group on a large scale as well as the Machinery Health Management Platform (MHm), Manufacturing Execution System (MES), and Energy Management System (EMS). This adds an environmental spirit of energy conservation and emission reduction to smart manufacturing. The newly established punching center also adopts the green building and smart factory concepts and the company plans to expand the application of these concepts to the whole group in an attempt to realize the sustainable development vision of "Energy Conservation, Emission Reduction, Smartness and Automation"

"Implementation of Corporate Governance-Realization of Sustainable Operations"

In addition to the maximization of revenues and profits, the company also strives to realize its business philosophy of "Ethical Corporate Management, Implementation of Corporate Governance, Fulfillment of Social Responsibility and Pursuit of Sustainable Operations." TECO aims to achieve its goal of sustainable corporate development through rigorous fulfillment of its role as a corporate citizen.

In 2014, the company established a CSR Committee to monitor the implementation efficiency of sustainability issues and ensure the incorporation of the three main indicators (environment, society, governance) into the corporate decision-making process. The company strives to achieve sustainable corporate growth and fulfill its corporate social responsibility in the fields of social harmony and green economy. The Corporate Governance Center, which was established in 2015, is in charge of the overall planning and coordination of governance goals and the establishment of a Corporate Governance Management Platform to ensure effective organization and tracking of various corporate governance indicators. Progress in the field of corporate governance is monitored in a systematic manner. The Legal Compliance and Legal Affairs Office (formerly named Legal Affairs Office) is a dedicated unit in charge of the monitoring and supervision of all relevant company operations to maximize legal compliance.

TECO employs a professional management system, accepts monitoring by juridical persons, and places high emphasis on stakeholder opinions, industry trends, and social development demands as key considerations for corporate decision-making. The company also maintains open communications channels with stakeholders in all areas. It not only discloses relevant information and directly communicates with stakeholders on a scheduled/non-scheduled basis but also actively participates in external organizations such as Taiwan's Business Council for Sustainable Development, Taiwan Electrical and Electronic Manufacturers' Association (TEEMA), Taiwan Automation Intelligence and Robotics Association (TAIROA). TECO takes the initiative in external exchanges and solicits opinions from all sectors of society.

Due to its active efforts in the field of corporate governance and sustainable operations, the company has been ranked in the Top 5 % of all evaluated enterprises in the "Corporate Governance Evaluation" held by TWSE for three consecutive years.

"Creation of a Blissful Enterprise and a Society Characterized by Techno-Cultural Synergy"

TECO views talent as the company's most important asset and the foundation of sustainable development. The company has implemented a labor system that conforms to the relevant laws and decrees and aims to gain a better understanding of employee expectations and workplace health through regular employee satisfaction surveys and stress assessments carried out by commissioned third-party units. In addition to the creation of a comprehensive welfare system and a work environment characterized by work-life balance, the company highly values employee development and actively pursues innovation in the field of HR. It implements Key Talent Development Programs and provides opportunities for participation in cross-department and cross-industry projects. It further implements a Program for the Cultivation of Entrepreneurial Teams inside the company and offers paid overseas vacations and "Soaring Talent" Programs with the goal of infusing vitality into the company and creating a wider stage for employees to allow them to bring their talent into full play through continued innovation.

In the field of social concern, the TECO Technology Foundation, which was established through donations in 1993, has been deeply committed to the provision of services in the fields of technology, education, culture, and art over the past 23 years. The foundation aims to realize TECO's goal of Techno-Cultural Synergy through creativity and humanistic education. The TECO Award aims to support uninterrupted progress in the fields of technology and culture in Taiwanese society over many decades. The foundation also organizes "Green Tech" Competitions to stimulate scientific research in the fields of energy conservation and carbon reduction by teenagers all over the world, provide an impetus to the development of green technologies in Taiwan, and increase the international visibility of Taiwan. The "Exclamation Mark" indigenous culture transmission program aims to provides an international stage for the traditional culture of indigenous tribes in Taiwan. In addition to the long-term promotion of social innovation and technological and cultural development by the foundation, TECO also offers "charity leaves" and internal volunteer opportunities for its employees to motivate and support the participation of employees in social concern activities and promote personal practice of social concern. The goal is to cultivate and spread the seeds of compassion and generate a positive momentum for society.

Looking ahead, the company will continue to maximize the usage value of its products and services for customers and promote industrial value upgrades in response to climate change impacts and sustainable development considerations in line with stakeholder demands through technological innovations of its own industry. In its pursuit of sustainable operations, the company continues to forge ahead by embracing a solid and down-to-earth approach and a forward-looking vision with a simultaneous focus on sustainable growth, social harmony, and green economic development.

Sustainability Vision and Business Philosophy

Sustainable development vision

- Energy conservation, emission reduction, smartness, automation
- Implementation of corporate governance and realization of sustainable operations
- Creation of a blissful enterprise and techno-cultural synergy

TECO core capabilities

- Electromechanical integration capabilities
- Deep commitment to the development of green energy technologies
- Integration of digital manufacturing technologies and smart systems
- Diversified development of the group to increase the breadth of innovative cooperation

Main considerations

- Laying the foundation for sustainable corporate development
- Establishment of smart factories or enhancement of productivity in response to AI and IoT developments for the sake of the company and society
- Fulfillment of stakeholder expectations
- Responses to climate change, energy shortage, and other environmental issues
- Creation of a harmonious society characterized by techno-cultural synergy

Sustainable development concepts

Economy / governance

- Focus on the innovative growth strategy of "Energy Conservation, Emission Reduction, Smartness, Automation" through a synthesis of core capabilities and technological innovation
- Ethical Corporate Management, Implementation of Corporate Governance, Realization of the Goal of Sustainable Operations

Environmental sustainability

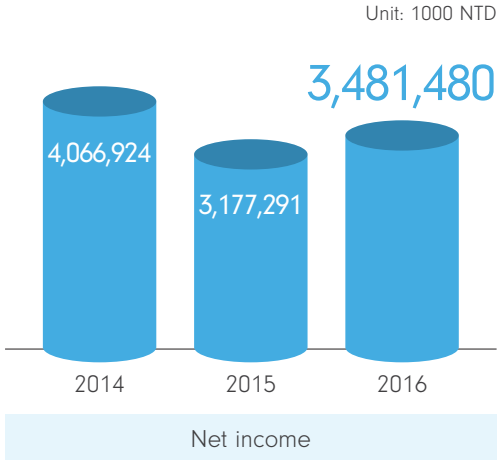
- Development of smart green products in response to climate change and energy shortage
- Minimization of the environmental impacts of product life cycles through green supply chains and optimization of production processes

Social harmony

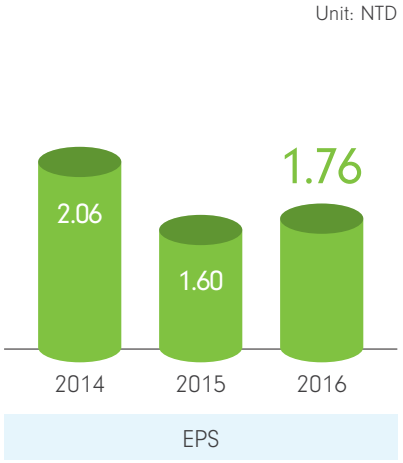
- Strengthening of talent development and creation of a blissful enterprise
- Continued support for the TECO Technology Foundation and realization of TECO's philosophy of Techno-Cultural Synergy through creativity and humanistic education

1.2 Overview of Sustainability Performance

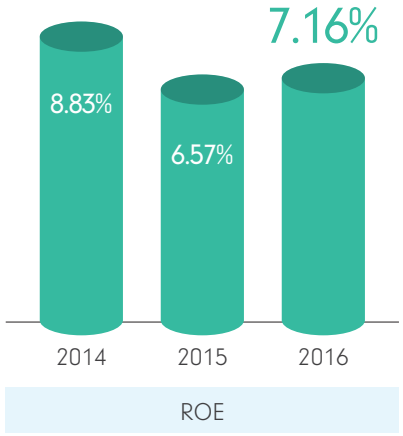
Corporate governance dimension



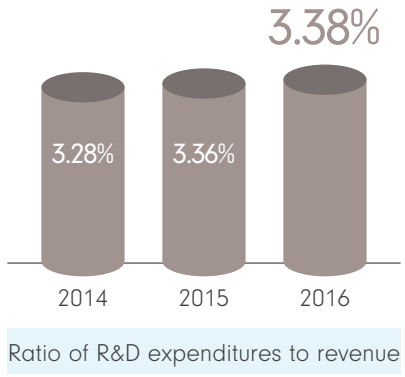
Net income



EPS

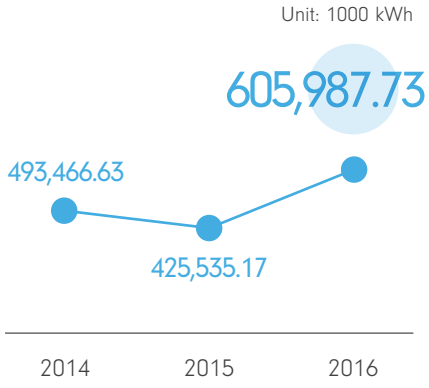


ROE

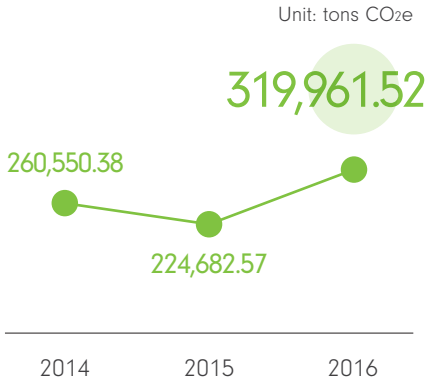


Ratio of R&D expenditures to revenue

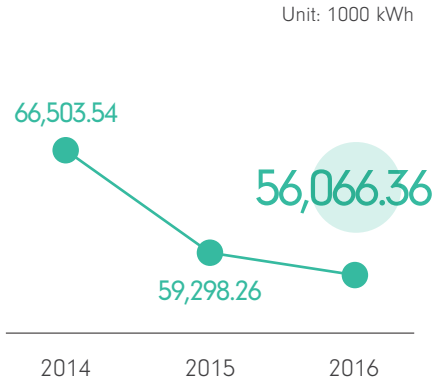
Environmental dimension



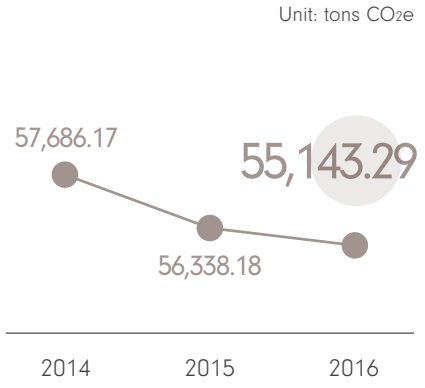
Energy-saving products
(motors and home appliances)
Energy savings through annual sales



Energy-saving products
(motors and home appliances)
Emission reduction through annual sales

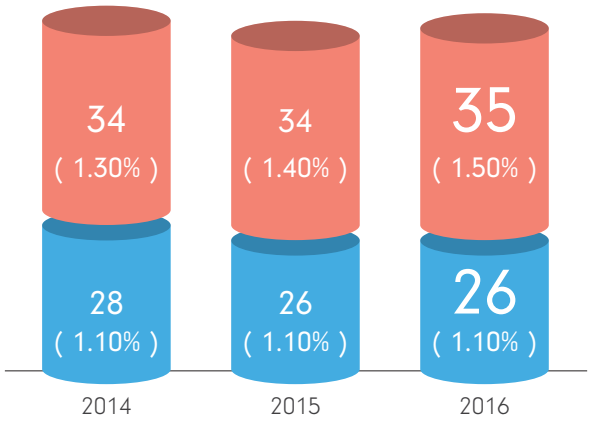


TECO and TESEN power consumption



TECO and TESEN GHG emissions

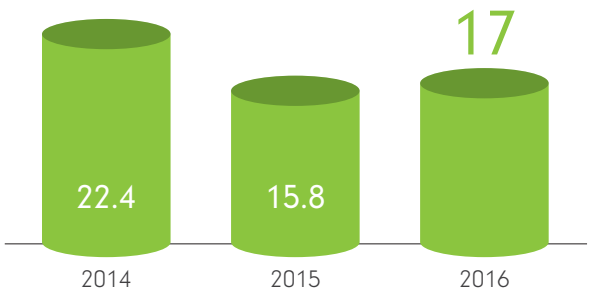
Social dimension



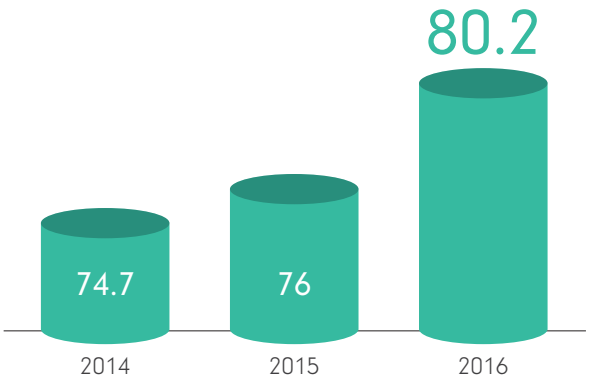
Number/Ratio of hires from underprivileged groups

Indigenous people

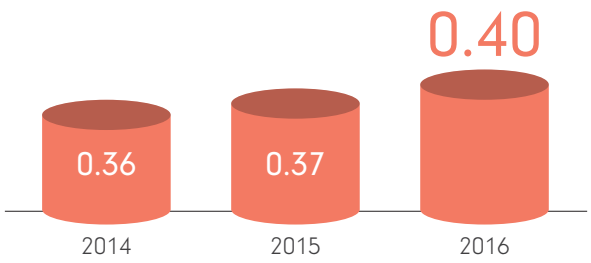
Mentally and physically disabled



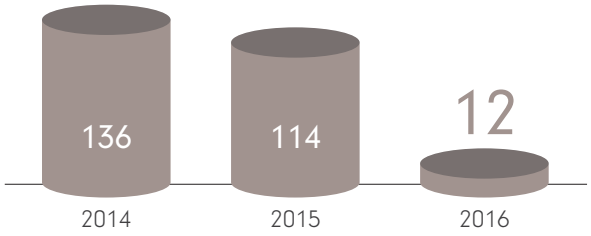
Average training hours per person



Employee satisfaction surveys (Maximum score is 100)



TECO and TESEN Disabling Frequency Rate
(excluding commuting accidents)



TECO and TESEN Disabling Severity Rate
(excluding commuting accidents)

1.3 Awards and Recognitions

1. 2016 Ranking in the Top 5 % of all evaluated enterprises in the Corporate Governance Evaluation held by TWSE

2. 2016 Taiwan Corporate Sustainability and Sustainability Reporting Gold Award

3. 2016 Taiwan Excellence Award

4. 2016 Green Power Corporate Vision Award

5. 2016 Commonwealth Magazine Corporate Citizen Award

6. 2016 Bronze Tower Award in the National Quality Control Circle Competition

7. 2016 National Creativity and Invention Award

02

Stakeholder Communication

2.1 Identification of Issues of Concern to Stakeholders

TECO firmly believes that the opinions of stakeholders provide the main impetus for continued improvements. The company actively communicates with its stakeholders to gain a clear understanding of their issues of concern by utilizing different units and contact opportunities to ensure that corporate development does not deviate from stakeholder expectations. A stakeholder questionnaire is posted on the company's CSR website with the goal of soliciting more shareholder opinions. TECO's stakeholder identification procedures are as follows:

Stakeholder identification

The CSR task force convenes meetings with relevant units to conduct discussions and identify key stakeholders with reference to the same-industry experiences and stakeholder definitions in the G4 reporting guidelines.

Survey of issues of concern to stakeholders

- Surveys are based on GRI G4 aspects.
- with reference to industry-specific indicators and same-industry questionnaire items.
- Issues of concern to stakeholders are surveyed and compiled through various stakeholder communication channels and direct communication with stakeholders.
- A questionnaire covering 26 issues of concern to stakeholders is created.

Materiality Analysis of Issues of Concern

- Questionnaire surveys are conducted to determine the level of concern of stakeholders for different issues.
- Materiality analysis of issues is conducted internally and corresponding units to determine the level of impact of each issue on company operations.
- Information on level of concern by stakeholders and internal materiality analysis is compiled and organized; weighting is adjusted and weighted average scores are awarded based on the degree of association between issues and stakeholders and materiality on the company's operations.
- Issues are ranked according to the awarded scores. Issues in the top 40%-45% have a high impact, issues in the middle 30% have medium impact, and the bottom 25%-30% have normal impact.
- Issues are ranked in the order of priority based on a two-dimensional scoring matrix.

Reporting

Materials and secondary issues are reported to the CSR Committee for deliberation, incorporated for discussion in the strategic planning process of the company and individual business divisions, and implemented in the annual plans and daily operations of each unit.

Compilation and disclosure

At the end of the year, the implementation results, communication channels, and communication frequency for materials and secondary issues are disclosed in the CSR report.

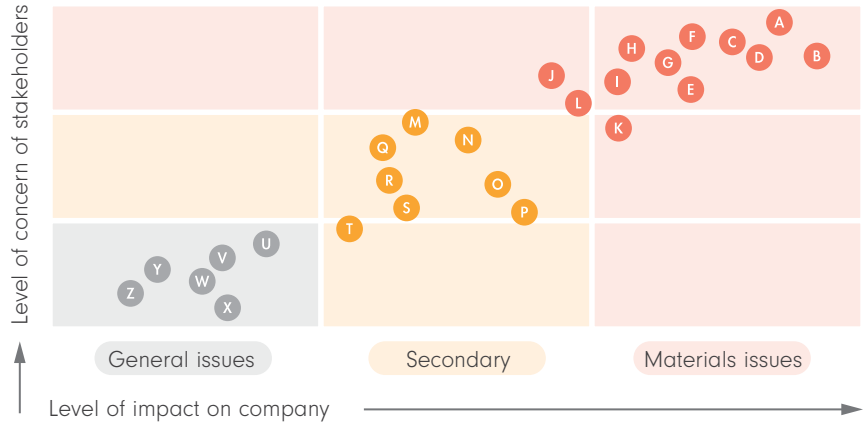
2.2 Materiality Analysis of Issues of Concern

TECO and its Stakeholders

Compilation of issues and questionnaire survey

TECO carries out exchanges with stakeholders on a scheduled and non-scheduled basis via the aforementioned communication channels and compiles issues of concern to stakeholders. Issues of concern are identified and compiled into questionnaires with reference to the GRI G4 aspects and industry-specific indicators released by GRI. These questionnaires are posted on the CSR website and can be filled out by stakeholders at their discretion. TECO also sends out questionnaires to stakeholder groups to increase response rates, maximize stakeholder reach, and gain an in-depth understanding of the issues of concern to them.

Stakeholder questionnaire statistics



Issues of concern to stakeholders

A - Sustainable Development Strategy and Risk Management ●	N - Freedom of Association and Collective Bargaining ●
B - Economic Performance and Financial Transparency ●	O - Concern for Local Communities and Society ●
C - Corporate Governance ●	P - Water Resources ●
D - Green Products ●	Q - Human Rights Assessment and Human Rights Grievance Mechanisms ●
E - Employee Rights and Interests ●	R - Moral/Ethical Code of Conduct ●
F - GHG and Energy Management ●	S - Marketing Communications ●
G - Compliance ●	T - Pollution Prevention and Emissions ●
H - Green Supply Chain Management ●	U - Customer Privacy ●
I - Customer Satisfaction Survey ●	V - Anti-corruption ●
J - Customer Health and Safety ●	W - Raw and Recycled Materials ●
K - Workplace Health and Safety ●	X - Anti-competitive Behavior ●
L - Career Development, Education, and Training ●	Y - Grievance Mechanisms for Impacts on Society ●
M - Product and Service Labeling ●	Z - Diversity and Equal Opportunity ●

● environmental dimension ● social dimension ● governance/economic dimension

Materials issues and boundaries

Upon determination of the materiality of issues of concern to the stakeholders with regard to impact on company operations, unit executives also determine impact boundaries with regard to the corresponding GRI G4 aspects and level of impact on internal subsidiaries and external stakeholders. Upon determination of the corresponding aspects and issue impact boundaries, reports are submitted to the CSR Committee and top executives of the respective units for approval and confirmation. With respect to the various issues of concern to stakeholders, the company also proposes future development strategies and concrete actions in corresponding chapters as a response to the main concerns of stakeholders.

Issues of concern to stakeholder	Corresponding chapters	G4 aspects	Internal boundaries				External boundaries		
			TECO	TESEN	Taian Technology (Wuxi)	TECO-Westinghouse	Customers	Supplie	Communities
Sustainable Development Strategy and Risk Management	3.1 4.2	Strategy and Analysis	●						
Governance									
Corporate Governance	4.1	Anti-corruption	●	●					
		Anti-competitive Behavior	●						
		Compliance	●	●					
Compliance	4.1	Compliance	●	●				●	
		Anti-competitive Behavior	●						
Moral/Ethical Code of Conduct	4.1	Anti-corruption	●	●					
Economy									
Economic Performance and Financial Transparency	3.2	Economic Performance	●	●					
Green Supply Chain Management	5.1	Procurement Practices	●						
		Supplier Environmental Assessment	●	●				●	
		Supplier Human Rights Assessment	●	●				●	
		Child Labor	●	●				●	

Issues of concern to stakeholder	Corresponding chapters	G4 aspects	Internal boundaries				External boundaries		
			TECO	TESEN	Taian Technology (Wuxi)	TECO-Westinghouse	Customers	Supplie	Communities
Environment									
Green Products	5.2	Materials	●						
		Energy	●	●	●	●		●	●
		Products and Services	●						
Pollution Prevention and Emissions	5.2	Emissions	●	●	●	●		●	●
		Effluents and Waste	●	●	●	●		●	●
GHG and Energy Management	5.2	GHG Emissions (Scope 1+2)	●	●					
		NOX, SOX, and other Significant Emissions	●	●	●				
		Energy intensity	●	●	●				
Water Resources	5.2	Water Resources	●	●	●	●			
		Effluents and Waste	●	●	●	●			
Society									
Employee Rights and Interests	6.1	Labor-management Relations	●	●	●	●			
	6.2	Labor-employer Relations	●	●	●	●			
	6.4	Equal Remunerations for Men and Women	●	●	●	●			
		Non-discrimination	●	●	●	●		●	
		Labor-management Relations	●	●	●	●			
Workplace Health and Safety	6.6	Workplace Health and Safety	●	●	●	●		●	
Career Development, Education, and Training	6.5	Training and Education	●	●	●	●			
Freedom of Association and Collective Bargaining	6.3	Freedom of Association and Collective Bargaining	●	●					

Issues of concern to stakeholder	Corresponding chapters	G4 aspects	Internal boundaries				External boundaries		
			TECO	TESEN	Taian Technology (Wuxi)	TECO-Westinghouse	Customers	Supplie	Communities
Society									
Concern for Local Communities and Society	7	Local Society	●	●	●	●			
		Grievance Mechanisms for Impacts on Society	●	●					
Customer Satisfaction Survey	3.8	Results of Customer Satisfaction Surveys	●				● Taiwanese Customers		
Customer Health and Safety	3.6	Customer Health and Safety	●	●			● Taiwanese Customers		
Product and Service Labeling	3.6	Product and Service Labeling	●				● Taiwanese Customers		
Marketing Communications	2.3	Marketing Communications	●	●			● Taiwanese Customers		
Human Rights Assessment and Human Rights Grievance Mechanisms	4.2 5.1	Human Rights Grievance Mechanisms	●	●				●	

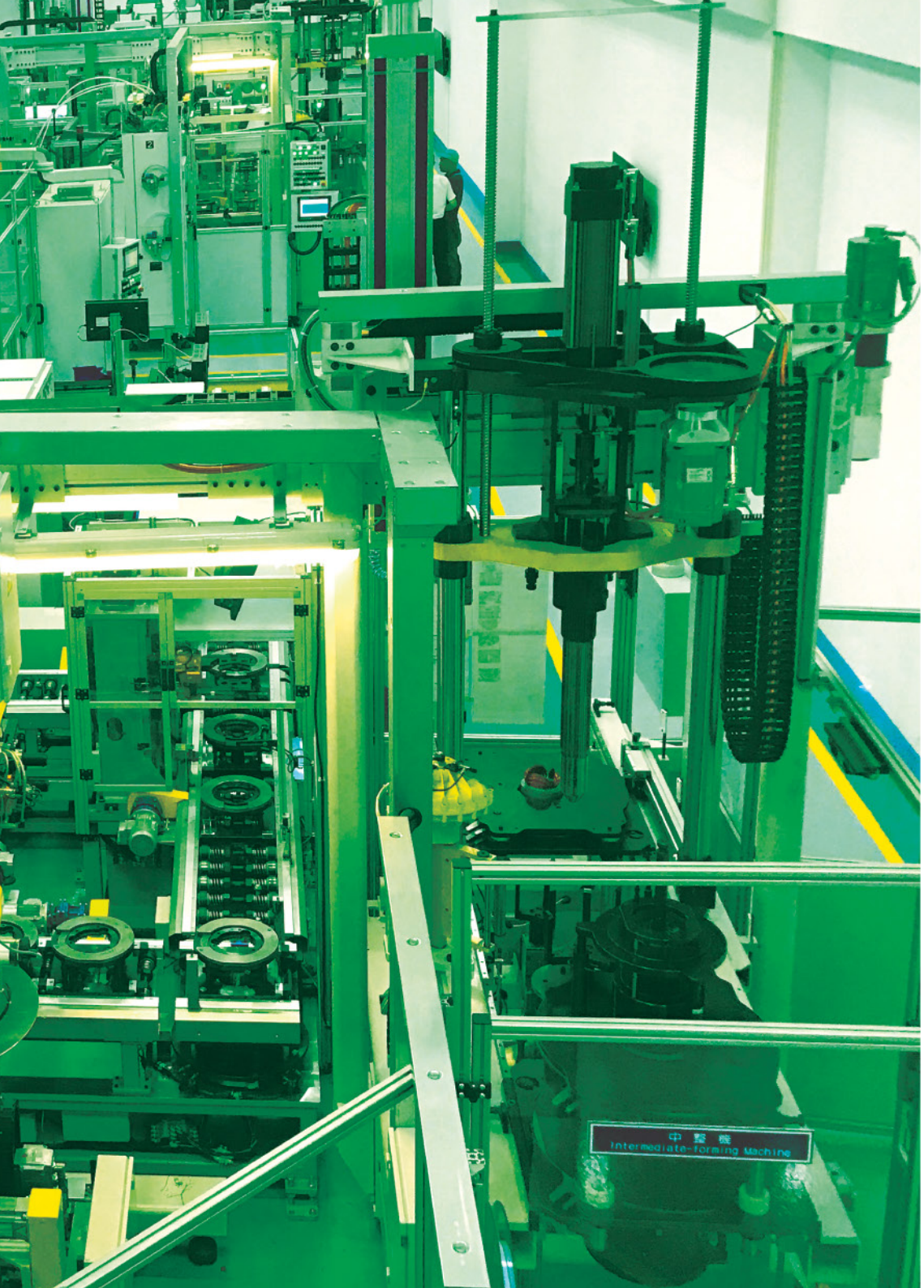
2.3 Issues of Concern to Stakeholders and Communication Channels

Issues of concern to different stakeholders are identified upon statistical analysis of stakeholder questionnaires, and confirmation and adjustments made during communication with stakeholders. Issues of concern to a certain stakeholder category are determined based on questionnaire statistics of said stakeholder category, issues with high scores and issues frequently mentioned by stakeholders during communication.

Stakeholders	Significance of stakeholders for TECO	Issues of Concern	Issue communication channels/frequency	2016 Communication results
 Shareholders	Identification of shareholders with the company is a pillar of support for business sustainability and long-term development. TECO is firmly committed to maintaining excellent communications with shareholders and incorporating valuable opinions in its business and operational policies to ensure continued approval and support for its business direction by shareholders and thereby lay the foundations for business stability.	• Company operational development status • Financial transparency • Risk management • Corporate Governance • Environmental protection	• Market Observation Post System – Over 353 updates in 2016 • Shareholders' Meetings – Convened at least once a year • Participation in domestic and international investment forums–Total of 6 forums in 2016 • Visits by corporate investors – Total of 169 in 2016 • Exclusive mailbox for investor relations/stock affairs – Dedicated personnel replies immediately	• Strengthened confidence of overseas corporate investors in TECO due to efforts of IR units in the provision of operational information and communication resulted in gradually increasing shareholding ratios. • In the 3rd Corporate Governance Evaluation held by TWSE in 2016, TECO earned excellent scores on all indicators (average score of 96.48) and was ranked in the Top 5 % of all evaluated enterprises (total of 1,496).
 Employees	Employees are the key factor determining long-term corporate competitiveness and business results. Good employees are a key pre-requisite of a healthy organization. They generate achievements and facilitate continued growth and sustainable operations.	• Company strategies and operating status • Labor-management Relations • Employee Rights and Interests • Education, training and career development • Work environment • Communication of employee opinions	• Labor-management meetings – Once per quarter • Employee meetings – Once per quarter • Discussions with top executives/ Semi-annually • Occupational Health and Safety Committee meetings– Once per quarter • Employee Welfare Committee • Top-Notch Bi-monthly – One issue every two months • Employee satisfaction surveys/Annually • Proposals for improvement – Total of 876 in 2016	• Conferences with the president, plant managers, HR center executives and union directors and supervisors are scheduled annually. The attendance rate of the president, plant managers and HR executives was 100% in 2016. Union directors and supervisors had an attendance rate of 96.4%. • The annual satisfaction survey for HR services and policies has been completed. The response rate was 43% and executive satisfaction reached 82.4 points, which is 0.8 points higher than in the previous year. General employee satisfaction was 80.2 points, 3.8 points up compared to the previous year. • A total of 876 improvements were proposed in 2016. 29.22% of these proposals (total of 256) aimed to improve the safety of employee property.
 Customers	TECO is firmly committed to providing customers with superior products with high cost-performance ratio. The company also aims to gain a better understanding of the expectations of customers with regard to the company and its products to ensure that products and services fully meet customer demands.	• Product and Service Labeling • Customer Health and Safety • Marketing Communica tions • Customer Satisfaction Survey • Green Products	• Customer service hotline/Non-scheduled • Discussions with dealers/1-4 times per year, non-scheduled dealer visits • After-sale service tracking – Follow-up phone interviews every time a service is provided • Official website and media – Non-scheduled updates • Satisfaction surveys – 1-4 times per year • Proposals for improvement – Total of 876 in 2016	• Customers can contact dedicated service personnel via open communication channels such as phone or e-mail any time. • The accuracy and up-to-dateness of information available for customer queries is ensured through website updates and maintenance. • Catalog labeling is modified in accordance with customer needs to ensure the provision of more effective information.

Stakeholders	Significance of stakeholders for TECO	Issues of Concern	Issue communication channels/frequency	2016 Communication results
 Supplier	Suppliers of key raw materials and components help ensure quality, price and delivery times	• Green Supply Chain Management • Supplier Human Rights Assessment • Business performance • Order management • Quality management • Production technologies	• Supplier evaluations – Non-scheduled • Supplier performance appraisals – Once per quarter • Supplier guidance – Non-scheduled • Procurement liaison – Non-scheduled • E-procurement – Non-scheduled	• Establishment of an e-procurement platform, creation of a unified internal list of qualified dealers and addition of communication channels between TECO and global suppliers • At least 2 visits of every supplier per year
 Local communities	TECO places high emphasis on harmonious development with communities where production and operating bases are located.	• Occupational health and safety • Environmental management • Social engagement • Volunteer services	• Industrial zone service center – Non-scheduled • Industrial zone joint defense – Once per quarter • Mailbox on the company website – Non-scheduled • Volunteer activities – Non-scheduled	Participation in the Taiwan Energy Conservation Patrol jointly formed by Epson Taiwan and BCSD-Taiwan. This patrol provides free energy conservation diagnosis services for companies or organizations that have energy conservation demands and offers concrete assistance in the improvement of energy usage efficiency of SMEs in Taiwan.
 Non-governmental Organizations (NGO)	TECO actively communicates with NGOs to gain a better understanding of environmental and social issues of concern to them. The company's sustainable development policy is formulated by incorporating NGO expert opinions and the strategic direction of the company.	• Environmental protection • Social welfare • Labor conditions	• Disclosure of non-financial information – Non-scheduled • Participation in meetings – Non-scheduled • Co-organization of activities – Non-scheduled	Active participation in external organizations and initiatives such as societies, associations and NGOs including Taiwan's Business Council for Sustainable Development, Taiwan Electrical and Electronic Manufacturers' Association (TEEMA), and Taiwan Automation Intelligence and Robotics Association (TAIROA), etc. to promote domestic and international industrial/economic interactions and exchanges and boost the development of green energy technology in Taiwan.
 Government agencies	TECO occasionally communicates with the government to clarify legal requirements and improve compliance efficiency when formulating internal regulations or planning foreign business operations or investment.	• Legal conformity • Occupational health and safety • GHG reduction • Environmental management • Energy consumption	Participation in forums, conferences, public legal hearings, and document correspondence organized by competent authorities – Non-scheduled	• Market Observation Post System – 33 uploads of materials information • Establishment of an OHSAS18001 and CNS15506 (Taiwan Occupational Health and Safety Management System) compliant occupational health and safety management system to systematically promote the management tasks occupational safety and health-related management tasks and ensure effective implementation and legal conformity of the management system. • In accordance with the "Regulations Governing Formulation of Energy Conservation Goals and Implementation Plans by Energy Users" promulgated in 2014 by the Ministry of Economic Affairs, the company reduced electricity consumption of the Chungli Plant by 2.96% in 2016 (exceeding the required reduction of 1%)

Promotion of Sustainable Operations



3.1 Sustainability and Core CorporateCapabilities

TECO Corp. was founded in 1956 and the company's operations currently span over 40 countries and 100 cities in 5 continents. The company initially focused on the manufacture and sale of motors and has gradually diversified into various fields spanning heavy machinery, home appliances, IT, communications and engineering. As of 2008, TECO has gradually become aware of the environmental burden generated by industrial development. The company has therefore embraced the corporate vision of "TECO GO ECO" and has been firmly committed to the development of green energy technologies ever since. TECO continues to develop energy-saving systems including highly efficient motor products and inverters. By tapping its outstanding capabilities in the field of electromechanical integration and through the development of visionary green energy technologies, the company has turned into the first manufacturer of motors specifically designed for electric vehicles (EVs). At the same time, TECO's independent development and production of wind turbine products has catapulted Taiwan to the rank of the 8th largest manufacturer of large-scale wind turbines in the world.

In 2016, the company made strides in the field of smart green products by integrating communication and IT technologies of the subsidiaries within the group and relying on TECO's core corporate capabilities on the foundation of existing green energy products and energy-efficient home appliances in response to the rapid development of IoT driven by the rapid spread of smartphones and wireless network technologies and greatly enhanced data analysis and transmission capabilities. TECO aims to achieve greater efficiency in energy consumption and trigger a conversion from traditional to smart methods in the manufacturing industry through the integration and application of innovative new technologies.

Core capabilities

01 Electromechanical integration capabilities

02 Deep commitment to the development of green energy technologies

03 Infusion of diversified technologies and product upgrades through innovative cooperation

2015

- Market Continued commitment to development of highly efficient products has resulted in carbon emission reductions of 224,682.57 tCO2e in 2015.
- Development of smart motor monitoring systems and conversion of traditional products to smart products through integration of innovative technologies.
- 100% of the newly launched home appliance models fully support cloud management functions.

2016

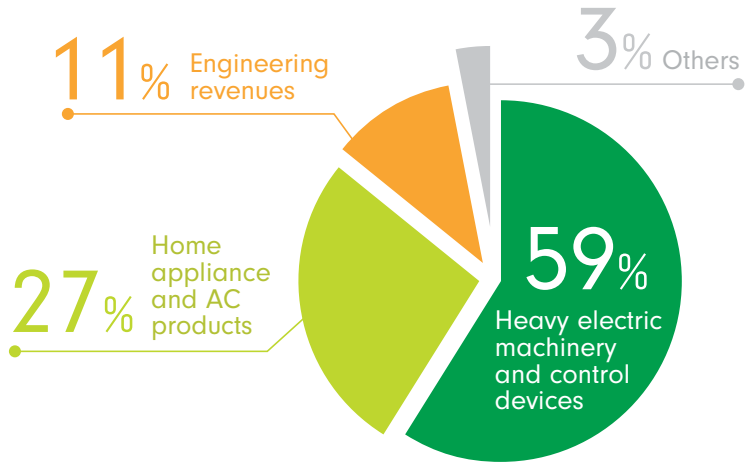
- Continued commitment to development of highly efficient products has resulted in carbon emission reductions of 319,961.52 tCO2e in 2016.
- Adoption of automated production lines in the Chungli Plant to realize high efficiency and high performance, achieve effective cost reduction, and strengthen competitiveness.
- Actual achievements in the enhancement of smart green energy solution, aggressive pursuit of business opportunities in the field of IoT4.0, and initiation of industry upgrades.
- Assistance for Yilan County Government in the development of a smart energy conservation system through an integration of smart home appliance and IoT technologies to take the first step toward smart city development.

2017 Future outlook

- Continued development of high added-value products with smart and variable frequency characteristics to maintain the company's competitiveness in the smart green energy industry.
- Active deployment of production line automation and realization of TECO's Industry 4.0 concept of "Energy Conservation, Emission Reduction, Smartness, and Automation" through optimization of smart green product lines and green building and factory concepts.
- Mass production of communication module products with smart home appliance features and technologies for IoT applications.
- Installation of solar power systems with a total capacity of over 6MW in 2019 on the rooftops of the company's own factory buildings.

3.2 Operational performance

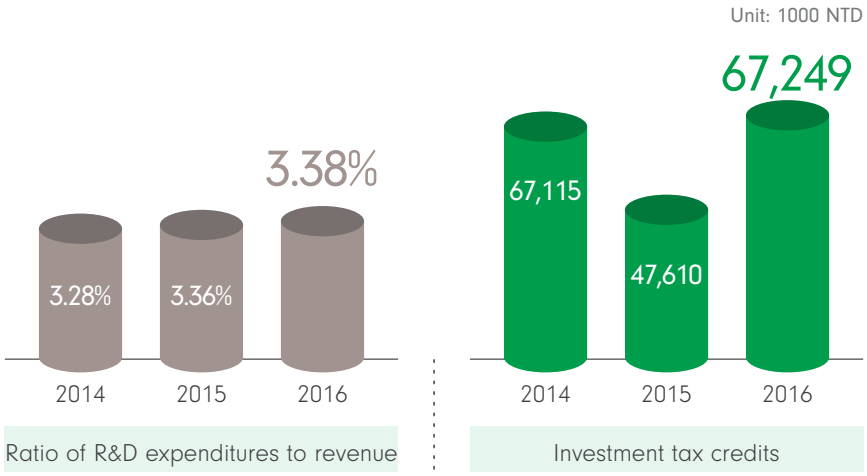
Revenue ratios of different product categories in 2016



Relevant performance

	2014	2015	2016
Operating revenues (in thousand NTD)	24,256,762	21,809,717	**20,274,047**
Net profits (in thousand NTD)	4,066,924	3,177,291	**3,481,480**
ROE (in %)	8.83%	6.57%	**7.16%**
EPS (in NTD)	2.06	1.60	**1.76**
Cash dividends (in NTD)	1.1	0.8	**0.88**
Income tax expenses (in thousand NTD)	384,663	329,153	**140,944**

Note: The lower income taxes in 2016 compared to 2015 are a result of tax benefits of NT$ 184 million generated by capital reduction in the investee companies Taiwan HSR and Qingdao TECO.



Operational challenges

In 2016, the global economic growth rate dropped to a new low of 2.4% since the financial crisis. The economic recovery in developed nations such as America, Japan and Europe is weaker than expected and growth in China and emerging markets is sluggish. These factors combined with the uncertainty surrounding Brexit have led to a drastically reduced demand for electromechanical products. As a pioneer in the field of sustainable development in the electromechanical industry, TECO has been able to maintain a firm grasp of new business opportunities and stable profits by relying on its dedicated efforts in the fields of energy conservation, emission reduction, smartness , and automation over many years.

Operational strategies and objectives

In response to arduous challenges of the market and long-term development strategies, TECO maintains its deep commitment to energy conservation and smartness. Successfully developed products in 2016 include large-scale circulation pump motors, medium-voltage inverter motor for industrial grade chillers, IE4 motors in Japan and China, dust ignition proof motors, networking inverters, cloud energy management systems (EMS), and R32 refrigerant series. The company also earned 9 Taiwan Excellence Awards and 23 national and international patented technology certifications.

Major international organizations estimate that the global economic growth rate will range between 2.4% and 3.3% in 2017. Oil prices and metal prices have stabilized, which has a positive effect on the company's revenue situation. The forecasted growth rate for Taiwan is 1.5%-1.8%, which is higher than last year. The added impact of the accelerated promotion of the structural transformation of the industry and expanded infrastructure investments is expected to stimulate domestic investments and economic growth, which will also have a positive effect on the sales volume of electromechanical products and engineering revenue.

Looking ahead to 2017, the company's development strategy will be centered around customer-oriented system products and continued commitment to smart and automated production equipment and relevant products. The company also aims to expand its market for eco-friendly products that contribute to energy conservation and carbon reduction and coordinate its efforts with overseas and domestic affiliated enterprises to maintain a firm grasp of global business opportunities in the field of energy conservation and carbon reduction. Furthermore, the company will engage in the field of PV ESCO and install solar power plants on the rooftops of its existing plants in 2017. The development of key smart city applications such as micro grid and smart energy management systems has been completed.

In addition to the constant pursuit of improved revenues and profits growth, TECO is fully committed to the implementation of corporate governance and the fulfillment of CSR. The company has been honored with a Taiwan TOP 50 Corporate Sustainability Report Award for three consecutive years and has also been recognized with the Corporate Citizenship Award presented by Common-Wealth Magazine and a ranking in the top 5% of the TWSE Corporate Governance Evaluation. As a pioneer in the field of sustainable development in the electromechanical industry, the company will continue to uphold its philosophy of ethical corporate management and its commitment to the development of smart and eco-friendly products in response to the global trend of energy conservation and carbon reduction. The company also aims to make constant progress toward the global corporate benchmark to maximize stakeholder benefits.

3.2.1 Global deployment

● Distribution ● Manufacturing

Since its inception, TECO Corp. has always been committed to the goal of global operations. The first overseas subsidiary was established in Singapore in 1972 in an attempt to consolidate the company's leadership position in the field of industrial motors in Southeast Asia. In 1980, the company gained a foothold in the Australian market. The acquisition of the US motor manufacturer Westinghouse in 1995 catapulted the company into the ranks of the TOP 3 industrial motor brands in the world. TECO entered the Chinese market in 2000 and has invested in production facilities in China. In 2015, the company further acquired the Italian company Motovario S.p.A. This move rapidly increased the company's share of the European market. Our business operations span almost 50 countries in five continents and we actively pursue sales and investment opportunities in emerging markets including India, Africa, and ASEAN to strengthen overseas footholds and expand Global deployment.

3.2.2 Global Achievements

Company Profile
TECO Electric & Machinery Co., Ltd.
Founded in June 1956
HQ Address: 5F, No. 19-9, Sanchong Rd., Nangang Dist., Taipei City, Taiwan
Ticker :
Company history:
Key products and services:

Note: *For image sources please refer to the Appendix in CH8

ARCHITIZER A+AWARDS FINALIST 2016

"Taiwan High Speed Rail Changhua Station" was selected in an online poll as the ARCHITIZER "A+" Award winner in the bus and train category presented at the 4th award ceremony

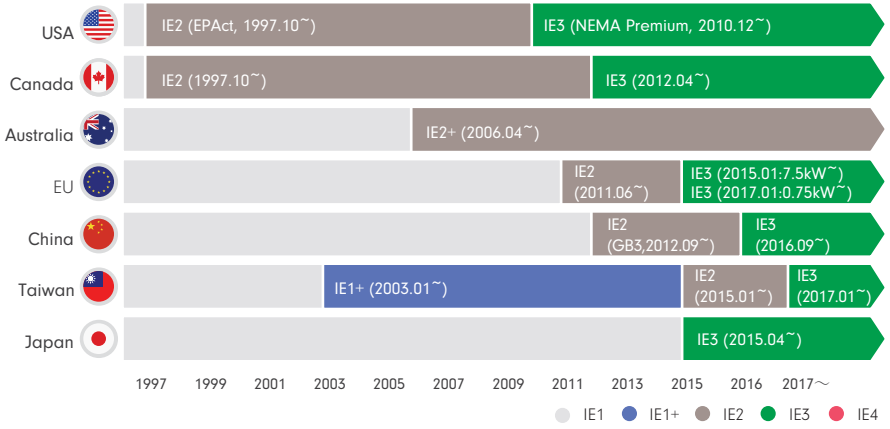
3.3 Development of Smart Industrial Products

3.3.1 Current state of the Heavy Electric Industry

Motors represent the main source of propulsion of humanity, accounting for 40-50% of the total global power consumption and over 70% of the industrial power consumption. They play a key role in the context of global power conservation and carbon reduction initiatives. The development of highly efficient motors in the heavy electric industry is centered around efforts to enhance the efficiency of the conversion of electricity into mechanical energy by motors. As shown in the graph below, all major countries in the world except Australia, which maintains the IE2 (note below) motor efficiency standards, have implemented the IE3 high efficiency standards in their laws and regulations starting in September 2016. Motors that fail to meet the prescribed efficiency standards may not be sold on the market. TECO firmly embraces its motto "Reforms create new opportunities and innovation opens up the future" and is fully committed to an international marketing strategy for highly efficient motors. The company has completed development of high efficiency motor product series tailored to the needs of major countries and markets worldwide.

