

ECO-FRIENDLY
DRAM PROVIDER

綠水續

2016 Corporate Social Responsibility Report

NANYA

ECO-FRIENDLY DRAM PROVIDER

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About This Report

Overview

Nanya Technology Corporation (NTC) published its seventh Corporate Social Responsibility (CSR) report in June, 2017. The report contains information of company profile, corporate governance, environmental sustainability, employee development and social contribution from January 1 to December 31, 2016. The report is covered the performance of all NTC offices worldwide, including the Headquarters (located at Hwa-Ya Technology Park in Taoyuan, Taiwan), FAB-3A (located in New Taipei city, Taiwan), and all its subsidiaries in Taiwan, USA, Europe, Japan, and China. The financial performance and statement covered in the report are verified by the certified accountant as well. The next Corporate Social Responsibility report is expected to be published in June, 2018.

The Them of Report

Since 2010 when NTC started to publish CSR report which completely disclose integrity operation, stakeholder engagement, environmental sustainability, employee rights and benefits, and social participation.

Meanwhile, the contents of CSR report have been fully disclosed on CSR webpage of NTC website to detail the sustainable objectives and performances of 3 aspects including economy, environment and society.

By means of questionnaires, this report covered the emphasized contents of sustainable development as well as corporate defined subjects of importance. And the innovative green products and commitment to continuity of environmental protection launched by the company has defined the main axis of 2016 CSR Report as " Green & Sustainable Eco-friendly DRAM Provider" to physically implement corporate social responsibility.

Publication

The NTC CSR report is published annually.

2016 Report was published in June, 2017

2015 Report was published in June, 2016

2017 Report will be published in June, 2018

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Time of Data Disclosure

From Jan 1 2016 to Dec 31 2016

Data

NTC offices, including Headquarters (located at Hwa-Ya Technology Park in Taoyuan, Taiwan), FAB-3A (located in New Taipei city, Taiwan) and the Chin-Hsing Factory in Luzhu district of Taoyuan City.

Data Quality Management

Financial data : KPMG

Quality management ISO9001, ISO/TS16949 : LRQA

Environmental management ISO 14001: LRQA

Safety & Hygiene OHSAS 18001/TOSHMS: LRQA

Code of conduct in electronic industry EICC VAP (V5.0): TUV

Information of sustainability AA1000: BSI

Guideline & Principle

GRI G4 Core Options guideline

Assurance Level

AA 1000 Type II medium assurance level

Management Methods of Report

Annual Performance Review

Report Guidelines

Data Collection

Summarization

Third Party Assurance

Confirmation by CSR Committee

Report to the Board of Directors

Publish on NTC Official Website

Sustainable Development of NTC

CSR Policy

NTC committees to enhance corporate governance, provide healthy and safe working environment and strive for the coexistence of green technology and environmental sustainability. And plays an important role for societal growth to fulfill its corporate social responsibility.

Idea of Sustainable Development

CSR Mission Statements

To become a Green & Sustainable Eco-friendly DRAM Provider and to fulfill NTC'S corporate social responsibility, the three ideas must be done as below: economic growth, environmental sustainability, and corporate governance.



Message from President



President of Nanya Technology Corporation

A handwritten signature in black ink, appearing to read "Rudy Lee" followed by some Chinese characters.

Nanya Technology Corporation (NTC) has been founded 20 years since 1995. For the past 20 years, NTC's DRAM products have been sold worldwide. With the coming of smart and connected world, the company is dedicated to being innovative, and developing green products through market demand and strategic alliance. NTC not only cares about corporate and stockholders' profits, but the corporate governance, economic growth, and environmental sustainability, which also have been implemented within the operation in hope that NTC can be the best Eco-friendly DRAM provider and fulfill the Corporate Social Responsibility (CSR) till next 20 years.

"Corporate Governance and Sustainability"

NTC has been conducting its business with integrity and guided by the Code of Conduct its founding. The Code of Conduct is applied to all members at NTC. For the purpose of this Code, employees must act legally and honestly, never engage in fraudulent, condemn any form of bribery and corruption, and avoid any conduct that would risk NTC's reputation and harm shareholders. The Board of Directors and top management are required to follow the Code of Conduct as well. In order to uphold the corporate social responsibility, NTC establishes a Compensation Committees to monitor and review the compensation, including salary, incentives, benefits, and other perquisites for Board of Directors and top management. The Auditing Office is also established under the Board of Directors at NTC and performs the Board's duty of supervision in order to strengthen the management mechanism and review NTC's financial policy. To fulfill CSR, a CSR Committee was established under President Office for quarterly review and compliance with laws, risk management and associated subjects of CSR. And the special assistant is assigned to conduct the improvement and implementation. In addition, NTC believes corporate sustainability and risk management are the most important part of corporate operation, therefore, workplace safety and information security are reviewed and tracked by President periodically.

"Green Products & Environmental Sustainability"

NTC is dedicated to developing consumer and low-power DRAM products with global marketing strategies in order to promote its brand and products globally. NTC continues to build a strong and collaborative relationship with customers and partners through great products and services. In addition, 30nm designed shrink technology was successfully developed by NTC's Research and Development team. Meanwhile, low voltage and low power DRAM products for mobile device were launched as well. The 20nm process technology is scheduled to be launched in 2017, which strengthen NTC's competitiveness in specialty DRAM market.

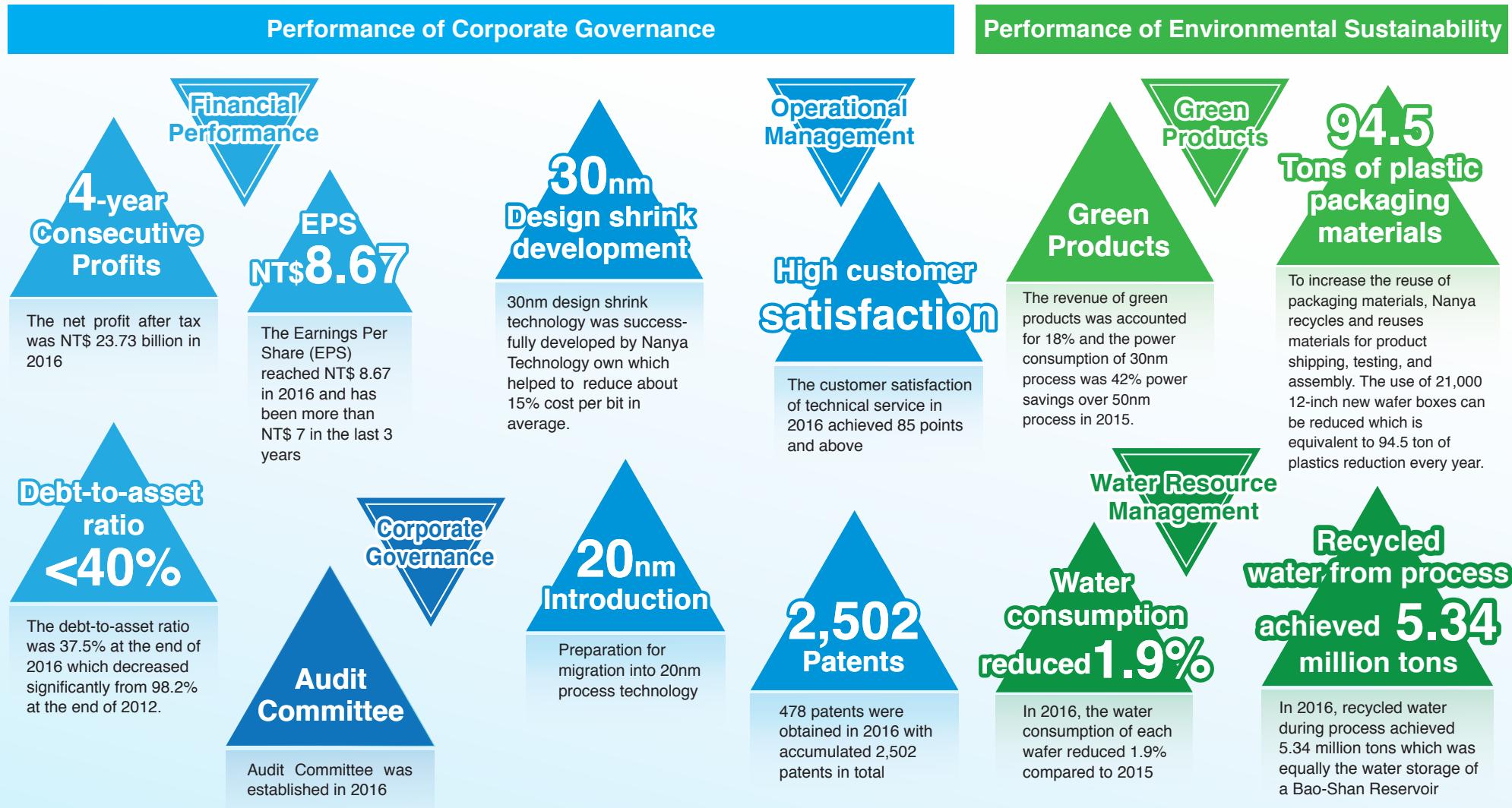
As a global citizen, NTC believes raising public awareness of environmental protection and green consumption is more important while pursuing higher sales revenue and increasing its competitiveness due to economic, political, social, and environmental impacts of resource consumption globally. Therefore, NTC continues to develop Environmental, Safety, and Health (ESH) performance indicators, invest in Energy Saving Program to reduce carbon emissions, promote resources recycling and reusing, and advocate for greenhouse gas reduction. Meanwhile, NTC is devoted to become a green provider and compliance with Electronic Industry Citizenship Coalition (EICC) and commits to implement the Code of Conduct for Environment, Workplace Safety, Health, Human Rights, and Ethics.

To protect the environment, NTC has applied environmental accounting system many years ago. Through the introduction of environment accounting system, the environmental expenditure information of company can be mastered and environmental expenditure performance can be assessed. And the environmental protection of company can be disclosed to stakeholders specifically and accurately.

"Happy Company and Social Contribution"

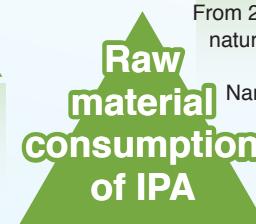
Furthermore, NTC believes employee is a crucial part of growing successful business, so it is committed to create a safe working environment and respectful company culture. The Human Resources provides adequate trainings and practices that support employee development. In terms of social contribution, NTC believes that the smallest act of kindness can bring people closer and make the world better. With the main focus on sustainable environment in Taiwan, NTC makes the best use of limited resources and encourages employees to give back. As a sustainable enterprise, NTC continues to support local art performances and activities, help people in rural areas, and provide care and compassion for underprivileged children.

Performance Highlight in 2016



Performance Highlight in 2016

Performance of Environmental Sustainability



Performance of Social Participation



Short, Medium and Long-term Objectives

NTC formed the CSR Committee under President Office that is led by President of NTC. And the special assistant is assigned to hold the meetings and review and compliance with laws, risk management and associated subjects of CSR.

Dimension	Short Term (1-2 years)	Medium & Long term (over 3 years)
Corporate Governance	<ul style="list-style-type: none"> Increase depth and comprehensiveness of advanced study courses for Board members. Continue to uphold legal compliance. Make sure internal control to remain effective. Maintain the record of no violation of any corruption or discipline. Strengthen risk management mechanism. 	<ul style="list-style-type: none"> Develop the best governing structure and sustain on-going operation of the Company. Continue to operate under established mechanisms to minimize operational risk.
Economy	<ul style="list-style-type: none"> Introduce 20nm process technology, and increase production capacity and yield. Develop green products of next generation with lower power consumption to expand market shares of high-margin products so as to continue business growth and profitability. 	<ul style="list-style-type: none"> Continue the introduction of advanced process technology and increase the percentage of high-margin products to sustain high profitability growth and create the largest value for our stockholders.
Environment	<ul style="list-style-type: none"> Continue the promotion of building new factories and optimization of equipment operation to save energy. Continue promoting classification of disposed drainage to increase recyclable water volume. Reduce greenhouse gases. The reduction rate of discharging PFCs used during process must achieve 90% and above. Compared to 2016, in the wastes management copper effluent electrolytic process system reduced transportation amount for 20 tons/M to be re-used in the shape of copper cakes. Moisture content of organic sludge reduced 100 tons monthly compared to 2016. 	<ul style="list-style-type: none"> Projects of energy saving, water saving, reducing greenhouse gases, reducing discharge of PFCs, and re-use of wastes can achieve the standard of other benchmark companies in this industry.
Society	<ul style="list-style-type: none"> Corporate working environment and employee welfare are improved continually, and employee trainings are enhanced. Social participation was reinforced. On the basis of "Good neighborliness", mountain cleaning activities were conducted for ambient footpaths. Self-evaluation questionnaire system for suppliers was established. Occupational health and safety: Anti-epidemic projects were promoted against emerging epidemic diseases. The target was achieved for zero significant occupational accident, and frequency & severity of employee disabling injury. 	<ul style="list-style-type: none"> Continue the improvement of corporate working environment and employee welfare, and enhance employee training so as to make this company the benchmark company of excellent CSR. Continue to create co-prosperity of company, employee, land and local residents. Continue to reinforce social participation to expand the scope of good neighborliness. And participate in other social welfare activities. Continue to reinforce management of occupational health & safety and maintain the target of zero significant occupational accident, and frequency & severity of employee disabling injury.

Target Achievement in 2016

Dimension	Subject of Significance	Achievements
Economy	Corporate Governance	<p>Anti-corruption</p> <ul style="list-style-type: none"> No violation of any corruption or discipline in 2016.
	Economic performance	<ul style="list-style-type: none"> NTC started its migration into design shrink based on 30nm process technology in 2014, without any additional capital expenditure investment. Through this design shrink, the average cost per bit reduced by 15%. DRAM average selling prices stayed lowed in the 1st half of 2016 and has rebounded since the 2nd half of 2016, the Company, by optimizing its product portfolio and expanding market shares in specialty segments with price premiums, remained to be profitable in 2016. NTC had sold its entire shareholdings in Inotera to Micron in 2016 with which its profitability was furtherly improved. The Company also obtained option rights to license 1x and 1y class DRAM process technology from Micron so as to improve stockholders' interests of NTC. NTC has been profitable for 4 consecutive years. With the rights offering in the early 2016 and financial restructuring, the Company's financial status improved and its debt-to-asset ratio was significantly decreased.
	Compliance with the law and regulation	<ul style="list-style-type: none"> In 2016, there was no occurrence of huge amount penalty resulting from supply & use of products & services against laws & provisions.
	Marketing communication	<ul style="list-style-type: none"> In 2016, there was no sale of forbidden or controversial products. In 2016, there was no incident against marketing legislation (including advertisement, promotion and sponsor) and voluntary codes.
	Product and service indication	<ul style="list-style-type: none"> In 2016, the customer questionnaire of technical service achieved 85 points and above.
	Privacy of customer	<ul style="list-style-type: none"> In 2016, there was no related complaint.
Environment	Effluent and wastes	<ul style="list-style-type: none"> In 2016, the recycle for re-use rate achieved 97.9% which increased 2.9% compared to 2015.

Target Achievement in 2016

Dimension	Subject of Significance	Achievements
Environment	Product and service	<ul style="list-style-type: none"> Wafer cassettes were recycled for re-use on product shipment with a re-use ratio for almost 100%. The preceding approach mitigated the consumption of product packaging materials and generation of wastes to the minimum and can reduce 21,000 pieces of brand-new 12-inch wafer cassettes which equals to reducing consumption of 94.5 tons of plastics.
	Overall situation	<ul style="list-style-type: none"> In 2015, the environmental expenditures were 452 million NT\$. In 2016, the number was 600 million NT \$ which increased 33.5% compared to 2015.
	Compliance with legislation of environmental safety	<ul style="list-style-type: none"> Legislation of environmental safety was reviewed regularly every month. Announcements were made for any additions/modifications which were closely associated with the company (such as special chapter of fire control in clean room).
	Energy	<ul style="list-style-type: none"> In 2016, power consumption increased due to trial run of engineering and equipment of new factory FAB-3A-N. The yearly power consumption increased 27,274 MWh compared to 2015 which was an increment of 6.8%. The yearly unit power consumption increased 0.2 MWh/M², which was an increment of 2.5%. In 2016, natural gas consumption reduced 105,225 M³ in total. Unit consumption of natural gas reduced 3.8 M³/M² wafer area which was a reduction of 8.2%.
	Water	<ul style="list-style-type: none"> In 2016, recycled water consumption of process achieved 5.34 million tons which equals to water storage of a Bao-Shan Reservoir.
Society	Child labor	<ul style="list-style-type: none"> The company did not hire any labors under age of 18.
	Compliance with social legislation	<ul style="list-style-type: none"> Every function of EICC system compliance with legislation and conformed to legal provisions.
	Training and education	<ul style="list-style-type: none"> Online training system : The online system had accomplished on Sep 30 2016. Scheme of employee competency elevation <ul style="list-style-type: none"> ★ Elevating program of functional supervisors(director level/department manager level) : 1 Seminar for each/Y ★ Elevating program of humanism quality 5 seminars/Y ★ Elevating program of language : 4 linguistic seminars/Y and 2 TOEIC courses/exams per year In 2016, NTC held 640 courses in total with training hours for 1,398 hours and 13,726 participants. The total training person-hour was 29,059 hours.

Target Achievement in 2016

Dimension	Subject of Significance	Achievements
Society	Training and education	<ul style="list-style-type: none"> In 2016, there was no significant labor dispute.
	Occupational health and safety	<ul style="list-style-type: none"> Working with government, the epidemic propaganda and prevention of Zika, H1N1 and enterovirus was conducted during the fastigium (in July - Sep). No cluster infection within factory employee.

2017 Objectives and Commitments

Dimension	Subject of Significance	Objective and Commitment
Corporate Governance	Anti-corruption	<ul style="list-style-type: none"> Maintain no violation of any corruption or discipline.
	Anti-trust act	<ul style="list-style-type: none"> Establish Procedure of Antitrust and Competition Law Compliance. Hold physical educational training courses.
Economy	Economic performance	<ul style="list-style-type: none"> Advanced technology of 20nm was introduced in the 1st half of 2017, and would be verified by customers and then put into mass production in the 2nd half of 2017. After the mass production of 20nm technology, the competitiveness of NTC in the specialty DRAM market will be enhanced so as to increase its market share. As a result of a successful transformation, NTC has been profitable for consecutive 4 years since 2013. The DRAM market in 2017 is expected to maintain stable. The Company shall dedicate itself to improve its operational performance and maintain business growth and profitability.
	Customer service and satisfaction	<ul style="list-style-type: none"> The satisfaction with technical service achieved 86 points and above.

2017 Objectives and Commitments

Dimension	Subject of Significance	Objective and Commitment
Economy	Compliance with product legislation	<ul style="list-style-type: none"> Maintain the record of no penalty from against laws and provisions.
Environment	Compliance with environmental legislation	<ul style="list-style-type: none"> Review environmental legislation every month. Propaganda and announcement shall be made for any additions/modifications which are closely associated with NTC.
	Effluent and wastes	<ul style="list-style-type: none"> Effluent disposal proceeds with classification according to various effluent properties and legal standards shall be conformed to. Reduction of wastes: Drying equipment for organic sludge shall be supplemented to reduce water content rate of sludge (84%→ 60%) and wasted sludge output shall be mitigated. Nearby disposal of wastes is priority to mitigate long-distance transportation and transnational export disposal. Audite the contractor aperiodically to make sure the waste disposal is followed the law and all wastes are duly handled or re-used.
	Global climate change	<ul style="list-style-type: none"> For PFCs gases, the treatment efficiency of local scrubbers must achieve 90% and above to mitigate the emissions. Accomplish CDP questionnaire by end of July. Verify the emission volume in 2016 and accomplish for declaration by end of August.
Society	Labor/Management relations	<ul style="list-style-type: none"> Maintain the record of zero labor dispute.
	Compliance with labor legislation	<ul style="list-style-type: none"> Periodically inquire modified legislation every season.
	Occupational health and safety	<ul style="list-style-type: none"> Significant occupational disaster case= 0. Frequency and severity of staff's disabled injury=0. Cases of safety and hygiene management projects elevated for 5%. Prevention and health seminars against occupational disease for 5 times. Promoting epidemic prevention against emerging epidemic diseases.

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2016 Corporate Social Responsibility Report

Stakeholders Engagement



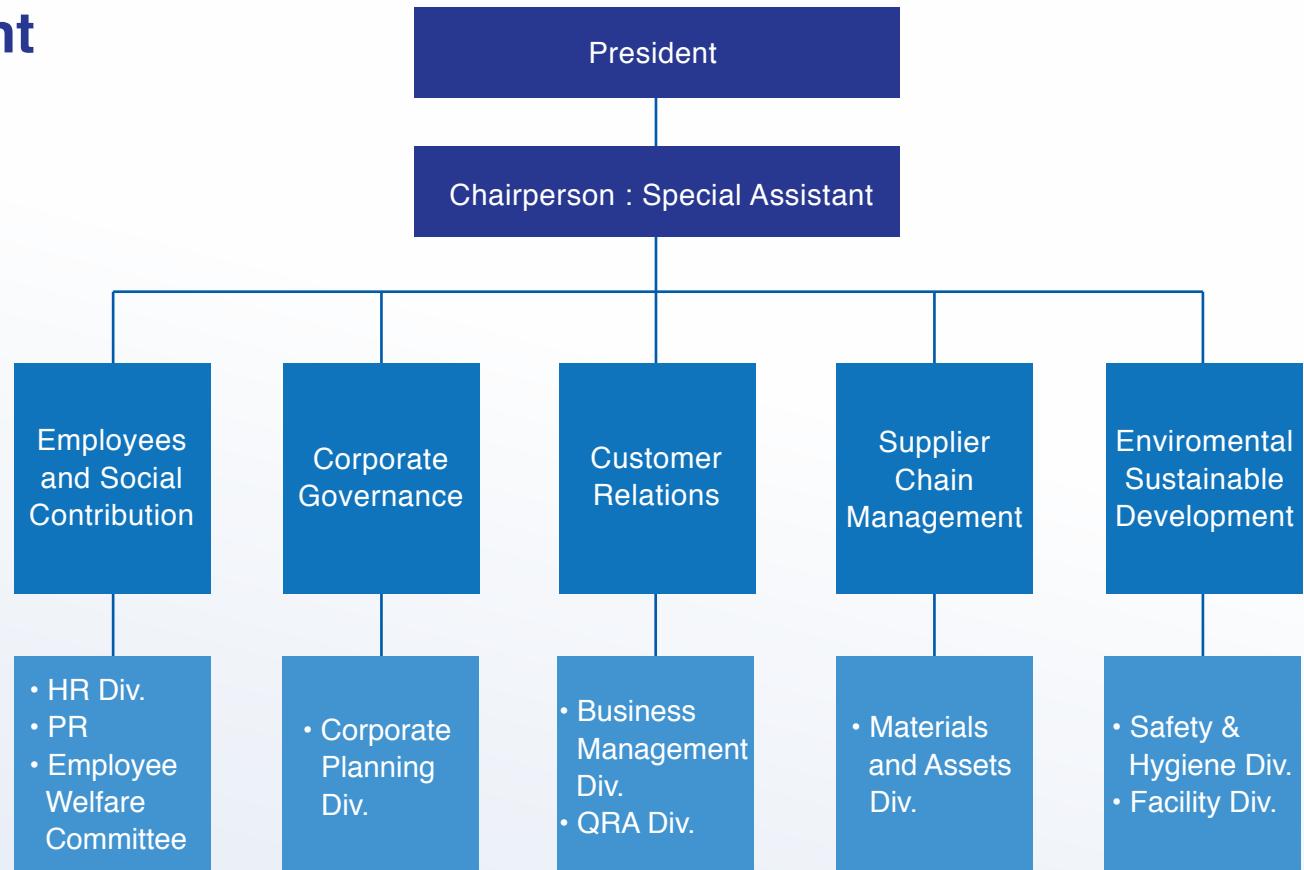
Stakeholders Engagement

Stakeholders Engagement

As a member of the global citizen, Nanya Technology Corporation (NTC) realizes that it is very important to be responsible for protecting our environment and bringing the safe working-life environment to employees and the community. To create a friendly environment, NTC makes a lot of efforts to enhance the relations with stakeholders, including our supply chain, shareholders, customers, and employees. NTC hopes to form an alliance with the external partners as well as internal employees to create a better world.

Therefore, NTC establishes the Corporate Social Responsibility (CSR) Committee for strategies implement. The members of CSR Committee are gathered from different departments and take different responsibilities, such as investor relations, public relations, employee relations, and environment security and quality control regarding any issues of investors, shareholders, employees, customers, suppliers, government, and the community.

To integrate and promote the efforts, NTC formed the Corporate Social Responsibility Committee which is led by the President of NTC, Pei-Ing Lee. The CSR Committee also assigns Nelson Chien who is the Special Assistant at NTC for strategies implementation and supervision. The organizational chart is shown as below.



CSR Committee

Corporate Planning is responsible for the content of Corporate Governance.

ESH is responsible for the content of Environmental Sustainability.

HR is responsible for the content of Our People and Social Contribution.

Materials & Assets are responsible for the content of Supply and Contractor Management.

QRA & Business Management are responsible for the content of Customer Relations.

PR is responsible for proofreading and editing.

Identification of Stakeholders

NTC evaluates all business activities which are related to stakeholders based on company policy.

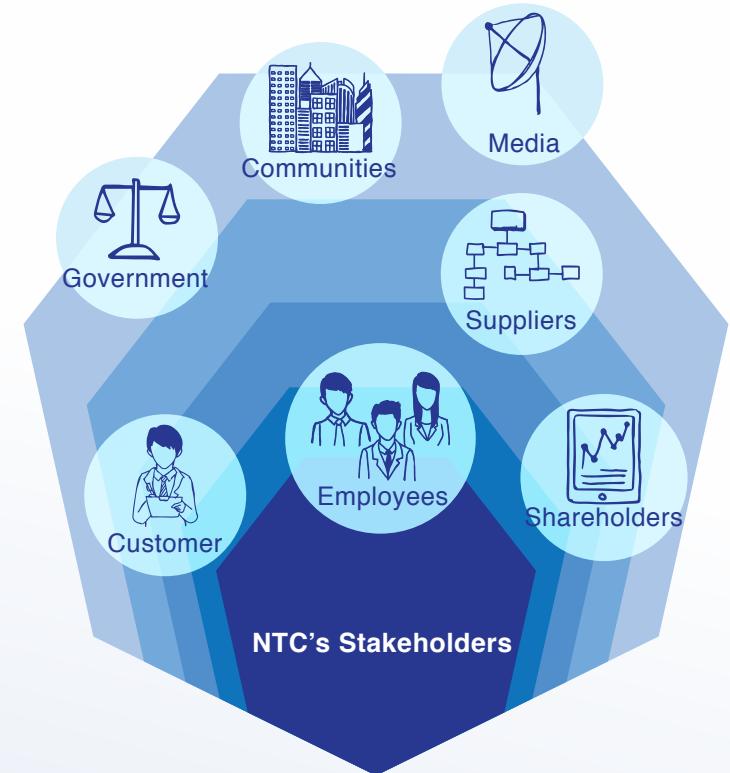
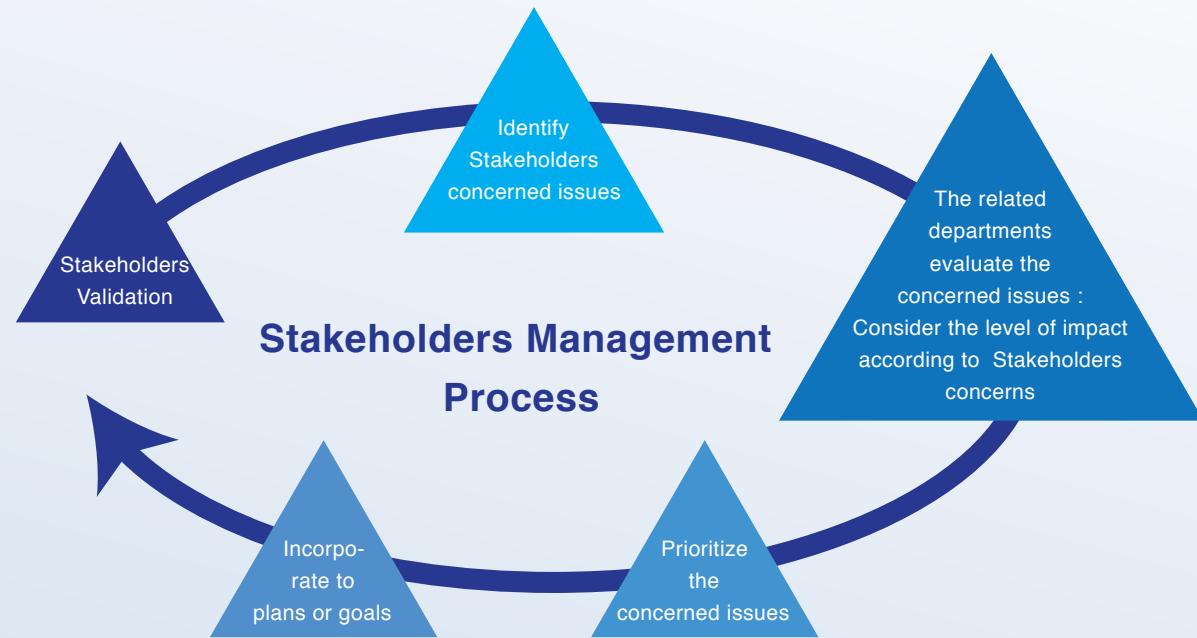
According to the evaluation, there are seven main stakeholders of NTC identified, shareholders, customers, employees, suppliers, government, communities, and media partners.

