



Sustainability Report 2023

รายงานความยั่งยืน 2566

QTC Energy Public Company Limited

2 Message from the Chief Executive Officer

4 Awards for Success

5 About QTC

15 QTC's Sustainability

18 Stakeholders of QTC

26 Selection of Key Sustainability Topics

29 Main Strategies for Sustainable Development

Good Governance

33 Corporate Governance

Strong Economy

53 Business Growth

62 Innovation Promotion

71 Responsibility for Products and Services

84 Supplier management

Environmental Consciousness

90 Environmentally Friendly Production Processes

98 Waste and Scrap Material Management

106 Climate Change

120 Sustainable Use of Resources

130 Biodiversity

Social Responsibility

137 Employee Safety & Health

156 Human Resource Development and Employee well-being

180 Human Rights

189 Role in Community Development

200 About This Report

201 GRI Content Index



Message from the Chief Executive Officer



Dear Stakeholders,

The intense geopolitical situation due to the Isreal-Hamas conflict, attacks on cargo ships in the Red Sea, the Russia-Ukraine war, and the strategic competition between the U.S. and China have inevitably affected the global and Thai economy, especially with rising prices resulting in high production, transportation and service costs. Fluctuations in the value of the Thai baht against the U.S. dollar, inflation and interest rates that remain high are some of the factors making operators in the industrial sector slow their investments or business expansion to reduce risks. Although the tourism industry saw an increase in 2023 in line with support policies from the government, this has not resulted in significant investments to expand the hotel and lodgings business.

The aforementioned situation has impacted QTC, especially in the cost of main raw materials for production such as copper, steel, transformer oil and other imported materials, resulting in higher costs for transformer production and transportation to deliver products to customers. Meanwhile, expansion in the industrial and real estate sectors remain slow. Even with investments in infrastructure from the government to support the transformer market, price competition remains rather high.

Nevertheless, in 2023, QTC continues to operate business with caution through corporate management processes and has expanded its clean energy equipment business and provided knowledge as well as promoted the QTC brand among technicians and engineers at universities nationwide to create future opportunities for when those students graduate and work in the industrial sector. Moreover, QTC has received cooperation from its employees and work teams and the trust of all stakeholders who have always remained confident in QTC's brand and services. The performance as of the end of the year (for separate businesses) includes 926.22 million baht in revenue from sales and services in the transformer business, 359.70 million baht in revenue from sales in the solar business, 23.19 million baht in other revenue, and 1,309.21 million baht in total revenue, which is a 10% growth from 2022. The net profit was 48.04 million baht, a decrease of 50% from 2022 as a result of external factors. The performance in terms of comprehensive income includes 1,360.91 million baht, a growth of 4% from 2022, and the net profit grew by 300% from 2022. (In 2022, there was impairment of assets of the Q Solar 1 power plant.)

Due to geopolitical situations that show no signs of ending and that would inevitably impact the global and Thai economy as well as QTC if they persist, 2024 will be another challenging year for QTC's abilities. For this, QTC's management team has established plans to support all risk aspects and will operate according to the business plan provided to stakeholders carefully with the aim to strengthen the Company Group and grow by 10%.

In addition to having to deal with economic impacts, in 2023 QTC also faced cyber threats which were unforeseeable but preventable. However, with our management of all risk aspects, we were able to recover our systems and make them able to function normally again without impact to any data and the Company was able to continue operating business without ceasing or paying cyber criminals.

In terms of internal management, the Company continues to focus on human resource development and promoting practices to achieve environmental, social, and governance (ESG) excellence.

E: Environment: The Company promotes the creation of a "Green Culture" in the organization through various work processes and innovations to reduce environmental impacts. The Company has set targets to achieve carbon neutrality by 2035 and net zero emission by 2050. It is crucial that we change our behaviors, improve work processes, machinery and vehicles, and increase the use of clean energy, etc., to achieve goals and for the future of future generations in the right to live under a good environment. In 2023, action was continuously taken based on both short- and long-term plans to achieve set goals.