Note: IE1~IE5 are the motor efficiency rating standards formulated by the International Electro-technical Commission (IEC), and IE5 is currently the highest efficiency rating.

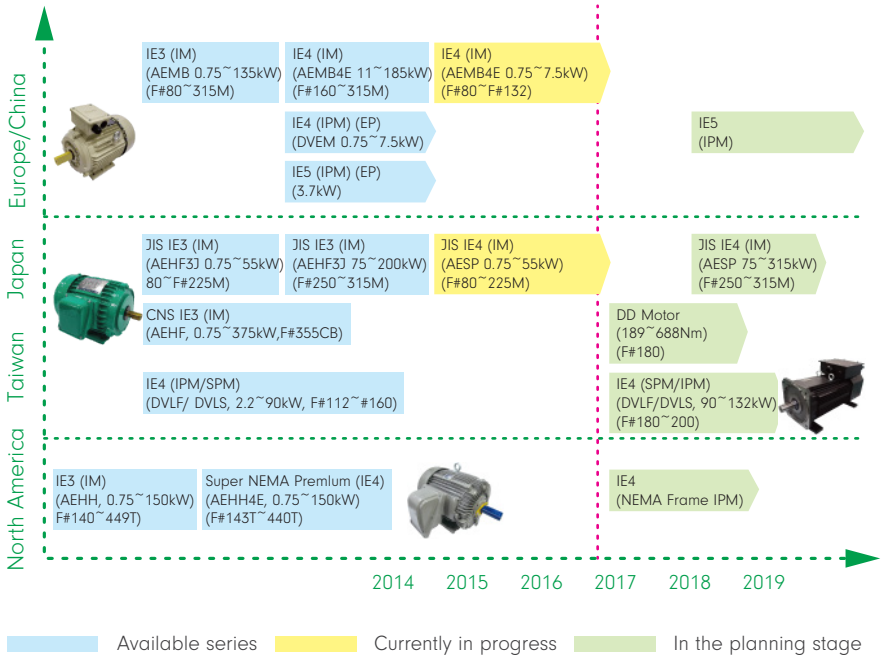
Timeline of adoption of high efficiency motors by country



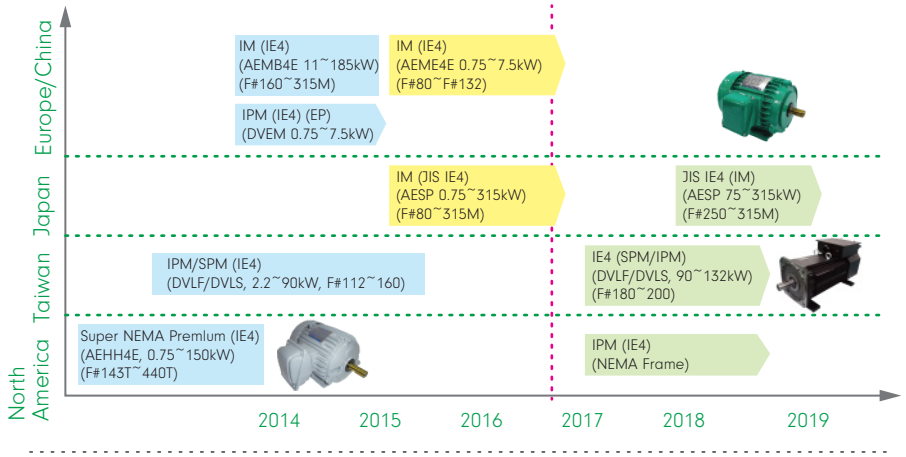
Development of TECO's high efficiency motors

The chart below shows the roadmap for development of high efficiency motors for major global markets including America (NEMA), Europe (IEC), China (GB), Japan (JIS), and Taiwan (CNS). Relevant product series were completed prior to enactment of IE2 and IE3 related laws and regulations in each market. Despite the fact that no concrete timetable for the implementation of the higher efficiency rating standards IE4 and IE5 exists in these countries, TECO has already completed development of the first aluminum die-cast rotor IE4 high-efficiency induction motors in the world as well as IE4 high-efficiency permanent magnet motors integrated with inverter drives to achieve maximum energy conservation and emission reduction effects for customers and improve the company's technical capabilities In addition, the company uses no or very little rare-earth magnet for its IE4 synchronous reluctance motors and magnet-assisted synchronous reluctance motors. Even the most efficient IE5-grade permanent magnet motors have already been deployed.

Development of IE3~IE5 products



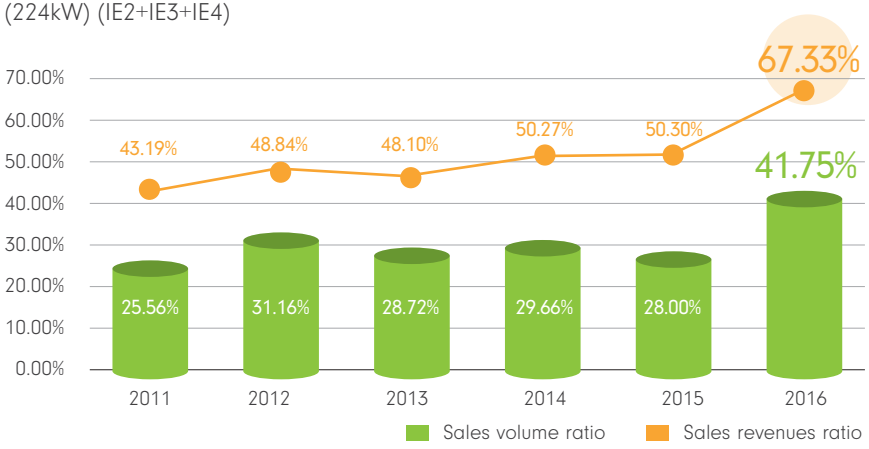
IE4 Strategy Development



In 2016, the sales of high performance energy-efficient motors below 300hP (224kW) (IE2+IE3+IE4) accounted for 67.33% and 41.75% of TECO's sales revenue and volume, respectively. Total energy savings reached 590 million kWh of electricity (please refer to the charts below):

Green Product Performance

Sales ratios of high performance energy-efficient motors below 300hP in 2016 (224kW) (IE2+IE3+IE4)



Compared to IE1-rated motors, high performance and energy-efficient motors (IE2+IE3+IE4) sold by TECO all over the world in 2016 generate annual electricity savings of roughly 590 million kWh and emission reductions of 310,000 tCO_2e.

Energy savings and emission reductions generated through the sale of high performance energy-efficient motors below 300hP (224kW) in 2016

Total energy savings : 586,567.41 1000 kWh/Year

Total emission reductions : 309,707.59 tCO_2e

Note: Calculations based on 5,000 operating hours per year
CO_2e figures based on power coefficient of 0.528 kg CO_2e/kWh announced by the Bureau of Energy, Ministry of Economic Affairs (MOEA) in 2015.

Energy-Efficient Inverters and Green Energy Solutions

In addition to high-efficiency energy-saving motors, TECO also actively develops industrial low- and medium-voltage inverters and servo drives to pursue business opportunities in the field of energy conservation. In response to global trends of energy conservation, carbon emission reduction, and eco-friendliness, and production automation as the mainstream in global industrial development of, the main focus of electric control business development lies on the development of products that meet demands for high-efficiency, energy conservation and precise control for mechanical systems. On the foundation of the "TECO GO ECO" vision, the company has also developed control components for motors, such as inverters, servo drives and other perimeter protection low voltage products to meet industry needs for safe electricity usage, automation, and energy conservation.

The TECO 510 industrial control series inverters features the initials L, E, A, F, symbolizing the core spirit of harmony and symbiosis with nature and achieving the dual objective of higher energy efficiency and better energy conservation. Optimized inverter design results in reduced environmental burdens, and the use of eco-friendly materials that conform to RoHS and REACH management standards ensures that no injuries or secondary pollution are generated. The company also actively promotes an environmental safety and health management system and has acquired the ISO14001 and TOSHMS/OHSAS 18001 certifications with the goal of maintaining the safety of work operations and minimizing environmental impacts. The 510 series features a complete range of solutions from entry-level to high-end with different specifications and a high cost-performance ratio as far as horsepower is concerned. This series represents a major breakthrough in domestically produced energy-saving inverters in terms of powerful features and application breadth.

Application range

Heavy-load general-purpose applications	crane, lift, elevator, drill, punching and pressing machine		A510s	• 200V 1-150HP • 400V 1-425HP • 575 / 690V 1-270HP
Standard heavy-load air conditioning and heating systems	Building automation, HVAC, fans, and pumps		F510	IP20 • 200V 1-175HP • 400V 1-800HP IP55 • 400V 1-100HP
Standard heavy-load industrial applications	Industrial applications, transportation applications, woodworking machinery, sealing machinery		E510	P20 / IP66 • 200V 0.5-20HP • 400V 1-25HP
Compact V/F Control Drive	Conveyor, sealing machinery, food processing machinery, textile machinery		L510s	• 100V 0.25-1HP • 200V 0.25-10HP • 400V 1-15HP

Images: 510 series inverter applications and capacity

The A510s and F510 series is not only capable of controlling induction motors but has also achieved significant progress in the control of highly complex synchronous motors, breaking through the bottleneck of inverter energy conservation efficiency with an average efficiency of 45%.

Advantages of inverter applications

1. Energy conservation through motor speed control: The adoption of inverters enables motors and equipment to operate at variable speeds suited to each stage of the work cycle instead of constant operations at maximum speed and power. This generates energy conservation effects.
2. Reduction of peak currents at motor start-up to achieve energy-conservation effects.
3. Improved power factor: Inverters with rectified input are capable of improving the power factor and thereby help avoid power supply limitations, lower reactive energy demand, and reduce energy costs.

Note: It is estimated that the adequate use of inverters in industrial, commercial and residential-use motors in Taiwan could generate annual electricity savings of 17,500 Gwh of electricity annually, which is equivalent to the power output of one nuclear power plant or the carbon adsorption effects of 23,438 Daan Forest Parks. Statistics released by Taiwan Power Company (Taipower) and the Bureau of Energy, MOEA reveal that:

A. Taiwan's average annual electricity consumption amounts to approximately 200,000 GWh.
B. Taipower's first, second and third nuclear power plants are capable of supplying approximately 40,000 GWh of nuclear power annually.
C. As per public notice of the Bureau of Energy in 2015, the power emission coefficient is 0.528 (kgCO2e/kWh)
D. The annual CO2 adsorption of the Daan Forest Park amounts to 389 metric tons.

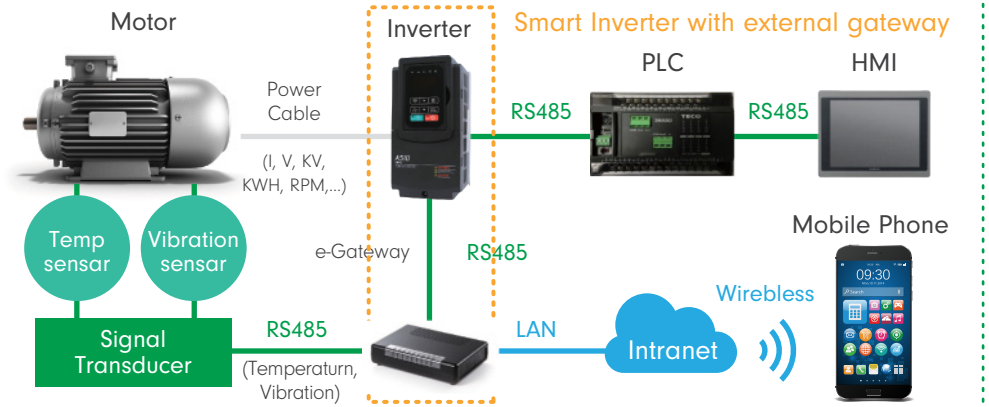
3.3.2 Future Development of Heavy Electric Devices

■ Integrated Sale of Smart Electromechanical Products

In response to the latest trends of IIoT (Industrial Internet of Things) in system integration and innovative applications, TECO Group has implemented integrated sales of single products including motors, inverters, and appliances to raise overall morale and maximize strategic benefits. The company also strives to raise business efficiency and competition thresholds, strengthen the grasp of customer demands, create more potential opportunities in the field of resource integration, and achieve the ultimate goal of accelerated business growth.

Following the launch of the Smart Motor Remote Control and Monitor System (SMS), TECO places prime emphasis on integrated sales of Smart Motor and Smart Inverter. This smart monitoring technology provides real-time motor/inverter information and operation information including detection of electric currents, temperatures, and frequencies as a basis for diagnosis mechanism operations and solutions/recommendations regarding irregularities and abnormalities. In case of motor/inverter irregularities, this system is capable of issuing real-time alerts and warnings. Alarm records, maintenance history, operation manuals, and contact person groups are combined to form a complete monitoring system and solution package. This allows users to make optimal allocations via smartphones without any spatial limitations and greatly reduces losses caused by unexpected stoppages.

Framework for Integrated Sale of Smart Electromechanical Products: Smart M+ Smart I



Effects of Integrated Sale of Smart Electromechanical Products

1. Easier grasp of production information by consumers
2. More rapid maintenance services
3. Facilitation of reproduction of defects
4. Maintenance of intimate customer relationships
5. Reduced costs and increased productivity
6. Integrated sale of the existing IE3 high efficiency motor series to meet the energy efficiency demands of different regions increases the overall system efficiency for customers and can conserve **20~50%** of energy during VF control.

■ Machine Health Management (MHm)

Machine Health Management is a brand-new factory automation solution that combines the concepts of "smartness and automation" in sync with the two major trends of Productivity 4.0 , eco-friendliness, and energy conservation . In addition, this solution is reasonably priced and can be afforded by any factory with small- and medium-sized machinery and is therefore ideally suited for full promotion. It can also be combined with the TECO Machinery Network Installation Solution to create a turnkey installation. For factory owners who aim to expand their existing machinery, reasonable investments can generate considerable benefits in the fields of factory maintenance and operation automation, a rapid rise into the ranks of Taiwan Productivity 4.0, and an improved reputation in the field of automated production.

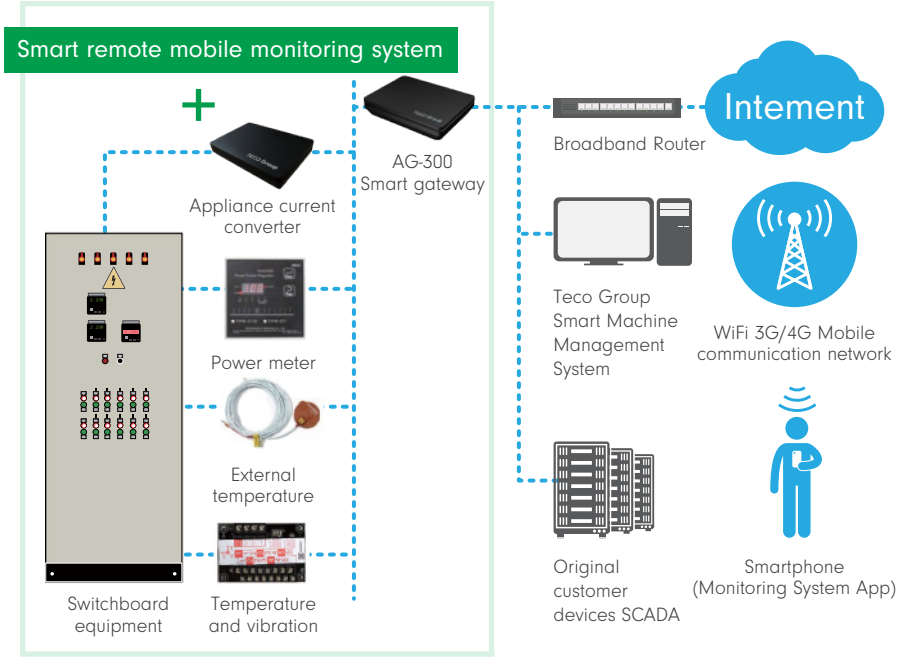
MHm System Platform Characteristics

1. Enables managed equipment to connect to a network via Ether or WiFi/3G/LTE
2. Remote monitoring, reporting, warning, and control of machinery and equipment operating conditions through a network
3. Linkage with smart cloud devices (smartphones, tablet computers) to allow not only remote control but also mobile control anywhere of monitoring, reporting, warning and control functions.
4. All transmission, receipt, and control operations can be handled in a real-time, bi-directional, and interactive manner.
5. All monitoring functions are controlled by Private Cloud to guarantee equipment security and confidentiality.

MHm System Platform Function

- Timely reporting of operating values
- Remote alerts
- Reporting of operating value trends
- Remote shutdown
- Normal energy consumption setting
- Real-time and interactive diagnosis of malfunctions and maintenance suggestions

MHm architecture



All remote monitoring functions are controlled by Private Cloud to meet information security management requirements.

MHm application examples

Future Development Plans and Objectives

It is expected that this remote mobile monitoring device can be installed on operational equipment of any brand. After a simple installation process, operating information including voltage, current, temperature, and vibration as well as power consumption statistics for electromechanical equipment including motors, pumps, and inverters is transmitted to the IoT Host and can be linked on the network via smartphone and the MHm system. The system allows higher-end management through multiple powerful functions including the provision of machine operating information, alerts, trends, malfunction diagnosis, preventive maintenance, power consumption records, equipment and specified parameter configuration as well as power consumption reports. The smartphone APP allows health management of 10 machines. The computer APP allows health management of up to 300 machines. This health management platform has powerful analysis and comparison capabilities. It not only allows more accurate preventive maintenance but is also ideally suited for the new trend of mobile maintenance due to its focus on real-time, interactive, and bi-directional operation. Business owners enjoy multiple benefits including conservation of energy, expenses, and manpower as well as reduction of manufacturing costs.

Development of a Smart Microgrid

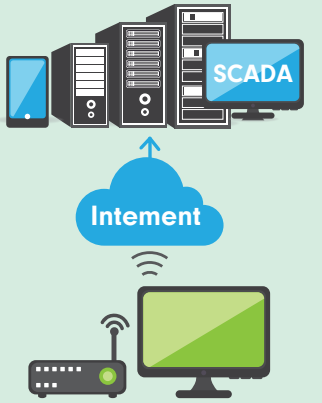
TECO actively deploys Industry 4.0 development, processes the data analysis through IoT, and integrates the storage and release management of city power and green energy. Smart Microgrid systems are capable of conducting self-monitoring and allocating the power consumption through flexible combination of city power and renewable energy such as solar energy, small-scale wind turbines, and fuel cells as supplementary power supply.

Smart Microgrid system are capable of connecting and supplying power to Area Power Grid to reduce carbon emission. This system can also operate independently and serve as a large-scale mobile power supply to provide emergency or backup power for the military, power companies, data centers, medical units, emergency rescue units, etc. as well as remote areas or outer islands without stable power supply. Business owners can access the status of power supply at any time through the mobile APP with TECO's smart microgrid system and a cloud-based smart monitoring system.

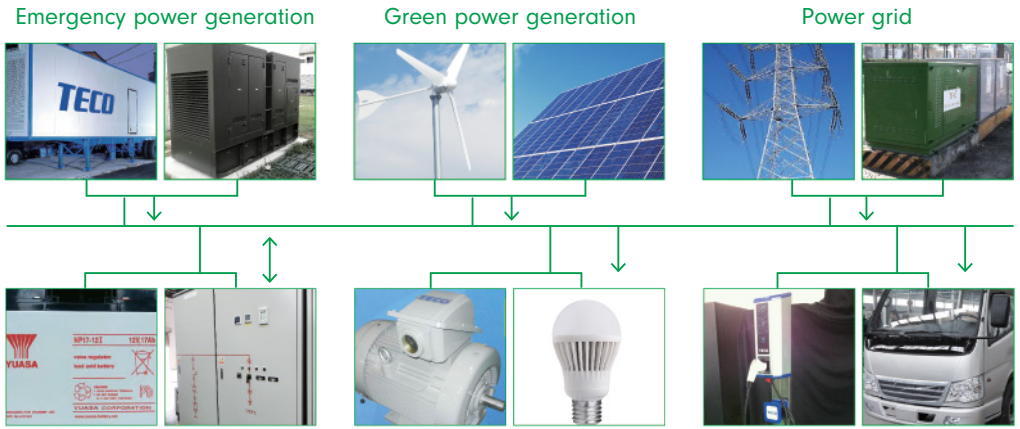
Development status of the smart microgrid

Completion of testing and verification in 2016→Practical applications are planned for 2017 (e.g., microgrids in regions lacking a stable power supply in Indonesia, remote areas in Taiwan, offshore islands, and smart communities).

Architecture of the smart microgrid energy management system



Energy management system (EMS)



ESS Energy Storage System
BMS Battery Management System

LOAD

EV

3.4 Smart, Energy-Saving, and IoT Home Appliances

3.4.1 Development Trends in the Field of Smart Home Appliances

Smart appliances have become the mainstream in the home appliance industry. An international market research company forecasts that the global smart appliance market will rise exponentially from 600 million USD in 2012 to 35 billion USD in 2020. The rapid spread and development of smartphones and wireless network and communication technologies combined with the emergence of IoT and energy conservation concepts has provided a strong impetus for the development of smart home appliances. User-friendly smart controls combined with convenient cloud applications and the development of energy-efficient and power-saving smart home appliances represent the main steps for businesses who strive to expand into the green energy and smart grid industries. In addition, smart home appliances are characterized by convenient controls and energy conservation potential, which in turn provides a further boost to rapid market growth. Future development directions:

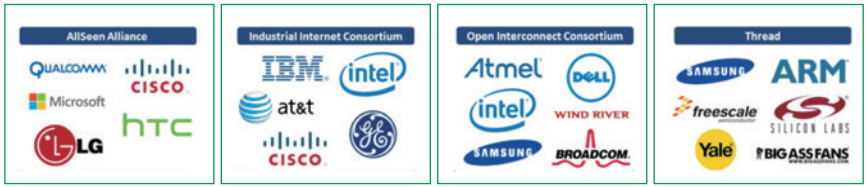
■ Machine Health Management (MHm)

Global warming and extreme climate patterns are pressing issues that can only be solved through a joint effort of all humans. Smart home appliances can achieve energy conservation through automatic adjustment of operation times in accordance with the surrounding environment. For instance, Smart AC systems are capable of automatic adjustment of their operating conditions in accordance with different seasons, climate conditions, and user locations to achieve optimal results and energy conservation under the premise of satisfaction of human needs. In view of critical bottlenecks in the field of energy supply, energy conservation has turned into the main selling point of home appliance brands. In addition, eco-friendly features of home appliances will receive growing attention in the future.

■ Openness and Compatibility

Due to the fact that households tend to use different home appliance brands, Smart appliance platforms must be characterized by openness and compatibility.The home appliance industry should therefore develop a universal standard to ensure mutual compatibility of home appliance products. Under supervision of the Green Energy and Environment Research Labs., ITRI (formerly known as Energy and Resource Labs), TECO home appliance manufacturers have competed a preliminary version of a Smart Appliance Alliance Network (SAANet).

Main international alliances:



Composite Interactive Smart Control

In the future, it will be possible to link smart appliances via the home area network and connect them with manufacturer service stations through the home area network interface. Remote control through mobile devices by users and active responses by smart information appliances through active sensors (e.g., temperature, sound, action) are classic examples of people-to-object and object-to-object interactions. This information can also be fed back to users by mobile devices, which is an example of object-to-people interactions. These people-to-object, object-to-people, and object-to-object modes fully embody the spirit of IoT.

3.4.2 Future Development of TECO Smart Home Appliances

TECO is the first domestic manufacturer that has incorporated IoT functionality into home appliances. The company pioneered the launch of cloud-based AC systems with customer-oriented practical functions, such as scheduling control, power consumption visualization, remote control, shutdown reminder, etc. to establish itself as a leader in the development of smart home appliances. Despite the fact that key IoT functions have already been incorporated into all major TECO home appliance technologies, the company firmly embraces the core philosophy of "Content Is King" in the field of smart home appliance development and strives to provide its customers with top-value service contents. The second core concepts of smart home appliance development is the provision of smart functions to enhance customer value rather than the mere provision of basic IoT functionality. In addition to its AC systems, the company searches for smart features and applications for other items to leave a deep impression on its customers. For instance, TECO currently researches new modes for its washing machines that allow removal of stains through sufficient soaking, spin drying without disturbing neighbors, hang drying right after work instead of creating breeding grounds for bacteria on wet clothes left in the machine all day.

Smart Air Quality Management System

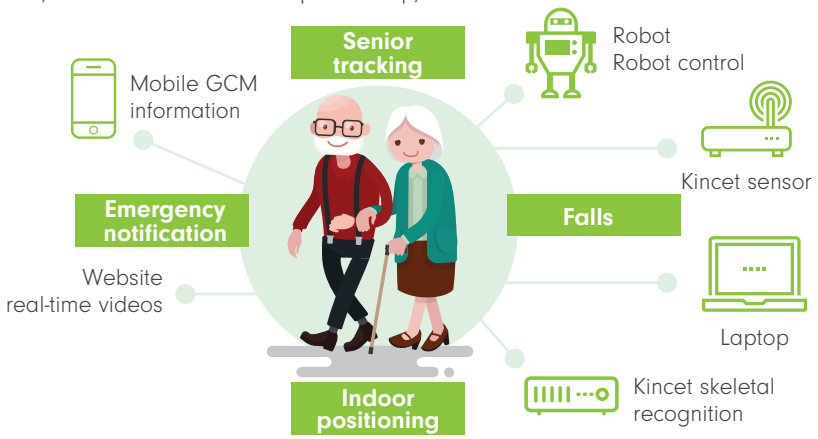
TECO integrated its existing air-conditioners, dehumidifiers, air purifiers, fans and total heat exchangers to form a smart air quality management system and generate a living environment characterized by ultimate comfort with applications of people-to-object, object-to-object and object-to-people modes.

1 Heat pump AC 2 Ventilators (Total heat exchangers) 3 Air purifier 4 Dehumidifier
5 DC Fan 6 Wireless AP

Active air management is achieved through the AC system as the main air management unit and transmission of temperature, moisture, pollution, and odor information between devices. P2P (low cost) technology is adopted for the communication among appliances to ensure smooth exchange of IoT information. With shared cloud servers and UltraVPN resources, smart control environments are created between appliances through APPs to gain a firm grasp of Content.

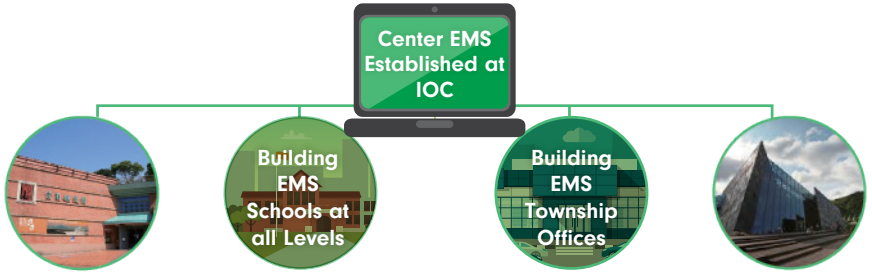
Home Care Systems for Seniors

In view of the rapid aging of Taiwanese society and in line with the government's long-term care policy, the solutions which are currently being developed also include various smart home appliances to provide seniors with a healthy, safe, and convenient environment. This also includes service robots to ensure security monitoring, fall prevention alerts, rehabilitation in collaboration with medical care units, entertainment and companionship, etc.



Smart Energy Management System

In response to energy conservation and carbon reduction demands, an intelligent Energy Management System has been developed for public buildings (such as schools) and commercial customers (such as chain stores) through the integration of TECO's core competencies in A/C with power-hungry systems such as lighting and elevators. The Yilan Demo Site is a good example. A centralized management and decentralized control approach have been adopted. Centralized management ensures a firm grasp of the power consumption of each branch organization and formulation of power conservation strategies through the smart IoT capabilities of devices. Another dimension is the development of decentralized innovative smart control to reduce electricity consumption by an estimated 40% while maintaining thesame comfort level.

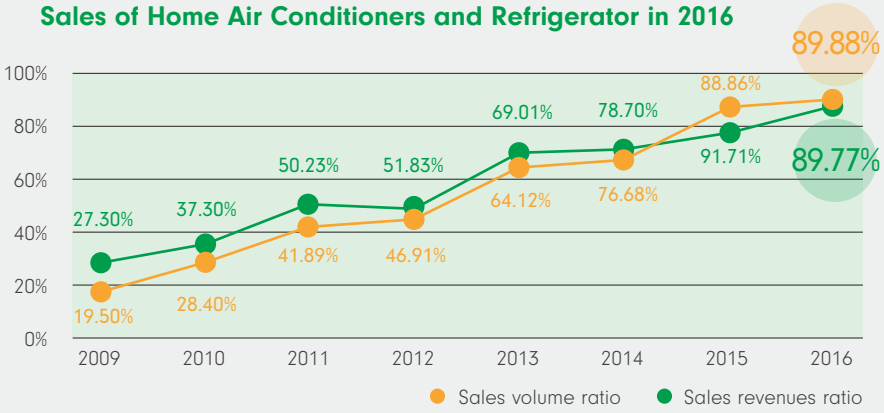


3.4.3 Energy Conservation Effects of Smart Home Appliances

Energy conserving home appliance solutions (from AC energy conservation to demand control)

Statistics released by Taipower and the Bureau of Energy reveal that Taipower reserve margin dropped to a new low of 1.9% in July 2015. Air conditioning equipment accounts for around 40% of the power consumption of commercial buildings. On March 15, 2016, the Ministry of the Interior therefore launched the "Sustainable Smart City - Smart Green Building and Community Initiative". Colleges and universities in Taiwan successively adopt remote demand control of AC systems and electricity fee card payment systems in student dorms. IoT AC systems have been installed in Farglory Second Generation Residential Projects and the MRT joint development project of Kindom Construction. These systems are also sold to the aftermarket. IoT AC systems combined with POS system applications are utilized for the monitoring of AC systems in unmanned data centers of telecommunication providers and smart farms such as orchid plantations in Nantou. The power consumption of AC systems in each store and data center can be reported back to the HQ Logistics Center which allows forecasting of monthly power consumption and remote control and monitoring.

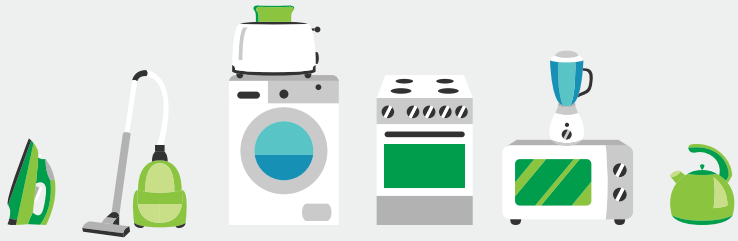
Ratio of Class 1 and Class 2 Energy-saving Models to TECO's Total Sales of Home Air Conditioners and Refrigerator in 2016



■ Energy conservation statistics of Class 1 and Class 2 Energy-saving Home Air Conditioners and Refrigerator in 2016

Total energy savings : 19,420.32 kWh／Year

Total carbon emission reduction : 10,253.93 tCO_2e



Note 1: As per public notice of the Bureau of Energy in 2015,the power emission coefficient is 0.528 ($kgCO_2e$/kWh)

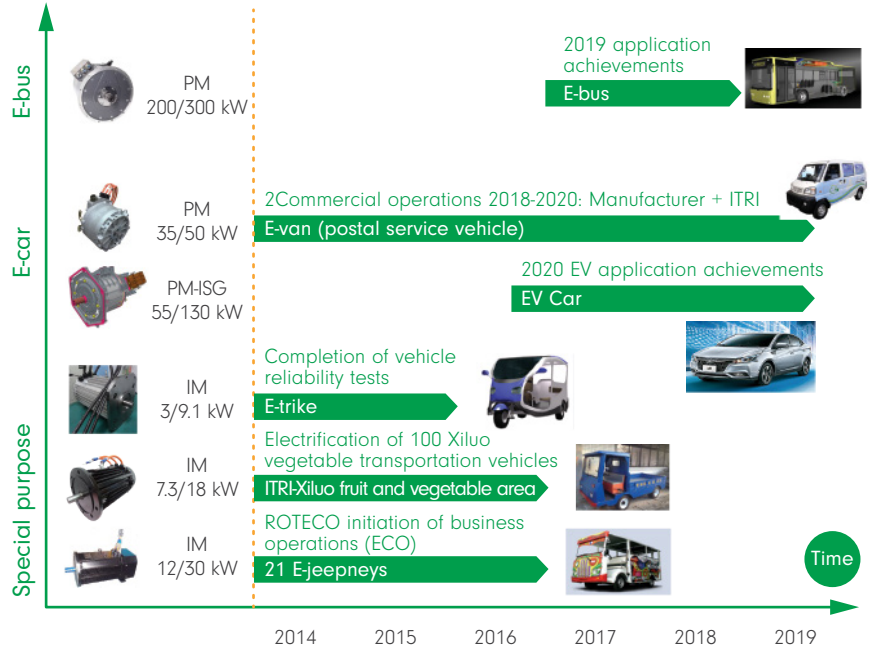
3.5 New Developments in the Green Energy Industry

3.5.1 EV Motors

In 2016, over 777K electric vehicles (EVs) were sold worldwide, up 41% compared to the same period of the previous year. Propulsion systems for electric vehicles have matured. Over 50 mass-produced EV models are currently available on the market. However, market acceptance of EV cruising radius and prices is rather limited. R&D efforts of mainstream EV manufacturers therefore focus on battery technologies and cost reduction. At the same time, every manufacturer is searching for breakthroughs in the field of lightweight design by adopting new materials including high-strength aluminum alloy and carbon fiber reinforced plastic.

The development of power modules for special-purpose vehicles has been the company's main focus in consideration of new technologies adopted by the mainstream EV manufacturers and the prices acceptable to the market. TECO has successfully rolled out models with specifications and prices comparable to diesel cars, including E-trikes and minibuses.

■ Development of EV motors 2016-2020



EV development roadmap

Actual achievements in the field of EV

Major car manufacturing countries cooperate in the solution of air pollution and GHG related issues pursuant to international energy consumption laws and regulations which are becoming increasingly strict. It is expected that oil consumption will decrease significantly (by 20-40%) in the next four years starting in 2017. Internal combustion engines currently available on the market fail to meet the required standards in 2020. Major car manufacturers gradually shift their R&D activities to new energy vehicles (NEV) to rapidly conform to the targets set forth in the tightening laws and regulations governing oil consumption. In recent years, TECO has actively cooperated with major carmakers in the development of motors for new energy and electric vehicles. Constant advances in the field of electrical engineering and design serve as the foundation for the development of motors for EVs. The development of next generation propulsion motors for vehicles will lead to a further refinement of highly sophisticated manufacturing technologies and enhanced mass production characteristics and increased price-performance ratios. The production of 10,000 EVs with highly efficient propulsion motors can reduce CO2 and GHG emissions by 6,693 metric tons compared to traditional cars with internal combustion engines, which is equivalent to the carbon adsorption capacity of 17 Daan Forest Parks. The use of renewable energy sources (e.g. solar energy, wind energy) for EV charging can reduce CO2 emissions by 16,184 metric tons since no CO2 emissions are created during the power generation process because no fuel is burned. This is equivalent to the carbon adsorption capacity of 42 Daan Forest Parks. The emission reduction efficiency is 2.4 times higher than that of fuel generated electricity.

Expansion into overseas special-purpose EV markets

TECO entered the Philippine market with EVs with special functionality in line with the Philippine government policy of replacing traditional means of transportation. A government decree mandates that Jeepneys older than 15 years must be replaced, which represents an enormous business opportunity due to the fact that 350,000 Jeepneys in the Philippines meet the criteria for replacement. EV can solve the problem of pollution generated by three-wheeled motorcycle taxis in the Philippines. A total of 3.5 million of such taxis roam the streets in the Philippines (200,000 in the Manila metropolitan area alone). Emitted exhaust gases account for 2/3 of CO2 emission amounts in the Philippines. The government and private enterprises therefore cooperate in the replacement of such polluting vehicles in the context of a Public-Private-Partnership (PPP) program.

Dropping oil prices in 2015 indeed generated significant pressure on the EV market. However, ASEAN countries, India, and Africa have a significant demand for three-wheeled vehicles. Upon consolidation of its position in the Philippine market, TECO plans to gain a foothold in a second overseas market by creating a production and supply chain model characterized by import of large parts and local assembly. The development of electric AC equipment is planned for four-wheeled Jeepney models and access to the high-end market

3.5.2 Wind Power Development

Current state of the wind power industry

In view of global warming and extreme climate change, the world places increasing emphasis on the usage of renewable energy. With the goal of increasing the usage ratio of renewable energy to reduce the GHG emissions, all countries have set specific goals for renewable energy development. Among all renewable energy sources, wind power has the greatest economic efficiency. For instance, the EU has set the goal that 50% of electricity supply shall come from wind energy by 2030.

The entry barrier of wind power is comparatively high. With strong R&D capabilities in the field of machinery and electric equipment that TECO has accumulated for many years, TECO can overcome the entry barrier within a short time. In the US, TECO has successfully entered the market of wind turbine assembly. In Taiwan, TECO has successfully developed its own 2MW permanent magnet wind turbine, which is Taiwan's first self-assembled wind turbine with the highest proportion of local production. The sound wind turbine structure and complete product series can satisfy the requirements of typhoon-prone areas and bitter-cold climates. It also meets the universally used 50/60Hz standard, and therefore conforms to strict grid-connection regulations in various countries. TECO Wind power is developed in Taiwan with a global outlook; we utilize Taiwan's competitive advantage in the field of quality management coupled with the vast demand of the Chinese market. TECO sets up wind turbine assembly plants in the vicinity of the wind farms, and creates a local supply chain. This not only saves transportation costs but also increases the convenience of wind farm O&M in the

next 20 years, thereby enhancing the utilization rate of wind turbines and maximizing profits. In addition, TECO will unite existing Asian supply chains and import the technology from Europe to develop follow-up 5MW large-scale offshore turbines suitable for Asian climates.

Decentralized renewable energy power generation systems will be indispensable for smart grids in the future. TECO has successfully developed the 3kW horizontal axis wind turbine, which is Taiwan's first wind turbine of its kind with Japan's ClassNK certification. This wind turbine is exported to Japan and allows the company to successfully seize important business opportunities generated by electricity market liberalization in Japan in 2016.

	Product / Status	Effects	Note
	**Onshore 2MW wind turbine system** Acquisition of international GL certifications and passed the low-voltage ride through tests	Stimulates Taiwan's local production development of generators, gearboxes, castings, power cables, and bolts.	
	**Offshore 5MW wind turbine system** Under development	The follow-up model of the 2MW turbine.is expected to accelerate access of Taiwanese industries into the wind energy business, encompassing generators, castings, medium voltage cables, bolts, towers, inverters, transformers, fiber cloth industries. It also gives an indirect impetus to large-scale transport hoisting, maritime engineering fleet, exploration, wind farm O&M, anti-corrosion engineering, etc. and is expected to create thousands of jobs.	
	**3KW small-scale wind turbine system** Acquisition of Taiwanese VPC certification Acquisition of Japanese ClassNK certification	Decentralized applications for remote areas, farms, fish farms, etc. Significantly reduce transmission pressure and costs of power grid	

■ Wind turbine future development goals

There are two categories of wind power systems: onshore and offshore

1 • Onshore wind power market TECO focuses on 2MW wind turbines and which are mainly sold to China, Southeast Asia, and Northeast Asia.

A • Chinese market: TECO has established a factory which is located in an area with low wind speeds. The location is an area in China earmarked for accelerated wind power development and promotion China utilizes local wind resources to assist wind farm developers to accelerate the development of relevant technologies.

B • Southeast Asian market: TECO focuses on Thailand and Vietnam which possess superior wind resources and whose governments have shown an intention to promote the development of renewable energy. Cooperation with Taiwanese banks that are interested in renewable energy investment creates win-win-win situations.

C • Northeast Asian market: Japan utilizes electricity liberalization and feed-in-tariff strategy to accelerate the development and growth of the wind power market. TECO will join hands with private developers, banks, and local engineering teams to supply wind turbines as a package, and actively pursue the opportunities in the Japanese market.

2 • Offshore wind power market The company focuses on typhoon and earthquake resistant 5MW turbines.

Offshore wind power development has been the main focus worldwide in recent years. Europe has a head start and numerous achievements in this area. China, Korea, Japan, and the US have initiated multiple projects, but their main focus still lies in research and demonstration. Taiwanese government has promulgated the Regulations Governing Incentives for Offshore Wind Power Pilot Projects. Two private businesses and one state-owned enterprise have won bids. These pilot projects are expected to give an impetus to potential business opportunities before 2019.

Furthermore, Taiwanese government has announced methods for zonal development beforehand to achieve installed capacity goals in a rapid manner. The government also plans to utilize its capabilities and resources to build engineering ships and exclusive terminals to strengthen the foundation of offshore wind power industry development. In response to localization requirements set forth in the Regulations Governing Incentives for Offshore Wind Power Pilot Projects, TECO has established "Senergy Wind Power Co., Ltd.", a joint venture with China Steel Corporation (CSC). This company focuses on the domestic market and the import of typhoon and earthquake resistant turbine models to meet domestic needs. Local assembly, manufacture, verification, and local supply chains are expected to stimulate industry development and create domestic employment opportunities.

Solar Energy Development

The new government is fully committed to the promotion of green energy industries with a focus on solar power generation. The goal is to increase the ratio of solar power to all renewable energy sources to 20% in 2025. TECO has its own series of solar energy products. In addition to large- and small-scale converters and monitoring products, the company also forms R&D teams in cooperation with large solar energy module manufacturers. TECO has taken the initiative by installing a solar power generation system on the rooftop of its own Taoyuan Guanyin Plant. Solar energy systems will be installed in stages on the factory buildings of the Guanyin Plant to achieve an annual power generation of 6.34 million kWh and an installed capacity of 6.0MW. The company has also applied for participation in the 2017-2018 Power Purchase Project of the Bureau of Energy. As development matures, the company aims to expand into the domestic and Southeast Asian markets (including the Philippines).

3.6 Products and Specifications

TECO places strong emphasis on product quality. All products are required to undergo rigorous development and verification procedures and pass functional, prototype, and mass production trials. Production feasibility of product designs is confirmed repeatedly and conformity of product performance to relevant testing standards is constantly verified. Upon initiation of formal production, TECO strives to improve product quality through constant improvements and revisions, a comprehensive quality management system, and tracking and confirmation of quality stability with the goal of providing customers with exceptional and worry-free user experiences.

Rigorous Product Development Procedures

01	Development Plan	• Detection of customer demand trends to determine development plans • Confirmation of conformity to relevant standards (e.g., CNS, CE, UL, RoHS...)
02	Functional trial phase (EP)	• Feasibility trials and assessments are conducted for core technologies of revolutionary innovations. Where no such revolutionary technologies are involved, this stage may be skipped. • EP review criteria must be met prior to initiation of SP phase
03	Prototype trial phase (SP)	• Designs are developed in accordance with required product specifications and prototypes are created for performance, quality stability, and safety assessment and testing to ensure that developed products meet the required standards. • User manuals (including safety precautions), packaging and catalogs conform to international product labeling laws to ensure provision of accurate product information to customers and guarantee purchase decisions and usage in accordance with customer needs. • SP review criteria must be met prior to initiation of PP phase
04	Pilot production phase (PP)	• Small-scale production is carried out with mass production methods (die development etc.) • Tests are carried out on a greater number of units compared to the SP stage to reconfirm conformity to performance specifications, relevant norms, and safety standards. • Formulation of SOP for mass production tools and production processes • PP review criteria must be met prior to official initiation of mass production and product launch
05	Mass Production (MP	• Initiation of batch production; prior to customer delivery it must be verified that a clear record of passed health and quality tests exists for each finished product • Survey of customer usage issues, suggestions, and quality issues as a basis for constant improvements

Promotion of quality management systems and lab accreditation to ensure satisfaction of customer demands

All TECO plants and TESEN Electronic Co., Ltd. have acquired ISO 9001 quality management system certifications for the manufacturing industry. The Chungli and Hukou Plant machinery and equipment has even passed the TS16949 quality management system certification for the automotive industry. Effective implementation of the sound quality management system is ensured through annual internal and external audits.