Issues Analysis

With identification of stakeholders, NTC communicates with stakeholders through multiple channels to understand their needs and answer their concerns. By following the guidelines of GRI G4, NTC concludes 38 topics which are included economic, social, and environmental concerns for stakeholders.

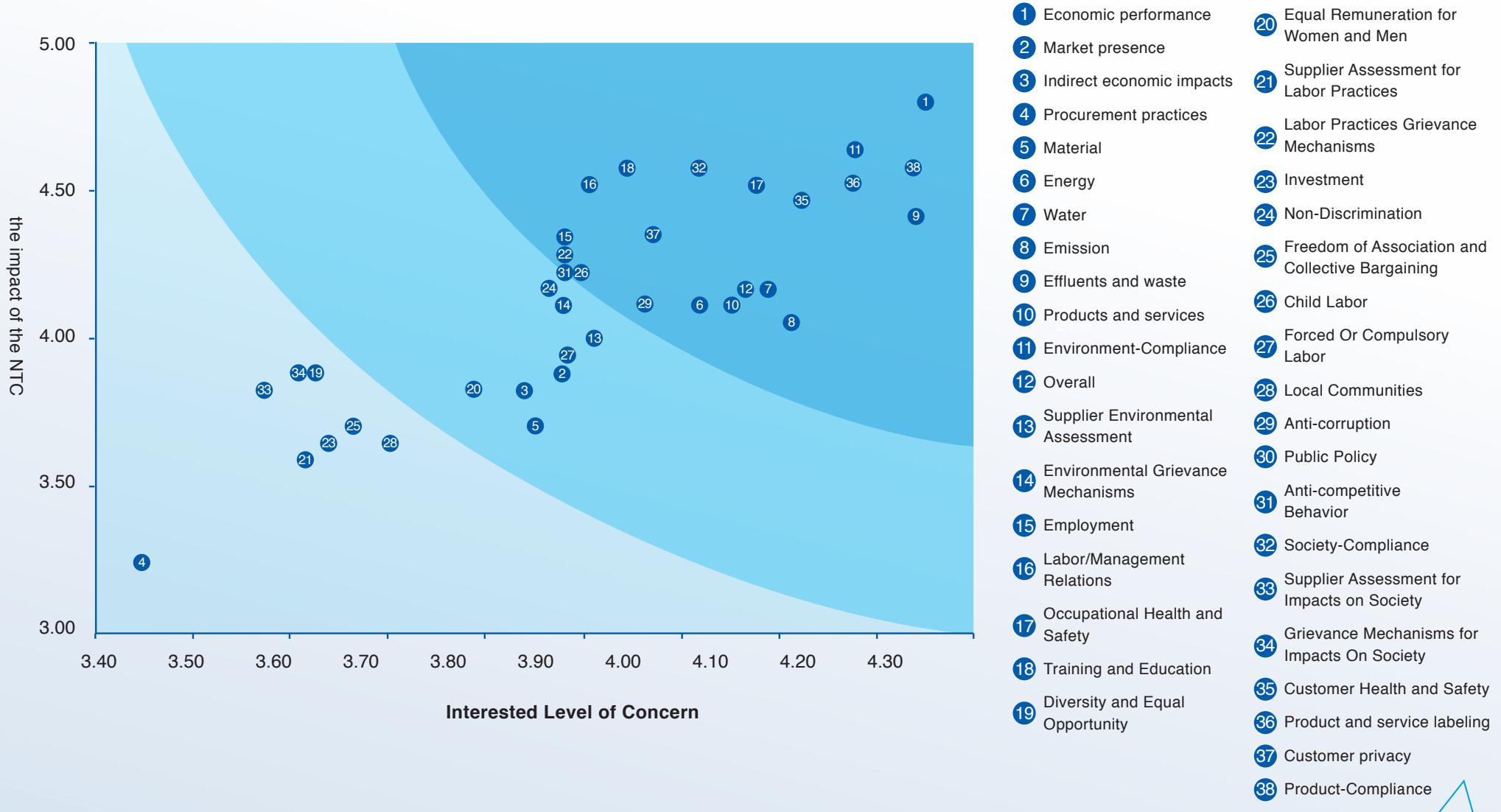
Strategic Planning

NTC creates a strategic plan based on what stakeholders concern, and then applies it to all business activities in order to achieve the goal of corporate sustainable development.



Results of Analysis

At last, NTC continues to analyze the issues stakeholders concerns and identifies 17 topics which have larger impacts on the company. Among other concerned issues with smaller impacts, NTC chooses 16 topics to present simultaneously.



Material Topics Significance for NTC

Dimension	Material Aspects	Significance for NTC	Chapter
Corporate Governance	Anti-corruption	Main purpose is to maintain corporate interests and protect shareholders' equity.	2.2.3
Economic	Economic Performance ▶ Product Responsibility-Compliance ▶ Marketing Communications ▶ Product And Service Labeling ▶ Compliance	<p>1. Economic performance is of significant importance for shareholders of NTC. In order to explore more growth potential of DRAM products, enhance profitability and long-term competitiveness, and stabilize dividend policy, NTC continues to not only introduce advanced process technology and focus on specialty and customized market segment with high-margin products but also optimize the product portfolio and meet application trend of DRAM products to increase operational performance and create the Company's value.</p> <p>2. Our goal is to be a leader in the DRAM industry with our service and attitude, thus helping us to strengthen current customer relations and to attract potential customers.</p>	4.3 / 4.1.3 / 3.5.3
Environment	Environment-Compliance ▶ Effluents and Waste ▶ Occupational Health and Safety ▶ Products and Services ▶ Overall ▶ Water ▶ Energy	Besides the compliance with legal requirements, we also look highly upon environment and ecology. Resources are used effectively to mitigate the impact on environment. These are basic items to be followed for the consolidation of environmental protection. Water and electricity are the foundation of production. Stable quality of water and power supplies can ensure productive performance. Simultaneously measures of water & power saving are taken to mitigate losses of environmental resources to ensure sustainable development.	4.1.1 / 5.5.1 / 4.1.3 / 4.1.4 / 4.1.2
Society	Child Labor ▶ Society-Compliance ▶ Training and Education ▶ Labor/Management Relations	Talent is the key of corporate competitiveness. To strive for brilliant talents, we look highly upon talents. Salary and welfare continue to be improved. Talent cultivation is conducted with plans. Positive communication between labor and management team is encouraged. A working environment is created to be suitable for talent development.	5.1.2 / 2.1.5 / 5.3.5 / 5.3.2

Scope, Aspects, and Boundaries

Economic				
Boundary/G4 Aspect	Internal			
	NTC	Customer	Supplier	Community
Economic Performance	●			
Market Presence	○			
Procurement Practices	○		○	

Environment				
Boundary/G4 Aspect	Internal			
	NTC	Customer	Supplier	Community
Material	○			
Energy	●			
Water	●			
Emission	○			
Effluents and Waste	●		○	
Products and Services	●			
Compliance	●		○	
Overall	●			
Supplier Environmental Assessment	○		○	
Environmental Grievance Mechanisms	○			

Product Responsibility				
Boundary/G4 Aspect	Internal			
	NTC	Customer	Supplier	Community
Customer Health and Safety	●			
Product and Service Labeling	●			
Customer Privacy	●		○	
Compliance	●			

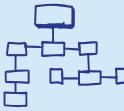
Society				
Boundary/G4 Aspect	Internal			
	NTC	Customer	Supplier	Community
Employment	○			
Labor/Management Relations	●			
Occupational Health and Safety	●			○
Training and Education	●			
Diversity and Equal Opportunity	○			
Equal Remuneration for Women and Men	○			
Supplier Assessment for Labor Practices	○			○
Labor Practices Grievance Mechanisms	○			
Investment	○			
Forced or Compulsory Labor	○			
Child Labor	●			
Local Communities	○			○
Anti-corruption	●			
Compliance	●			
Supplier Assessment for Impacts on Society	○			○
Grievance Mechanisms for Impact on Society	○			

● Significant & to be disclosed at this time ○ Chosen to be disclosed at this time ○ Planned to be disclosed within 3 years

Communication Channels

There are different levels of interaction between NTC and stakeholders and to create win-win relationships by using company's resource efficiently. In order to maintain a good communication with stakeholders, stakeholders could contact the company by phone, letter, fax, or e-mail if necessary. Moreover, a CSR mailbox is set up on NTC website with a dedicated employee who can transfer request to the related departments, so the questions and concerns can be answered immediately. The list of communication channels and results are showed in table below.

Stakeholders	Importance for NTC	Aspect	Communication Channels	Communication Frequency	Communication Achievements	Chapter
 Employees	Employee is the most important asset of company, and is the foundation to reinforce competitiveness. Through comprehensive educational training and friendly working environment, cohesion of employee can be created to keep brilliant talents for the sustainability of corporate development.	Economic performance、Employment、Labor/Management Relations、Training and Education	1. The announcement of the Company 2. HR representatives 3. Regular meeting such as dinning with GM (once every two weeks/the all hands meeting (to be convened quarterly)/TA quarterly meeting of production division(to be convened quarterly)/Various educational training 4. Informal meetings 5. Various communication channels, employee opinion mailbox provided by E.R. dept. and medical support provided by Health Center 6. Internal publications and web suggestion field and questionnaire investigation(ex. Customer survey for Employee training and Dinning....)	Except for the quarterly meeting of operators of production division, others shall be held depending on the needs.	A diversified, smooth and transparent communicating channel is provided among supervisors, colleagues, employee, and peers. Through the carefully organized communicating channels such as all hands meeting, lunch meeting, and employee opinion mailbox...etc., employee's voice can be listened in order to timely deal with reflected issues from colleague to achieve the facilitation of industrial harmony. And co-create the win-win objective between the Company and employee.	3.4/5.3.2/ 5.3.5/5.1.2
 Shareholders	Shareholders, one group of NTC's important stakeholders, monitor operational performance of NTC to create stockholders' values. Thus, they are important drivers for the Company to explore more growth potential.	Economic performance、Material、Water、Emission、Effluents and waste、Customer Health and Safety	The spokesperson consolidates the key message to investors and shareholders. 1. Shareholders (1) Annual general shareholder meeting (2) Quarterly IR Conference (3) Annual financial report release (distributed at annual shareholder meeting) (4) Email and telephone services 2. Institutional Investors (1) Quarterly IR conference for local and global investors (2) Participation in seminars held by investment institutions. (3) Participation in investor forums	1. MOPS - 2016 updated information : 400 items and above. 2. Corporate stockholders' meeting - to be held at least once per year.	The spokesperson, IR is the key liaison between the Company and shareholders. Shareholders can understand the Company's strategic plans and newest information through various channels and their questions can also be answered immediately by IR. Most importantly, the feedbacks and comments of shareholders are the reference resources for Nanya Technology.	3.4/4.1.3/ 4.1.2/4.2.2/4.1. 1/4.3
 Customer	NTC dedicates itself in providing a stable product supply and service quality, and has built up close strategic partnership with customers. Simultaneously through diversified channels, customers' expectations for NTC can be awared in order to make products and services more in line with customer demand.	Environment-Compliance、Child Labor、Society-Compliance、Customer Health and Safety、Product and service labeling、Product Responsibility-Compliance	1. After sales service (by customer request) 2. Meeting with customer/distributor (monthly/bi-monthly) 3. Regular technical support (monthly to quarterly) 4. Customer satisfactory survey(half yearly) 5. Customer training course (by customer request)	1. By customer request 2. once per 1-2 months/per customer 3. once per 1-3 months/per customer 4. once per 6 months 5. By customer request	Through frequent customer contact and visits to understand customers' comments for products and services of NTC to benefit the company for grasping customer demands and furtherly make improvement and elevate customer satisfaction.	4.1.1/5.1.2/2.1. 5/4.1.3/4.3/3.5. 3/ 2.1.5

Stakeholders	Importance for NTC	Aspect	Communication Channels	Communication Frequency	Communication Achievements	Chapter
 Suppliers	Working and supporting closely with cooperative partners are one of the key factors of NTC's sustainable development.	Economic performance、Effluents and waste、Occupational Health and Safety、Non-Discrimination、Child Labor、Customer privacy	1. Information platforms 2. Periodic meetings and reviews 3. Satisfaction survey and audit 4. Supplier evaluation	Except for periodic auditing to be conducted in every Jan/Apr/Jul/Oct, other matters shall be communicated aperiodically depending on needs.	Nanya Technology's purchasing procedure uses Formosa Plastic Group's E-Commerce as a trading platform between suppliers to offer quotation inquiry, price negotiation, order confirmation and delivery.	3.4/4.1.1/5.5.1 /5.1.2/3.5.3
 Government	Communication with government is conducted aperiodically to formulate various internal regulations to conform to the latest legal requirements of government. The compliance with legislation can be more specific, and the performing efficiency of legal compliance can be elevated.	Environment-Compliance	1. Official documents 2. Legislation seminar 3. Financial Report 4. We would supply related reports or replies by the request and provision from local authority 5. Communication with authorities through industrial park association and computer association	According to the requirements of each regulatory body, the frequency of reporting to be provided is about once per month.	1. The communications with local authorities were by telephone inquiry, in addition, all important application cases would deal with official document, like the application of environmental permits. 2. We participate actively the environmental conferences from local authorities, 13 conferences involved in 2016. 3. All request from local authority would make efforts to complete, for example, a operational plane layout for toxic substance billboard on site was appended.	4.1.1
 Communities	The company looks highly upon productive activities in factory sites to be blended with the development of communities.	Emission、Effluents and waste、Environment-Compliance、Overall	1. Announcements public on FPG webs to Communities interests party 2. Charity club and Volunteer worker club related activities 3. Initial employee charity donations if domestic natural disease 4. An external mailbox (audit@ntc.com.tw) to serve as the most basic channel for communications 5. A management section on site to handle the communication issues with communities	About once per month.	For the development cases on factory, environmental monitoring results of last season(including air quality, noise, vibration, surface water and underground water's quality, traffic and ecology, etc.) would send to the office of Da-Ko Li, Tai-San district for looking over by the people in each season.	4.2.2/4.1.1/4.1.4
 Media	NTC looks highly upon the relationship with media partners. Through their public characters, corporate business philosophy and important information can be conveyed.	Economic performance、Environment-Compliance、Labor/Management Relations、Effluents and waste、Society-Compliance、Product Responsibility-Compliance	Spokesperson, IR, and PR are the main liaison between the Company and media partners regarding press conference and press release distribution.	About once per month.	Through press conference and press release distribution, media partners can understand the Company's operating situation, financial status, and future plan.	3.4/4.1.1/5.3.2/4.1.1/2.1.5



ECO-FRIENDLY DRAM PROVIDER

2016 Corporate Social Responsibility Report

Corporate Governance

-
- 2.1 The Overview of Corporate Governance**
 - 2.2 Internal Control**
 - 2.3 Investor Relations**
 - 2.4 Risk Management**
 - 2.5 External Association**
 - 2.6 Awards of CSR**



Corporate governance

Short-term objectives (1-2 years)

- Increase depth and comprehensiveness of advanced study courses for Board members.
- Continue to uphold legal compliance.
- Make sure internal control to remain effective.
- Maintain the record of no violation of any corruption or discipline.
- Strengthen risk management mechanism.

Medium & long-term objectives (3 years and above)

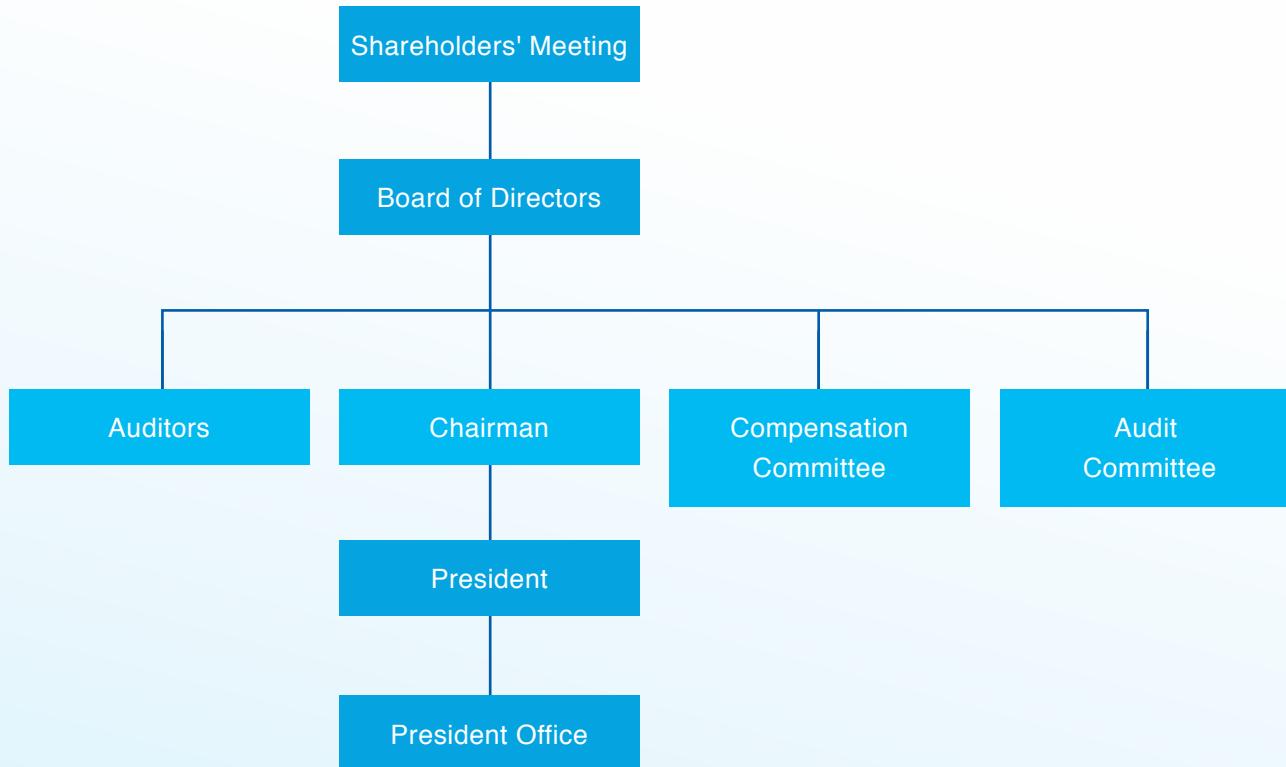
Develop the best governing structure and sustain on-going operation of the Company. Continue to operate under established mechanisms to minimize operational risk.

2.1 The Overview of Corporate Governance

Formosa Plastics Group continues to adhere to the founder's beliefs to care for all shareholders' interests. Nanya Technology Corporation (NTC), a member of Formosa Plastics Group, believes that a strict and effective corporate governance mechanism is the only way to ensure legal compliance, financial transparency, and business performance improvement. NTC was ranked top 20% by the 2nd (2015) and 3rd (2016) governance evaluations of public listed companies which were conducted by the Securities and Futures Institute (SFI) which, in turn, was jointly entrusted by the Taiwan Stock Exchange (TWSE) and the Taipei Exchange (TPEx).



2.1.1 Governance Structure



2.1.2 Board of Directors

NTC's Board of Directors exercises its authority pursuant to the laws, articles of incorporation, and the resolutions of shareholders' meeting. The members of Board of Directors have not only the professional knowledge and skills but also the intention to create the great returns for our shareholders with integrity. The Board of Directors consists of 12 members with tenure of 3 years. Members include 3 independent directors and 2 female directors. 3 of directors are at the age of 50~59 and the others are at the age of 60 or older. Regarding the constitution of Board of Directors, primary career (academic) experiences, and additional posts in other companies, please refer to P.8 of 2016 Annual Report on website of NTC <https://goo.gl/PB9Hy1>. NTC has established "The Codes of Ethics of Directors and Managers" to demand officers to execute their duties with morality and not to compromise corporate and shareholders' interests.

The Board's primary duty is to provide guidelines and supervise information transparency, compliance with relevant laws and regulations, executives' appointment, profit allocation, operation management. To reinforce the structure of the Board of Directors and corporate governance, not only female directors but also independent directors were elected to participate in the operation of the Board of Directors. The "Rules for Election of Directors of NTC" stipulated at least one of independent directors shall be specialized in accounting or finance. The Company also stipulated "Rules of Duties and Scopes of NTC's Independent Directors" to establish favorable corporate governance and independent director system and enable independent directors' function towards the Board of Directors and corporate operation. Functional Committees under the Board of Directors were set up such as Compensation Committee and Audit Committee to reinforce the operation of the Board of Directors. There were 6 meetings of the Board of Directors held in 2016 with an average attendance rate of 89%.

For the purpose of elevating professional expertise and legal knowledge of the directors to conduct effective supervision and guidance on the Company's operation, advanced study courses are arranged every year for directors to attend so as to enhance the depth and comprehensiveness of their professional function and legal knowledge.

2.1.3 Audit Committee

In order to reinforce the supervising function of the Board of Directors, the Company in June 2016 set up the Audit Committee which composed of 3 independent directors. At least a meeting shall be held quarterly. The Committee members, based on the principles of honesty, integrity, and independence, are to supervise business execution and financial status, approve finan-

cial statements of the Company, assist the Board of Directors to carry out its supervision function, and to be responsible for the assignments pursuant to the Company Act, Securities and Exchange Act, and other relevant laws and regulations. There were 3 Audit Committee meetings held in 2016 with an attendance rate of 100%.

2.1.4 Compensation Committee and Executive Compensation

NTC has set up its Compensation Committee which composed of 3 independent directors and held Compensation Committee meetings at least twice a year. The Committee reviews the compensation of the directors and managerial officers. The compensation package for managerial officers includes salary adjustments, bonuses, or other compensation based on the Company's annual operating performance, personal comprehensive contributions, and personal performance. Proposals are prepared by the Human Resource department and reported to the Compensation Committee. The Committee reviews the proposals and submits them to the Board of Directors for approval. The purpose of this review process is to prevent high-level managers from obtaining huge rewards when the company suffers significant losses. (For the information of high-level managers' compensation, please refer to P.16 of 2016 Annual Report on NTC's website <https://goo.gl/PB9Hy1>). The operational situations of Compensation Committee were 2 meetings in 2016 with an attendance rate of 100%.

2.1.5 Compliance with NTC Regulation

NTC has stipulated "The Codes of Ethics of Directors and Managers" to regulate officers' morality and behaviors when they execute operating activities and to prevent immoral behaviors and activities that could

damage and harm NTC's reputation and shareholders' interests. Moreover, the Company has developed a control system for procurement procedure through the Internet platform. The platform not only increases the operation efficiency but also ensures the procurement procedure is reliable in order to create a win-win situation for the Company and suppliers. NTC also has a complete audit system for financial transparency and legal compliance, and all audit reports must be submitted to the Board of Directors. The administrative office which is joint-established by the members of Formosa Plastics Group takes the responsibility as an independent auditor. The organization not only makes the audit process more professional and efficient but also supervises all employees as an impartial auditor. The unique design allows the organization to increase the accuracy of supervision.

NTC advocates the belief of honesty, trust, and legal compliance. From business management to strategic planning, NTC devotes to complying with the domestic and international laws, orders, and policies. NTC acknowledged it's very important to conform to antitrust laws. For employees to abide by antitrust laws, NTC has established "Antitrust and Competition Law Compliance Manual" to stipulate associated employees not to talk to competitors any related items which may violate antitrust laws.

The Company holds regular training courses and requests associated employees to sign the compliance hand book. All employees, including management levels and members of the Board, shall strictly conform to all laws and regulations. The Company strives for all business activities and sales strategies compliant with regulations, normal business practices, and social ethics. Therefore, NTC has not received any critical penalty for violating the corporate laws. At last, NTC has consistently stayed away in any political activities in order to remain politically neutral.

Compliance with law of environmental safety and hygiene

Related legislation of environmental protection, safety & hygiene, fire control are complied with. And it is the basic working protocol of NTC. We adopted following strict methods to abide by laws and orders:

1. NTC obtained ISO 14001/OHSAS 18001, the certification of environmental safety & hygiene management system. Each division shall follow the requirements of management system. Every year, term wise verification shall proceed on related legislation of environmental safety & hygiene to confirm the conformity with legislation. Any nonconformity shall be registered and listed in management correction project for improvement. Besides, through periodical internal auditing activities, inspection records, on-site indication, and hardware facilities of every division are reviewed to ensure the conformity with legislation.
2. Every month the safety & hygiene division will enter governmental website to review additional/supplemental legislation of environmental safety & hygiene. Before the monthly meeting for announcement, any updated items to be abided by factory sites shall be listed as project for requesting related division to improve.
3. The General Administration of NTC already developed computer software program to remind and control operators of regular declaration on legal requirements.
4. Regarding personnel training, no matter newcomers or employees, regulated training contents & hours requested by law are carried out for educational trainings.
5. In 2016, good tradition was maintained. In the field of environmental safety & hygiene, there was no record of governmental penalty or sanction due to environmental affairs (such as lockout or international trading sanctions...etc.).

Personal Information Protection Principle

On Aug 15 2012, NTC established "Personal Data Inventory and Risk Assessment Rule" to check company-related personal information and risk assessment in order to identify the potential risks to be encountered during acts of collection, processing, and utilization of owned personal information by the company. By criterion of risk levels, levels of risk are determined. And various corrective measures are taken in order. For related personal information of employees and customers, query is limited to authorized users and purposes of query are strictly restricted. Because NTC was serious about the protection of personal information and execution was effectively, there was no violation against protocol in 2016.

2.2 Internal Control

2.2.1 Internal Control System

According to Regulations Governing Establishment of Internal Control Systems by Public Companies, NTC has considered the operation of the company and its subsidiaries, complied with the industry law and regulations, and established an effective internal control system. The system is reviewed from time to time in order to adapt to any internal or external environmental changes and ensure the continual effectiveness of the design and operation of the system.

The implementation of the internal control system is a continuous operation. Through constant examination of the operation and management, problems such as operation deviating from the company's policy, operating procedures, the stated objectives or expected standards are detected, and will be reported to the corresponding management level via the feedback system. The proper measures are taken to tackle the problems in order to ensure that the operation of the company is performed as planned. Also, internal balances and checks are kept to prevent errors and frauds from happening.

2.2.2 Internal Auditing

NTC has established the internal auditing unit under the Board of Directors, and appointed qualified full-time internal auditors. The internal auditors are required to attend internal audit training held by professional institutions annually to improve their competence constantly.

The internal audit scope includes:

- ◆ Review the reliability and integrity of financial and operational information.
- ◆ Review the current systems to ensure its compliance with policies, plans, procedures, contracts and laws.
- ◆ Review the means to protect the assets.
- ◆ Assess the efficiency and effectiveness of the use of resources.
- ◆ Review the operation or project programs to evaluate the consistency between the stated objectives and the result.

Apart from filing the report on the deficiency of internal control or abnormal facts observed, internal auditors shall file the case and keep track of it to ensure the proper improvement has been made by the corresponding unit. Also, the auditing report should be delivered to each independent board member by the end of the following month after the completion of the report. Not only does the independent auditing department have the responsibility for internal auditing, but each department should also conduct self-assessments for particular auditing items in the prescribed cycle. Based on the results of the self-assessments of each department, the independent audit department checks each department regularly or irregularly to ensure the effectiveness of the internal control system within each department.

2.2.3 Anti-Corruption

All employees of NTC must follow the company's Personnel Management Regulations. If anyone is proved to engage in corruption, divert public funds, or accept any bribes or commissions, the violator will be dismissed from the position with no excuse, and the supervisor of the violator will receive corresponding

punishment depending on the circumstances. To prevent any violations or abuses, the regular rotation of the staff who serves as operating, procurement, logistics, construction supervision and budget planning is carried out. Also, the anti-corruption materials are edited and promoted among all employees. NTC hopes that every employee follows the Code of Ethics whether at work or in their life in order to live up to Formosa Plastics Group's enterprise culture, "Diligence, Perseverance, Frugality and Trustworthiness". There was no case of corruption in 2016.

2.2.4 Code of Conduct

Besides the "Principle of Ethical Act for Directors and Managers" stipulated by Board of Directors, NTC referred to Electronic Industry Code of Conduct (EICC) and additionally published labor and ethics management handbook and related stipulations for labor as the basis of business standard of acts of the entire employee (managers included) to be honest, devoting to work, and conforming to ethics. In order to consolidate the criterion, newcomers must participate in EICC criterion since joining the company to get to know the importance of criterion and the responsibility for an employee to consolidate the criterion. Employee must not engage in any acts of offering (or taking) bribery or participating in insider trading which violate ethics and compromise corporate image. For any confirmed involvement in significant or corruptive violations against discipline (such as employee takes bribery from duty), and the certain employee must be removed from post immediately. For any severity of compromising corporate interests significantly, legal actions will be taken for violator's liability.

In order to keep elevating company working environment, every year the company keeps improving through setting ethical objectives of employees. In 2016, 3 objectives of "Zero corruption", "Zero sexual harassment", and promotion of "Ethical education trainings" achieved expected targets. Only one objective "Management of duration of stay in company" failed to achieve target. Although it was lower than target value, employee's duration of stay in company

significantly reduced. Besides work, employee can also maintain life quality and maintain the equivalence physically & mentally. In 2016, every important element of labor and ethic management all conformed to the provisions on V5.1 of Electronic Industry Code of Conduct (EICC). Internal trainings and communicating propaganda were smoothly facilitated, and the overall hazardous risks of employee's ethic management system were small.

