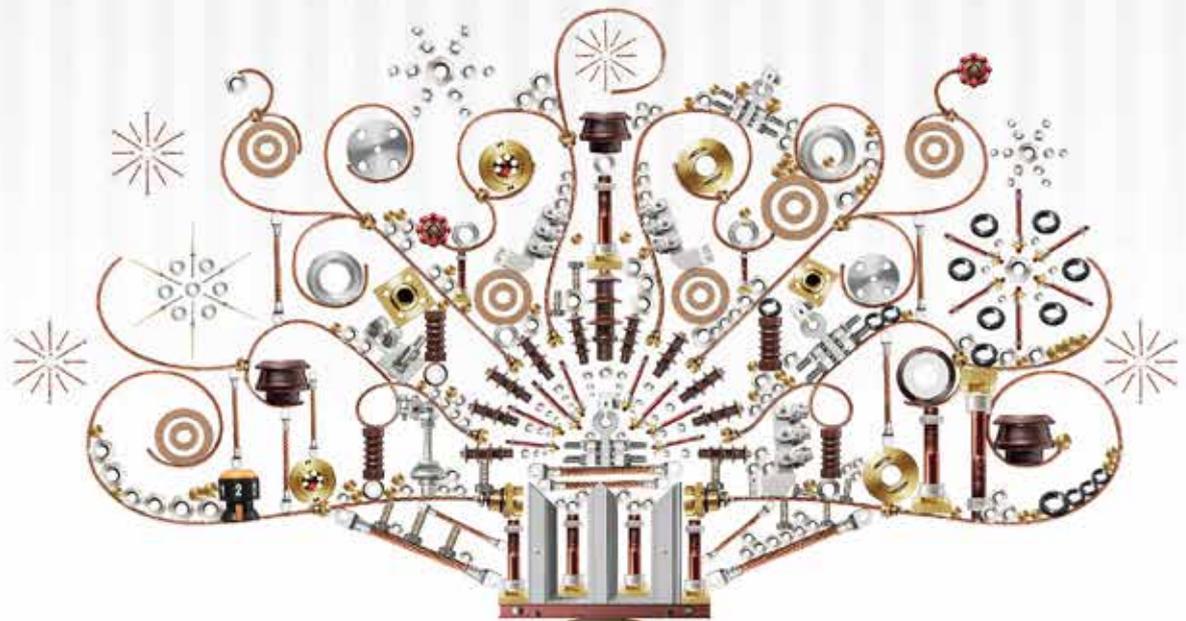




QTC ENERGY PCL.

QTC Energy Public Company Limited



Sustainability Report 2014





Content

01	Scope of Report
03	Awards for Success
04	About “QTC”
05	Corporate Vision, Mission, Philosophy and Values
06	Messages from the CEO and Managing Director
07	Sustainability Management Guidelines
11	Stakeholder Participation and Sustainability Issues
15	Main Sustainability Activities in 2014
16	Economic Activities
24	Corporate Social Responsibility Activities
38	Environmental Activities
47	Global Reporting Initiative (GRI) G4 Content Index



Scope of Report

This sustainability report for QTC Energy PCL., or QTC 2015 (January-December 2014) is the first report the company has prepared to be printed and disseminated to stakeholders in every sector. This report states the corporate sustainability management guidelines, stakeholders and challenging issues, including the company's corporate social responsibility (CSR) performance and quality management with relevance to the sustainability of stakeholders and QTC.

The prepareate of this sustainability report employed the Global Reporting Initiative (GRI) G4 guidelines, which are the guidelines used in dissemination in compliance with international principles. The aforementioned have also been checked and approved by the board of directors. In addition to printing in book form, the company has disseminated this report via its website, www.qtc-energy.com, in order to increase opportunities for access to the information on stakeholders and other interested parties in general.

Award for Success



5S Model Award 2014: Technology Promotion Association (Thailand-Japan) In the following four areas:

- 3 Factories
- Area 1 Coiling Room
- CSR Department Offices
- Bangkok Offices



Certificate for preventive action and corrective action against narcotics in the workplace

as a Level 3 White Factory by the Welfare and Labor Protection Department and the Province of Rayong.

About "QTC"

QTC Energy PCL or QTC has offices located at 2/2 Krungthep Kritha 8 (5), Krungthep Kritha Rd., Huamark, Bangkok and a manufacturing factory located at 149 M. 2, Tambol Mabyangporn, Ampur Pluakdaeng, Rayong, with 216 employees.



QTC is engaged in the business of manufacturing and distributing electrical transformers that are made to order with a team of expert engineers to offer consultation about electrical system, a team of professional salespeople with intensive knowledge and understanding about the products, and an expert post sales service team to provide customer care and solve problems 24 hours a day.

QTC can manufacture 10-30,000 kVA electrical transformer products with a minimum to maximum electrical system of 72 kV in 1-Phase and 3-Phase. The full capacity of the machinery is approximately 1,000 MVA per year or 3,000 transformers per year. QTC manufactures both wound core and stacking core with cast resin casing. We can manufacture any type to meet any standard worldwide.

QTC Energy PCL. sells under the  Trademark domestically and abroad to places such as the EU, Australia, Japan, the Middle East, North America, South Africa and every ASEAN country.



Vision : QTC is a world-class manufacturer providing world-class Quality in Electric Transformation Equipment and Services.

Mission : To meet our customers' performance challenges of their electrical system with products and services of international standard.

- Corporate Philosophy:**
- Management with ethics, morals and transparency.
 - Product standards and quality with service provision meeting international standards.
 - Commitment to corporate social responsibility, the environment and Human Rights Principles.



In line with the Corporate Vision, Mission and Principles, QTC requires meticulous care in every detail from the inside out with attention to every step of production, customer care with service mindedness focused on human resource capacity building within the corporation and consciousness of participation in environmental conservation which had led to the formation of 7 corporate values.

Corporate Values for Sustainability:

Quality of DETAILS is at the core of our work and permeates into everything that is QTC, from our people, thinking styles, work methods, technology, factories and products.

Dynamics => As a corporation, we have never stopped building a corporate culture in response to changes for sustainable advancement.

Environment => We are committed to product design and development as well as production processes cutting energy use and minimizing social and environmental impact.

Teamwork => We give importance to human resources, and we are committed to achieving teamwork excellence.

Achievement => We manage the organization with quality and the determination to achieve world class status.

Innovation => We promote research and product innovation in order to achieve high work efficiency, reduce energy loss with returns to society and the environment.

Leadership => We aim for widespread acceptance as a manufacturer of high quality electricity transformers, domestically and abroad.

- Service =>**
- We have a team of engineers to provide consultation on electrical systems.
 - We have a professional sales team with in-depth knowledge & understanding of products.
 - We have a post-sales team made up of experts ready to provide care & resolve issues 24 hours/day.
 - Our teams deliver fast and on time.

Message from the CEO & Managing Director

Dear stakeholders,

The year 2014 was an extension of the end of 2013 when Thailand faced intense social and political conflicts affecting the investment confidence of entrepreneurs domestically and abroad. This also affected QTC. Furthermore, we continue to face shortages of skilled laborers who normally attach themselves to income and choose to work at higher-paying but short-term jobs without prioritizing long-term stability. Therefore, we experienced financial and time losses in training new employees.

Furthermore, over the past several years, the world has been shifting focus to energy conservation in order to reduce social and environmental impacts, along with modifying regulations and practices to foster cooperation in decreasing unnecessary use of energy and increasing energy utilization effectiveness. Many countries around the globe have set forth measures and regulations concerning energy products in order to increase the effectiveness of energy utilization and sustainably reduce energy consumption. This is an important trend for QTC, as it is a chance to respond to challenging demands to develop electrical systems for the people around the world in the future.

Due to political unrest and labor shortages along with the trend for high quality electricity transformer production in the global market, QTC has been given the opportunity to develop and make improvements to its internal organizational management and invent new innovations to increase competitive potential. Hence, the Total Quality Management System has been implemented. In 2015, we became the first company in Thailand capable of successfully manufacturing energy-saving electricity transformers (Amorphous Distribution Transformers) of the largest size. These were officially launched this year.

In 2014, we put in place a more stable management structure by integrating corporate social responsibility and quality management practices. We have used this framework to develop short-, mid- and long-term CSR and quality strategies. Key strategies include 1. Holistic human resources development in order to create a happy workplace; 2. Building competitive capacity through the manufacture of high quality products using the Total Quality Management System, 3. Building trust in stakeholders, as we are well aware that having competent and good people in a good management system will result in sustainable growth for QTC and stakeholders.



Mr. Poonhiphat Tantanasin

Chief Executive Officer & Managing Director



Sustainability Management Guidelines

Performance Framework

As a result of economic, social and environmental challenges in conjunction with the organization’s vision, which places the company as a world class organization with values focused on quality of details, it cannot be denied that QTC’s operations both negatively and positively affect stakeholders. The consequences may be cause for the organization to not be accepted by communities, society, and other stakeholders, which directly affects the economic stability of QTC. Therefore, in order to minimize risks and improve competitiveness, we have designated a sustainable management framework by integrating corporate social responsibility and quality management practices together. We are skilled at adapting the aforementioned to international standards such as ISO9001, ISO14001, ISO5001, ISO17025, ISO26000, OHSAS18001, TQM, or TISI 384-2543 to ensure that risk management concurs with QTC’s context, thus resulting in the “QTC Sustainable Quality Management Framework”. **“QTC Sustainable Quality Management Framework”**

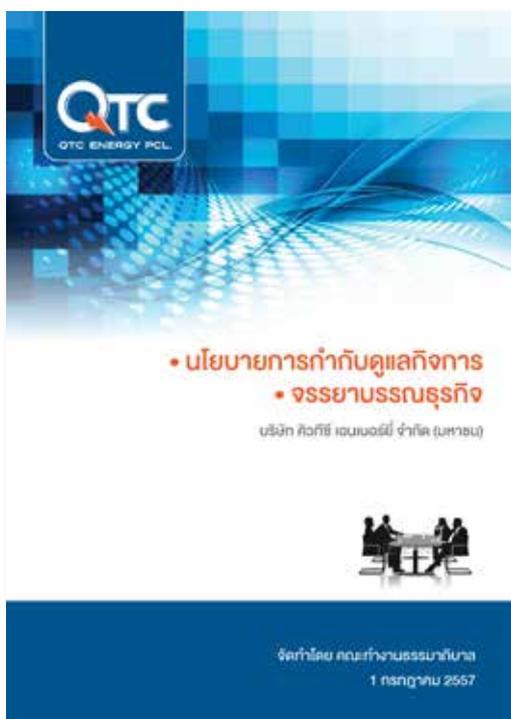


QTC’s Equation for Sustainability Q + R = S



Business Ethics

QTC manages its organization under the principles of good corporate governance, and has in place a recruitment committee, remuneration committee and corporate governance committee in order to monitor, review and evaluate operational outcomes according to policies regularly each year, along with making appropriate revisions to ensure modernity and consistency with the constantly changing economic situation and society.



QTC promotes ethical practice in employees at every position with focus on fostering good conscience in employees upon entry to work. Furthermore, the company has drafted a corporate governance policy and business ethics handbooks and distributes them to all new employees. Furthermore, the company's corporate governance policies and business ethics are posted at the company's website: http://qtc-th.listedcompany.com/cg_principle.html Moreover, the company has put in place a system for accepting complaints via mail and e-mail: audit@qtc-energy.com to the company's Board of Audit, which has arranged for measures to protect filers of complaints by building safety and fairness.

Anti-Corruption

QTC has set forth anti-corruption policies as clear and transparent practice guidelines covering the company's work carried out by directors, executives and employees in all positions. The aforementioned are communicated to every member of the organization, and additional details can be found at <http://www.qtc-energy.com/index.php/qtc56040>.

The Board of Management is determined to prepare the organization's staff in every aspect, along with laying down the foundation for practice guidelines to strengthen internal procedures in line with international standards prior to the organization's membership to the network to fight against corruption. In 2014, therefore, QTC emphasized strength-building and fostered good conscience in all employees within the organization through the seminar titled "Why aren't we rich yet?". The seminar included a lecture by Professor Saneh Srisuwan on 11 April 2014, and employees were educated on saving money and honest, transparent means for obtaining money to foster happiness and awareness in employees in their daily living as employees and part of society.



Furthermore, we revised our purchase and procurement policies in order to set forth practice guidelines with greater transparency and clarity to all related parties along with strict enforcement.

As for the outcomes concerning the matter of the complaint requesting a look into the facts in the case of the MEA price bidding for transformer procurement during the fiscal year of 2012. At present, the Office of the National Anti-Corruption Commission (NACC) has not come to a conclusion based on its consideration (QTC is one of the companies that won the bidding).

Corporate Social Responsibility

Practice Guidelines

1. We conduct business honestly and fairly according to ethical principles, and promote clarity and transparency of the organization's management in line with international principles.

- We have management procedures and management structures that are clear and reflect responsibility toward decisions to carry out activities affecting society and the environment with transparency. We also promote ethical practices with respect to legal principles.

2. We respect and give importance to the human rights of employees in all positions.

- We respect the human rights of all employees, and we promote freedom in employee gatherings for political, economic, social and cultural purposes in addition to managing safety according to the OHSAS18001 standard.

3. We are aware of the importance of labor and accordingly promoted labor development leading to effective drive for the corporation.