In addition, TECO also strives to acquire lab accreditations to ensure cutting edge product development technologies and product functions. The motor testing lab of the Chungli Plant has passed relevant accreditations of the Taiwan Accreditation Foundation and Canadian Standards Association and is the only lab in Asia that has acquired the motor testing certification awarded by the US Department of Energy (DoE) NVLAP. Lab accreditations ensure that TECO testing equipment meets relevant criteria and the company possesses qualified testing technologies. This greatly facilitates product development and technology enhancement.

Overview of acquired quality certifications

Certification type	Certified plant area
ISO9001 Quality Management System	• Chungli Plant • Hukou Plant • Guanyin II Power Equipment
ISO / TS16949 Quality Management System (car production and related components...)	• Chungli Plant • Hukou Plant Electric Control Products
US Department of Energy (DoE) NVLAP	• Motor testing lab of the Chungli Plant
Canadian Standards Association CSA ISO / IEC 17025 lab accreditation	• Motor testing lab of the Chungli Plant
Taiwan Accreditation Foundation TAF ISO / IEC 17025 lab accreditation	• Motor testing lab of the Chungli Plant • High-voltage switchboard lab of the Hukou Plant • Calibration lab of the Chungli Plant

Product certification

TECO employs registration of product certification (RPC) for its products in Taiwan. Every item sold on the domestic market conforms to the registration regulations of the Bureau of Standards, Metrology, and Inspection. The company applies for marks in accordance with international standard certifications for products sold overseas to safeguard user rights and interests. For instance, the following certifications have been acquired for the company's high-efficiency (IE2-IE4)motor series:

○ Completed ● Pending

NO	Countries/regions	Efficiency rating	Product certification	Status
1	USA Canada	IE2 IE3		○ ○
2	Europe (International Electrotechnical Commission)	IE1 IE2 IE3 IE4	CE	○ ○ ○ ●
3	Taiwan	1E1+ IE2 IE3		○ ○ ○
4	Japan	IE3		○
5	Australia New Zealand	IE2 IE3	MEPS	○ ○
6	Mainland China	GB1 (IE4) GB2 (IE3) GB3 (IE2)	GB2 GB3	● ○ ○

■ Product Safety, Labeling, and Sales

TECO has formulated management procedures for banned and restricted materials to safeguard consumer rights and interests. Non-use of harmful substances is controlled from the source. Design and production are carried out in strict compliance with relevant standards. During the product testing stage, "simulated malicious testing" is conducted to ensure product safety. Accurate information is provided on product packaging, in user manuals, and sales messages pursuant to the Commodity Labeling Act to facilitate correct purchase decisions by consumers and ensure usage safety. Marketing activities are carried out pursuant to regulations set forth in the Fair Trade Act.

TECO has no record of violations of relevant laws and regulations in its provision of product and service information and advertising and promotion activities. The sole exception is the recall and repair in 2007 of some models of dehumidifiers produced during 2003-2006 (model No. and manufacturing number listed below) due to concerns over fire caused by failure as result of small capacitor in electronic substrate. Due to the fact that certain sales channels have been unable to obtain complete customer information, recall and repairs of said model have not been completed yet. To achieve the goal of complete recall, the company continues to post relevant announcements on the TECO company website http://www.teco.com.tw and TECO Group Appliance Service Provider website http://www.a-ok-service.com.tw. To prevent the occurrence of similar defects in the future, the company will equip small capacitors with protective devices and implement fire-resistant design for corresponding plastic items to ensure product safety. TECO will continue to embrace a responsible attitude in the provision of high-quality and safe products for its customers.

In addition, TECO and its service provider subsidiary (AOK Co., Ltd.) have formulated management measures to safeguard the privacy of customer data obtained through product sales and services. In 2016, the company received no complaints for customer privacy violations.

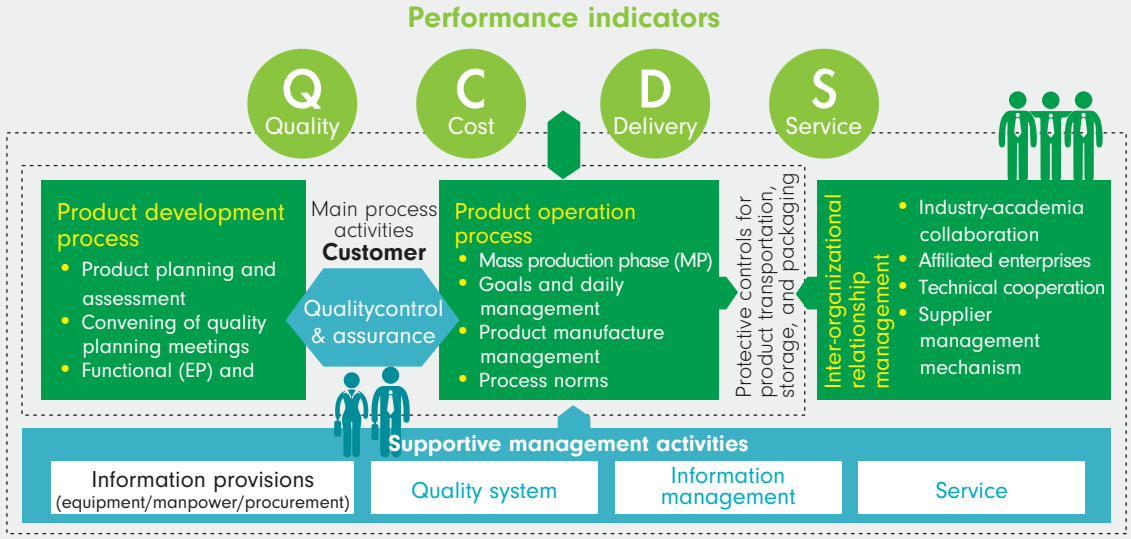
Recall of Dehumidifier Models 2003-2006

TECO will continue to post official announcements for recall of dehumidifier products with safety concerns as per public notice of the Bureau of Standards, Metrology, and Inspection to ensure safe and worry-free use by consumers and safeguard relevant consumer rights and interests.

(http://www.teco-home.com.tw/NewsContent.aspx?Id=87)

3.7 Exceptional Quality Control

Since its inception, TECO has upheld the spirit of ISO quality management systems. Rigorous management and control processes based on the concepts of customer satisfaction and continued improvements are implemented from product design and manufacture to sales management and after-sale services. These concepts serve as norms for product realization, execution, and management. A comprehensive process management system coupled with supportive activity management and inter-organizational relationship management has been established to enable the company to provide customer satisfaction-oriented products.



To ensure the efficiency of process reviews and improvement activities, TECO convened various meetings in 2016 to discuss quality objectives and review improvements. The meetings provide the company with a firm grasp of the progress and results of quality improvement activities and serve as the basis for prompt revision of strategies and programs.

Review activities	Chair	Description	Cycle
Annual quality strategy meeting (company-wide quality review meetings)	President	Annual quality performance reviews and formulation of quality strategies and policies for the following year.	2017/2/3
Annual quality reviews (Quality management review meetings	Assistant VP	Reporting of quality performance of business divisions in 2016 and review of quality objectives in 2017.	Heavy Machinery Division: January 13, 2017 Green Electric Machinery Division: January 11, 2017 Electric Control Division: December 5, 2016 Home Appliance Division: January 12, 2017 Power Business Division: January 6, 2017 New Energy Division: December 1, 2016
Market quality performance review (Market quality review meeting)	Quality supervisor	Convening of sales representatives, service units, and production units to jointly review and improve market quality performance.	Once a month for each business division
Production quality performance review (process quality review meeting)	Quality supervisor	Convening of internal production units to review quality standards of all production activities and tracking of rectification and preventive strategies for abnormalities.	Once a month for each business division

■ Major achievements in the field of quality management in 2016 are as follows:

1• Superior products

In 2016, 50 certificates for registration of product certification were acquired including:

171 CNS Explosion-proof certificates were acquired for motor product series and single items in 2016

In 2016, the company also acquired 25 energy labels and 7 water labels as a result of its firm commitment to eco-friendliness and energy conservation for its home appliance products. The following products have been awarded eco labels.

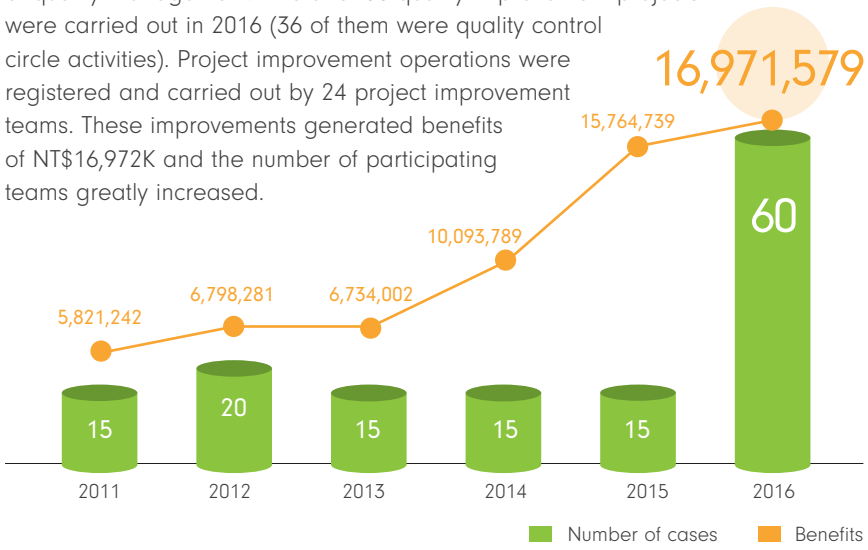
Energy-conserving/water saving products	Number of models
Air conditioner	5
Refrigerator	4
Washing machine	4 (energy-conserving)/7 (water-saving)
Display	7
Electric fan	3
Thermos	1
Dehumidifier	1

3 products earned a Taiwan Excellence Award in 2016. Award-winning products included the smart motor monitoring system, smart networked inverter air-conditioner, and smart networked inverter 1 to 4 multi air-conditioner. This again demonstrates TECO's firm commitment to cutting-edge technology and constant pursuit of innovation and outstanding achievements. These awards also represent a recognition of the company's vision to develop energy-saving and carbon-reducing green products to reduce carbon emissions and minimize environmental impacts.

2• Constant Improvements

IThe "Project Improvement Team Activities" (formerly known as "Elite Team Activities") have been promoted over 40 years since their adoption by the company in 1971. The spirit of these activities lies in bottom-up autonomous management and enhancement of abilities. Improvement teams are comprised of base level staff or formed top-down by cross-departmental staff. With regard to the work-related indicators P (Productivity), Q (Quality), C (Cost), D (Delivery), S (Safety), and M (Morale), systematic and logical improvement steps, tools, and methods are adopted to initiate the PDCA management cycle and carry out problem analysis and solution. These improvement activities serve the purpose of meeting customer demands, enhancing operating efficiency, and spurring personal growth and self-awareness. To strengthen the culture of constant improvement and quality control by all employees, the company has constantly updated and enhanced quality control circle activities by direct and indirect personnel since 2015. The ultimate goal is to raise the awareness by employees of the importance of their work and duties, thereby increasing their pride and sense of responsibility.

In 2016, quality control circle activities of base-level staff were listed as a key task of quality management. A total of 60 quality improvement projects were carried out in 2016 (36 of them were quality control circle activities). Project improvement operations were registered and carried out by 24 project improvement teams. These improvements generated benefits of NT$16,972K and the number of participating teams greatly increased.



The company organizes annual improvement project activity competitions to enhance quality awareness and encourage and motivate employees to make improvements. As of 2015, the company dispatches representatives to participate in the National Quality Control Circle Competition organized by the Ministry of Economic Affairs. The ultimate goal is to raise the awareness by employees of the importance of their work and duties, thereby increasing their pride and sense of responsibility. The participants again won a Bronze Tower Award at this competition.

3• Quality Awareness

The company makes strides toward globalization and provides localized services with an international outlook. It embraces a quality policy characterized by "top talent, added-value work, top products, and zero customer complaints". Quality education has been administered for all staff members over several decades to cultivate top talent and create top products. In line with the promotion of the IS O9001:2015 new version of the quality management system standard, the company has taken the initiative in planning relevant training and version change operations to give relevant personnel a clear grasp of the spirit and requirements of the new standard.

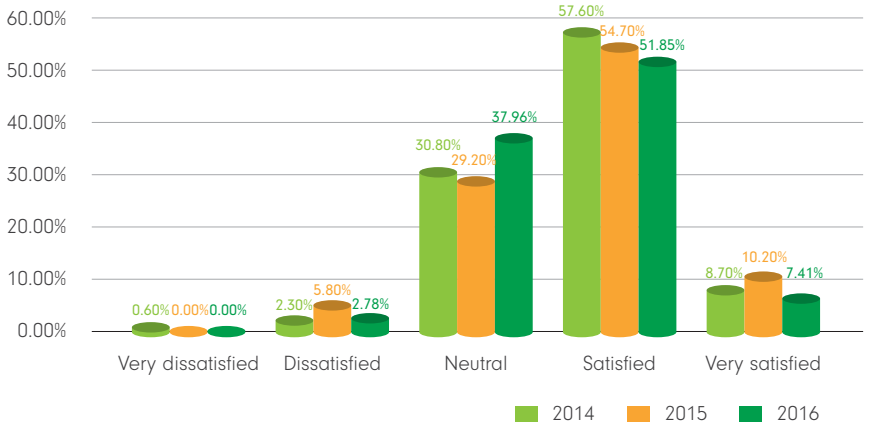
It also gives them a clear understanding of how to utilize process management models and how to execute strategic risk analysis with the goal of implementing goal planning and quality control.

TECO organizes Environmental Safety and Quality Month activities on an annual basis. The 2016 event was centered around the theme of "Energy Conservation – Green Life, Work Safety – Zero Accidents, Operations – No deficiencies". This event covers cross-plant improvement project competitions and incorporates various activities related to quality education and training and raising of quality awareness as well as plant process audits and diagnosis. The activity scope encompasses the Nankang HQ, Chungli Plant, Guanyin I+II, Hukou Plant, and overseas production bases. Roughly 1000 employees participated and quality awareness was aroused through full-scale activities and promotions.

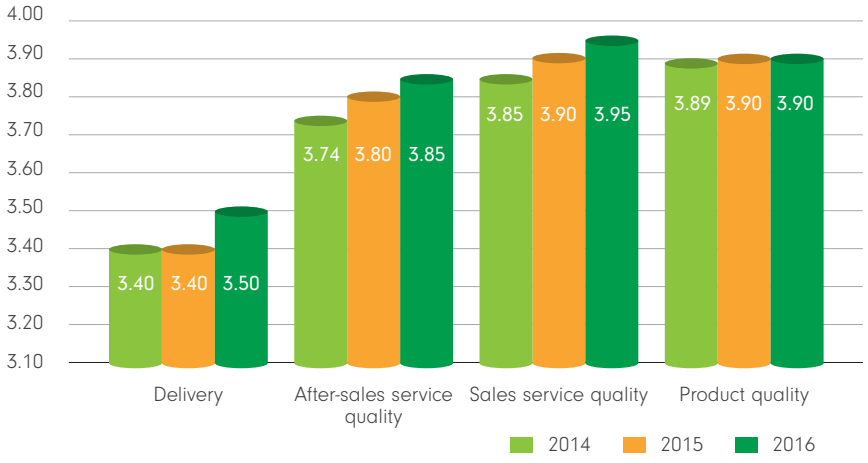
3.8 Customer Satisfaction

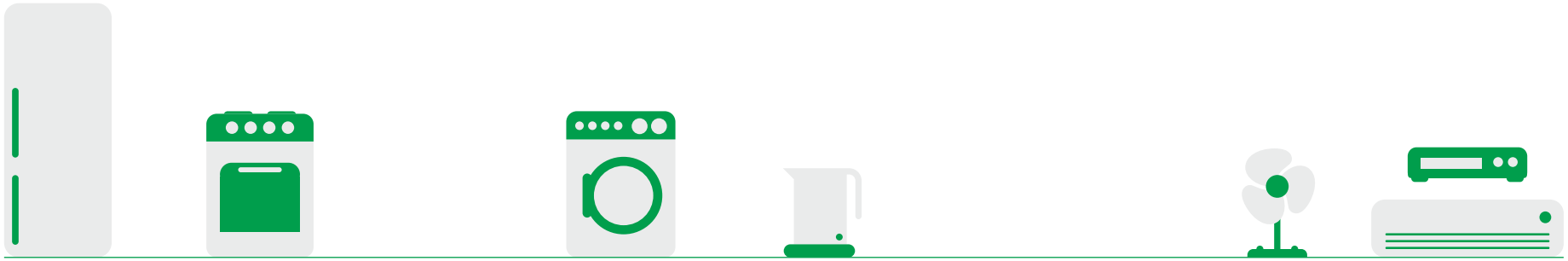
3.8.1 Satisfaction with Motor Products

Comparison of satisfaction levels with TECO motors 2014-2016

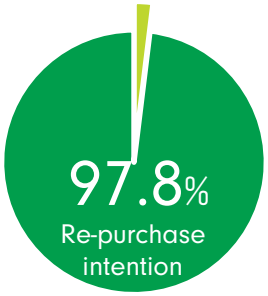


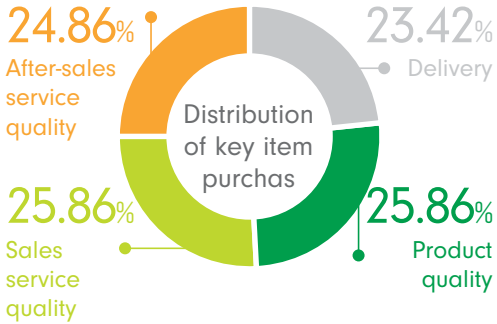
Distribution of customer survey items 2014-2016





2016 TECO brand image (domestic)





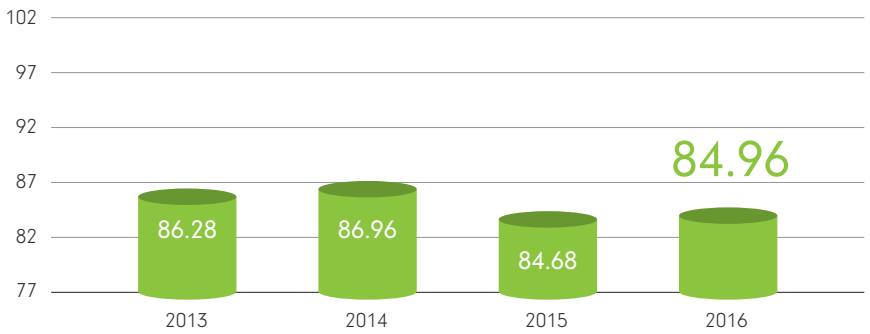
Delivery improvement strategies

A. In 2016, customer dissatisfaction was still centered around delivery times.
B. Delivery improvement strategies:

1. Adoption of an order load scheduling system which allows immediate adjustments if delivery times don't meet expectations (customers are notified of adjustment results in writing by sales representatives (including shipment and delivery).
2. If production processes are behind schedule, process managers report catchup plans to the plant manager. Sales units must also be notified of such plans and follow-up handling must be implemented in a timely manner.
3. Adoption of production information boards to provide a firm grasp of production progress and facilitate timely responses. If contingency measures change the original transaction terms (e.g., in-process inspections, trial scheduling, partial shipments). Sales units must be notified of required measures to ensure smooth completion of transactions.

3.8.2 Customer satisfaction levels with home appliances

Customer satisfaction levels 2013-2016



2016 Satisfaction levels slightly rose by 0.28% compared to 2015

Improvement items

1. Improvement of air conditioner defect rates (decrease by around 1% compared to 2015) resulted in a lower number of complaints in the peak season.
2. Improvement of component preparation and management to reduce supply delay times.
3. Implementation of passing on of customer interaction experiences by sales executives to improve communication skills.

Continued improvements

Service completion efficiency scores awarded in satisfaction surveys were relatively low. In 2017, additional funds were allocated and line service personnel was added to guarantee service efficiency during peak periods.

Corporate Governance and Risk Management

4.1 Corporate Governance

4.1.1 Corporate Governance Strategy

Organizational Culture

The company continues to consolidate an organizational culture characterized by integrity and uprightness based on a business philosophy of "Ethical Corporate Management, Implementation of Corporate Governance, Fulfillment of Social Responsibility, and Pursuit of Sustainable Operations". The company aims to ensure that every TECOer internalizes these concepts as his/her inner beliefs and action guidelines and pursues enhanced corporate governance in a spontaneous manner.

Action guidelines

TECO constantly reviews and improves business practices in all areas pursuant to the latest standards and items of "Corporate Governance Evaluations" promulgated by TWSE on an annual basis to ensure constant advances in the field of corporate governance quality.

System norms

The existing internal management mechanism is adjusted in an adequate manner through the pursuit of outstanding results in "Corporate Governance Evaluations" and utilization of information provided by competent authorities and external consultants with the goal of incorporating the latest corporate governance trends in daily operations and processes.

4.1.2 Corporate governance performance and future development goals

2015

- Ranking in the Top 5 % of all evaluated enterprises in the "Corporate Governance Evaluation" held by TWSE for two consecutive years.
- Formulation of "Board Performance Assessment Guidelines" to strengthen the association between board compensation and CSR performance.
- Formulation of "CSR Guidelines" to reinforce the linkage between corporate operations and CSR.
- Establishment of a Corporate Governance Center to promote the establishment of a "Corporate Governance Platform" to monitor progress in the field of corporate governance in a more systematic manner.

2016

- Ranking in the Top 5 % of all evaluated enterprises in the "Corporate Governance Evaluation" held by TWSE for three consecutive years.
- Self-evaluation of performance pursuant to the "Board Performance Assessment Guidelines" and linkage of director compensation with assessment results.
- Amendment of the Corporate Social Responsibility Best Practice Principles, Corporate Governance Best Practice Principles, and Ethical Corporate Management Best Practice Principles.
- Investment in solar power systems on the roofs of the group's own factory buildings.
- The corporate governance tasks related to the company's business operations have been incorporated into the five main dimensions of the manager performance appraisal system.
- he Legal Affairs Office has been restructured into the Legal Compliance and Legal Affairs Office to strengthen legal compliance.

2017 and ahead

- Continued pursuit of rankings in the Top 5% of "Corporate Governance Evaluations"
- Commissioning of external neutral units to conduct professional assessments of board performance at least once every three years.
- Potential addition of functional committees
- Planned establishment of task forces subordinate to the Auditing Committee and implementation of corporate governance on all business levels through increased participation of independent directors in company operations.

Realization of sustainable corporate development through rigorous fulfillment of the company's role as a corporate citizen based on the corporate vision of "Energy Conservation, Emission Reduction, Smartness, and Automation" and the business philosophy of "Ethical Corporate Management, Implementation of Corporate Governance, Fulfillment of Social Responsibility, and Pursuit of Sustainable Operations". The management level is highly committed to the fulfillment of corporate social responsibility, active promotion of corporate governance, and adoption of an advanced and high-quality corporate governance system to achieve international standards in the field of corporate governance and bring the company in sync with international trends.

■ Establishment of a cross-departmental unit in charge of monitoring and implementation of sustainability

In 2014, TECO established the CSR Committee, which is a cross-departmental dedicated unit in charge of monitoring of the implementation results of sustainability issues to ensure the incorporation of the three main indicators (environment, society, governance) into the corporate decision-making process with the ultimate goal of fulfillment of CSR through a simultaneous focus on sustainable growth, social harmony, and green economic development.

■ Establishment of a corporate governance platform in charge of supervision of corporate governance performance

TECO has established a "Platform for Orders issued by Competent Authorities in the field of Securities" to guarantee that the governance system is in sync with the latest developments and ensure regular updates of information regarding laws and regulations and competent authorities which is related to the company's business operations. The goal is to give relevant units a real-time grasp of the latest external information. In addition, the company established a "Corporate Governance Center" in charge of the creation of a "Corporate

Governance Management Platform" in 2015 to facilitate the effective compilation and tracking of corporate governance indicators and ensure a firm grasp of progress in the field of corporate governance. The management platform is based on the TECO corporate governance vision and conforms to the evaluation indicators and items of the "Corporate Governance Evaluation" held by TWSE. It creates a framework for joint review and discussion of corporate governance related items with relevant units and formulation of corporate governance goals on a regular basis. The platform tracks implementation status and results of competent units with regard to corporate governance items on a regular basis to monitor sustainability performance.

In recent years, TECO's achievements in the field of corporate governance have been recognized with major awards. The company has been honored with a ranking in the Top 5% of all evaluated companies in the 1st, 2nd, and 3rd "Corporate Governance Evaluation" held by TWSE and has earned the "Taiwan Corporate Sustainability Award" TCSA for three consecutive years. It has also been honored with the "CommonWealth CSR Corporate Citizen Award" for five consecutive years. This bears witness to the impressive achievements of the company in the field of corporate governance, transparency, and integrity. In the future, TECO will continue to enhance its corporate governance standards to fulfill its pledge to make constant improvements in this area.

Corporate governance management platform process

01 Confirmation of task indicators for corporate governance evaluations of the respective year

02 Assignment of task indicators to responsible units and stipulation of completion dates by organizing units

03 Responsible units indicate projected completion schedules and contents

04 Confirmation of task indicators for corporate governance evaluations of the respective year

05 Regular follow-up by the management platform after the stipulated completion date

06 Closure by organizing units upon verification of actually completed contents specified by competent units

E-voting system

A case-by-case voting method has been adopted for motions voted on in Annual Shareholders' Meetings to achieve information transparency and optimal communication with shareholders. As of 2012, an e-voting system is in place to safeguard shareholder rights and interests. Turnout (attendance rates) reached 44% (36%), 56% (42%), 68% (48%), 63% (52%), and 77% (55%) in 2012, 2013, 2014, 2015, and 2016, respectively. In addition, TECO board members actively participate in Annual Shareholders' Meetings (the attendance rate of board members reached 92% in 2016)

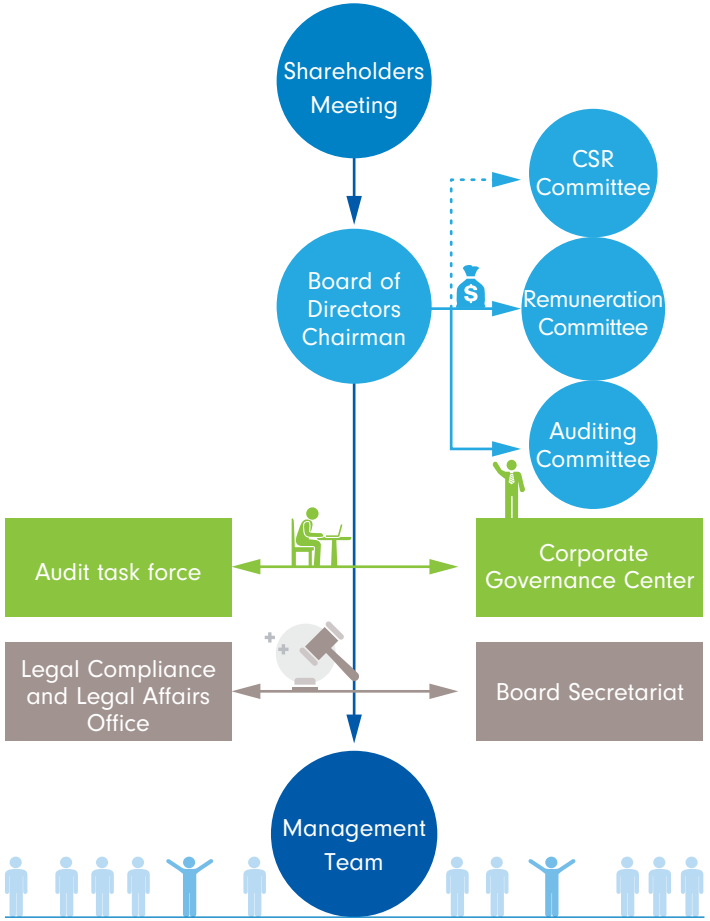
Stakeholder communication and information disclosure

TECO places high emphasis on communication with stakeholders and information disclosure and transparency. The company discloses important information and directly communicates with various stakeholder categories on a scheduled/non-scheduled basis via open communication channels. The company has also created special sections for investor relations and corporate governance on its website (www.teco.com.tw) in Chinese and English for real-time queries by investors, download of financial statements, annual reports, or different types of financial information, and browsing of messages related to stock price and shareholders' meetings. Dedicated contact persons have been assigned to facilitate real-time communication with investors via e-mail and a stakeholder communication mechanism is realized through a spokesperson system. The auditing and grievance mailbox on the internal website aims to encourage employees to report violations of relevant laws and regulations to facilitate sustainable development. In addition, TECO posts material information on the Market Observation Post System in accordance with relevant regulations. The company also explains its operating status, financial performance, strategic development, and business policy to investors through participation on a non-scheduled basis in domestic and overseas investor forums organized by foreign securities firms.

4.1.3 Board of directors

The TECO board of directors is the highest executive organ of the company and is authorized to appoint and nominate top managers. It is also in charge of formulation of CSR, corporate citizen, and sustainable development strategies.

Corporate Governance Framework



As per the amended "Articles of Incorporation" and "Rules Govering Election of Directors" ratified by the shareholders' meeting in 2014, a candidate nomination system has been adopted for the election and appointment of directors (including independent directors) to strengthen the information transparency of director nomination and review procedures and thereby safeguard shareholder rights and interests and perfect corporate governance. A sound and efficient board of directors is the foundation of excellent corporate governance. TECO carried out a reelection of the board of directors during the Annual Shareholders' Meeting in 2015 to strengthen the independence and diversity of the board. 15 directors were elected for a term of three years. One of the 15 newly elected board members is female and two are Japanese nationals. Only two board members concurrently serve as TECO managers. External directors account for 67% of the board membership. Board members actively participate in board meetings (the attendance rate reached 90.6% in 2016) to gain a full understanding and monitor the implementation of business plans. Two functional committees (the Auditing Committee in 2012 and Remuneration Committee in 2011) subordinate to the board of directors were formed to assist the board in the execution of its monitoring functions. The Auditing Committee is comprised of the three independent directors, while the Remuneration Committee is composed of appointed independent directors and experts (a total of three). The organizational charters of all committees which are required to report are subject to approval by the board.

In 2015, the board ratified the CSR Best Practice Principles to ensure fulfillment of corporate social responsibility based on the key principles of implementation of corporate governance, development of a sustainable environment, maintenance of social welfare, and strengthening of CSR-related information disclosure. In accordance to the norms and regulations set forth in the "Corporate Governance Best Practice Principles", concepts of gender equality shall be observed in the election and appointment of board members who shall possess strong competencies in the fields of operational judgment, accounting and financial analysis, business management, and crisis handling as well as industry-specific expertise, international market perspective, leadership and decision-making abilities to ensure achievement of the goal of optimal corporate governance. The composition of the board shall be based on the principle of diversity and appropriate diversified policies shall be formulated with regard to board operations, operation modes, and development demands including, but not limited to, standards on the following 2 dimensions:

1	Basic terms and value	Gender, age, nationality, or culture
2	Professional expertise and skills	Professional background, professional skills, and industry experience

Milestones in the Strengthening of Corporate Governance

2008

- Formulation of "Corporate Governance Best Practice Principles" pursuant to the "Corporate Governance Best Practice Principles for TWSE/TPEx Listed Companies".
- Amendment of the "Articles of Incorporation".
- Amendment of the "Director and Supervisor Election Guidelines".
- Amendment of the "Rules of Procedure for Board of Directors Meetings".

2009

- Creation of an independent director position.

2010

- Passing of the "CG6005 Corporate Governance Evaluation" administered by the Taiwan Corporate Governance Association.
- „A" rating in the information disclosure appraisal for listed companies.

2011

- Establishment of a "Remuneration Committee and formulation" of a "Remuneration Committee Charter".
- Formulation of a "Code of Ethical Conduct for Directors and Managers in accordance with the Guidelines" for the Adoption of Codes of Ethical Conduct for TWSE/TPEx Listed Companies.
- Amendment of the "Articles of Incorporation".
- Amendment of the "Director and Supervisor Election Guidelines" which were renamed to "Rules Govering Election of Directors".
- „A" rating in the information disclosure appraisal for listed companies.

2012

- Creation of three independent director positions
- Formation of an "Auditing Committee" and formulation of an "Auditing Committee Charter".
- Adoption of an e-voting system for Shareholders' Meetings.
- „A" rating in the information disclosure appraisal for listed companies.

2013

- Amendment of the "Corporate Governance Best Practice Principles".
- „A" rating in the information disclosure appraisal for listed companies.

2014

- Amendment of the "Articles of Incorporation" and "Rules Govering Election of Directors" and adoption of candidate nomination system for director (independent director)elections and appointments.
- Revision of the internal control system pursuant to the "Regulations Governing Establishment of Internal Control Systems by Public Companies".
- Formulation of "Ethical Corporate Management Best Practice Principles" pursuant to the "Ethical Corporate Management Best Practice Principles" for TWSE/GTSM Listed Companies.
- Formulation of "CPA Appointment and Assessment Guidelines" pursuant to regulations set forth in the Corporate Governance Best Practice Principles; the independence and competency of CPAs is evaluated on an annual basis.
- „A++" rating in the information disclosure appraisal for listed companies.
- Ranking in the Top 5% of all evaluated enterprises in the 1st "Corporate Governance Evaluation" held by TWSE.

2015

- Amendment of "Corporate Governance Best Practice Principles" pursuant to the "Corporate Governance Best Practice Principles for TWSE/TPEx Listed Companies".
- Formulation of "CSR Best Practice Principles".
- Amendment of the "Code of Ethical Conduct for Directors and Managers".
- Formulation of "Board Performance Assessment Guidelines" pursuant to the regulations set forth in Article 37 of the Corporate Governance Best Practice Principles for TWSE/TPEx Listed Companies.
- Amendment of the "Function and Authority Chart".
- Reelection of the board.
- Creation of a Corporate Governance Platform.
- Ranking in the Top 5% of all evaluated enterprises in the 2nd "Corporate Governance Evaluation" held by TWSE.

2016

- Completion of the 2015 board performance assessment report.
- Amendment of "Corporate Governance Best Practice Principles" pursuant to the "Corporate Governance Best Practice Principles for TWSE/TPEx Listed Companies".
- Amendment of the "CSR Best Practice Principles".
- Amendment of "Ethical Corporate Management Best Practice Principles" pursuant to the "Ethical Corporate Management Best Practice Principles" for TWSE/GTSM Listed Companies.
- Restructuring of the Legal Affairs Office into the Legal Compliance and Legal Affairs Office to strengthen legal compliance.
- Ranking in the Top 5% of all evaluated enterprises in the 3rd "Corporate Governance Evaluation" held by TWSE.

Implementation of the Board Diversity Policy

Core diversity items / Director name	Basic terms and value		Professional background	Professional expertise and skills							
	Gender	Nationality	Education	Operational judgment competency	Accounting and financial analysis competency	Business management competency	Crisis handing competency	Industry-specific expertise	International market perspective	Leadership ability	Decision-making ability
Great TECO Investment Co., Ltd. Representative/Chwen-Jy, Chiu	♀	Taiwan	Accounting	v	v	v	v	v	v	v	v
Donghe International Investment Co., Ltd. Representative/Chao-Kai, Liu	♂	Taiwan	Electromechanical engineering	v	v	v	v	v	v	v	v
Cheng-Tsung Huang	♂	Taiwan	Economy	v	v	v	v	v	v	v	v
Creative Sensor Inc. Representative/Yu-Ren, Huang	♂	Japan	Electromechanical engineering	v	v	v	v	v	v	v	v
Chien-Yuan Lin	♂	Taiwan	Civil engineering	v	v	v	v	v	v	v	v
Jing-Shown, Wu	♂	Taiwan	Electromechanical engineering	v	v	v	v	v	v	v	v
Ting-Wang, Cheng	♂	Taiwan	Accounting	v	v	v	v	v	v	v	v
Mao-Hsiung, Huang	♂	Taiwan	Economy	v	v	v	v	v	v	v	v
Po-Chih Huang	♂	Taiwan	Engineering	v	v	v	v	v	v	v	v
Hsien- Sheng, Kuo	♂	Taiwan	Foreign languages	v	v	v	v	v	v	v	v
Yaskawa Electric Corporation Representative/Hiroyuki Ougi	♂	Japan	Electromechanical engineering	v	v	v	v	v	v	v	v
Guangyuan Co., Ltd. Representative/ Shih-Chien Yang	♂	Taiwan	Electromechanical engineering	v	v	v	v	v	v	v	v
Great TECO Investment Co., Ltd. Representative/Hong-Hsiang, Lin	♂	Taiwan	Mechanical engineering	v	v	v	v	v	v	v	v
Lien Chang Electronic Enterprise Co. Ltd. Representative/Ming-Feng, Yeh	♂	Taiwan	Economy	v	v	v	v	v	v	v	v
Maoyang Co., Ltd. Representative/Yung-Hsiang, Chang	♂	Taiwan	Industrial management	v	v	v	v	v	v	v	v

Brief resumes of directors

Title	Name	Date of Appointment	Professional (educational) background	Concurrent positions at TECO or other companies
Chairman	Great TECO Investment Co., Ltd. Representative/ Chwen-Jy, Chiu	104.6.11	University of Michigan/MBA	• Chairman of Taiwan Pelican Express Co., Ltd. • Chairman of Motovario S.p.A • Chairman of Appliance Service Provider
Standing director	Donghe International Investment Co.,Ltd. Representative/ Chao-Kai, Liu	104.6.11	University of Illinois/ PhD in Electromechanical Engineering	• Chairman of Tecom Co., Ltd. • Chairman of United View Global Investment Co., Ltd.
Standing director	Cheng-Tsung Huang	104.6.11	Fu Jen Catholic University/Department of Economics	• Chairman of Senye Construction Co., Ltd. • Independent Director of Aurotek Corporation
Standing director	Creative Sensor Inc. Representative/ Yu-Ren, Huang	104.6.11	Columbia University/ MA in Electromechanical Engineering	• Chairman of Creative Sensor Inc. • Chairman of TECO Image Systems Co., Ltd. • Chairman of Lien Chang Electronic Enterprise Co. Ltd.
Standing independent director	Chien-Yuan Lin	104.6.11	University of Washington/PhD in Traffic Engineering	• Chairman of An-Shin Food Services Co., Ltd. • Professor and Dean of College of Environmental Design, Chinese Culture University
Independent director	Jing-Shown, Wu	104.6.11	Cornell University/ PhD in Mechanical Engineering	• Distinguished Professor, NTU
Independent director	Ting-Wang, Cheng	105.6.16	University of Missouri/ MA and PhD in Accounting	• Standing independent director of Asia Pacific Teleco
Director	Mao-Hsiung, Huang	104.6.11	University of Pennsylvania/MA in Economics	• Supervisor of An-Shin Food Services Co., Ltd. • Chairman of Century Development Corporation • Chairman of Australia Pty Limited
Director	Po-Chih Huang	104.6.11	MA, Graduate School of Engineering, Tokyo University	• Supervisor of Tecom Co., Ltd.
Director	Hsien- Sheng, Kuo	104.6.11	Department of English, Tamkang University	• Chairman of Pingtung Bus Transportation Co., Ltd. • Chairman of Nantou Bus Transportation Co., Ltd.

Title	Name	Date of Appoint-ment	Professional (educational) background	Concurrent positions at TECO or other companies
Director	Yaskawa Electric Corporation Representative/ Hiroyuki Ougi	104.6.11	Keio University, Electrical Engineering	• Managing Executive Officer of Yaskawa Electric Corporation • Chairman of Yatec Engineering Corporation
Director	Guangyuan Co., Ltd. Representative/ Shih-Chien Yang	104.6.11	Phd in Electromechanical Engineering, US Northwestern University	• Chairman of Global Strategic Investment Inc. • Chairman of Huanxun Investment Co., Ltd. • Independent Director of Topkey Corporation
Director	Great TECO Investment Co., Ltd. Representative/ Hong-Hsiang, Lin	104.6.11	MA, Institute of Mechanical Engineering, University of Houston	• Chairman of TECO Electric &Machinery Pte Ltd.(TEK)
Director	Lien Chang Electronic Enterprise Co. Ltd. Representative/ Ming-Feng, Yeh	104.6.11	MA, NTU Institute of Economics	• Director of YUBAN & COMPANY • Standing consultant, Chinese National Association of Industry and Commerce, Taiwan
Director	Maoyang Co., Ltd. Representative/ Yung-Hsiang, Chang	104.6.11	Department of Industrial Management, Minghsin University of Science and Technology	• Chairman of Hongtong Co., Ltd. • Chairman of Taiwan Styrene Monomer Corporation

Board operations

In accordance with the regulations set forth in the Articles of Incorporation, the board convenes at least once every quarter to gain a better understanding and monitor business plan execution, financial statements, auditing reports, and tracking of relevant items. A total of 8 board meetings were held in 2016. The average attendance rate of directors reached 90.6% (excluding attendance by proxy). In addition, accountants are invited to attend board meetings on an annual basis to allow board members to gain a full understanding of the company's financial affairs through discussions with accountants regarding annual reports and accounting matters. Major board resolutions are made public on the Market Observation Post System and in the special section for investor relations of the corporate website in a prompt manner. Important company regulations such as the Articles of Incorporation, Corporate Governance Best Practice Principles, and Internal Audit Regulations are made available for online queries.

2016 Board operations		
Number of board meetings	Average attendance rate of directors	Formulation/amendment of important regulations
8	90.6%	• Amendment of "Ethical Corporate Management Best Practice Principles". • Amendment of the "Procedures Governing Suspension/Resumption of Transactions". • Amendment of "Corporate Governance Best Practice Principles". • Amendment of the "CSR Best Practice Principles".

Compliance with Code of Ethical Conduct

The company formulated a "Code of Ethical Conduct for Directors and Managers" pursuant to the "Guidelines for the Adoption of Codes of Ethical Conduct for TWSE/TPEx Listed Companies" in December 2011 to ensure that directors and managers strictly abide by behavioral norms and ethical standards when engaging in commercial activities. This Code of Ethical Conduct contains clearly formulated provisions regarding prevention of conflicts of interest, pursuit of personal gain, information confidentiality, fair transactions, and legal compliance to ensure an effective corporate governance system, sound monitoring functions, and sustainable operations.

Liability insurance for directors and supervisors

TECO takes out "Director and Supervisor Liability Insurance" for directors, supervisors, and key personnel to ensure the balanced execution of rights and duties by directors and minimize personal liability and financial loss caused by litigation initiated by third parties arising from the execution of duties by directors.

Conflicts of interests of board members

Newly appointed directors are required to sign an agreement to abide by the regulations set forth in Article 23 of the Company Act, perform their duties in a faithful manner, and exercise the due care of a good administrator. Furthermore, all directors are required to sign a declaration that they are fully aware of the regulations regarding recusal from the exercise of voting rights and the consequences of legal violations set forth in Article 206 of the Company Act.

Article 32 of the Corporate Governance Best Practice Principles and Article 17 of the Rules of Procedure for Board of Directors Meetings clearly stipulate a recusal system for conflicts of interests of directors. These rules are strictly enforced. In 2016, a total of 11 proposals involved conflicts of interest of board members. A total of 28 directors recused themselves due to such conflicts of interest.

Recusal of directors due to conflicts of interest

Director	Proposal content	Reason for recusal	Participation in the voting process
Yu-Ren, Huang Po-Chih, Huang Ming-Feng, Yeh	Approval of the donation of 2016 activity funds to "TECO Technology Foundation".	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Chwen-Jy, Chiu Chao-Kai, Liu Mao-Hsiung, Huang	Ratification of the release of equity of Qingdao TECO Century Advanced Hi-tech Mechatronics Co.,Ltd. to attract strategic shareholders and increase capital.	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Chwen-Jy, Chiu Chao-Kai, Liu Hong-Hsiang, Lin	Discussion of the amount of endorsement/guarantee provided to the subsidiary Motovario S.p.A.	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Chwen-Jy, Chiu Chao-Kai, Liu Yu-Ren, Huang Mao-Hsiung, Huang Ming-Feng, Yeh Hong-Hsiang, Lin	Discussion of the continued provision of endorsements/guarantees to affiliated enterprises and overseas subsidiaries.	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Chwen-Jy, Chiu Chao-Kai, Liu Mao-Hsiung, Huang Hong-Hsiang, Lin	Discussion of loaning of funds by the company and affiliated enterprises.	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Ting-Wang, Cheng	Discussion of a make-up appointment of a member for the 3rd "Remuneration Committee".	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Chwen-Jy, Chiu Mao-Hsiung, Huang	Discussion of participation in capital increase by cash of TVIG. TG TECO Vacuum Insulated Glass CORP.	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Mao-Hsiung, Huang Ting-Wang, Cheng	Discussion of adjustment of disposal prices of long-term equity investments.	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Chwen-Jy, Chiu Mao-Hsiung, Huang	Discussion of provision of endorsements/guarantees to TVIG. TG TECO Vacuum Insulated Glass CORP.	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Mao-Hsiung, Huang	Discussion of disposal of equity of Hangzhou XIZI-IUK Parking Equipment Limited Company.	Proposal contents involve personal interests of directors	Recusal from discussions and voting
Mao-Hsiung, Huang	Discussion of a proposal of disposal of Straits Construction Investment (holdings) Limited equity by Dongan Assets.	Proposal contents involve personal interests of directors	Recusal from discussions and voting

Continuing education for directors

Pursuant to the Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEx Listed Companies, the company requires that newly appointed directors complete a minimum of 12 and 6 hours of continuing education in their first and second year of office, respectively. Directors who are reelected are required to complete a minimum of 6 hours of continuing education a year. All directors met these requirements in 2016, completing a total of 102 hours of continuing education in 2016. The company organizes continuing education courses for directors on an annual basis to enable directors to acquire new knowledge in their terms of office. Relevant details are made public in the company's annual reports and the Market Observation Post System (http://mops.twse.com.tw/mops/web/index).