2.2.5 Grievance Channels

NTC has established standardized Employees Reporting Procedures for employees to file complaints and report any illegal or immoral behaviors. For example, when an employee notices any illegal behaviors which could damage the rights or benefits of any individuals or company, or when one finds an employee attempts to take advantage of his/her position to pursue unjust enrichment, he/she can file the complaint form anytime. It will then be reported to the reported personnel's supervisor. In addition, NTC has enacted the Reporting Procedure in 2016, launched the reporting hotline (02-29061001) and e-mail (audit@ntc.com.tw) on the company's official website, and assigned designated person in charge of the related affairs for interest parties to file a complaint if anyone's interests is violated.

Reported Cases

Means of reporting	2015	2016
Letters	0	3
Complaint forms	1	1
Hotlines and e-mail	0	0
Total	1	4
Established cases after investigation	1	1
Concluded cases	1	1

The established case in 2016 resulted from the operational defect by personnel rather than corruption.

2.3 Investor Relations

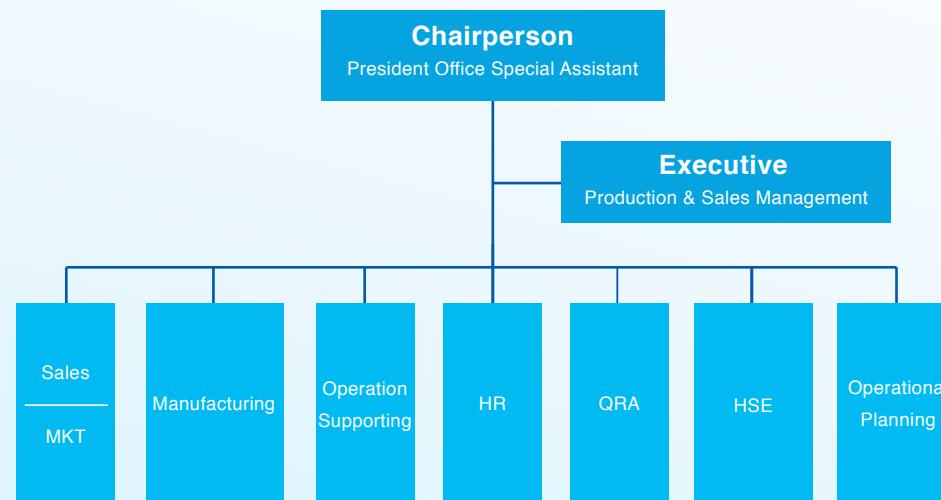
NTC holds quarterly investor conferences as well as conference calls to announce the latest financial results and business outlook, such as the company's roadmap. NTC also discloses the financial figures and significant filings for regulatory authorities on the corporate website and MOPS. All these efforts are focused on providing investors with accurate, timely, and transparent information about our finance and operation. Besides, spokesperson is appointed to accept and answer any suggestions and questions from investors. All members of President Office are able to support as well in order to serve our investors better and maintain a good relationship with them.

NTC Official Website | www.nanya.com

Investor Relations | NTCIR@ntc.com.tw

2.4 Risk Management

As global operation risk rises, NTC forms Risk Management Committee based on sales/marketing, manufacturing, operation, HR, QRA, Environment/SafetyHealth, and Corporate Planning functions. The organizational chart and responsibilities for each described as below.



Each function assesses risk on monthly basis and reports the results to related managers.

The Table of Risk Assessment

Department:

Item	Management Flow	Critical Flow	Critical Item		Impact scenario	Impact Description	Maximum Tolerance Period of Disruption	Recovery Time Objective	Severity	Frequency	Risk Index	Current Control Measures	Monthly Early Warning Index	Emergency Response Plan	Recovery Plan	Target Date of Prevention & Correction Measures
			Item	Description												
1			Material		Earthquake											
			Parts		Fire											
			Equipment		Flood											
			Process/ Technique		Water & Power shortage											
			System/Data/ Information		Material& manpower shortage											
			Man		Quality											
2			Material		Earthquake											
			Parts		Fire											
			Equipment		Flood											
			Process/ Technique		Water & Power shortage											
			System/Data/ Information		Material & manpower shortage											
			Man		Quality											

When emergency occurs, the risk assessment will be carried out by functions and countermeasures will be decided based on the scale of impact. The processing results will be reported to Risk Management Committee. Moreover, the Committee will hold emergency response meeting and report to top management if it's necessary.

The Risk Management Committee holds meetings quarterly to review each function's risk management results and contingency plan to ensure the applicability, relevance, and effectiveness. The flow of business risk assessment and business continuity plan:



The other risk management issues as below :

1. Workplace Safety: Do the safety assessment periodically to make sure no accident happen.
2. Information Security: President Office Special Assistant holds the Information Security Committee that prevents information leak.
3. Regulatory Compliance: All department must audit regulations periodically and compliance with the laws.
4. Our employees are required to take the Anti-Trust training, and be audited periodically once they are authorized to access the confidential information.

2.5 External Association

NTC proactively increases communication channels with other alliance partners by attending seminars and joining major industrial associations.

- World Semiconductor Trade Statistics (WSTS)
- Taiwan Semiconductor Industry Association (TSIA) as a council member
- Taiwan IC Industry and Academia Research Alliance (TIARA)

2.6 Awards of CSR

Taiwan Stock Exchange Corporation

- Awarded top 20% in the 2nd & 3rd "Corporate Governance Evaluation"
- Be the constituent stock of "Taiwan Top Salary 100 Index"

Taiwan Top 20000 Survey by CommonWealth Magazine

- Awarded 76th place

Workforce Development Agency, Ministry of Labor

- Awarded TTQS Silver Medal certification

Client Award

- Awarded 2015 Best Partner from Gigabyte
- Awarded 2015 Sustainable Corporation from Gigabyte
- Awarded 2015 Best in Class Vendor from SanDisk



ECO-FRIENDLY DRAM PROVIDER

2016 Corporate Social Responsibility Report

Co-creation of Economic Growth

3.1 Company Profile

**3.2 Future Outlooks and
Challenges**

**3.3 Products Research and
Development**

3.4 Operating Performance

3.5 Customer Relations

3.6 Supply Chain Management



Economy Aspect	
Short-term objective (1-2 years)	Medium and long-term objective (3 years and above)
Introduce 20nm process technology, and increase production capacity and yield. Develop green products of next generation with lower power consumption to expand market shares of high-margin products so as to continue business growth and profitability.	Continue the introduction of advanced process technology and increase the percentage of high-margin products to sustain high profitability growth and create the largest value for our stockholders.

3.1 Company Profile

NTC dedicates itself in research and development (R&D), design, manufacturing, and sales of DRAM. Overseas marketing sites were established in USA, Europe, Japan, and China. The key stockholder is Nan Ya Plastics Corporation, a company of Formosa Plastics Group (For major stockholders' information, please refer to P.50 of 2016 Annual Report on NTC website <https://goo.gl/PB9Hy1>). The Company's production base is located at Nanlin Technology Park in Taishan District, New Taipei City. At present, the monthly capacity of the 12-inch FAB is 60,000 wafer starts and is scheduled to ramp up to 68,000 wafer starts in the 1st half of 2018. NTC has focused on R&D and establishment of Intellectual properties, and owns a strong R&D team.

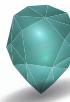
NTC continuously enhances product lineup and focuses on specialty market segments, including consumer DRAM, mobile DRAM, and customized products. Current consumer and low power DRAM account for 73.9% and 17.4% of total revenue, and PC DRAM < 8.7%, respectively. NTC will concentrate on high-margin product segments like automotive, industrial, and customized products and reduce the ratio of commodity PC DRAM. For technology development, the main production technology/products of NTC were 30nm and 30nm design shrink in 2016. Advanced technology of 20nm was introduced in the 1st half of 2017, and will be verified by customers and then put into mass production in the 2nd half of 2017. NTC has been strengthening specialty memory product lineup for further upgrading Taiwan DRAM industry competitiveness in global market.

NTC is always customer service oriented and dedicates to providing customers with complete product portfolio and system level solutions in order to fulfill customers' needs. NTC strives to enhance operating results to protect shareholders' equity.

Paradigm shift reflects oligopoly in DRAM industry and the worldwide DRAM market has begun to recover since 2013. With Formosa Plastics Group's support and NTC's successful business transformation, operational performance improvement has been evident. Meanwhile, its financial situation has also been improved significantly. From 2013 to 2016, debt-to-asset ratio dropped from 89% to 37.5% and book value per share increased from NT\$0.4 to NT\$31.

Taiwan is the primary operational base of NTC. By Dec. 30 2016, the total of employees was 2,594 including 7 directors and above (0 female and 7 males), 455 supervisors (65 females and 390 males), 1,092 professional technicians (131 females and 961 males), 541 administrative personnel (218 females and 313 males), and 499 operators (406 females and 93 males). Total of supervisors (high-level supervisors included) was 462 which occupied 17.8% of the entire staff. Female supervisors were 65 which occupied 14.07% of all supervisors. Besides, overseas subsidiaries of the company have totally 90 employees including those in China, Japan, USA and Germany.

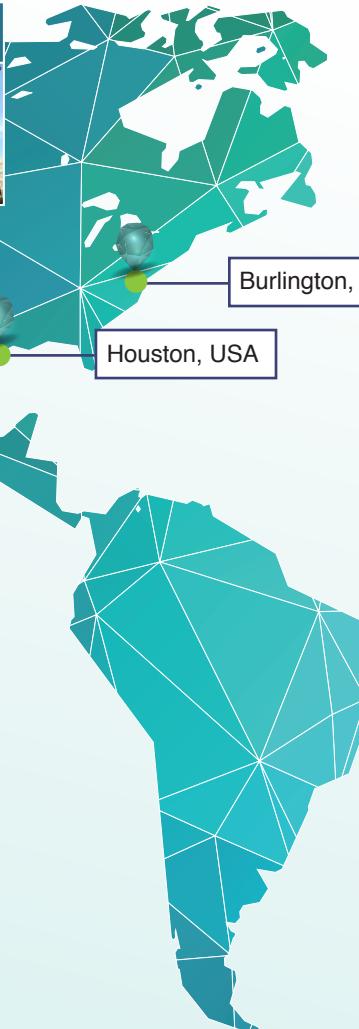
Full name of company	Nanya Technology Corporation
Number of employees	About 2,594
Capital	NT\$ 27.49 billion
Primary business	Supply of DRAM for diversified applications
Establishment	Mar 1995
President	Pei-Ing Lee
HQ	Guishan District, Taoyuan City
Milestone in 2016	Oct 20nm equipment move-in Dec Completed Inotera share swap with Micron



Global sites



San Jose, USA



Dusseldorf, Germany



Dusseldorf, Germany

Tokyo Japan



Tokyo, Japan

Shenzhen, China



Shenzhen, China

Hsinchu, Taiwan



Taishan, New Taipei City, Taiwan



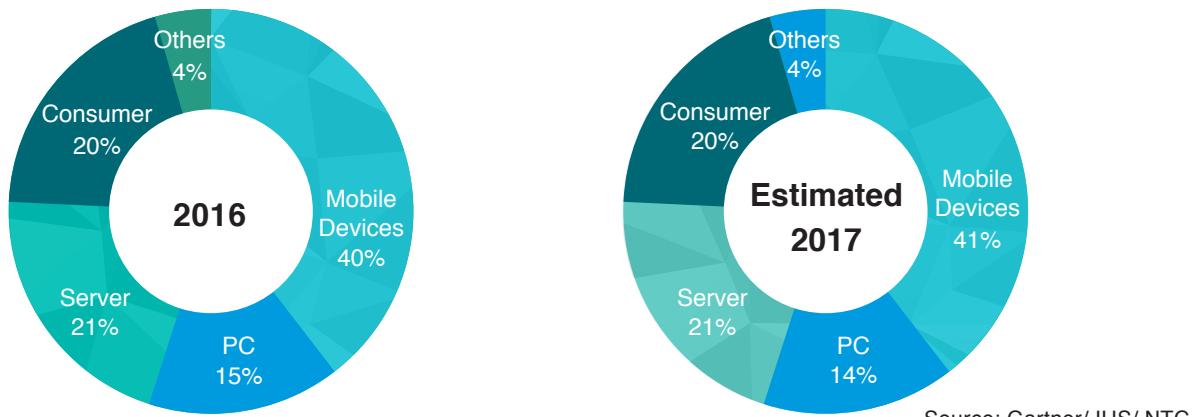
Global sales regions of NTC: USA, Europe, Japan, China, Taiwan and APAC

3.2 Future Outlooks and Challenges

3.2.1 Market Overview

The demand and supply for the DRAM industry has returned to a balanced state starting from the 2nd half of 2016. Top 3 suppliers (Samsung, SK hynix and Micron Group) dominated over 90% market share and became disciplined in capacity expansion. As for the demand side, mobile devices including smart phone, tablet, cloud computing, smart home, and wearable applications will continue to drive demand growth. Combined demand and supply sides, DRAM market is expected to be stable and healthy in 2017.

Mobile devices, server, PC and consumer electronics remain the 4 key segments driving DRAM demand in 2017 and account for the following percentages of the total DRAM market:



Note:

1. Consumer electronics include TV, STB, networking products, upgrade module
2. PC include desktop, notebook
3. Mobile Devices include mobile Phone, tablet

3.2.2 DRAM Market Trends

Application Trends

The smartphone market has maintained steady shipment growth in the past few years and has become a key sector for the DRAM market. Mobile DRAM is widely adopted by a variety of Mobile devices thanks to the improved power savings, and now occupies over 40% of worldwide DRAM shipments. Major mobile phone brands compete head to

head with their flagship models by enhancing product specifications, which include DRAM content that is accelerating the DRAM content in mid/ high end smartphones.

Smartphone market has a direct correlation to server DRAM market. More and more data traffic comes along with the video streaming requests from smartphone to cloud computing. And the proliferation of use cases of clouding computing and the Internet of Things (IoT) are powered by servers at data centers that see a direct performance advantage from increased DRAM content in the systems. This infrastructure would be considered the second largest DRAM demand driver after the smartphone.

The personal computer (PC) market appears to have bottomed out after several quarters of declining shipments. Leading brands have started to offer 8GB DRAM content in mid to high end models. DRAM demand is expected to regain its momentum thanks to the content enhancement, as well as the new PC models geared for ultra-mobile and gaming notebooks. The diversity from the entire consumer electronics market proves to be much more stable, covering products from DTV, STB/OTT, to networking products as a few examples. The demand pool in these areas will remain solid and continue the pace of steady growth into the future. One of the key markets is poised for significant growth involving the automotive industry. Content is growing in myriad applications inside the automobile ranging from infotainment to smart vehicles. The constant requirement across all of these key applications is lower power, higher speed and larger content which will serve as the basic elements expected to fulfill the future demand.

Performance Requirements

A. High Density

With the tech node migration to 20nm and 1xnm, density is moving up to 4Gb and 8Gb. Demand majorly comes from smartphone, server, personal computing and tablet. Expect the ratio of 8Gb will surpass that of 4Gb and take the biggest portion.

B. High Speed

The image format becomes the most popular in data transmission and requires higher speed DRAM spec to enhance the throughput. With that, DDR4 and LPDDR4 can match the speed requirement with the max operation speed at DDR4-3200 and LPDDR4-4266.

C. Low Power

Longer battery life on mobile devices and customer care for green house effects, lower voltage and lower power are especially addressed for DRAM products. So low power DRAM is adopted by smartphone as the main spec and gradually penetrates into server, PC and consumer devices.

D. Add-on Features

(a) High Data Rate and Bandwidth

DDR4 has been adopted by server since the 2nd half of 2014 to fulfill higher data rate request, and PC followed to use DDR4 in the 2nd half of 2015. LPDDR4 was used in high end smart phone starting from 2015 due to the features of high data rate and low power consumption.

(b) Diversifying Package Types

To meet the different requirements for DRAM, more package options emerge to allow the form factor change feasible. There's not only modules for PC and server but also PoP/ eMCP and SiP could be found on smartphone and DTV.

3.2.3 Supply and Demand

Supply Side

For supply side, top 3 suppliers continue to ramp the production of advanced 20nm and 1xnm technology nodes. Different from capacity expansion strategy in the past, yield enhancement and migration to advanced technology become the major methods to increase output in 2017. Even the wafer input is prudently planned and grow at well-controlled path. According to market research houses, the total DRAM output growth YoY is around 23% in 2016 and expect to go below 20% in 2017. For DRAM industry suppliers, profitability is prioritized by controlled output plan. In this case, undersupply is very likely the scenario in 2017.

Demand side

For DRAM demand side, the forecast of 2017 is turning optimistic due to the global economy recovery, content growth in China branded smartphones, 10th anniversary of iPhone sales, stable PC and server demand, etc. Compared to demand in 2016, the annual growth rate will remain above 20%.

3.2.4 Industrial Supply Chain

The IC supply chain (DRAM included) is comprised of front end, middle end, and backend players from IC design, mask fabrication/ wafer material, IC manufacturing, IC packaging and testing sectors as of the flow chart in the below. NTC is specialized in DRAM design and fabrication in the entire IC supply chain.



3.2.5 Core Competence

As a key supplier in specialty DRAM market, NTC delivers the best services and values to our customers and partners. Via the strategic alliances with customers and controllers, NTC continues the development of next-generation DRAM products to back up diversified demand of consumer electronics.

3.2.6 Long Term Vision

- DRAM market has become an oligopoly market dominated by TOP 3 DRAM makers with advanced technology nodes. Expect market price will behave stable instead of sharp changes in the past year.
- Focus on consumer & low power specialty DRAM markets. Continue to focus the business growth on networking, automotive and customized segments with stable and long-term supports.
- With the introduction of 20nm technology and the plan of 1x/1y from Micron group in the future (please refer to 3.4 Operating Performance), NTC carries a full product line to provide one-stop-shop services in response to customer demands.
- As a member of Formosa Plastics Group, NTC has the best financial back-up and purchase power from the mother company. Coupled with the system control expertise in production line management, NTC is superior to its peers in cost management in regards to equipment or raw materials.

3.2.7 Challenges

Current Situation

Top 3 DRAM makers (Samsung, SK hynix, and Micron) shares over 90% of worldwide DRAM market. With that, rationality and profitability become the guidelines when it comes to supply deployment. Different from the capacity

expansion in the past, the supply increase count on the technology transition as major. According to most research houses, DRAM market looks like optimistic through the year of 2017.

Risks and Strategies

DRAM industry is a capital intensive market, so the financial capability is critical to compete for survival. On the other hand, product specification is complicated to handle since requirements from each application should be accommodated in product development. NTC responds to the challenges with the following strategies.

- Choose the best fit market segments and develop product line-ups, which guarantee reasonable margins in return.
- Focus on networking, automotive and industrial markets requesting stable and longevity support to minimize the impact of demand fluctuation.
- Continue the development and research of new tech node to drive cost reduction.
- Staying alert to demand changes, keeping flexible to adjust product mix, and enhancing the utilization rate, which help the business operation stable.

3.3 Products Research and Development

3.3.1 Product Lineup

NTC is a key player in consumer DRAM business, carrying products from consumer DRAM, mobile DRAM, automotive-grade, industrial-grade, and customized DRAM. For better product performance and lower product cost, NTC continues to deliver new products to enhance its competitiveness. 30nm shrink is the current technolo-

gy in mass production and expects 20nm mass production to happen in the 2nd half of 2017. (Please refer to "Products" on website of NTC for further product information.)

3.3.2 Product Development

Technology and Product Development:

NTC continuously develops new technologies and products. Yield improvement is achieved through design, process, and device analysis. Our consumer DRAM (DDR1/2/3/4) and low power DRAM (LPDDR1/2/3) all comply JEDEC standard. LPDDR4X is under planning and becoming available in 2017 to make the product line-up more complete. NTC positions itself in the global DRAM market place as the best partner to support customer demands with stable yield, output and product quality.

In addition, NTC provides differentiated services from system in package (SiP), automotive-grade DRAM, industrial-grade DRAM with wide temperature and customized services in the hope to offer wider options to choose.

Business Development:

1. Short-term Goal:

NTC serves as a one-stop shop covering consumer DRAM (512Mb DDR1/2, 1Gb DDR2/3, 2Gb/4Gb DDR3, 4Gb DDR4) and mobile DRAM (512Mb/1Gb LPDDR, 1/2/4/8 Gb LPDDR2, and 4Gb/8Gb LPDDR3). The new product (8Gb DDR4 and 4Gb LPDDR4x) will be offered in 2017 to enhance the product lineup.

2. Long-term Goal:

Heading into the 2nd half of 2017, 20nm-based products will become available and meet the mid-to-high content demand from consumer and mobile DRAM market segments in 2018. On the other side, NTC is positioned to reach out to market sectors with higher margin, such as SiP business, automotive grade, industrial grade, Multi-Chip Package (MCP), Internet of Things (IoT) and customized services. NTC's ability to diversify the business scope and services will allow NTC to achieve a higher operation margin and recognize the benefits of the continued research, development, and investment.

3.4 Operating Performance

As a result of successful transformation, NTC has been profitable in the last 4 years and the EPS has been more than NT\$ 7 in the last 3 years. As DRAM average selling prices stayed lowed in the 1st half of 2016 and has rebounded since the 2nd half of 2016, the Company, by optimizing its product portfolio and expanding market shares in specialty segments with price premiums, remained to be profitable for each quarter of 2016. Furthermore, in Dec 2016 NTC had sold its entire shareholdings in Inotera to Micron and the disposal profits were NT\$ 20.07 billion (including NTC and its subsidiaries). Because of NTC's business results and the disposal of Inotera's shares, the EPS in 2016 maintained at a better level. In 2016, the consolidated revenue (including NTC and its subsidiaries) was NT\$ 41.63 billion, net profit after tax was NT\$ 23.73 billion, EPS was NT\$ 8.67, and cash dividend per share was NT\$1.5.

In 2016, the main production technology/products of NTC were 30nm and shrink versions of 30nm. NTC started its migration into design shrink based on 30nm process technology in 2014, without any additional capital expenditure investment. Through this effective design shrink, the average cost per bit reduced by 15%. The related shrink design has been implemented until the end of 2016. Moreover, there were totally 478 patents obtained in 2016 and accumulated 2,502 patents obtained.

In Dec 2016, NTC sold its entire shareholdings in Inotera to Micron and also obtained option rights to license 1x and 1y class DRAM process technology from Micron. This transaction not only facilitated the long-term development of the Company but also enhanced NTC's shareholders' interests.

NTC has been profitable for 4 consecutive years. With the rights offering in the early 2016 and financial restructuring, the debt-to-asset ratio was reduced from 60.1% at the end of 2014 to 37.5% at the end of 2016.

The operational results of NTC for the past 3 years:

Performance Indicator	2014	2015	2016
Operating Revenue (NT\$ Million)	49,108	43,876	41,633
Net Income (NT\$ Million)	28,195	17,171	23,729
Net Profit Margin (%)	57.4	39.1	57.0
EPS (NT\$)	11.77	7.07	8.67
Debt-to-Asset Ratio (%)	60.1	47.3	37.5
Long-term Fund to Property, Plant and Equipment Ratio (%)	108.2	138.2	152.0
Return on Assets (%)	29.50	17.2	20.2
Return on Equity (%)	109.1	35.6	33.8

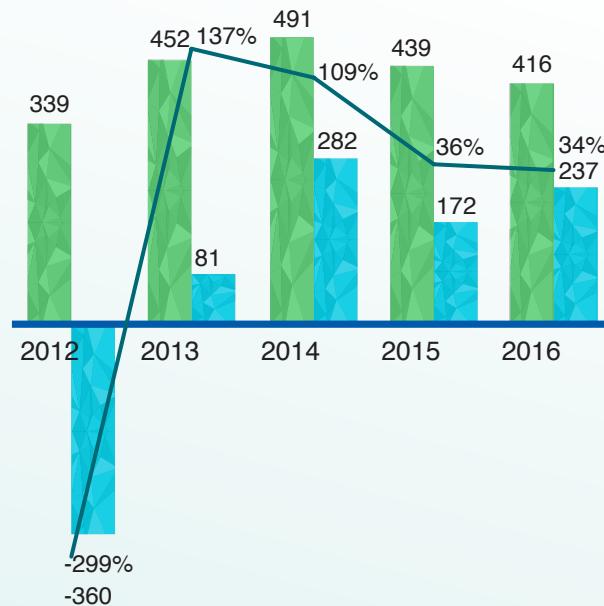
Note: The financial information of operational performance was adopted from NTC's consolidated financial statements for 2016. For more information regarding the subsidiaries in the financial statements, please refer to P.12 of 2016 consolidated financial report on NTC website <https://goo.gl/vMLLdh>.

Financial Performance

Operating Revenue (NT\$ Hundred Million)

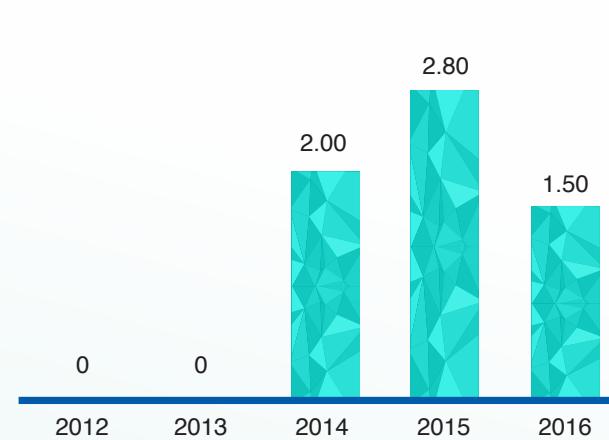
Net Income (NT\$ Hundred Million)

Return on Equity



Cash Dividend

Cash Dividend Per Share (NT\$)



Debt-to-Asset Ratio

98.2%

89.3%

60.1%

47.3%

37.5%

2012

2013

2014

2015

2016

3.5 Customer Relations

3.5.1 Customer Service

Nanya Technology believes having solid relations with customers is vital for success. Therefore, we strive to provide the best customer service to every customer. By having a genuine relationship with the customer to establish loyalty, we are able to expand the business and strengthen relationships among all customers. The core value of the company is to create high quality service to reach customer's expectancy. Once the customer's competitive ability is enhanced, it can also help raise Nanya Technology's reputation in the market. By providing the best and reliable service, we will be a trustworthy partner in the DRAM industry. Our goal is to be a leader in the DRAM industry with our service and attitude, thus helping us to strengthen current customer relations and to attract potential customers.

To enhance the efficiency of customer service and maintain the best relationship with customers, Nanya Technology Corp. HQ Field Application Engineering Division is responsible for customer technical supporting in Taiwan, mainland China, Southeast Asia, Europe, America, Japan and South Korea. In addition to insight into the practical application of the end design requirements and future industry trends beyond, via the platform integration can enhance compatibility and quality, and improve competitiveness. Positive reinforcement laboratory equipment and human resources in order to expand the scope of customer service through high efficiency, intensive, high-quality platform signal integrity measurement service, can significantly accelerate client new product development progress and verification cycle, reduce investment risk, assist immediate end products into the market. In addition to the consolidation of a service-oriented spirit of enterprise customers outside and quickly became a trusted partner to win customer satisfaction, and create a win-win situation.

- The average score of technical service of customer satisfaction in 2016 was 90.9, which was higher than target score of 85.
- 101 sessions of technical exchanges and educational courses were held in 2016 and helped customers solve own problems for 20 cases.
- The parametric measurement service of customer platform rapidly increased from 377 cases in 2015 to 799 cases in 2016 because laboratories in Japanese and Chinese subsidiaries started to proceed with measurement.

3.5.2 Customer Satisfaction

We execute customer satisfaction survey activities semiannually and the survey includes "Product", "Delivery", "Quality", "Technical Service", "Communication" and "Commercial". For dissatisfactory items, the responsible departments will issue improvement ideas to top managers at management review meetings. Sales representatives will discuss the improvement action plans with customers and continually follow up until satisfaction improves.

Complementary with the survey, Quarterly Business Reviews (QBRs) are also conducted by the service team so that customers can give feedback to NTC on a regular basis. We are able to maintain close touch with customers for better service.

We also consider the internal quality improvement in addition to the external customer satisfaction. We use PDCA (Plan→Do→Check→Action) management method to manage and control the process flows and indicators, ensuring the target is identical.

Customer Satisfaction Survey Flow :



Compared to 2015, results of customer satisfaction rating were improved in 2016. In addition to the satisfaction survey, Nanya Technology also reviews customers' non-routine evaluations and individual customer requirements, to determine products and services that should be strengthened; then using a systematic approach to improve action and tracking and good communication with customer with a positive attitude to solve problems and improve continuously.



3.5.3 Privacy of customers

Customers are the important partners of NTC. Privacy of customers and confidential information shall be securely protected in the way of protecting own confidential information. To ensure the protection of confidential information, NTC stipulated " Confidential Information Management Procedure " as a basis for colleagues to process customer information. And periodical propaganda and audit will be conducted to enhance the acknowledgement and ability of all colleagues towards classification and processing procedure of confidential information. Besides, for the management and protection of customer documents to be included into DCC, only authorized colleagues can access for reading.