- We are determined to foster good relations between executives and employees at all positions and look after remuneration benefits fairly in addition to promoting personnel development and health promotion under the "Happy Workplace" guideline.

4. We are determined, and we express corporate responsibility to the environment as a way to create development and reduce environmental issues caused by the organization's operations and society as a whole.

- We manage the organizations' environment using the ISO14001 and ISO50001 standards, and we develop production processes that lower environmental impacts and instill environmental responsibility in employees through various promotion activities.

5. We hold firm to legal compliance and trade regulations, including related rules, regulations, laws, instructions, and internal announcements in order to prevent abusive benefit-seeking and misuse of power and in order to eradicate overlapping interests.

- We conduct business honestly and fairly, and we respect the rights to assets of others. We do not use unjust powers on trade partners or trade competitors, and we foster in employees the conscience to practice in compliance with related policies and laws.

6. We correctly and clearly broadcast product information with consideration for consumer rights and strict compliance with laws and regulations related to consumer protection.

- We disseminate product information correctly, without distortion from facts, in line with determined standards, and we handle product quality using the ISO9001, ISO17025 and TISI.384-2543 standards.

7. We support and consistently take part in public activities. We also promote employees with good consciences in collective and good social practices.

- We regularly promote and take part in community activities as well as activities for society in general for the benefit of the public. We also foster good conscience on social responsibility in employees.

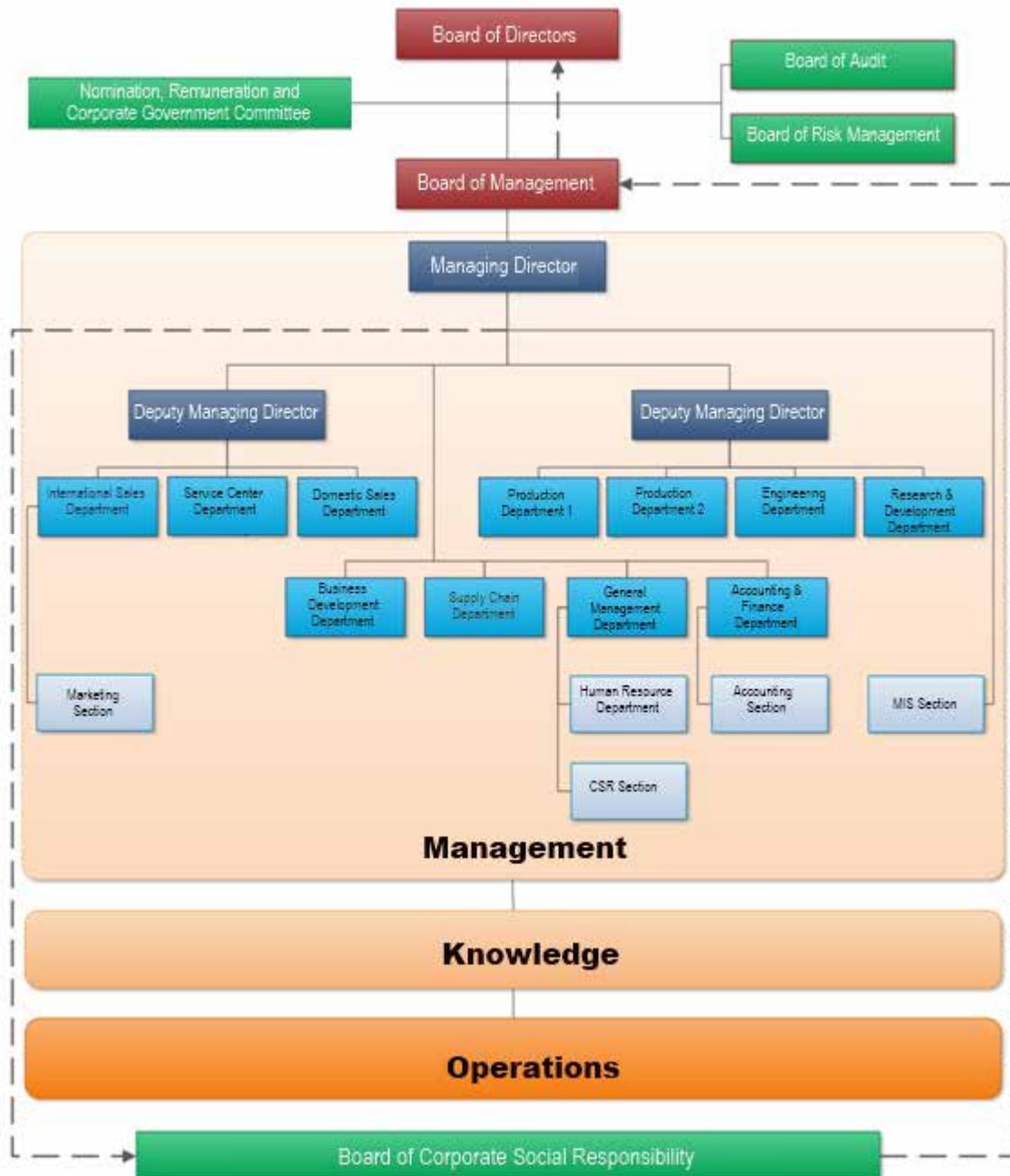
8. We promote socially responsible innovations in order to increase effectiveness and efficiency and to generate higher returns to the organization and stakeholders.

- We promote research and development to production processes in addition to innovating energy-saving products in order to increase effectiveness and minimize impacts on society and the environment.

Corporate Social Responsibility Management Structure

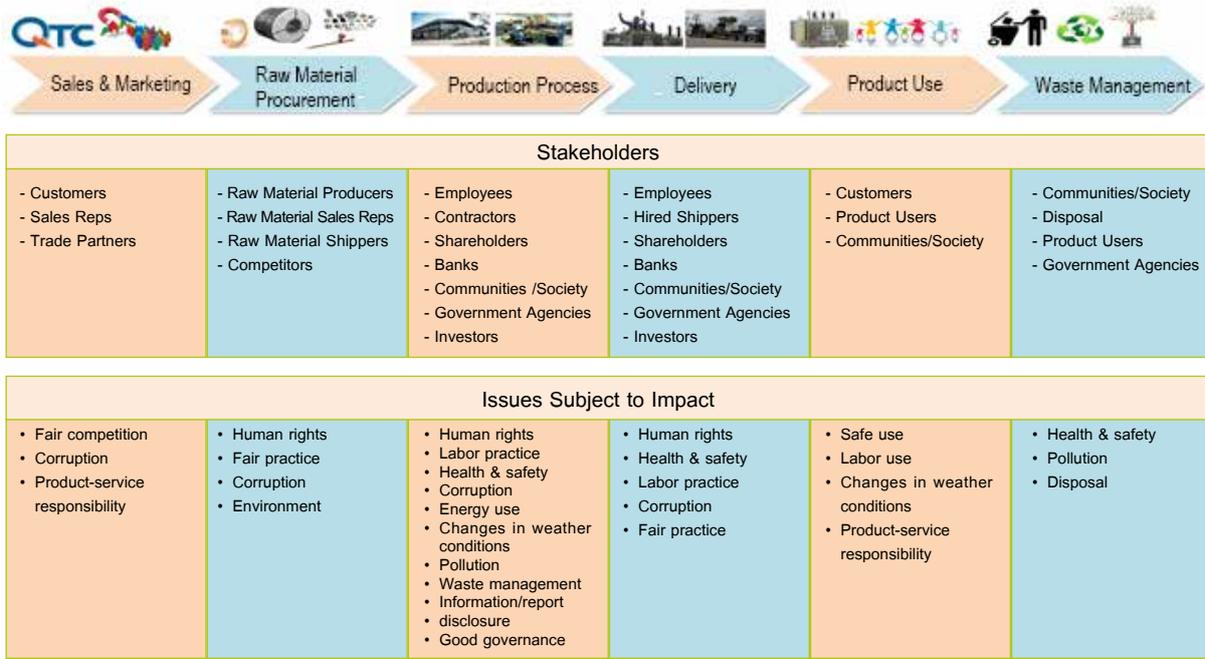
The company has created a corporate social responsibility committee consisting of department executives from various fields of work by granting the power and authority to monitor performance under policies as well as promote practices within the scope of the corporate social responsibility framework. In addition, we have a work committee on corporate social responsibility composed of key employees from different fields of work. The CSR department acts as the driving force behind corporate social responsibilities according to practice guidelines.

Progress in corporate social responsibility is reported to the company's Board of Directors through the Board of Management once per quarter. Whenever there is a change to policy or if new activities occur, or significant issues arise, the aforementioned will be communicated to all employees through communication channels including e-mails, employee meetings with executives, announcement boards, loudspeaker announcements, etc.



Stakeholder Participation and Sustainability Issues

Evaluating Supply Chain Impact



The corporate social responsibility work committee and the safety committee, which consist of representatives from various agencies within the organization, jointly evaluate impacts on stakeholders existing in the supply chain also index work hazards, energy use for each production process

and wastes resulting from production that are significant to QTC. The method of evaluation includes the participation of all levels of employees within the organization. Evaluations and reviews are performed once per year in order to allow for the drafting of plans to reduce/control risks.

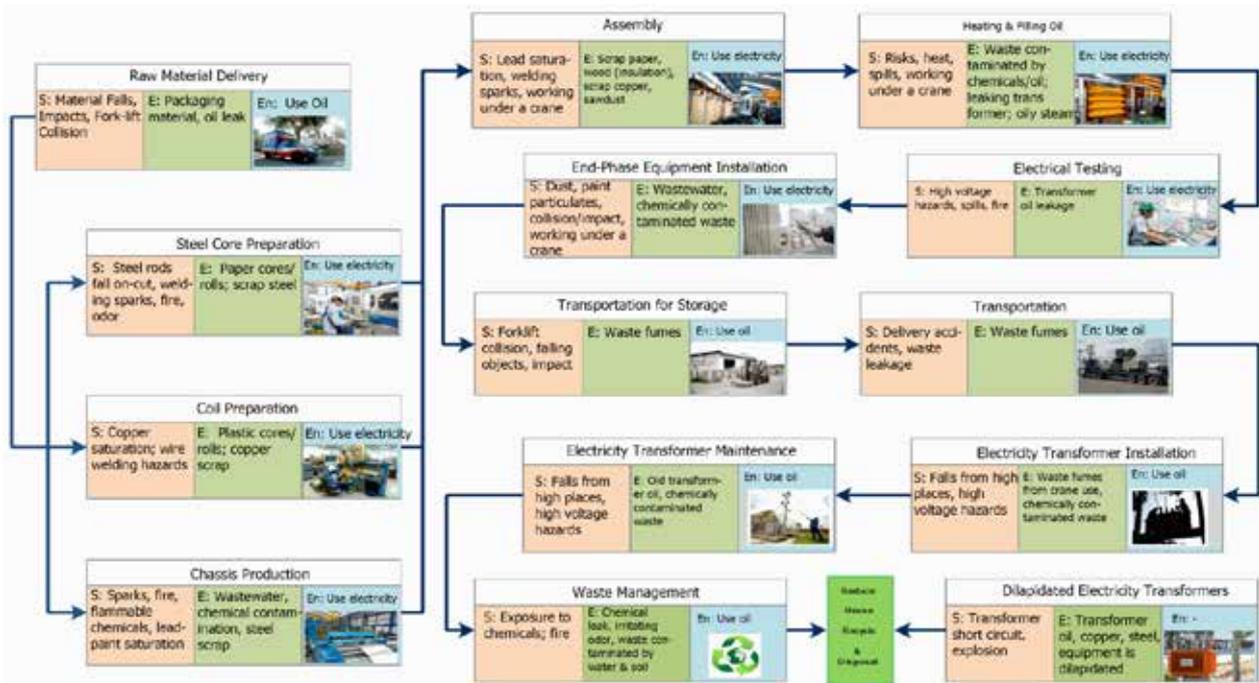


Figure showing indices of work hazards, energy usage, and wastes resulting from production