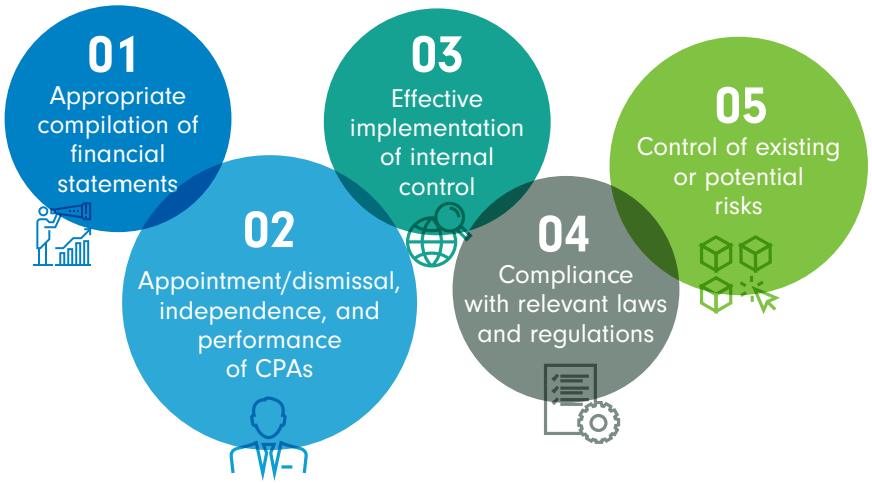
Social engagement

TECO established the TECO Technology Foundation in 1993 to uphold the spirit of giving back to society. This organization is deeply committed to technology and cultural awards and grants, creativity education, and sustainable education for indigenous peoples. Social development concepts centered around techno-cultural synergy are promoted through concrete action. TECO provides adequate funds and subsidies on an annual basis in accordance with event plans submitted by the foundation. In 2016, the foundation organized the "Green Tech International Creativity Competition", a "Creative Teaching Workshop", a "Life and Art Creativity Experience Activity", and an "Indigenous Children Night".

4.1.4 Auditing Committee

The company established an Auditing Committee in June 2012 as a replacement for the supervisor system. The committee is comprised of the three independent directors. The committee members elect a convener and chairman from among themselves. Independent director Ting-Wang, Cheng serves as the convener for this term. The Auditing Committee is responsible for the monitoring of appropriate compilation of financial statements, appointment/dismissal, independence, and performance of CPAs, effective implementation of internal control, compliance with relevant laws and regulations, and control of existing or potential risks. Committee operations are based on the "Auditing Committee Charter and the scope of auditing operations" includes the following: financial statements, auditing and accounting policies and procedures, the internal control system, major asset or derivative transactions, offering and issuance of securities, appointment, dismissal, and compensation of CPAs as well as appointment and dismissal of financial, accounting, and internal auditing executives. The Auditing Committee convenes at least one per quarter. A total of 9 meetings with an average attendance rate of 100% (excluding attendance by proxy) were held in 2016.

Items monitored by the Auditing Committee



Communication with Independent directors

Independent directors have direct communication channels with internal auditing executives and CPAs. They conduct regular audits of the company's financial and business conditions and directly communicate with management and governance units. Upon completion of semi-annual audits of financial statements by CPAs, they report the results of their audit to the Auditing Committee and communicate with regard to other relevant legal requirements. In addition to providing independent directors with monthly auditing reports, auditing executives also compose separate business reports in accordance with the demands of independent directors. They also deliver internal audit reports during quarterly Auditing Committee meetings and fully convey the implementation status and results of auditing operations.

Violations and improvements

The affiliated enterprise "Wuxi Teco Electric Machinery Co., Ltd." declared a capital increase by retained earnings in 2015 but failed to make this information public in accordance with relevant regulations. The company was therefore fined NT$ 240,000 by the Financial Supervisory Commission and TWSE imposed a breach penalty of NT$ 30,000 in June 2016. The company was requested to make relevant improvements. TECO delivered an improvement report and formulated relevant SOPs and inspection forms in July 2016. This information has been made public to all affiliated enterprises and implementation in accordance with regulations is regularly supervised.

4.1.5 Remuneration Committee

The company established a Remuneration Committee in August 2011 to ensure a sound remuneration system for directors and managers. Committee members are appointed by board resolution. The committee consists of a minimum of three members. At least one member must be an independent director. The committee members elect a convener and chairman from among themselves. Standing independent director Chien-Yuan Lin serves as the convener for this term. The Remuneration Committee is responsible for the formulation and regular review of director and manager performance assessment and remuneration policies, systems, standards, and structure. Pursuant to the "Remuneration Committee Charter", the committee convenes at least twice a year. A total of 3 meetings with an average attendance rate of 91.7% (excluding attendance by proxy) were held in 2016.

■ Director compensation policy

Director compensation is determined in accordance with industry standards, personal performance, company business performance, and future risks. The Board Performance Assessment Guidelines, which were formulated in 2015, stipulate regular assessments of directors based on comprehensive financial and non-financial performance indicators including duty awareness, level of participation in company operations, management of internal relations and communication, professionalism and continuing education, internal control, and corporate social responsibility.Director compensation ranges from 1% ~ 5% of annual earnings upon deduction of taxes, compensation for losses, and a 10% statutory surplus reserve. Director performance is assessed and earnings are distributed in accordance with the Board Performance Assessment Guidelines.

■ Manager remuneration policy

Manager remuneration is divided into fixed and variable pay. The latter is directly linked to performance appraisal results based on key performance indicators (KPI). Each business division formulates key performance indicators on an annual basis in accordance with the company's annual development plans. Indicator items encompass business performance of the division, development of energy-saving products, and process/product line optimization. Talent cultivation encompasses balanced development of various dimensions including global manpower development, key talent cultivation ,and passing on of experience. KPIs are imposed from top to bottom encompassing all units at every level.

Performance appraisals based on said indicators are carried out on a quarterly basis. The results of these appraisals reflect both individual and team performance. They are reported to the Remuneration Committee for review and the board of directors for approval in accordance with relevant laws. Relevant information is also disclosed in the company's annual reports as deemed appropriate (P.10~P.12 http://www.teco.com.tw/Content/filepool/357ab1ab-da66-45f7-86b8-579da051f8e5.pdf). This gives all stakeholders a full understanding of the linkage between director and manager compensation and company business performance. The company reviews the reasonableness of salaries paid by the company and external salary standards on a regular basis to ensure the competitiveness of the company in this area and achieve the goal of attraction, motivation, and retention of talent.

Compensation brackets

Director/Manager compensation brackets	Directors (Note)	Managers
Below 2,000,000	4	
2,000,000 ~ below 5,000,000		1
5,000,000 ~ below 10,000,000	8	5
10,000,000 ~ below 15,000,000	3	
15,000,000 ~ below 30,000,000	1	1
30,000,000 ~ below 50,000,000		
50,000,000 ~ below 100,000,000		
100,000,000 and more		
Total	16	7

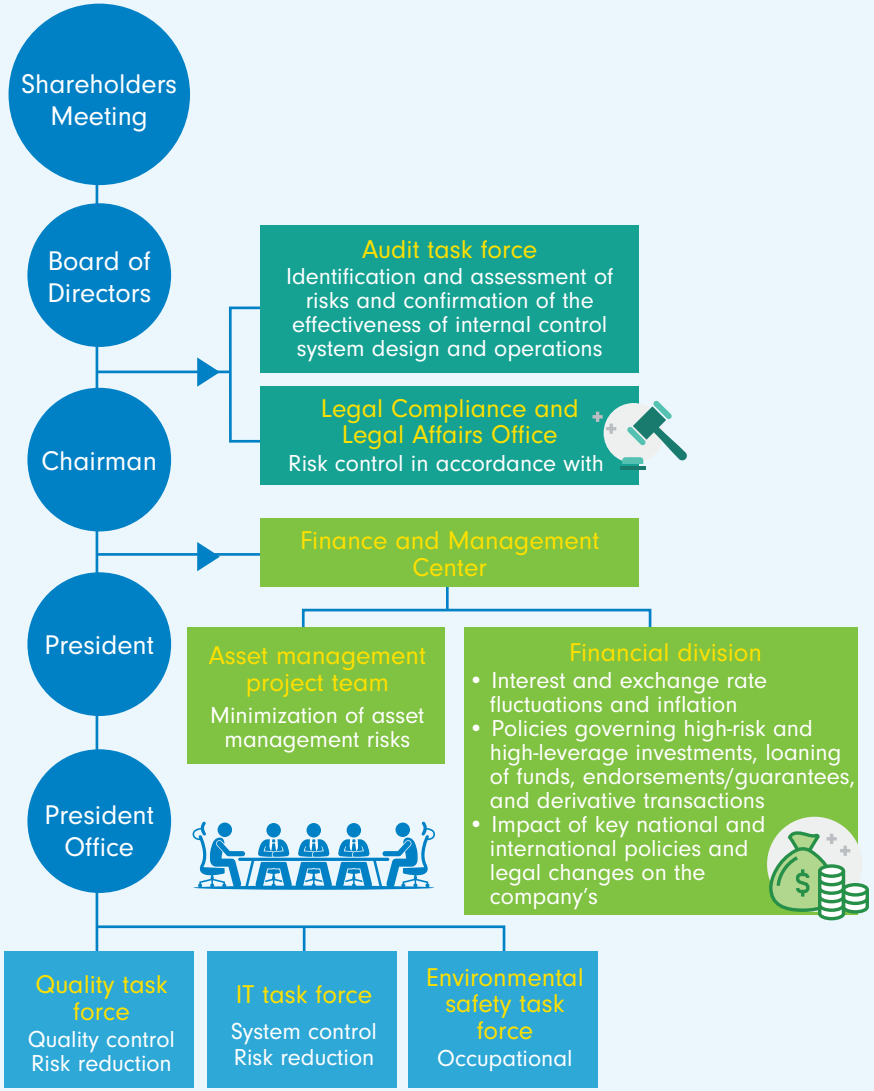
Note: including representatives of juristic person directors

Unit: 1000 NTD

Year	Total compensations paid to directors, the president, and vice presidents	Ratio of total compensations to net income after tax (in %)
2015	193,236	5.55%
2016	194,118	4.77%

4.2 Sustainable Development and Risk Management

Risk management framework



TECO is firmly committed to the establishment of a sound risk management system. The company actively deals with and controls risks associated with operational processes by relying on existing management systems and internal control cycles. This enables the company to maintain stable growth, realize outstanding achievements, and achieve the goal of sustainable operations. Risk control is implemented at different levels through a clear and professional division of duties for the following risk categories: "internal risks", "financial risks", "investment risks", "legal risks", "EHS risks", "information security risks", and "climate change risks".

TECO utilizes a rigorous internal control system to guarantee the effectiveness and efficiency of operations and ensure the reliability, instantaneity, transparency, and conformity to relevant regulations of internal and external reports as well as compliance with relevant laws and regulations. At the same time, the continued efficiency of the internal control system is guaranteed through the audit system.

■ Auditing task force

TECO has formed a professional auditing task force directly subordinate to the board. This task force assists the board and management level in the identification and assessment of risks as well as the review and confirmation of the effectiveness of internal control system design and operations. The task force formulates annual audit plans in accordance with the five main components of COSO internal control based on past audit experiences, the budget draft for the following year, and the current organizational framework. The level of control of external environmental risks by the management level, control of operational risks by business divisions, and the effectiveness of internal control system design and operations is reviewed based on these plans. The task force delivers auditing reports upon completion of auditing operations and regularly reports to the board and Auditing Committee.

TECO incorporates the three main indicators (environment, society, governance) into internal control considerations at all levels to ensure continued integration of sustainable operation concepts in the overall company strategy. Green product design, green operations, green supply chain, and social responsibility are incorporated as sustainability evaluation items. The company also reviews professionalism of board members in various dimensions (including internal control design and execution monitoring capabilities, market and organizational knowledge, financial and legal expertise) as well as the implementation of the independent director system, auditing committee, and information transparency with the ultimate goal of realizing the vision of environmental and social sustainability and sustainable operations.

Internal control items

Environmental control – All levels

External environment
Economic growth rate, exchange rate, interest rate, politics, and prices

Corporate Governance
Board composition&professionalism, independent director system/Auditing Committee, and information transparency

Sustainable operations
Green product design, green operations, green supply chain, social responsibility, and legal risks

Operational risk assessment – Business division level

Sales
Operational, demand, and surplus risks

Management
Strategy, manpower structure, supply, procurement, RD, productivity risks

Finance
Operating profit margin, return on assets, cash flow, inventory turnover days, and days receivables outstanding risks

Control operations

2016 Audit results
Effectiveness of internal control design and execution.

2016 Assessment results
Low risk levels are maintained for all environmental indicators.

2016 Audit results
All business divisions except the new energy division which faces moderate risks maintain low and extremely low risk levels.

Information communication

2016 Audit results
Timeliness, accuracy, integrity, protection, and verifiability and unobstructed external communication channels.

Information communication

2016 Audit results
Monitoring of stratified responsibility and actual execution

Implementation procedures for the auditing system

1. Inspection of risks levels of various business divisions and cycles
2. Formulation of annual audit plans
3. Submission of plans to the Auditing Committee and board for approval
4. Carrying out of routine audits
5. Issuance of audit reports
6. Regular submission to the Auditing Committee and the board

In 2016, the auditing task force completed various auditing operations and improvements for detected shortcomings in various units have been completed within the stipulated time limit. Auditing units assess the overall impact of different risks in business divisions on TECO and adjust the frequency of conducted audits with the goal of maintaining low or extremely low risk levels for all company operations.

Risk categories	Risks	Control methods
 Financial risks	Interest rate fluctuations	Regular assessment of market capital conditions and bank interest rates to minimize the impact of interest rate fluctuations on the company.
	Exchange rate fluctuations	Hedging is conducted through natural hedging in the field of asset and liability positions combined with forward exchange transactions. Financial departments and foreign exchange departments of financial institutions that the company has business dealings with are in close contact. Information pertaining to exchange rate fluctuations is constantly collected to ensure a firm grasp of international exchange rate trends and fluctuations. Negative impacts caused by such fluctuations are dealt with proactively and serve as a key reference for forward exchange transactions and settlements. Financial departments compile internal assessment reports with regard to net foreign currency asset (liability) positions requiring hedging on a regular basis. The management level determines what hedging measures are required based on these reports.
	Inflation	Price negotiations for raw material procurement are based on contracts and spot prices are adjusted upon agreement with suppliers in accordance with rising price levels. Price fluctuations therefore have no significant impact on the company. In the future, the company will conduct meticulous assessments of metal price trends and formulate suitable procurement strategies in line with business demands.
 Investment risks	High risk High leverage Merger risks Plant expansion	In addition to the Credit Limit Review Committee, the company has also formed an Investment and Disposal Review Committee, which is a task-based body comprised of 8-9 external (scholars, experts, and directors) and internal members (business group representatives and investment executives). The committee is responsible for investment strategies, asset allocation, formulation of investment assessment SOPs, review of new investments, tracking and appraisal of investment performance, and monitoring and promotion of asset disposal plans with the goal of minimizing or avoiding risks and ensuring sustainable operations.
 Legal risks	Fines for violations Personal information leaks Inappropriate employee behavior Transaction risks	The newly formed Legal Compliance and Legal Affairs Office, which is subordinate to the board, is responsible for legal audits of contracts signed by the company and its affiliated enterprises and the provision of legal counseling. It also assists business units in the handling of litigation, patent, trademark, and IPR related matters. It formulates internal rules and regulations of the company such as guidelines for the handling of legal cases, contract , patent, and trademark management regulations. It also implements personal data file security and management and has formulated "Personal Data File Security Management Regulations" in response to international trends. A personal data protection task force has been formed to conduct regular reviews of data security conditions. Anti-Trust Principles have been formulated to prevent and avoid the risk of violations of "Antitrust regulations" by the company in its operations. "Ethical Corporate Management Principles" and the "Regulations for the Handling of Reported Cases of Illegal, Immoral, and Unethical Conduct" to establish a corporate culture of sustainable development and ethical management. Internal e-newsletters familiarize employees with new laws, legal amendments, and practices. Legal training is provided for employees to facilitate legal compliance and minimization of risks in the performance of duties. The office constantly formulates contracts of various formats for different business units to control transaction risks in advance and minimize the incidence of losses.

Risk categories	Risks	Control methods
 EHS risks	Legal violations Employee hazards Financial hazards Environmental hazards	An environmental and occupational health and safety management system has been established and relevant norms and regulations have been formulated in accordance with ISO 14001, OHSAS 18001, and the Taiwanese Occupational Safety and Health Management System (CNS 15506) to ensure systematic operations that meet or exceed legal requirements. "Accident Handling Regulations" and related "Emergency Response Measure Regulations" have been formulated and annual drills are conducted in accordance with various emergency response measure management regulations to prevent accident risks. "Management Regulations Governing Prohibited and Restricted Substances" have been formulated to guarantee the disuse of such substances. Air pollution, wastewater discharge, and solid waste treatment conform to relevant laws and regulations and the company carries out constant improvements in these areas.
 Information security risks	Interruption of operations System damage Information leaks	A Disaster Recovery System has been established for the ERP system to prevent interruption of operations and guarantee that major operations and activities are not affected by malfunctions and disasters. Disaster recovery drills are conducted on an annual basis. Preventive measures ensure business continuity and rapid restoration of operations after disasters or accidents. In view of constant advances in the field of Internet technology, the company has implemented the following preventive measures to prevent impacts on information security: • Regular weakness scanning for all WEB application systems • Formulation of Internet usage norms to enhance online security management • The system forces users to update passwords on a regular basis and the use of unsafe passwords is not allowed. • Regular organization of training and education on new trends in the field of information security. Creation of information security systems including firewalls, IPS (intrusion Prevention Systems), online antivirus programs, and e-mail filtering.
 Climate change risks	Disruption of regional supply chains	Development of alternative supply sources and spreading of risks is a basic requirement. Increase of local procurement ratios to minimize transportation risks and environmental impact
	Cost increase	Technological innovation enhances product value Standardization of materials and support in price negotiations and supply
	Impact on production and delivery	Flexible adjustment of production and marketing planning in response to sudden risks
	Flooding and water shortage	Storage and disaster prevention considerations in different areas Water storage facilities and water conservation measures
	Power shortage	Energy conservation measures and solar power installations at plants

Risk categories	Risks	Control methods
 Technology risks	Technological lag Delayed product development Sudden market changes	Constant strengthening of competitive advantages in the field of high-performance motors, application of eco-friendly refrigerants in home appliances, and energy conservation through variable frequency technologies. Close scrutiny of international technology trends and market trend reports and adoption of innovative methodologies Planning of several technology-related discussion forums, development of long-term technology development blueprints, and realization of planned strategies and schedules.
 Corporate image risks	Negative image	Pursuit of business success through diversified operations and global layout Deep social concern by TECO Technology Foundation combined with rigorous requirements in the field of products and services and active communication of a superior corporate image of an international enterprise. Risk management plans encompass production bases all over the world; sudden major incidents are simulated and response plans are formulated constantly.

4.3 Participation in External Organizations and External Initiatives

Active participation in external organizations and initiatives such as societies, associations, and NGOs including Taiwan's Business Council for Sustainable Development, Taiwan Electrical and Electronic Manufacturers' Association (TEEMA), Taiwan Automation Intelligence and Robotics Association (TAIROA), and Taiwan Chamber of Commerce etc. to promote domestic and international industrial/economic interactions and exchanges and give a major impetus.

Taiwan's TECO Group Chairman Mao-Hsiung, Huang enthusiastically promotes economic and cultural exchanges between Taiwan and countries all over the world. He currently serves as honorary chairman of the Chinese National Association of Industry and Commerce, Taiwan (CNAIC) as well as chairman of the R.O.C. East Asian Economic Association, the Taiwan India Business Association ,and Taiwan-Turkey Business Association.

He has made exceptional contributions in the reception of foreign VIP visitors, international visits of Taiwanese enterprises, and the signing of private investment agreements.

Mr. Huang is firmly committed to expanding international exchanges in the field of economy, trade, and culture and provision of assistance to Taiwanese enterprises in the pursuit of international business opportunities in line with government policies.

As for contributions in the field of sustainable development, TECO is a long-term member of the Business Council for Sustainable Development of Taiwan (BCSD-Taiwan) and Chairman Chwen-Jy, Chiu serves as a supervisor of this organization. This clearly demonstrates TECO's unwavering commitment to environmental protection and resource sustainability in the pursuit of business growth.

In addition, TECO embraces the promotion of clean energy source development as its corporate responsibility and actively participates in the Taiwan Wind Energy Association. Board consultant Yu-Kuang Wang serves as the standing director and industrial development committee convener. The goal of the establishment of a wind power technology development platform is to integrate relevant fields in Taiwan and provide a stimulus to the development of wind energy applications in Taiwan.

TECO utilizes the Taiwan Wind Energy Association as a platform for participation in cross-strait activities to explore cross-strait business opportunities in the field of wind power and provide suggestions to the government with regard to the domestic production of offshore wind power pilot projects.

TECO also co-organized the Taiwan International Green Industry Show through membership in the association and established a special wind energy section to give the Taiwanese wind energy industry international exposure.

TECO also participates and serves as director, supervisor, or above in the following societies and associations

Transnational Commercial Cooperation Organizations

- Chinese International Economic Cooperation Association
- Taiwan-Turkey Business Association
- Taiwan India Business Association
- R.O.C. East Asian Economic Association

Domestic organizations

- Taiwan Electrical and Electronic Manufacturers' Association
- Chung-Hwa Railway Industry Development Association (CRIDA)
- Taiwan Automation Intelligence and Robotics Association (TAIROA)
- Taiwan Electrical Appliance Association
- Taiwan Refrigeration and Air Conditioning Engineering Association of Republic of China
- Taiwan Power Electronics Association
- Electric-Electronic & Environmental Technology Development Association of R.O.C. (CED)
- Business Council for Sustainable Development of Taiwan (BCSD-Taiwan)
- Chinese National Association of Industry and Commerce, Taiwan (CNAIC)
- Epoch Foundation
- Center for Corporate Sustainability (CCS)

Renewable/Clean Energy Organization

- Taiwan Wind Turbine Industry Association
- Taiwan Wind Energy Association
- Association of Atmosphere Protection in Taiwan (AAPT)

05

Green Supply Chain and Environmental Sustainability

5.1 Green Supply Chain

Key aspects and strategies of TECO green supply chain management :

- The spirit of human rights and environmental protection is realized in supplier qualification appraisals and daily transaction management
- Suppliers are required to pass relevant environmental protection, safety, and health certifications such as ISO14001 and OHSAS18001.
- Local procurement strategies serve the purpose of minimizing the environmental footprint of procurement processes and stimulating the economic development in local communities.
- Suppliers are constantly encouraged to participate in environmental and water footprint projects to achieve joint progress in this area.

Key developments in the field of green supply chain are as follows:

2015

Addition of a CSR related clause to the Supplier (Raw Material) Transaction Contract to be signed by all suppliers

2016

- Attachment of a Letter of Commitment to Human Rights and Environmental Sustainability to the Supplier (Raw Material) Transaction Contracts to be signed by all suppliers
- Invitation of key suppliers of the Chungli Motor Plant (e.g., China Steel, TAI-I, and TPI Bearings) to jointly participate in environmental and water footprint projects.

2017 Future outlook

- Addition of a clause to the Letter of Commitment to Human Rights and Environmental Sustainability stipulating contract termination or rescission in case of violation of this commit ment by suppliers to be successively signed by all suppliers.
- Invitation of key suppliers of the Hukou Plant to jointly participate in environmental and water footprint projects.
- Planned annual review of records of environmental protection and human right violations on the part of suppliers pursuant to government announcements.
- Planned incorporation of CSR Assessment Charts into the supplier evaluation mechanism.

5.1.1 Supplier evaluations and daily management

TECO views its suppliers as a key link of the production process and therefore aims to enhance its quality and management standards in this field. The company also pursues the goals of higher quality, shorter delivery times, non-use of harmful substances, and low costs in cooperation with its suppliers to create a brighter future for the company. TECO has therefore formulated and strictly observes "Vendor Management Procedures" (subcontractors include suppliers) to ensure that suppliers meet relevant quality, environmental, safety, and health criteria and products conform to green management and control requirements prior to initiation of transactions. Regular audits and appraisals after transactions are conducted to monitor changing standards. TECO supplier management consists of the following three dimensions:

Dimension 1: Supplier qualification evaluations

- Written review: Suppliers fill out "Supplier Survey Forms"
- On-site assessments: TECO evaluation task forces compile Supplier Evaluation Reports based on the results of on-site inspections

Dimension 2: Supplier transaction management

- Suppliers are required to sign Supplier (Raw Material) Transaction Contracts
- And a Letter of Commitment to Human Rights and Env ronmental Sustainability

Dimension 3: Supplier performance appraisal incentives

- Monthly supplier performance appraisals in the fields of delivery time and quality
- Performance appraisal results also serve as a key reference for risk assessment

5.1.1.1 Supplier qualification evaluation

TECO has formulated " Procedure for Vendor Assessment" as a basis for supplier selection to ensure that suppliers meet relevant requirements in the fields of operating conditions, abilities, and potential. Assessment operations are conducted in two stages.

First stage : Written review

Newly selected suppliers are requested by personnel in charge at the Procurement Department to fill out a Supplier Survey Form to gain an initial grasp of supplier conditions in the field of operations, organization, scope, modes, products, clients, production testing equipment, quality, environmental protection, safety, and health. In addition, the Procurement Department constantly monitors supplier developments. In case of changes, information provided on the Supplier Survey Forms is reexamined. Tracking and revision is carried out every three years. Supplier Survey Forms reveal that all domestic suppliers have acquired ISO14001 certifications and 70% have earned OHSAS18001 certifications.

Second stage : On-site assessments

The Procurement Department convenes personnel from the R&D, QC, Production Technology, and Finance Departments to form an evaluation task force in charge of on-site inspections and assessments. The results of these assessments are compiled into Supplier Evaluation Reports which are submitted to authorized executives of relevant units for review. Assessment procedures and items are as follows:

Four evaluation dimensions

- QC capabilities: RoHS analysis, process and output quality control
- R&D capabilities: Product life cycle management, R&D personnel numbers, and turnover rates
- Business management and service system: Use of child labor, forced labor, freedom of assembly, collective bargaining rights, and work times.
- Production technologies: Implementation status of safety, health, and environmental protection measures

Assessment score brackets

Average score	Assessment result	Description
Below 60 points	Disqualified	Suppliers are considered disqualified if the score for capabilities in one of the four dimensions (R&D, QC, business services, and production technology) fails to reach 60.
60-75	Guidance required	Reevaluation upon one year of guidance or self-implemented improvements in accordance with supplier potential and TECO requirements
Over 75	Listing as qualified supplier	Guidance may be provided to raise relevant standards and satisfy procurement requirements if deemed necessary

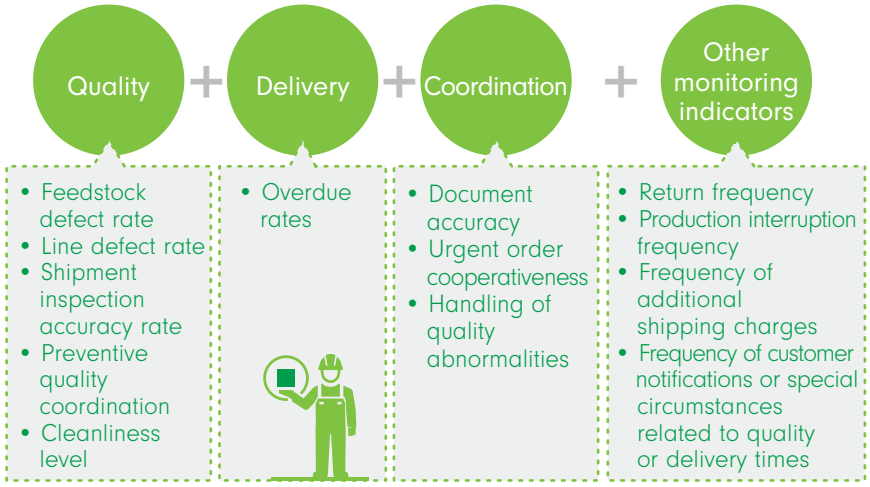
5.1.1.2 Supplier transaction management

TECO and its qualified suppliers have jointly formulated a Supplier (Raw Material) Transaction Contract in a spirit of mutual respect and upholding of integrity principles. Suppliers are also required to sign the attached Letter of Commitment to Human Rights and Environmental Sustainability. The contents of this letter are as follows:

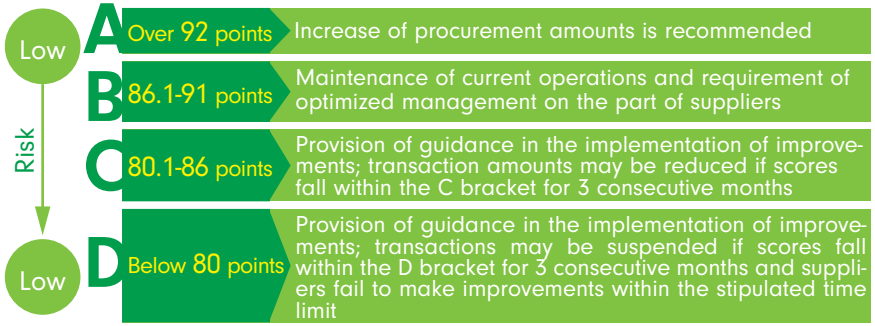
Said Letter of Commitment to Human Rights and Environmental Sustainability was sent to all suppliers for signature upon official announcement in January 2016. In April 2017, the TECO legal affairs unit added a termination and rescission clause to Article 11 of the Letter of Commitment pursuant to the following provision set forth in Article 26 of the Corporate Social Responsibility Best Practice Principles for TWSE/TPEx Listed Companies: " When TWSE/TPEx listed companies enter into a contract with any of their major suppliers, the content should include terms stipulating mutual compliance with corporate social responsibility policy, and that the contract may be terminated or rescinded any time if the supplier has violated such policy and has caused significant negative impact on the environment and society of the community of the supply source." As per official announcement of the company on April 28, 2017, the Letter of Commitment to Human Rights and Environmental Sustainability was resent to all suppliers for signature by procurement units in May of the same year.

5.1.1.3 Supplier performance appraisals and incentives

Delivery times and quality of supplied items is one of the key aspects of supplier management. TECO has therefore formulated "Procedure for Exercise of Vendor Evaluation and Rewards" and the Procurement Department conducts monthly delivery and quality assessments in accordance with said procedures. Performance appraisal items:



Performance appraisal scores can be divided into 4 score brackets (A, B, C, and D), which also serve as a key reference for risk assessment



In addition, we also require suppliers to provide analysis reports and improvement strategies with regard to quality abnormalities.

5.1.2 In-depth CSR management for suppliers

To establish more rigorous and concrete requirements for supplier CSR practices, TECO has formulated CSR provisions and a CSR assessment chart especially for suppliers and ensures positive responses to supply chain related issues through the signing of Declarations of Non-Use of Prohibited/Restricted Substances and Conflict Minerals.

5.1.2.1 Signing of CSR provisions

A per official announcement on September 1, 2015, TECO has added a CSR clause to Article 41 of the Supplier Transaction (Raw Material) Contract to ensure that suppliers fulfill their CSR. This article stipulates that "Party B" (the supplier) shall execute transactions and fulfill its CSR in a faithful manner. Party B shall not harm the interests and image of Party A (TECO). Party B pledges not to provide improper benefits or offer loans, leases, and investments not specified in the company's operations to Party A's personnel or their friends and relatives. Serious violations of this clause as determined by Party A may lead to rescission or termination of this contract. Procurement units successively resigned contracts with the newly added CSR clause with suppliers starting in October 2015. Suppliers which have signed the updated contract are given priority in procurement activities.

5.1.2.2 Creation of a CSR Assessment Chart

TECO has created a CSR Assessment Chart based on the three dimensions of "Labor Rights and Social Responsibility", "Environment", and "Energy Conservation and Waste Reduction" in response to the growing attention to CSR issues worldwide and in order to achieve a greater focus on on-site inspections of CSR fulfillment by suppliers and encourage suppliers to adopt CSR-related business concepts.

Labor Rights and Social Responsibility	Environmental dimension	Energy Conservation and Waste Reduction
OHSAS18001 Occupational Health Management System, child labor, workplace health and safety, communication with labor groups, gender discrimination, compulsory labor, community employment assistance, engagement	ISO 14001 environmental management system, noise prevention, waste water and waste gas discharge, solid waste management, harmful substance control procedures, chemical management	Energy and water conservation measures and execution, clean production, waste reduction, GHG inventory

Since 2014, TECO has conducted evaluations of a total of 332 local suppliers (excluding dealers and foreign manufacturers). Upon completion of appraisals, 92.8%, 7.2%, and 0% of all evaluated suppliers were rated as "qualified", "requiring attention", and "disqualified", respectively. In addition, suppliers with violations in the field of hiring of child labor and waste water/waste gas discharge management laws and regulations as indicated on CSR Assessment Charts are blacklisted and preference is given to suppliers with ISO14001 or OHSAS18001 certifications. Evaluations are conducted once every three years.

5.1.2.3 Management of Prohibited/Restricted Substances

TECO has formulated Management Procedures for Prohibited/Restricted Substances in response to regulations set forth in national and international environmental laws (including the national Toxic Chemical Substances Control Act and international RoHS and REACH norms) to prevent the use of such substances and ensure that used materials conform to relevant laws and regulations and satisfy customer demands. Procurement units require suppliers to fill out Procedure for Banned/ Restricted Substances Management" in accordance with these procedures. Suppliers are also required to submit test reports, material approval documents, Material Content Declaration (MCD), and safety data sheets (SDS) issued by international third-party certification bodies for review. If it is detected that substance contents exceed the allowed limits, TECO immediately notifies suppliers to schedule testing by third-party certification units. TECO "Banned /Restricted Substance Guarantee" contents:

> The contract party _____ hereby guarantees that starting from the initiation of transactions with TECO Electric & Machinery Co., Ltd. (hereinafter referred to as "TECO") all delivered products conform to the contents of submitted test reports (tested within the previous year), material approval documents, material composition declarations, and safety data sheets as well as prohibited/restricted substance concentration standards stipulated in national and international laws and by TECO. The contract party shall also guarantee that TECO conforms to national and international laws and regulations. Where violations committed by the contract party lead to civil or criminal proceedings against TECO or administrative losses or fines are incurred, the contract party shall be liable for compensation of incurred losses including, but not limited to, harm to business reputation and lost benefits.

5.1.2.4 Non-Use of Conflict mineral management

TECO has formulated a Declaration of Non-Use of Conflict Minerals to ensure proper handling of conflict mineral issues. Suppliers are required to conduct detailed surveys of supply chains to ensure that metals such as Gold (Au), Tantalum (Ta), Wolfram (W), Cobalt (Co), and Tin (Sn) are not acquired from non-governmental military groups, illegal organizations, the Republic of Congo, and mining areas in other conflict zones or through smuggling. Metals exported by the following nations do not meet conflict-free norms as determined by the US Security Council: DRC, Rwanda, Uganda, Burundi, Tanzania, Kenya. Copper and Aluminum must be purchased by TECO suppliers from London Metal Exchange (LME). Steel is mainly purchased from China Steel and Nippon Steel & Sumitomo Metal Corporation, while iron ore is imported from Australia and Brazil.

5.1.3 Local procurement strategy

Local procurement is a key link of TECO's procurement strategy which helps establish close partnerships with local suppliers, stimulates local economic development, and reduces the environmental footprint of procurement processes. We strictly observe local procurement principles unless raw materials are mostly produced abroad or non-local suppliers have exclusive technological advantages (e.g., sliding bearings). The local procurement ratio currently amounts to 90% and the company will strive to further increase this ratio in the future.

5.1.4 Joint growth with suppliers – Participation in environmental and water footprint projects.

Carbon reduction trends are on the rise worldwide and this issue is expected to evolve into a new rule of industry chains. Products without carbon labels will be difficult to market. Following the successive implementation of carbon labeling plans by Japan, UK, USA, Canada, Thailand, Australia, and other countries, Taiwan became the 11th country to implement a carbon labeling system as per official announcement of the Taiwanese Environmental Protection Administration in December 2009. In response to these future trends, TECO applied for participation in the environmental footprint guidance project sponsored by the Industrial Development Bureau in May 2016. Key suppliers (e.g. China Steel) of Chungli Motor Plant were invited to jointly participate in this project. Key suppliers of the Hukou Plant will be invited in 2017.

5.1.5 Future plans

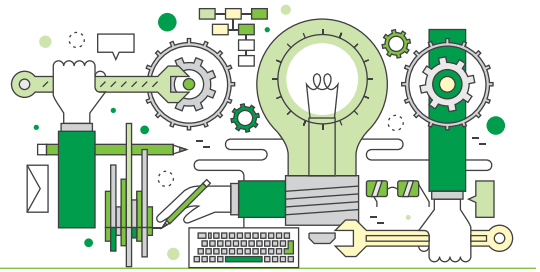
5.1.5.1 Review of records of environmental and social impacts on the part of suppliers

Article 26 of the Corporate Social Responsibility Best Practice Principles for TWSE/TPEx Listed Companies promulgated by TWSE clearly stipulates that "TWSE/TPEx listed companies are advised to assess the impact their procurement has on society as well as the environment of the community that they are procuring from, and shall cooperate with their suppliers to jointly implement the corporate social responsibility initiative." And "Prior to engaging in commercial dealings, TWSE/TPEx listed companies are advised to assess whether there is any record of a supplier's impact on the environment and society, and avoid conducting transactions with those against corporate social responsibility policy." The Procurement Department plans to utilize the Pollutant Release and Transfer Register of the Environmental Protection Administration, Executive Yuan on an annual basis to determine whether local suppliers have incurred fines or penalties for violations associated with pollutant release and transfer.

In addition, the Procurement Department also plans to conduct queries of employer violation information in the field of labor rights made public by labor affairs units at the county and municipal level on an annual basis (including violations of the Act of Gender Equality in Employment, Occupational Safety and Health Act, and the Labor Standards Act) to review and monitor records of violations on the part of suppliers.

5.1.5.2 incorporation of CSR Assessment Charts into the supplier evaluation mechanism

It is planned to incorporate CSR Assessment Charts into the "Procedure for Vendor Assessment" to determine the green supply chain potential of suppliers during the adoption stage.



5.2 Environmental Sustainability

TECO places great emphasis on environmental protection and sustainability issues. The company not only actively develops highly effective green products and solutions by relying on its core technologies but also conducts inspections from the perspective of product life cycles to achieve the key policy goal of prevention of additional environmental burdens. TECO is fully committed to minimization of environmental impacts generated by product life cycles, product development, material input and production processes, warehousing, and transportation. As of 2016, the company utilizes the monitoring and analysis functions of the self-developed EMS system to enhance the energy usage efficiency of the whole production process in plants and implements constant improvements with the goal of enhancing product life cycles from the perspective of energy management, realizing clean production, improving recycling rates, achieving sustainable development, and fulfilling the vision of protection of our natural environment.

■ Key aspects of environmental strategy

01 The company takes concrete action in response to climate change and

02 Formulates concrete goals in the three dimensions of energy-saving products, decrease of energy and resource consumption during production processes, and reduction of pollutants.

03 Product life cycle inspections are conducted to implement minimization of environmental impacts as a key consideration at every stage of the product life cycle.

2015

- Overall energy conservation effects reached 1.2% in 2015.
- Reduction of volatile organic compounds (VOCs) generated in motor production processes by 34.1% (Note 1)
- Incorporation of affiliates (TESEN Electric Co., Ltd. (TESEN), Taian Technology (Wuxi), and TECO-Westinghouse (TWMC) as targets of environmental inventories

2016

- Overall energy conservation effects reached 2.63% in 2016.
- Environmental and water footprint inventories carried out for 3 motor models to facilitate planning of follow-up improvement targets and strategies
- Green power purchases of 1 GWh starting in 2016
- Optimization of the energy management system of the Chungli Plant, monitoring and analysis of high power consumption items, carrying out of project reviews, and formulation of concrete improvement targets for 2017

2017 Future outlook

- Annual green energy purchases of a minimum of 1 GWh
- Expansion of product environmental and water footprint inventories to industrial inverters to detect environmental footprint hot spots in product life cycles of the company's main products and facilitate planning of follow-up improvement targets and strategies
- Annual energy savings of over 1% in the Chungli and Kuanyin Plants, which are the main power consumers, between 2015 and 2019
- Pollutants: The goal is a reduction of Volatile Organic Compounds (VOCS) emissions generated by the Chungli Plant by 60% in 2018 compared to 2015(Note 1)
- Climate change risks and opportunities: Continued analysis and assessment of risks and opportunities and adoption of response measures

Note 1: The decrease of VOCs by 34.1% and planned decrease of 80% stated in the 2015 report is inaccurate. Please refer to p.77 (chapter on air pollutant management) for a more detailed description.

5.2.1 Green product life cycle

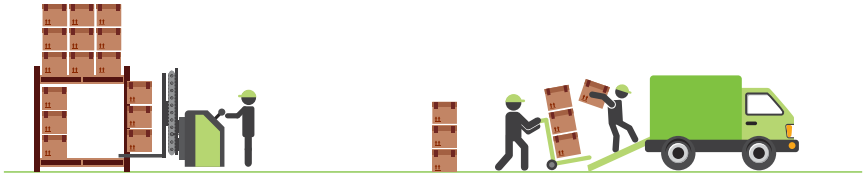
The green product life cycle from the design stage to manufacturing, transportation, sale, and usage is based on the 4R concept (reduce, reuse, replace, recycle) and energy conservation principles. These concepts are applied to the development and production of eco-friendly and energy-saving products. During the development stage, environmental factors are taken into consideration and superior technologoes of the whole group are integrated to achieve high performance, miniaturization, and lightweighting. The main focus of the production stage lies in the reduction of energy and resource consumption, recycling and reuse. Eco-friendly products lead to reduced energy consumption on the user end. IE2~IE4 energy-saving motors and class 1 and 2 energy-saving home-use A/C generate annual power savings of 606 GWh for TECO clients. Scrapped products are easy to disassemble, recycle, and reuse (recycling rate of over 90%). The main consideration of green life cycles from the development stage to scrapping and recycling lies in the minimization of environmental impacts.

Reduce Miniaturization, lightweighting, standardization, simplified packaging, transportation efficiency, energy conservation, waste reduction, and pollution decrease during production processes

Reuse Repeated use of shipping containers, reuse of metal trim (silicon steel sheet, iron plates), recycling and reuse of refrigerants

Replace Development and use of more eco-friendly substitute materials (e.g., use of R600a instead of R134a refrigerant for refrigerators, pioneering of the use of R32a instead of R410A refrigerants for home-use A/C greatly reduces greenhouse effects caused by escaped refrigerants.

Recycle Products employ recyclable materials, disassemblable designs, recycling labels, sorting and management of process waste



Description of climate change and environmental impacts of each stage of the product life cycles, setting of goals or methods for minimization of impacts of the following stages:

1 Environmental impacts of the product development stage

This stage mainly focuses on the determination of the main product resources, energy conservation during usage, and enhanced recycling rates. This is the main stage for reduction of environmental impacts of the product cycle.

TECO utilizes its core technologies to optimize part and structure matching and develops highly efficient materials and parts in cooperation with suppliers to achieve miniaturization, lightweighting, and reduced use of energy and resources. More eco-friendly materials such as the refrigerant R600a are used as green substitutes. Halved refrigerant fill amounts lead to greatly reduced Global Warming Potential (GWP) from 1,430 to 3 and the use of R32 refrigerant for home-use A/C results in a decrease of GWP values by 70%, greatly reducing the impact of the greenhouse effect. Product recycling ratios exceed 90% and disassemblable designs facilitate recycling. The company has applied for environmental labels for its main home appliances and AC products. Government notary units verify conformity of products to environmental regulations. Energy conservation: Complete series of energy-efficient variable-frequency AC models (class 1) and IE2~IE4 motor products, inverters, and electric motor wind turbines reduce environmental impacts on the user end. Example: Miniaturization and lightweighting of large motor products

Copper use

Unit: metric tons

Model	Average reduction per unit Reduction	2014 Reduction	2015 Reduction	2016 Reduction
Steel case	0.223	13	10	**14**
Cast iron case	0.044	2.2	3.1	**2.6**

Steel use

Unit: metric tons

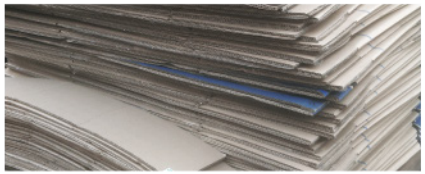
Model	Average reduction per unit Reduction	2014 Reduction	2015 Reduction	2016 Reduction
Steel case	1.059	61	48	**68**
Cast iron case	0.389	19	27	**23**

2 Environmental impacts of the material input stage

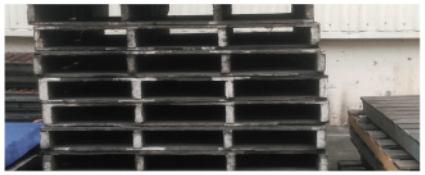
The main focus of this stage lies on whether or not raw materials and components contain Banned /restricted materials, resource use during the production stage, generated air pollution and waste, packing materials and energy consumption during shipping.