S: Social: The Company has continuously promoted the creation of a "Safety Culture", which is a key risk for QTC. In 2023, the number of accidents increased by more than 11% from 2022 and has the likelihood to increase in severity. Based on a root cause analysis by the Safety Committee, it was found that the majority of the accidents were caused by operator negligence and partly caused by unsafe environments. This is an issue to which the Board of Directors gives importance and care and we are prepared to reassess all risks and allocate budgets to prevent recurrence while still aiming to achieve the Zero Accident goal. Moreover, the Company continues to give importance in community development. In 2023, the Company held the "Communities Meet QTC" activities for the 10th year, where community representatives and local government agencies participated in discussions aimed at finding needs that benefit the communities and society. From the discussions, there are projects that are in the capacity of QTC to support, mainly in the education sector, that will be implemented together and continued in 2024. As for the performance in 2023, the community engagement assessment resulted in a score of 96.90%.

G: Governance: The Company promotes best practices and attaches great importance to this area. Every executive must be a role model, and all employees must be in strict compliance with the established code of conduct, which is a joint commitment. Every operation must be transparent and accountable to build trust for all stakeholders. In 2023, QTC passed ethics evaluations and received the Outstanding Ethics Award, TCC Best Awards 2023, from Dr. Sumet Tantiwetchakun, secretary of the Chaipattana Foundation.

In addition, we realize that focusing on and taking action in all three areas of ESG (environmental, social, governance) simultaneously with responsibility will result in sustainable growth for both the Company and related stakeholders.

Finally, on behalf of the Board, executives and employees, I would like to thank our shareholders, customers, partners, general community members, and all stakeholders who have always supported and encouraged the Company. We pledge to carry out our vision, mission and sustainable development framework, and are committed and dedicated to developing processes, tools, machinery and human resources in order to remain securely and sustainably standing in the midst of economic and social changes.



(Mr. Poonphiphat Tantanasin)

Chief Executive Officer

Awards for Success



ESG Ratings 2023



Carbon Footprint for Organization Certificate No.
TGO CFO FY23-08-153: Thailand Greenhouse Gas
Management Organization (Public Organization)



Level-4 Green Industry (Green Culture
GI(E)4-046/2565: Ministry of Industry



Outstanding Ethics Award,
TCC Best Awards 2023



Sustainability Disclosure and Reporting on SDG Target
12.6 for 2023: Thaipat Institute

About QTC

Business Information	:	QTC Energy Public Co., Ltd.
Abbreviated Securities Name	:	QTC
Registration Date	:	28 July 2011 (Securities Registration)
Registered Capital	:	341,092,557 Baht
Paid-up Capital	:	341,092,557 Baht
Industry Group	:	Resources in the energy and public utility category
Main Office	:	2/2 Soi Krungthep Kritha 8, Intersection 5, Krungthep Kritha Rd., Huamark, Bangkapi, Bangkok, 10240, Tel. 02-379-3089-92, Fax. 02-379-3097
Manufacturing Factory	:	149, Moo. 2, Pluakdaeng-Huayprab, Mabangporn, Pluak Daeng, Rayong, 21140, Tel. 03-889-1411-14, Fax 03-889-1420, http://www.qtc-energy.com
Highest Ranking Executive	:	Mr. Poonphiphat Tantanasin (Chief Executive Officer)

Business Type

Manufacturing and Distribution of Transformers and Related Products

QTC Energy PCL operates in the business of manufacturing and distributing transformers according to purchase orders. The distribution transformers have capacities ranging from 10-5,000 kVA in 1 phase and 3 phases and a voltage of no more than 36 kV, and the power transformers have capacities ranging from 5,000-30,000 kVA with a voltage of no more than 72 kA. Transformers manufactured and distributed by the Company can be divided into the following five types:

1. Distribution Transformer

Distribution transformers are equipment used to transform the voltage of high voltage electricity from the distribution lines of the Metropolitan Electricity Authority or Provincial Electricity Authority that is transmitted via distribution lines with a voltage not exceeding 36 kV down to the voltage required by electricity users such as industrial factories, residences and high-rise buildings, etc. The transformers can be divided into the following two types:



1.1 Hermetically Sealed Oil Type Distribution

Transformer: With a maximum capacity of 3,000 kVA, this type of transformer uses transformer oil as insulation for preventing short-circuits in the transformer and venting heat from wire coils in the transformer outside. The transformer's body is hermetically sealed to prevent air from coming into contact with oil in the transformer, giving this type of transformer excellent humidity protection properties, thereby preventing transformer oil from being easily degraded while also maintaining transformer oil insulation properties along with extending transformer maintenance time and expenses. This type of transformer is usually installed in the open.

1.2 Open Type with Conservator: With a maximum capacity of 5,000 kVA, this type of transformer is the original type of transformer used for a long time. This type of transformer uses transformer oil as insulation and coolant like hermetically sealed oil type transformers. However, open type transformers have a conservator installed to support transformer expansion during use with ducts to allow air to pass in and out. At the end of the duct is a bulb containing silica gel for absorbing humidity from the air before entering the transformer. This type of transformer requires regular transformer oil testing every 6 – 12 months.



2. Power Transformer

Power transformers are used to reduce voltage of electricity sent from generation sources via transmission lines before electricity is sent into distribution lines to users. Power transformers manufactured and distributed by the Company have capacity from 5,000 – 30,000 kilovolt amperes (kVA) and a maximum voltage of 72 KV.



3. Cast Resin Transformer

Dry type cast resin transformers are suitable for installation in buildings because dry type cast resin transformers do not use oil insulation. Cast high voltage wire coils are in epoxy resin insulation resistant to humidity, dust and the environment. Dry type cast resin transformers are used in projects such as tall buildings, residential buildings, condominiums, hospitals or shopping malls with limited space and need for transformers capable of being installed in a building. Furthermore, the Company invested in service goods and personnel readiness for customers in order to distribute cast resin transformers tested by international standards and create confidence among customers.

4. Amorphous Metal Distribution Transformer : AMDT

Super low loss transformers use amorphous raw materials to make transformer cores in place of silicon. Changes in raw materials have benefits including no load loss at only one-third the amount from silicon cores, enabling amorphous transformer users to save on electricity costs. If amorphous transformers replace many silicon core transformers, large amounts of electricity can be conserved at the national level with indirect effects on reducing global warming by reducing greenhouse gas emissions from electricity generation by power plants.



SAVE THE WORLD



SAVE YOUR MONEY



SUPER LOW LOSS TRANSFORMERS BY QTC

5. Special Transformer

Furthermore, the Company designs and manufactures transformers according to functions and properties needed by customers such as earthing transformers, dry-type class F&H, unit substations and pad mounted transformers, etc.



Earthing Transformer



Dry-Type Class F&H



Unit Substation



Pad Mounted

In addition to producing transformers, the Company also offers other products as follows:



- Smart Monitoring Box:** This smart monitoring system is a smart system designed to monitor transformer functions with sensors that track key variables such as electricity in wire coils, measure wire coil and oil temperature and detect imbalances with potential negative effects on transformers. This smart monitoring system can be installed on every QTC transformer model.



- Solar Inverters:** Solar inverters are a product for converting direct current electricity into alternating current electricity from solar panels. QTC was appointed as a distributor by Huawei Technologies (Thailand, Co., Ltd. to distribute under the Huawei brand.



- PV Panels:** PV panels convert solar energy into electricity for solar roofs, solar farms and floating solar panels. QTC was appointed as a distributor by LONGI Solar Technology Co., Ltd. to distribute under the LONGI brand, and by Trina Solar Co., Ltd. to distribute under the Trina brand.



- Solar Batteries:** Solar batteries are used for storing electricity generated from solar energy (solar cells), and the stored electrical energy is used for home appliances.