Stakeholder Participation

No.	Stakeholder Group	Participatory Communication	Needs/Expectations
1	Employees	<ul style="list-style-type: none"> - Arranging monthly activities for the management to meet employees. - Organizing suggestion activities, KAIZEN - Organizing training for capacity building under the annual plan. - Arranging orientation. - Arranging safety week activities & promoting good health. -Hearing employee opinions & complaints. - Safety news. - Health promotion news. - HR magazine. 	<ul style="list-style-type: none"> - Suitable raises in pay. - Arrangement of proper benefits. - Work safety. - Reduced health risks (cigarettes, liquor, traveling accidents). - Happy workplace. - Equal opportunities for advancement. - Plans for training to develop knowledge & ability. - Good life after retirement.
2	Customers	<ul style="list-style-type: none"> - Meeting with customers. - Organizing tradeshows/exhibitions. - Surveying customer satisfaction. - Instructing customers about techniques. - Offering opportunities for customers to see the production process. - Joining in activities with customers. 	<ul style="list-style-type: none"> - Receipt of information on the right techniques for products & services. - Suitable product prices/service fees. - Transparent price competition. - Receipt of quality products & services. - Ethical compliance with agreements. - Availability of alternative energy-saving goods. - Product/service warranties. - Maintenance of customer confidentiality.
3	Sales Reps	<ul style="list-style-type: none"> - Instruction about products/services. - Doing activities together. 	<ul style="list-style-type: none"> - Ethical practice. - Suitable prices & remuneration. - Product quality. - Accurate information about products/services. - Offering warranties.
4	Trade Partners	<ul style="list-style-type: none"> - Communication via various media. - Accurately, clearly communicated information. - Entry to audit production process/raw material quality. - Opportunity to offer suggestions for improvement. 	<ul style="list-style-type: none"> - Receipt of accurate, fast information according to long-term conditions. - Ethical compliance with agreements. - Transparent, ethical price competition. - Provision of knowledge & development of the production/ raw material processes.
5	Waste Disposal Recipients	<ul style="list-style-type: none"> - Exchanges of knowledge about legal limitations & accurate practice guidelines. 	<ul style="list-style-type: none"> - Strict compliance with agreements. - Legal practice.
6	Communities & Society	<ul style="list-style-type: none"> - Activities with communities. - Participating in community & social development. - Public discussions; annual "Meet QTC" forums. 	<ul style="list-style-type: none"> - Good friendship/alliances. - Support of community activities. - No negative impact on communities/society. - Work transparency. - Compliance with human rights & anti corruption measures.
7	Shareholders/Investors	<ul style="list-style-type: none"> - Annual shareholders' meetings - Quarterly performance reports. - Meetings with financial analysts. - Activities for listed companies to meet investors. - Invitations for investors to come and see the production process. - Answering questions via telephone & email; annual reports. 	<ul style="list-style-type: none"> - Profit - Good governance - Security with sustainable growth. - Receipt of accurate, complete, timely information about company. - Risk management system. - Good audit & control systems.
8	Financial Institutions	<ul style="list-style-type: none"> - Annual reports. - Quarterly performance reports. 	<ul style="list-style-type: none"> - Ability to monitor terms and conditions of agreements; transparent business practice.
9	Trading Competitors	<ul style="list-style-type: none"> - Exchanges of information and news on products; sources of information on raw materials, as well as instruments and machinery used in production. 	<ul style="list-style-type: none"> - Fair/transparent trade competition.
10	SEC/SET	<ul style="list-style-type: none"> - Meetings with directors of affiliated companies. - Financial reports. - 56-1, 56-2 	<ul style="list-style-type: none"> - Ability to comply with related regulations and laws.
11	Government Agencies	<ul style="list-style-type: none"> - Reports with information required by law. 	<ul style="list-style-type: none"> - Development of Thai economy, no creation of social or environmental impact, compliance with legal stipulations.

Response	Issue of Interest
<p>Fair payment of returns and income. Respect for human rights and equal treatment. Safety management under the OHSAS18001 system. Environmental management under the ISO14001 system. Provident fund. Happy Workplace project. Happy Workplace project support activities. - Annual vacation activities. - Annual company party. - Sports Day - Monthly Happy Friends Volunteer activity -Traditional Thai holiday activities</p>	<ul style="list-style-type: none"> - Health and safety - Employee care - Employee development - Hiring
<p>Good, transparent, ethical, traceable governance. Anti-corruption policy and promotion of compliance. Quality management under the ISO9001 system. Corporate management under TQM standards to develop processes, products and services. Customer relations management under CRM. Ethics in maintaining the confidentiality of customer information. Product certification by ISO17025 laboratory standards. Development of energy-saving products by the R&D team. Visits to see the production process.</p>	<ul style="list-style-type: none"> - Product/service responsibility. - Ethical compliance. - Corruption
<p>Compliance with purchasing/procurement policy. Development of trade partners with suggestions, instruction, understanding in developing raw materials surpassing set standards. Anti-corruption policy and compliance promotion.</p>	<ul style="list-style-type: none"> - Product-service responsibility. - Ethical practice. - Development with trade partners. - Corruption.
<p>- Monitor; inspection and performance of disposers.</p>	<ul style="list-style-type: none"> - Waste & scrap management.
<p>Building mutual trust and understanding. Supporting public activities. Creating volunteer employees to join in public activities. Environmental management under ISO14001. Energy management under ISO50001. Policy on human rights and compliance promotion. Anti-corruption policy and compliance promotion.</p>	<ul style="list-style-type: none"> - Disclosure of information & reports. - Energy management. - Joint community development. - Corruption. - Production, product & management processes; environmental friendliness. - Waste and scrap management.
<p>Transparent, ethical, traceable governance. Proper dividend payments. Transparent information disclosure.</p>	<ul style="list-style-type: none"> - Disclosure of information & reports. - Good governance.
<p>Strict compliance with terms and agreements in contracts.</p>	<ul style="list-style-type: none"> - Disclosure of information & reports. - Good governance.
<p>Code of conduct for ethical, transparent business performance.</p>	<ul style="list-style-type: none"> - Fair competition. - Corruption.
<p>Compliance with rules and related laws.</p>	<ul style="list-style-type: none"> - Disclosure of information & reports. - Good governance.
<p>Compliance with laws, regulations, rules stipulated by the law.</p>	<ul style="list-style-type: none"> - Disclosure of information & reports. - Good governance. - Corruption.

Analysis of Issues Concerning Sustainable Corporate Development

The corporate social responsibility committee and the work committee on corporate social responsibility take actions to consider the involvement of stakeholders, impacts on stakeholders and analyze corporate social responsibilities that will lead to corporate development through the participation of representatives from every

agency and information provided by employees through organized activities, including data from community and public discussions with QTC. The aforementioned issue analysis has just been started at QTC for the first year. The issues significant to QTC in sustainable development are as follows:

IMPORTANCE TO STAKEHOLDERS ↑ VERY IMPORTANT IMPORTANT	<ul style="list-style-type: none"> -Disclosure of information & reports. -Product-service responsibility. -Energy management. -Ethical/fair practice. -Joint community development. -Corruption. -Fair competition. 	<ul style="list-style-type: none"> -Health & safety. -Good governance. -Waste-scrap management. -Production, product & service processes are environmentally friendly.
	<ul style="list-style-type: none"> -Developing with trade partners. -Changes in weather conditions. 	<ul style="list-style-type: none"> -Risk management -Employee care -Employee development -Hiring -Development of quality, energy-saving products
	IMPORTANT	VERY IMPORTANT
	IMPORTANCE TO QTC →	



Main Sustainability Activities in 2014

Issue	Work Plan	Performance
Quality Economy		
Internal process development	Corporate quality management for sustainability (TQM #1)	<ul style="list-style-type: none"> - Hire a consultant from TQM Base Co., Ltd. - Comply with TQM Base work plan. - Improve employee attitudes & methods about corporate quality management (TQM)
Energy-saving product development	Research & development of energy-saving transformers (Amorphous Distribution Transformer).	<ul style="list-style-type: none"> - Official launching of energy-saving transformers. - Signing of MOU with Hitachi Metals Ltd. - Signing of MOU between QTC, Hitachi and PEA.
Changes in machinery & production process.	Changes to new machinery & additions to transformer production process.	<ul style="list-style-type: none"> - Sale of old metal cutting machinery & installation of new metal cutting machinery. - Construction of Factory 4 & Opening of transformer casing production line.
Quality Society		
Health & safety	Increased intensity & level of safety management with employee participation (Safety Management: OHSAS18001).	<ul style="list-style-type: none"> - Reduced accident rate. - Employee health.
Employee care & development	Promote quality of life for employees with the development of ability to build personnel capacity (Happy Workplace).	<ul style="list-style-type: none"> - Survey results on employee attitudes toward the corporation are slightly lower. - Reduced employee resignation rate. - Increased ability to work. - Human rights policy.
Community development	Support communities in line with corporate capacity to do so.	<ul style="list-style-type: none"> - Public hearing of opinion; communities meet with QTC. - Joint community support activities.
Quality Environment		
Environmentally friendly production and service processes.	<p>Improving oil heating & filling processes.</p> <p>Activities for suggested improvements.</p>	<ul style="list-style-type: none"> - Reduced use of electrical energy. - Reduced heat emissions. - Added machine efficiency. - Recycling of paper-silicone metal rolls. - Added work efficiency.
Energy Management	<p>Join in consultation projects.</p> <p>Arrange for ISO50001 energy management (Industrial Standards Office).</p> <p>Join participatory energy conservation projects (Department of Alternative Energy Development and Energy Conservation).</p>	<ul style="list-style-type: none"> - Establish an ISO50001 energy management system as a successful achievement. - Set energy policy. - Energy conservation project (air compressor).
Waste Management	<p>Garbage sorting.</p> <p>Expired electrical transformers.</p>	<ul style="list-style-type: none"> - Reduction in hazardous waste. - Additional non-hazardous waste. - Policy for buying returned/expired electrical transformers for disposal by the correct method.

Quality Economy



Overall Economic

The overall of the global economy in 2014 shows sluggishness, especially in the Eurozone economies as they continue to face recession pressured by deflation. The US economy has a slow growth rate at 2.4%, a speed up from the 2.2% in 2013. The Japanese economy shows signs of steady recovery supported by factors such as the weakening of the yen, which increases exports. However, domestic spending in Japan remains unstable. The Chinese economy is slowing down inversely to the strengthening yuan, and the economies of trade partner countries are also slowing down. The ASEAN economies, on the other hand, are experiencing good growth with decreased rates of inflation in nearly every country in line with the drop in oil cost.

For the Thai economy in 2014, data from the Office of the National Economic Social and Development Board (NESDB) summarized that the Thai economy in 2014 grew by 0.7 percent, whereby household consumption grew by 0.3% and overall investment decreased by 2.8% with overall inflation rate at 1.9% and circulating accounts exceeded balance by 3.8%.

In 2014, the Thai economy was affected by political issues, and state investment slowed as budgetary allocation was delayed. This resulted in slowed economic recovery.

Management of Significant Risks

- **Risks from stemming from income inconsistency and dependence on major customers.**

QTC earns its income primarily from bidding to supply electricity transformers to the Metropolitan Electricity Authority (MEA) and the Provincial Electricity of Thailand, making to about 25-36 percent of the company's total income. This ratio might affect the economic stability of QTC. Income earned from this part results from the company's ability to win biddings and depends on economic conditions and political situations. In order to decrease the aforementioned risks, we employ strategies to expand our customer base by including more private customers within the country and abroad. This effort is evident in the higher ratio of electricity transformers sold to private customers from 40 percent in 2012 to 49 percent in 2014. Furthermore, we employ strategies to increase competitive potential through high quality products and the Total Quality Management

System in order to decrease losses incurred during the manufacturing process, increase work effectiveness and respond to all customer groups worldwide.

- **Risks Resulting from Raw Material Price Fluctuations**

The main raw materials required in the manufacturing of electricity transformers are silicon steel, solution-soaked copper foil and transformer oil. The price of these raw materials mentioned fluctuate in line with prices in the world market. If prices suddenly change, the company's production costs and profits would be affected. Therefore, in order to lower the aforementioned risks in 2014, we adapted the Total Quality Management system by connecting our sales estimates and material requirements together along with market prices analysis in order to suitably layout procurement plans.

- **Risks Resulting from Foreign Currency Exchange Rates**

In 2014, QTC exported electricity transformers valued at 187.99 million baht in foreign currencies, making to 25.27% of total income from sales, while foreign material imports amounted to 147.62 million baht paid in foreign currencies. This was able to minimize risks caused by exchange rate fluctuations through natural hedging. Furthermore, QTC handles risks on this side by using the forward contract method as a strategy to purchase foreign currencies in advance. As of 31 December 2014, 75% of our assets are in the baht currency, 18% in Australian dollars, 1% in US dollars and 4% in Malaysian ringgit. In addition, 86% of the company's debts are in baht, and 14% in USD.

- **Risks for Emergencies and Hazards**

QTC gives importance to preparations for disasters with potential impact on our business operations, i.e., we created a plan to prevent and extinguish fires, and we drill this plan regularly every year. We also have evacuation drills in case of earthquakes and other events. Furthermore, QTC continues to purchase insurance policies covering all risks, e.g, fires, natural disasters (floods, earthquakes, lightening strikes, etc.), theft, or transportation accidents that could cause harm to assets. All of this is to minimize risks to disruptions to QTC's business. In 2014, no incidents affected the lives, assets or manufacturing processes of QTC.

Financial Performance

Description	2012	2013	2014
Income from sales & services	959.51	803.95	760.50
Total EBITDA	190.51	134.57	114.95
Net Profit (Loss)	118.40	74.51	54.70

Sharing Values to Stakeholders

ผู้มีส่วนได้เสีย	2012	2013	2014
Trading partners	628.30	471.13	447.66
Employees	81.93	87.00	89.14
Financial institutions (Interest paid)	7.73	6.94	7.54
Government (Taxes)	37.39	19.37	14.90
Society, communities, environment	0.89	0.37	0.34
Investors (dividends) baht/investment unit	0.31	0.21	0.18

Trade partners: General purchase value

Employees: salaries, wages, bonuses, provident funds, social security, personnel development expenses, expenditures to create happiness in the organization

Taxes: Corporate tax, local maintenance tax, property tax, land tax, signs, excluding VAT

Society, communities, environment: Expenses in social, community and environmental developments (out of the organization)

Customer Satisfaction Survey for 2014:

Target: 70% of results show 80% of customer satisfaction

Domestic Sales	Result :77.73%	Failed to reach the target
Transformer Delivery and Installation	Result: 98.19%	Reached the target
Transformer Maintenance and Repairs	Result: 88.79%	Reached the target
Foreign Sales	Result: 84%	Reached the target

Sustainable Internal Performance Developments

In 2014, QTC, adapted the Total Quality Management system (TQM) during the phase where foundations are laid in order to emphasize education, understanding, along with thought processes modification and logical analyses, including techniques for the use of instruments to analyze problems and processes for setting the company's direction in line with the company's vision. In For Phase 1 in 2014, we concentrated on work teams, beginning with the heads of all work branches all the way to high ranking executives, who are the keys to disseminating knowledge and understanding to all employees in later phases.