TECO has formulated Management Procedures for Banned/Restricted Substances and Regulations Governing Labeling and Notification of Hazardous Chemicals. The management of chemical components and contents from the development and design stage and the procurement stage is clearly stipulated. Supplier efforts in the field of environmental protection during the production stage represent a key aspect of evaluations.

In the field of product delivery, the company aims to maximize transportation efficiency through a reduction of the number of shipments. Improved packaging for components and finished products increases the unit volume for shipment. TECO partners with manufacturers to encourage the use of recyclable mesh cages as shipping containers. The company also sorts and collects cartons utilized by suppliers and urges manufacturers to implement recycling and reuse. The goal is to make joint efforts with manufacturers to minimize environmental impacts during the material input stage.



Recycling and reuse of cartons



Recycling and reuse of wooden pallets

3 Environmental impacts of the production stage

Ecological and environmental impacts are mainly caused by energy consumption, air pollution, and waste generated during production processes. The TECO Chung Li, Hukou, Kuanyin, Kuanyin II plants, and affiliated enterprises (Tesen Electronic Co., Ltd., TECO Westinghouse, Taian Technology (Wuxi) are not located in the vicinity of ecological conservation zones or biodiverse habitats and therefore have minimal impact on ecological environments and pose no hazard to protected species. Tesen, which is the only enterprise of the TECO Group that uses ground water, has installed wastewater treatment facilities and conducts relevant inspections to ensure that all discharges conform to effluent standards. All other plants use running water. Generated process and domestic wastewater is discharged to treatment plants of industrial zones to ensure uniform processing. Effluent treatment conforms to relevant regulations, while water conservation measures minimize the ecological and environmental impact of water resource use.

Coolants used in AC systems and refrigerators contribute significantly to the greenhouse effect. TECO is in charge of product development, while production is carried out by Tesen. The goal in this area has shifted from the use of non-ozone depleting coolants to the development of coolants that minimize GHG emissions. For instance, R600a coolant is used for refrigerators and coolants with minimal global warming potential (GWP) such as R32 are being adopted for home AC systems. TECO and Tesen continue to carry out annual GHG inventories and external verifications to gain a clear understanding of major GHG sources as a basis for improvements. TECO and its affiliated enterprises constantly implement process improvements to enhance the efficiency of production facilities and conserve energy sources. Recycling and reuse are also implemented (e.g., recycling of silicon steel plate rejects and iron plate trim scraps). Treatment facilities have also been installed to deal with air pollution generated by production activities. Constant improvements are implemented to ensure that emission standards are met or exceeded. Waste is separated into the following categories: Recyclable resources and waste and non-recyclable waste. All waste types are treated by qualified businesses in accordance with relevant laws. The goal is to increase the ratio of recyclable resources and waste to total generated industrial waste to 90% or more and thereby minimize the impact of production activities on the environment and ecology.

Silicon steel scrap recycling and reuse ratio > 90%

Chungli Plant silicon steel scrap recycling and reuse

Unit: metric tons

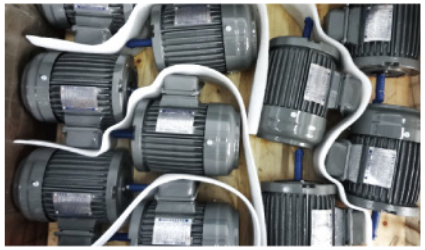
	2014	2015	2016
Silicon steel tailings	12,240.34	10,698.44	**8,077.18**
Internal recycling and reuse	11,453.18	9,620.88	**7,508.65**
Recycling and reuse ratio (%)	93.57%	89.93%	**92.96%**

Energy conservation and emission reduction improvements for TECO factory buildings and office space s

Name of initiative	content	1000 kWh /year	Metric tons CO2e/year
Installation of energy-saving	T8 20W*3 lighting devices replaced with 139 LED lighting devices	22.02	11.62
	T8 20W*3 lighting devices replaced with 96 LED lighting devices	15.21	8.03
	25W downlighting replaced with 68 LED lighting devices	2.33	1.23
	Replacement of 600 different lighting devices	50.40	26.61
	Mercury lighting in the warehouse of the production management division of Plant I has been replaced with 120 power-saving light bulbs (wattagereduced from 500w to 100w)	48.00	25.34
	Mercury lighting in Plant II replaced with 120 electrodeless lamps	147.60	77.93
	Installation of 50 energy-saving T5 lighting devices	5.73	3.02
Replacement of AC units	Installation of a water-cooled air conditioning unit with a cooling capacity of 30000kcal/h in the calibration room of Plant I	6.57	3.47
Installation of a 6,000kw dynamometer to measure electric feedback	6,000kW dynamometer	1,105.92	583.93
Installation of energy-savin light tubes in the Kuanyin Plant	Traditional T8 lighting has been replaced with 802 T5 light tubes	73.52	38.82
Total		**1,477.30**	**780.01**

4 Environmental impacts of warehousing, transportation, and sales

The main focus lies on the use of packing materials and energy consumption and carbon emissions during transportation. In the field of product packaging, TECO aims to adopt simplified packaging design and recyclable and reusable shipping containers. For instance, domestically sold small motors are shipped in mesh cages with simple isolation protection. Home appliances are shipped in reusable stacked wood crates to minimize size and weight and increase the number of units per shipment. The goal lies in the decrease of energy consumption per shipped unit and reduction of environmental impacts through reuse of shipping containers (mesh cages).



Domestically sold motors are shipped in mesh cages with simple protection to avoid excessive packaging

Simple packaging of A/C for commercial use – wood base can be used for transportation and by customers which reduces resource waste

5 Environmental impcts of the usage stage

The main focus lies on energy consumption TECO is firmly committed to the development, production, and sale of energy-saving products to minimize the environmental impact of product power and water consumption. For instance, TECO has a complete series of IE2~IE4 energy-saving motor products (the domestic standard for motors is currently IE1+) Global sales of highly-efficient energy-saving motors and home appliances generate power savings of 606 GWh and carbon emission reductions of 320,000 metric tons CO2e per year for TECO clients. Inverters reduce the power consumption of industrial motors by over 35%. TECO has launched Class 1 energy-saving home appliance models which have earned Eco, energy, and water conservation labels. TECO utilizes its cutting-edge energy conservation technologies to enhance the energy usage efficiency and minimize environmental impacts generated by the user end.

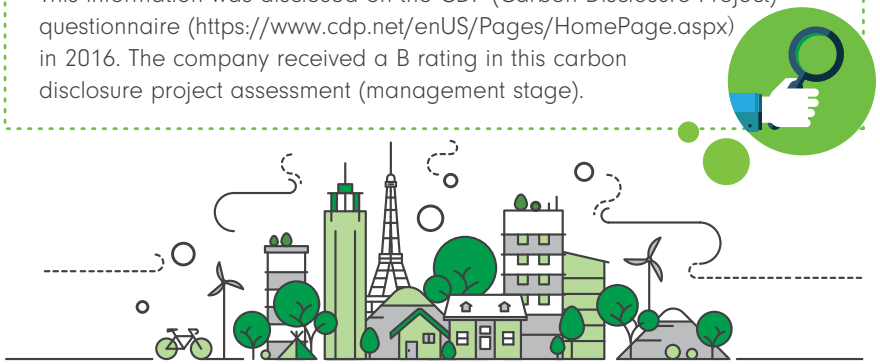
6 Environmental impacts of the scrapping and recycling stage

The main focus lies on environmental pollution TECO incorporates Resource Recycling and Reuse as a main consideration starting from the design stage. Products employ disassemblable and recyclable designs and recyclable and reusable materials. Plastic materials are labeled with recycling marks to facilitate follow-up handling. Over 90% of all TECO materials can be recycled and reused which greatly increases the environmental impacts of scrapping.

All pastic items are labeled with recycling marks

Assessment of climate change and environmental impacts of product life cycles

To gain a better understanding of the impact of product life cycles on climate change and the environment, TECO carried out environmental and water footprint inventories for its motor products in 2016. The goal is a better understanding of production processes and usage hot spots to facilitate the search for opportunities to minimize relevant impacts. In addition, the company has already carried out preliminary assessments of climate change risks and opportunities and proposed response measures. This information was disclosed on the CDP (Carbon Disclosure Project) questionnaire (https://www.cdp.net/enUS/Pages/HomePage.aspx) in 2016. The company received a B rating in this carbon disclosure project assessment (management stage).



5.2.2 Local procurement strategy

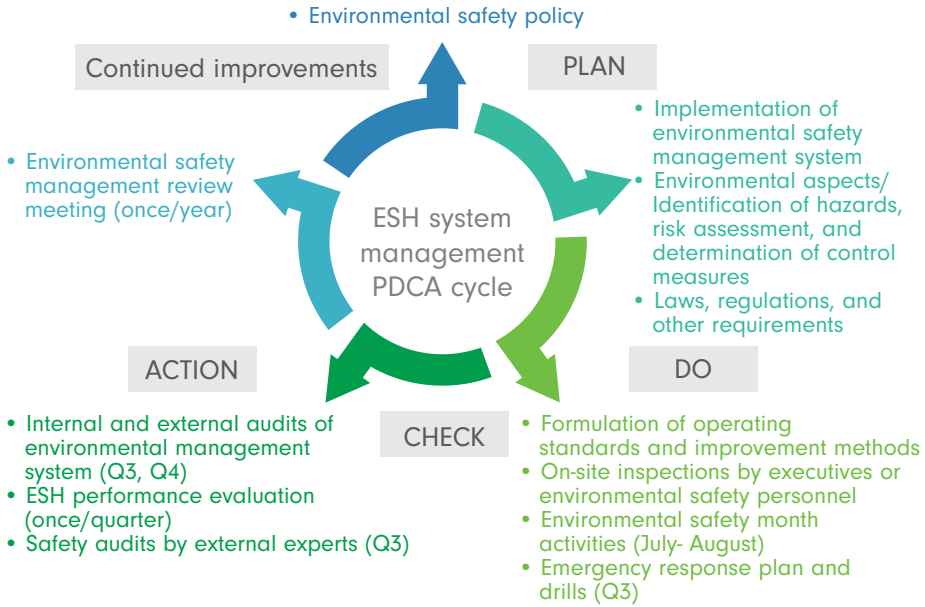
Policy and organization

TECO has formed an environmental safety task force which is subordinate to the President Office. Dedicated environmental safety units have also been established in all plant areas. These units are in charge of formulation of environmental safety and health policies, program management, and internal supervision for the whole company and all plants as well as the proper functioning of the environmental safety and health management system. The company's environmental safety policies can be summarized as follows:

Compliance with international laws and regulations	Compliance with laws and regulations, conformity to international environmental trends, and satisfaction of stakeholder demands and expectations
Sound environmental safety management	Sound environmental safety management system and implementation of environmental protection and harm prevention
Strengthening of risk assessment	Strengthening of risk assessment and training and carrying out of environmental safety aduits to maintain a safe, healthy, and clean work environment and enhance work safety and environmental protection performance.
Commitment to energy conservation	Commitment to energy conservation, optimal use of resources, pollution abatement, minimization of environmental impacts, and maximization of ecological benefits
Fulfillment of corporate citizen responsibilities	Active encouragement of all employees and contractors to participate in environmental protection and safety and health related activities as well as strengthening of communication and coordination and fulfillment of corporate citizen responsibilities.

Comprehensive environmental safety management system

ISO 14001 Environmental management system	OHSAS 18001 Occupational Health and Safety Management System	CNS 15506 Taiwan Occupational Safety and Health Management System	ISO 14064-1 GHG inventories



TECO has established an environmental safety management system and ensures proper operations of the system in accordance with ISO 14001, OHSAS 18001, and CNS 15506 (Taiwan Occupational Safety and Health Management System). The company has also acquired relevant management system certifications. Internal audits and external verifications are carried out annually to ensure the effective implementation of the management system. In addition, the company has been conducting ISO 14064-1 GHG inventories since 2013. Systematic inventories ensure data accuracy and serve as the foundation for energy conservation and carbon reduction activities. The company aims to ensure legal compliance and achieve the goals of environmental protection and minimization of environmental impacts through sound management system operations, improved PDCA management, and self-expectations exceeding legal requirements. TECO organizes Environmental Safety Month Events from July to August on an annual basis. In addition to the display of event banners and environmental safety related posters, the event also features environmental safety training and Q&A activities with prizes. All employees are encourgaged to participate in these edutainment activities which aim to impart new environmental safety related knowledge and build relevant awareness. Plant audits conducted by external experts ensure constant improvemnets in the field of environmental safety implementation performance.

Environmental Safety Month Activities

ISO 14001 Environmental safety management system certificate

5.2.3 Achievements and performance in the environmental dimension

Energy consumption and management

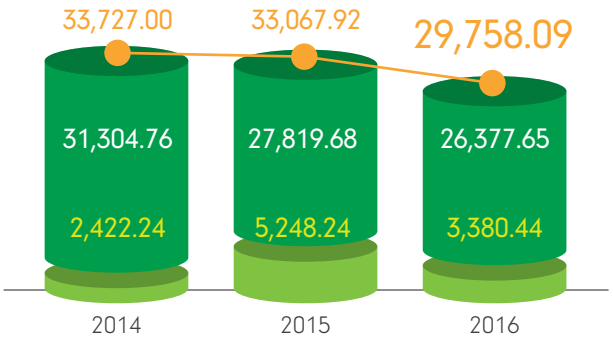
1 GHG inventories

As of 2013, external verification of GHG emission inventories for the whole company (HQ, Home appliance service centers, and four plant areas) and TESEN ensure the accuracy of inventory data. Internal inventories and external verifications give the company a firm grasp of emissions generated by various activities and guide efforts to reduce emissions and thereby minimize environmental impacts.

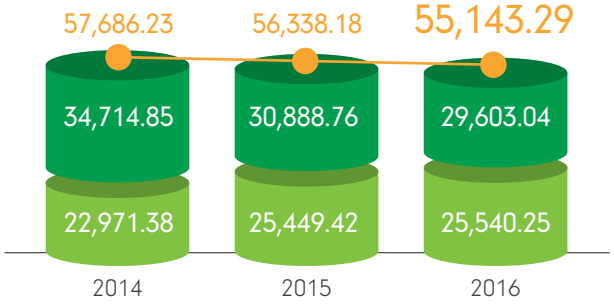
2016 GHG inventories and internal audits were completed in May 2017. The company passed the ISO 14064-1 (GHG inventory) certification administered by the British Standards Institution (BSI) and earned a "reasonable level" certificate. In 2016, GHG emissions decreased by 4,395.06 metric tons compared to the total amount of the base year 2012 (34,153.15 metric tons). The main reasons for this decrease lie in the constant promotion of energy conservation and improvement of machinery and equipment energy efficiency and reduced power consumption in all plants. TECO's main goal lies in the reduction of GHG emissions and GHG related information is disclosed in the annual reports, the official website, and CSR reports of the company.

2016 GHG emissions by category

	Direct emissions (Scope 1)							Indirect emissions (Scope 2)	
GHG emission categories	CO_2	CH_4	N_2O	$HFCs$	$PFCs$	SF_6	NF_3	Power	Total
Emission amount (MT CO2e/year)	1,949.42	237.84	4.98	77.85	0.00	1,110.36	0.00	26,377.65	29,758.091
Emission ratios (%)	6.55%	0.80%	0.02%	0.26%	0.00%	3.73%	0.00%	88.64%	100.00%



Direct and indirect emissions generated by TECO 2014-2016



Direct and indirect emissions generated by TECO and TESEN 2014-2016

Scope 1

- Combustion by stationary equipment
- Process emissions
- Transportation
- Cesspool
- Fire fighting equipment
- Refrigerants

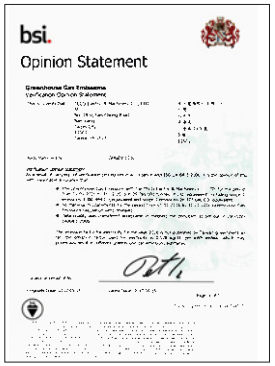
Scope 2

- Purchased electricity

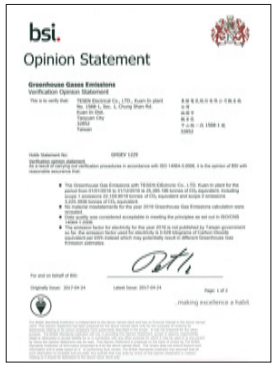
Scope 3

- Employee assignments
- Business travel
- Shipping
- Raw material delivery
- Supplier vehicle use
- External waste treatment

Note : Explanation for scope 1, scope 2, and scope 3 emissions: GHG inventories only cover scope 1 and 2, as specified above. Due to the fact that it is impossible to monitor activities that generate Scope 3 emissions which rules out quatification, only emission sources are identified .



2016 GHG Assurance Statement (TECO)



2016 GHG Assurance Statement (TESEN)

2 Energy use management

The challenges posed by the advent of the low-carbon era force companies to incorporate reduced energy consumption and GHG management as a key strategy in the pursuit of sustainable development. TECO closely monitors and controls energy consumption to improve energy performance, enhance equipment operation effiicency, and reduce energy costs. TECO is firmly committed to the execution of energy conservation and emission reduction plans during production processes. Energy conservation effects are achieved through energy conservation measures and investment in high-efficiency facilities.

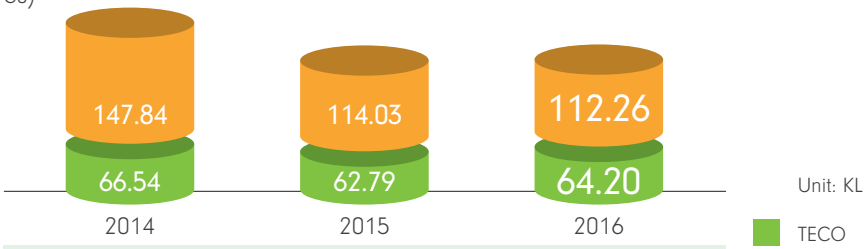
One of the main energy conservation measures in 2016 was the adoption of a rebound-type dynamometer through cross-division cooperation instead of the original 6,000kW dynamometer for motor testing which converted testing energy into waste dissipated via cyclical cooling towers. The new meters can recover 80% of the testing power which is fed into the main grid. This measure led to annual power savings of 1,105,920 kWh in 2016 with no extra water consumption.

In 2016, an energy management system (EMS) was adopted for the main manufacturing plant in Chungli. Inventories and analyses of total energy consumption of the plant are carried out through the use of smart technologies. Follow-up monitoring and management is conducted for key energy consumption items. The goal of these measures is to maximize energy conservation with minimal impact on plant operations.

In the future, the company will continue the aformentioned energy conservation measures. As of 2016, the company also carries out green energy purchases (1 GWh in 2016). At the same time, the company constantly inspects solar power installations on the rooftops of its own plants with the ultimate goal of minimizing impacts on climate change and the environment.

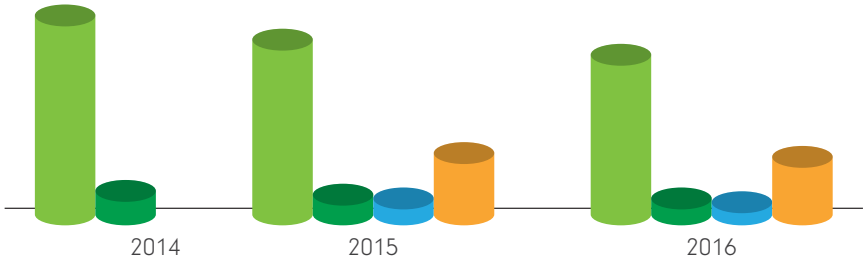
Emission sources can be divided into the following five categories :

LPG Total consumption of TECO and TESEN from 2014 to 2016 is shown in the chart below (LPG is mainly used for canteen operations and production processes)



2014-2016 LPG consumption statistics for TECO and affiliated enterprises

Electricity TECO's total electricity usage from 2014 to 2016 is shown in the chart below. Indirect emissions from electricity in 2016 made up 88.64% of total GHG emissions for the year, while direct (Scope 1) emissions accounted for the remaining 11.36%.

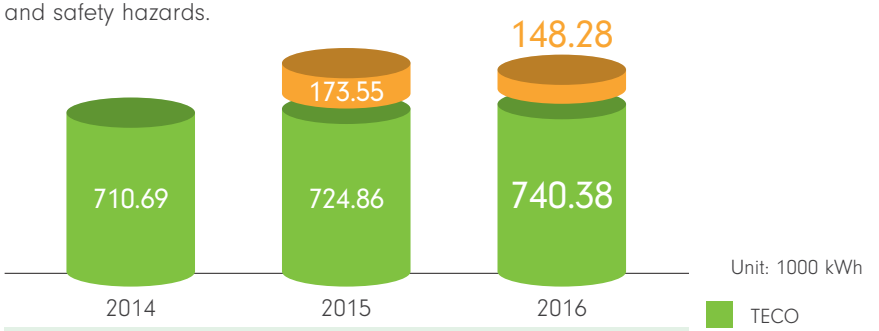


Unit: 1000 kWh

	2014	2015	2016
TECO	59,970.80	53,407.51	49,957.66
TESEN	6,532.74	5,890.75	6,108.70
Taian Technology (Wuxi)	-	4,291.68	3,781.36
TECO-Westinghouse	-	18,941.35	17,621.08

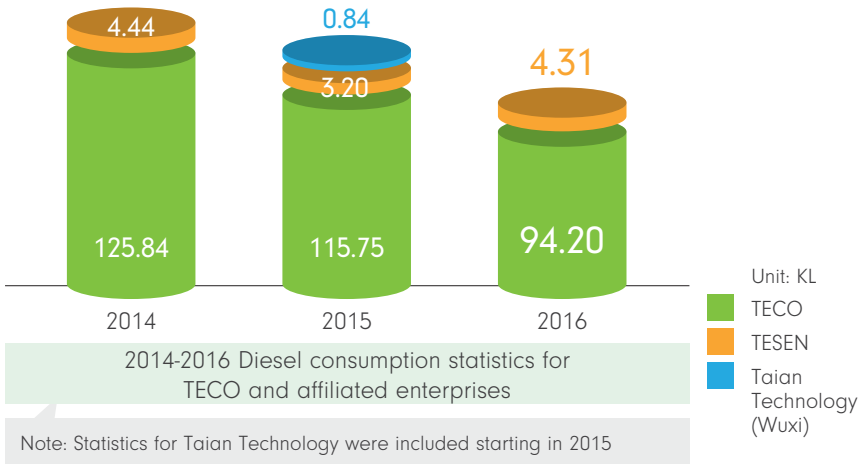
Note: Statistics for Taian Technology and TECO-Westinghouse were included starting in 2015

LNG In 2008, TECO's Chungli plant replaced LPG with LNG, mainly for aluminum melting furnaces and paint baking, to reduce costs, GHG emissions, and safety hazards.



2014-2016 LNG consumption statistics for TECO and affiliated enterprises

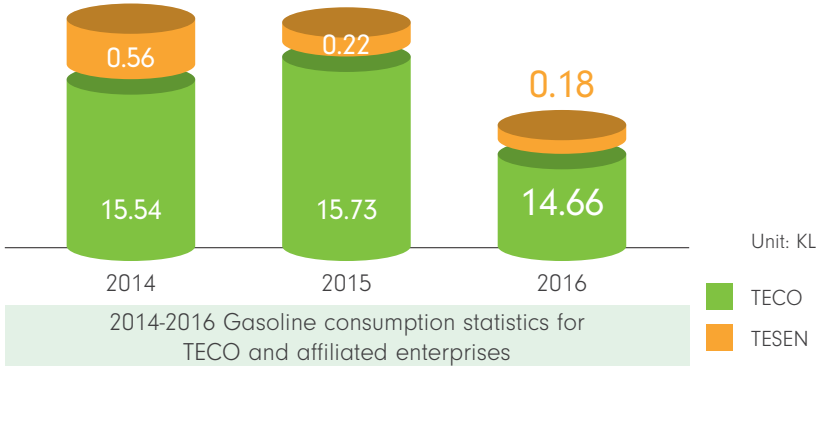
Diesel TECO's total diesel usage of diesel fuel from 2014 to 2016 is shown in the chart below. Diesel was mainly used for for diesel forklifts, dormitory hot water boilers and power generators at Chungli, Kuanyin I and II, and Hukou plants.



2014-2016 Diesel consumption statistics for TECO and affiliated enterprises

Note: Statistics for Taian Technology were included starting in 2015

Gasoline TECO's total gasoline usage from 2014 to 2016 is shown in the chart below. Gasoline was mainly used for company vehicles (excluding private cars used for company business) at the company's Chungli, Kuanyin I and II, and Hukou plants.



2014-2016 Gasoline consumption statistics for TECO and affiliated enterprises

Resource consumption and management

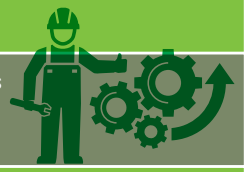
Chungli plan, subordinate to the heavy electric business department and green electric machinery department, mainly produces motors of all sizes with main materials including metals (iron alloy, silicon steel plates, round iron, pig iron, copper wires, etc) non-metals (such as enameled wire), and others (wood, plastic bags, and cardboard boxes).

Hukou plant, subordinate to the electrical control department, mainly produces switchboards and variable-frequency drives, and its main materials include machinery components/parts, electric wires, and insulated wires.

Kuanyin I plant, is the backbone of TECO's Consumer Appliance department, whereas TESEN Co., Ltd. produces and provides home and commercial A/C, refrigerators and other products to the Consumer Appliance department for sales. Guanyin plant is also in charge of R&D personnel. Raw materials can be divided into two categories: metals, including steel sheet, copper pipes, and aluminum coil sheet, and non-metallic materials, including plastics, refrigerants (with 0 ozone depletion potential (ODP), etc.

Guanyin II plant, subordinate to the power department and wind-turbine department, mainly produces 161 KV and smaller SF6-insulated switching equipment and peripherals for renewable-energy equipment. Main materials include machinery components/parts, electric wires, and insulated wires.

Chungli Plant	• Metals (iron alloy, silicon steel plates, round iron, pig iron, copper wires, etc.) • Non-metallic materials • Other (wood, plastic bags, and cardboard boxes)
Kuanyin Plant and TESEN	• Metals (steel sheet, copper pipes, and aluminum coil sheet)
Kuanyin II Plant	• Machinery components • Electric wires • Insulated wires
Hukou Plant Taian Technology (Wuxi)	• Machinery components • Electric wires • Insulated wires
TECO-Westinghouse	• Main parts and components are delivered by other plants of the TECO group



2014-2016 Bulk raw material usage statistics for TECO and affiliated enterprises

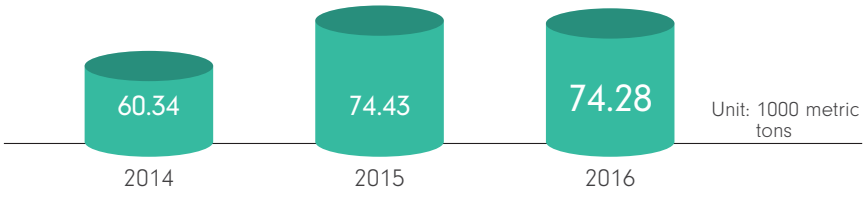
Unit: metric tons

Items	Raw material consuming plants	Raw material consuming product categories	2014	2015	2016
Silicon steel plates	Chungli Plant, Hukou Plant, Taian Technology (Wuxi)	Motors and No Fuse Breakers	35,773.77	26,504.56	**21,936.00**
Enameled Wire	Chungli Plant, Hukou Plant, Taian Technology (Wuxi)	Motors and No Fuse Breakers	2,866.09	4,143.66	**3,725.00**
Aluminum ingots	Chungli Plant	Motors	826.00	733.00	**581.00**

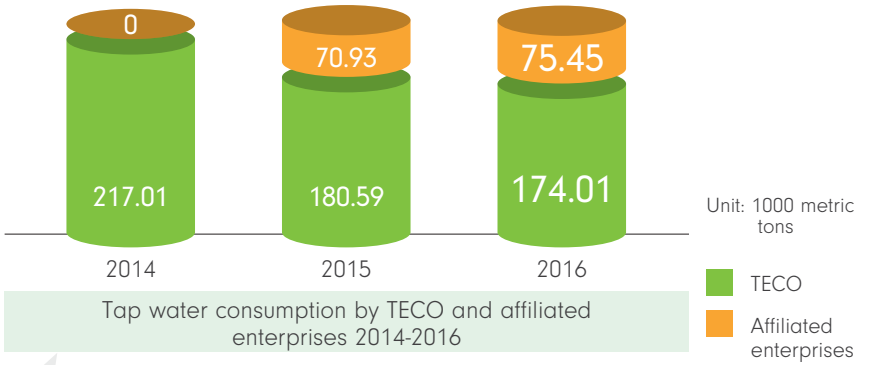
A significant achievement in the field of resource reuse is the recycling of silicon-steel scraps generated during the manufacturing process as materials for motor cases, as a result of manufacturing process improvements at Chungli plant in 2008; the recycling rate of silicon-steel plates exceeded 90% between 2014-2016. TECO also constantly aims to increase the reuse rates of other recyclable materials to reduce resource consumption and achieve ecological benefits. TECO refrains from the use of ozone depleting substances in its production activities.

Water resource management

TECO uses tap water throughout its operations, with the sole exception of TESEN, which relies on groundwater. TESEN has a sewage treatment facility although the company is not located in an industrial zone. Treated sewage is tested to ensure that it meets relevant standards prior to discharge. TECO (HQ and plants) and TESEN both use tap water. The company constantly implements various water conservation measures including installation of aerators and adoption of water saving toilets. Leaks are prevented through regular inspections.



TESEN Groundwater consumption 2014-2016

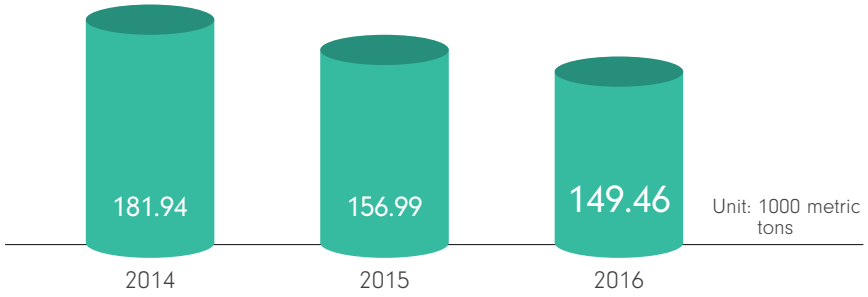


Tap water consumption by TECO and affiliated enterprises 2014-2016

Note: Affiliates include TESEN Electric Co., Ltd., and as of 2015, TECO-Westinghouse (TWMC) and Taian Technology (Wuxi)

TECO estimates that its total wastewater discharge equals 80% of the total water consumption. TESEN wastewater discharge calculations, on the other hand, are based on process wastewater amounts. Total wastewater discharge between 2014 and 2016 is shown in the chart below. The quality of wastewater discharged by TECO and its plants is inspected by qualified third-party businesses to ensure conformity to relevant standards. TECO plants discharge the tested wastewater to treatment facilities in their respective industrial zones. Upon proper treatment by such facilities, the quality of the discharged water meets relevant legal requirements.

TESEN treats generated wastewater in its own sewage treatment facility and conducts inspections to ensure conformity to relevant standards prior to discharge. The quality of the discharged water meets current legal requirements. Water recycling and reuse has only been implemented in the Chungli Plant which conducts painting operations, but the ratio is very low. The wastewater recycling rate is therefore just slightly over 0%. In addition, there are no environmental protection zones, habitats, or areas with high biodiversity in the close vicinity of the TECO plants or TESEN. The impact on existing ecosystems is therefore minimal.



TECO and TESEN Wastewater Statistics 2014-2016

Wastewater treatment methods adopted by TECO and affiliated enterprises and receiving water bodies

Plant		Treatment method	Receiving water body
TECO	Chungli Plant	Discharge to the sewage treatment plant of Chungli Industrial Zone	Laojie Stream
	Hukou Plant	Discharge to the sewage treatment plant of Hsinchu Industrial Zone	Xinfeng Stream
	Kuanyin II Plant	Discharge to the sewage treatment plant of Kuanyin Industrial Zone	Shulin Stream
Affiliated enterprises	TESEN	All generated wastewater is properly treated in sewage treatment facilities prior to discharge. The water quality conforms to current legal requirements.	Dajue Stream

Treatment of waste and pollutants

1 Waste management

TECO has formulated waste storage and disposal management guidelines as part of its environmental safety management system to implement waste reduction and resource recycling in the company and affiliated enterprises. A unified storage area has been established for waste generated by all plants. Tracking is implemented and records are created during the disposal and treatment process. Relevant records are preserved for three years. Total amounts of general industrial waste generated by TECO and affiliated enterprises between 2014 and 2016 are shown in the chart below

2014-2016 Waste and resource recycling statistics for TECO and affiliated enterprises

Unit: metric tons

Year/item		Company	2014	2015	2016
General industrial waste		TECO	4,161.94	3,938.41	2,719.16
		TESEN	108.99	101.85	88.61
Total			**4,270.93**	**4,040.26**	**2,807.77**
Hazardous industrial waste (waste electric wire)		TECO	17.08	12.51	6.56
		TESEN	-	-	-
Total			**17.08**	**12.51**	**6.56**
Resource recycling	Scrap iron	TECO	1,677.16	1,636.85	1,436.98
		TESEN	152.36	116.86	93.09
		Taian Technology (Wuxi)	-	8.59	5.72
		TECO-Westinghouse	-	-	5.76
	Total		**1,829.52**	**1,762.30**	**1,541.55**
	Scrap copper	TECO	63.17	69.83	58.42
		TESEN	3.29	28.27	2.82
		Taian Technology (Wuxi)	-	0.46	0.02
		TECO-Westinghouse	-	25.01	11.22
	Total		**66.46**	**123.57**	**72.48**
	Waste paper	TECO	61.89	40.71	38.89
		TESEN	7.08	47.14	20.48
		TECO-Westinghouse	-	28.31	15.35
	Total		**68.97**	**116.16**	**74.72**

Waste treatment methods employed by TECO and TESEN can be divided into the following categories: Reuse, incineration, physical treatment, offshore processing, landfill. Waste electric wires and cables are shipped to Mainland China for physical treatment. TESEN focuses on reuse, incineration, physical treatment, and landfill as shown in the table below.

Waste treatment methods employed by TECO and TESEN 2014-2016

Unit: metric tons

Year/treatment method	2014	2015	2016
Reuse	3,543.61	3,471.48	2,412.03
Incineration	649.25	539.64	412.91
Physical treatment	69.64	51.97	32.22
Offshore processing	15.58	10.44	6.56
Landfill	9.93	8.65	6.68
Total	**4,288.0**	**4,082.2**	**2,870.4**

2 Air pollutant management

Air pollutants (mainly volatile organic compounds (VOCs) are mostly generated in the motor production process at the Chungli Plant. The Taoyuan City Department of Environmental Protection and the plant conducted another inventory of the pollutant sources. It has been determined that certain aspects must be declared. The total emission amount in 2015 therefore increased significantly compared to 2014. The company therefore decided to implement improvements at the source. The goal is to achieve a decrease of 60% by 2018 (base year 2015). A major improvement is the replacement of the base coat for motors with VOC-free water-based paint. This paint was successively adopted in Q4 2016 after production technology improvements and quality assurance. The company has also adopted low-voc varnish in an effort to achieve its goal of a reduction of VOC emissions by 60% in 2018 (base year 2015).

Note: The following errors appear in the 2015 reports as far as VOC emission data are concerned: VOC emissions were higher in 2015 than in 2014, but the text says that there was a reduction by 34.1%. The goal of an 80% decrease by 2018 is only based on calculations of motor paint improvements which are compared with VOCs generated by motors, whereas they should be compared to total generated VOC emission amounts (improvement effects of 50%). The company goal is 60%.

Plant locations that generate air pollutants include TECO Chungli and TESEN. Air pollution control facilities have been established in accordance with relevant laws and standards and dedicated personnel has been assigned to carry out operations in accordance with environmental protection related laws. The company is firmly committed to reducing pollutant concentrations to conform to air pollution standards. TECO and TESEN pollutant categories include Sox, Nox, and VOCs. Emission amounts between 2014 and 2016 are shown in the table below

TECO and TESEN air pollutant emission amounts 2014-2016

Unit: metric tons

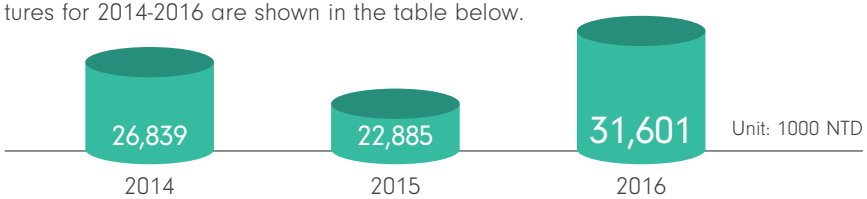
Pollutant	Company	2014	2015	2016
SOx	TECO	1.63	1.60	1.18
	TESEN	1.08	1.06	1.01
Total		**2.71**	**2.66**	**2.19**
NOx	TECO	1.03	0.94	0.78
	TESEN	0.68	0.67	0.59
Total		**1.71**	**1.61**	**1.36**
VOCs	TECO	141.39	179.03	163.89
	TESEN	2.92	3.16	3.30
Total		**144.31**	**182.19**	**167.20**

5.2.4 Local procurement strategy

TECO continues to improve and invest in process air pollution control equipment and strengthen on-site audits and autonomous controls. The company also constantly revises and implements environmental operating standards in line with legal requirements. No violations of environmental laws and regulations occurred in 2016.

5.2.5 Local procurement strategy

TECO constantly assesses energy conservation and carbon reduction, waste disposal, and air pollution control equipment to minimize environmental pollution caused by pollutants generated during plant operations. Relevant expenses have been incorporated into environmental expenditure items. Environmental expenditures for 2014-2016 are shown in the table below.



TECO Environmental expenditures 2014-2016

05

Creation of a Blissful Enterprise

6.1 Human Resource Policy

HR Strategy Focus

01 Strengthening of talent cultivation and development

02 Integration of group resources and international talent development

03 Enhancement of employee well-being

Human talent is TECO's greatest asset and the foundation of sustainable operations. TECO's vision in the field of HR is to strengthen talent development, creation of a blissful enterprise, realization of sustainable operations, and establishment of a "Best Employer" brand image. In recent years, the company has actively promoted the five core values of "Ambition, Customer-orientation, Team spirit, Integrity, and Innovation." Every employee is expected to internalize these five core values to again unleash their personal potential at work and thereby generate organizational cohesion.

TECO conducts annual employee satisfaction surveys and interviews and assessments in accordance with the needs of individual business units. The company also reviews company strategies and internal and external circumstances and formulates annual strategies. The following three key strategies were adopted in 2016 based on group strategy development demands: Strengthening of talent cultivation and development, integration of group resources and international talent development, and enhancement of employee well-being. The goal is to fully develop and utilize available talent, ensure sustained operations, and create a win-win situation for employees and the enterprise.

2015

- Formulation of overload prevention plans
- Formulation of maternal health protection plan
- Ratio of hired disadvantaged employees to total workforce: 2.42%
- Establishment of an EAP platform
- Charity donations and volunteer engagement by employees

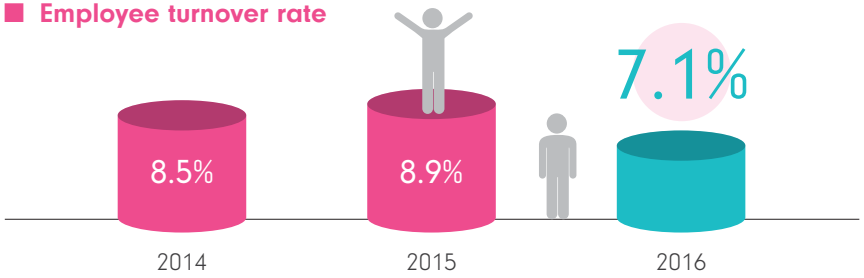
2016

- Public announcement of TECO human right policies and declaration
- Formulation of a Supplier Letter of Commitment to human rights and sustainability
- The company was awarded a seal of approval for its breast feeding room facilities
- Creation of 9 "HR Policy/Services for Dummies" videos to strengthen communication
- The turnover rate dropped to 7.1% and employee satisfaction rose to 80.2 points.
- Honored with an excellence award at the 10th Taoyuan City Outstanding Enterprise Awards
- Honored with a TTQS (Taiwan Training Quality System) Silver Award
- Concern for Tainan earthquake victims: Enterprise and employee donations of NT$ 11.85 million

2017 Future outlook

- All plant areas have achieved the goal of noise levels below 85dB within three years
- Revision of the collective agreement in cooperation with the labor union to strengthen labor-management relations
- Continued administration of employee surveys and maintenance of satisfaction levels of 80 points or higher.
- Establishment of an on-site "TECO weekly Briefing Session" for employees to strengthen communication
- Balanced gender structure: The ratio of female R&D personnel and managers has been increased to 15% (from 8.8% in 2016) and 20% (from 8.9% in 2016), respectively, within three years.
- Power conservation education in local schools and communities coupled with sustainable construction in communities initiated by the company in a professional manner

Employee turnover rate



6.2 HR management

TECO's diversified deployment has secured a strong presence in numerous industries including heavy machinery, electric control, home appliances, wind power, electronics, and infrastructure. Over the past 60 years, the company has expanded into different industries and gained a firm foothold in Taiwan with operating bases spread all over the globe. This has created numerous unique challenges for TECO in the field of HR management. A diversified manpower resource strategy and approach is the key direction in response to global deployment and talent development. The current organization and manpower structure of TECO as of December 31, 2016 is as follows

1. he company has 6 business departments, 1 research institute, and 1 smart automation and biotech center, employing a total workforce of 2,406
2. The educational background of TECO manpower has been gradually optimized. Over 66% of all staff members have a college degree or higher, ensuring critical support for continued stable development of the company.
3. TECO employees have an average age of 43.1 and 15.1 years of service.
   The passing on of knowledge and expertise and cultivation and retention of key talent represent paramount tasks in the field of talent development.
4. TECO hiring policy
   Multiple recruitment channels and industry-academia collaboration
   In addition to routine hiring methods, the company employs diverse recruitment channels and various industry-academia collaboration initiatives to ensure systematic cultivation of talent and a synthesis of theory and practice.

• Internship program : As of 2010, TECO offers summer vacation internship opportunities to boost youth employment and enhance the competitiveness of adolescents after graduation. The company hires 5-12 interns per year. Students from major colleges and universities are recruited to participate in these summer internship programs with the goal of cultivating suitable talent and provide adolescents with valuable knowledge and application expertise. The company also hires interns of other nationalities including Germany, Hong Kong, Malaysia, and the Netherlands to create a learning environment characterized by an international outlook and multiculturalism.

• R&D Substitute Service : As of 1999, the company offers an employment channel for R&D talent after graduation in line with the defense industry reserve duty and R&D substitute service policy of the government. By 2016, the company had hired a total of 179 defense industry reserve duty/R&D substitute service personnel. In a survey asking draftees to name their favorite enterprise conducted by a local job bank, TECO has been voted in the top 5 most popular enterprises of the traditional machinery industry.

• Industry-academia Collaboration :

1. Industrial Master's Program：TECO offers industrial Master's programs in cooperation with National Cheng Kung University, National Taiwan University of Science and Technology, and National Taipei University of Technology to bring students in sync with industry demands and cultivate future talent for the company. By 2016, a total of 18 students had enrolled in these programs.
2. Scholarships for R&D talent：The scholarship program for science and engineering graduate and doctoral students aims to cultivate talent through cooperation with universities. 5 students have benefited from such scholarships. 2 of them currently serve as R&D executives.
3. Scholarships for outstanding science and technology students：Vocational high school students who have won awards in national science and technology competitions are selected to receive university scholarships and summer internships. The goal is to turn these students into future managers of the company (2 students currently receive this scholarship; in 2017, the company will continue to provide a specified number of scholarships in cooperation with 9 local vocational schools)
4. Industry Internships and Cooperation with Schools :

▶ Taipei City University of Science and Technology Internship Program : As of 2014, the company offers one-year internships for seniors of the Mechanical and Electrical Engineering Departments. The annual quota is 7 students. 2 interns chose to stay with the company after graduation.