If the customer found or suspected betrayal of confidential information, customers can also complaint through Nanya's Report Mailbox. The email address of Report Mailbox is printed on the name card of all employees.

3.6 Supply Chain Management

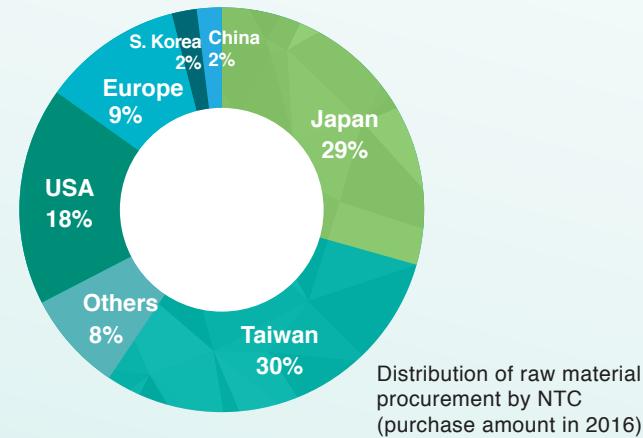
3.6.1 Vendor Relationship

Major vendors of NTC are categorized into "Raw material vendor", "Packaging & process factory", and "Contractor". The categories of procurement are approximately classified into 2 major categories of raw materials and materials (including equipment). The purchasing process adopts "Opening tendering" method. Through the procurement contracting system of e-transaction platform on Formosa Plastics Website, operations of inquiry, quotation, price negotiation, P/O and delivery are provided online. NTC not only dedicates itself in consolidating sustainable operation concept within the company but also hopes to work with vendors to co-create a favorable and stable vendor chain relationship for the realization of proactive pursuit of CSR.

To avoid shortage of material and quality risk, the NTC proactively developed counterpart vendors of various materials. Those vendors who want to be qualified as vendors must pass ISO9001 Quality System Certification, and shall accept the company to aperiodically conduct

factory audit or evaluation by means of document review. Qualified vendors also must cooperate and conduct various quality sustainable improvement projects. Long-term and excellent vendors are cultivated to elevate competitiveness of vendors. The company carries out vendor evaluation with 6 major significant indicators of "Quality, delivery, service, environmental safety, risk management, free-from hazardous substance" and strives to find out any potential defects of vendor for immediate improvement. The result of evaluation must be reported to procurement division as the reference of next purchase. Through quarterly report and various aperiodical meetings, we jointly review the annual review score with vendors and share various information with them so as to construct good and barrier-free channel of communication. The company also established multiple online support system as the platform of information exchange with vendors to make sure vendors to be fully compatible with the requesting standards of the company such as: Inspection Specifications of Purchased Material is delivered to vendor and specialist is responsible for reply and handling of various returned opinions from vendors.

The percentage of vendor distribution by purchase amounts is detailed as follow:



3.6.2 Vendor Audit

To duly perform CSR, preserve environment of earth, and consolidate green product policy, the used materials in factory are conducted with thorough restricted substances investigation. Vendor must submit test report issued by certified laboratory of ISO17025 to prove the conformity of supplied products to various kinds of related legislations of international environmental protection and customer requirements of restricted substances. Besides, we periodically contract external 3rd party certified laboratory to conduct wafer test to achieve the idea and commitment of green supply chain management.

To ensure the conformity of raw material vendors of process to various aspects of requirements of quality, EICC, and safety & sanitation/environmental protection, 22 vendors were completed with on-site audit in 2016. Before audit, various requesting questionnaires were issued in advance such as labor morality system, environmental safety system, and environmental protection requirements of EICC...etc. according to the provisions of Measures of Corporate Audit Management to initially understand vendor's obviously practical or potential negative impact on environment. In 2016, 104 improvement requests were proposed to vendors in total. By end of Dec 31 2016, the completion rate of improvement reply for defects was 100%.

Focusing on vendor performance evaluation in 2016, totally 74 important materials proceeded with this activity of evaluation. The result was : 69 items of A grade vendors (90 points and above) and 5 items 5 of B grade vendors ($80 \leq \sim < 90$ points).

Focusing on packaging process factories, through quarterly evaluation mechanism, every aspect of packaging factories' performance can be fully understood. And by means of Quarterly Business Review (QBR), managerial level of both parties is invited to attend the meeting. Through the exchange of this meeting, two-way communication can be conducted. Evaluation items of QBR consists of not only engineering/productive service, quality, and cost but also focuses on packaging/module materials used by packaging factories to proceed with regular test report of verification on hazardous substances to ensure the compliance with that standard provisions. And according to CMRT (Conflict Minerals Reporting Template) format, conflicting mineral products investigation is conducted to confirm the impact of used materials by packaging factories on environment and society.

According to the stipulated evaluation items and evaluating contents of the company, the evaluation will be conducted in every Jan/Apr/Jul/Oct. Afterwards the managerial level of factories and the company is invited to participate. Through face-to-face interaction and exchange, the continual elevation of product quality and reduction of cost for both parties can be benefited. In 2013, complying with the transition demand of the company, the processed products and processing demands for processing factories had been appropriately adjusted. And processing factories were timely informed to mitigate the impact on factories and society.

Labor and ethics elements of Labor are Included into Annual Audit of Supply Chain

In pursuit of sustainability of company, NTC committed business operation of honesty and integrity. Besides continual reinforcement of corporate governance to ensure stockholders' equity, the company also dedicates itself to build harmonic, healthy, and safe working environment, and develops towards green technology and environmental sustainability. Through participation and involvement in public welfare, the expectations of social public and interested parties are met and CSR is duly performed.

To fulfill the preceding commitment, NTC complies with EICC® Code of Conduct. The company committed and executed various human rights of worker, health and safety, environmental protection, business ethics, and establishment of management system so as to make sure safety working environment is provided. And workers can obtain respect and dignity. The company bears environmental responsibility in business and complies with ethics rules. Besides the establishment of internal management system and rules & regulations, every year the company arranges educational trainings of policy and compliance with legislation. All newcomers must pass the training course of EICC rules. After years of continual trainings and communications, the spirit of EICC has been internalized and become corporate value. Employee also understands better their own rights and the determination of the company to comply with moral rules. Honest business is consolidated and positive business image of the company is elevated.

Suppliers are the important members to implement the preceding core value. The company requests suppliers (including outsourced contractors) to comply with EICC code of conduct on various operations and activities of labor, health and safety, environmental protection, and

business ethical rules. Therefore, since 2015 EICC was included into the scope of supplier audit by the company. Through self-evaluation questionnaire, suppliers can be introduced into Labor and system by stages. In 2016, totally 20 suppliers were planned inspected. Among them, 8 vendors adopted questionnaire check and 12 suppliers were audited on-site. Various defects found by audit were traced for improvement progress by Corrective Action Request(CAR) All suppliers were cooperative with the investigation and accepted the conclusions and suggestions of audit. Focusing on defects, the improvements were finished by deadlines. Together contributions were made for the advanced elevation of supply chain business environment.

3.6.3 Management of Contractors

Classified Management System of Contractors

To better reinforce favorable safety management measures, control quality of contractors, elevate workplace safety level of contractors, and free their employees from occupational injuries, we stipulated classified management system for those contractors who contract the constructions of the company.

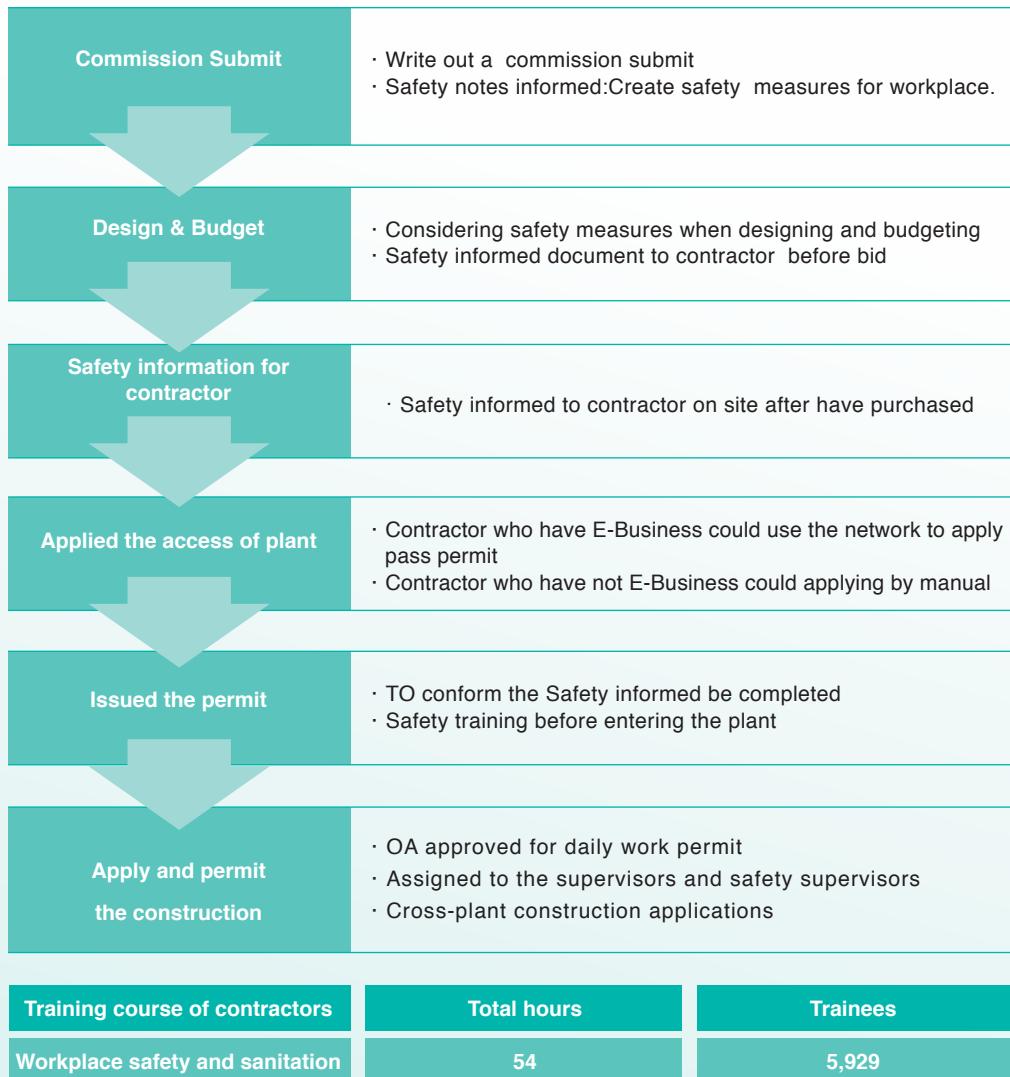
Data collection is conducted focusing on various categories of engineering professional factories. Their factory land, construction machinery and equipment, safety management capacity of construction site, technical capability, and contracting performance...etc. are investigated. According to their contracting capabilities and performances, 3 degrees of A, B, and C are classified. Besides, during planning of budget expenditures of safety & sanitation management are necessary budgetary wages item. And items of safety and sanitation facilities to be executed must be detailed and shall be included into contract specification. To prevent negligence of budget division from missing budget of safety and sanitation management expenditures, the company controls it by computer. During planning of budget, the item of expenditure of safety and sanitation management will be automatically supplemented by computer. For contracting inquiry, the amount of expenditure of safety and sanitation management must not be lower than budget amount. Thus the work of safety and sanitation management won't be neglected due to low bidding price of contractor.

Safety of Contractors

The safety of contractors has always been one of the important items of every company's safety and sanitation management. NTC always looks highly upon outsourced contractors as important as staff. NTC respects and admires their professional equipment and technical assistance to help us finish the construction supervision and repair of various constructions. For construction projects to proceed smoothly, besides emphasis on quality and mastering of progress, priority is comprehensive and excellent safe operating environment and management. Therefore, besides the originally established outsourced contracting management system, Review System of Contractor's Workplace Safety Management, and practical training of workplace safety, physical and mental status checkup and professional educational training are conducted before construction so as to guide the workers to abide by protocol and establish safe conducts to achieve the target of zero disaster and accident.

The company follows related measures and systems stipulated by Formosa Plastics Corporation regarding management of contractors. The management of safety and sanitation management for contractor's employees adopt the same standards of corporate employees. The process of construction also seeks source control from construction design, budget, contracting, to entry of contractor into factory are all controlled by computer. Excellent contractors are screened to participate in expansion construction or yearly maintenance operation. By means of certificate training system, the constructing techniques and workplace safety consciousness of contractor can be elevated to mitigate the odds of occupational disaster.

During project bidding, contractors shall be specifically informed of the environment of operation site and necessary safety and sanitation measures to be taken. After construction is contracted, contractors are requested to strictly abide by the rules. Before construction every day, toolkit meeting shall be convened for the propaganda of workplace rules and safety of workplace before, in the middle, and after construction before the construction may proceed. During construction, the temporary facilities, safety and sanitation facilities, pollution prevention measures, various wastes, and disposal of earthwork used by contractors are all requested to follow related legislation and corporate protocols. In case any contractors have safety accident because of disobedience, penalty is suspension or cease of business.



According to internal standards of company, NTC stipulated complete specifications of various contracting management such as Measures of Construction Permission Management, Operating Instruction of Safety & Sanitation, Application Form for Regulatory Constructions, Application Form for Open Fire Operation, Application Form for Usage of Electricity System, Checklist for High Risk Construction Workers, and Countermeasures against Emergency & Unusual Situations...etc. as the basis of request for contractors. Every cooperative contractor must sign Construction Contracting (Contract) Agreement and Construction Safety Information to be informed of working environment, hazardous factors and related safety and sanitation regulations...etc. of the unit. Besides, the applicable objects of the currently operating various safety and sanitation management mechanism such as spontaneous check by each unit, inspection and proposal by workplace safety division, working observation and interview of personnel, and report & investigation of accident...etc. also cover contractors. Through the entire staff supervision mechanism, any findings of unsafe acts of contractors can be reported to central control room or workplace safety personnel by upper foreman through various safety and sanitation management mechanism to reflect the unusual situation, and proceed with immediate tracing and improvement of unusual incidents. All contracting personnel must receive the course of "Educational Training of Safety & Sanitation before Contractor's Entry into Factory" of the factory. The purpose of course is to specify the hazardous factors of working environment, rules to be abided by, and elevation of safety consciousness. For colleagues who hold the post of on-site supervision also must complete the mandatory course of safety officer of the company before being capable of bearing the responsibility of supervision. The purpose is to make safety officers clear of their duties to prevent the occurrence of occupational disaster.

In 2016, corporate construction of new northern factory had an accident and 2 constructing persons deceased during constructing phase because of careless operation. Although the company is the owner of this new construction, contractors were requested to reinforce the construction safety in construction sites and improvement of management to prevent similar accidents from happening. The accident was detailed as follow :

Accident 1

On Jan 18 2016, one of construction welding personnel fell from the height of 7.7 meters (2F) to the ground (1F) during expansion construction of northern building and died in hospital. After the accident, the company requested contractors to regulate and must forbid construction when the weather is bad or in any workplace with safety protection defects. For the prior negotiation on joint workplace, the general contractor must be responsible for the planning with documented records. Construction supervision division must carry out and review the consolidation degree.

Accident 2

During the expansion construction of northern building on Apr 29 2016, one contracting cleaner was hit during cleaning operation of return air layer at 2F by falling material from 3F and died in hospital. After the accident, the company requested contractors to state expressly when any materials must be dismantled completely without any remaining part left.

Result of Trainings

1. In 2016, there was no contractor's entry into factory without receiving training.
2. Contractors have better understanding about factory's safety and sanitation rules, and can follow the regulations of factory better.



ECO-FRIENDLY DRAM PROVIDER

2016 Corporate Social Responsibility Report

Consolidate Environmental Sustainability

- 4.1 Management of Environmental Sustainability**
- 4.2 Management of Climate Change**
- 4.3 Green Product**
- 4.4 Planning of Green Architecture**



Environment Aspect

Short-term objective (1-2 years)

Energy saving :

Continue to promote the optimized operation of equipment in newly constructed FAB-3A-N factory to save energy. The unit power consumption shall save more than 1% of power saving target in 2016.

Water saving :

- Continue to promote classification of drainage during process to increase recyclable water volume.
- The recycle rate of water used during process achieved 84.5% and above.

Reduction of greenhouse gases :

- The emissions of PFCs used in process must reduce for 90% and above.
- The raw materials of PFCs used in process must be reduced 1% and above.

Management of wastes :

- Trial run of electrolytic disposal system for copper effluent shall proceed. Subsequently copper effluent will not leave factory in the name of wastes. In 2017 the cleaning volume can be reduced for 20 tons/month compared to 2016 and can be made into copper cakes for reuse.
- Reduction of wastes generation: The water content of organic sludge was reduced, and sludge can reduce 100 tons/month compared to 2016.

Medium & Long-term Objectives (3 years and above)

Energy saving :

Continue to promote energy saving projects. Unit power consumption was 3% compared to energy saving target of 2016.

Water saving :

- Continue to promote recycle of effluent for re-use and water-saving project.
- The recycle rate of water used during process achieved 86% and above.

Reduction of greenhouse gases :

- The emissions of PFCs used in process must reduce for 90% and above.
- The raw materials of PFCs used in process must be reduced 1% and above.
- Continue to assess Greenhouse Gases Reduction Project.

Management of wastes :

- The wastes "Organic solvent (IPA)" is planned to be reused by application and is scheduled to increase re-use volume for 150 tons/month.
- Continue to promote reduction of wastes from source and reuse of wastes.

4.1 Management of Environmental Sustainability

At present NTC's factories which have production activities is only the 12-inch FAB (3A) thus the following data of environmental sustainability subjects regarding air pollution, water pollution, wastes, energy saving measures, emissions of greenhouse gases, and usage of raw materials was summarized for statistics on the basis of 3A factory.

4.1.1 Prevention & Control of Ppollutions

Prevention of Air Pollution

Since the establishment of factory, the company has always looks highly upon prevention of pollutions. Besides through planning of environmental management scheme to effectively mitigate usage of raw materials and reduce concentration of exhaust emissions, air pollution prevention equipment conforming to legal standards is used including local scrubbers, central scrubbers of acidic/alkaline exhausts, and VOC zeolite concentrator and post burner. Through tests for approval, for years they conformed to (lower than) the pollutant emission standards of local environmental agency. To maintain the optimal processing capacity of disposal equipment, all equipment is routinely maintained and inspected. And operators are given complete educational trainings to maintain normal operation of system and ensure gases being emitted will not harm the environment. In 2016, the repair and maintenance expenditures of terminal air pollution prevention were 36,157 thousand NT dollars. And 56,511 thousand NT dollars were invested to set up new air pollution prevention equipment (Remark: VOC is volatile organic compounds).

Main air pollutants of the company are divided into acidic, alkaline exhausts and organic exhausts. According to properties of exhausts, appropriate disposal process and equipments are introduced. After production processes, exhausts enter local scrubbers to be removed with specific substances before acidic or alkaline exhausts to be respectively concentrated in acidic/alkaline central scrubbers for processing. After processing to become neutral, exhausts can be emitted into atmosphere. Organic exhausts are absorbed, concentrated by zeolite runner before entry into burning equipment for direct destruction with burning disposal efficiency up to 99% which is better than the legal standards. The process is shown on Figure 1. The company proactively promotes various environmental management projects and reduces raw material usage from source. And the unusual emission risk has continually been improved with projects. In terms of 2016, fuel burner improvement of VOC prevention equipment was conducted for investing amount for 15,000 thousand NT dollars which can reduced consumption of natural gas for 1,944 M³ per day and power consumption can be saved as well. In 2016, the emitted organic air pollutants of each wafer area(emission intensity) were 0.29 kg VOCs/m² as shown on Figure 2. Because in 2016 the company conducted migration and trial run of new process technology to cause consumption of raw materials. But the products of new process technology have not been massively produced and caused a slight rise of emission strength. The company shall continue to work harder in hope that impact on environment can be mitigated.



Figure 1: Flow of Exhausts Disposal



Figure 2: Emission intensity of volatile organic compounds during 2014 to 2016
(KG VOCs/M² : Emission of volatile organic compounds (kg) / wafer area(square meters))

Prevention of Water Pollution

- Tendency of Environmental Protection Law of Effluent Drainage

For recent years, law of environmental protection regulating effluent water quality has become stricter. The company also continue to be dedicated in improvement of environmental protection engineering.

- Management of Effluent Drainage

On the aspect of effluent disposal, the company proceeds classification by properties of various kinds of effluents. Besides, conforming to legal standards, general acidic and alkaline effluents can be reused after processing by recycle system to reduce effluent drainage. Effluent is drained into Dake Stream after being processed. The company investigated the drainage does not involve in any habitats of conservation

animals thus the impact on conservation animals is small. The factory was re-constructed on existing empty house without any large-scale digging of peripheral plantation and the habitats of creatures can continue to be protected.

- Practical Engineering Improvement of Effluent Disposal

In 2016 complying with the expansion of FAB-3A-N factory, the general capacity elevated. Effluent system was expanded and added with recycle system. Besides complying with reduced sludge disposal plants and acceptance criterion is getting stricter, reduction of organic sludge proceeded: IPA concentration system was expanded to reduce loading of effluent COD, and sludge drying equipment was added. After equipment expansion completes in 2017, the recycled water volume can be increased and output of sludge wastes can be reduced.

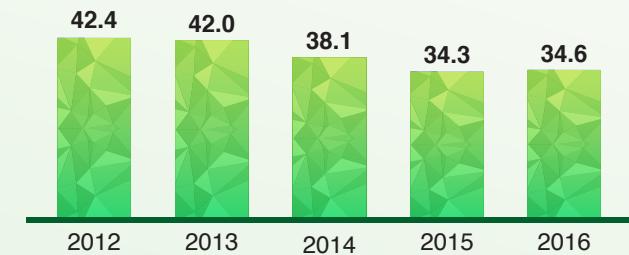
- Effluent Drainage Performance

The water quality test results in 2016

	Test Item	Unit	Legal standards	Test Result			Compliance with standards
				Min.	Aver.	Max.	
3A Factory	PH	-	6-9	7.8	7.9	8.0	Yes
	COD	mg/L	<100	23	38.7	54.8	Yes
	SS	mg/L	<30	3.1	6.75	11.9	Yes
	Fluororinon	mg/L	<15	7.56	9.2	12.1	Yes
	Ammonia Nitrogen	mg /L	<30	6.5	9.98	14.2	Yes

Factory	2012	2013	2014	2015	2016
3A Factory Effluent drainage (ton)	1,677,744	1,817,250	1,736,621	1,778,448	1,866,364

Effluent Drainage / Wafer area (tons / M²)

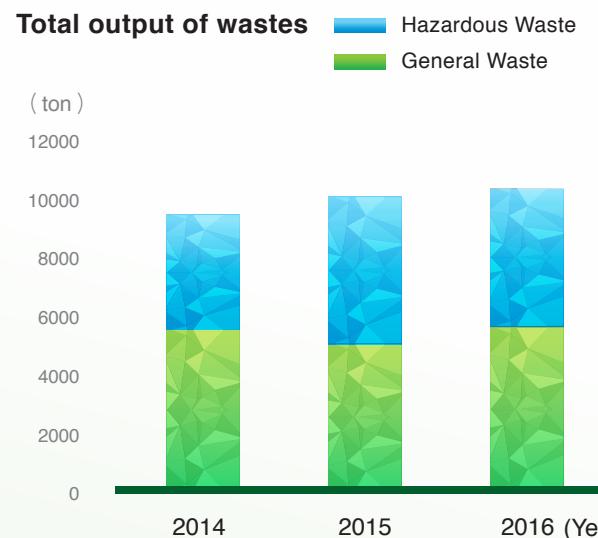


Management of Wastes

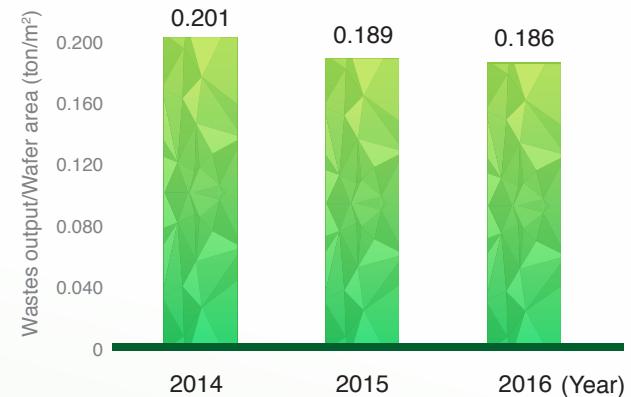
General industrial wastes and hazardous industrial wastes of the company are managed altogether by output divisions for operating activities of their storage, disposal, detection, and promotion of reduction. And aperiodical audit is conducted to confirm whether contractor proceeds with wastes disposal process according to related rules of wastes cleaning in order to confirm its legality and make sure all wastes are duly disposed or reused to prevent another impact on environment. Besides, the company had no acts of international transportation of hazardous wastes during 2014-2016.

Recycle of Resources

Total wastes of the company in 2016 were about 10,069.94 tons. Amongst general wastes were 5,353.61 tons, and hazardous industrial wastes were 4,716.33 tons. The recycle for re-use rate of wastes was about 97.9%. Wastes output of unit product was about 0.186 ton/output wafer area (m^2). Compared to 2015, the total of wastes increased for about 2.9%. The root cause was product yield of the company in 2016 was 4.1% higher than 2015 and resulted in increasing volume of wastes. However, wastes output of unit product decreased. The company shall continue to take measures of waste reduction and increment of recycle volume to achieve sustainable development objective of zero wastes.



Wastes output of unit product



Wastes output in 2016 : ton

廢棄物	Recycle	Burn	Bury	Total
Hazardous	4709.34	6.99	0	4716.33
General (Non-hazardous)	5055.87	199.74	98	5353.61
Total	9765.21	206.73	98	10069.94

Various recycle for re-use items and purposes of business wastes

Recycle for re-use items	Re-use purposes
Waste sulfuric acid	Recycled raw material
Waste hydrofluoric acid	Recycled raw material
Waste isopropanol	Recycled fuel
Waste SOD	Recycled fuel
Inorganic sludge	Reduced artificial fluorite
Waste photoresistance liquid	Auxiliary fuel or re-use after concentration
Clean water inorganic sludge	Raw material of brick
Waste paper	Raw material of paper products
Waste ion exchange resin	Re-use after re-generation
Waste wood	Raw material of wood being processed for re-use
Waste iron	Regenerated raw material of steel-making
Waste aluminum	Raw material of aluminum products or its chemical raw materials
Waste stainless steel	Re-generated raw material of steel-making
Waste plastics	Raw material of plastic products
Waste PVC glove	Plastic pedal plate of car and motorcycle
Waste glass	Raw material of glass and particle of cement products

Conformity Record of Environmental Protection

The company is dedicated in promoting the work of environmental protection and management. Performance indicators of environmental safety and hygiene were stipulated. Projects of various wastes reduction and re-use of resources are promoted. And Green Product Promotion Committee are cooperated to proceed with Green Product Management to comply with the trends and tendencies of global environmental protection. The management of environmental protection certification, test contents, declaration items of the company are all conducted by law. In 2016, there was no violation record against environmental law.

The company based on environmental protection and commitment to environmental appraisal and focused on environment influence factors of air quality, noise vibration, surface water, underground water, traffic flow, animal and plantation ecology...etc. within corporate development scope to proceed with periodic monitoring in order to literally master the influencing status on environment. Furthermore, confirmation with related regulatory agencies was conducted to prove that corporate development scope doesn't belong to environmental sensitive and specific purpose areas.

4.1.2 Energy resources Management and reduction

• Water Resources

The water source for production is mainly from processed diversion of the drainage basin of Dahan River. Independent diversion of gravity flow is adopted without impacting ecology and other purposes of usage. There are also recycled rainwater to supply water consumption for process. Tap water is mainly for people's livelihood. In 2016, water consumption was 2,244,759 tons with diversion from drainage basin of Dahan River for 2,174,764 tons which occupied 96.9% of total water consumption. Recycled rainwater volume was 33,090 tons which

occupied 1.5% of total water consumption. Tap water consumption was 36,905 tons occupied 1.6% of total water consumption.

- Potential Water Shortage Situation to be Confronted in Environment of Taiwan

Taiwan is small with great population and steep hills. During typhoon, heavy rain falls in a short time. Most rainfall rapidly flows into oceans. Therefore, the practical rainfall distributed by per person is pretty few every year and is only 1/7 of average value worldwide. Meanwhile, according to worldwide standards at present, when the water supply for each person in a country or region is less than 1,000-2,000 tons per year, the area is defined as water shortage area. According to the standards, annual usable water per person in Taiwan is about 1,000 tons thus Taiwan belongs to water shortage area. Besides, rainfall of Taiwan is extremely uneven by area and season which easily causes regional or seasonal drought. As a result, to mitigate the impact on environment and confronting risk of water shortage, NTC continues to promote water saving measures and dedicates itself to water recycle for using to mitigate the impact.

- Strategy Complying with the Risk of Water Shortage

The installed water tank in factory has a capacity of 43,000 tons which can handle short-term water shortage. Besides, the company belongs to Formosa Plastics Corporation. Focusing on countermeasure against water shortage, an emergency response organization against water shortage was established in adjacent factories of the company nearby Formosa Plastics Corporation. Focusing on water shortage condition, through that emergency response organization mutual coordination for water sources can be supported to comply with the impact of water shortage.