The implementation of the Total Quality Management system (TQM) in QTC's management is for the purpose of upgrading the quality of products and services, lowering costs and time in work procedures in order to generate sales and profits. Furthermore, it is a method to research and create new knowledge that will be integrated into operational work practice and producing people with knowledge and skills as thinkers and leaders capable of self-motivation and with high quality work values, which will lead to sustainable progress to the organization.



Project to Enhance the Quality of Outstanding Work

ISSUE: % of Completed Designs as Planned

The work team of the Engineering Department in the Design-Draft and Auxillary Work Section was not able to perform according to objectives, and the design completion effectiveness was only 50 percent of all designs. This affected the raw material procurement processes, production and delivery. In 2014, the Engineering Department team began utilizing skills obtained from problem analysis learning according to the Four Noble Truths principles, and QC stories were used in work revision along with tools to analyse across various work lines. It was found that the true cause of problems lies in inadequate work planning and good allocation of manpower. Previously, only personal skills were used, and problems were only solved using band-aid solutions. Hence, the team decided to adapt the production planning and estimation concept to appropriately make plans based on available manpower. This working across different work lines was used along with work standard improvements and good knowledge base in engineer groups. As a result, a packaged program was created for use in automatic plan-drafting with results displayed and updated on LCD screens every five minutes in order to allow work teams to see work statuses and be able to quickly output work in a systematic manner. This increased the effectiveness of completed designs up to 80 percent according to plan in 2014 (a 60% increase from the previous level of effectiveness), which significantly lowered procedural impacts in subsequent phases.



The team said this: "We are very proud with what we've created, and we agree with the thinking, 'changed thinking, changes actions and outcomes'. Our team no longer has to be bogged down in the same old problems. We'd like to thank you our executives for giving us the opportunities for us to learn and practice, and we are ready to further improve the quality of our work in the future."

ISSUE: Reducing Coil Production Errors

The coiling team at the Production Department are responsible for outputting high and low voltage coils, which are important components to electricity transformers. In 2013, and later in 2014, the coiling team encountered problems of operational employees entering and leaving. Employees were not trained quickly enough to meet production demands, which prevented coil production from meeting specifications and affecting the work of subsequent phases and delivery schedule to customers. The statistics on incorrect coiling calculated in NCRs averaged at two items per month. After the coiling teams learned and came to understand analytical principles and instrument-use techniques according to the TQM principles, they began to analyze and find the actual causes of the problem. They found that problems were caused by a lack of a clearly specified standards in the workplace, training employees using outdated methods in paper and lectures and OJTs, which are forgotten by employees after a shortwhile. To remedy the problem, the work team used work improvement techniques by setting new work standards to replace existing work instructions and installed them in the workplace in order to make work easier. More importantly, employees are able to check for work errors on their own by using set criteria. This clearly caused the number of errors caused in coiling to drop. At three months after installation, the average occurrence rate of NCRs dropped down to one item per month from the previous average of two items.



From the Team: "Problems could happen at anytime. All we had to do was accept it what happened and used the Four Noble Truth Principles in order to find ways to prevent the causes of the problems. Changes in attitude and open minds that accept new things are important. We'd like to thank the company for having giveng us the opportunity. TQM skills can really be used in our work and personal lives.

Expenses Incurred in Laying the Foundations of TQM

Phase 1

Description	Baht
1. Consultation fees	908,126
2. Equipment-educational media fees	5,000
3. Food & beverage fees	142,800
Total	1,055,926

Evaluation of TQM Use in 2014

According to the performance evaluation of the closure of Phase 1 of the project to lay down TQM foundations using an opinion survey only the work teams that entered the lectures and training, the self-learning and development of the work teams were as high as 83.83%, and the teams' positive attitudes toward empirical analysis and the Four Noble Truths were as high as 86%. However, the result for implementation progress and system establishment over the entire organization was only 38.03%.

This shows that QTC's work teams have the skills needed to think, analyze, solve problems, revise work and communicate effectively according to the TQM principles. However, its implementation still does not cover all work areas, and results has yet to be expanded to employees on the operating level.

Plans for the Future

In 2015-2016, we will step into Phases 2 and 3, the phases to integrate work processes more intensely. The TQM system will be expanded and adapted throughout the entire organization by the work teams trained in 2014.



Research and Development of the Energy-Saving Electricity Transformer (Amorphous Transformer Distribution) :

In line with the organization’s values to make achievements through innovative research and development of products that become options for customers along with our determination to be the leader in electricity transformer manufacturing, the company has organized a research and development team to conduct research and develop production processes that will reduce loss, research and develop high quality electricity transformers and lower energy loss.

In 2012, QTC began to lay the foundations for research and development of an energy-saving electricity transformer (Amorphous Transformer Distribution) in cooperation with amorphous steel manufacturers and successfully manufactured an electricity transformer with amorphous steel. Later in 2013, we successfully manufactured prototypes of amorphous electricity transformers in three sizes, and in 2014, we officially launched amorphous electricity transformers.



Performance in 2014:

On 21 August 2014, QTC officially launched the amorphous electricity transformer in cooperation with Hitachi Metals, Ltd. in the operational seminar on high-effectiveness electricity transformers (amorphous) with the objective of stimulating related agencies, e.g., the Provincial Electricity Authority (PEA), the Metropolitan Electricity Authority (MEA), the Electricity Generating Authority of Thailand (EGAT) and the Ministry of Energy, to become aware of the benefits of amorphous electricity transformers, which will lead to standards to be set specifically for this type of electricity transformer, at the Westin Hotel, Sukhumvit.



On 2 September 2014, QTC co-signed a memorandum of understanding with Hitachi Metals, Ltd. with Dr. Withoon Simachokdee, Permanent Secretary of the Ministry of Industry, chairing the signing ceremony of the memorandum of understanding between the Ministry of Industry and Shimane, Japan, in order to cooperatively develop the amorphous electricity transformer.



On 11 December 2014, QTC co-signed a memorandum of understanding (MOU) for the project to experiment amorphous electricity transformer installation in the Metropolitan Electricity Authority's distribution system in order to reduce distribution loss for the Metropolitan Electricity Authority with Hitachi Metals, Ltd., by which the MEA was responsible for the testing and installation of the amorphous electricity transformer in its distribution system. QTC and Hitachi were charged with manufacturing amorphous electricity transformers along with providing necessary information and equipment. QTC plans to deliver two 150kVA 3Ph with amorphous electricity transformers with 24kV/416V. 50Hz specifications to the MEA in February 2015.

IN introducing the amorphous electricity transformer sales to customers in 2014, we emphasized presentation of products effective in energy-saving and investment returns. Because the prices are rather high, however, the transformers have not reached the hands of many customers. Furthermore, the majority of customers still give more importance to price than transformer effectiveness when buying. Nevertheless, six amorphous electricity transformers of QTC are installed and used in Thailand.

Plans for the Future

The current cost for amorphous electricity transformers is high due to production that involves complex processes and high quality materials. As sales price is the primary factor in buyers' decisions. we have a plan to improve our amorphous electricity transformer manufacturing processes in order to cut production cost in 2015. In addition, we will disseminate to customers in general the benefits of amorphous electricity transformers. These efforts are in order to create an option that will allow all customers to access the transformers in terms of prices and for them to be able to choose amorphous electricity transformers according to actual product information.



Changes in Machines and Production Processes

As we are a dynamic organization that creatively develops methods, procedures and machines to support future changes at all times, we added procedures and installed new machines in 2014 in order to increase work effectiveness and minimize environmental impacts while increasing employee safety as follows:

We sold old steel-cutting machines: As the old steel cutting machines had seen over 18 years of use and were less effective in work with loudness, frequent loss of function, and difficulty finding parts, we made a plan to replace the machines by selling the old ones to a foreign private company. This was completed in early 2014.



We installed two brand new steel-cutting machines based on Germany's advanced technology. They have high work safety and less disruption noises, along with high steel-cutting effectiveness. The first one was installed in 2013 to test out the machine before retiring the old one, and another one was installed in 2014. This allowed us to run the machines at full capacity.



We added new production processes:

QTC has added new procedures involved with electricity transformer chassis production in order to allow better control over the quality of the main components to electricity transformers. We built Factory No. 4 and installed the necessary machinery to support production. According to production trials, we are not yet able to manufacture chassis at full capacity, but we expect full production of transformer chassis in 2015. This will allow us to decrease purchases from outside manufacturers along with decreasing transportation and on-schedule deliveries.

- Income earned from the selling of the old machines and expenses for the operation are shown in the profit and loss statement.
- The list of machines and equipment that were installed are shown in the balance sheet.



Quality Society



Employee Occupational Health and Safety

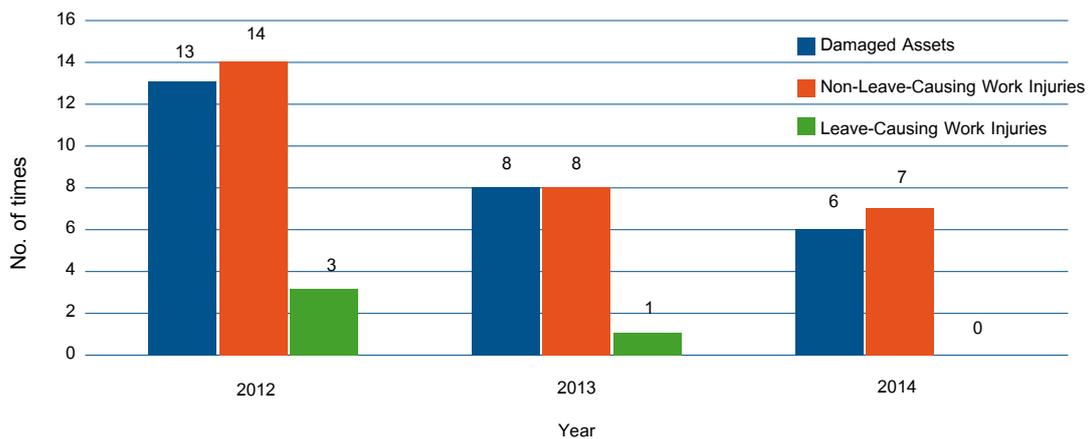
Safety: QTC gives importance to the occupational safety of employees by using the occupational health and safety and work environment management system (OHSAS18001) with emphasis on employee participation on all levels in searching and assessing work risks and promotion of awareness and caution through promotion activities with the goal of lowering the incidence of work accidents to zero.

In 2014, we expanded our scope and requested the OHSAS18001 certification to cover our offices in Bangkok and customer service. Moreover, we upgraded and intensified our management consistently. This clearly lowered the incidences of accidents. The number of accidents in 2014 was lower than 2013 by 23.53 percent, and the number of days of work leaves employees took due to accident in 2014 dropped from that in 2013 by 100% (no accident-related work leaves.)

Table Showing a Comparison of Work Accident Statistics over a Period of Three years in Retrospect

Severity/Damage	No. of Times/Year		
	2012	2013	2014
Damaged Assets	13	8	6
Non-Leave-Causing Work Injuries	14	8	7
Leave-Causing Work Injuries	3	1	0
Total Number of Accidents (Times)	30	17	13
Total Number of Leave Days Taken (Days)	47	2	0

Comparative Graph Showing Work Accidents over a Three-Year Period in Retrospect



We set the number of accidents occurring as indicators for annual personnel performance evaluation, and we organized collective participation activities to create awareness in employees on work safety, such as the following examples:

 Safety Week – this is another activity that has the colors of participation and is a good way to create work safety awareness in employees. Other than fun activities filled with safety practice principles, we invited people who experienced work accidents to the point of disability or lost some organs from the worker’s rehabilitation center for the eastern region to tell their experiences in person and caution employees to act according to safety principles strictly to avoiding being like them. This was an effective method for building awareness in employees.



 In 2014, we upgraded our proactive safety awareness and advanced danger perception in employees. A safety team led by professional safety officers visits work areas to conduct KYT with employees in every morning, rotating between area throughout the entire year. Discussions on dangers involved in each work section are primarily focused on along with situations in which accidents occur. Upon the conclusion of each situational evaluation, we will summon a meeting of all employees in order to immediately announcement causes, impacts and prevention methods. This is carried out on the day subsequent to the accident at the latest and is in order to trigger the conscience of employees to always work safely and consciously.

 Safety News – is considered another channel for communicating awareness to employees on risks and hazards in work and ordinary living. Safety news is prepared once per month and is attached on the restroom doors for all employees to read.



Health : Good health for employees does not mean up-to-standard weight but the fact that employees are able to properly care for themselves in terms of diet, exercise, up to reduction and cessation of anything hindering health. Hence, we have always given importance through many organized promotion projects, such as the following examples:

The White Factory Project: Due to increasingly intense problems with narcotics, which creates a myriad of problems in Thai society and affects our little society at QTC, where we are concerned for the life and health of all employees within. Therefore, we continuously take actions to prevent and resolve drug problems in conjunction with factory work and the family life of employees. This includes promotion activities and monitoring done by random drug tests every month without advance notice. The aforementioned measures are set as part of the company's policy and have been agreed upon by all employees, because we share the same goal, and that is the eradication of narcotics from the QTC family. In 2014, we were awarded with a Class 3 certificate certifying that we took steps to prevent and resolve drug problems in the workplace according to the White Factory Project from the Department of Labor Protection and Welfare and Ranong.