▶ Cooperation with vocational high schools : The company currently collaborates with Kao-yuan Senior High School of Technology & Commerce, Chung Shan Industrial and Commercial School, and Wanneng High School of Industry and Commerce The company offers 80 internship opportunities for students enrolled in these schools per year. Furthermore, the "TECO Employment-Oriented Program" has been created in cooperation with Kao-yuan Senior High School. A total of 23 students have been recruited for this program since 2014. Program contents include instruction by industry profes sionals and industry internships lasting a total of one year (students started their internships at the company in June 2016)

Priority given to internal recruitment of talent

TECO has established an open internal talent recruitment system. Priority is given to internal filling of vacancies to provide TECO employees with spontaneous and autonomous career development opportunities and enable top performers to take on new challenges and maximize their potential. Outstanding employees with at least one year of service are eligible for mid-level management positions.

nformation security and care for underprivileged groups

TECO safeguards the security of personal information provided by job seekers pursuant to the Personal Information Protection Act. Such information is not used for purposes other than the recruitment and selection process without express consent of job seekers. The company's hiring policies are in strict compliance with the regulations set forth in the Labor Standards Act. The company does not hire minors under the age of 15. Interns under the age of 16 receive comprehensive workplace and life guidance and counseling. TECO preferentially hires R.O.C. nationals to safeguard employment opportunities for local citizens. The company currently employs 41 foreign nationals and provides suitable employment opportunities for workers with mental and physical disabilities and indigenous workers. The company currently employs 35 disabled and 26 indigenous workers, which exceeds employment quotas of 1% stipulated by the government.

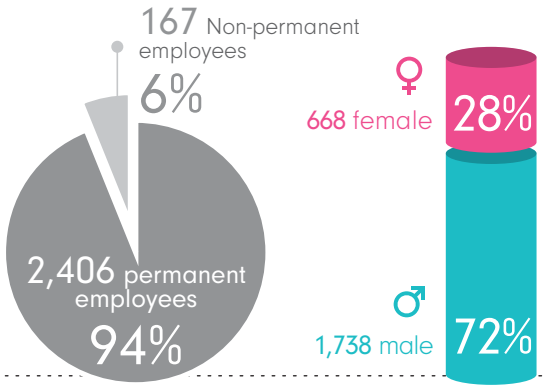
	2014		2015		2016	
	Number	%	Number	%	Number	%
Indigenous workers	28	1.1%	26	1.1%	26	1.1%
Disabled workers	34	1.3%	34	1.4%	35	1.5%
Total	62	2.4%	60	2.4%	61	2.5%

Statistical data

Number of permanent/non-permanent workers　Male-female ratio

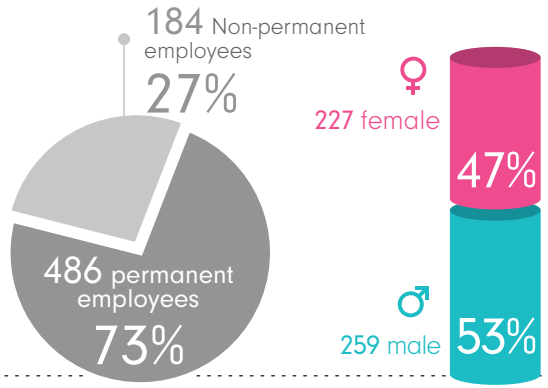
TECO Electric and Machinery Co., Ltd.

To ensure stable employment, the company mainly hires permanent employees. Non-permanent employees (employees on short-term contracts of less than one year, work-study students, dispatch workers, and temporary staff etc.) account for only 6%. Subsequent statistics are based on permanent employees.



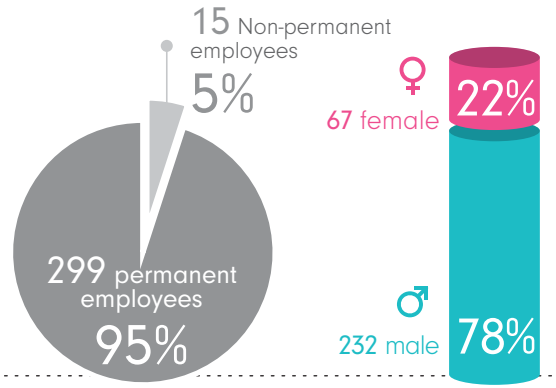
Taian Technology (Wuxi)

In line with production modes, permanent and non-permanent employees and non-permanent employees (employees on short-term contracts of less than one year, work-study students, dispatch workers, and temporary staff etc.) account for 73% and 27%, respectively. Subsequent statistics are based on permanent employees.



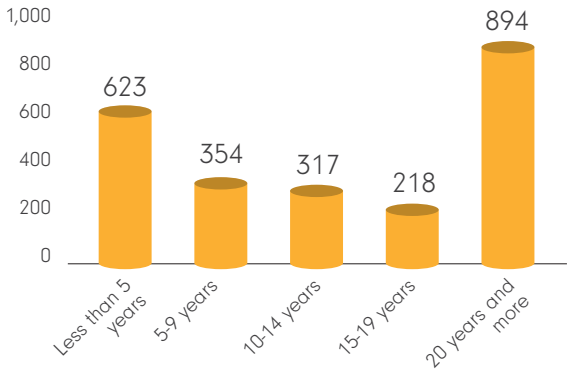
TWMC

To ensure stable employment, the company mainly hires permanent employees. Non-permanent employees (employees on short-term contracts of less than one year, work-study students, dispatch workers, and temporary staff etc.) account for only 5%. Subsequent statistics are based on permanent employees.

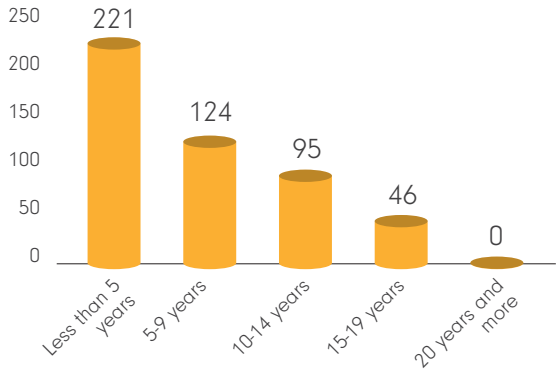


Years of service

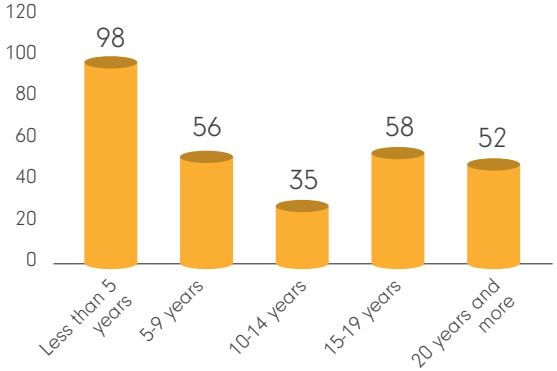
TECO : Average service time of 15.1 years



Taian (Wuxi) : Average service time of 6.0 years

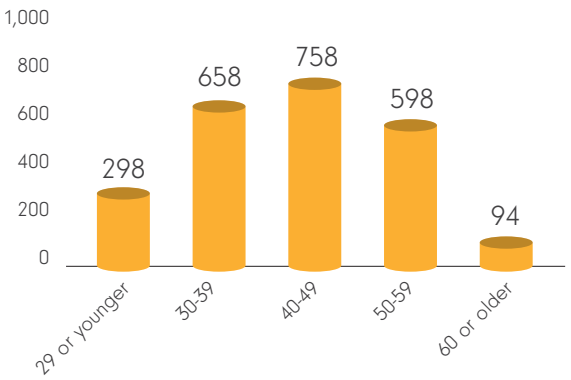


TWMC : Average service time of 13.2 years

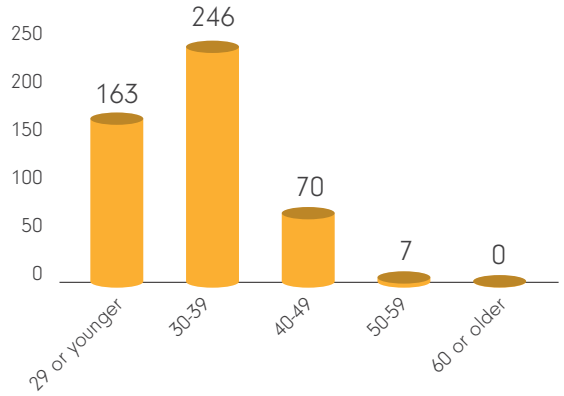


Staff age structure

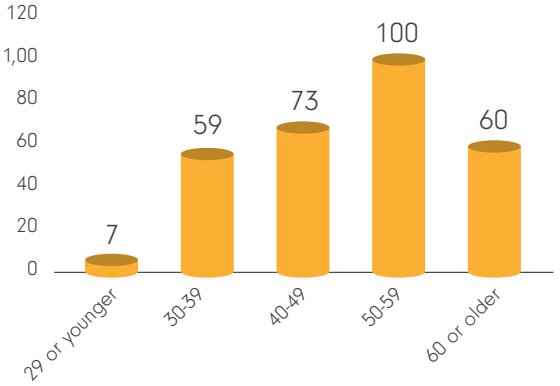
TECO : Average age of 43.1



Taian (Wuxi) : Average age of 33.5



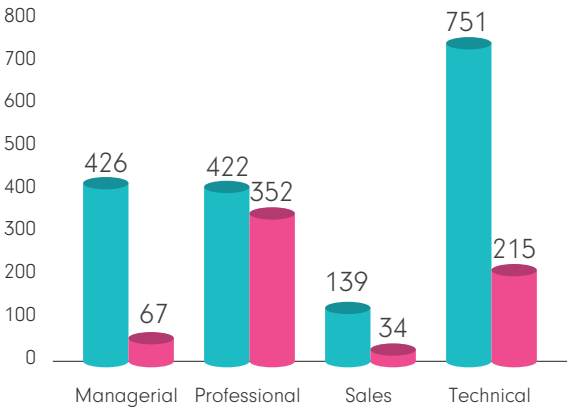
TWMC : Average age of 49.2



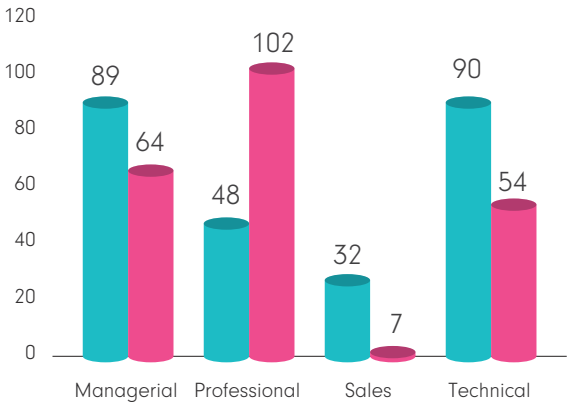
Employment in different positions

Male Female

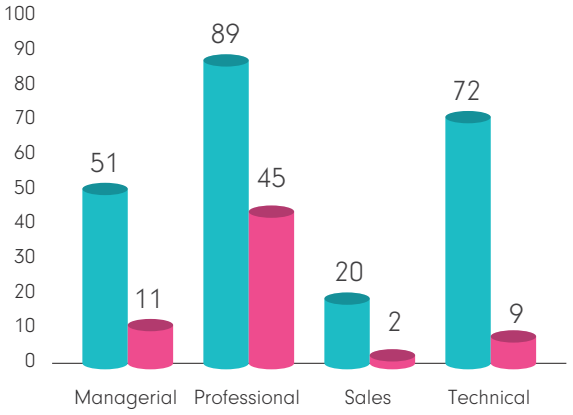
TECO



Taian (Wuxi)

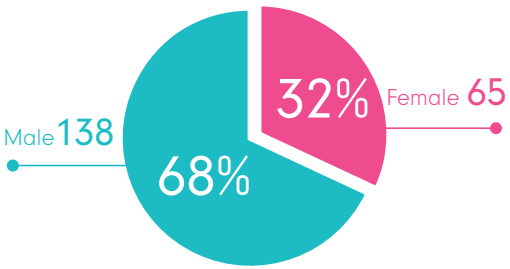


TWMC

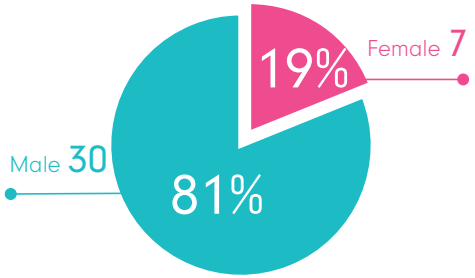


Gender structure of newly inducted employees

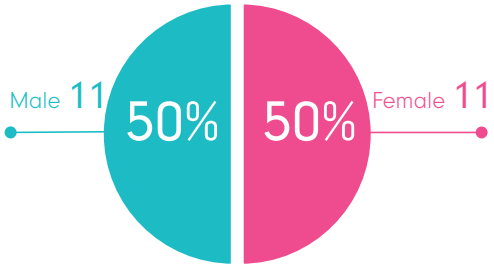
TECO hired 203 news employees in 2016



Taian (Wuxi) hired 37 news employees in 2016

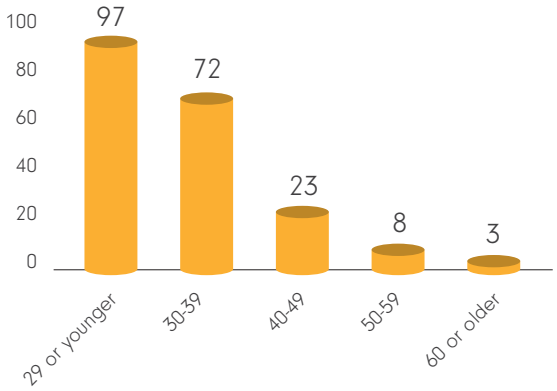


TWMC hired22 new employees in 2016

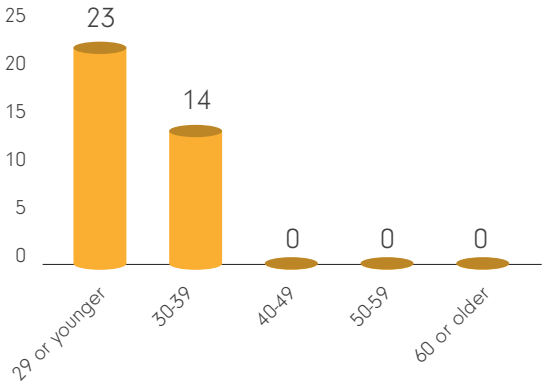


Age structure of newly inducted employees

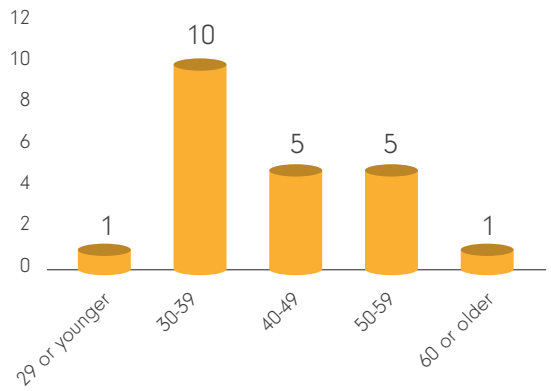
TECO



Taian (Wuxi)



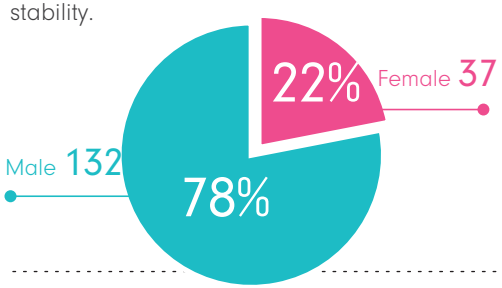
TWMC



Gender structure of resigned employees

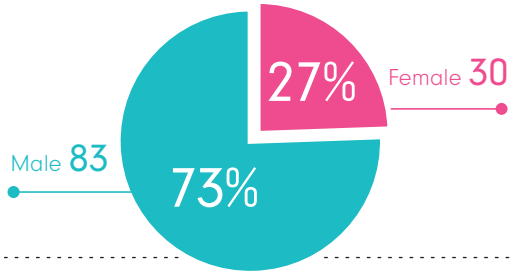
TECO Electric and Machinery Co., Ltd.

In 2016, a total of 169 employees resigned, resulting in a turnover rate of 7.1%. This rate is lower than the average turnover rate of 10.9% revealed in the Towers Watson Salary Survey Report. The stable staff structure and low turnover rate indicate that TECO employees have opportunities for stable and long-term development which is conducive to social stability.



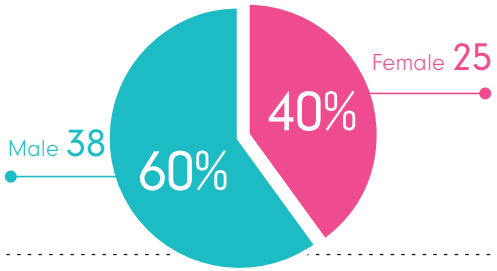
Taian Technology (Wuxi)

Total of 113 resigned employees, representing a turnover rate of 23.3%



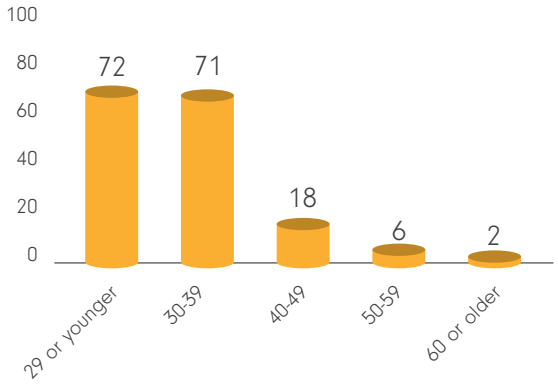
TWMC

Total of 63 resigned employees, representing a turnover rate of 21.1%

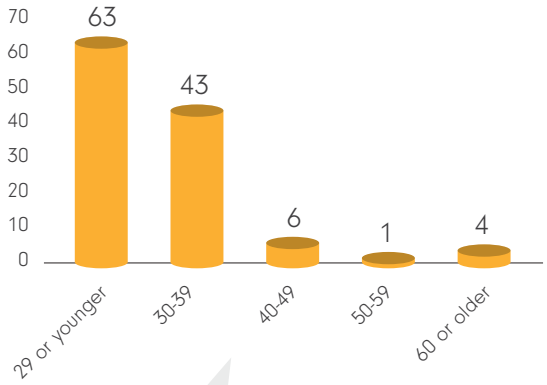


Age structure of resigned employees

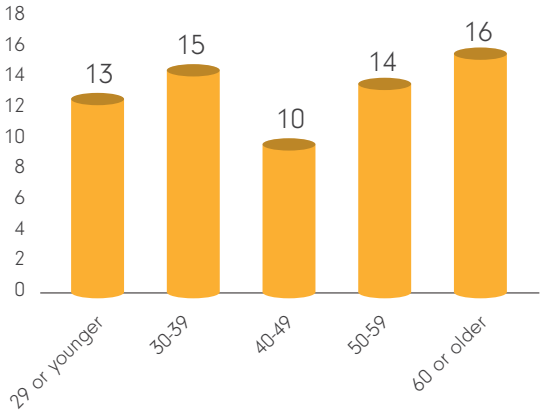
TECO



Taian (Wuxi)



TWMC



Note: Turnover rate= Total number of resignations in 2016/ Total number of employees on December 31, 2016

6.3 Communication Channels

TECO offers numerous communication channels for its employees Including quarterly conferences for employees at company HQ and morning meetings at plants. These events allow high-level executives to directly communicate with employees, clearly explain current business achievements and challenges, and commend employees for their outstanding performance. Main communication channels include:

1. Labor union and labor-management meetings

TECO set up its own labor union in July 1974 to pursue higher work efficiency, improved labor conditions, and open communication of opinions of labor and management. The company further signed a collective agreement with union representatives on December 28, 1981 which safeguards the rights and interests of all employees pursuant to the Labor Union Act and the Collective Agreement Act to safeguard the rights and interests of both sides and ensure harmonious relationships between labor and management. The union convenes annual general meetings for the election of representatives, 11 directors, and 4 supervisors by all members in attendance. Monthly director and supervisor meetings are convened to discuss various employee-related issues. Company representatives attend these meetings to communicate with the labor representatives. Labor union offices have been set up in plant areas to give employees a chance to communicate and exchange opinions with union representatives during working hours. The company also organizes semi-annual conferences that serve the purpose of direct communication between union directors and supervisors and the president. In addition, model workers (one for every 100 employees) are selected and praised on an annual basis. A total of 24 model workers were selected in 2016. All business activities of the company strictly conform to the Labor Standards Act. Employees are notified of major operational changes 7 days in advance.

Committees	Ratio of labor representatives
Plant labor-management meetings	50%
OSH committee	33%

TECO Labor Union

- Established in 1974
- Collective agreement signed in 1981 and accepted by all TECO staff members.
- General union meetings are convened on an annual basis for the election of union directors and supervisors.
- Conferences convened by the president and union directors and supervisors are convened on a semi-annual basis.
- Monthly director and supervisor meetings are convened to discuss various employee-related issues. Company representatives attend these meetings to communicate with the labor representatives.

In 1999, TECO was honored and recognized with “National Award for Enterprises with Excellent Labor-Management Relationships” and “Award for Exemplary Labor-Management Meetings” granted by the Council of Labor Affairs and “Award for Enterprise with Excellent Labor-Management Relationship” granted by Taoyuan county government. Meetings to commend model workers are held annually after Labor Day to recognize employee contributions.

2. Quarterly employee conferences and plant morning meetings

Quarterly employee conferences with around 200 participants are organized at company HQ . During these meetings the chairman describes the quarterly operating status and major strategic directions. After these conferences, employee satisfaction surveys are carried out . In 2016, the average satisfaction score was 87 which clearly indicates that employees approve of this channel which provides a better understanding of company strategies and operating conditions. TECO plants hold morning meetings with roughly 950 participants on a quarterly basis to provide safety and health education for employees and brief them on the company’s sales and operational performance.

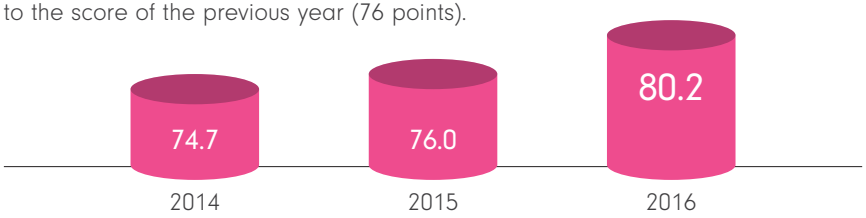
3. Overseas Affiliate Meetings

The company organizes annual overseas affiliate meetings which are attended by mid- and high-level executives of the company and high-level executives of overseas affiliates. These meetings represent a group-wide communication platform and serve the purpose of conveying the annual operating status and future strategies of the group. Annual recognition of outstanding personnel of affiliates is carried out simultaneously. Employees with exceptional performance are honored with the highest rewards.

4. Employee satisfaction surveys

Employee satisfaction surveys are conducted via anonymous questionnaires on an annual basis. Respondents include company executives and all staff members. Response rates exceed 40% of all survey participants and employees are notified of the survey results. The results of the 2015 survey indicated that employees wish to get a better understanding of career development options and desire more involvement in the planning of welfare and employee activities. In 2016, the company therefore organized regular career development information meetings to assist employees in the autonomous planning of their career paths. 9 Fun and easy-to-understand video clips (HR Policy and Services for Dummies) can be viewed online to gain a better understanding of HR related policies and systems. Employee satisfaction levels after viewing video clips reached an average of 90 points.

After responding to the demands of employees, the average satisfaction score reached 80.2 points in 2016, which represents an increase by 4.2 points compared to the score of the previous year (76 points).

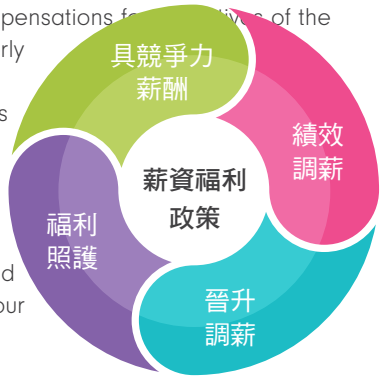


5. Internal publications : TECO CHARISMA

TECO started releasing its internal publication "TECO CHARISMA" in 1970 as a channel for the transmission of corporate culture and employee communication. In line with digitization trends and the spread of new broadcast channel, the company started to release online digital editions of this magazine in addition to the paper version which is still available for on-site personnel and visitors. A "TECO CHARISMA Interactive Platform" based on this edition to increase the frequency of real-time exchanges and interactions between colleagues. An English version of the magazine has been issued since 2016 to strengthen the communication between foreign employees and the group.

6.4 Compensation and Benefits

TECO offers employee compensations somewhat above the average level of same-industry businesses. There is no gender discrimination in determining starting salaries for new hires and the basic salary is higher than the minimum salary requirements stipulated by the government. Rewards and compensations including salary increments, variable bonuses, and employee compensations are based on annual evaluations of personal performance and contributions. The company has also developed a complete system for job classification and ranking, which is applied impartially to both male and female employees. In addition, the company conducts performance appraisals on a semi-annual basis to determine achievements and provide guidance for employees in an effort to advance their abilities and competencies. Compensations for [illegible] of the rank of manager or above are adjusted quarterly since they are directly related to business performance. The purpose of all compensations and rewards is to motivate co-workers to make dedicated contributions and recognize their commitment to fulfilling their duties and responsibilities and joint efforts to achieve the operational goals of the company. Rewards and compensations are divided into the following four categories:



1. Competitive salary

The company has formulated "Guidelines for Compensation Management," as the basis for salary determination and adjustment for employees. It also has a firm grasp of salary standards of same-industry businesses and regularly reviews the company's compensation policy, to facilitate recruitment and retention of exceptional talent. In addition, the company offers allowances in accordance with the special conditions of different work stations to recognize the efforts and commitment of its employees. Various bonuses for contributions in the field of sales, R&D, patents, proposals, and competency qualifications are available to motivate employees to apply themselves to their work and make valuable contributions. A complementary reward and compensation system is in place to retain outstanding talent for key positions. The company shares business achievements with its employees in form of year-end bonuses and compensations to provide compensation and benefit conditions that guarantee a worry-free life.

2. Annual performance-based salary adjustment

Salary adjustment are awarded pursuant to the "Guidelines for Compensation Management" in consideration of market standards, living-cost indices, and the company's financial ability. Increments are based on the work performance of the previous year and come into effect on January 1 of every year. Performance-based increments have been implemented annually in the last three years. Base-level personnel ranked in the top 80% of evaluated employees is eligible for increments.

Employees with exceptional performance are entitled to increments in excess of 3%.

3. Promotion-related increments

Employees who receive promotions pursuant to the Promotion Guidelines are eligible for increments in accordance with the "Guidelines for Compensation Management" to maintain compensation competitiveness.

Pay differential statistics, based on average salaries for male and female employees with different job grades and nature of duties are shown below:

Job grade	TECO	TWMC	TWMC
General staff (Grade 1~6)	♂ 1.1 1 ♀	♂ 1.12 1 ♀	♂ 0.98 1 ♀
Director (Grade 7~8)	♂ 1.07 1 ♀	♂ 1.09 1 ♀	♂ 1.04 1 ♀
Manager (Grade 9~10)	♂ 0.92 1 ♀	♂ 1.24 1 ♀	♂ 0 0 ♀
Factory manager, division chief or higher (Grade 11 or above)	♂ 0.61 1 ♀	♂ 0.97 1 ♀	♂ 0.95 1 ♀

4. Benefits :

TECO has adopted comprehensive benefit and employee/family care programs to show concern for employees and their families. The EAP platform integrates the three dimensions of health promotion, family care, and life/social development. A series of employee assistance programs are available and employees can utilize this platform to search for assistance and required resources in accordance with their personal needs.

■ Comprehensive leave system

Employees are eligible for annual leaves, maternity and paternity leaves, family care leaves, menstrual leaves, marriage and bereavement leaves, personal leaves, and sick leaves pursuant to relevant laws and regulations. On top of that, the company offers leaves that exceed legal requirements including:

- Special personal/sick leaves benefits : which full-time employees with at least 3 months of service are entitled to. Employees receive their full salary if personal and sick leaves don't exceed a total of three days per year.
- Convalescence leaves : In consideration of the need to recuperate after hospitalization, employees are eligible to apply for convalescence leaves of an equal length as their hospital stays. They receive their full salary if these leaves don't exceed a total of 30 days per year. They receive half of their salary for the 31st to the 60th day.
- Welfare leaves : The company offers welfare leaves to encourage its employees to engage in welfare activities and fulfill its responsibility as a corporate citizen. Employees are eligible for a total of three days of welfare leave per year to participate in such activities. They receive their full salary during such leaves which have no impact on their performance appraisals.

Preferential group insurance program

All employees are eligible for free preferential group insurance. Life insurance, accident, medical, and critical illness coverage is superior to group insurance provided by other same-industry businesses. Employees also have the option of obtaining the same coverage at a preferential rate for their family members at their own expense. 792 employee relatives were insured through this program in 2016. When employees face serious illness or accidents, this policy meets their pressing needs.

Number of insured		2015	2016
Employees (all insured)		2,475	2,406
Family members		847	792
Coverage type		**2015**	**2016**
Employees	Death	1	1
	Critical illness	4	3
Family members	Death	1	0
	Critical illness	4	7
Total		10	11

Other benefits include	
Staff canteen	Soothing massage service
Scholarships for children of employees	Cinema bookings for employees
Staff trips with family members	Exclusive suits for employees
Festival gifts/coupons	Discounted stores/ Group activities
Wedding/ child birth bonus	New Year Goods Bazaar
Birthday cake/ gift coupon	Home appliance discounts

6.5 Talent training and career development

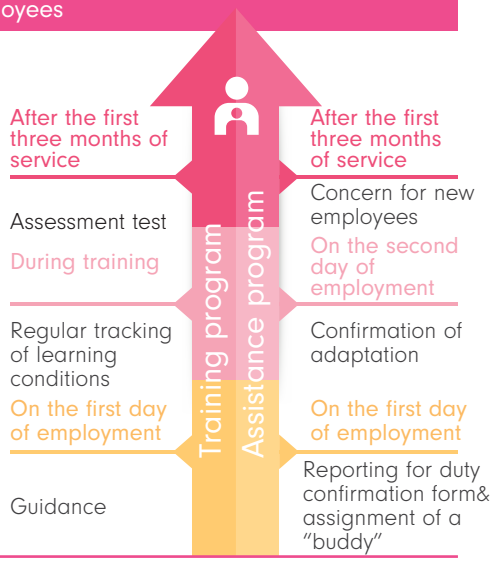
Guidance system for new employees

The company provides comprehensive training and care for newly inducted employees starting from their first day of employment to fulfill its responsibility in the field of talent cultivation and care. A systematic guidance system encompassing initial support, orientation training, and settling-in assistance is in place. In addition, an electronic tracking system has been adopted to strengthen the identification of employees with the company and enhance the quality of learning through systematic planning. This enables them to maximize their potential, acquire new abilities, and develop their careers. Statistics for 2016: Turnover is the main Indicator for identification of new employees with the organization. The turnover rate 6.8% within the first three months of employment was 6.8% in 2016 (5.8% down compared to 2014, representing a decline by a margin of 46%). The company accomplished the goal of decreasing this rate below 10% .

Indicator for mastery of duties by new employees: Questionnaire surveys administered for new employees and their supervisors after the first three months of service indicate higher scores in the key area of workplace learning after implementation of the program. Employee self-assessment scores rose by 5.9% from 81.8 points to 86.7 points, while supervisor assessment scores increased by 5.4% from 80.7 points to 85.1 points. The company achieved the goal of an increase by 5%. (The average score for all questionnaire dimensions rose from 81.7 to 85.4)

Guidance system for new employees

1. Initial assistance for new employees : Assistance during the first two days of employment, assignment of senior employees as "buddies" by supervisors, introduction of the environment and organization
2. Orientiation training : Guidance and training for new employees includes general courses, introduction of business units, product information, various SOPs, and production process information.
3. Settling-in assistance: After the first three months of service, questionnaire surveys of new employees and their supervisors are administered for the following four dimensions: 1. Culture System 2. Employee interactions 3. Workplace learning 4. Life adjustment
4. E-operations : Creation of online forms, duty confirmation forms, guidance plan forms, and questionnaires that show concern for new employees allow supervisors and new employees to inspect and track learning progress and adaptation problems and gain a firm grasp of the implementation status of the duty mastery program for new employees.

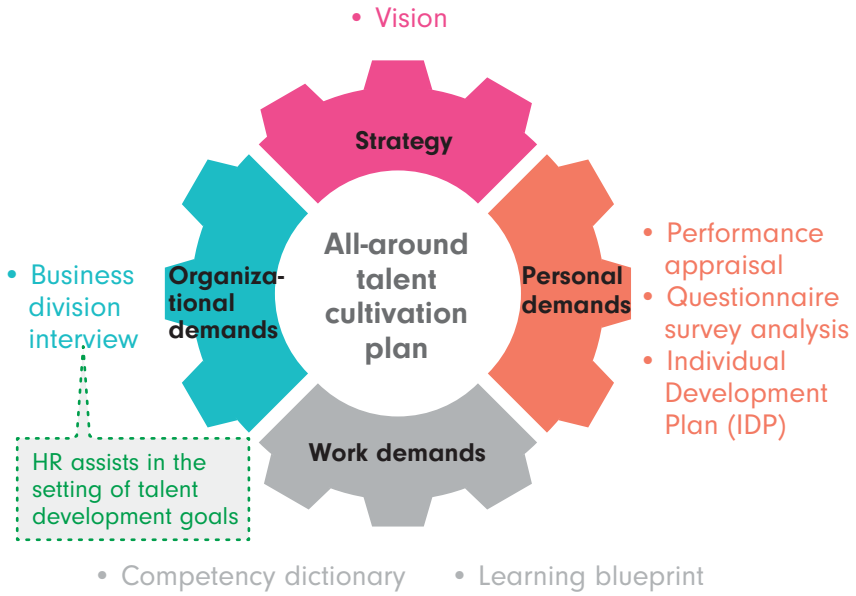


Complete career development paths

The company's training and development mechanism strictly conforms to the PDDRO principles.

- The following four dimensions represent the main considerations and serve as the basis for overall analysis during the annual planning of training courses: Strategy, organization, work, and personal needs.
- Training courses are divided into the four main categories based on the company's Talent Development Implementation Regulation: Management ability, professional competence, general knowledge, and corporate policies.

In addition to the development of training blueprints for different positions, the company also conducts annual training need surveys. Individual Development Plans (IDP) for every indirect employee serve as the foundation for better communication between employees and supervisors regarding career development. Furthermore, employees are nominated and appraised for promotion on a semi-annual basis to give staff members with outstanding performance and great potential an opportunity for advancement. We make constant efforts to create complete career development paths



Key aspects of talent cultivation :

Key personnel training, management competency training, and international talent cultivation represent the main aspects of training to ensure sustained operations.

A. Key personnel training

1. Enhanced breadth and depth of the capabilities of top-executive candidates

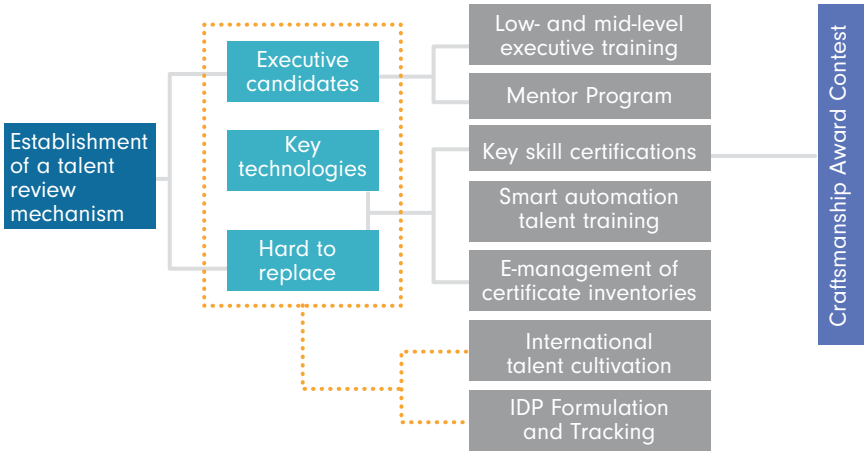
- Completion of talent development paths for key top-management personnel
- Assistance in the scheduling of overseas visits by top-level executives to give them a better understanding of cutting -edge technology standards and practices worldwide.
- Organization of discussion forums on high-level political and economic trends (Industry 4.0)
- Completion of top-level executive training and BU strategy briefings

Top-level executive training: Industry 4.0 discussion forum (keynote speaker: Mr. Jonq-Min Liu, President of Industrial Technology Research Institute), top-level executive training and strategy briefing

2. Cultivation of potential key personnel: The company has an internal system in place for key personnel of grade 8 or below to actively cultivate managerial candidates. Talent development plans are developed annually for key personnel. Key personnel accounts for 8% of the total staff. 51% of this key personnel have been selected for grade promotions, executive assignments, rotation or overseas assignments. This ratio is significantly higher than that of the whole company.

3. Strengthening of key technologies

- Organization of job skill certifications
- Award of craftsmanship awards to 4 employees in 2016



B. Management competency training

Regular organization of management competency training including low- and mid-level management associate training, mentoring programs for newly appointed executives, benchmark learning, and talent cultivation projects to strengthen management skills of potential talent.

Low- and mid-level management associate training course

Confirmation ofcompetency gaps of candidates

- Confirmation list
- 270-degree manage ment competency evaluation pre-test
- Participation in subject competence pre-test
- Annual personal development plans for skill enhancement

Enhancement of management competency

- Training program (mandatory)
- Mid-level: 8 courses lasting a total of 58 hours
- Low-level: 7 courses lasting a total of 39 hours
- Mentor guidance (optional); business unit executives submit lists of employees who are required to participate in the guidance and skill enhancement program

nspection of competency enhancement results

- 270-degree manage ment competency evaluation pre-test
- Formulation of action plans together with immediate supervisors and confirmation of implementation conditions
- Participation in subject competence pre-test
- Participation in promotion appraisal meetings (promotion of mid-level managers)

Low-level /mid-level management training: Problem detection and solution seed instructor training, management and leadership workshop

C. International talent cultivation program

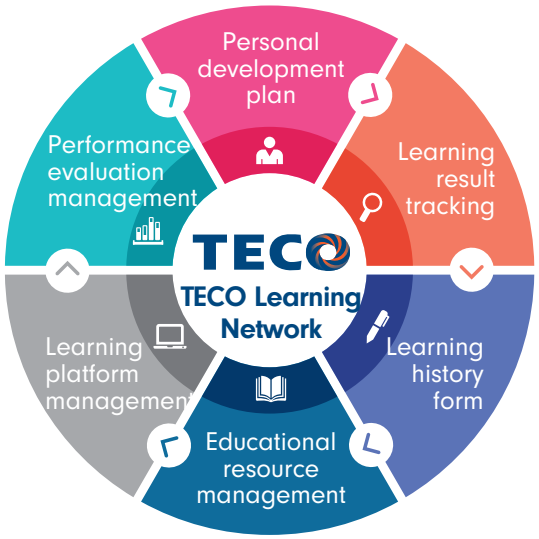
1. International talent training: 65 external learning news were provided for international talent cultivation in 2016 By December, a total of 127 employees had participated. The number of executives of the rank of manager and above who participated in external training for international talent has risen for three consecutive years. This year 66.1% of all managers have participated in international talent cultivation activities. The company has also organized 5 seminars on smart automation, Industry 4.0, economic trends of emerging markets (India, ASEAN, Middle East, Africa) to enhance internal learning. A total of 186 participants accumulated 558 training hours and overall satisfaction levels reached 8.5 points.

2. TECO Toastmaster Club English conversation class: A total of 35 courses and 3 external interactions were offered for 20 members. A total of 461 training hours were accumulated and overall satisfaction levels reached 9.2 points.

3. Other initiatives include training courses prior to overseas assignments, encouraged participation in overseas and domestic training activities with an international outlook, and release of English news magazines.

B. Comprehensive tracking and improvement mechanism for talent cultivation results

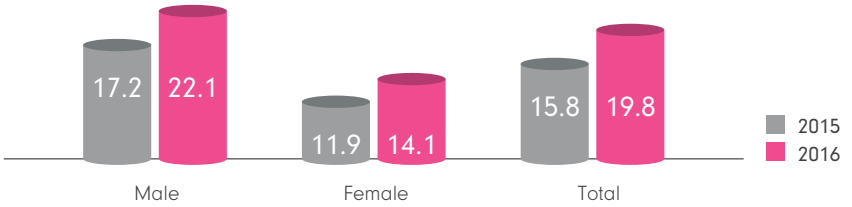
Talent cultivation is managed in a systematic manner to strengthen result tracking



TECO's training budget accounts for 1/1000 of its turnover, amounting to over NT$ 20 million. In 2016, a total of 639 courses for 12,286 trainees were offered independently by business divisions or in accordance with the training plan. Average annual training hours per employee amount to 19.8 hours.

The company organized 6 CSR-related courses, one course on anti-corruption, 22 courses on safe work environments, 6 courses on legal rights and interests, and 13 courses on employee health care and burnout prevention. Trainees include high-, mid-, and low-level executives and regular employees. CSR-related training is implemented and CSR awareness is built from the top down. The company hopes that this awareness will reflect itself in product and service development and innovation and enable it to give back and make valuable contributions to society.

Average training hours per person



Cross-divisional associations to promote in-depth professional exchanges

The company has also established cross-division professional associations for biotech, R&D and sales personnel to generate more opportunities for exchanges learning, and growth among employees in these professional fields.

CSR-related courses

Categories	Course title	Trainees	Hours
CSR education			
2016- CSR and Sustainable Competitiveness (Policy-Board)		45	3.0
2016-Health Risk Management Practices in line with Occupational Safety and Health Act (Policy-CSR)		25	6.5
2016- Sexual Harassment Prevention I (Policy-CSR)		33	3.0
2016- Sexual Harassment Prevention II (Policy-CSR)		34	3.0
2016 - Workplace Violence and Prevention of Mental Health Incidents (Unlawful attacks at the Workplace) (policy-CSR)		31	2.0
2016 - On-the-job Training for Occupational Health and Safety Committee Members (Policy-Safe Environment)		52	3.0
Anti-corruption			
2016- Orientation Training for New Employees (General Education)		31	0.5
Safe Work Environment			
2016 - Civil Defense Regiment Fire Drill I (General Education)		36	4.0
2016 - Civil Defense Regiment Fire Drill II (General Education)		34	4.0
2016- Danger identification and Risk Assessment Training (Policy)		37	3.5
2016-Regulation of Labelling and Hazard Communication of Hazardous and Harmful Materials (Policy- Safe Environment)		15	3.0
2016 - Self-Defense Fire Protection Grouping Training (1) (SA/PB)		32	4.0
2016 - Self-Defense Fire Protection Grouping Training (2) (SA/PB)		32	4.0
2016 - Emergency Rescue Personnel Refresher Training (General Education)		22	3.0
2016 - Fire Drill and Civil Defense Training I (HA)		30	4.0
2016 - Fire Drill and Civil Defense Training II (HA)		22	4.0
2016 - Fire Drill I（PB&ECO）		19	4.0
2016 - Fire Drill II（PB&ECO）		18	4.0
2016 - Orientation Training for New Employees I (HA)		24	8.0
2016 - Orientation Training for New Employees II (HA)		28	8.0
2016 - Orientation Training for New Employees III (HA)		93	8.0
2016 - Orientation Training for New Employees IV (HA)		93	8.0
2016 - Orientation Training for New Employees V (HA)		33	8.0
2016 - Orientation Training for New Employees VI (HA)		2	8.0
2016 - Orientation Training for New Employees VII (HA)		13	8.0
2016 - Orientation Training for New Employees VIII (HA)		15	8.0
Safe Work Environment			
2016 - Orientation Training for New Employees IX (HA)		1	8.0
2016 - Orientation Training for New Employees X (HA)		1	8.0
2016 - Orientation Training for New Employees XI (HA)		7	8.0
Legal rights and interests			
2016- Debate and Discussion of Working Hour Regulations set forth in the Labor Standards Act (Legal Affairs)		9	3.0
2016 - Introduction of the Personal Information Protection Act (Policy-Legal Affairs)		15	2.0
2017 - Education on Key Aspects and Impacts of the "One Fixed Day Off, One Flexible Rest Day" Policy I (Policy - HR)		33	1.0
2017 - Education on Key Aspects and Impacts of the "One Fixed Day Off, One Flexible Rest Day" Policy II (Policy - HR)		16	1.0
2017 - Education on Key Aspects and Impacts of the "One Fixed Day Off, One Flexible Rest Day" Policy III (Policy - HR)		39	1.0
2017 - Education on Key Aspects and Impacts of the "One Fixed Day Off, One Flexible Rest Day" Policy IV (Policy - HR)		19	1.0
Health Care			
2016-Q1 Health Lecture - Better Health through Blood Lipid Control (Policy)		54	1.0
2016-Q2 Health Lecture - Light Diets ideal for a Healthy Summer (Policy)		46	1.0
2016-Q3 Health Lecture - Never Worry About Poor Vision Again (Policy)		44	1.0
2016-Q4 Health Lecture - "Four Highs" and Cardiovascular Disease Prevention (Policy)		22	1.0
2016 - Oral Cavity Care (Policy)		33	1.0
2016 - Traffic Safety Education and Accident Handling Procedures (Policy)		19	1.0
2016 - Understanding and Treatment of Depression (Policy)		55	1.0
2016 - Cancer Education and Breastfeeding at the Workplace (Policy)		31	1.0
Burnout Prevention			
2016 - Burnout Prevention and Working Time Management I (Management)		35	1.5
2016 - Burnout Prevention and Working Time Management II (Management)		68	1.5
2016 - Burnout Prevention and Working Time Management III (Management)		51	1.5
2016 - Burnout Prevention and Working Time Management IV (Management)		35	1.5
2016 - Burnout Prevention and Working Time Management V (Management)		25	1.5

6.6 Occupational Safety and Health

1. Creation of a safe and healthy work environment

Philosophy : Zero occupational accidents

Goals : 1. Building of safety and health awareness and forming of a corresponding culture
2. Guarantee of employee health, safety, and well-being (including contractor staff) at work and while commuting.