- Management of Water Resource

Influenced by global climate change, the rainfalls in Taiwan have become polarized and resulted in co-existence of flood and water shortage at the same time. Therefore, it gets more important for development and management of water resource. NTC designed

water-saving process for water consumption management and priority is reduced water consumption by means of recycle for re-use. Promotion of water saving by the company mainly oriented as follow:

- * By means of deployment of working policy, performance of water saving can be consolidated.
- * By means of saving approaches of reduction and recycle, the effect of reduced consumption can be achieved.
- * Continue to improve and consider the subject of environmental protection as well.
- * Promote through the approach of routine management.
- * Effluent classification process is established for multiple recycle for re-use to maximize the utilization of water resource.
- Status Quo of Recycle for Re-use of Water Resource
The company has set up a recycle system for acidic and alkaline effluent. Complying with promotion of various water-saving measures, the processing water recycle rate has achieved 83.8% (complying with committed value during environmental appraisal for 81.1%). Additional 2 flood detention pools were set with capacities of 4,060 M3(3,500M3+560M3) which can effectively recycle rainfall for re-use during raining seasons.

Natural gas consumption/Wafer area (M³/M²)



Statistics of water consumption of the company for past years

Factory	2012	2013	2014	2015	2016
3A Factory (ton)	2,032,748	2,205,960	2,155,223	2,198,960	2,244,759

The total water consumption in 2016 was 2,244,759 tons with saved water volume during process for 5,343,288 tons. The ratio between saved process water volume/total water consumption was 2.4. In 2016, the yield increased 4.1% compared to 2015. The yearly water consumption increased totally 45,799 tons which was an increment of 2% water consumption. The yearly unit water consumption reduced 0.8 頓/M² which was a reduction of 1.9%.

(Remark: Recycling rate of process water was calculated according to the recognized equation provided by "Environmental Quality Supervision and Management Committee of Nanling Science-based Industrial Park, Taiwan R.O.C")

Water-saving improvement activities in 2016

Water-saving measure	Implemented factory
Organic effluent recycle system was expanded with daily increased organic effluent volume for 1,000 tons. Investment was 28,095 thousand NT dollars. Annual benefit was 4,088 thousand NT dollars. (To be completed in 2017)	3A

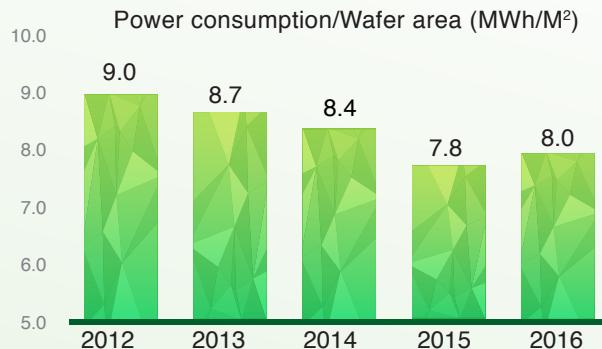
On-going Improvement of Water-saving Activities

Water-saving measures	Implemented factory	Estimated completion date
Organic effluent recycle system was expanded with daily increased organic effluent volume for 1,000 tons. Investment was 28,095 NT dollars. Annual benefit was 4,088 thousand NT dollars. (Continue the plan of 2016)	3A	Feb 2017
Processing volume of RO on acidic and alkaline effluent recycle system will be expanded with increased recycle acidic and alkaline effluent volume of 288 CMD. Investment will be 1,500 thousand NT dollars. Annual benefit was 1,177 thousand NT dollars.	3A	Sep 2017

Energy Saving Implementation

It is the most important subject of limited sources on earth. The use of energy will generate CO₂ and cause greenhouse effect which warms up the earth. Therefore, the effective management of energy can be hesitated. The energies for internal use are mainly purchased electricity and natural gas. Other external indirect energy consumptions cause emissions of greenhouse gases including transportation of raw materials for factory use, production of raw material vendors, transportation/disposal of wastes, business trips of employees, and commuting of employees...etc. To effectively reduce the environmental impact of greenhouse effect, energy saving was planned during construction of factory. For example, the adoption of bi-iced water system, and recycle for reuse of heat from freezer...etc. For years, various energy-saving technologies were continually introduced to mitigate the consumption of energy. Besides, energy management projects were promoted for office and public areas so as to reinforce colleagues' concept on the aspect of energy saving. The promotion of reducing raw material consumption and increasing recycle volume of wastes continued to mitigate the impact of greenhouse gases on the environment.

The statistics of power consumption of the company for past years

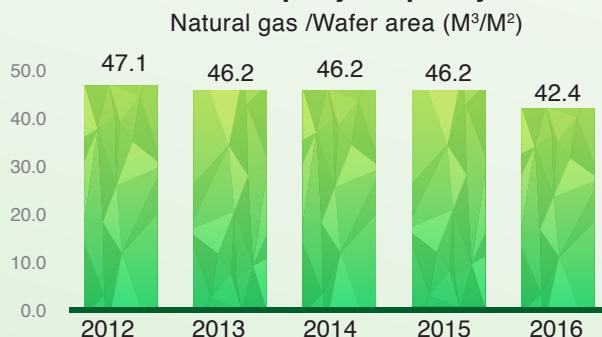


Factory	2012	2013	2014	2015	2016
3A Factory (MWh)	355,725	376,183	381,792	402,445	429,719

In 2016, the yield increased 4.1% compared to 2015. The yearly power consumption totally increased 27,274 MWh which was an increment of 6.8% power consumption and equaled to CO₂ emission of 14,400 tons (remark). The annual unit power consumption increased 0.2 MWh/M² which was an increment of 2.5%. The root cause was the expansion of FAB-3A-N factory in 2016 and increased power consumption during construction and run of equipment.

(Remark: Calculation adopted the latest statistic electric emission factor =0.528kgCO₂e/degree in 2015 announced by Bureau of Energy, Ministry of Economic Affairs R.O.C.)

The statistics of natural gas consumption of the company for past years



Factory	2012	2013	2014	2015	2016
3A Factory (M ³)	1,863,370	1,997,653	2,107,596	2,395,455	2,290,230

In 2016, the yield increased 4.1% compared to 2015. Due to the implementation of VOC exhaust gas oxidizing furnace improvement project, the annual natural gas consumption reduced totally 105,225 M³ which was a reduction of 4.4 % and equaled to reduced emission of 198 tons CO₂ (remark). The annual unit natural gas consumption reduced 3.8 M³/M² which was a reduction of 8.2%.

(Remark: Calculation adopted the "Greenhouse Gas Emission Factor Administration Table version 6.0.3" published by Environmental Protection Administration Executive Yuan R.O.C.)

Energy saving improvement activities in 2016

Energy saving measures	Implemented Factory
<p>The model of burner on VOC exhaust gas oxidizing furnace changed from dual-fuel to single-fuel one to saved daily power consumption of 360 degrees and saved daily natural gas consumption of 1,944 M3. Investment was 15,000 thousand NT dollars. The annual benefit was 10,565 thousand NT dollars. (To be completed in 2017)</p>	
<p>Sprinkler of air washing unit on Make-up Air Unit (MAU) will be replaced by new type of ceramic board and shall save daily power consumption of 9,135 degrees. Investment will be 49,500 thousand NT dollars. The annual benefit will be 8,808 thousand NT dollars. (To be completed in 2017)</p>	3A Factory

Continual energy saving improvement activities in the future

Energy-saving measures	Implemented factory	Estimated completion date
<p>The model of burner on VOC exhaust gas oxidizing furnace changed from dual-fuel to single-fuel one to saved daily power consumption of 360 degrees and saved daily natural gas consumption of 1,944 M3. Investment was 15,000 thousand NT dollars. The annual benefit was 10,565 thousand NT dollars. (Continue the plan of 2016)</p>	3A Factory	Jan 2017
<p>Sprinkler of air washing unit on Make-up Air Unit (MAU) will be replaced by new type of ceramic board and shall save daily power consumption of 9,135 degrees. Investment will be 49,500 thousand NT dollars. The annual benefit will be 8,808 thousand NT dollars. (Continue the plan of 2016)</p>	3A Factory	Mar 2017

4.1.3 Usage Condition of Raw Materials

The spirit of "Diligence & Simplicity" of founder Mr. Yung-Ching Wang was adhered to by not wasting every item of raw material for production. Besides recycle for reuse, the rationality and applicability of raw material usage are proactively discussed. And the simplification of production process can be done to reduce the usage of raw materials. Not only the output of wastes can be reduced but also production costs can be lowered so as to achieve win-win purposes of economy and environmental protection. There is responsible organization in the company to stipulate implementation plan every year to reduce usage of raw materials. Periodically the performance of raw material usage reduced is reviewed.

The usage of raw materials and output in 2016 is shown as follow:

The diagram illustrates the flow of raw materials and their conversion into products. On the left, a table titled 'Input' shows various raw materials consumed. In the center, a green triangle labeled 'NTC FAB' represents the manufacturing process. On the right, another table titled 'Output' lists the products and wastes generated.

Input	
Production of raw materials	Consumption
Raw material of wafer (1,000pcs-12-inch)	752
Chemicals of process (Ton)	39,523
Gases of process (million M ³)	3,413
Electricity (million kwh)	430
Clean water (1,000M ³)	4,429

Output	
Product	Yield
Raw material of wafer (1,000pcs-12-inch)	740
Exhaust	Emission
Greenhouse gases (ton-CO ₂ equivalent)	288,652
Volatile organic gases (Ton)	15.72
Sulfide (Ton)	1.28
Nitric Oxide (Ton)	1.67
Effluent	Drainage
Effluent Volume (1,000M ³)	1,866
Wastes	Output
General industrial wastes (Tons)	5,354
Hazardous industrial wastes (Tons)	4,716

The Proportion of Recycled Raw Materials Used for Production

In 2016, the proportion of recycled raw materials used for production raw materials was 73%. It was because the rest 27% was damaged or not conforming to applicable standards of factory during re-fabrication process to be scrapped and proceeded with sale by tender by Materials Division. During production process of NTC, control wafer is necessary to monitor process conditions. The used control wafers are repetitively reused through re-fabrication. Every piece of control wafer is expected to be used for 5~10 times. (Difference exists by various process) Thus the cost of purchasing brand-new control wafer can be saved and plenty of wastes output can be mitigated.

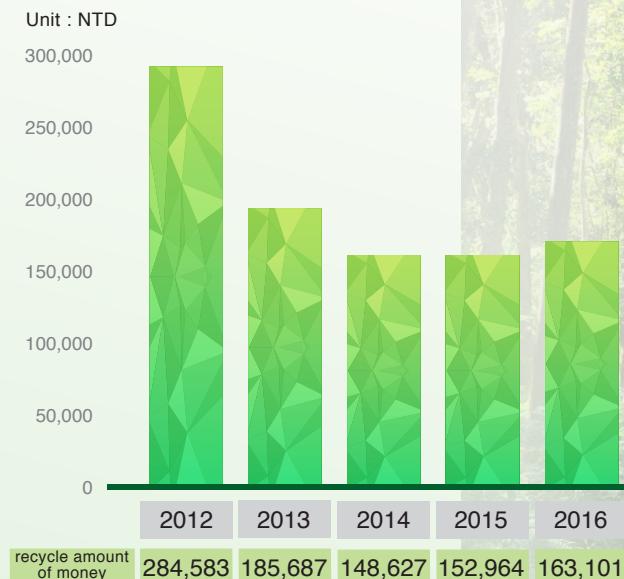
The packaging materials for product shipment are all recyclable materials including cartons, buffering materials, outer cartons, and wafer cassettes...etc. These packaging materials all conform to the provisions of EU regarding the restriction of 4 heavy metals weight of Pb, Cd, Hg, and Cr6+ contained within packaging materials not exceeding 100ppm. The universally prohibited PVC is included.

Packaging materials used from product shipment to outsourced testing or packaging factory including cartons, outer cartons, buffering materials, and wafer cassettes are all recycled back to the company for repetitive use without any efforts spared. And the wafer cassettes used for raw materials of wafer are also recycled for repetitive use on product shipment. The repetitive use rate is nearly 100%. The preceding approach reduced the consumption of packaging materials and wastes generation to the minimum. This approach may reduce approximate the consumption

of 21,000pcs 12-inch brand-new wafer cassettes every year which equals to reduced consumption of 94.5 tons of plastics.

Reduction of Product Packaging Materials

The own warehouse of finished products responded to the act of recycle for reduced material consumption. The action started from recyclable packaging materials. The reusable packaging materials of returned finished products are recycled to be used on the exchange, storage, and commissioned work of NG products to reduce the times of application and purchase and achieve the act of recycle for reuse and reduced packaging materials. And the costs of packaging materials used can be reduced as well. Although the saved amounts were small, for the acts of overall environment conservation and recycle for reuse the action had done pretty well. The consolidated performance is detailed as follow:



Unit: 1,000 NT dollars

4.1.4 Expenditures of Environmental & Safety and Benefits

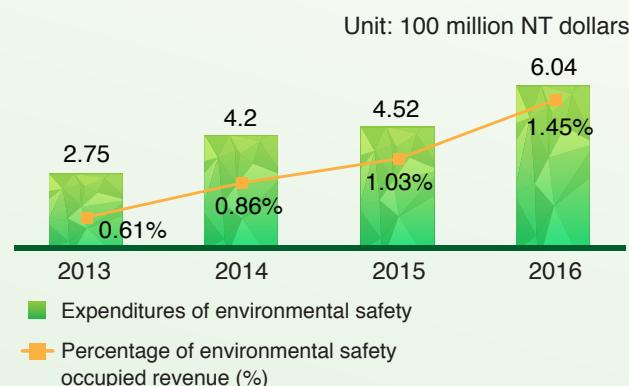
In Aug 2008, the company cooperated with the policy of Formosa Plastics Corporation and started to introduce environmental accounting system. And in Oct. 2009, the accounting system of environmental benefits was introduced to be officially online in 2010. This fully exhibited the determination and capability of the company on management of environmental protection. Through the introduction of environmental accounting system, corporate information of environmental expenditures can be mastered and benefits of environmental expenditures can be evaluated. And the acts of environmental protection can be specifically and accurately disclosed to interested parties.

Environmental accounting of the company followed the rules of EPA to classify the statistics of environmental expenditures for the use of internal management. Efforts of the company on environmental protection can be better understood by others. Since 2013, the statistic data of environmental accounting added the expenditures of workplace safety, fire prevention, and hygiene items. All expenditures of environment, safety, and hygiene were all included for statistics.

After summary of statistics, Running Expense 556,912 thousand NT dollars were spent on environmental safety and hygiene in 2016. Capital expenditure was 46,726 thousand NT dollars. In total it was 603,638 thousand NT dollars. In 2016, corporate revenue was 41.63 billion NT dollars. The percentage of expenditures occupied 1.45%. The categories are detailed as follow:

Year	2016	
Categories	Running Expense	Capital expenditure
Operating Expense of the Company	424,451	46,726
Correlated Costs of Upstream Vendors and Downstream Customers	992	
Costs of Management Activity	6,073	
Costs of R&D	113	
Costs of Social Activity	3,321	
Costs of Damage and Compensation		
Environmental Taxes and Fees		
Expenditure Costs of Safety and Hygiene	121,798	
Sum	556,912	46,726
Total	603,638	

The expenditures of environmental safety in 2013-2016 are detailed as follow:



Through the promotion of various projects of environmental protection within factories in 2016, the subsequently generated actual benefits of environmental protection and saved expenditures are summarized as follow:

- Energy saving (electricity) project: 1 completed with yearly benefits of \$4,427 thousand NT dollars
- Wastes reduction project: 1 completed with reduced waste glass output for 60KG per month
- Mitigation of the impact of effluent quality on ecology: 3 completed
- Project of reduced raw material consumption used for process: 6 completed with yearly benefits of \$8,168 thousand NT dollars
- The actual benefits of recycle for reuse of industrial wastes were \$14,021 thousand NT dollars including the income out of recycle for reuse of items such as waste photoresistors, waste wafers, waste computer monitors, laptops, desktop PCs, printers, waste batteries, waste lamps, lubricating oils, waste packaging materials, waste cartons, waste metals, waste plastics, and other wastes of industrial wastes.

4.2 Management of Climate Change

4.2.1 Risks of Global Climate Change and Countermeasures

Legal Aspect

EPA of Taiwan already published "Greenhouse Gas Reduction and Management Act" in July 2015 to request companies to implement reduction measures and announce reduction schedule. In the future, the principle of environmental justice for user to pay will be adhered to. Emitting quota will be gradually planned towards ration. Besides, the taxation mechanism of imported petrochemical fuels will be promoted to comply with climate change. Also the neutral principle will be consolidated to facilitate social welfare. This act will restrict the production and expansion of company. For the inventory and reduction of greenhouse gases, the company has proceeded internally for years. This also exhibits our advanced aspect prior to legislation.

Substantial Sspect

Existing facilities at present are already capable of dealing with extreme weather incidents. However, the energy costs may increase significantly accordingly. And extreme weather can also affect regular transportation or air freight and result in certain operational risks. Therefore, more and more typhoons and floods may also increase the commuting risks of staff. Thus focusing on safety issues, propaganda of personal safety of employee shall continue to be reinforced to mitigate the risks of staff injuries caused by extreme weather. Moreover, the consumption of natural resources will significantly increase our operational costs. Consequently certain volume of raw material stock will be maintained to prevent supply from influence of

extreme weather. The company is subsidiary of Formosa Plastics group. The group is now proactively promoting energy saving measures. This enable us to gain more related experiences in saving measures.

Others

At present consumers may have more requirements for power consumption of electronic devices, especially the usage times of low-power chipset and battery. We are dedicated to the R&D of production technology to create more competitiveness of our products. Of course, for us it's not only a challenge but also an opportunity.

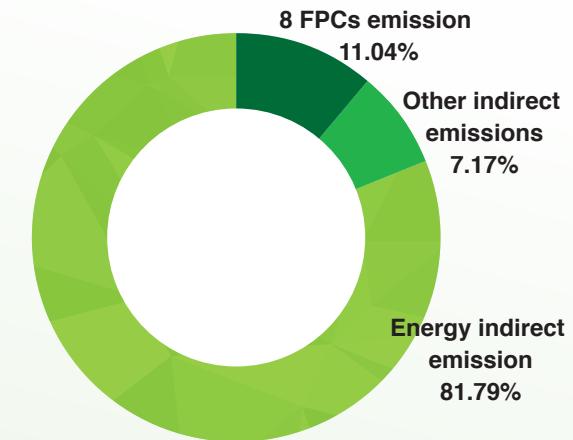
4.2.2 Inventory and Reduction of Greenhouse Gases

The main emission sources of greenhouse gases from semiconductor factory are electricity and Perfluorocarbons (PFCs). Amongst electricity is necessary for production thus the effect of reduction is limited. Another emission source is used by PFCs. In process, the company uses PFCs and same compounds including CF_4 , C_3F_8 , C_4F_6 , C_4F_8 , CHF_3 , CH_2F_2 , SF_6 , and NF_3 ...etc. are all greenhouse gases with (Remark 1) High Global Warming Potential (GWP).

Since 2005, the company has participated in the inventory on greenhouse gases and reduction program launched by TSIA. Through inventory of internal calculations, an inventory list and report of greenhouse gases were created. And since that year ISO 14064-1 3rd party certification was introduced to ensure the integrity and credibility of inventory data on greenhouse gases. At present there are 3 categories of greenhouse gases: scope 1 direct emission, scope 2 indirect emission of energy, and scope 3 other indirect emission. So far only scope 1 and 2 were quantized.

The company adopted operational control method for greenhouse emission data. The main source of greenhouse emission was purchased energies (occupied about 81.79%) and PFCs used in process (occupied about 11.04%). In 2016, greenhouse gas emission was 288,651.942 ton-CO₂e. Amongst emission of scope 1 was 52,556.009 ton-CO₂e without any CO₂ emissions generated from burning of biofuel. The emission of scope 2 was 236,095.934 ton-CO₂e. The inventory scope was 3A Factory in Taiwan.

Greenhouse gas emission in 2016

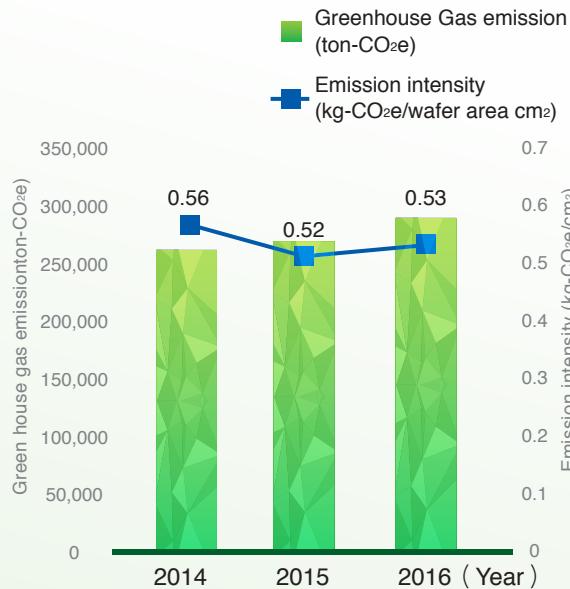


1 : 8 PFCs emission included process gases of CF_4 , C_3F_8 , C_4F_6 , CHF_3 , CH_2F_2 , SF_6 , and NF_3 .

2 : Other indirect emission included process gases of CO_2 , CH_4 , N_2O , and non process gases of HFCs and SF_6 for such as fire extinguishing equipment, high-voltage electroplax, refrigerator, and freezer...etc.

3 : Energy indirect emission included the usages of electricity and steam.

Greenhouse Gas Emission



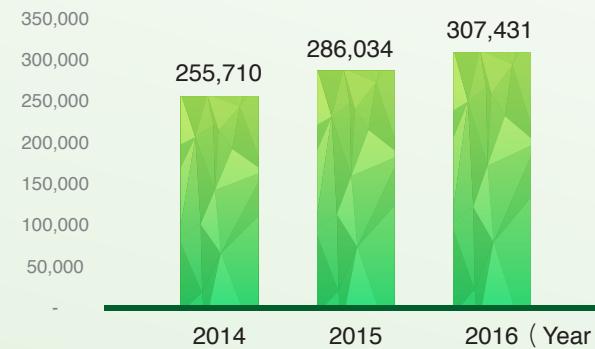
3A Factory of the company started operation in 2008. The inventory on greenhouse gases also started in that year to proceed with calculation and verification. Thus the year 2008 was selected as the base year of greenhouse gases inventory of the company. In base year the emission was 182,914.996 ton-CO₂e. The greenhouse emission of 3A Factory in 2016 increased about 57.81 % compared to the base year 2008. Product yield increased about 148.56%. From the aspect of unit product emission, the emission intensity of 2016 was 0.53 kg-CO₂e/Product wafer area cm² which decreased 36.51% compared to the base year 2008. The emission intensity (Remark 2) all maintained a certain level that shows the effect of greenhouse gas reduction of the company.

Reduction of Greenhouse Gases

Based on the high GWP characteristic of PFCs, TSIA and EPA, Executive Yuan of Taiwan co-signed the MOU of PFCs Emission Reduction. The target of reduction cooperated with the commitment of WSC. That emission strength of PFCs shall decrease 30% from 2010 to 2020. Thus the company has started reduction program of greenhouse gas reduction since 2006.

During construction planning of 3A Factory, budget had been prepared to purchase high reduction rate Local Scrubber (Remark 3). At present the PFC Local Scrubber used in thin-film and etching area is direct Burn Type which destroys PFCs by means of high heat of burning. The factory stipulated the acceptance standards of destruction rate of Local Scrubber used for PFC process to mitigate the dissipation of PFCs into the air. The efficiency of CF₄ gas treatment shall achieve 90% and above. And the destruction rate of treating C₃F₈, C₄F₆, C₄F₈, CHF₃, CH₂F₂, and SF₆ shall achieve 95% and above. The destruction of NF₃ shall achieve 99% and above. After establishment of Local Scrubber, FTIR (Remark 4) is used to test the destruction rate of various gases to conform to the rules of overall emission on MOU.

PFC Reduction Performance



The company proactively promotes voluntary reduction by participating in the Voluntary Reduction Project of Industrial Greenhouse Gas during 2011-2016 launched by Industrial Development Bureau Ministry of Economic Affairs. Refer to 4.1.2 energy-saving measures which details completed greenhouse gas reduction project in 2016 and planned implementation project in 2017.

Remark:

1. Global Warming Potential (GWP) denotes the global warming strength of certain gas compared to CO₂ (The GWP of CO₂ =1). The high GWP indicated in this article denotes those GWP higher than 675. (Based on the GWP of 4th FAR by IPCC)
2. Emission intensity : The greenhouse gas emitted by unit produced wafer.
3. Local Scrubber: Local exhaust treatment equipment.
4. FTIR: Fourier-Transform Infrared Spectrometer

Carbon Disclosure Project

The company has an open attitude towards carbon disclosure and participated in the evaluation of Carbon Disclosure Project (CDP) by NPO(Nonprofit Organization). Every year the related information of greenhouse gas emission and reduction information were disclosed. The information of greenhouse gas emission includes scope 1: Direct emission generated from factory and scope 2: Indirect emission of purchased electricity and steam. The related information was directly disclosed on CDP website.

Besides CDP and the publicly disclosed related information of carbon emission of this report, customer request was responded to disclose greenhouse gas emission and reduction information on the greenhouse gas report system of Electronic Industry Citizenship Coalition (EICC). Or customer request was responded to provide related data of carbon emission to help customer establish the carbon footprint of its product.

4.3. Green Product

4.3.1 HSF Management Policy of Green Product

Through GPPC, the company referred to regulation of EU and other regional countries and the hazardous substance management specifications of international customers to stipulate the general rules of environmental management substances for parts and materials that conform to environmental legal requirements of international products. HSF management was promoted to focus on the sources of raw materials and related materials to conduct effective control so as to achieve the standards of green products and mitigate the impact on natural environment during production process of product in pursuit of green technology and co-existence and sustainability of environment.

Conformity to Present and Future Legislation

Through the establishment of HSF management system of materials, the wafer produced by the company and back-end IC packaging products are all confirmed to comply with international regulation and related requirements of customer towards HSF management including:

- EU RoHS
Since the promotion of HSF management in 2005, the requirements to conform to RoHS 2.0 (2011/65/EU) have been proactively requested. The homogeneous materials used by IC/wafer products must be controlled to conform to restricted threshold values: All contained concentration of Cadmium needs less than 100ppm; Lead, Mercury, Hexavalent Chromium, PBBs and PBDEs and 4 Kinds of Phthalates chemical substances of DBP, BBP, DEHP; and DIBP within homogeneous materials must lower than 1,000ppm.
- Halogen-Free (HF) Requirement of Electronic Product
According to IEC 61249-2-21 of International Electrotechnical Commission managing Halogens flame

retardant; the homogeneous materials used on IC/wafer products must be controlled to conform to following threshold values:

- (1) Bromine and chloride content each is less than 900ppm,
- (2) Total Halogen (Bromine + Chloride) content is less than 1,500ppm in the homogeneous material.

• Restriction Standards of PFOS

Materials contained PFOS had been fully forbidden to be used in wafer process since 2010.

• EU REACH

Focusing on the hazardous substances appendices and the list of Substance of Very High Concern (SVHC) published by EU REACH, the new list shall be periodically submitted to vendors/contractors every 6 months with hazardous substances survey form for their response with survey results. And the content or used value shall be recorded. At present the wafer and IC products produced by the company conform to REACH requirements.

• Management of Product Packaging Materials

The packaging materials used for product shipment conform to EU requirements. Homogeneous materials must conform to threshold values: The total content of heavy metals of Cadmium, Lead, Mercury, Hexavalent Chromium must be less than 100ppm. And PVC is forbidden to be used on plastic materials.

Management of Hazardous Substance Restriction

The company stipulated the general rules of management on parts and environmental management substance of materials. Focusing on the sources of raw materials and related materials, effective control must be conducted to conform to international legislation such as ROHS, REACH, Packaging Material Directives, and WEEE...etc. and customer requests to achieve green product standards and mitigate the impact of product on natural environment.

Following Hazardous Substance Restriction Management Items Were Completed in 2016 (focusing on homogeneous materials):

- ROHS report items of 3 contractors and 38 raw materials vendors were reviewed. 531 ROHS reports were reviewed and completion proportion was 100%.
- 2 versions of REACH SVHC item survey (REACH SVHC V.14 & V.15) were completed. 116 hazardous substance survey reports were reviewed. The completion proportion was 100%.
- Customer specification requirement item was completed. 1 version was surveyed.
4 hazardous substance survey reports were completed. The completion proportion was 100%.

4.3.2 Conflict-Free Minerals Management

CMR is the survey report mainly focusing on product contained gold, coltan, cassiterite, wolframite, tantalum, tin, and wolfram. The metal minerals used in our products at present such as Gold, Tantalum, Tin, and Tungsten (jointly called 3TG) may come from DRC or its adjacent countries. And some sources come from recycle or scrap metal.

The company did not directly purchase original mineral or unrefined 3TG, and never purchased illicit minerals from DRC, adjacent countries, or armed organization in other conflict regions to make sure supply chain will not directly or indirectly sponsor illegal organizations.