Health Promotion Activities: This is another project that we have continuously implemented and received awards for, e.g., Advanced Level Smoke-Free Workplace in 2010 and the Advanced Level Health Promoting Workplace in 2012. Furthermore, in 2014, we created many new activities to promote employee health, e.g.:

- **Healthy Aerobic Activity:** Our objective is to give employees strong bodies with good mental health while relieving work-related stress. Hence, we hired a professional trainer to teach aerobics 2-3 times per week after work from 5:45 pm - 6:30 pm. Furthermore, we offer opportunities for both male and female employees to participate at will. This activity was great at creating color and fun for employees.



- **QTC League Cup:** We do this for the purpose of promoting healthy employees and beneficial use of free time. The company rents an indoor artificial grass soccer court for male employees to practice twice per week, and the "QTC League Cup" is organized annually every year for cups and money prizes and to promote all employees to participate in cheering and guessing game results.



Measurements on Safety, Occupational Health and Work Environment

Apart from activities promoting and creating safety awareness in employees, we also monitor for invisible risks by measuring the conditions of work environments and health of employees on general and specific categories according to risk factors in order to visibly see problems

and make plans to remove or prevent incidents in advance. Measurements are taken at different frequencies according to regulations set by the law. The items measured include the following:

Comparative Measurements of Chemicals in the Workplace over a Two-year retrospective Period

Paramiter	Area	Results				Standard value	Unit
		1/2013	2/2013	1/2014	2/2014		
		20/3/2013	06/09/2013	02/04/2014	18/9/2014		
Iron Fume	Steel Core Work Shop	0.26	0.006	0.001	0.24	10	mg/m3
Lead	Assembly Work Shop	0.01	0.001	0.001	0.01	0.2	mg/m3
Copper Fume	Assembly Work Shop	1.24	0.002	0.009	0.01	0.1	mg/m3
Copper Fume	Assembly	0.01	0.01	0.01	0.01	0.1	mg/m3
Copper Fume	Coiling 1	0.01	0.01	0.02	0.01	0.1	mg/m3
Copper Fume	Coiling 2	0.01	0.01	0.01	0.01	0.1	mg/m3
Copper Fume	Coiling 3	0.01	0.01	0.01	0.01	0.1	mg/m3
Copper Fume	Coiling 4	0.01	0.01	0.01	0.01	0.1	mg/m3
Toluene	Steel Core Work Shop	6.35	9.95	2.86	2.72	752	mg/m3
Toluene	Equipment Installation	0.57	0.83	0.01	1.88	752	mg/m3
Xylene	Equipment Installation	0.01	0.01	0.25	2.17	435	mg/m3
Xylene	Steel Core Work Shop	0.01	0.01	0.01	2.17	435	mg/m3
Xylene	Stell Assembly	0.01	1.17	0.71	2.17	435	mg/m3
Total dust	Chasis	-	-	-	ND	15	mg/m3
Respirable dust		-	-	-	ND	5	mg/m3
Iron Oxide Fume		-	-	-	0.03	10	mg/m3
Lead		-	-	-	0.01	0.2	mg/m3
Xylene		-	-	-	5.35	435	mg/m3
Toluene		-	-	-	27.24	754	mg/m3

Comparative Measurements on 24 Hours of Disruptive Noises over a Two-Year Restrospective Period

Paramiter	Area	Results		Standard value	Unit
		1/2013	1/2014		
		12-13/8/2013	24-26/3/2014		
Normal Noise Level (Leq 24 hr)	Factory Bailey	58.7	56.3	70	dB(A)
Normal Noise Level (Lmax)	Factory Bailey	51.9-80.8	51.6-78.3	115	dB(A)

Comparative Measurements of Noise Level in the Workplace over a Two-Year Retrospective Period

Place of Inspection	Area	Results		Standard value	Unit
		2013	2014		
		20/3/2013	2/4/2014		
Steel Core	Factory 1	85	74.1	90	dB(A)
Unicoil Steel Cutter	Factory 3	91	79.0	90	dB(A)
Tanking	Vacuum & Oiling	81	88.8	90	dB(A)
Wood Cutting Room	Assembly	81	77.4	90	dB(A)
Work Shop	Steel Core	83	77.3	90	dB(A)
Steel Pellet Shooting Ground	Factory 4	-	85.9	90	dB(A)

Health Examinations According to Risk Factors for 2014

Substances Tested	No. of People Screened	Normal Results	Abnormal Results
Copper in Blood	29	24	5
Iron in blood	9	9	0
Lead in Blood	9	9	0
Styrene in urine	27	27	0
Toluene in Urine	27	27	0
Xylene in urine	27	27	0
PFT	87	82	5
Audiogram	92	90	2
OCC	54	31	23
Grip Strength	89	65	24
Back Strength	88	49	39

For health examinations by risk factors that returned abnormal results, we invite expert physicians in the field of occupational medicine to interview for patient history and to give recommendations in caring for the health of patients with abnormal results.

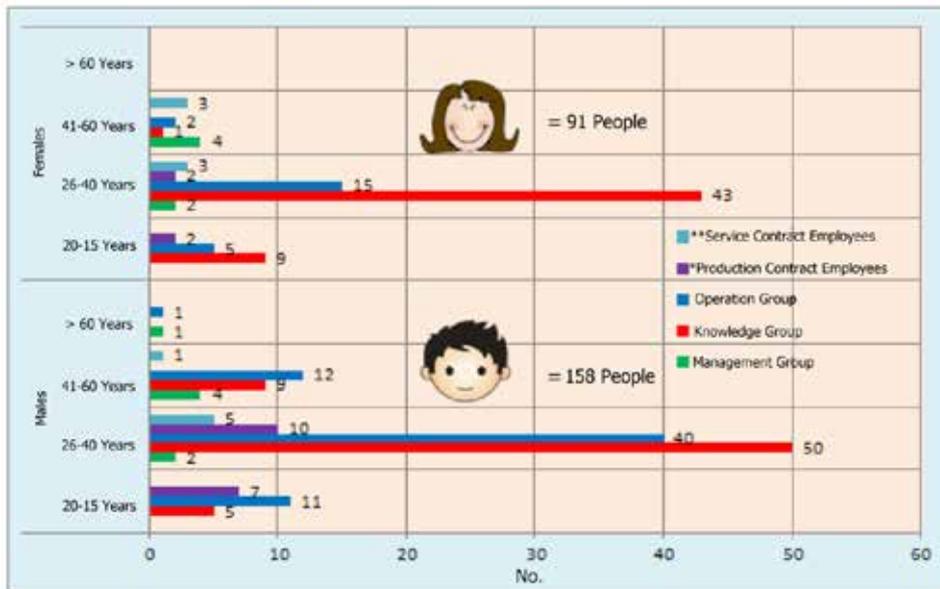
- For excess copper in the blood, 5 employees were found to have the abnormality. We ordered repeat examinations. From a patient history interview and measurement results for conditions of the work environment, the doctor commented that all 5 employees were on a type of medication that contained copper as a component and that their bodies were unable to fully remove it. The doctor gave health recommendations.
- For auditory testing, two employees had hearing abnormalities. According to patient history interviews and work environment measurement results, the doctor commented that 1 had had abnormal hearing since birth, while the other was recommended on health care and safety on using protective equipment.
- For other abnormal examination results, the doctor gives recommendations on exercise, eye rest and healthy diet.

Employee Care and Development

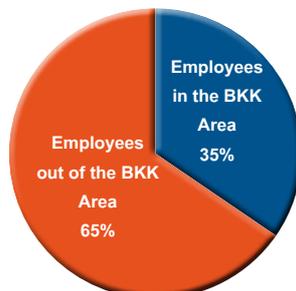
QTC is aware that “people” are important and valuable resources capable of development. Thus, we give importance to developing personnel within our organization in all areas in order to create “capable” and “good” people under the concept that holds the belief that if we modern machinery and good management system but lack “capable” and “good” employees in our work, we would be unable to sustainably achieve a place of organizational excellence. We have always cared about employee happiness through activities in the form of “QTC Happy Workplace”, promotion of employee skills, knowledge and ability in line with core competency and the direction of the organization’s development.

Employee Care: The majority of QTC employees are non-local people. This is true for both Bangkok and Rayong with culturally diverse groups from the northern region, Isan, the southern region, central, eastern and western regions. However, we manage them under good corporate governance principles and give importance to fair treatment of employees, respect for the human rights of employees under the scope of the law or related regulations, including shared work laws, rules and regulations put forth above the law as practice guidelines such as employee wages structure or welfare.

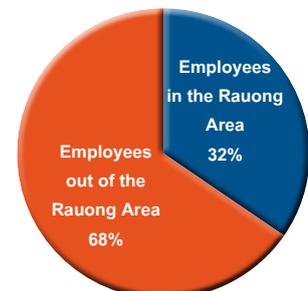
Number of Employees as of 31 December 2014



Ratio of Employee Wages



Ratio of Employee to Bangkok Offices



Ratio of Employees to Factories in Rayong

- As of 31 December 2014, company employees numbered 216 people in which 143 signed up as members of the provident fund to make up 62.21% of the company’s employees.
- In 2014, 100% of the company’s female employees who took maternity leaves returned to work as usual.
- The ratio of employees in the BKK area = 35%, out of BKK = 65%, in Rayong = 32% and out of Rayong = 65% in 2014.
- The ratio of wages paid to employees equal 55% and 34%, respectively, of all employee-related expenditures in 2014.

*Contract production employees mean employees in the production line hired through sub-contractors during periods when production is rushed.

**Contract service employees mean security guards and maids hired through sub-contractors.

We are determined to create a happy workplace within our organization on all sides by using strategy to earn the trust of stakeholders and build happiness within the organization. This has helped QTC avoid employee strikes and protests, along with internal employee disputes. Furthermore, although QTC does not have an established worker's union, a welfare committee and safety committee established by election along with other committees observe participation of employee representatives.

In 2014, QTC changed its supply chain & logistics management structure by relocating the work facility of the procurement section from the previous location at the office in Bangkok to the factory at Rayong. Employees were notified three months in advance of this and were informed of the required conditions and rights of employees in decision-making.

For 2014, we organized several activities to create trust and happiness within the organization by in all aspects by encouraging employees to participate in the following activities:

Human Rights Promotion: In 2014, we announced to the employees that we would start using human rights policies. Lessons and public announcements are made for all employees, and the policies are posted on the company's website: <http://www.qtc-energy.com/index.php/qtc57041> Furthermore, in 2014 we made arrangements for employees to exercise their rights to elect employee representatives into the Safety Committee (SC) and the Welfare Committee. The details are as follows:

Item	No. of Persons Needed	No. of Applicants	No. of Eligible Voters	No. of Voters	Bad Ballots	% of Voters
1. Safety Committee	3	8	167	136	2	81.4
2. Welfare Committee	5	9	167	136	2	81.4



Moral and Ethics Promotion Activities: These are activities aimed at promoting Buddhist principles and passing on the good traditions and culture of Thailand. In 2014, a merit-making ceremony was organized, in which nine Buddhist monks were invited to deliver sermons and receive offerings from employees and executives. Furthermore, we organized a water-pouring ceremony to ask for blessings from managing directors before the long Songkran holidays.



Family Bonding Activities: These are activities aimed at promoting and supporting the family institution by strengthening the bonds between parents and children. Photographs contests were held according to the concept "I love Mom the most because she's the best" on the occasion of Mother's Day and "I love Dad the most because he's the best" on Father's Day. Employees were allowed to return home to take pictures with their mothers or fathers in loving poses. A decision committee made up of executives awarding 2,000 baht, 1,500 baht and 1,000 baht, respectively. In 2014, over 15 images were submitted for both contests.



Employee Value Promotion: Promotion of employee values are important to us, and we seriously organize supporting activities in order to boost work morale and motivate employees to racing one another to do good. In 2014, we awarded three employees with prizes for their hard work and consistent performance without taking leaves throughout the entire year. Furthermore, the “10 Year QTC” prize was awarded to eight employees whose work age reached ten years. Moreover, we organize the “Happy Friends” activity for the Music Lovers’ Club volunteers to play instruments in the park for fellow employees. The event is accompanied by light snacks and is organized once every month. We also come together to give out birthday cakes to employees whose birthdays fall on that month.



Happy Friends is another colorful activity filled with fun and entertainment. It gives happiness to everyone in the organization. The Music Lovers’ Club displays its talents once a month in the park as a birthday celebration for employees born that month. Furthermore, we support vendors and merchants located in front of the factory by buying 200 sets of food and drink wholesale to be distributed to all employees as they enjoy the show. The wholesale purchases are cycled from one vendor to another, making it fun for people in the organization as well as shops and vendors in front of the factory.

Relaxation/Recreational Activities: The employees’ yearlong work is certainly exhausting and boring. QTC is aware of this and has always paid attention to our tired employees. Hence, we organize yearly recreational activities and New Year parties in which the Welfare Committee consisting of employee representatives participates by specifying activity details, location, etc. within the annual budgets.