- EV Chargers:** EV chargers are used to charge electric vehicles with AC voltage for installation at residences and a capacity of 7-22 kW. QTC was appointed as a distributor for Huawei Technologies (Thailand) Co., Ltd. to distribute under the Huawei brand.



- Solar Cable/PV Cable:** Cables designed specifically for solar panel systems. The conductor is a stranded copper wire coated with tin to prevent oxidation and is capable of withstanding higher temperatures than ordinary cables. QTC was appointed as a distributor by JJ-Lapp (T) Co., Ltd., and the product is distributed under the Lapp brand.



- Solar Mounting:** Solar mountings are devices used to hold solar panels. Essential equipment in solar panel installation, solar mountings are used to ensure that installed solar panels are durable and will not be blown away by strong winds. QTC was appointed as a distributor by Clenergy International (Thailand) Co., Ltd. and the product is distributed under the Clenergy brand.



- DC Charging Station:** DC charging stations are used to charge electric vehicle batteries with direct current electricity for installation at 120-kW charging stations with two CCS Type2 charging ports



Services

The Company's services are 24-hour transformer-related services provided by teams of engineers and technicians with excellent knowledge, expertise and experience to support and facilitate customers who purchased QTC transformers and ordinary customers. In the case of QTC transformers, the Company provides emergency contact information on the side of every electrical transformer for customers. The following services related to transformers are provided by the Company for customers:

Transformer installation services.

- Scheduled inspection and maintenance services.
- Transformer repair and maintenance services.
- Transformer oil filling and filtering services for transformers of all sizes and brands.
- Transformer lease services.
- Transformer testing services.
- Transformer and electricity system consultation services.
- Steel cutting and coil binding commissioning services
- Transformer tank manufacturing contracts.



Consultancy



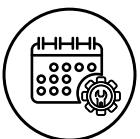
Installation



Testing



Repair and Maintenance



Scheduled Maintenance



Transformer Rental



Our expert service technician teams are ready to perform 24-hour service.



ISO/IEC17025 Standard Testing Laboratory

Coiling & Steel Cutting & Body Manufacturing

Renewable Energy Generation Business

QTC Global Power Co., Ltd. (QTCGP) is engaged in the business of investing in renewable energy production businesses such as solar energy and water energy to create security and disperse business risks.

- Q Solar 1 Co., Ltd. generates electricity from solar cells with a capacity of 8.25 MW. The Company is located at 102, Moo 5, Bo Thong, Kabinburi, Prachinburi (Disclosure 102-4). The Company is able to generate 35,000 – 40,000 kWh of electricity per day for distribution to the Provincial Electricity Authority.



Product Distribution Representative Business

QTC RE Co., Ltd. (QTC RE) operates a solar and EV business. Its original name was QTC Marketing Co., Ltd. (QTCM). The name was changed on 28 November 2023. Its office is located at 2/2 Soi Krungthep Kritha 8, Intersection 5, Krungthep Kritha Road, Hua Mak, Bang Kapi, Bangkok, 10240, Tel. 0-2379-3089-92, Fax: 0-2379-3097



QTC's Customers

QTC's transformers and smart monitoring systems are distributed to government agencies such as the Metropolitan Electricity Authority, the Provincial Electricity Authority, the Electricity Generating Authority of Thailand and ordinary government agencies, private designer groups, construction contractors, industrial factories and condominiums, etc., in the country and overseas worldwide. The Company distributes goods under the **QTC** brand and is the OEM for customer brands.