Responsible Investigation

The responsible investigation of the company consists of following elements:

1. Establishment of supply chain management system
2. Assess the risk of supply chain
3. Periodically concompany the recent news and update of CFSI
4. Submit report focusing on supply chain

3TG Metals Corresponding to Product Categories of the Company and Investigation Data

At present the company is the supplier of niche SDRAM. Based on responsible investigation of supply chain and comparison with qualified refiner of CFSI, 42 vendors must respond the sources of 3TG metals. And in supply chain investigation, the follow was identified:

- 42 vendors passed CFSI audit and obtained certification.
- 11 vendors' 3TG metals came from recycled or scrap metal.
- 5 vendors' 3TG metals were from legal purchases from DRC or adjacent countries.

Corresponding product are categorized as follow :

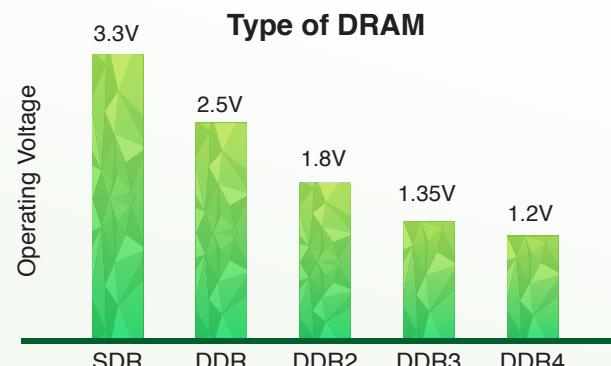
Metal	Applicable product	Application category
Gold	IC	Gold wire
Tantalum	wafer	Target material of wafer process
Tin (Sn)	IC	Solder paste, solder ball, and tin wire
Tungsten	wafer	Target material of wafer process

Number of 3TG refiners conformed to Conflict-Free Minerals policy	42
Proportion of vendors/contractors had Conflict-Free Minerals policy	100%
Amongst Conflict-Free Mineral certified 3TG refiners, proportion of legal purchases sourced not from DRC or any adjacent countries.	88%
Amongst Conflict-Free Mineral certified 3TG refiners, proportion of legal purchases sourced from DRC or any adjacent countries.	12%

4.3.3 Design of Low Power DDR (Mobile DDR)

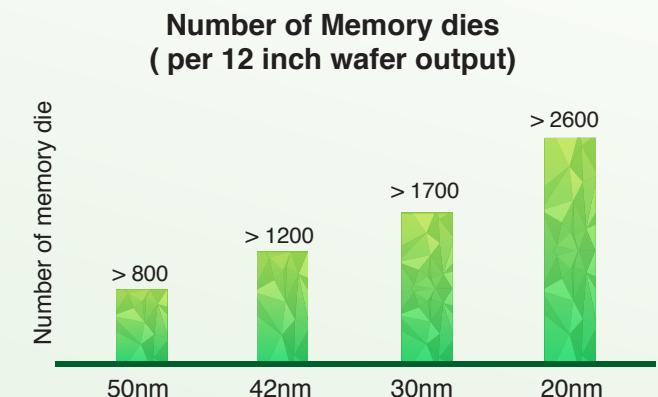
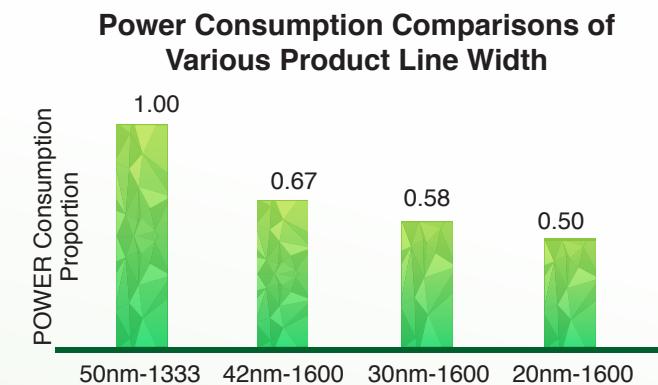
New Process Technology of Low Power Consumption is Provided

NTC continues to research and develop manufacturing technology to provide more advanced, manufacturing service with higher efficiency, and continues to reduce the consumed energy resource and generation of pollutants by unit product. And at product usage phase, the objective of low power consumption and low pollution can also be achieved. The working voltage of DRAM product on difference standard interfaces successively decreased as shown below. Its consumed power also has equivalently decreasing tendency along with decrease of working voltage.



When the process technology of semiconductor moves forward a generation, the line width of integrated circuits can continue to shrink that makes die area gets smaller and smaller. The energy resource, raw materials consumed by manufacturing unit wafer are naturally getting fewer and fewer. That also makes the consumed power by unit product gets lower. Take DDR3 of the company as an example, under state of usage, the actual test result of power consumption of 20nm/30nm/42nm process had lowered respectively for 50%/42%/33% compared to 50nm process. The detail is shown as following figure: The comparison the power consumptions among various line widths

Along with the evolution of process technology, the advanced technology has brought us higher yield under same wafer area. For example, the number of equivalent memory dies produced from 20nm die is about twice of 42nm. As shown on attached figure, the consumed resources has comparatively decreased:



4.4 Planning of Green Architecture

Green Factory

To relieve the deterioration of ecological environment and mitigate the phenomenon of greenhouse effect and global warming, hopefully the minimum resource is consumed and the fewest wastes are generated. NTC has stipulated environmental protection policy. By means of continual elevation of technology, self-control, and continual introduction of high-performance pollution preventing technology and equipment, hopefully the objective of co-existence, co-prosperity with environment and sustainability development of the earth can be achieved.

Green Architecture

The experiences and performances of reduction from source, and recycle for reuse by previous promotion by every department are rationally used. By means of hiring external counselor of green architecture and complying with domestic EEWH criterion, green architecture was planned and constructed. In 2015, the new factory of 3A-N located in Linkuo was awarded a Candidate Green Architecture Label by ABRI, MOI. It is scheduled to obtain silver level certification of EEWH in 2017.

Green Architecture and Future Planning of Green Factory The design features of corporate green architecture:

New factories are planned by design principle of green architecture and green factory.

Established factories proceed with evaluation of green architecture and green factory. Related green design will be introduced successively.

NTC promotes green factory certification

2016



Certificate of Candidate
Green Architecture
FAB 3A-N Factory (2016)

2017



Green Architecture Certificate
FAB 3A-N Factory (2017)

Besides introduction of various energy-saving design of green architecture, water resource and base water retention indicators are particularly reinforced and are all greater than legal design to show NTC's action and determination of ecologic protection strategy.

Base water retention



JW construction method was adopted to create "breathable road". Besides excellent permeability performance, there was also practicability as well. The load is better than ordinary permeable open-celled stones. Besides, there are functions of soil activation, restoration of microorganisms, cooling, and assimilation of CO₂.

Reduction indicator of CO₂



Air-con and water pipes adopted exposed pipe design which will not compromise structure and decoration during maintenance. All equipment installed on the roof has a substrate to prevent damage to water-proof layer during update and maintenance. Enough pipeline space is reserved which will not compromise structure and decoration during maintenance. Weak current system of telecommunication has enough expansion space reserved.

Greening degree



Arbors are mainly original species or those which lures birds and butterflies. The interval between tree and tree was enlarged the room for growth of arbors. Besides the greening of surface layer, greening spaces were also designed on the roof and facades in hope that the fixed carbon content of CO₂ can be effectively increased.

Water resource



2-phase toilet bowls, urinals with automatic sensor, and water hydrants with water-saving mark were adopted to achieve the effect of water saving. Rainfall recycle pool was set in factory. Besides recycled rainwater can be well utilized, water rate can be saved, too. The recycled rainwater is used for irrigation.

Energy-saving design of illumination



LED lighting is adopted in offices, conference rooms and related electromechanical spaces to significantly reduce illuminating power consumption without affecting the indoor illumination.

Energy-saving design of air-conditioning



The design adopted dual iced-water system and large temp-difference system. And the selected high-efficiency iced-water mainframe can significantly reduce the operating power consumption of air-con. VAV system was adopted in clean rooms.



ECO-FRIENDLY DRAM PROVIDER

2016 Corporate Social Responsibility Report

**Create Happy
company Promote
Co-prosperity of
Society**

- 5.1 Organization Optimization
and Human Resource**
- 5.2 Salary and Welfare**
- 5.3 Career Development**
- 5.4 Respect for Human Rights**
- 5.5 Safety in Workplace**
- 5.6 Social Participation**



Aspect

Short-term Objective (1-2 years)

Training : Expansion of training system

Social participation : On a basis of good neighborliness. The peripheral footpaths were selected (such as Chiung-Tzu Lake Footpath, Chi-Tou Footpath, and Yi Hsueh Keng Mountain Climbing Footpath) to conduct mountain cleaning activities.

EICC : Establish self-evaluation questionnaire system of supplier.

Occupational health and safety :

- Major occupational disaster= 0.
- Frequency and severity of staff's disabled injury=0.
- Elevate safety & hygiene management projects for 5%.
- Prevention of occupational disease and health seminar for 5 times.
- Promote epidemic prevention projects of emerging epidemic diseases.

Medium and Long-term Objectives (3 years and above)

Training : Employee development and sustainable operation.

Social participation : Create the co-prosperity circle of company, employee land, and local residents.

EICC : Elevate the checking rate of vendor audit. Elevate emphasis on human rights in electronic industry.

Occupational health and safety :

- Major occupational disaster= 0.
- Frequency and severity of staff's disabled injury=0.
- Elevate safety & hygiene management projects for 5%.
- Prevention of occupational disease and health seminar for 6 times.

5.1 Optimization of Organization and Human Resource

NTC regards staff as the most important asset and the key to sustainable development of the company. Based on the idea of loving and cherishing talents, the company created a humanized and comfortable working environment. Upon newcomer's registration in the company, systematic trainings of the company are given. By means of diversified leaning and developing resources, professional knowledge and skills of semiconductor can be rapidly accumulated. And reasonable salary and rewards can be obtained. Besides, for the balance of employee's work and living quality, employee welfare committee hosts lively and plentiful staff recreation activities every year. After hard work, employee can happily participate in various recreation tourism itineraries in a relaxing way.

We're convinced that high-quality and stable human resource is the consolidated footstone for the company to move towards success and sustainable operation. The company shall continue to provide the suitable environment for talent development. Talents are gathered to sustain the corporate development.

5.1.1 Stable Human Resource

The HR structure of NTC is stable and healthy. In 2016, there was formal staff of 2,594 persons which occupied 99.12% of total labor force of the company. There were 23 unformal short-term manpower including contracted advisors, regular contracted personnel, and servitor...etc. which occupied 0.88%.

Male employees were 1,767 persons and female were 827 persons. The proportion of male/female was 2:1. The nationality of 99.92% staff was Taiwan R.O.C. The average age of company employee was 36.7 years old. Amongst the generation between 30-49 years old was the major labor force of the company which occupied 77.2% of the entire official employee. Formal and unformal employee was 100% employed by the company without any 3rd party agencies. There were no part-time employees. 100% of employee was full-time.

Employee Manpower Structure and Employment Categories

Category	Female	Male	Number of persons
			
Fomal personnel	827	1,767	
Unformal personnel	6	9	Total 23 persons. Their employments were short-term without fixed duration thus were not included into the calculation of total staff number.
	3	5	

To remain the employment obligations for labor and management team, not only employee receives offer letter before official date of registration but also the company signs documented employment agreement with newcomers on the day of registration. The signature rate of employment agreement achieved 100%. All NTC's employee is fully secured by employment agreement. All employment terms proceed under free will and consent of both parties. There is no compulsory or involuntary labor to do work. Semiconductor industry has characteristics of concentrated capital and techniques. The factory facilities and equipments which usually cost billion NT dollars and need R&D manpower. Every year plentiful brilliant talents with engineering background of college dedicate themselves into this industry to contribute their studies. By Dec. 30 2016, total number of employees in Taiwan was 2,594 persons, amongst 80.7% was professional manpower. The overall manpower quality was good and HR structure was healthy. The growth of manpower was stable. And they are a strong foundation for company to develop process technology and new product development. The ages and educational backgrounds are shown as following table:

Distribution of Formal Employee by Region ,Age and Educational Background

Category	Female		Male		Total		
	Number	Proportion of group	Number	Proportion of group	Number	Proportion of group	
Regions	Luzhu District, Taoyuan City	83	10%	223	12.6%	306	11.8%
	Guishan District, Taoyuan City	136	16.4%	181	10.3%	317	12.2%
	Taishan District, New Taipei City	611	73.5%	1,360	77.1%	1,970	76.0%
Ages	< 29 years old	97	11.7%	384	21.8%	481	18.5%
	30-39 years old	487	58.7%	846	48.0%	1,333	51.5%
	40-49 years old	228	27.5%	442	25.1%	670	25.8%
	50-59 years old	18	2.2%	87	4.9%	105	4.0%
	> 60 years old	0	0%	5	0.3%	5	0.2%
Educational Backgrounds	Doctoral Degree	0	0%	19	1.1%	19	0.7%
	Master Degree	127	15.3%	685	38.8%	812	31.3%
	Bachelor Degree	330	39.8%	904	51.2%	1,234	47.6%
	College Degree	164	19.8%	110	6.2%	274	10.6%
	High School	209	25.2%	45	2.6%	254	9.8%
	Junior High School	0	0%	1	0.1%	1	0%

The manpower sources of technical engineering talents of company mainly come from match-making of factory-site recruitment and campus recruitment activities. Every year we hire engineering talents of bachelor, master, and doctoral degree holders at every college of Taiwan, the brilliant talents can be matched for job vacancy on the spot. For first-line workers, NTC collaborates with local Employment Service Station in both New Taipei and Taoyuan City to interview local residents to creates local employment opportunities aperiodically. The statistics show the company has 72.7% production operators coming from above two cities so as a feedback of local employment. The company also proactively cultivates local residents to become brilliant supervisors. The proportion of manager level posts held by citizens of Taoyuan and New Taipei City is 68.2%.

5.1.2 Recruitment of Brilliant and Creative Talents

The recruitment policy of NTC complies with Taiwan labor legislation and provisions of corporate ethical policy. Opportunity and environment of equal employment is provided. The selection of talents is totally considered depending on personal professional capabilities and experiences without any differences due to age, race, gender, sexual orientation, religion, political party, native place, marriage, appearance, and disability...etc. After employment, the system of job promotion performance assessment, training, reward/punishment of talent are specifically defined. From recruitment, specifically defined. The recruiting process from selection to job assignment is conducted in a fair, justice, and public way. Therefore, everyone can get same chances to take job opportunities or attend trainings for employee development. Complying with organizational reengineering as well as the production upgrade of 20nm, in 2016 there were 200 engineers added. To recruit aboved basic engineering manpower, 24 sessions of campus recruiting activities were held focusing on major colleges of Taiwan. The theme was "Shining on your working career". We went to campus to react, communicate and deliver speeches to young students. And those students who are intended to work in technical industry were encouraged to stick to their dreams. By consolidating each dream of us to make contribution to the growing prosperity of Taiwan semiconductor industry.

Sessions of Campus Recruiting Activities in 2016

Category	Session
Campus Recruitment Expo	12
Various Campus Explanation Session	12

Any talents who are dignity, optimistic, reliable, innovative, active, and open-minded are candidates who NTC is looking for. NTC wants to share the vision with talented people by offering good career development in order to make the world better together. For the year of 2016, the proportion of newcomers was 11.91%. The proportion of male and female was about 5:1. In 2016, employed employee had no incident of human rights violation or discrimination, and child labor had never been hired for work. The youngest employee of the company was born in Mar 1998 who is near to 19 years old. NTC conforms to legislation and standards of Electronic Industry Code of Conduct (EICC), we commits no child labor whose age is under 16 will be hired in the future.

Distribution of new Comer by Region ,Age and Educational Background

Newcomers	Group	Female		Male		Total		
		Number	Proportion of group	Number	Proportion of group	Number	Proportion of group	
Newcomers	Regions	Luzhu District, Taoyuan City	1	2.2%	9	3.4%	10	3.2%
		Guishan District, Taoyuan City	8	17.4%	14	5.3%	22	7.1%
		Taishan District, New Taipei City	37	80.4%	240	91.3%	277	89.7%
	Ages	< 29 years old	28	60.9%	181	68.8%	209	67.6%
		30-39 years old	13	28.3%	64	24.3%	77	25.0%
		40-49 years old	4	8.7%	15	5.7%	19	6.1%
		50-59 years old	1	2.2%	2	0.8%	3	1.0%
		> 60 years old	0	0%	1	0.4%	1	0.3%
	Educational backgrounds	Doctoral Degree	0	0%	2	0.8%	2	0.6%
		Master Degree	10	21.7%	113	43.0%	123	39.8%
		Bachelor Degree	14	30.4%	132	50.2%	146	47.3%
		College Degree	5	10.9%	5	1.9%	10	3.2%
		High School	17	37%	11	4.2%	28	9.1%
		Junior High School	0	0%	0	0%	0	0%
Total of newcomers		46		263		309		
Proportion of the entire staff		1.77%		10.14%		11.91%		

Newcomers indicates: Those newly-hired and newly-employed in 2016

To cooperate with government policy of encouraging employment of the disabled, by end of Dec 2016 the company totally hired 23 persons who carry disability cards (20 males and 3 females) to work for the company and achieved the required employment for 100%. NTC also continues to assess appropriate job vacancy and job property for the disable to be employed in the company and keep following the rules of required employment quota by government.

5.1.3 Improve Security of Work

Complying with external industrial environment change and adjustment of business environment and variation, NTC continues to rationalize various operations. Based on the concept of protecting the employment, even under the most critical business environment, the company's priority to get through the difficulties was considering job transfers instead of layoffs for various manpower adjustments under the manpower consoli-

dated utilization mechanism of Formosa Plastics Group. The position transfers and layoffs of employee all proceeded with advance notice or announcement according to Labor Standards Act or related legislation. Supervisor also fully communicates with the interested party and proceeds by law. For the encouragement of employee to achieve organizational target and keep talents, the company set up a system of quarterly incentive bonus. Employee is encouraged to challenge business target working with the company, and share

the business result with the company.

The philosophy of Formosa Plastics Group is "Diligence, Frugality, and Pragmatism." NTC pursues the sustainability of company. The trust and acknowledgement of employee gained by management with favorable working environment and security. Thus, the employee turnover rate is more stable than other competitors of semiconductor industry. The employment turnover rate in 2016 was around 7.09%, and the turnover ratio of male/female was 12:5.

Distribution of Resigned and Retired Personnel by Region ,Age and Educational Background

		Group		Female		Male		Total		
Resigned and retired personnel	Regions	Number	Proportion of group	Number	Proportion of group	Number	Proportion of group	Number	Proportion of group	
		Luzhu District, Taoyuan City	3	5%	11	7.6%	14	6.9%		
	Ages	Guishan District, Taoyuan City	6	10%	12	8.3%	18	8.8%		
		Taishan District, New Taipei City	51	85%	121	81.4%	172	84.3%		
		< 29 years old	19	31.7%	58	40.3%	77	37.7%		
		30-39 years old	31	51.6%	58	40.3%	89	43.6%		
		40-49 years old	9	15.0%	20	13.8%	29	14.2%		
		50-59 years old	1	1.7%	4	2.8%	5	2.5%		
		> 60 years old	0	0%	1	0.7%	1	0.5%		
	Educational backgrounds	Retired	0	0%	3	2.1%	3	1.5%		
		Doctoral Degree	0	0%	3	2.1%	3	1.5%		
		Master Degree	13	21.7%	52	36.1%	65	31.9%		
		Bachelor Degree	20	33.3%	66	45.9%	86	42.1%		
		College Degree	9	15%	10	6.9%	19	9.3%		
		High School	18	30%	12	8.3%	30	14.7%		
		Junior High School	0	0%	1	0.7%	1	0.5%		
Total of resigned and retired personnel			60		144		204			
Proportion of the entire employee			2.31%		5.55%		7.86%			

5.1.4 Provide the Industry With Internship for Talent Cultivation

Very early Formosa Plastics Group realized the achievement of a company lies in not only own efforts and actions but also the support of society. Believed that "What is taken from society shall be used in society", when company's business is successful. Formosa Plastics Group deeply comprehends the importance of rooting by education for the cultivation of citizens' basic capability. To give back to society and cultivate brilliant talents for the country and society, the company not only paid for reconstructing elementary schools in disaster area but also on the aspect of higher education the company successively established 3 colleges of CGU, CGUST, and MCUT. And industry-academy cooperation was proactively promoted. In 2016, our company provided 12 intern quotas for MCUT students who may learn the operating practice of company during practice in factory. Besides, NTC continues to sponsor Seed Talent Program (STP) and provides colleges island-wide with internship opportunities in the company. During students practice in factory, tutors of each division shall instruct special project to help students to consolidate theory into practical work so as to cultivate brilliant, cross-domain project talents. Besides, the company also conducts cooperative education with other schools such as YZU. YZU students study in the factory and their reflecting for the practice was good.

5.2 Salary and Welfare

For every employee to work secure at Formosa Plastics Group to fully perform one's specialty, Formosa Plastics Group adheres to the idea of "Employee is regarded as a family member". Basic catering, accommodation, and recreation facilities are prepared in every factory site in consideration of long-term welfare of employee. As a member of Formosa Plastics Group, employees of NTC enjoy comprehensive compensation and group's benefits. As a part of Formosa Plastics Corporation, NTC can share related facilities of Formosa Plastics Group

and stable salary and welfare package. NTC as a member of semiconductor industry. NTC will also continue review our policies and plan competitive salary, welfare and related facilities with industry-specific features to sharp corporate image.

5.2.1 Provide Favorable Salary and Rewards

The initial salary standards of newcomers of NTC mainly bases on the individual basic conditions, wage level of semiconductor industry, local economy and manpower market before employment agreement is negotiated and signed. The proportion of initial salary for male and female employee is 1:1, and the standard of salary and welfare items is consistent for male and female. There's no difference because of different genders. The salary and rewards are paid twice per month on every 5th and 20th to be scheduled by computer through remittance on time. All employees can obtain their salary and rewards before pay day. The company never delayed any payment. And the adjustment of employee's salary and welfare is determined by referring to employee's working performance.

The company's salary and welfare system was discussed and planned in consideration of industrial competitiveness, overall economy, and the sustainability of corporate culture and through the investigation of local salary and regional salary so as to ensure the talent competitiveness of overall salary and rewards of the company. Besides, the company additionally provides variable rewards such as bonus...etc. to be paid with determined amounts according to employee's individual performance and the achievement rate (or profit level) of organizational objectives. There's no difference between genders. The business results are shared with colleagues to encourage excellent performance of employee. NTC provides employees with basic security of job rights and reasonable salary and welfare in hope that employee can fully perform one's potential without financial concerns of life. Employee is encouraged through bonus system to elevate the performance of

division and organization. In 2016, summarized quarterly incentive bonus and yearly bonus, every employee actually obtained bonus for the amount over 4 month salaries.

The primary items of salary rewards and bonus are detailed as follow:

Competitive salary

Year-end bonus, three major festivals bonuses, diligence bonuses of Dragon Boat/Mid-Autumn Festivals, performance-related/ incentive bonus.

Employee bonus and Employee Stock Option Plan

The minimum initial salary standard for first line operator in production line is NT\$ 23,520 per month which is 11.9% higher than the minimum basic salary NT\$ 21,009 of Labor Standards Act. The minimum standard of initial salary for engineering position with bachelor degree is above NT\$ 34,620 which is 64.7% higher than the basic salary of Labor Standards Act. The initial salary standard and compensation condition of the three working locations in Taiwan are consistent. In general, the payment and welfare provided by the company are competitive. Employee can also enjoy various welfare items and facilities as well as stable working and living quality. In order to fully comply with standard working hours of Labor Standards Act and fulfill the commitment of caring for employee's working and living quality, the company manages employees working shifts through a work attendance system to provide unusual reminder to avoid overtime work and the system already works well.

NTC provides parental leave and job retention system. Employee can freely propose the application for parental leave for those employees who are in need can duly plan the equivalence between family and work without any concerns about parenting for family and nor shall they give up current working opportunity. In the long run, the effect of social stabilization is achieved. In 2016, there were 8 new applicants for parental leave. Totally the amount of parental leave of the year was 43 employees (40 females and 3 males).

Application for Parental Leave and Job Retention, and Reinstatement Rate

Items	2014			2015			2016		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Practical applicants for parental leave and job retention	33	0	33	34	4	38	40	3	43
The reinstated employees of current year (A)	4	2	6	8	0	8	8	0	8
The reinstated employees of current year (B)	4	2	6	8	0	8	8	0	8
Reinstatement rate % (B/A)			100.0%	100%	100%	-	100%	100%	-100%
Retention rate %	75%	100%	83%	75%	-	75%	87.5%	-	87.5%

Remark: "Retention rate" indicates the percentage of employees who has reinstated for longer than 1 year after parental leave and job retention.

"Reinstatement rate" did not include the applicants who proposed successive job retentions in current year.

5.2.2 All-around Employee Welfare

Under the payment and welfare idea of "Employee is regarded as family member", every factory site of NTC is planned with diversified welfare facilities of catering, accommodation, commuting vehicle, and parking lot. Composite catering options are available in spacious and comfortable dinning environment. Clean and sanitary dormitories are available for single employee and family members. Sufficient parking lots for cars and motorcycles are available. There are multiple lines of commuting vehicles. Colleagues are provided with hygeian

and healthy meal, reassuring dormitory environment, and convenient commuting options.

Therefore, convenient stores were introduced (7-11 and FamilyMart). Various shops and service are provided in factory like coffee/fruit bar, insurance, bank, communication, medical and beauty products, and travel agency...etc. to look after and satisfy living demands of employees. The overall welfare items are detailed as follow:

- Welfare of various leaves:
 - a. Employee is allowed to have various leaves like annual leave, marriage leave, official leave, Injury leave ,child-

birth companion leave, childbirth leave, sick leave, menstruation leave, funeral leave, family nursing leave, epidemic prevention leave, and expatriate's home leave...etc.

- b. Amongst the payment standard of sick leave, funeral leave of some relatives, and typhoon leave is better than the standard of Labor Standards Act.

- Insurance welfare:

- a. Employee is covered by Labor Insurance and National Health Insurance.
- b. Employee Welfare Committee insures group insurance for employees.
- c. The company cooperates with insurance company and provides various premium options for employee to freely select required insurance combination.

- Marital welfare:

- a. When employee or relative are in case of marriage or death, the company shall offer largess (funeral gift/items) and subsidize various level supervisors with largess (funeral gift).

- b. Nursing rooms are set within factory site for female employees' needs of breast-feeding (breast milk collection) at work.

- c. Raising leave is offered by law. Those employees who comply with the condition may adjust working hours depending on raising needs.

- Health care welfare:

- a. Some of periodical health checkup better than legal seniority for employee is available.
- b. Employee and family member are subsidized for medical and health checkup discounts at CGMH.
- c. Factory site is equipped with fitness or recreation activity facilities. The brand-new LOHAS pavilion, basketball court and badminton court are under planning of construction and are scheduled to open in July 2017.

- d. Aperiodically health and hygiene education information is issued. And health seminars are held in every factory site.
- e. Health Center and nursing personnel are set in every factory site to provide medical advices. And health promotion activities are held aperiodically.
- Retirement welfare: Conform to Taiwanese Labor Standards Law, the Company allots funds from legal rate of the salary each month and deposit the pension reserve into the financial organization designated by the government organization. Employee is given pension upon the legal age of retirement. Retirement souvenir is provided additionally.



- Welfare of employee's restaurant:
 - a. Daily catering subsidy for employee.
 - b. The employee's efforts are appreciated by additional occasional dishes during work days on special holidays and Chinese New Year.
- Living welfare:
 - a. Gifts (coupons) for birthday and 3 festivals and subsidy for year-end party.
 - b. Employee Welfare Committee sets travel subsidy for employee, scholarship for employee's child, subsidy for cultural activity, subsidy for community activity, contracted suppliers, and discount loan projects from various banks...etc.
 - c. Employee may apply for the reassuring



- accommodation environment of single or family dormitory at discount prices.
- d. Parking lots for cars and motorcycles are set. Multiple pickup transportation lines are planned for more commuting options of colleagues.
- Personal safety and family care:
 - a. Focusing on employee's death on duty, better deceased compensation than legislation is issued. For the deceased not because of duty, an average solatium of 6-month salaries is issued which is better than legislation, too.
 - b. The law has no rules but an additional solatium is given for the death of employee.



5.2.3 Performance of Employee

The purpose of NTC's performance management lies in constant development and exploring the potential of employee. Besides quality learning environment is provided, favorable performance management system is designed, the positive interactive among supervisors and colleagues are also emphasized. Besides routine yearly performance appraisal, every quarter supervisor must conduct the quarterly performance appraisal with colleagues. Through the evaluating interaction and communication between supervisor and employee, assistance and necessary care for employee is provided so as to achieve the objective of improving individual and organizational performance.

The steps of appraisal are conducted face-to-face between supervisor and subordinates. Working objectives of subordinates are classified in detail according to organizational objectives. Supervisor shall give employee feedback with performance appraisal according to the execution of working objectives. Those who have better performance shall be rewarded. Those who have weaker performance shall be continually cared by supervisor with reminders from system till there is significant elevation of their performance. There's no difference because of genders. In 2016, various performance management tools utilized by the company included: Yearly performance appraisal on the entire employee, 180 performance evaluation on supervisors, and 360 degrees preformance evaluation. Variant talent development tools provide employee of every level with most appropriate improvement advice of work performance.

5.3 Career Development

Through the planning and implementation of various welfare facilities , activation of organization, facilitation of two-way communication between employee and management team, NTC established sound and positive employee relationship. Brilliant employees are created as well as the win-win, jointly growing, and mutually beneficial mode.