- System : An occupational health and safety management system has been established in accordance with OHSAS 18001 and CNS15506 (Taiwan Occupational Safety and Health Management System); internal and external audits are carried out and constant improvements are implemented via PDCA.
- Organization : Members of Occupational Health and Safety Committees (chaired by the President) of the company (chaired by the President) and plant areas (chaired by management representatives) encompass management representatives (1/3), health and safety unit members and top executives. Other involved executives also attend committee meetings. Meetings are convened on a quarterly basis to review action plans and results. In addition, managers of units in which accidents occur must submit a report to the Occupational Health and Safety Committee of the company. Executives assume a leadership role and raise awareness in the field of occupational safety.
- Training : In addition to training and certificates for newly inducted employees and specialists, the company organizes refresher training and occupational health and safety instruction on a regular basis. The company also formulates emergency response measures for different operations and holds annual disaster prevention drills. HQ and each plant area have created special sections where environmental safety related information is posted on a regular basis to enable every employee to view this information online at all times.
- Events and competitions : The company holds annual environmental safety month activities for all employees with question and answer contests with prizes to increase employee participation in work health and safety. "Green cross" boards showing daily and accumulated zero accident statistics are displayed in every plant area. Every employee can view this zero accident information at all times. Zero accident competitions are held in plants on an annual basis and the results are reported to the Occupational Health and Safety Committee. At the end of the year, zero accident areas are publicly recognized and honored with awards to raise the health and safety awareness of all employees.
- Constant improvements: In addition to systematic internal and external audits, zonal safety audits are carried out on a weekly basis by plant managers and top executives. Improvements are inspected and reported to the Occupational Health and Safety Committee for review with a focus on the effectiveness of improvement schemes for recurring problems. Executives and employees jointly carry out constant improvements in the field of health and safety.
- Implementation of new laws and regulations: The company has formulated a Health Protection Plan for Expectant Mothers, a Plan for the Prevention of Unlawful Attacks Suffered During the Performance of Duties, a Plan for the Prevention of Work Overload Dangers, and a Plan for the Prevention of Dangers Caused by Human Factors (muscle and bone injuries). Regular health counseling, health education, and improvement measures are provided for individuals requiring care and guidance as identified upon analysis to ensure a healthy workplace for every employee.

> Health Protection Plan for Expectant Mothers: Health counseling and review of potentially required adjustments for 6 employees in 2016.

> Plan for the Prevention of Unlawful Attacks Suffered During the Performance of Duties: Announcement of a grievance hotline (no grievances received in 2016)

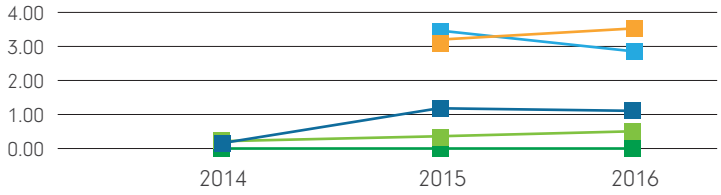
> Plan for the Prevention of Work Overload Dangers: Regular survey and interviews of high-risk individuals (grade 3 and 4) and rigorous overtime work controls. Management measures are also adopted for employees with a disease history who have not been identified as high-risk individuals.

> Plan for the Prevention of Dangers Caused by Human Factors: No grade-1 (confirmed diagnosis) and grade-2 (dangerous) cases were identified in surveys; the company assesses hazards and risks, identifies hazard factors, and carries out improvements for grade-3 (suspected danger) employees with high self-assessment scores.

- Improvement of specified operating environments: The chairman has promised to union representatives in the Q4 Meeting of the Occupational Health and Safety Committee in 2016 that noise levels in plant operating environments will not exceed 85dB. Every plant has proposed time limits and invested resources in the completion of improvements for different operating areas upon analysis. All plant areas will achieve the goal of providing employees with an excellent operating environment

■ Prizes awarded to plants in Taiwan for accumulated zero accident working hours in 2016

2014-2016 TECO Group (Taiwan plants and affiliated enterprises) Disabling Injury Frequency Rate (excluding commuting accidents

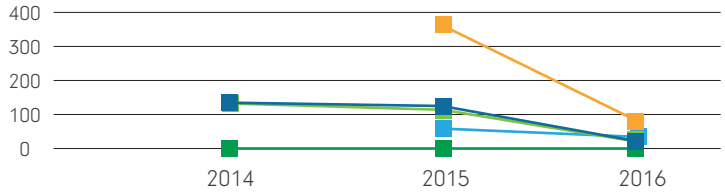


	2014	2015	2016
TECO Group	0.36	1.20	1.16
TECO	0.37	0.38	0.41
TESEN	0.00	0.00	0.00
TECO-Westinghouse	-	3.03	3.51
Taian Technology (Wuxi)	-	3.42	2.96

Note : • TECO Group : HQ, Taiwan plants and affiliates (TESEN, TECO-Westinghouse (TWMC) and Taian Technology (Wuxi))
• TECO Electric & Machinery : HQ and Taiwan plants
• Description of TECO Group Data : Statistical data for TECO and TESEN in 2014; as of 2015 data for TECO-Westinghouse (TWMC) and Taian Technology (Wuxi) are included
• Due to formula discrepancies, Taiwan FR numerical values are calculated based on the value defined by the International Labour Organization: 5 times the value of 200,000.

$$\text{Disabling Injury Frequency Rate (FR)} = \frac{\text{Number of disabling injuries X } 10^6}{\text{Total working hours}}$$

2014-2016 TECO Group (Taiwan plants and affiliated enterprises) Disabling Injury Severity Rate (excluding commuting accidents)



	2014	2015	2016
TECO Group	136	127	22
TECO	140	118	12
TESEN	0	0	0
TECO-Westinghouse	-	370	93
Taian Technology (Wuxi)	-	62	31

Note : • TECO Group : HQ, Taiwan plants and affiliates (TESEN, TECO-Westinghouse (TWMC) and Taian Technology (Wuxi))
• TECO Electric & Machinery : HQ and Taiwan plants
(As a result of an occupational accident in 2014, plant employees are still recuperating on December 27, 2016 (added to total occupational accident days in 2014), the Disabling Injury Severity Rate indicated in the 2016 Report changes accordingly)
• Description of TECO Group Data : Statistical data for TECO and TESEN in 2014; as of 2015 data for TECO-Westinghouse (TWMC) and Taian Technology (Wuxi) are included
• Due to formula discrepancies, Taiwan SR numerical values are calculated based on the value defined by the International Labour Organization: 5 times the value of 200,000.

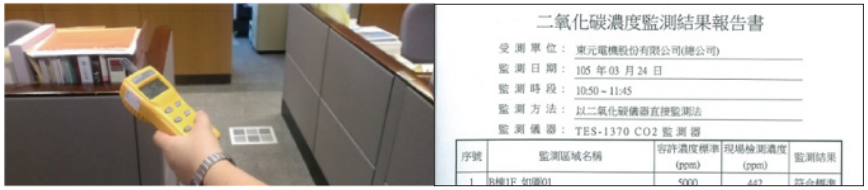
$$\text{Disabling Injury Frequency Rate (FR)} = \frac{\text{Total days lost X } 10^6}{\text{Total working hours}}$$

Environmental safety section of each plant

2. Work Space Design and Comfort

A . CO2 Concentration and illumination measurement

CO2 concentration and illumination levels of work locations are measured regularly in coordination with environmental safety units to ensure regular air flow and sufficient lighting and a comfortable office environment for employees. The results of on-site measurements indicate that CO2 concentrations fall within the standard range (less than 1,000ppm) and illumination levels exceed 300LUX. Both values conform to legal requirements.



B . Regular cleaning and sterilization

Cleaning and maintenance contracts are signed with cleaning companies on an annual basis to ensure regular cleaning of specified areas and the provision of a clean environment for employees. In addition, sterilization and rat extermination operations are carried out regularly in coordination with cleaning companies to protect the health and safety of employees in line with anti-epidemic measures advocated by the government. A comprehensive anti-epidemic mechanism is established to ensure effective responses to sudden influenza hazards. In addition, coliform counts and total bacterial counts in drinking water for employees from drinking fountains are determined through regular sampling inspections. The measurement results of quarterly inspections all meet publicly announced standards which ensures that drinking water is safe and healthy.

C . Promotion of a green working environment

In recent years, TECO has been fully committed to the development of more energy-saving and eco-friendly products and the establishment of a "green" workplace environment inside the company based on the core concepts of "TECO Go ECO" and green technology. The goal is the full implementation of TECO GO ECO concepts. Concrete measures are as follows:

Creation of a digital magazine reading platform to reduce paper consumption generated by book orders and magazine subscriptions in the past and increase usage rates of books purchased in the past. Employees acquire more knowledge and develop innovative thinking through the reading of high-quality publications.

Halogen lamps in lobby areas have been replaced with T5 lighting fixtures to improve light sources and illumination levels.

Provision of green plant areas for Planting Programs of government units. The company actively applies for free seedlings provided by government units to carry out green planting programs and make a contribution to carbon reduction on our planet.

Provision of limited quantities of paper cups and packaged drinking water for meetings and visitors in accordance with the Initiative for Promotion of Paper Cup Reduction by Government Agencies and Schools promulgated by the Environmental Protection Administration.

As of March 2010, the company implements garbage sorting and resource recycling to provide every employee with an excellent office environment.

Provision of cooling and breathing sweatshirts to ensure that employees feel at ease in summer, maintain high work efficiency, and reduce the use of AC and other appliances.

D . Obstacle-free facilities at the workplace

The company provides obstacle-free facilities to show compassion for employees with handicaps. For instance, elevator buttons, toilets, and bathroom sinks have been designed for employees with handicaps (please refer to the images below); parking spaces reserved for persons with limited mobility are available in the Kuanyin Plant area to provide greater convenience for employees with handicaps; the Chungli Plant has created such parking spaces in the vicinity of office entrance areas for employees with limited mobility to minimize dangers caused during entry and exit of office buildings. Numerous measures have been adopted to increase the safety and convenience of employees.

6.7 Employee Assistance and Work-Life Balance

TECO was recognized with a Two-Star Blissful Enterprise Award at the 3rd Blissful Enterprise Awards organized by the Bureau of Labor, Taichung City Government TECO has a comprehensive benefit and care system in place and provides excellent care and development opportunities for its employees. This ensures outstanding performance of the company in the five dimensions of work environment, compensation and cultivation, benefits and rewards, friendly workplace, and social concern. TECO formed an Employee Welfare Committee in 1964 and jointly promotes various welfare measures in cooperation with this committee to share its business profits with its staff. In recent years, psychological issues associated with personal or family problems or work pressure have generated an increasing burden for the general public. TECO has therefore established an EAP platform that provides assistance for employees in accordance with their personal needs. In addition, various employee assistance programs have been formulated to help employees improve their family relationships, enhance their personal abilities, and thereby improve their work performance. TECO's EAP program can be divided into the following components:

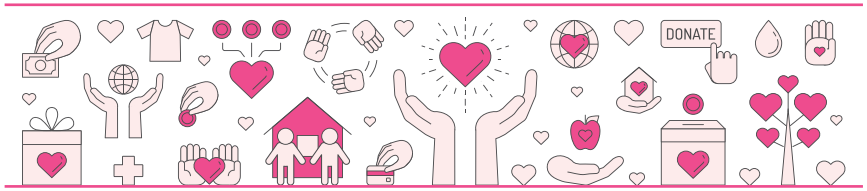
Health	TECO is concerned about the mental and physical health of its employees and assists them in health maintenance through various health and medical care facilities and services to enhance their work and life quality.
Family	The family is one of the main sources of motivation for employees. TECO therefore shows concern for employees and their families through a series of welfare measures to enable employees to apply themselves to their work in a worry-free manner.
Life	The company assists employees in solving personal issues that affect their work including personal relationships and financial and legal problems. TECO organizes a series of lectures and services to assist employees in solving their personal problems.

Employee family care policy

The company shows concern and cares for families which are the main source of motivation for employees . In addition to student grants, scholarships, and family insurance, the company also invited family members of employees to participate in sports meets organized between 2014 and 2016 to give them a chance to strive for glory by relying on team spirit and relax their minds. The company also organizes various edutainment activities (e.g., family days, barbecues) and interacts with family members to increase their sense of identification with the company and give them a better understanding of work environments.

1. Family care program

Items	Content
Flexible working hours	HQ staff can plan their starting and finishing hours from 7:50 to 18:10 in a flexible manner in accordance with the needs of their families without submitting an application.
Preferential group insurance	In addition to free preferential group insurance, Employees also have the option of obtaining the same coverage at a preferential rate for their family members at their own expense. Coverage is superior to group insurance provided by other same-industry businesses. (792 employee family members were insured through this program in 2016)
Unpaid parental leaves and reinstatement assistance	When employees apply for unpaid parental leaves, the company continues to provide labor and health insurance coverage and assists in the application for relevant allowances. A total of 18 employees applied for parental leaves in 2016. 6 employees were reinstated and 1 employee resigned upon expiry of leaves (11 employees are still on leave)
Childbirth subsidies	If employees or their spouses give birth, they are eligible to apply for a childbirth subsidy of NT$ 2,000. 75 employees submitted applications in 2016.
Mother-friendly environment	The company was awarded a seal of approval by Taipei City for its breastfeeding room facilities
Scholarships for children of employees	In 2016, 12 gifted children of staff members received scholarships amounting to NT$ 90,000
Emergency assistance	A total of NT$ 186,000 in emergency assistance were raised through employee donations for co-workers in need (beneficiaries include foreign workers and employees of overseas affiliates; in addition to raised funds these employees also received assistance in returning to their home countries)



2. Participation in company activities by employee family members

- Model employee commendation: Employees and their family members are invited to participate in commendation ceremonies for model employees organized on an annual basis. The company also plans staff trips to show its appreciation for the dedicated contributions of its employees to increase the sense of identification of employees and their family members with the company. A total of 24 model employees were commended for their outstanding performance in 2016.
- 2016 sports competitions: The company invited employees and their family members to participate in various competitions to promote harmonious family relationships. The badminton, tennis, and softball competitions organized in May, July, and December 2016, respectively, attracted a total of 300 participants.
- Family activities: In 2016, the company organized a Moon Festival barbecue party, a singing contest, a hiking trip, and a 60th anniversary family day and handed out lanterns for the Lantern Festival and carnations for Mother's Day to create opportunities for joint participation by employees and their family members and increase the sense of identification with the company. The aforementioned activities attracted a total of 4,896 participants in 2016.
- During winter and summer vacations, the company offers workplace experiences and internships for children of employees. Between 2010 and 2016, a total of 395 staff children participated in this program.

3. Staff health promotion

Healthy employees are more efficient and perform better at work. TECO has established infirmaries and medical stations in plant areas to safeguard the mental and physical health of its employees. The company strictly prohibits any form of forced or compulsory labor and utilizes medical services provided by hired professional nurses and physicians who visit the company on a weekly basis to guarantee the safety and health of its employees. Regular inspections of the physical condition and nature of duties of employees in accordance with the newly formulated Plan for the Prevention of Work Overload Dangers and the Plan for the Prevention of Dangers Caused by Human Factors help prevent physical harm caused by burnout or human factors. In case of abnormal conditions, relevant prevention mechanisms are initiated. TECO is fully committed to the creation of a friendly and healthy work environment to safeguard the mental and physical health of its employees. The company also organizes various health promotion activities including labor health and safety training, annual health checks, pap smears, promotion of a smoke- and betel nut free workplace, weight loss, yoga, and gymnastics activities, spiritual growth and stress relief courses, health lectures, blood donation drives, employee health and ballgame activities, and fun contests. The company also provides employees with health-related information on a regular basis and organizes occupational health and safety training courses.

Main programs include

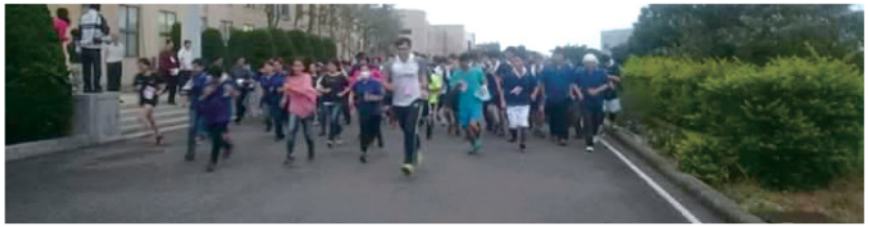
(1). Provision of massage services (1852 applications were submitted in 2016, representing a usage rate of 99%)

(2). Simultaneous emphasis on prevention and application: Organization of preventive education and lectures (8 lectures with 394 participants were organized in 2016), planning of protective measures, assistance in the administration of regular health checks, regular tracking and health counseling for employees with abnormal health check results (467 employees were tracked in 467), physical fitness tests, and aerobic exercise classes (90 employees registered for three courses offered in 2016 (registration and participation rate of 100%)

Health counseling for pregnant employees in interviews conducted in line with the Health Protection Plan for Expectant Mothers (15 employees received such services in 2016)

(4). Based on the results of health checks conducted in the previous year (2015), health management and tracking is carried out for individuals with hyperten sion, high blood glucose, and high blood lipid (98 employees were tracked in 2016 (coverage rate of 100%)

(5). AED equipment has been installed in all office areas to meet emergency needs.



Plant road running events

Exercise classroom

Health lectures

Family days

TECO basketball competition

Taian Technology (Wuxi) – Team cohesion activities

TECO-Westinghouse – Birthday celebrations

TECO sports meet

Promotion of Social Innovation and Education

7.1 Social concern

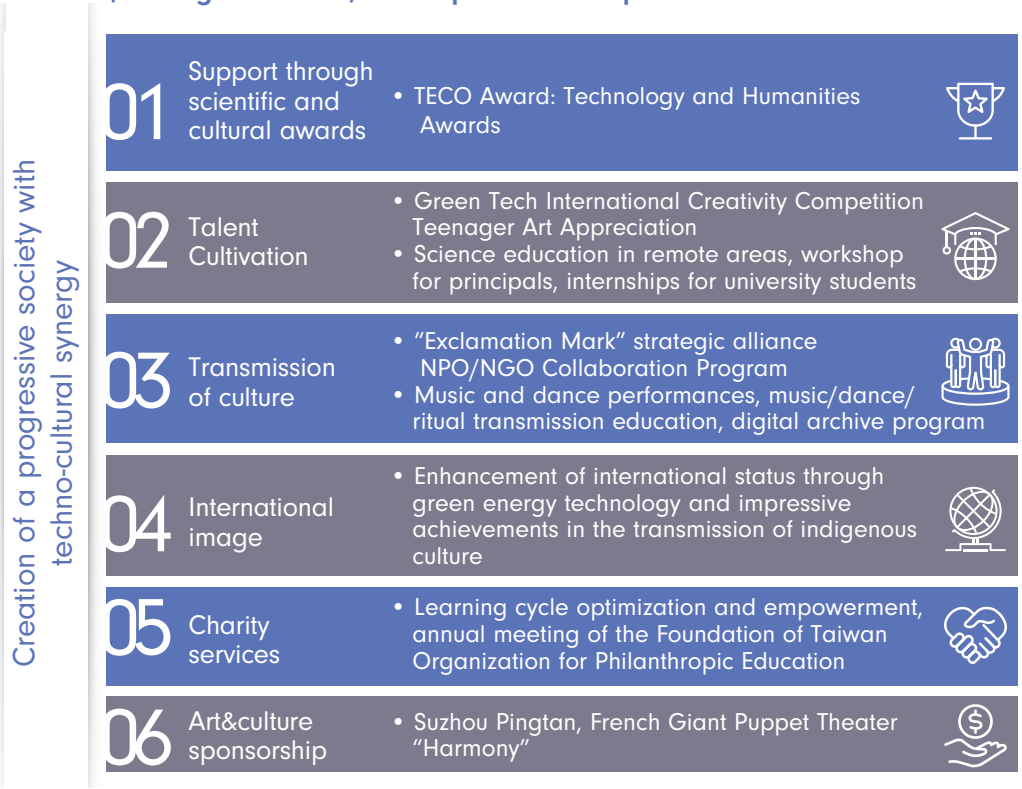
TECO places great emphasis on the social impact of enterprises and „upholds the principle of giving back to society". (chinglish) The company utilizes various methods to demonstrate its concern for society. In 1993, TECO established "TECO Technology Foundation" to fulfill its core mission of "Cultivation of talent in the field of science and technology, advocacy of visionary thinking, and promotion of social progress". Over the past 23 years, the foundation has been firmly committed to the creation of a society characterized by "techno-cultural synergy". Social awareness of environmental conservation, environmental protection, and social issues is raised through organization of technology and humanities themed competitions such as "TECO Award" and "Green Tech". The company also encourages technological research and innovation by university and college students and increase international awareness of green innovation in Taiwan. In addition, the company places great emphasis on science and art education for primary and secondary students in remote areas in an effort to bridge the educational gap between urban and rural areas and enrich the cultural life in remote regions. Strategic alliances are formed to strengthen the roots of traditional aboriginal music, dance, and rituals and achieve the goal of preservation and passing on of indigenous culture through the Cultural Performance & Audiovisual Digital Archive Program.

In addition to a deep commitment to innovation, energy conservation, and sustainable development of indigenous peoples through the TECO Technology Foundation, the company also aims to sow the seeds of benevolence inside the company and therefore utilizes its capabilities to raise social concern and awareness among its staff members. As of 2014, TECO offers „charity leaves" , forms internal volunteer teams, and organizes Donghui Club activities to motivate, support, and encourage employees to practice social concern.

The company aims to generate a positive influence on society through continued sponsorship of TECO Technology Foundation from the angle of overall social environment and international trends and exert a subtle influence on its employees to practice social concern in every aspect of their lives. TECO sows the seeds of compassion in a down-to-earth manner through a forward-looking vision and concrete practices to infuse society with innovative vitality and initiate a virtuous cycle of compassion.

7.2 TECO Technology Foundation – Lifelong Learning and Techno-Cultural Synergy

Vision, strategic direction, and implementation plans



Summary of achievements

Support through scientific and cultural awards Recognition of exceptional contributions in the fields of "technology and humanities" through prizes; exemplary individuals bring benefits to society and generate continued social progress. Over the past 23 years, a total of 101 individuals have been honored with a "TECO award" for outstanding contributions in the field of technology, while 25 individuals received prizes in recognition of achievements in the field of humanities. Total prize money awarded to the 126 prize winners amounted to 66.3 million NTD.

Talent Cultivation Cultivation of talent in the field of technology and humanities through a focus on science and art.

1. Green Tech Competition

The company has created a "Green Tech"-themed professional competition centered around "technological innovation", energy conservation, and carbon reduction in response to issues such as energy depletion, global warming, and human sustainability. It also established an international science & creativity platform for exchanges in the field of technology. TECO promotes exchanges and developments in the field of "Green Tech" research conducted by top international universities.

Since 2008, a total of 791 teams (8,840 individuals) have participated in the "Green Tech" international creativity competition. Award-winning teams (58 and 52 in the domestic and international competitions, respectively) received cash prizes totaling 13.13 million NTD.

2. Art Appreciation Program for teenagers in remote areas

The goal of this program which is organized for primary and secondary students in Taitung, Pingtung, and Hualien is to enrich the cultural life and popularize art education in these areas. This activity is highly anticipated by school children in these remote counties.

Program contents encompass Peking Opera, Yu Opera, Taiwanese Opera, Kids Theater, Stage Plays, Tap Dance, Ballet, Street Dance, Symphonies, Orchestras, Piano Solo Performances, Renowned Artists, and Indigenous Music and Dances of the respective city/county. Every activity lasts 7 hours and a total of 34 activities have been organized for 31,852 children from 628 schools in 5 different cities/counties over a period of 12 years.

3. Science Education Program for children in remote area

Scientific knowledge is imparted to teachers and students in remote schools to bridge the gap in science education between rural and urban areas and show care for remote regions.

Every session covers one unit and lasts one hour. In the context of this program, elementary school students are exposed to 12 science units prior to graduation (two units are scheduled per year). A total of 47,539 students in 810 schools have benefited from this program which was initiated 8 years ago.

Transmission and preservation of culture The roots of traditional aboriginal music, dance, and rituals are strengthened and indigenous performances are introduced to international audiences. Aboriginal folk song albums and audiovisual records are created to achieve the goal of transmission and preservation.

1. Formation of "strategic alliances" and establishment of an "educational" resource platform

Convening of 30 NPOs/NGOs, 30 enterprises, and 100 compassionate individuals, over 40 schools, and 2 government ministries and commissions.

2. Support of 42 traditional music&dance, artistic, and athletic groups to promote education and transmission of music&dance performances and rituals

34 supported music&dance troupes span 7 cities and counties and 42 schools and tribal communities. Over 21 sponsors (units or individuals) provide financial assistance for relevant activities. 1,376 individuals have participated in this culture transmission program. A total of 316 folk songs and 46 dances have been transmitted in 6,933 hours and total raised funds amount to 9,790,055 NTD.

3. Presentation of achievements in the field of music and dance: folk song compositions and crossover performances

Golden Melody Award winner Mr. Lee Che-Yi was commissioned to rearrange indigenous folk songs. 35 songs of four different ethnic groups (Central and Eastern Paiwan, Tsou, Rukai, and Ami) have been rearranged for string and wind/string orchestras. A total of 15 crossover performances by four orchestras (Feng Yuan Philharmonic String Chamber Orchestra, SJTU Wind Symphony Orchestra, The Music String Chamber Orchestra, and Taiwan Pure Strings) were organized.

4. Presentation of achievements in the field of music and dance: Scheduling of national and international performances

Over 15 national and international performances spanning three continents (Europe, America, and Asia) with over 1000 performers belonging to 23 groups were organized to promote education on tribal culture, strengthen its roots, and provide opportunities for cooperation between national and international orchestras. Kuo-Shin Chuang Pangcah Dance Theatre was selected as one of the performance troupes for the 2017 Edinburgh International Festival.

5. Digital Archive Program including recording of folk song albums

A total of 6 folk song albums and audiovisual records featuring a total of 168 music and dance pieces from 9 ethnic groups and 65 crossover arrangements. A total of 16,150 digital archives have been released. The folk song albums are nominees for the 2017 Golden Melody Award in the Traditional Art and Music category.

Project description

Support through scientific and cultural awards 23rd TECO Awards Improve People's Lives and Show Directions

The "TECO Awards" were created in 1993, the year of establishment of the TECO Technology Foundation when certain technologies were in the ascendant. In the first year, prizes were awarded in three categories (electromechanics, IT, and communications). As of 2016, prizes are awarded in four major categories and 40 sub-categories, which bears witness to the rapid development of science and technology. All award winners in the science & technology category of this year's event are engaged in interdisciplinary research and their innovative achievements create new opportunities for relevant industries. In the humanities category, the issue of "Concern for Taiwan Coverage" appeals to all sectors of society to place greater emphasis on problems created by information dissemination. A media representative won the award for his entry titled „Sudden Awakening in the Mud of Negativity" . Through his determined efforts over a period of 22 years, he has been able to identify 1000 shining examples in every corner of the island who light up people's lives. He utilized these inspiring stories to create a heartwarming program to affect people's lives and inspire others to follow in the path of these shining examples. All award winners in the science & technology and humanities category are paragons of „improving people's lives and showing directions".

Award objective : Creation of an atmosphere conducive to technological innovation, fostering of adaptation in the field of humanities, recognition of exceptional contributions in the field of science and humanities in Taiwan with the ultimate goal of creating a forward-looking and progressive society characterized by humanistic concern.

Beneficiaries : ROC nationals with concrete contributions or outstanding achievements in the stipulated award categories.

The jury which : Is comprised of 21 representatives of noble character and high prestige drawn from renowned organizations completed its evaluations on September 1.

7 award winners were determined in a rigorous selection process

Category	Name	Description
• Electrical Engineering • Information • Communication Technology	Mark Liao	Dr. Liao devoted himself to multimedia signal processing research for years. The face recognition system and digital watermarking techniques developed by Dr. Liao and his team contributed to his research society significantly. The cocktail watermarking system his team developed has been successfully transferred to industry. This system provides great protection power to digital contents.
• Electrical Engineering • Information • Communication Technology	Jing-Tang Yang	Professor Yang devotes to the interdisciplinary research and development on fluid mechanics since 1979. His inspiring outcomes in the fields of energy, microfluidics, biophysics and biomimetics reveal innovative concepts and value of industrial application. He keeps contributing to national energy policy and green technology and is heavily involved into the establishment of green energy science base in Taiwan.
• Mechanical Engineering • Energy • Environmental Technology	Jo-Shu Chang	Devoted to the research on microalgae-based CO2 fixation & re-utilization, biorefinery, and biofuels production. Developed world-leading microalgal CO2 fixation and biohydrogen production technologies. Established technology demonstration platform and venture company. High international reputation and academic influence.
• Chemical Engineering • Material Technology	Chung-Wen Lan	Prof. Lan developed the high-performance multi-crystalline silicon technology through fundamental understanding and experiments. This technology has significantly improved the solar cell efficiency from 16.5% to 19.5% with passivation in mass production. With this significant contribution, the international organization for crystal growth (IOCG) awarded him the 2016 Laudise Prize, which is the highest honor in IOCG for technological contribution given triennially.
• Biology • Biomedical Engineering • Agricultural Technology	Bor-Luen Chiang	Prof. Chiang has dedicated in developing both novel diagnostic and therapeutic approaches for the immunological diseases. Particularly, the researches on the application of melatonin for the treatment of atopic dermatitis, computer-based diagnostic determination of allergic shiner and biomarkers for Henoch-Scholein purpura have been achieved greatly in both academic and technological field.

7 award winners were determined in a rigorous selection process

Category	Name	Description
• Biology • Biomedical Engineering • Agricultural Technology	Hong-Hwa Chen	Studied the key genes involved in flower development, finished the whole genome sequencing of Phalaenopsis equestris through international cooperation, established the first orchid database, published high quality journal papers, provided important research resources, and actively promoted orchid biotechnology industry.
• Humanities Award • 《Media Coverage on Caring Taiwan Societyy》	Kuang-Tuo Chang	Mr. Chang has spent near thirty years to promote the nature and form of "Truthfulness, Goodness and Virtue" in Taiwan society. As the producer of the long-lasting TV program "Light Up", Mr. Chang focused on the stories caring people at every corner of Taiwan. By establishing "Light Up Culture Foundation", he continues to arouse the hope of vulnerable people through various activities such as music concerts, book publication and other events around the island.

Prize award ceremony : Cash prizes of 800,000 NTD each awarded on November 5, 2016 (Sat)
Total prize money of 4 million NTD

More information

Talent Cultivation

Project 1: „Green Tech" International Creativity Competition to boost the development of green energy technologies with the goal of combating global warming

In response to the global energy shortage and industry development trends. The "Green Tech"-themed competition encourages young students to engage in research on energy conservation and carbon reduction technologies and the development of eco-friendly energy sources, materials, and highly efficient application technologies. The competition is divided into a national contest for domestic university students and faculty and an international contest with participants from top international universities. It aims to boost the development of energy-conservation and carbon-reduction technologies and international academic exchanges.

Actual impact of the Green Tech competition

1. Importance of energy conservation and carbon reduction advocacy for 9 consecutive years: The „Green Tech" themed technology competition was initiated in 2008 in response to issues of energy depletion, global warming, and human sustainability.

2. Creation of a climate of scientific research conducted by domestic university and vocational college students and faculty: The international contest with student and faculty participants from top universities in Europe, Asia, and America receives growing attention from international academic and educational circles.

3. Facilitation of cooperation between domestic and international green energy scholars and experts: Japanese, Chinese, and Taiwanese green energy experts serve as jury members and guide young students in their research efforts.

4. Creation of a professional energy conservation and carbon reduction competition centered around the theme of "technological innovation": The competition is based on a spirit of public welfare and aims to draw international attention to technological development and education in the field of energy conservation and carbon reduction.

5. Establishment of an international science & creativity platform: Provision of a platform for exchanges in the field of technology and promotion of exchanges and developments in "Green Tech" research at top international universities.

6. Enhancement of the international reputation of Taiwan: New knowledge about the green energy industry is disseminated regularly and the professional image of the foundation is enhanced through cross-strait and international exchanges in the context of the competition and platform.

7. Infusion of over 30 million NTD to generate a wide impact: Over the past 9 years, a total of 791 teams (8,840 individuals) have participated in the "Green Tech" international creativity competition. Award-winning teams (58 and 52 in the domestic and international competitions, respectively) received cash prizes totaling 13.13 million NTD. Organization expenses amounted to over 34 million NTD.

8. Industry cooperation and international educational exchanges
- Promotion of R&D by university student and faculty teams
- Demonstration of research capabilities in the field of green energy technologies
- Successful learning from international teams

9. Creation of a model for cross-strait technology competitions
- Professionalized competition methods
- Perfection of evaluation operations
- Internationalized juries
- Creation of a culture of scientific activities

10. International cultural exchange connotations
- Scheduling of artistic and cultural performances during award ceremonies
- Performance of traditional Paiwan folk songs and exhibition of traditional and ancient culture and art of Taiwanese indigenous tribes
- Organization of international cultural exchange banquets
- Organization of local trips and visits

11. Practice and fulfillment of corporate social responsibility: Organization of public welfare competitions as important initiatives for the fulfillment of CSR.

12. Social consensus: Advocacy of a culture of energy conservation and low-carbon lifestyles to make a joint contribution to global ecology.

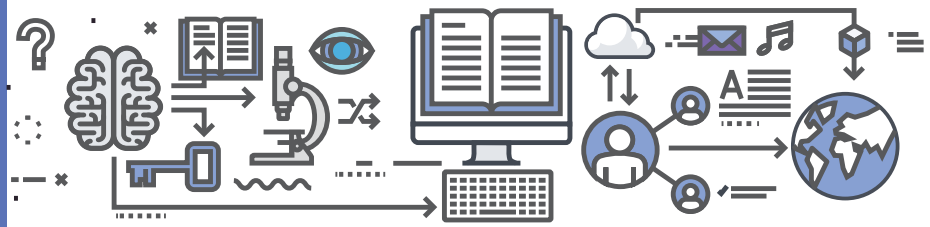
2016 "Green Tech" International Creativity Competition

■ **Contents :** Green Tech encompasses the development of energy conservation technologies including solar power, EV motors, renewable energy sources, and printing technologies as well as creative designs with energy conservation and carbon reduction effects.

■ **Competition details :**
Domestic contest → 47 teams of Taiwanese university faculty and students participated; 20 teams were selected for the final stage.s of Taiwanese university faculty and students participated; 20 teams were selected for the final stage.
Domestic contest → 20 teams of students and faculty from 20 top universities in the UK, Germany, Sweden, Japan, Russia, Singapore, and China participated.

■ **Minister of Science and Technology Jyuo-Min Shyu serves as the convener of the professional jury**

■ **Competition results** ： 40 works spanning various fields of green energy including solar energy, wind power, biomass energy, motors, renewable energy, printing were selected for the final stage.



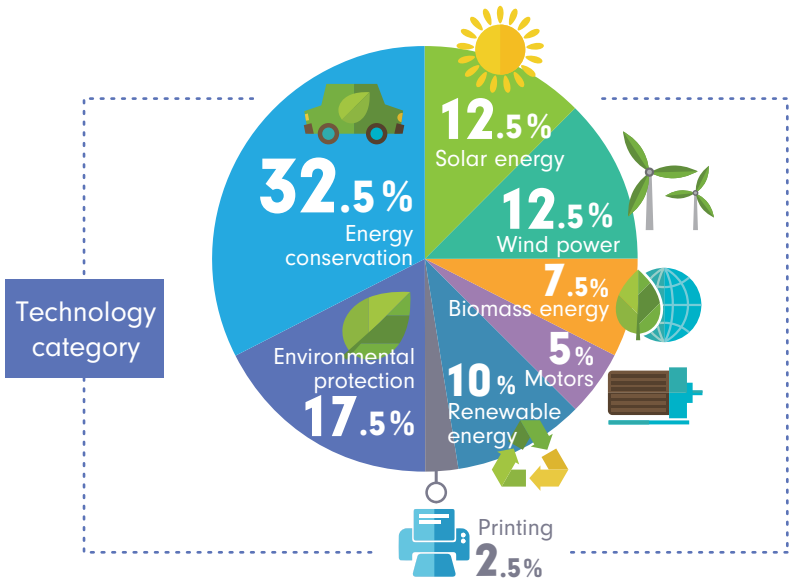
Award-winning works

Domestic contest

Award	Work	Category	University
Winner	Wave energy capture to assist merchant ship propulsion vibration wing energy conservation system.		National Taiwan University
Runner-up	Development of a highly efficient solid phase catalyst for conversion of microalgae bioenergy substances to biomass fuel: Conversion of algae oil into Biodiesel and algae into 5-hydroxymethylfurfural		National Taiwan University
Second runner-up	Particle swarm optimization energy conservation strategy for EVs driven by multiple motors		National Taiwan University
LEKO Low-energy technology award	Wastewater and waste carbon fixation and reuse in microalage cultivation modules		National Chiao Tung University
ROHM Innovation Award	Low-cost and highly efficient organic waste treatment, purification, and recycling technology		National Tsing Hua University
Best Technology Award	Charge adsorption automatic cleansing water softener		National University of Kaohsiung
Creativity Award	Application of AZO / Au / AZO multilayer transparent conductive film to smart energy-saving electrochromic glass		Kun Shan University National Cheng Kung University
Humanities Award	Wireless EV charging station for multifunctional parking lots		National Chung Hsing University

International contest

Award	Work	Category	University
Gold Medalist	FS Dancing Windy		Russia Lomonosv Moscow State University
Silver Medalist	Development of Novel Double-Rotor System Equipped with Differential Gear for Small Wind Turbines		Japan Kyushu University
Bronze Medalisr	Indoor Wireless Power Transfer		Japan University of Takyo
LEKO Low-Carbon Technical Award	Solar Energr Storage System based on Reversible Solid Oxide Cells		Singapore Nanyang Technological University
ROHM Innovation Award	A Wall-mouunted Air Purifier Based on Thermal-regeneration		China Tsinghua University
Technical Award by Creative Sensor Inc.	HEAVN Coffee Book		Germany Techinical University Munich
Best Originality Award	Zn Batteries for Voltage Control in Power Distribution System: Scalable and Low-cost Approach		Japan Waseda University
Humanism Award	High-power LED Devices Based on SiC Heat Dissipation Ceramic Substrate		China Xiamen University



Project 2: "Game"-based learning- Creative leadership workshop for principals

Scientific research indicates that "experience" is the best stimulator for neural links and "games" are the best way to gain "experience". During gameplay, the brain generates Brain-Derived Neurotrophic Factor (BDNF). Games train the nervous system of the brain and link concentration to cognitive ability. The more children play the faster they think and the more agile their brains are. Games not only help children accumulate learning experiences but also lay the foundation for creativity.

Curriculum

- [Impact of games on neural learning mechanisms of the brain]: Keynote speech, Ms. Hung Lan
- [Innovative leadership]: Ms. Ching-Ya Chuang
  1. Incorporation of games into teaching demonstrations
  2. Game practice, application, and discussion
- Total of 12 hours

Curriculum benefits

- Principals and teachers recognize the benefits of incorporating "games" intoeducation
- Enhancement of campus management competence of principals in the fields of "self-awareness", „exploration of problems", "generation of positive energy", and "problem solution" through actual participation.
- Expansion of management competence of principals and learning horizons in remote municipalities and counties.
- Promotion of creativity cultivation concepts in domestic society.
- 298 principals and teachers participated in this workshop which aimed to initiate revolutionary concepts in the field of education and campus management.

Project 3: Organization for 13 consecutive years Life and art creativity experience activities – Art Appreciation Program for teenagers in remote areas

The ratio of single-parent families and upbringing of parentless children by grandparents in remote tribal communities is higher than in other areas of the country. These areas also lack educational resources and opportunities for appreciation of formal artistic performances such as concerts and dramas. As of 2005, TECO Technology Foundation integrates resources provided by the Ministry of Education, local governments, enterprises, performance groups, and charitable individuals in an effort to enrich the cultural life and popularize art education in these areas and organize multidimensional artistic and cultural feasts for indigenous children. The goal is to provide art and culture education in the deepest recesses of the central mountain range.

Activity benefits

The main beneficiaries of the Art Appreciation Program are primary and secondary students and faculty of schools in remote municipalities and counties. Services are provided in 2-4 municipalities and counties each year. One activity featuring 3-4 different performances is organized per county/municipality. Program contents encompass Peking Opera, Yu Opera, Taiwanese Opera, Kids Theater, Stage Plays, Tap Dance, Ballet, Street Dance, Symphonies, Orchestras, Piano Solo Performances, Renowned Artists, and Indigenous Music and Dances of the respective city/county. Every activity lasts 7 hours. These learning activities are highly anticipated and bring a lot of joy to children in remote areas. In 2016, the foundation provided services for 2 municipalities/ counties (Pingtung and Hualien) spanning 21 towns and 50 schools. A total of 1,868 individuals (1,570 students and 298 teachers) participated in this curriculum. A total of 271 children of 10 "Exclamation Mark Indigenous Music & Dance Transmission Teams" gave performances in the context of this program. A total of 34 activities have been organized for 31,852 children from 628 schools in 5 different cities/counties over a period of 12 years.

In 2016, TECO fulfilled its social responsibility to popularize art education in remote areas through integration of resources

Cooperating units	Results of resource integration
Ministry of Education	Activity subsidies
Co-organizer : Pingtung County Government Hualien County Government Fengyuan Education Foundation	• Support of performances and learning in the Cultural Center Performance Hall • Designation of organizing schools to support local administrative operations • Recruitment of 33 volunteers to replenish the manpower for activity execution • Support of shuttle buses and transportation services for students • Hualien County subsidizes 25% of the activity expenses • Pingtung County provides 15 hometown picture books for external exhibitions

Cooperating units	Results of resource integration
Joint organizer : Kuangchuan Cultural & Educational Foundation Hwa Hsian Tzu Educational Foundation	• Subsidies • Provision of activity resources • Provision of New-Year gifts
Individual sponsorship	• Subsidizing of student shuttle service expenses • Subsidizing of expenses for piano performances by blind pianists • Sponsorship of other activities
Performance groups	Four performance groups perform for children in remote areas at preferential fees • U Performing Art class of Jingwen High School • The music orchestra (accompanies the transmission team) • Art appreciation instructor Mr. Po-l Lin • Blind pianist Mr. Che-Cheng Hsu
10 Exclamation Mark Transmission Team	271 children of 10 Exclamation Mark Indigenous Music & Dance Transmission Teams give performances
50 participating schools	One-day art appreciation activities for 1,868 children in remote area

Project 4: Science education in the deepest recesses of the central mountain range – Science Education Program for children in remote area

■ Bridging of the gap in science education between rural and urban areas and fulfillment of the corporate social responsibility of showing care for remote areas.

A survey of the Child Welfare League Foundation reveals that 71.5% of economically disadvantaged children in remote areas have over 16 times less educational resources than children in urban areas. The lack of resources also leads to low learning capabilities and insufficient learning opportunities. These three major issues associated with poverty keep these children from catching up with their urban peers. Education is the foundation for positive social development. For children who live in remote areas or are economically disadvantaged it is an opportunity to turn their lives around. The science courses taught by Mr. Tien Yuan facilitate learning by sharing of life experiences and give these children confidence, joy, and hope.