We organize yearly recreational activities at the Fountain Resort, Pakchong, Nakhon Ratchasima, where up to 150 employees take part. Other than fun and relaxing parties, there are also activities to promote teamwork.



The “Out with the Old and In with the New” party for 2014 was organized in the central region at the factory in Rayong. Dried offerings were made to monks, and we played group Monopoly. The game was filled with teamwork-empowering strategies and business planning contests to win money prizes. We also have an alcohol-abstention policy for the sake of employee safety as they travel back to their provinces on return trips.



Employee Development: QTC treats employees fairly and equally without preferential treatment given to any given person for any similarities or differences, whether they are physical, emotional, race, religion, gender, education, or any other issue. We specified this as practice guidelines in the company's business ethics on employee treatment in addition to work handbooks on rule, regulation and laws related to employee knowledge and development. Creating quality awareness in employees, which we consider to be

an important issue and strategy necessary in driving the organization forward; there are two primary objectives as follows:

1. To train employees with ability to perform work operations. The training requires that GAP drops down by at least 50% per year.
2. To develop human resources in line with professional fields in which at least 50% of professional training is required each year.

2014 Performance

Practice	Method	Results in 2014	Budget Spent
On-the-Job Training	We set the standard for the necessary knowledge and skills for each work position. Work chiefs handle training and teach employees in their positions so that their performance meet desired knowledge and skill levels. We closely monitor and assess employees in order to develop capable employees. Our goal requires that employees are trained until their gap drops by at least 50% each year.	In 2014, 192 employees were evaluated for their operational performance. A total of 93 employees had work gaps, and 52 people were able to lower their gaps by 50% (57.14%).	--
In-House Training	Core Competency Course Managerial Competency Course Function Competency Course Other special courses	Sixty-one courses were provided to 192 employees. Training hours averaged at 44.50 hours/person/year.	1,308,144.50
Public Training	Employees were sent for training provided by outside institutions.	Seventy-seven courses were provided to 102 employees. Training hours averaged at 22 hours/person/year	168,465.50

Core Competency Training

Key Course: Building Quality Awareness



Managerial Competency

Key Course: Cross-Functional Management



Functional Competency Training

Key Course: English Language Proficiency



Understanding and Attitude-Adjustment Training

Key Course: CSR Engagement



In 2014, QTC's rate of employee resignations dropped from 2013 by 0.70%. In 2014, we solved the problem by revising the training provided during the probationary period so that work training and advice are provided closely to new employees in the form of "baby-sitters", which would keep new employees from feeling lonely and to help prepare them for later learning and development.

The results of the survey on the attitudes of employees within the organization regarding their work, work atmosphere and organization using the Statistical Package for the Social Science (SPSS) as conducted by HR Teamwork CO., LTD. showed that results in 2014 dropped from 2013 by 1.94%.



Year	Scores (5 Max)	Percentage
2012	3.686	73.72
2013	3.841	76.82
2014	3.744	74.88

	2012	2013	2014
Rate of Resignations:	4.01	2.43	1.73

As we are determined to create an organization of happiness in every way with reliance upon employee attitudes as a measure, our goal is set to over 80%. In 2014, the survey results showed a slight drop, but this is important to the Management Committee, which instructed related sections to examine key issues for revisions in 2015 according the analytical principles of TQM.

Community Development

In addition to internal developments, QTC pays attention to participation in order to achieve community development, and has accordingly allocate a budget that makes up to 1.5% of the company's profits in order to organize activities for the benefit of society. We support student internships, and we open the QTC home for educational institutions or government agencies to inspect our work for educational purposes and governmental agency developments, etc. Activities in 2014 include the following:

QTC meets the public & communities: This is an activity we organize annually and has been ongoing for its third consecutive year. We invite community leaders, villagers, educational institutions, temples, hospitals and other stakeholders to attend discussion so that we could hear the opinions of stakeholders existing within the surrounding communities along with answering questions and opening the QTC home for stakeholders to observe production processes and waste storage and removal of QTC. This is for the purpose of earning the trust of stakeholders in the communities by ensuring them that we would not harm their communities whether directly or indirectly. Furthermore, in 2014 the communities demanded for QTC to continue support on topics from the second year. QTC, therefore, drafted work plans and implemented them according to the proposals made by the stakeholders according to QTC's conditions in order to mutually benefit QTC and stakeholders. The performance for this in 2014 are as follows:



 Support for activities promoting and improving the educational level of Thai youths, e.g., organizing activities for the National Children's Day, utilizing the skills of personnel of the organization to education or provide new experiences to the children living in surrounding communities.

- **National Children's Day :** We give importance to this holiday and have always provided support. The Asa Rak Dek team at QTC would comes up with creative activities that benefit the children. They also give gifts and prizes to the children who take part in the activities. In 2014, we organized our National Children's Day activities at Banhuayprab, Mabyangporn, Pluakdaeng, Rayong. Many children from all neighboring areas participated.



- **Safety Week and Health Promotion Activities:** These activities are the strength of QTC. QTC wants to share experiences and knowledge with the teachers and students living in surrounding communities. Accordingly, teacher and student representatives from all four schools in Mabyangporn participate in exhibitions and play games rich with safety cautions for daily living and answer questions to win prizes. In 2014, we held this event from 22-24 July.



 We supply electricity transformers, which make up the company's main product to schools, temples and hospitals that face brown-outs in order to create public benefits.

In 2014, we donated three electricity transformers to the schools, hospitals and temples in Mayangporn and surrounding communities in trouble as follows:

- We gave one 30kVA single-phased electricity transformer to Nongbon School, Tasit, Pluakdaeng, Rayong (on 26 February 2014).



- We gave one 30kVA single-phased electricity transformer to Nongbon Health Promotion Hospital, Tasit, Pluakdaeng, Rayong (on 26 February 2014).



- We gave one 250kVA triple-phased electricity transformer to Mabyangporn Temple, Mabyangporn, Pluakdaeng, Rayong (26 February 2014).



 The company shared its water source for agricultural use by people living around the factory during the dry season (details can be found in the Environment Section RE: Protection and Restoration of the Environment and Biodiversity in page 46).

Other than the three proposals made, community leaders also showed concerns for the cultural diversity of QTC employees because Mabyangporn is a large industrial area with a high population, and any misunderstanding or ignorance of the culture of the local people may affect the peace and order of the communities. Therefore, the company was requested to send employees to participate in activities organized by the the communities in order to share good culture and understanding between one and another. QTC sees this issue as important and will continuously foster good relations. Activities in which QTC participated in include:

-  We took part in the water-pouring to ask blessing from the elderly and the Songkran festival for 2014. The company prepared keepsakes for the elderly living in Moo 2, Mabyang, Pluakdaeng, Rayong, and company representatives join in the activities.



As we care for and create no negative impacts on the society's communities and see the values of people in communities, we have earned the trust of the stakeholders in the community, who signed in approval and allowed QTC to expand its factory for a third time in the presence of the Sheriff of Pluakdaeng; Office of Industry, Rayong; and the Department of Industrial Works, Ministry of Industry, smoothly in 2014.

In addition to attention to community development participation, QTC gives importance to participating in improving government agencies' management and supporting education in public and private educational institutions.

We support educational institutions in accepting student interns in line with the cooperative education project, whereby the company paid 200 baht each day to the students and provided accommodations for any who traveled from the provinces. In 2014, we admitted 9 interns from 6 institutions, namely, Burapha University, Kasetsart University, Rajamangala University of Technology Isan Khonkaen Campus, Rayong Business Administration Technological College, National Institute of Development Administration (NIDA) and the Polytechnic Institute of New York University. Expenditures for this amounted to 106,109 baht in 2014.



We supported government agencies and the private sector on education about professional organizational management and production management to be adapted so that agencies remain up-to-date. In 2014, QTC welcomed two groups of military cadets from the Department of Civil Aviation, executives and officers at the Irrigation Department, executives and officials of the Ministry of Justice, teachers and students of the University of the Thai Chamber of Commerce and teachers and students from Khonkaen University.



60 Teachers and Students of Khonkaen University



50 DCA soldiers, First Class

Operational Expenses:

In 2014, the company allocated 1.5% of its net profit in 2013 (an amount of 1,117,643.97 baht) for CSR activities. In 2014, we organized many activities within the organization (for employees) and outside of the organization (for the society and communities) with exclusion to the recreational activities of the company's employees suchy as annual parties and trips using a total of 551,690.13 baht. Because Thailand in 2014 did not suffer any severe disasters, the company did not spend much of its budget for CSR activities resulting from natural disasters.

Quality Environment



Environmentally-Friendly Production Processes and Services

In 2014, QTC expanded its scope and requested for the ISO14001 environmental management certification to include the Bangkok office and customer service. This is to ensure that all work processes from purchase orders taken from customers up to delivery and services are directed and managed according to standard without affecting the society and environment. Furthermore, QTC has a research and development team to work on production processes and improve production effectiveness while minimizing impacts on employees and the environment. In 2014, an important improvement project was carried out by the company's research and development team. Furthermore, recommendations (Kaizen) for continuous improvements are significantly provided by employees concerning the environment and society, for example:

Improvement Results on Sidekick Trashbins

(Kaizen): Work problems lead to creative thinking aimed at creating personal convenience. Mr. Withoon Klinkesorn, assembly employee of the Production Department, is charged with preparing insulation wood in transformer assembly. The main material used is plywood insulation and wood cutting and drilling machines. Wastes produced are sawdust and plywood bits, which scatter about. Frequently, when bags are dragged on the ground, they would break and waste time on picking up. Later on, he used a trash bin with a bag fitted in. When a bag is full, he removes it from the bin, and sometimes bags are caught onto the bin and tears, scattering sawdust all around and wasted time on cleaning up. The repetitive issue caused Mr. Withoon to grow bored of and for him to think up a way to improve the process without creating any additional expenses. He then requested leftover materials, namely the paper rolls of silicon steel rolls for the steel core. He made them into trashbins by cutting them in half and reattaching them. Hinges were added to allow opening and closing in addition to wheels. A bag is put in the bin, and you could move it here and there. When the bag is full, you open the hatch and conveniently remove the bag. The aforementioned success was built upon by Mr. Withoon to add even more convenience to his work, whereby he bisected papercores into sawdust troughs for drilling machines, so that sawdust directly drop into the troughs and thereby saving time normally spent cleaning up the floor. Mr. Withoon said, "I'm

proud of my side-kick trashbin. I know it's about trash, but I'm glad that I don't have to keep ducking and stooping to pick up sawdust. My friends like it, too, and now I have plenty of time to do a lot more work."

The "side-kick trashbin" passed considerations by the Kaizen Committee and was awarded a B-class prize for creative work improvements on the Environment Category for recycling leftover materials into useful items to improve work under one's responsibility. To increase work value, time was saved in sweeping sawdust. However, the number of bins created was few and is yet able to significantly lower the quantity of leftover paper cores.

The paper rolls of silicon steel are scrap materials for which the company has to lose income in order to eliminate by weighing and cannot be sold for money. Therefore, the company supports and promotes the small concepts of employees in the organization who are aware of responsibility to the environment in order to bring us to greatness in the future.



Oil Heating & Filling Improvement Project: The goal of this project is to increase production and lower energy consumption by lessening heating time for electricity transformers without affecting product quality.

Part of cause for delayed product delivery to customers in 2013 was slow transformer heating time, which had limitations in terms of number of transformers undergoing the heating process per cycle, in addition to the fact that each cycle took a long time for completion. QTC's production standards set the conductivity score of electricity transformers to be quite high, higher than ordinary standards, and the method of operation in order to obtain scores that pass the standards is set by a theory set forth since the founding of the factory. However, we have changed our present production processes by selecting higher quality products and more effective machiners. By doing so, product quality increases. However, we have yet to review the oil heating and filling effectiveness of the new processes.

For the aforementioned reason, the research and development team created a project to improve the oil heating and filling processes based on engineering and scientific principles in running experiments to reduce vacuuming time. Statistical data on conductivity of electricity transformers of sizes ranging from 50kVA-160kVA that were actually manufactured in 2014 were collected. The result obtained is lower vacuum time by over 61.54% without any impacts to product quality. The summarized conductivity scores are as follows:

Test Results for 50kVA-160kAV Transformers

1. Transformer Quality: within standard measures.
2. Production Effectiveness: improved from before, whereby oven cycles increased from five to six per day without any increase in manpower.
3. Power Consumption Reduction: we successfully reduced power consumption by 60kWh per vacuuming cycle, or 360kWh per day, making up to 1,440 baht worth of electricity saved daily. (presumed electricity cost at 4 baht per unit)
4. Reduction of Heat Emissions: We were able to reduce the time of emission of hot steam to the atmosphere by 120 minutes per cycle, or 720 minutes per day.

Plans for the future

The test results were as expected for small electricity transformers from 50kVA-160kVA. Therefore, the research and development team will expand results to transformers larger than 160kVA. However, changes to the internal processes of large electricity transformers would significantly affect the quality of transformers, whereby engineering and scientific principles alone will not work. In 2015, QTC, therefore, has a plan to invest in a Tan Delta measurement instrument to measure total leakage current (IL) in transformers in order to verify production quality and upgrade QTC's manufacturing standards.