5.3.1 Smooth Communication Approach

It is the important method to facilitate industrial harmony and reduce workplace dispute for staff and administrator to conduct public and direct communication. Therefore, NTC looks highly upon treating employee fairly and respects employee's rights including freedom of association, freedom of joining or not joining labor union, and participating in operation of Employee Welfare Committee. Consequently, employee can publicly conduct thorough communication with management level in various official or private domains, work conditions, payment and welfare, or personal opinion via following communicating approaches:

Communication meeting:
Besides the aperiodically convened meeting of the entire staff, every quarter production division convenes the quarterly meeting of line operators. In the meeting, not only recent related strategies and business performance of the company are announced but also some Q&A time is spared for colleagues to ensure smooth communication from top to bottom in the company. Every question and reply of communication meeting will be recorded and related division will be informed. Upon completion of process, the execution result will be published on internal website of the company.

Various two-way e-platforms such as Garden of Life and Opinion Feedback...etc. provide staff with interactive interchange or the channel to reflect unusual situation. Besides, the company also periodically publishes internal e-magazines (E-Paper of NTC). On one hand, a platform for colleague to perform one's talent. On the other hand, an approached is added to conduct propaganda of corporate policy and activity. Furthermore, there is a hotline established to prevent sexual harassment so as to consolidate equal rights of both genders.

Various e-questionnaire investigations : Including satisfaction with course, catering, and activity...etc.

Employee's opinion on enterprise rules and systems can be proposed through " Reflection of Opinion on Improvement of Management System".

Meeting of the entire employee is convened aperiodically



Suggestion Interchange Area of two-way interaction

意見交流區 Suggestion Interchange Area		
Hi 黃素香 您好！今天有新發表的主題→		飲水機無水可用
最新發表日	類別	票數
2017/01/09 上午 11:10:53	電子郵件信箱	1
2017/02/03 上午 08:16:40	電子郵件信箱	1
2017/02/03 下午 04:49:05	電子郵件信箱	1
2017/02/03 下午 12:54:15	電子郵件信箱	1
2017/02/06 下午 01:19:00	電子郵件信箱	1
2017/02/05 下午 02:13:30	電子郵件信箱	1
2017/02/06 上午 10:35:57	電子郵件信箱	2
2017/02/03 上午 09:13:39	電子郵件信箱	3
2017/01/19 下午 01:52:55	電子郵件信箱	2
2016/12/19 上午 10:20:51	電子郵件信箱	2
2016/12/19 上午 08:46:14	電子郵件信箱	2
2016/12/02 下午 03:27:33	電子郵件信箱	2

5.3.2 Labor/Management Relationship

To establish harmonic labor/management relationship, facilitate labor/management cooperation, and improve employee's welfare items, NTC respects the rights of employee's freedom of association. In Apr 2012, the labor union was established for employee to join at one's free will. At present the members of labor union occupied about 1% of the entire staff. Although any agreements of collective negotiation are not signed, regular meeting of directors and supervisors is convened. The company doesn't interfere with the practical operation of labor union. And the member list of labor union is not interfered, either. Within legal and reasonable scope, the labor union can fully perform duties and communication .And in accordance with the spirit of "Labor Conference Implementation ", aperiodical executive meeting of management team and labor representatives is convened for comprehensive discussion on labor subjects. After consensus is met, resolution will be implemented. It is very helpful to elevate labor/management relationship and the planning of labor welfare items. And because the company looks very highly upon the factory environment and safety of work, the basic labor condition of health and hygiene are not concerned subjects by labor union members. In society of law, NTC abide by legislation and will not break any laws. The voice of colleague will be respected to proactively facilitate the harmony of labor relationship.

In 2016, there was no occurrence of significant events of business variation which impacted labor's rights. In case there was, the short notice by law shall be followed to proceed to mitigate the impact on labor's rights. The company looks highly upon and cares about staff's rights. In current year, there was 1 employee who didn't understand the definition of severance pay and fought

for one's own voluntary resignation. After negotiation and explanation, the employee fully understood and showed willingness not to dispute. Generally speaking, there was no significant labor dispute in 2016.

5.3.3 The Operation of Employee Welfare Committee

NTC is dedicated in promotion of favorable and harmonious employee relationship. Through joining organizations of welfare committee Labor-management meeting...etc., employee can propose suggestions and conduct communications with the company through periodically convened meetings. The company set up employee welfare committee by law with the purpose of "Cohesion of employees' emotions/relief of employees' stress" to provide colleagues with diversified welfares and various kinds of activities so as to elevate work motivation of colleagues. There are totally 9 members of council. Amongst 1 is appointed by the company and the rest 8 council members are selected through voting by employees according to divisional selection areas. Chairman committee, deputy chairman committee, and financial committee (1 of each) are selected by committees to collaborate with the administrative colleagues to jointly plan and promote various activity businesses.

To encourage NTC's colleagues to unite partners of common interests and ideals, effective organizations are set to jointly promote and realize desired objectives and ideals and furtherly elevate personal and team's living quality. The Measure of Club Organization was stipulated accordingly. At present 22 clubs were established by welfare committee. And each club is subsidized for 30,000 NT dollars per year. Employee welfare committee's source of expenditure comes from appropriated revenue of the company, appropriated salaries of employee and other income. In 2016, the welfare

income of employee welfare committee was 28 million NT dollars which were mainly spent on tourism, welfare gifts of 3 festivals, birthday coupons, children's scholarships, group insurance, cultural activities, and subsidies for birth and hospitalization. Amongst activities of employee tourism, jogging activity, movie watching, baseball day, and family day were held in 2016 with totally more than 8,000 participants of colleagues and their family members.

2016 hero jogging activity



Family day in Leofoo Village Theme Park



5.3.4 Activation of Enterprise Atmosphere

- Decoration of every kind of festival activity: The decoration is conducted by season and festival in office area and on bulletin board to relieve stressful and intensive working atmosphere.
- Cultivation of sports culture: Every year the Sports Meet of Formosa Plastics Group is held aperiodically to be participated in spontaneously as well as various sports competitions in Hwa Ya Science Park such as basketball, badminton, swimming, table tennis, volleyball, tug of war, dodge ball, and various track and field competitions (height jumping, long jump, shot, put, and short & long-distance races...etc.). To encourage employee to participate, besides offering of budget for training athletes, there are large amount rewards for the encouragement of athletes to fight for the maximum honor for the company and individual. In 2016, good performance of 2 second place and 1 third place in group item, and 1 copper medal of individual item were obtained during enterprise sports meet.



- Divisional outdoor recreation (tourism) activity:
Through divisional recreation activity, the interaction among employee and between supervisors and subordinates can be facilitated so as to elevate cohesion of division. In 2016, there were over 920 participated employee in divisional recreation (tourism) activity. Besides, fellowship activity of both genders for unmarried employee is held working with other companies every year to enlarge interpersonal network of employees beyond work.
- Gymnasium/fitness center: In the future, NTC plans to build composite gymnasium, KTV, billiard room, basketball court, badminton court, table tennis room, aerobic classroom, and sports facilities in Taishan factory



site for colleagues to balance physical and mental health after work.

- Visual impaired massage service: Massagers of visual impaired are arranged to service in factory. Professional visual impaired massagers provide employee with upper body massage service. On one hand, employee can stretch bodies and relieve work stress. On the other hand, the visual impaired can be offered with job opportunities.
- Company resident service in factory: Personnel from insurance company, bank, security agency, and travel agency are arranged to provide employee with services in every factory site.

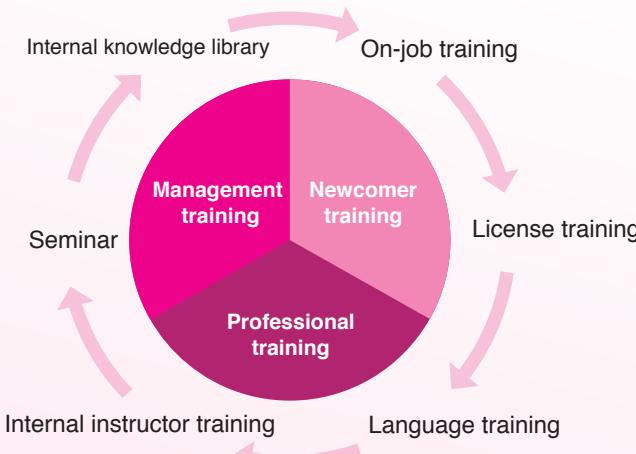
5.3.5 Talent Training System

Training of talent by NTC adheres to the basis of human and idea of sustainable operation. Life-long learning is initiated to help employee develop their career paths so as to establish superior training system suitable for semiconductor industry. To elevate the quality of corporate personnel, cultivation and development of talent has always been the key project of the company. The points and objectives of corporate manpower training development are prioritization of training development system, sustainably and systematically providing the entire employee with necessary knowledge and skills, helping the internal share of knowledge, and heritage of experience.

To provide higher-quality and more effective talent training, the company established comprehensive job training system (shown as following figure). Various training courses include courses in physical classroom and digital online classes such as newcomer training, general knowledge training, supervising personnel training, internal instructor training, and direct personnel training. Besides, the establishment of "Training develop-

ment system" and "Knowledge management system" furtherly enriched the job training system of the company. The execution of training system also facilitated the links of internal knowledge and creativity. On internal network, employee may access, share, and create knowledge, course, and article data in professional domain required. The network also provides various learning resources and information such as external training, speech information, professional technology community, and social discussion to help unit organization to learn. The main training is indicated as follow.

Figure of job training system



- **Newcomer training:**

To elevate newcomer's understanding about corporate environment and semiconductor industry for them to quickly blend in corporate organization and culture, after employee's joining NTC, in newcomer camp there will be a series of complete and quality training course arrangement as well as strict on-job training courses. Through newcomer guiding program,

division supervisors and trainers may guide newcomers to adapt corporate environment and shorten learning curve to complete the requirements of job base training.

- **General knowledge training:**
Indicating various courses held by laws and rules of government, satisfaction of customer requirements for corporate product quality, or the orientation of corporate business development strategy.
- **Job training:**
For the establishment of employee's professional knowledge, the company mainly adopts compulsory lessons by job function and 1-on-1 master-prentice on-job training for employee to proceed with systematic learning and training so as to elevate professional capability of individual work.
- **Direct personnel training**
Providing pre-service training of professional skills of direct personnel and machine operation capability for them to acquire the certificate of machine operation smoothly. Amongst trainer system is awarded for cooperation and bonus is offered to encourage direct personnel of line operators to accelerate adapt themselves to the clean room environment.



The theme covers courses of management training, direct personnel on-job training, management, introduction of labor laws.

- Training of Supervisor Personnel:

According to corporate supervisor function development project, trainings of different level positions are held the course and administrative efficiency. Besides, those supervisor trainees complying with 1st and 2nd level manager of the company must participate in advanced learning courses for professional supervisors by function so as to elevate the managerial and leading capabilities supervisor trainees towards personnel and matters. Corporate spirit of sustainable operation and quintessence of management can be inherited.

- Internal instructor training:

Through internal instructor training and its cultivation system, internal excellent instructing talents can be trained to accumulate company knowledge heritage and training energy. There were 21 new certified instructors in 2016 statistics. For the appreciation and encouragement of the constant contribution of instructors to educational trainings of the company as well as the elevation of internal instruction quality, in every September on "Teacher's Day" an award ceremony of praise activity is held periodically with support and participation of high-level executives. In 2016, there were 15 outstanding and enthusiastic instructors selected for their outstanding performance of the year.



Course of supervisor



Seminar of project performance



Award ceremony of excellent instructor

Effects of Training Development

In 2016, totally 640 courses were held at NTC with total training hours for 1,398 hours and total participants for 13,726 persons. The total training person-hour was 29,059 hours. The average training hours of male employee were 12.2 hours. The average training hours of female employee were 9.1 hours (Kindly refer to Figure 1 & 2). For effective management of internal on-job training (OJT) teaching materials of every division of the company, besides Stipulated Teaching Material Specifications plus Management Process of New Teaching Material Signature on revised KM system for the reinforcement and management of update mechanism of teaching materials, Every employees is provided with a sole and faster entry website for query to accelerate the share and utilization of documents. There are totally 623 copies of latest teaching materials in the system.

• Figure 1: Employee's training and average training hours

Item	Male	Female	Total
Total training hours (hour)	21,489	7,570	29,059
The entire staff (person)	1,764	830	2594
Average training hours per person (hour)	12.2	9.1	11.2

• Figure 2: The average training hours unit of employee by category 單位：小時

Category	Total hours	Male	Female
Supervisor	3,162	6.9	6.4
Professional technician	17,330	16.0	14.7
Administrative support	5,218	8.7	11.0
Line operator	3,349	6.7	6.7

• Remark: The training hours of employee did not include OJT (On-Job Training).

5.3.6 Diversified Developing and Learning Approaches

For the elevation of employee's global perspective and reinforcement of employees foreign language ability, the company planned "Subsidy Project of Language Study". By means of subsidy as encouragement and cooperation with external professional language training institutions, the foreign language ability of employees can be elevated with TOEIC score as an objective. Diversified specialty training classes of English training were open including specialty classes within factory and specialty classes of digital courses. Besides, employees may also go to language classes near home for the convenience of employees to learn. For the assistance of helping employees smoothly pass TOEIC test to achieve variant requirements of job functions and positions, the company established "Simulation Test System of TOEIC" for employee to test for practice. And a simulated TOEIC test scenario in the company was added to increase the practical experiences of staff in the test.

Besides diversified entity classes, the company also planned comprehensive professional certificate system, shift training, or appointment of project work mission to enlarge the learning methods and approaches of colleagues in professional technology domains. By end of 2016, the company has accumulatively completed the recording of 586 digital courses on the establishment and management of digital learning environment. The promotion of digital learning scheme facilitated the conveyance and learning methods of internal knowledge of the company to cross the limitation of time and space.

For continual promotion of employee training, advocacy of life-long learning and assistance to employee's career path, external learning resources are more widely used. The company not only conducted industry-academy cooperation scheme or technical development commission cases with MCUT and CGU but also established Management Measure of In-service Education Program to provide administrative resources and rewarding measures for the encouragement of employees to attend advanced study classes after work. So far the summary of colleagues who obtained new degrees through In-service Education Program were 201 persons of college degree, 375 persons of university degree, and 109 persons of

master (and above) degree. The total was 685 persons. The company continues to dedicate itself in the development and exploration of new product to constantly elevate the value of products. Employee is provided with diversified training projects. Employee is encouraged to attend external training courses to elevate personal professional function and obtain various certificates related to work.

TOEIC Simulation Test System



In 2016, the participants in external training of the company were totally 129 persons.

NTC looks highly upon the learning effects of employee. Besides stipulated clear learning objectives, the tracing and feedback mechanism after training are more emphasized. Through test, operation, work plan, and line practice, learning result of trainee can be reinforced. Trainee's satisfaction degree of various yearly training courses has achieved 4.53 points (full score is 5 points) in consecutive 3 years. The link between corporate sustainable reinforcement of organizational objective and training demands improved and elevated the effectiveness of courses. Hopefully more specific

TTQS Certificate



and quantized performance of training effectiveness and framework of course can be obtained. In 2008, the company was awarded Talent Quality-management System (TTQS) promoted by Workforce Development Agency of Ministry of Labor, Council of Labor Affairs, Executive Yuan. In 2016, the company was awarded the honor of silver medal of enterprise institution version which affirmed corporate efforts of dedication in cultivation and educational training of talent development.

5.3.7 Healthcare of Employee

NTC works with professional medical team of CGMH to conduct health checkup for employees every year by law. For unusual health checkup result of employee, tracing and health management are conducted continually. Health center and resident doctors are available in every factory site to provide staff with medical medication and counseling services. Every quarter medical seminars and nursing courses regarding the psyche and health of employee are scheduled periodically to satisfy employees' knowledge needs of physical and mental health.

Counter measure Against Epidemic Disease

For quickly and necessary countermeasures taken against the occurrence of epidemic diseases such as pandemic influenza, NTC refers to the approaches complying with SARS and bird flu to establish Response Team against Epidemic Diseases which continually studies and announce countermeasures. The disease prevention propaganda and measure items executed include:

Propaganda of Epidemic Prevention

- Announced countermeasure against flu virus.
- Large posters affixed in factory sites for propaganda of epidemic prevention of employee.
- Issued notes of self health management

Epidemic Prevention Measures

- Declaration and medical control, and the implementation of epidemic leave.
- Epidemic management of vendors and visitors.



Healthcare of Employee

By law NTC not only conducts physical health checkup of employees but also set up health center in every factory site for colleagues to enjoy the closely initial diagnosis and treatment of injury and illness as well as health promotion courses such as prevention and healthcare, weight management, and smoking cessation counseling. The CGMH within enterprise system is regarded as backup force of company to provide medical center level medication and healthcare services. And prevention medication and disease prevention are

furtherly promoted to keep employee physically and mentally healthy.

- The company offers better physical health checkup seniority than legislation and 3 cancer screening item of a fetoprotein, carcinoembryonic antigen (CEA) check, and carcinoma of mouth screening...etc. and 1 health checkup item of waistline measuring are additionally available.
- Employee and family member are offered subsidy of hospitalization in CGMH. Self-pay amount not covered by National Health Insurance may have discount. Moreover, health checkup has discount also.
- Employees in China and Vietnam can have health and regular checkup abroad. And medical subsidy for expatriates is available.
- Periodically information of health and hygiene education is provided to employee as well as female healthcare seminars. Professional nurse in factory site offer the pregnant with related babysitting counseling. Furthermore, mommy rooms are considerably set in every factory site with proprietary lockers, refrigerator, and water heater which provide mothers with a quiet and comfortable environment for breast milk collection.



5.4 Respect Human Rights

In view of the fact that the labor and ethics management are getting important for security of employee and sustainable business of the company. For company internal management system and operation to become more conforming to international labor specifications and local related legislation, In accordance with Electronic Industry Code of Conduct (EICC), NTC already established labor and ethics policy and a management handbook. And management system is promoted. The director of Human Resource Division holds the post of management representative to regularly assess system risks of labor and ethics with every systematic supervisor of the company. And various internal practical operation and procedural execution status are checked.

5.4.1 Labor and Ethics Management Policy

The labor and ethics morality management policy of NTC was stipulated referring to the elements of SA8000 (Social Responsibility Standards) and EICC (Electronic Industry Code of Conduct) as basis to become the highest guideline of internal labor and ethics morality management activity. The company committed:

1. Respect employees' rights and work towards the vision with integrity In order to pursue corporate sustainability.
 2. Establish the Code of Conduct to ensure that all of our business activities must fully operate under the Labor & Ethic provisions of Electronic Industry Code of Conduct (EICC), the Standards of SA8000, government
 3. Implement the Code of Conduct, regularly review the operational status and continue to improve the governance system and reach higher level.

5.4.2 Promote Employment Environment of Supply Chain

Every employee shall be treated and respected fairly. NTC offers equal opportunities of various kinds to job seekers and every employee to secure various basic human rights

of employee regardless human race, skin color, age, gender, sexual orientation, race, disability, pregnancy, belief, political party, club member, or marital status and frees them from any unfair and prejudice possibilities during employment or practical work. The situation of employees' resumption to work after job retention of maternity, parental leaves and the retention rate are good.

No matter job vacancies of internal or external recruitments, NTC always adopts the methods of public hiring or voluntary selection. Absolutely no compulsory and illegal labors without free will of employment from human trafficking and slavery will be hired. Every year NTC provides employees with human rights training In 2016, the training rate of employee was 100%. The company also additionally provides the entire a employee and supervisors with Training Course of Sexual Harassment Prevention for employees to know, identify and prevent the occurrence of sexual harassment. In case of any complaints about gender or racial prejudice, employee may follow the complaint process stipulated by the company to be investigated in confidential approaches and handled fairly and justly. And the obligation of protecting interested parties is duly performed. In 2016, NTC did not have any incidents of controversy over human rights.

Various labor terms and conditions of NTC completely conform to the restrictions of local legislation. The Employee Handbook which is associated with employee's rights is certified and approved in advance by Government of Taoyuan City where office is located. And it is published on the website for all employees to access and read. In case of significant change of employee's rights, the company shall abide by labor laws to inform employees by lawfully deadlines. And propaganda will be conducted in advance. There are currently 2,594 employees of the company. For any occurrences of individual labor dispute, the company shall adhere to the principle of considering labor situations and fairness to seek case closed harmoniously with full consideration of related terms of emotions, rules, and laws and best efforts.

To maintain human rights, the company also requests

important suppliers and contractors to respect human rights and forbid the use of child labor as well as using any involuntary labors out of illegal human trafficking, slavery or any compulsory labor. And suppliers are asked to sign letter of commitment to ensure Employee human rights of local suppliers are respected. In 2016, there was no finding of any suppliers involving in any nonconformity against human rights. Generally speaking, the labor and ethics risks of the company was pretty low.



 ELECTRONIC INDUSTRY CITIZENSHIP COALITION

EICC CONFIDENTIAL – EICC Internal use ONLY The EICC information below is strictly confidential and subject to Agreement on Exchange of Confidential Informa (ACE).		
The EICC VA Protocol can only be used by EICC Qualified Audit Firms and EICC VA® auditors. The EICC VA Protocol is strictly internal to EICC and cannot be used by any organization for any purpose other than EICC-recognized Audit Program.		
Auditee Information		
Company Name: Nanjing Technology Corporation Auditee / Facility name: FAB 6A, Nanjing Technology Corp. Auditee / Legal name: Unknown Address: No. 92, Nan-Ling Rd., New Taipei City Country: Taiwan Facility Manager: Email: Telephone:		
Audit Information		
Audit Reference Number: VA-20141019-TWII-TAI Start Date: 09/10/2014 Close Date: 11/09/2014 07:26:44 am Audit Type: Third Party Audit Firm: TUV Rheinland Auditor Name / First Name: Winson Auditor Email: winson.tzu@tuv-china.com Auditor Tel:		
Certification Description and Number Issued by/Certificate Issued On/Certificate Valid Until		
Certifications	Labor Ethics Environment Health & Safety Others	
	ISO14001:2004 (No.: TWN-00020012) LFGQ 01/11/16 01/10/16	
	OHSAS18001:2007 (No.: TWN-00020011) LFGQ 01/11/16 01/10/16	
	Labor Ethics Environment Health & Safety Health agent / contractor Others	
Supporting services		
Process and summary: Legal Nonconformance Risks		
List of Legal Nonconformance Risks: AA.1: Pre-work meeting is not included in paid working time (5+10 minutes). AA.2: Isolated violation of daily or monthly overtime hour limit. AA.3: The facility does not submit periodic high-level Audit Findings Inspection reports to the local authority and local Authority company.		
Process and summary: Management attitude		
The management of the facility provided support to the audit team so that the audit is carried out in good condition and in accordance with the audit plan.		
Process and summary: Worker attitude		
The interview process is conducted with the management staff and the general workers. Workers interview are conducted in either individual or group in confidential manner in production office or isolated area. 6 interviewers are assigned to each audit item. Interviewers are not influenced by management. Interviewers are audited without the influence from the management. Workers show cooperative attitude during the interview.		
Process and summary: Process Integrity		
The close meeting held on 17:00 pm 9 January, 2013 Mr. Lin-Chin SU / Assistant Vice President Mr. Wesley W.M. CHANCI / Assistant Vice President Mr. Ben CHEN / Director Mr. David LIN / Program manager Ms. Koffie LIN / Line manager Admistrative Ms. Maolin YANG / Audit manager Mr. Cregg CHEN / Audit manager Mr. Wei YU / Department manager Mr. Huiqiang HUANG / Deputy manager Mr. Ming-Fong-Pi CHOU / Chief Engineer as managements join the close meeting. This audit result has been reviewed with and agreed by the management during the closing meeting.		
Process and summary: Exception management		
The audit is performed by TUV Rheinland on 0-9 January, 2015, against the requirements of the Electronic Industry Code of Conduct, relevant local rules and regulations, national legislation. The duration was 4		

NTC spontaneously applied for VAP verification of EICC Alliance on Jan 8 2015. And the certificate of EICC VAP was issued on Sep 11 of the same year.

5.5 Safe Workplace

5.5.1 Operation of Safety and Hygiene Committee

Labor's Health and Safety Management Committee is hosted by Factory Director. The meeting is attended for the whole course by high-level executives, supervisors of each division, and committee members. The committee is responsible for the stipulation and implementation of environmental safety and hygiene management planning. By means of routine review of the achievement status of environmental safety and safety objectives and various safety, hygiene, and environmental protection issues, management representative has duties of supervising the environmental impact assessment, hazard identification, and the implementation of risk evaluation and control objective setting.

Focusing on the aspect of environmental management and including the participation of the entire staff, the necessity and priority of pollution prevention improvement shall be analyzed and planned. On the aspect of occupational safety and hygiene, the priority of operational improvement of unacceptable risks shall be determined. In accordance with requirements of environmental policy, safety and hygiene policy, commitment to pollution prevention, compliance with applicable legislation, and health promotion...etc., committee shall proceed with planning and verification on related items. The representatives of labor by law shall occupy 34% of total committee members to consolidate safety and hygiene management. The review items of committee every month:

1	Occupational safety and hygiene management item and performance on site
2	Automatic inspection of unit, and safety & hygiene audit items
3	Plan and implementation of safety and hygiene educational training
4	Countermeasure against result of operating environment monitoring
5	Investigation report of accident and occupational disaster
6	Health management and health promotion items
7	Change items of legislation and countermeasure
8	Governance propaganda from general administration of Formosa Plastics Corporation

5.5.2 Prevention and Management of Occupational Disaster

In the company, the frequencies of disability injury in 2016 (cases of disability injury/million work hours) and the severity of disability injury (work days loss/million work hours) were respectively 0.61 and 5. And there were 3 persons who suffered from disability injury in factory. The company proceeds with continual improvement on 2 aspects:

1. On the aspect of "Unsafe acts", supervision on labor's unsafe acts shall be conducted. The approaches are to implement Job Safety Analysis, reinforce safety and hygiene educational training, and promote SWAT (Safety Walking And Talking). Observation on work safety and interview may facilitate the safety consciousness of employee and reduce potential operating hazards.
2. On the aspect of "Unsafe environment", unsafe environment shall be improved. The approaches are consolidate the essential safety of machine and equipment, implement pipeline and machine maintenance check, be aware of machinery safety protection, control of sanitary environment, promote autonomous management of employee on site, walking management of supervisor, and work safety audit appraisal mechanism so as to achieve 5S environmental hygiene elevation on site and maintain the safety and hygiene of operating environment for employee.

The company never guard down towards preventing accident of disability injury. The currently operating various safety and hygiene management mechanism such as autonomous inspection by each unit, routine inspection and proposal by work safety division, work observation and interview with personnel, and report & investigation of accidents proceed simultaneously for hazardous factors to be found as early as possible for tracing and improvement. To reinforce the prior discovery of potential factors, NTC always proceeds with various propaganda measures for newcomers, senior

colleagues, and contractors to elevate their safety concept and acts so as to prevent the occurrence of occupational disaster. NTC also cooperates with Risk Management Center of Formosa Plastics Corporation to promote 14 items of Process Safety Management (PSM) and implement "Participation in SOP by the entire staff". Every week the Process Hazard Analysis (PHA) meeting is convened to proceed with analytic method review of HazOP and continually finds out potential equipment risks for improvement. Cooperating with yearly project of "Participation in SOP by the entire staff", the participation rate of staff on site in stipulating SOP can be elevated. The company also integrated Job Safety Analysis (JSA) to make SOP safe and more compatible with practical operating content on site.

The particularly hazardous health operations of the company include those categories of noise, ionizing radiation, arsenic, mercury, and inorganic compound...etc. Work safety personnel shall report the unit personnel conforming to these operation categories for them to conduct special hazard health checkup every year as well as classified health management. And for the risky population whose work may facilitate cardiovascular diseases, human factor hazards, and maternal harm hazard, health management shall be planned to mitigate the risks. Integrating with chemical classification management system of government, every year twice monitoring of operating environment is conducted for long-term monitoring the concentration of hazardous substances in operating environment to achieve the purpose of protecting employees from occupational disasters. Every year fire control inspection company is commissioned to conduct thorough safety check of fire control equipment in factory to prevent the expansion of hazards during fire and explo-

sion and maintain staff's safety. Focusing on dangerous machinery equipment in factory such as specific equipment of high-pressure gas, every year professional safety inspection company is commissioned to conduct safety inspection to conform to legal requirements and safety of working environment.