■ TECO fulfills its CSR by supporting scientific actions and practices by Mr. Tien Yuan

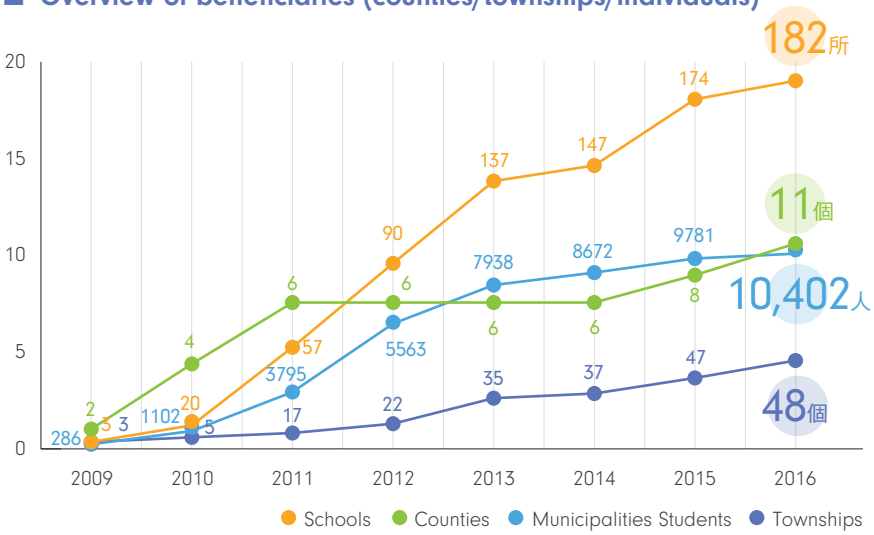
The „88 Flood Disaster" caused by Typhoon Morakot in 2009 ravaged tribal communities in mountain areas in Taiwan. The foundation has commissioned Mr. Tien Yuan, a science teacher with whom it has a long-term cooperative relationship to proceed to schools in disaster-hit areas in Pingtung County to impart scientific knowledge to students in a fun and lively way and allow their parents to focus on the reconstruction of their homes without having to worry about their children's education. This service program made TECO and Mr. Tien Yuan realize that there is a serious lack of qualified lack of science teachers and a weak foundation in the field of science education in these remote schools. The number of schools benefiting from this program has grown rapidly from three schools deep in the mountains in 2008 to schools in the vicinity with the same demands. This snowballing program provides knowledge and infuses educational resources into remote counties. It brings fun scientific knowledge to the deepest recesses of the central mountain range.

■ Curriculum benefits

The main beneficiaries of this curriculum are primary and secondary students and faculty of schools in remote areas. Every session covers one unit and lasts one hour. In the context of this program, elementary school students are exposed to 12 science units prior to graduation (two units are scheduled per year). In 2016, TECO provided services for 11 counties and municipalities spanning 48 townships, 182 schools, 10,402 students, and over 1,000 teachers. A total of 47,539 students have benefited from this program which was initiated 8 years ago.




Overview of beneficiaries (counties/townships/individuals)



Activity webpage

Transmission of culture

Passing down and preservation of traditional indigenous music & dances

After more than 6 decades of powering up Taiwan with its motors, TECO established the TECO Technology Foundation 23 years ago to support research and innovation in the field of technology, promote a technology-oriented humanistic society, and implement creativity education for solid competitiveness. At the same time, the "Exclamation Mark" Sustainable Indigenous Education Program helps strengthen the roots of indigenous culture and tradition. In 2013, the foundation formed a strategic alliance and a platform for cultural transmission and education by enlisting NPOs, enterprises, and individuals. All circles of society are encouraged to serve as sponsors for the foundation's programs which aim to pass down traditional indigenous music, dance, rituals, and cultural values. At the same time, the foundation encourages and supports tribal communities in their efforts to develop tailor-made education initiatives with an equal emphasis on "culture", "education", "human beings", and the "ethnic" community. Extended learning activities ensure the constant cultivation and development of natural talents and endowments of new generations of indigenous citizens, passing down and dissemination of ethnic art and culture, increase of knowledge and skills, and enhancement of competitiveness. As of 2016, around 18,000 children of 10 different tribes receive long-term support and services. The foundation supports 42 folk song, dance, workmanship, creativity, and fitness groups, generating amazing results in the fields of "traditional culture and art, education, and ethnic sustainability" (the program was therefore named "Exclamation Mark").

6 key tasks

01 Formation of a "strategic alliance" and a resource platform for "cultural transmission and education

02 Support for 42 traditional music & dance, workmanship, and physical fitness groups and development music/dance/ritual transmission education

03 Folk song compositions and crossover performances

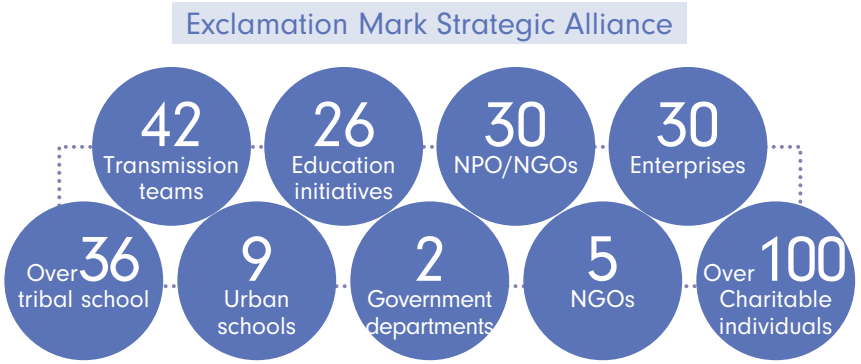
04 Scheduling of national and international performances

05 Digital Archive Program including recording of folk song albums

06 Encouragement of tribal associations to assist in the promotion of cultural transmission and education

Strategic alliances Task 1

1. Establishment of "Exclamation Mark Strategic Alliance":
   - Enlistment of 30 NPOs/NGOs, 30 enterprises, charitable individuals, and over 40 schools
   - Lobbying of government departments to provide support



2. Participation in the Lifelong Education and Learning Circle of the Ministry of Education: Enlistment of 14 foundations and joint application for subsidies totaling NT$ 3.29 million from the Ministry of Education.

3. Maintenance of an equilibrium of supply and demand: The platform has a constant grasp of transmission demands of tribal communities and raises funds and resources for the "Exclamation Mark" program amounting to NT$ 30 million on an annual basis.

4. Promotion and creation of performance opportunities: Pursuit of performance opportunities in Taiwan and abroad and joint sponsorship of performance activities.

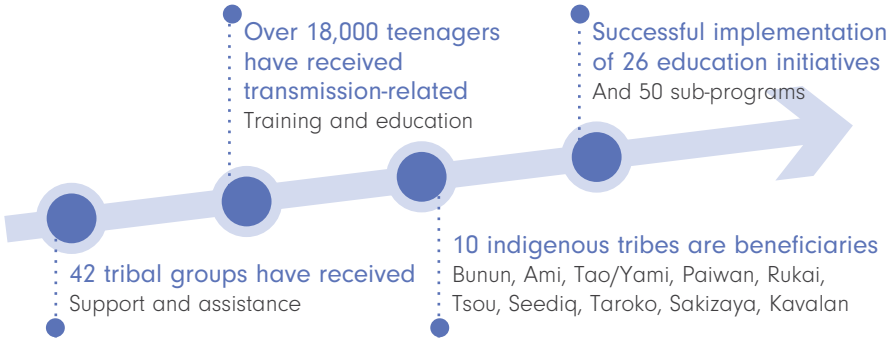
5. Hiring of „transmission" teachers: Over 50 teachers are paid fixed salaries to implement transmission education in tribal communities. Work contents include the following:

- Field research, collection of information, composition of melodies and dances
- Instructional design and rehearsal scheduling
- Planning of performances and artistic guidance

6. Professionalization of performances: Commissioning of professionals such as artistic directors, stage supervisors, lighting designers, graphic designers, visual directors, music producers, and sound engineers to assist in performance planning and execution.

7. Cooperative marketing:

- Creation of an "Exclamation Mark" Fanpage for the dissemination of program-related information
- Supervision of creation of fanpages by transmission teams, mutual links, and joint promotion and marketing (So far 6 teams have created fanpages.
- Creation and sharing of promotional videos via LINE groups and FB.



Music/Dance/Ritual Transmission Program Task 2

Self-confidence is the main prerequisite for sustainable operations and development of indigenous peoples and a main focus of indigenous education. Traditional indigenous dances and art in Taiwan are highly sophisticated and full 0f vitality. Despite the beauty of traditional tribal culture and art, it is on the verge of extinction. We therefore aim to help these tribes regain their confidence in an underprivileged environment by adopting a strategy of full utilization of tribal characteristics and talents. We also help them rediscover their roots, enhance their self-identity, and achieve the goal of sustainable development.

Tribal schools are centers of learning and sustainable development of tribal culture. However, these schools face various difficulties including a lack of qualified teachers, insufficient budget allocation by departments of education of city and county governments, and inconvenient traffic due to location in remote areas. Schools are therefore forced to rely on external hiring of professional teachers for the development of education initiatives and continue to face a shortage of educational resources.

The goal of this program is therefore to give children a better understanding of cultural connotations unique to their ethnic group (folk songs, dance, and rituals) through education on such subjects as indigenous songs and dance and build up their self-confidence through performances. The transmission activities have gradually drawn the attention of teenagers (including junior high school, senior high school, and university students), parents, and village elders. They actively participate in the folk song/dance transmission program and therefore create a climate conducive to the passing down of culture and traditions in the whole community.

The program also creates a stage for national and international performances by children. In 2016, a total of 34 teams spanning 7 counties/municipalities, 42 schools, and tribes assisted in cultural transmission. The number of units and individuals acting as sponsors exceeded 21. 1,376 individuals have participated in this culture transmission program. A total of 316 folk songs and 46 dances have been transmitted in 6,933 hours and total raised funds amount to 9,790,055 NTD.

Presentation of achievements in the field of music and dance: folk song compositions and crossover performances

Task 3

Since 2012, Golden Melody Award winner Mr. Lee Che-Yi has been commissioned to rearrange indigenous folk songs. 35 songs of four different ethnic groups (Central and Eastern Paiwan, Tsou, Rukai, and Ami) have been rearranged for string and wind/string orchestras over the past five years. A total of 15 crossover performances have been organized.

Presentation of achievements in the field of music and dance: Scheduling of national and international performances

Task 4

Origin

The foundation has been promoting the „Exclamation Mark" sustainable education program for indigenous peoples for 14 years. Based on a profound understanding of the importance of culture and art as the foundation of the long history of tribes, TECO group and other sponsors have jointly infused resources for the development and passing down of tribal culture and organized various national and international performances. The demonstration of transmission results enables indigenous peoples who have no written language to preserve their traditional folk songs and art forms. The program also helps expand the life experiences of indigenous children and youngsters and build a sense of identification and confidence in their own culture, thereby increasing the motivation to learn and promote cultural concepts.

Over the past three years, the transmission teams have left a deep impression in over 10 countries in four continents and their aesthetic energy has been widely acclaimed and recognized, fully utilizing the soft power of culture. A total of 42 teams currently support the "Exclamation Mark" Program 34 teams currently embrace the mission of cultural transmission (music, dance, rituals). Opportunities and stages for grand performances are provided on an annual basis to give children a chance to present the results of their transmission efforts. Children who receive long-term training have the opportunity to take on the challenge of performing on a grand stage. Prior to every performance, children have to undergo a long-term strict training program. Professional who are familiar with indigenous performance arts are invited to form a team to assist in production.

Educational value of performances

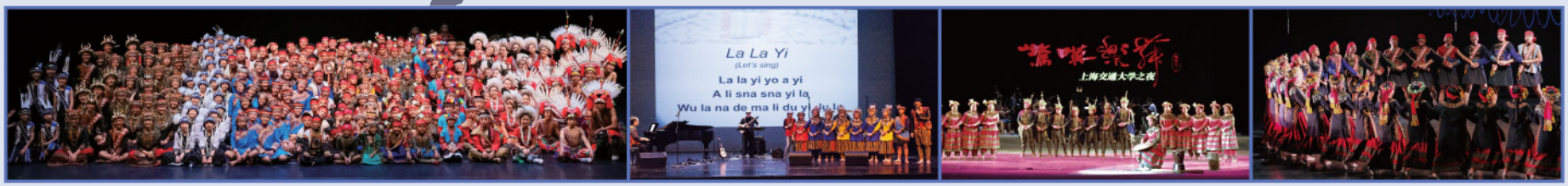
1. Opportunities for children to present achievements and accumulate perfor mance experience
2. Implementation of "Exclamation Mark" transmission education through performance preparations
3. Increased self-confidence of indigenous children and tribal members through successful experiences on grand stages
4. Inspiration of the dedication and passion of transmission instructors

Cultural value of performances

1. Promotion of learning, exploration, and identification with indigenous culture
2. Promotion of field research, collection of information, and choreography
3. Strengthening of traditional culture
4. Promotion of cultural interactions and exchanges between tribes
5. Creation of audiovisual records and digital archives of indigenous music, dance, and rituals
6. Promotion of professional cooperation in the field of composition and performance
7. Promotion of transmission and dissemination of traditional songs and rituals

In 2016, 23 performance troupes composed of 962 performers participated in a total of 7 national and international performances

International performances



Audiovisual Digital Archive Program (music/dance) Task 5

■ Origin of the digital archive program

As of 2005, "Exclamation Mark" organizes an annual event titled "Indigenous Children Night" and year-end performances to provide a grand stage for professional performances by transmission teams and give the participants a goal to pursue. Every participating tribe has achieved outstanding results of high educational value in the fields of transmission and dissemination. The "Exclamation Mark" program also continues to generate audiovisual records via various performances. The Taiwu traditional folk song album titled „Where the Songs Begin", which was produced under sponsorship by International Commercial Bank of China Cultural and Educational Foundation, Nytex Composites, Protech Systems, and Longines, and various performance recordings serve as key materials for cultural transmission and foster the vibrant development of transmission education in tribal communities.

As of 2012, the "Exclamation Mark" program enlists Mr. Lee Che-Yi to rearrange indigenous traditional folk songs, creating a precedent in folk songs accompanied by string orchestras. These arrangements represent a reinterpretation of the unique character of traditional folk songs and gradually build up positive energy and experience in joint performances with domestic and international orchestras. Mr. Lee Che-Yi invited the Italian composer Michele Paciulli to help ensure top quality sound recordings and assist in post-production. A powerful production team has been formed in cooperation with Feng Yuan Philharmonic String Chamber Orchestra, Taiwan Pure Strings, and Free Image Design Studio.

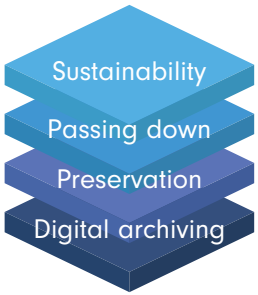
■ Goal of digitization

1. Promotion of passing down and development of tribal art and culture to enable indigenous peoples to foster the vibrant development and preservation of tribal culture through audiovisual recordings without the use of written language.
2. Promotion of active transmission and creation of audiovisual records for tribal communities and ethnic groups.
3. Recording of folk song albums allows the authentic preservation and transmission:
   - Traditional tribal culture
   - And creation of teaching material templates for transmission education
   - And increase the international visibility of indigenous music, dance, and art forms as well as Taiwanese culture and art
4. Cooperation with professional composers, conductors, and orchestras and promotion of interactions and cooperation in the field of traditional indigenous art.

5. Public acceptance is increased through diverse composition methods to promote the passing down and dissemination of traditional folk songs.
6. Participation in the 2018 Golden Melody Award in the Traditional Art and Music category.

■ Benefits of release

1. Recording of precious Taiwanese folk songs
2. Initiation of digital archiving of traditional culture
3. Marketing and promotion to motivate all circles of society to support the "Exclamation Mark" program
4. Design of song lists for the purpose of transmission
   - Creation of records of the Paiwan language with the Roman alphabet
   - Accurate and authentic records of melodies and connotations
   - Accurate cultural learning
   - Creation of optimized teaching materials for cultural transmission
   - Presentation of unique characteristics of tribal clothing, culture, and lifestyles



■ Unique features of albums

1. Creation of optimized eye-catching packaging by professional designers
2. Adoption of handmade exquisite Dutch cloth boxes for the storage of the purest sound records
3. Use of tribal symbolism to accentuate the unique features of the album
4. Description of tracks and dances are based on historical and cultural evidence
5. Rich song list contents with sophisticated and concise text
6. Rigorous layout of song lists by a professional designer in consideration of contents and tribal characteristics
7. Every box contains three albums (pure vocal, crossover, and pure instrumental)

■ Effects of release

1. Provision of teaching materials for transmission of traditional folk songs by the younger generation of indigenous peoples and tribal communities
2. Provision of solid and authentic materials for cultural transmission
3. Motivation of other teams to conduct field research, collect information, and pass down culture
4. Motivation of other tribal communities to create digital archives
5. Creation of a model for digital archiving
6. Cultivation of professional talent in the field of indigenous performance arts
7. Donation of the proceeds from album sales as funds for album recording by other teams
8. Bringing Taiwan in line with international trends through creation of a digital music platform

■ Results of archiving efforts 2013-2016: Release of 6 boxsets encom passing 9 tribes and 168 music/dance pieces (3 boxsets with 76 pieces in 2016 alone)

Fostering participation by tribal communities Task 6

School-oriented transmission education focuses on refinement of performance techniques over many years and participation, practice, and experience in tribal rituals to gradually extend a climate of cultural transmission to the communities and gradually draw the attention of teenagers (including junior high school, senior high school, and university students), parents, and village elders. Transmission teams not only actively participate in tribal rituals but also turn into core members of tribal events. In 2016, 6 tribal associations with a total of 345 members cooperated in the development of transmission education.

Report Summary and Appendix

8.1 Report Summary

The 2016 TECO CSR Report is the 7th issue of the report issued by TECO since 2010 and the 5th issue verified by an external third-party organization. This year's report identifies strategies for each material issue in each chapter. Actual achievements in 2015 and 2016 and future development plans for 2017 and beyond are presented on the first page of each chapter to facilitate reading by stakeholders and give them a clearer understanding of developments pertaining to each material issue. The goal is to improve communication with stakeholders regarding concepts and approaches of the company in the dimensions of governance, economy, environment, and society.

In 2016, TECO achieved a ranking in the Top 5 % of all evaluated enterprises in the "Corporate Governance Evaluation held by TWSE for the third time in a row, which bears witness to the company's achievements in the implementation of corporate governance. In the field of economy, TECO has released a series of smart green products including smart motors and AC systems through integration of the group's capabilities and synthesis of core technologies with technological innovation to provide customers with economical smart products and optimized green solutions with the ultimate goal of triggering industry upgrades. Solar power systems have been developed for the rooftops of the company's own factory buildings. Other systems suited for solar power plants are developed in cooperation with other companies to create positive energy for sustainable operations in multiple dimensions.

In the environmental dimension, the company is firmly committed to the development of energy-saving products to stimulate energy conservation and carbon production at the user end. TECO also conducts inspections and inventories from the perspective of product life cycles and formulates policies to minimize environmental impacts. In 2016, the company carried out environmental and water footprint inventories and verifications for core motor products in cooperation with suppliers to detect environmental and water footprint hot spots in product life cycles and facilitate the planning of follow-up improvement goals and strategies.

In the social dimension, TECO embraces the vision of "Creation of a Blissful Enterprise and a Society Characterized by Techno-Cultural Synergy" with the goal of strengthening of talent development and creation of a stage for employees to bring their talent into full play. Various employee care policies are in place to ensure an equal emphasis on career development and work-life balance. TECO extends the concern for its employees to the whole society. Through continued support for TECO Technology Foundation and multidimensional development in the fields of innovative technologies, humanistic education, concern for children in remote areas, transmission and archiving of indigenous culture, the company realizes its vision of techno-cultural synergy.

In 2016, TECO celebrated its 60th anniversary. In the future, the company will make an all-out effort to fulfill CSR on the foundation of solid developments in the areas of environment, society, and governance (ESG) over many years. The company places equal emphasis on the pursuit of sustainable corporate development and maximization of corporate influences to trigger upgrades in the fields of industry, society, and environment.

8.2 GRI G4 Index

Indicator No.	GRI Indicators	Corresponding chapters	Page	Note
Strategy and Analysis				
G4-1	Provide a statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	1	6	
G4-2	Provide a description of key impacts, risks, and opportunities	4.2	59	
Organizational profile				
G4-3	Report the name of the organization	3.2.2	27	
G4-4	Report the primary brands, products, and services	3.3,3.4,3.5	28-37	
G4-5	Report the location of the organization's headquarters	3.2.2	27	
G4-6	Report the 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 repor	3.2.1	26	
G4-7	Report the nature of ownership and legal form.	3.2.2	27	
G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	3.2.1 3.2.2	26,27	
G4-9	Report the scale of the organization	3.2.1,6.2	26,86	
G4-10	Hire manpower category statistics	6.2	86	
G4-11	Report the percentage of total employees covered by collective bargaining agreements	6.3	92	
G4-12	Describe the organization's supply chain	5.1	87	
G4-13	Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	3.2.1	26	
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization	4.2	59	
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	4.3	63	
G4-16	List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization participates	4.3	64	
dentified Material Aspects and Boundaries				
G4-17	List all entities included in the organization's consolidated financial statements or equivalent documents Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	About this Report 3.2	3,26	
G4-18	Explain the process for defining the report content and the Aspect Boundaries Explain how the organization has implemented the Reporting Principles for Defining Report Content	2.1	15	
G4-19	List all the material Aspects identified in the process for defining report content	2.2	18	
G4-20	For each material Aspect, report the Aspect Boundary within the organization	2.2	18	
G4-21	For each material Aspect, report the Aspect Boundary outside the organization	2.2	18	
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements	About this Report	3	
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries			
Stakeholder interactions and management				
G4-24	Provide a list of stakeholder groups engaged by the organization	2.2	16	
G4-25	Report the basis for identification and selection of stakeholders with whom to engage	2.1	15	
G4-26	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	2.3	20	
G4-27	Report 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	2.3	20	
Report Profile				
G4-28	Reporting period (such as fiscal or calendar year) for information provided	About this Report	3	
G4-29	Date of most recent previous report (if any)			
G4-30	Reporting cycle (such as annual, biennial)			
G4-31	Provide the contact point for questions regarding the report or its contents			
G4-32	Report the "in accordance" option the organization has chosen Report the GRI Content Index for the chosen option (see tables below) Report the reference to the External Assurance Report, if the report has been externally assured.	About this Report	3	

Indicator No.	GRI Indicators	Corresponding chapters	Page	Note
G4-33	Report the organization's policy and current practice with regard to seeking external assurance for the report Report the relationship between the organization and the assurance providers Report whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report	About this Report	2	
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	4.1.3	52	
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	4.1.3	55	
Category : Economic				
Aspect : Economic Performance				
G4-DMA	Disclosure of management approaches	3.1	23	
G4-EC1	Direct economic value generated and distributed	3.2	24	
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	3.3-3.5 4.2	28-40 60	
G4-EC3	Coverage of the organization's defined benefit plan obligations	6.4	93	
G4-EC4	Financial assistance received from the government	3.2	25	
Aspect : Procurement Practices				
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	5.1	71	
Category : Environmental				
Aspect: Materials				
G4-DMA	Disclosure of management approaches	5.2.2	76	
G4-EN1	Materials used by weight or volume	5.2.3	81	
Aspect : Energy				
G4-DMA	Disclosure of management approaches	5.2.2	76	
G4-EN3	Energy consumption within the organization	5.2.3	79	
G4-EN7	Reductions in energy requirements of products and services	3.3.1,3.4.3	29,37	
Aspect : Water				
G4-DMA	Disclosure of management approaches	5.2.2	76	
G4-EN8	Total withdrawal by source	5.2.3	81	
G4-EN9	Water sources significantly affected by withdrawal of water	5.2.3	81	
G4-EN10	Percentage and total volume of water recycled and reused	5.2.3	81	
spect : Emissions				
G4-DMA	Disclosure of management approaches	5.2.2	76	
G4-EN15	Direct Greenhouse Gas (GHG) Emissions (Scope 1)	5.2.3	78	BSI inventories
G4-EN16	Indirect Greenhouse Gas (GHG) Emissions (Scope 2)			
G4-EN17	Other Indirect Greenhouse Gas (GHG) Emissions (Scope 3)	5.2.3	78	
G4-EN19	Reduction of Greenhouse Gas (GHG) Emissions	5.2.3	73	
G4-EN20	Emissions of Ozone-Depleting Substances (ODS)	5.2.3	74	
G4-EN21	NOX, SOX, and other Significant Emissions	5.2.3	83	
Aspect : Effluents and Waste				
G4-DMA	Disclosure of management approaches	5.2.2	76	
G4-EN22	Total water discharge by quality and destination	5.2.3	82	
G4-EN23	Total weight of waste by type and disposal method	5.2.3	82	
G4-EN24	Total number and volume of significant spills	5.2.3	83	No such incidents occurred in 2016
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	5.2.3	81	
Aspect: Products and Services				
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	5.2	72	
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	5.2.1	75	
Aspect : Compliance				
G4-DMA	Disclosure of management approaches	5.2.2	76	
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	5.2.4	83	
Aspect : Transport				
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	5.2.1	75	
Aspect : Supplier Environmental Assessment				
G4-DMA	Disclosure of management approaches	5.1	67	
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	5.1	70	
Category : Social				

Indicator No.	GRI Indicators	Corresponding chapters	Page	Note
Sub-Category : Labor Practices and Decent Work				
Aspect : Employment				
G4-DMA	Disclosure of management approaches	6.1	85	
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	6.2	90	
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	6.4	93	
G4-LA3	Return to work and retention rates after parental leave, by gender	6.7	103	
Aspect : Labor/Management Relations				
G4-DMA	Disclosure of management approaches	6.1	85	
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	6.3	92	
Aspect : Occupational Health and Safety				
G4-DMA	Disclosure of management approaches	6.6	100	
G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	6.3,6.6	92,100	
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	6.6	101	
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	6.6	100	
G4-LA8	Health and safety topics covered in formal agreements with trade unions	6.3	92	
Aspect : Employment				
G4-DMA	Disclosure of management approaches	6.1	85	
G4-LA9	Average hours of training per year per employee by gender, and by employee category	6.5	98	
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	6.5	96	
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	6.4,6.5	93,96	
Sub-Category : Human Rights				
Aspect : Non-Discrimination				
G4-DMA	Disclosure of management approaches	6.1	85	
G4-HR3	Total number of incidents of discrimination and corrective actions taken			No such incidents occurred in 2016
Aspect : Freedom of Association and Collective Bargaining				
G4-DMA	Disclosure of management approaches	6.1	85	
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	6.3	92	
Aspect : Child Labor				
G4-DMA	Disclosure of management approaches	5.1,6.1	67,85	
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	5.1,6.2	70	No such incidents occurred in 2016
Aspect : Forced or Compulsory Labor				
G4-DMA	Disclosure of management approaches	5.1,6.1	67,86	
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	5.1,6.3	70,92	
Aspect : Supplier Human Rights Assessment				
G4-DMA	Disclosure of management approaches	5.1	67	
G4-HR10	Percentage of new suppliers that were screened using human rights criteria	5.1	69	
Sub-Category : Society				
Aspect: Local Communities				
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	2.3,5.1.3	27,71	
Aspect : Anti-corruption				
G4-DMA	Disclosure of management approaches	4.2	59	
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified			
G4-SO4	Communication and training on anti-corruption policies and procedures	4.2,6.5	64,99	
G4-SO5	Confirmed incidents of corruption and actions taken	4.2	59	No such incidents occurred in 2016
Aspect : Anti-Competitive Behavior				
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	3.6	41	No such incidents occurred in 2016
Aspect : Compliance				
G4-DMA	Disclosure of management approaches	4.2	59	
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	4.1.3	57	

Indicator No.	GRI Indicators	Corresponding chapters	Page	Note
Aspect : Supplier Assessment for Impacts on Society				
G4-DMA	Disclosure of management approaches	5.1	67	
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	5.1	69	
Sub-Category : Product Responsibility				
Aspect : Customer Health and Safety				
G4-DMA	Disclosure of management approaches	3.6	40	
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement			
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	3.6	41	No such incidents occurred in 2016
Aspect : Product and Service Labeling				
G4-DMA	Disclosure of management approaches	3.6	40	
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements			
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	3.6	41	No such incidents occurred in 2016
G4-PR5	Results of customer satisfaction surveys	3.8	45	
Aspect : Marketing Communications				
G4-DMA	Disclosure of management approaches	3.6	40	
G4-PR6	Sale of banned or disputed products	3.6	41	
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	3.6	41	No such incidents occurred in 2016
Aspect : Customer Privacy				
G4-DMA	Disclosure of management approaches	3.6	40	
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	3.6	42	No such incidents occurred in 2016
Aspect : Compliance				
G4-DMA	Disclosure of management approaches	3.6	40	
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	3.6	42	No such incidents occurred in 2016

8.3 Summary of Assured Items

No.	Assurance target	Page	Reporting criteria
1	Sales proportion of high-performance energy saving motors with capacity below 300HP (224kW) in 2016 (in sales value and volume). • Sales value accounts for 67.33% • Sales volume accounts for 41.75%	29	Total annual sales value and volume of IE2, IE3 and IE4 motors (classified in accordance with horsepower efficiency and power consumption standards of IEC 60034-30-1:2014) with capacity below 300hP, divided by annual sales value and volume of motors from the Business Division of Green Electric-Machinery. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd..
2	2Power saving statistics of high energy saving motors with capacity below 300hP (224kW) in 2016. (power savings in kWh converted into GHG emission amount) • Total power savings of 586,567,410 kWh • Total emission reduction of 309,707.59 tons CO_2e	29	The IE2 category refers to motors with a capacity below 300HP that conform to the horsepower efficiency and power consumption standards of IEC 60034-30-1:2014 (IE2 or above) excluding pole change motors and rolled iron frame motors. The IE3 category refers to motors with a capacity below 300hP that conform to the horsepower efficiency and power consumption standards of IEC 60034-30:2014 (IE3 or above) excluding pole change motors and rolled iron frame motors. Power savings, expressed in kilowatts/hour, were calculated by multiplication of total annual sales volume of motors according to the above classification and total discrepancy (same horsepower) by the power consumption difference between said category and IE1 motors, assuming 5,000 operating hours per year. Total emission reductions were calculated based on the Electricity Emission Coefficient of 0.528 (KgCO2e/kWh) released by the Bureau of Energy in 2015. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd..
3	Sales proportion of first- and second-grade energy-saving household air conditioners and refrigerators in 2016. (in sales value and volume) • Sales value accounts for 89.88% • Sales volume accounts for 89.77%	36	Air conditioners and refrigerators were classified in accordance by "Window/box-type air conditioner energy consumption and efficiency grade labeling standards, methods, and inspection methods" and "Refrigerator/freezer energy efficiency grade criteria" announced by the Bureau of Energy, Ministry of Economic Affairs. The annual sales value and volume of first- and second-grade household air conditioners and refrigerators, was divided by the total annual sales value and volume of household air conditioners and refrigerators from the home-appliances business department. Sales volume of air conditioners was based on the amount of outdoor units, while sales value included indoor and outdoor units. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd..

No.	Assurance target	Page	Reporting criteria
4	Power saving statistics for first- and second-grade energy-saving household air conditioners and refrigerators in 2016 (power savings in kWh converted into GHG emission amount) • Total power savings of 19,420,320 kWh • Total emission reduction of 10,253.93 tons CO_2e	37	Energy saving statistics were calculated based on the annual power consumption difference between annually sold first- and second-grade household air conditioners and refrigerators classified in line with the energy efficiency grade standards of the Bureau of Energy and sale of the same quantity of fourth-grade models, assuming 1,200 operating hours per year. Total emission reductions were calculated based on the Electricity Emission Coefficient of 0.528 ($KgCO_2e/kWh$) released by the Bureau of Energy in 2015. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd..
5	Revenue ratios of various product categories in 2016 • Heavy electric machinery and control devices 59%, home appliance and AC products 27%, engineering revenue 11%, other 3%	24	Annual revenue derived from TECO product categories divided by operating revenue ratio indicated in individual financial statement
6	Performance highlights in 2016 (operating revenue, net profit for the year, ROE, EPS, cash dividends, income tax expenses) • Operating revenue of NT$ 20,274,047,000 • Net profit for the year of NT$ 3,481,480,000 • ROE of 7.16% • EPS of NT$ 1.76 • Cash dividends of NT$ 0.88 • Income tax expenses of NT$ 40,944,000	24	TECO individual financial statements specify annual operating revenue, net profit for the year, EPS, and income tax expenses; ROE is calculated by dividing net profit for the year by the mean equity value at the beginning and end of the year; the term cash dividends refers to common stock dividends through distribution of 2016 earnings as per board proposal in 2017
7	Number of board meetings and average attendance rate of all directors in 2016 (excluding attendance by proxy) • 8 meetings were convened in 2016 and the average attendance rate of all directors Reached 90.6% (excluding attendance by proxy)	55	Number of board meetings per year and average attendance rate of all directors (excluding attendance by proxy) which is calculated by adding up individual attendance rates and dividing the result by the total number of board directors
8	Number of Auditing Committee meetings and average attendance rate of all members in 2016 (excluding attendance by proxy) • 9 meetings were convened in 2016 and the average attendance rate of all members reached 100% (excluding attendance by proxy)	57	Number of Auditing Committee meetings per year and average attendance rate of all members (excluding attendance by proxy) which is calculated by adding up individual attendance rates and dividing the result by the total number of committee members
9	Number of Remuneration Committee meetings and average attendance rate of all members in 2016 (excluding attendance by proxy) • 3 meetings were convened in 2016 and the average attendance rate of all members reached 91.7% (excluding attendance by proxy)	58	Number of Remuneration Committee meetings per year and average attendance rate of all members (excluding attendance by proxy) which is calculated by adding up individual attendance rates and dividing the result by the total number of committee members
10	Employee seniority structure on December 31, 2016 • Employee seniority distribution chart for TECO Electric and Machinery Co., Ltd., Taian Technology (Wuxi), and TECO-Westinghouse (TWMC)	88	Seniority was calculated based on years of service of active permanent employees as of December 31, 2016. The aforementioned data was provided by TECO Electric and Machinery Co., Ltd., TESEN Electronic Co., Ltd., Taian Technology (Wuxi), and TECO-Westinghouse (TWMC).
11	Employee age structure on December 31, 2016 • Employee age distribution chart for for TECO Electric and Machinery Co., Ltd., Taian Technology (Wuxi), and TECO-Westinghouse (TWMC)	89	Seniority was calculated based on age of active permanent employees as of December 31, 2016. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd., TESEN Electronic Co., Ltd., Taian Technology (Wuxi), and TECO-Westinghouse (TWMC)
12	Employee numbers by position on December 31, 2016 (Managerial, Professional, Technical, Sales) • Gender distribution of positions for TECO Electric and Machinery Co., Ltd., Taian Technology (Wuxi), and TECO-Westinghouse (TWMC)	89	Statistics for managerial, professional, technical, and sales positions of active permanent employees as defined by the HR system on December 31, 2016. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd., TESEN Electronic Co., Ltd., Taian Technology (Wuxi), and TECO-Westinghouse (TWMC)

No.	Assurance target	Page	Reporting criteria
13	Applications for unpaid parental leaves in 2016 • A total of 18 employees applied for unpaid parental leaves in 2016	103	Annual unpaid parental leave statistics have been provided by TECO Electric and Machinery Co., Ltd..
14	Applications for unpaid parental leaves in 2016 • A total of 18 employees applied for unpaid parental leaves in 2016	99	The number of CSR education courses is based on definitions and announcements of the training system. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd..
15	Number of anti-corruption courses in 2016 • 1 anti-corruption course	99	The number of anti-corruption courses is based on definitions and announcements of the training system. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd..
16	Number of quality improvement projects in 2016 • Total of 60 quality improvement projects in 2016	44	Number of improvements based on completed quality circle activities or project improvement team applications and completed improvement project reports in the respective year carried out in accordance with Improvement Team Activity Guidelines. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd..
17	Violations of environmental laws and regulations and incurred fines in 2016 • No such violations occurred in 2016	83	Number of violations of environmental laws and regulations formulated by EPA and incurred fines in the respective year. The aforementioned statistical data has been provided by TECO Electric and Machinery Co., Ltd., TESEN Electronic Co., Ltd., Taian Technology (Wuxi), and TECO-Westinghouse (TWMC)
18	Disabling Injury Frequency Rate (FR) in 2016 (excluding commuting accidents) • TECO Electric and Machinery Co., Ltd. 0.41 • TESEN Electronic Co., Ltd. 0.00 • TECO-Westinghouse (TWMC) 3.51 • Taian Technology (Wuxi) 2.96	101	In accordance with relevant regulations of the Ministry of Labor the calculation formula for Disabling Injury Frequency Rate (FR) is as follows: Number of disabling injuries/total working hours x1,000,000 ((× 200,000) 5 times as defined by ILO)
19	Disabling Injury Severity Rate (SR) in 2016 (excluding commuting accidents) • TECO Electric and Machinery Co., Ltd. 12 • TESEN Electronic Co., Ltd. 0 • TECO-Westinghouse (TWMC) 93 • Taian Technology (Wuxi) 31	101	In accordance with relevant regulations of the Ministry of Labor the calculation formula for Disabling Injury Severity Rate (SR) is as follows: Number of lost days/total working hours x1,000,000 ((× 200,000) 5 times as defined by ILO)
20	2016 Natural gas consumption statistics • TECO Electric and Machinery Co., Ltd. 740,380 kWh • TECO-Westinghouse (TWMC) 148,280 kWh	79	Annual natural gas consumption is calculated based on receipts issued by CPC Corporation, Taiwan and US Luminant Energy Company
21	2016 Power consumption statistics • TECO Electric and Machinery Co., Ltd. 49,957,660 kWh • TESEN Electronic Co., Ltd. 6,108,700 kWh • TECO-Westinghouse (TWMC) 17,621,080 kWh	79	Annual power consumption is calculated based on receipts issued by Taipower, US Constellation New Energy, Inc., and common invoices issued by Jiangsu Electric Power Company. Where TECO Electric and Machinery Co., Ltd., Taian Technology (Wuxi), affiliated enterprises, or contractors have shared meters, power consumption is apportioned according to meter readings or mutually agreed upon proportions.

8.4 CPA Limited Assurance Report

pwc 資誠

會計師有限確信報告

資會綜字第 16010238 號

東元電機股份有限公司　公鑒：

本所受東元電機股份有限公司（以下稱「貴公司」）之委任，就選定 2016 年度企業社會責任報告書（以下稱「社會責任報告書」）所報導之績效指標執行確信程序。本會計師業已確信竣事，並依據結果出具有限確信報告。

確信標的資訊與報導基準

有關　貴公司所選定 2016 年度社會責任報告書所報導之績效指標（以下稱「確信標的資訊」）及其報導基準詳列於　貴公司 2016 年度社會責任報告書第 120 至 122 頁之「確信項目彙總表」。

管理階層之責任

貴公司管理階層應依據適當報導基準編製及報導 2016 年度社會責任報告書及其績效指標，並應建置相關流程、資訊系統及內部控制以防範 2016 年度社會責任報告書及績效指標有重大不實表達之情事。

會計師之責任

本會計師依據確信準則公報第一號「非屬歷史性財務資訊查核或核閱之確信案件」，對確信標的資訊執行確信工作，以發現前述資訊是否在所有重大方面有未依報導基準評估而須作重大修正之情事，並出具有限確信報告。此報告不對 2016 年度社會責任報告書整體及其相關內部控制設計或執行之有效性提供任何確信。

會計師之獨立性及品質管制規範

本會計師及本所已遵循會計師職業道德規範中有關獨立性及其他道德規範之規定，該規範之基本原則為正直、公正客觀、專業能力及盡專業上應有之注意、保密及專業態度。

本所適用審計準則公報第四十六號「會計師事務所之品質管制」，因此維持完備之品質管制制度，包含與遵循職業道德規範、專業準則及所適用法令相關之書面政策及程序。

資誠聯合會計師事務所　*PricewaterhouseCoopers Taiwan*
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pwc 資誠

所執行確信工作之彙總說明

本次確信工作依確信標的資訊，以 貴公司、東勝電氣股份有限公司、美國西屋馬達有限公司及台安科技(無錫)有限公司為工作執行範圍，執行之程序包括：

- 閱讀企業社會責任報告書
- 對參與提供績效指標的相關人員進行訪談，以瞭解並評估編製前述資訊之流程、內部控制與資訊系統；
- 基於上述瞭解與評估，對績效指標進行分析性程序，如必要時，則選取樣本進行測試，以取得有限確信之證據。

上述執行程序之選擇係基於本會計師之專業判斷，包括辨認確信標的資訊可能發生重大不實表達之領域，以及針對前述領域設計及執行程序，以取得有限確信並作出會計師之結論。有限確信所執行程序之性質及時間與適用於合理確信案件者不同，其範圍亦較小。有限確信所取得之確信程度明顯低於合理確信案件所取得者。

先天限制

本案諸多確信項目涉及非財務資訊，相較於財務資訊之確信受有更多先天性之限制。對於資料之相關性、重大性及正確性等之質性解釋，則更取決於個別之假設與判斷。

有限確信結論

依據所執行之程序與所獲取之證據，本會計師並未發現確信標的資訊在所有重大方面有未依報導基準評估而須作重大修正之情事。

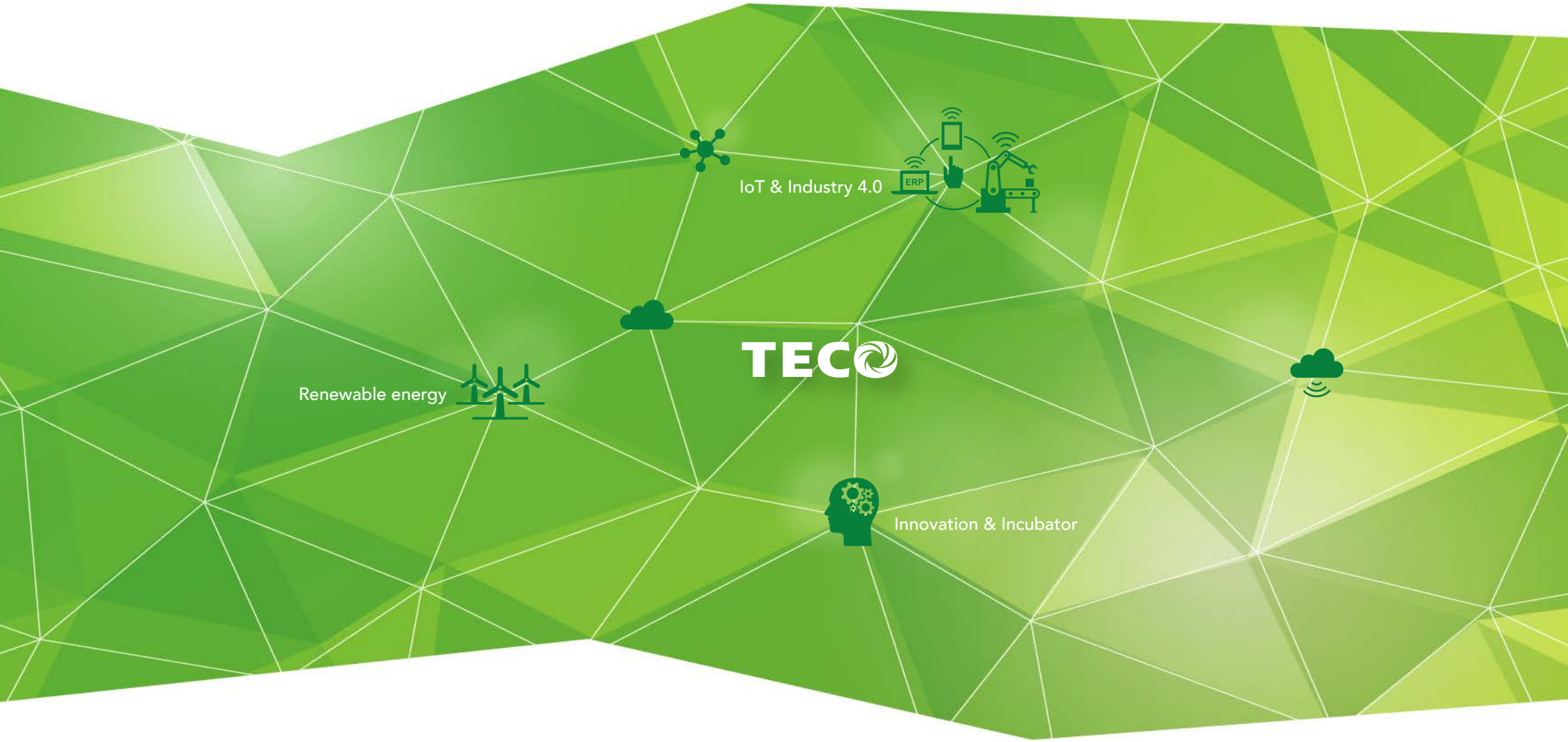
其它事項

貴公司網站之維護係　貴公司管理階層之責任，對於確信報告於　貴公司網站公告後任何確信標的資訊或報導基準之變更，本會計師將不負就該等資訊重新執行確信工作之責任。

資誠聯合會計師事務所

會計師　李宜樺

2017 年 8 月 15 日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