Environmentally-Friendly Products

The success in the design and production of QTC's amorphous electricity transformers, other than affecting economic stability, energy and environmental stability are also affected. The details of the test of 1000kVA-sized amorphous transformers manufactured by us according to the table comparing standards of the Provincial Electricity Authority (PEA) are as follows:

1000 kVA	Test Item	Spec	Result
Routine	Load Loss		
	No Load Loss	1270	283
	Impedance		
	Dielectric Tests	Hipot(HV, LV) / Induced	Pass
	Ratio	≤ 0.5 (all tap)	Pass
	Megger		
Type test	Temp Rise	-	-
	Lightning Impulse	-	-
Special Test	Sound Level		
	Short Circuit		
	Transformer Weight		

The table shows a Low/No Load Loss of only one in four transformers using silicon steel cores when compared to the loss standard of the Provincial Electricity Authority (PEA Loss), which set the no load loss value to be no more than 1270 watts. When we changed to amorphous steel, our no load loss equaled 283 watts, capable of saving up to 987 watts of electricity. When we calculate this for the entire year, we would save up to 8,646 kilowatts of

electricity per hour, making to about 34,584 baht of money each year. This shows that we can save power by 75% more than silicon steel transformers at identical kVA sizes.

Hypothesis: If Thailand were to install and use up to 500 amorphous transformers at the size 100kVA per year, up to 4,323 megawatts of electricity would be saved per hour, amounting to up to 17 million baht saved every year. This equals turning off up to 4 1000-megawatt-sized power plants, and this will lower carbon dioxide emission to the atmosphere in the production process by up to 2,600 tons per year.

(The hypothesis calculates electricity cost at 4 baht/unit and carbon dioxide emission calculated with reference to CO2 Conservation Coefficient (Thailand) 0.595kg-CO2/kWh, Reference from IIEC (International Institute for Energy Conservation))

Plans for the Future

In order to confirm the electrical tests of the amorphous electricity transformer on international standards, in 2015 we plan to manufacture amorphous electricity transformers of the size 300kVA 24kV 3ph 50Hz, the standard of the MEA, to be tested for its resistance to short circuit currents in CESI, Italy, in order to ensure quality confidence and the effectiveness of the amorphous electricity transformers in customers as they make their purchases.



Energy Management

QTC upgrades environmental responsibility by adapting the ISO50001 sustainable energy management system with consideration to using energy effectively and efficiently. Although our factory does not fit the criteria for a controlled factory pursuant to the Energy Conservation Promotion Act, B.E. 2540 (1997), we are aware that our production processes require electricity, which is an unavoidable production cost. Additionally, energy is a current to which every part of the world pay attention. Therefore, energy management is an important step to expressing our responsibilities to the society and environment and a way to further our competitive potential in the world market. In 2014, we took the following actions:

We signed up for the ISO50001 training and consultation project: QTC signed up to join the project and displayed our intention by actions to cooperatively assist one another in the project with the Thai Industrial Standards Institute, Ministry of Industry. Hence, QTC created an energy workteam to work and provide consultation, along with setting operational policies, objectives and goals, including investments in the installation of energy-consumption measurement equipment in order to collect statistical data for use in energy efficiency evaluation. We successfully adapted the ISO50001 energy management system for the entire organization at the Bangkok office and factory in Rayong with active awareness and participation from employees in energy conservation.

We signed up to the inclusive energy conservation



project: In 2014, QTC signed up to the project and cooperated with the Department of Alternative Energy Development and Efficiency, Ministry of Energy, in order to promote energy efficiency to lower production costs incurred by energy use. For this, four electricity and heat experts from DEDE observed the electricity consumption of QTC's factory and gave lessons to educate employees on the topic of energy conservation and machine maintenance, from which QTC greatly benefited, and several projects aimed at conserving and lowering energy consumption resulted, for example:

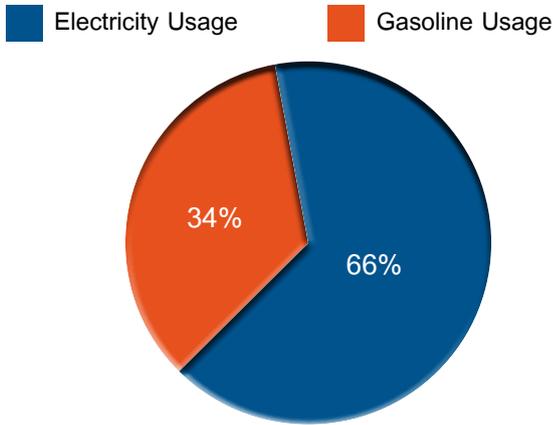
We created a project to improve our air compression system. QTC has screw-type air compressors of size 15kW and 35kW working at 8 bars of pressure. Compressed air is used during the production process, and according to a survey conducted by experts, it was found that during lunch time when production is paused, air compressors remained active, meaning leaks exist in the air compression system. Therefore, the energy team of QTC and experts drafted an improvement plan by employing two measures, that is, one to resolve air leaks and another to shut off air compressors during lunch breaks. The results as certified by experts from the Department of Alternative Energy Development and Efficiency are as follows:



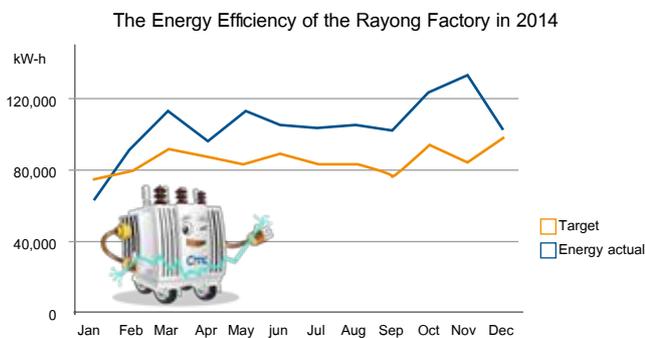
Air Compressor	Before Improvement			After Improvement		
	Electrical Energy Wasted per Year (kWh/year)	Energy Cost		Electrical Energy Wasted per Year (kWh/year)	Energy Cost	
Baht/kWh		Baht/year	Baht/kWh		Baht/year	
15kW	11,160.00	4.09	45,644.40	8,805.00	4.09	36,012.45
35kW	29,314.00	4.09	119,894.26	22,678.00	4.09	92,753.02
รวม	40,474.00	4.09	165,539.00	31,483.00	4.09	128,765.00

According to the project's implementation, we were able to lower electricity loss by 8,991kWh/year, which amount to 36,773 baht worth of electricity saved per year.

The main energy QTC uses in manufacturing and delivery exist in two types, namely, electricity, which accounts to 66% of all energy use, and heat energy in the form of oil, which accounts to 34% of all energy usage.



The Energy efficiency of the factory in 2014 remains below target because set indicators have yet reflected actual energy usage, and energy conservation and management activities only began to show definite results late in 2014. It is expected, however, that in 2015 energy efficiency would improve, because due to our installation of equipment to control energy use divided according to significant work areas so that we could collect actual figures on energy usage. Furthermore, we would improve the electrical equipment we use to be in line with energy conservation plans in order to increase usage effectiveness in addition to setting inclusive energy conservation measures for all employees to use as clear practice guidelines.



Heat Energy Efficiency for Oil - The heat efficiency for oil for the factory in 2014 met its goals, whereby the distance for the routes of transport vehicles per gasoline usage by each vehicle is set to no less than the value in 2013, which was used as the measure. Furthermore monitoring and follow up is carried out using GPS systems.

Budgetary Allocation for the Installation of the Energy Management System

Description	Qty.	Cost (baht)
1. Consultation Project Matching Funds (TLC)	-	15,000.00
2. Electricity Parameter Meter	17 PC	70,082.50
3. Control Software	17 PC	43,350.00
4. Signal Transformer & Other Equipment	1 Set	5,737.50
5. GPS Delivery Vehicle Installation (5 Trucks)	5 PC	116,670.00
Total		250,840.00

Plans for the Future

We have a plan to request certification for energy management system standard (ISO50001) in early 2015 using the same CB as other standards in order to benefit the combined evaluation of all 4 systems.



Pollution Control

Water Quality: QTC's factory is located near no public water sources, whether natural or from the Department of Water Works. We pump surface water for consumption and use only. No water is used in the manufacturing process of electricity transformers. The only water used

in cooling vacuum ovens and water used in lowering the temperatures of welded projects, which are water storage systems. The aforementioned water is transported for disposal once every year. The annual wastewater quality measurements are as follows:

Comparative Wastewater Quality Results of the Cafeteria at the Last Point of Disposal over a Three-Year Retrospective Period for 2014

Measured Parameter	Results					มาตรฐาน	หน่วย
	1/55	2/55	1/56	2/56	1/57		
	16/1/55	08/09/55	19/2/56	16/9/56	24/3/57		
BOD5	42.4	5	8.3	4.8	2.7	≤ 20	mg/l
Oil and Grease	2	0	0	0	0	≤ 5	mg/l
PH	8.2	6.4	8	6.3	5.8	5.5-9.0	-
Sulfides	0.53	0.6	0.53	0.6	0.2	≤ 1	mg/l as H2S
Suspended Solids	32	50	38	11	15	≤ 50	mg/l
Temperature	28	30	33	29	30	≤ 40	°C
Total Dissolved Solids	329	48	42	64	66	≤ 3000	mg/l
Total Kjeldahl Nitrogen	38	<5	<5	<5	<5	≤ 100	mg/l as H2S

Comparative Wastewater Quality Results of the Factory at the Last Point of Disposal over a Three-Year Retrospective Period for 2014

Measured Parameter	Results								มาตรฐาน	หน่วย
	1/55	2/55	1/56	2/56	3/56	4/56	1/57	2/57		
	16/1/55	08/09/55	19/2/56	16/9/56	03/12/56	14/1/57	24/3/57	10/09/57		
BOD5	248	455	266	155	92.5	84	233	146	≤ 20	mg/l
Oil and Grease	41.2	26.2	22.2	16	6	4	10.4	2	≤ 5	mg/l
PH	<0.2	5.7	7.8	6	5.98	6.54	5.3	7.03	5.5-9.0	-
Sulfides	0.53	0.6	0.53	2.17	0	0.84	1.05	0.66	≤ 1	mg/l as H2S
Suspended Solids	123	254	76	128	6	77.5	94	13	≤ 50	mg/l
Temperature	27	28	28	28	26	25.4	30	27.5	≤ 40	°C
Total Dissolved Solids	253	646	409	306	346	124	451	150	≤ 3000	mg/l
Total Kjeldahl Nitrogen	<5	45	30	15	16	11	17	11	≤ 100	mg/l as H2S

The measurement results of wastewater quality of the cafeteria at the last point returned unstable values, showing that solution practices remain inadequate and that BOD values remained above acceptable standards. Consequently, the team changed control measures and

modified water the behaviors is used by cooks to clean food scraps and grease-trap cleaning. The latest results show improvements. Presently, we employ licensed parties from Mabyangporn Sub-district Administration Organization to pump water from storage wells for disposal.

Air Quality: QTC's electricity transformer production processes involve a step where transformers are placed in vacuum and hot-air ovens, whereby ventilation systems are put in place to remove hot air from the factory. Some transformer oil vapor may contaminate the air through this. Furthermore, as we use a dry spray system in painting the finish work on the transformers, some paint particulates may contaminate the air. Additionally, although we use

high-safety cutting machines when preparing insulation plywood and have a standardized dust-removal system, some wood dust may contaminate the air through the ventilation shaft. Therefore, the company specified for the quality of air ventilated from all five shafts to be measured twice yearly in order to ensure that our production processes do not harm the environment.

Comparative Air Measurement Results in the Furnace over a Three-Year Period in Retrospect for 2014

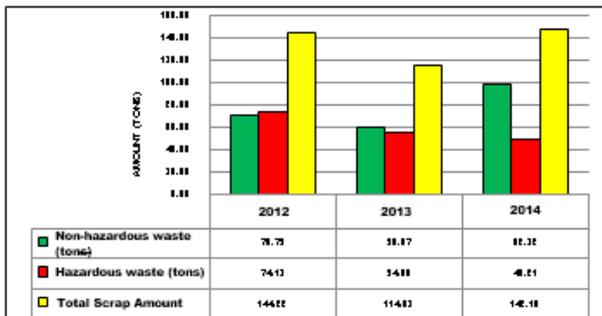
Parameter	Area	Results						Standard Value	Units
		1/55	2/55	1/56	2/56	1/57	2/57		
		16-1-55	09/08/55	21-3-56	16-9-56	24-3-57	18-9-57		
Particulate	ปล่องดูดซับที่เลื่อยห้องตัดไม้	2.5	1	1.3	1.2	1.9	0.5	400	mg/m3
Oil mist	Vacuum	1.06	1.08	3.22	10.05	3.68	0.3	-	-
Oil mist	ปล่องเตาอบ (หม้อแปลงซ่อม)	0.62	0.71	1.62	2.85	0.48	0.42	-	-
Xylene	ปล่องตัวถัง	-	-	-	-	-	3.31	870	mg/m3
Particulate		-	-	-	-	-	5.6	400	mg/m3
Toluene	ปล่องห้องพ่นสี	1.88	3.12	1.88	1.88	1.88	0	-	-
Xylene		2.17	2.17	2.17	2.17	2.17	2.17	870	mg/m3



Waste Management

QTC gives importance to the management of wastes resulting from employee consumption, contracted construction or equipment installation and the company's production processes, and we have clear waste-sorting methods, up-to-standard and safe waste-sorting facilities, along with procedures set forth specifically for preparations for emergency waste management. In 2014, the amount of waste or residue resulting from the company's production process increased from that in 2013 by 22.64%, because in 2014 we began experimenting with chassis manufacturing and added new steel-cutting machines along with a process to sort wastes effectively, which increased the amount of non-hazardous (sellable) materials. Furthermore, the amount of hazardous wastes decreased from that in 2013 by 8.87% because effective oil and chemical spillage management, the amount of absorbants contaminating water decreased, thereby decreasing QTC's waste management expenditures in 2014.