Following table and figure indicate the summary of occupational disasters of NTC during recent years. Although zero disability injury could not be achieved in 2016, the past record of zero disability injury shall be managed to maintain in the future:

Item	Year	2014	2015	2016
	Frequency of disability injury	0	0	0.61
	Severity of disability injury	0	0	5.6
	Aggregated injury index	0	0	0.06
Times of major occupational disaster	1. Disaster of death	0	0	0
	2. Disaster whose dead victims are over 3 persons	0	0	0
	3. Disaster whose dead victims are over 1 person, and hospitalization required (times)	0	0	3
	Cases of disability injury (major occupational disaster excluded)	0	0	0
	Loss of working days	0	0	27.75
	Cases of disability injury of contractors	0	0	2
	Absence Rate (AR)	0.24%	0.30%	0.23%
	Cases of certified occupational diseases by doctor	0	0	0
	Cases of resignation due to occupational disaster	0	0	0

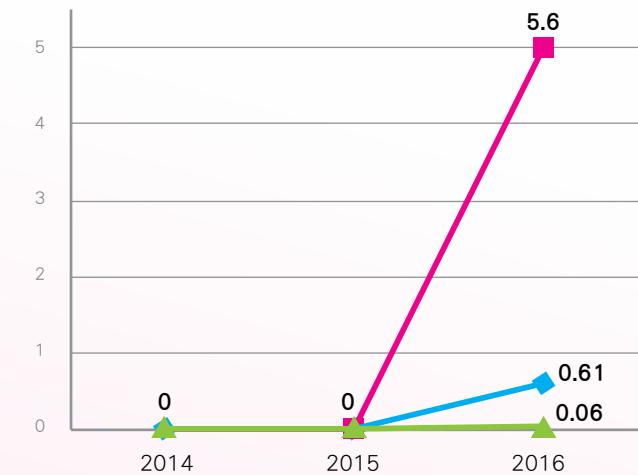
Remark: GRI definition of absence: The absence results from staff's loss of labor ability. Work injury or disease is not limited. Approved holidays such as national holidays, trainings, and maternity/paternity/funeral leaves are not included.

GRI Absence Rate (AR) = Total AR Hours / Aggregated Work Hours x 100%

Frequency of disability injury

Severity of disability injury

Aggregated injury index



5.5.3 Management System of Occupational Safety and Hygiene

By means of hazard identification, NTC disclosed highly risky operating activities for occupational health and safety and promote the project management methods of OHSAS 18001 and TOSHMS management system. PDCA proceeds to continue improvement management.

Step 1: On the aspect of hazard identification, the existence of hazards in workplace must be concompanied. The derivative bad influences along with this hazard shall be confirmed. Colleagues must be determined whether or not they may be influenced because of exposure. The basis of judgment is the document control of inspection record of workplace, table of safety data, records of accident and disaster, job safety analysis, job safety observation and interview, SOP, equipment handbook, and maintenance records before risk evaluation can be conducted.

Step 2: On the aspect of hazard evaluation, for expos-

able labors or those may be exposed, their exposure degree must be confirmed whether conforming to regulations or not. The control equipment or management measures shall be comprehended whether meet requirements or not. Risk evaluation of hazard identification shall be conducted to assess operations at higher risks to be controlled and improved.

Last step: On the aspect of hazard control, jobs must be done from the control of hazard source, hazard route control, exposed labor control, and stipulation of safe operating procedure. From identified highly risky items,

priority improvement can be conducted after appraisal of feasibility.

After preceding 3 steps, subsequently preventive countermeasures against occupational disaster and management system projects must be proposed. NTC already completed management system certifications of OHSAS 18001(2007) and TOHSMS which can propose management project of preventive countermeasure against root cause of the occurrence of occupational disaster. The highly risky operations confronted by labor can be identified through management system, and the hazardous factors on site can be managed as follow:

Management Projects of Safety and Hygiene of OHSAS 18001 and TOSHMS (2016)					
No.	Management project	Objective	Hazardous factor	Completion	Implemented division
1	Fabrication of cart for CMP Polish Head	Provide safe acts of job to prevent accident	Human factor	100%	CMP
2	Management project of Union leak on drainage pipeline of equipment and machines	Eliminate pipe leak of equipment and machine to cause unusual work safety	Chemical contact	100%	WET
3	Added electric leakage breaker on power supply of OHT/S trolley	Prevent the occurrence of electrification issue	Electrification	100%	CIM
4	Risk improvement of water leakage of upper wall of power generator unit	Mitigate the risk of abnormal power supply by power generating equipment	Electrification	100%	Electricity
5	Reinforcement operation of forklift truck control in raw material discharging quay	To mitigate the hazard and risk of personnel's accident	Collision	100%	Materials and Equipment
6	Improvement of operating small steel cylinder	Mitigate potential hazard of operator during operation	Human factor	100%	Gasification
7	Safety improvement of spare drum area	Mitigate the potential hazard of DRUM leakage in Spare DRUM Area	Chemical contact	100%	Gasification
8	Protective measure of enhancing chemical operation in defect analysis laboratory	Added personal protection gear to mitigate the hazard of chemical contact (Kindly purchase indoor shoes with full coverage)	Chemical contact	100%	QA
9	Change of pouring method of ISK101 effluent	Provide safe working environment to prevent the occurrence of falling accident	Chemical contact	100%	PH

Occupational Safety Training of OHSAS 18001 and TOSHMS (2016)

No.	Management project	Objective	Hazardous factor	Completion	Implemented division
10	Replace FAB stairs illumination with LED lighting	Mitigate the operating risk of maintaining illuminating equipment	Electrification	100%	General affairs
11	Preventive management of leakage	Residual risk management (Personnel shall have educational training to ensure the mitigation of occupational disaster during operating activity)	Chemical contact	100%	EH
12	Leakage prevention	Mitigate the occurrence of leakage in environment	Chemical contact	100%	Water treatment
13	Collision prevention	Mitigate the occurrence of collision in environment	Collision	100%	Water treatment
14	Rust removal and painting of outdoor facilities	Improve the safety of personnel and facility in environment	5S	100%	Water treatment
15	Added with air mask equipment for emergency response in limited space	Elevate the rescue timeliness of limited accident	Chemical contact	100%	Water treatment
16	Improvement project of tool's leakage incidents	Mitigate leakage risk of tool RTP101A/202A	Chemical contact	100%	TF
17	Management project of shallow tire thread of commuting motorcycle	Prevent risk of personnel due to shallow tire thread	Residual risk	100%	TF
18	Management project of medium and high risks	Management of residual risk	Chemical contact	100%	TF
19	Safety improvement of riding motorcycle	Management of residual risk	Residual risk	100%	Production
20	Health management of maternity	Management of residual risk	Residual risk	100%	Production
21	Rust removal and painting of cooling tower	Prevent breakage and leakage of pipeline due to rusting	5S	100%	Air condition
22	Fabrication of MAU motor protection cover	Mitigate risk of personnel being drawn into during operation	Being drawn into	100%	Air condition
23	Management project of personnel traffic accident	Reinforce traffic safety consciousness of personnel and propaganda of dangerous routes of commuting to mitigate odds of traffic accident of personnel	Residual risk	100%	DF
24	Improvement of roof lighting lamps in Ching-Shui Factory of NTC	Mitigate the operating risk of personnel during roof inspection	Electrification	100%	Ching-Shui

5.5.4 Educational Training of Safety and Hygiene

Focusing on newcomers, senior staff/supervisors, contractor personnel supervisors required certificates by law, particular hazardous operation, and emergency response to disaster, NTC lists related courses into yearly training program and related courses are scheduled. Besides, training courses in the program, for unusual alarm of central control or major defect of management system, related educational training courses will be arranged depending on situations after investigation and analysis for stipulation of corrective and preventive measures so as to enhance safety consciousness of colleagues and achieve the preventive effects of parallel deployment. By means of constant educational training and propaganda, staff can cultivate safety culture, concept, and habit at ordinary times and increase the emergency response ability to mitigate the probability of accident resulting from unsafe acts. It is the purpose of educational training of safety and hygiene of the company.

Object	Courses	Total hours	Trainees
Employee	29	224	3,108
	Name of training course	hours	Participants
1. Gas supply and detection system		2	73
(1) Introduction of public emergency system in factory		2	73
2. Fire control alarm system in clean room		2	73
(1) Introduction of public emergency system in factory		2	73
3. Introduction of air-con in clean room		2	73
(2) Basic understanding of gas chemical for semiconductor		4	73
(3) The wearing and use of chemical protection suit		4	73
(4) The wearing and use of self-respiratory protection suit		4	73
(5) The use and maintenance of portable detector		6	73
(6) Handling of initial leakage of chemical		2	49
(6) Handling of initial leakage of chemical (Introduction of hazardous characteristics of each work area in factory)		2	27
(6) Emergency report procedural process		2	76
(7) First aid training (Basic)		2	73
Introduction training of BELFOR DRP after-calamity recovery plan		30	28
On-job training of ERT personnel (wearing chemical protection suit)		2	
On-job training of ERT personnel (Use and maintenance of portable detector)		2	9
On-job training of ERT personnel (wearing and use of self-respiratory suit)		2	9

Name of training course	hours	Participants
Internal auditor personnel training of ISO 14001:2015 & OHSAS 18001 environmental safety and hygiene management system	21	16
Industrial safety and hygiene training (1) Rules and introduction of operating instructions	1.5	3
Industrial safety and hygiene training (2) Training of fire control operation	1.5	3
Industrial safety and hygiene training-Injury on duty	7	341
Industrial safety and hygiene training - Legislation	14	341
Public fluid-Introduction of emission application operation	2	52
Public fluid-Introduction of effluent application operation	2	56
General knowledge of hazards	45	344
Training of supervisor on duty	2	65
Training of fire control operation	21	341
Supervisor OJT educational training of oxygen deficit operation	6	25
Introduction of greenhouse gas inventory and carbon footprint	12	247
Introduction of green product management system and EICC introduction	15	347
Safety instruction on radiation protection	6	136
Total	224	3,108



5.6 Social Participation

Mr. Yung-Ching Wang, founder of Formosa Plastics Corporation said "It doesn't matter how much money a person make in life time but how much he can do for society". Adhering to the social feedback idea of founder Mr. Wang, NTC shall regard it as an important value to be carried forward. Innovation will be proactively researched and developed. Talents will be cultivated and give back to society for the purpose of sustainable operation. The objective of NTC is to create a happy enterprise with a 5-year project in hope that employee's sense of happiness, honor, and mission can be created. External purposes are rooting, incubation, and co-prosperity. And the main axis is neighborliness and public welfare activity. Friendly neighborhood is proactively created. Social care is promoted.

5.6.1 Neighborliness

Besides maintenance of adjacent roads and environment, NTC duly and friendly communicates with residents and does its best to provide various assistances. Simultaneously the company also continues to involve in various local resident activities such as temple fair, club for the aged, weddings and funerals of residents, and invitation for residents to participate in factory activities...etc. in order to establish harmonious relationship with residents and local elites.



Traffic control



Road surveillance camera



Visit of Longhua University

The traffic control and command of adjacent communities: To share the responsibility as a member of community, NTC shall spontaneously dispatch brilliant traffic control personnel from Formosa Plastics Corporation to adjacent road junctions during rush hours to help traffic control and maintain smooth passing traffic. And traffic safety signs (indications) are widely set to remind road users to reduce speed which shall be helpful to elevating local traffic safety. As far as adjacent residents are concerned, good traffic control provided equals to a favorable and safe road offered to residents.

Surveillance camera was set in Nanlin Road for video recording: Nanlin Road is beautified with excellent air quality. Many folks often use the road for jogging or stroll on the road in the morning or evening. For elevating the safety of residents of adjacent communities, NTC spontaneously set plentiful surveillance cameras on Nanlin Road. The mainframe of recorder is set and controlled by security room of the company to maintain favorable surrounding community safety.

See and learning activity: Adjacent school was arranged to visit factory so as to facilitate campus relationship and reinforce the interests for students to join NTC in the future.

5.6.2 Public Welfare Activity

Child was the object of public welfare activity of this year. The company worked with "Worldvision" to launch a series of public welfare activities.



Warm and Sweet May Day Activity

The activity of "Warm and Sweet May Day" was initiated when Welfare Committee issued 300 NT dollar coupons of convenient store on May 1st Labor's Day to call for donation from colleagues by giving the coupons received to Worldvision for funding poor students. The activity totally raised 33,400 NT dollars including coupons 24,700 NT dollars and cash 8,700 NT dollars.

Activity of Wish for 100 and Care of Hundred

"Wish for 100 and care of hundred" was the 2nd wave of public welfare activity working with Worldvision in 2016. There were 2 major projects of activity contents. Amongst project 1 was a raise for funding domestic children. Project 2 was funding domestic children for transition of life and hope. The activities were vending for 2 days in corporate staff restaurant on Aug 23/24. Through video display on site and the explication by Worldvision colleagues, staff was attracted to understand the projects of adoption and donation. After the event of 2 days, a cash donation for totally 145,648 NT dollars, 16 funds for domestic children, 4 funds for foreign children, and 7 regular donations were raised.



Dream Realization Project of Charity Recycled Computers

Since 2013, NTC started to participate in computer donation project of Taiwan Triple-E Institute. In 2016, the company donated 247 sets. The consecutive donation for 4 years with accumulated 1,191 charity recycled computers donated. NTC hopes that through this donating activity, those poor students and social welfare communities in need of computers can be benefited so as to improve the learning environment of the weak students. Besides creation of more opportunities of weaker next generation of Taiwan, the effect of making the best use of everything can be achieved. The idea of "Recycle scrap computer for reuse and deliver love to remote countryside" wishes for the constant support from social public. The related activity website of Dream Realization Project of Charity Recycled Computer: triple-e.org.tw. Besides supporting and caring for children, NTC also participated in public welfare activities abroad.



Support Viva con Agua (VcA) Global Water Resource Project

Water is an indispensable resource for mankind. To promote the importance of global clean drinking water and comprehensive hygiene condition, during the electronica 2016 NTC cooperated with local charity group Viva con Agua by purchasing 360 bottles of mineral water from its Social Business Division to be delivered to participants, customers, and cooperative partners during 4 days of exhibition. Hopefully VcA can be helped to raise funds for "Global Water Resource Project" through this cooperation so as to support its organizational vision of "All For Water- Water For All". VcA was founded in Germany. The 60% revenue of mineral water sales by Social Business Division will be used for "Global Water Resource Project". Comprehensive water resource facilities will be established in 3rd world countries (For example: Uganda, Kenya, Malawi, India, and Nepal...etc.). Furtherly clean drinking water can be provided and hygiene conditions can be improved. NTC believed, through this cooperation and the acts of sharing VcA mineral water with colleagues, not only the importance of global clean drinking water and comprehensive hygiene conditions can be awakened but also "Every tiny move can create the power to change the world"!



ECO-FRIENDLY DRAM PROVIDER

2016 Corporate Social Responsibility Report

Appendix

[Appendix 1](#)

[Appendix 2](#)

[Appendix 3](#)



Appendix 1 2014-2016 Summary of Performance

Economic Dimension					
Indicator	Description	Unit	2014	2015	2016
Operating Performance	Operating Revenue	NT\$ Million	49,108	43,876	41,633
	Operating Cost	NT\$ Million	26,939	26,568	28,781
	Net Income	NT\$ Million	28,195	17,171	23,729
	EPS	NT\$	11.77	7.07	8.67
Board of Directors	Ratio of Outside Directors	%	25%	25%	25%
	Board Members Participation Rate	%	92%	92%	89%
Patent	Patent Granted	Case	244	259	478
Environmental Dimension					
Indicator	Description	Unit	2014	2015	2016
Greenhouse Emission	Kg CO ₂ equivalent /12" wafer area	Kg CO ₂ -e/cm ²	0.56	0.52	0.53
Greenhouse Emission	Ton CO ₂ equivalent	Ton CO ₂	254,018	270,233	288,652
Water Consumption	Water consumption per wafer	(m ³ /wafer area m ²)	47.30	42.4	41.6
Process Water Recycling Rate		%	84.60	86.4	83.8
Process Water Saving	Million tons	Million ton	5.23	5.42	5.34

Environmental Dimension					
Indicator	Description	Unit	2014	2015	2016
Energy Consumption	Nature gas consumption (metric meter/wafer area(m ²))	m ³ /m ²	46.2	46.2	42.4
	Electric consumption MWH/Wafer area(m ²)	MWH/m ²	8.40	7.80	8
Air pollutant emission	SOx	g/cm ²	0.000853	0.001369 Ps1.	0.002362 Ps1.
	NOx	g/cm ²	0.001143	0.001801 Ps1.	0.003095 Ps1.
	VOC generated	Ton	10.79	14.49	15.72
Waste water treatment	Waste water effluent per wafer	Ton/Wafer area(m ²)	38.10	34.30	34.6
Waste Generated	Waste Generated	Ton	9,173	9,785	10,070
	General Waste Generated	Ton	5,316	4,693	5,354
	Hazardous Waste Generated	Ton	3,858	5,092	4,716
	Waste Recycling Rate	%	75.7	95.2	97.9
Suppliers management	No. of audit	frequency/year	20	21	22
Injury safety	Injury Frequency Rate	Injury Number/Million Labor-hours	0	0	0.61

Ps.1. The explanation for the increases in SOx and NOx emissions in 2016: 2 sets of VOC Rotor Concentrator & Thermal Oxidizers were in operation in June, 2015, instead of one set, due to production capacity increases, and the fuel usage of natural gas(NG) increases, then SOx/NOx increases simultaneously.

Social Dimension					
Indicator	Description	Unit	2014	2015	2016
Diversity Index	Total employee	Persons	2,356	2,405	2,594
	Office staff (male)	%	66.6%	66.6%	64.7%
	Office staff (female)	%	33.4%	33.4%	35.3%
	Production workers (male)	Persons	1,144	1,293	1,234
	Production workers (female)	Persons	705	594	541
	Contract workers (male)	Persons	14	11	14
	Contract workers (female)	Persons	4	8	9
	Handicapped worker	Persons	19	23	23
Female Leadership	Female rate	%	34.8%	33.4%	32.0%
	Female manager rate	%	12.8%	13.7%	14.1%
Turnover rate	Turnover rate	%	8.1%	7.7%	7.1%
Status of Maternity & Parental Leave	Reinstatement Rate	%	100%	100%	100%
	Number of workers who used parental leave	Persons	6	8	8
Human Resource Development	Total training hours	Hours	25,672	26,680	29,059
	Training per person	Days/Person	1.13	1.38	1.4
	Training expenses per person	NT\$	374	742	581
Ethics Training	Total ethic training hours	Hours	5,225	4,845	11,459
	Training hours per person	Hours/Person	2.18	2.03	4.4

Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Page(s)
STRATEGY AND ANALYSIS			
G4-1	Statement from the most senior maker of the organization.	Sustainable Development of Nanya Technology Corporation (NTC)	5
		Message from the President	6
ORGANIZATIONAL PROFILE			
G4-3	Name of the organization	3.1 Company Profile	30
G4-4	Primary brands, products, and services	3.1 Company Profile / 3.3.1 Product Lineup	30 / 34
G4-5	Location of the organization's headquarters.	3.1 Company Profile	30
G4-6	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	3.1 Company Profile	30
G4-7	Nature of ownership and legal form	3.1 Company Profile	30
G4-8	Market served	3.1 Company Profile	30
G4-9	Scale of the organization, including : • Total number of employees • Total number of operations • Net sales (for private sector organizations) or net revenues (for public sector organizations) • Total capitalization broken down in terms of debt and equity (for private sector organizations) • Quantity of products or services provided	3.1 Company Profile / 3.3.1 Product Lineup / 3.4 Operating Performance	30 / 34 / 35
G4-10	Report the total number of permanent employees by employment type and gender.	5.1.1 Stable Workforce	60
G4-11	Percentage of total employees covered by collective bargaining agreements	5.1.1 Stable Workforce	60

Index	Description	Related NTC CSR Report Section	Page(s)
ORGANIZATIONAL PROFILE			
G4-12	Describe the organization's supply chain	3.2.4 Industrial Supply Chain	33
G4-13	Significant changes during the reporting period	No significant changes during 2016	
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization.	2.4 Risk Management	26
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	No external principles or initiatives signed by NTC	
G4-16	Memberships in associations	2.5 External Association	28
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES			
G4-17	Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	3.4 Operating Performance	35
G4-18	Process for defining the report content and the aspect boundary	1 Stakeholder Engagement	15
G4-19	List all the material Aspects identified in the process for defining report content.	1 Stakeholder Engagement	16
G4-20	For each material Aspect, report the Aspect Boundary within the organization.	1 Stakeholder Engagement	18
G4-21	For each material Aspect, report the Aspect Boundary outside the organization.	1 Stakeholder Engagement	18
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	There is not restatements of information	
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	About This Report	2
STAKEHOLDER ENGAGEMENT			
G4-24	List of stakeholder groups engaged by the organization	1 Stakeholder Engagement	15
G4-25	Report the basis for identification and selection of stakeholders with whom to engage.	1 Stakeholder Engagement	15

Index	Description	Related NTC CSR Report Section	Page(s)
REPORT PROFILE			
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.	1 Stakeholder Engagement	19
G4-27	Report key topics and concerns	1 Stakeholder Engagement	19
REPORT PROFILE			
G4-28	Reporting period (such as fiscal or calendar year) for information provided.	About This Report	2
G4-29	Date of most recent previous report (if any)	About This Report	2
G4-30	Reporting cycle (such as annual, biennial)	About This Report	2
G4-31	Contact point for questions	About This Report	2
G4-32	In accordance' option, the GRI content index and external assurance	About This Report	2
G4-33	Policy and current practice regarding external assurance	About This Report	2
GOVERNANCE			
G4-34	Governance structure	2.1.1 Governance Structure	23
ETHICS AND INTEGRITY			
G4-56	Values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	2.2.4 Code of Conduct	25

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
CATEGORY : ECONOMIC				
Aspect : ECONOMIC PERFORMANCE*				
G4-DMA	Generic Disclosures on Management Approach	3 Co-creation of Economic Growth	30	
G4-EC1	Direct economic value generated and distributed	3.4 Operating Performance 5.2.1 Overall Compensation	35 / 64	
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	4.2.1 Risks of global climate change and countermeasures	53	
G4-EC3	Coverage of the organization's defined benefit plan obligations	5.2.2 Comprehensive employee benefits	65	
Aspect : MARKET PRESENCE				
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	5.1.1 Stable Workforce	60	EICC Validated Audit Process (VAP) audit
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	5.1.1 Stable Workforce	60	
Aspect : PROCUREMENT PRACTICES				
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	3.6.1 Supplier Relationship	38	
CATEGORY ENVIRONMENT				
Aspect : MATERIALS				
G4-EN1	Materials used by weight or volume	4.1.3 Usage condition of raw materials	50	
G4-EN2	Percentage of materials used that are recycled input materials			
Aspect : ENERGY				
G4-DMA	Generic Disclosures on Management Approach	4.1.2 Energy resources Management and reduction	46	ISO 14001 Certified

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
Aspect : ENERGY				
G4-EN3	Energy consumption within the organization			
G4-EN5	Energy intensity	4.1.2 Energy resources Management and reduction	46	
G4-EN6	Reduction of energy consumption			
G4-EN7	Reductions in energy requirements of products and services	4.3.3 Design of Low Power DDR	56	
Aspect : WATER*				
G4-DMA	Generic Disclosures on Management Approach			ISO 14001 Certified
G4-EN8	Total water withdrawal by source	4.1.2 Energy resources Management and reduction	46	
G4-EN9	Percentage and total volume of water recycled and reused			
G4-EN10	Percentage and total volume of water recycled and reused			
Aspect : EMISSIONS				
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)			ISO 14064 Certified
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	4.2.2 Inventory and reduction of greenhouse gases	53	
G4-EN18	Greenhouse gas (GHG) emissions intensity			
G4-EN19	Reduction of greenhouse gas (GHG) emissions			
G4-EN20	Emissions of ozone-depleting substances (ODS)	No substances used to damage Ozonosphere in NTC		
G4-EN21	NO _x , SO _x , and other significant air emissions	See appendix 1 : 2014-2016 Summary of Performance		

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
Aspect : EFFLUENTS AND WASTE*				
G4-DMA	Generic Disclosures on Management Approach			ISO 14001 Certified
G4-EN22	Total water discharge by quality and destination	4.1.1 Prevention & control of pollutions	43	
G4-EN23	Total weight of waste by type and disposal method			
G4-EN24	Total number and volume of significant spills	No leakage incident cases like oil, fuel, waste, chemicals in 2016.		
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	4.1.1 Prevention & control of pollutions	43	
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			
Aspect : PRODUCTS AND SERVICES*				
G4-DMA	Generic Disclosures on Management Approach	4.3 Green Product	55	
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	4.1.3 Usage condition of raw materials 4.3 Green Product	50 55	
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	4.1.3 Usage condition of raw materials	50	
Aspect : COMPLIANCE*				
G4-DMA	Generic Disclosures on Management Approach	2.1.5 Compliance with NTC Regulation 4.1.1 Prevention & control of pollutions	24 / 43	ISO 14001 Certified

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
Aspect : COMPLIANCE*				
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	2.1.5 Compliance with NTC Regulation 4.1.1 Prevention & control of pollutions	24 / 43	ISO 14001 Certified
Aspect : OVERALL*				
G4-DMA	Generic Disclosures on Management Approach	4.1.4 Expenditures of environmental & safety and benefits	52	
G4-EN31	Total environmental protection expenditures and investments by type			
Aspect : SUPPLIER ENVIRONMENTAL ASSESSMENT				
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	3.6.2 Vendor audit	38	
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	3.6.1 Vendor relationship	38	
Aspect : ENVIRONMENTAL GRIEVANCE MECHANISMS				
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	No environmental appealing case in 2016.		ISO 14001 Certified
CATEGORY : SOCIAL				
SUB-CATEGORY : LABOR PRACTICES AND DECENT WORK				
Aspect : EMPLOYMENT				
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	5.1.2 High Quality and Innovative Talents Recruitment	61	
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operationn	5.1.3 Comprehensive Employee Benefits	63	

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
Aspect : EMPLOYMENT				
G4-LA3	Return to work and retention rates after parental leave, by gender	5.2.1 Provide favorable salary and rewards	64	
Aspect : LABOR/MANAGEMENT RELATIONS*				
G4-DMA	Generic Disclosures on Management Approach	5.3.2 Employee Relations	68	
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements			
Aspect : OCCUPATIONAL HEALTH AND SAFETY*				
G4-DMA	Generic Disclosures on Management Approach	5.5.2 Prevention and management of occupational disaster	75	OHSAS 18001 / TOSHMS Certified
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	5.5.1 Operation of safety and hygiene committee	75	
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	5.5.2 Prevention and management of occupational disaster	75	
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation			
G4-LA8	Health and safety topics covered in formal agreements with trade unions	5.3.2 Employee relations	68	
Aspect : TRAINING AND EDUCATION*				
G4-DMA	Generic Disclosures on Management Approach	5.3.5 Training System	70	
G4-LA9	Average hours of training per year per employee by gender, and by employee category			
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	5.3.6 Training System	72	

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
Aspect t: DIVERSITY AND EQUAL OPPORTUNITY				
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	2.1 The Overview of Corporate Governance 5.1.1 Stable Human Resource	22 60	
Aspect : EQUAL REMUNERATION FOR WOMEN AND MEN				
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	5.2.1 Provide favorable salary and rewards	64	EICC Validated Audit Process (VAP) Certification
Aspect : SUPPLIER ASSESSMENT FOR LABOR PRACTICES				
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	3.6.1 Vendor Relationship	38	
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	2.2.5 Grievance Channels	26	
SUB-CATEGORY : HUMAN RIGHTS				
Aspect : INVESTMENT				
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	5.4.2 Supply Chain Business environment	74	
Aspect : FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING				
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	5.3.2 Employee Relations 5.3.4 Activation of enterprise atmosphere No assembly and association violations in 2016	68 69	

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
Aspect : CHILD LABOR*				
G4-DMA	Generic Disclosures on Management Approach			
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	5.1.2 High Quality and Innovative Talents Recruitment	61	EICC Validated Audit Process (VAP) audit
SUB-CATEGORY : SOCIETY				
Aspect : LOCAL COMMUNITIES				
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	5.6 Social Participation	81	
Aspect : ANTI-CORRUPTION*				
G4-DMA	Generic Disclosures on Management Approach	2.2.3 Anti-Corruption		
G4-SO4	Communication and training on anti-corruption policies and procedures	2.2.3 Anti-Corruption 2.2.4 Code of Conduct	25	
G4-SO5	Confirmed incidents of corruption and actions taken	2.2.3 Anti-Corruption		
Aspect : COMPLIANCE*				
G4-DMA	Generic Disclosures on Management Approach			
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	2.1.5 Compliance with NTC Regulation	24	
Aspect: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY				
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	3.6.1 Supplier Relationship	38	

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
Aspect : GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY				
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	2.2.5 Grievance Channels	26	
SUB-CATEGORY : PRODUCT RESPONSIBILITY				
Aspect : PRODUCT AND SERVICE LABELING*				
G4-DMA	Generic Disclosures on Management Approach	3.5.1 Customer Service 3.5.2 Customer Satisfaction	36 37	
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	4.3 Green Product	55	
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	There is no incident of non-compliance with regulations concerning product and service information and labeling in Y2016		
G4-PR5	Results of surveys measuring customer satisfaction	3.5.2 Customer Satisfaction	37	
Aspect:MARKETING COMMUNICATIONS*				
G4-DMA	Generic Disclosures on Management Approach	4.3.2 Management of hazardous substance restriction	56	
G4-PR6	Sale of banned or disputed products	There is no sale of banned or disputed products in Y2016		
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	There is no incident of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship in Y2016		

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
Aspect : CUSTOMER PRIVACY*				
G4-DMA	Generic Disclosures on Management Approach	3.5.3 Customer Privacy	38	ISO9001, ISO/TS16949 Certified
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	There is no substantiated complaints regarding breaches of customer privacy and losses of customer data in Y2016		
Aspect : COMPLIANCE*				
G4-DMA	Generic Disclosures on Management Approach	2.1.5 Compliance with NTC Regulation	24	
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	There is no Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services in Y2016		

* Stakeholder's concerned issues

Appendix 3 CSR Certificates