Graph showing the amount of unused materials over a retrospective period of three years:



Item	2013 (Baht)	2014 (Baht)
Expenses in Removing Material Residue	245,067.99	243,338.87
Income from the Sale of Material Residue	2,453,520.99	3,575,992.85



Protection and Restoration of the Environment and Biodiversity

From the project to plant forests in factories as protection and restoration of the environment and biodiversity in 2013, the 751 trees we have planted grew appropriately, which we believe would help restore a small patch of 3 rai and 2 ngans behind QTC's factory back to abundance in year-round shade and water (a large pond created by QTC, not natural) in order to respond to the farmers' demand for irrigation water and QTC's need for water for employee consumption in the future.

Presently, in the dry season, pineapple farmers adjacent to QTC's factories would request water from QTC's ponds to irrigate their crops, and sometimes villagers release fish with economic value in the ponds as food for QTC's employees as mutual benefits.



Product Responsibility

QTC has a policy to repurchase expired QTC electricity transformers through the "New Out, Old In" exchange. We give fair prices according to the market for old items. This is done with the aim of systematically managing these expired products according to waste management procedures without harming or creating burden for the society and environment. Decisions are up to the judgment and willingness of the customers.

GRI Content Index

GENERAL STANDARD DISCLOSURES			
Standard Disclosure	Disclosure Requirements	Page	Note
STRATEGY AND ANALYSIS			
G4-1	Provide a statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	5	
G4-2	Provide a description of key impacts, risks, and opportunities.	16-23	
ORGANIZATIONAL PROFILE			
G4-3	Report the name of the organization.	4	
G4-4	Report the primary brands, products, and services.	4	
G4-5	Report the location of the organization's headquarters.	4	
G4-6	Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	4	
G4-7	Report the nature of ownership and legal form.		AR 11-14
G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	4	AR 15-22
G4-9	Report the scale of the organization.		AR 14
G4-10	<ul style="list-style-type: none"> a. Report the total number of employees by employment contract and gender. b. Report the total number of permanent employees by employment type and gender. c. Report the total workforce by employees and supervised workers and by gender. d. Report the total workforce by region and gender. e. Report whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors. f. Report any significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries). 	30	
G4-11	Report the percentage of total employees covered by collective bargaining agreements.	-	
G4-12	Describe the organization's supply chain.	11	
G4-13	Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain.	-	
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization.	-	
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	-	
G4-16	List memberships of associations (such as industry associations) and national or international advocacy organizations.	-	
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES			
G4-17	<ul style="list-style-type: none"> a. List all entities included in the organization's consolidated financial statements or equivalent documents. b. Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report. 		
G4-18	<ul style="list-style-type: none"> a. Explain the process for defining the report content and the Aspect Boundaries. b. Explain how the organization has implemented the Reporting Principles for Defining Report Content. 	1	
G4-19	List all the material Aspects identified in the process for defining report content.	14-15	
G4-20	For each material Aspect, report the Aspect Boundary within the organization.	11-15	
G4-21	For each material Aspect, report the Aspect Boundary outside the organization.	11-15	
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	-	
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	23	
STAKEHOLDER ENGAGEMENT			
G4-24	Provide a list of stakeholder groups engaged by the organization.	12-13	
G4-25	Report the basis for identification and selection of stakeholders with whom to engage.	12-13	
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.	12-13	
G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns.	12-14	
REPORT PROFILE			
G4-28	Reporting period (such as fiscal or calendar year) for information provided.	1	
G4-29	Date of most recent previous report (if any).	-	
G4-30	Reporting cycle (such as annual, biennial).	1	

Standard Disclosure	Disclosure Requirements	Page	Note
G4-31	Provide the contact point for questions regarding the report or its contents.	1	
G4-32	a. Report the 'in accordance' option the organization has chosen. b. Report the GRI Content Index for the chosen option. c. Report the reference to the External Assurance Report, if the report has been externally assured. GRI recommends the use of external assurance but it is not a requirement to be 'in accordance' with the Guidelines.	1	
G4-33	a. Report the organization's policy and current practice with regard to seeking external assurance for the report. b. If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided. c. Report the relationship between the organization and the assurance providers. d. Report whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report.	-	
GOVERNANCE			
G4-34	Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	10	AR 36-43
G4-35	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees.	10	AR 36-43
G4-36	Report whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body.	10	AR 36-43
G4-37	Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body.	10,35	
G4-38	Report the composition of the highest governance body and its committees.	10	AR 36-37
G4-39	Report whether the Chair of the highest governance body is also an executive officer (and, if so, his or her function within the organization's management and the reasons for this arrangement).		AR 55-58
G4-40	Report the nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members.		AR 51
G4-41	Report processes for the highest governance body to ensure conflicts of interest are avoided and managed. Report whether conflicts of interest are disclosed to stakeholders.		AR 53
G4-42	Report the highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts.		AR 60
G4-43	Report the measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics.		AR 64-65
G4-44	a. Report the processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics. Report whether such evaluation is independent or not, and its frequency. Report whether such evaluation is a self-assessment. b. Report actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics, including, as a minimum, changes in membership and organizational practice.		AR 60-68
G4-45	a. Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities. Include the highest governance body's role in the implementation of due diligence processes. b. Report whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities.	17-18	AR 64-68
G4-46	Report the highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics.	17	AR 37-43
G4-47	Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities.	10	
G4-48	Report the highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered.	1,10	
G4-49	Report the process for communicating critical concerns to the highest governance body.	10	
G4-50	Report the nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them.	10	
G4-51	a. Report the remuneration policies for the highest governance body and senior executives. b. Report how performance criteria in the remuneration policy relate to the highest governance body's and senior executives' economic, environmental and social objectives.		AR 47-50
G4-52	Report the process for determining remuneration. Report whether remuneration consultants are involved in determining remuneration and whether they are independent of management. Report any other relationships which the remuneration consultants have with the organization.		AR 65
G4-53	Report how stakeholders' views are sought and taken into account regarding remuneration, including the results of votes on remuneration policies and proposals, if applicable.		AR 51
G4-54	Report the ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country.	18	AR 47-50

Standard Disclosure	Disclosure Requirements	Page	Note
G4-55	Report the ratio of percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country.	18	AR 47-50
ETHICS AND INTEGRITY			
G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	5,8,9	
G4-57	Report the internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines.	8	AR 53
G4-58	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines.	8	AR 53
SPECIFIC STANDARD DISCLOSURES			
CATEGORY: ECONOMIC			
ASPECT: ECONOMIC PERFORMANCE			
G4-DMA	Generic Disclosures on Management Approach		
G4-EC1	Direct economic value generated and distributed	18	AR 69-112
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	17-18	AR 82
G4-EC3	Coverage of the organization's defined benefit plan obligations		AR 97
G4-EC4	Financial assistance received from government	-	
ASPECT: MARKET PRESENCE			
G4-DMA	Generic Disclosures on Management Approach		
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	30	
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	30	
ASPECT: INDIRECT ECONOMIC IMPACTS			
G4-DMA	Generic Disclosures on Management Approach		
G4-EC7	Development and impact of infrastructure investments and services supported	6, 17-18	
G4-EC8	Significant indirect economic impacts, including the extent of impacts	6, 17-18	
ASPECT: PROCUREMENT PRACTICES			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	-	
CATEGORY: ENVIRONMENTAL			
ASPECT: MATERIALS			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN1	Materials used by weight or volume		AR 25-27
G4-EN2	Percentage of materials used that are recycled input materials	39	
ASPECT: ENERGY			
G4-DMA	Generic Disclosures on Management Approach		
G4-EN3	Energy consumption within the organization	42-43	
G4-EN4	Energy consumption outside of the organization	42-43	
G4-EN5	Energy intensity	42-43	
G4-EN6	Reduction of energy consumption	42-43	
G4-EN7	Reductions in energy requirements of products and services	21, 40-41	
ASPECT: WATER			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN8	Total water withdrawal by source	44	
G4-EN9	Water sources significantly affected by withdrawal of water	-	
G4-EN10	Percentage and total volume of water recycled and reused	-	
ASPECT: BIODIVERSITY			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	-	
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	-	
G4-EN13	Habitats protected or restored	46	
G4-EN14	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	-	
ASPECT: EMISSIONS			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	-	
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	-	

Standard Disclosure	Disclosure Requirements	Page	Note
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	-	
G4-EN18	Greenhouse gas (GHG) emissions intensity	-	
G4-EN19	Reduction of greenhouse gas (GHG) emissions	-	
G4-EN20	Emissions of ozone-depleting substances (ODS)	-	
G4-EN21	NOX, SOX, and other significant air emissions	-	
ASPECT: EFFLUENTS AND WASTE			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN22	Total water discharge by quality and destination	-	
G4-EN23	Total weight of waste by type and disposal method	46	
G4-EN24	Total number and volume of significant spills	-	
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	46	
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		
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	46	
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	-	
ASPECT: COMPLIANCE			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	-	
ASPECT: TRANSPORT			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	11	
ASPECT: OVERALL			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN31	Total environmental protection expenditures and investments by type	43, 46	
ASPECT: SUPPLIER ENVIRONMENTAL ASSESSMENT			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	-	
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	-	
ASPECT: ENVIRONMENTAL GRIEVANCE MECHANISMS			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	-	
CATEGORY: SOCIAL			
SUB-CATEGORY: LABOR PRACTICES AND DECENT WORK			
ASPECT: EMPLOYMENT			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	30	
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation		AR 49
G4-LA3	Return to work and retention rates after parental leave, by gender	30	
ASPECT: LABOR/MANAGEMENT RELATIONS			
G4-DMA	Generic Disclosures on Management Approach		
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	31	
ASPECT: OCCUPATIONAL HEALTH AND SAFETY			
G4-DMA	Generic Disclosures on Management Approach		
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	31	
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	25	
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	25	
G4-LA8	Health and safety topics covered in formal agreements with trade unions	25-29	
ASPECT: TRAINING AND EDUCATION			
G4-DMA	Generic Disclosures on Management Approach		
G4-LA9	Average hours of training per year per employee by gender, and by employee category	33	
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	33-34	

Standard Disclosure	Disclosure Requirements	Page	Note
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	33	
ASPECT: DIVERSITY AND EQUAL OPPORTUNITY			
G4-DMA	Generic Disclosures on Management Approach		
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	30	
ASPECT: EQUAL REMUNERATION FOR WOMEN AND MEN			
G4-DMA	Generic Disclosures on Management Approach		
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	30	
ASPECT: SUPPLIER ASSESSMENT FOR LABOR PRACTICES			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	-	
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	-	
ASPECT: LABOR PRACTICES GRIEVANCE MECHANISMS			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	-	
SUB-CATEGORY: HUMAN RIGHTS			
ASPECT: INVESTMENT			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	-	
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	33	
ASPECT: NON-DISCRIMINATION			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-HR3	Total number of incidents of discrimination and corrective actions taken	-	
ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING			
G4-DMA	Generic Disclosures on Management Approach	-	
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	-	
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	-	
ASPECT: FORCED OR COMPULSORY LABOR			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	-	
ASPECT: SECURITY PRACTICES			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations	-	
ASPECT: INDIGENOUS RIGHTS			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	-	
ASPECT: ASSESSMENT			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	-	
ASPECT: SUPPLIER HUMAN RIGHTS ASSESSMENT			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-HR10	Percentage of new suppliers that were screened using human rights criteria	-	
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	11	
ASPECT: HUMAN RIGHTS GRIEVANCE MECHANISMS			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	-	
SUB-CATEGORY: SOCIETY			
ASPECT: LOCAL COMMUNITIES			
G4-DMA	Generic Disclosures on Management Approach	-	

Standard Disclosure	Disclosure Requirements	Page	Note
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	35-37	
G4-SO2	Operations with significant actual and potential negative impacts on local communities	-	
ASPECT: ANTI-CORRUPTION			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	-	
G4-SO4	Communication and training on anti-corruption policies and procedures	8	
G4-SO5	Confirmed incidents of corruption and actions taken	-	
ASPECT: PUBLIC POLICY			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-SO6	Total value of political contributions by country and recipient/beneficiary	-	
ASPECT: ANTI-COMPETITIVE BEHAVIOR			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	-	
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	-	
ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	-	
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	-	
ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	-	
SUB-CATEGORY: PRODUCT RESPONSIBILITY			
ASPECT: CUSTOMER HEALTH AND SAFETY			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	46	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	-	
ASPECT: PRODUCT AND SERVICE LABELING			
G4-DMA	Generic Disclosures on Management Approach	-	
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	-	AR 15-18
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	-	
G4-PR5	Results of surveys measuring customer satisfaction	18	
ASPECT: MARKETING COMMUNICATIONS			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-PR6	Sale of banned or disputed products	-	
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	-	
ASPECT: CUSTOMER PRIVACY			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	-	
ASPECT: COMPLIANCE			
G4-DMA	Generic Disclosures on Management Approach	-	
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	-	