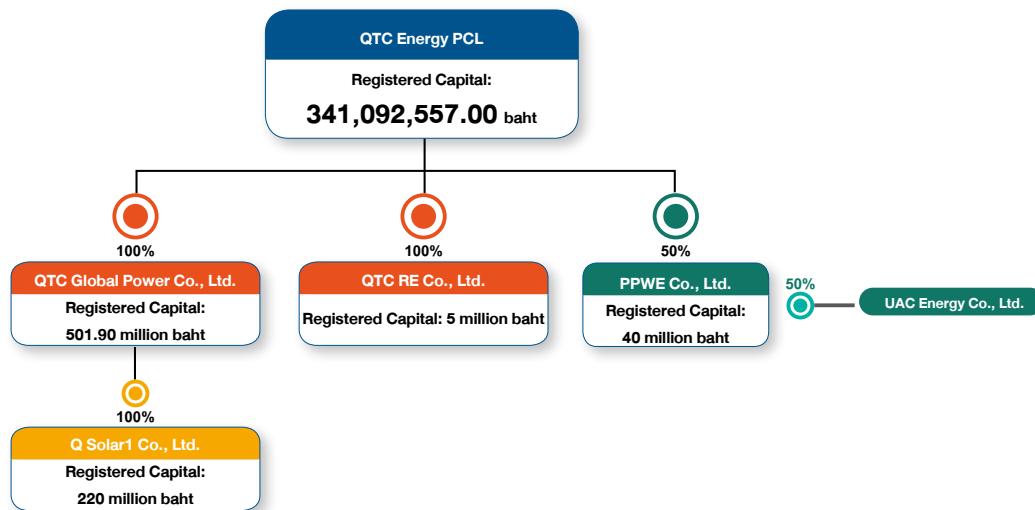
Organization Membership



Shareholding Structure

Summary of Shareholding Structure as of 25 December 2023

(List of shareholders as of the 2023 accounting closing date in 56-1 One Report)



The Company has two subsidiaries and one joint venture consisting of:

1. **QTC Global Power Co., Ltd. (QTCGP)** is engaged in the electricity and other energy generation business. The Company was founded on 28 September 2016 with registered capital of 501.90 million baht.



QTC Global Power Co., Ltd., Head Office
2/2 Soi Krungthep Kritha 8, Intersection 5, Krungthep Kritha Rd.,
Huamark, Bangkapi, Bangkok, 10240,
Tel. 02-3793089-92, Fax. 02-379-3097

- 1.1 **Q Solar 1 Co., Ltd. (Q Solar 1)** is a subsidiary of QTC Global Power Co., Ltd. and is engaged in the business of generating electricity from solar energy. The Company was founded on 28 December 2009 with registered capital of 220 million baht.



Q Solar 1 Co., Ltd. (Branch 00001)
102 Moo 5, Bo Thong, Kabinburi, Prachinburi 25110
Tel. 02-3793089-92

2. **QTC RE Co., Ltd. (QTCRE)** was founded on 10 November 2021 with registered capital of 5 million baht. Originally named QTC Marketing Co., Ltd. (QTCM), the name was changed on 28 November 2023. The company is engaged in the solar and EV business.



QTC RE Co., Ltd.
2/2 Soi Krungthep Kritha 8, Intersection 5,
Krungthep Kritha Rd., Huamark, Bangkapi, Bangkok, 10240,
Tel. 02-3793089-92

3. **Joint Venture: PPWE Co., Ltd. (PPWE)** is engaged in the energy business. The company was founded on 12 January 2016 with registered capital of 40 million baht. QTC holds 49.98% of shares, and UAC Energy Co., Ltd. holds 49.98% of shares.



PPWE Co., Ltd. (Head Office)
2/2 Soi Krungthep Kritha 8, Intersection 5,
Krungthep Kritha Rd., Huamark, Bangkapi, Bangkok, 10240,
Tel. 02-3793089-92, Fax. 02-379-3097

Board of Directors

**Krirkrai Jirapaet**

Chairman of the Board

1. **Krirkrai Jirapaet**
Chairman of the Board



2. **Mr. Norachit Sinhaseni**
Vice Chairman of the Board



3. **Mr. Nattharphon Lilawattahanun**
Director



4. **Dr. Kamol Takabut**
Director



5. **Mrs. Wasara Chotithammarat**
Director



6. **Mr. Suroj Lamsam**
Director



7. **Mr. Mongkhon Kittiphumwong**
Director



8. **Miss Panita Khuansathaphon**
Director



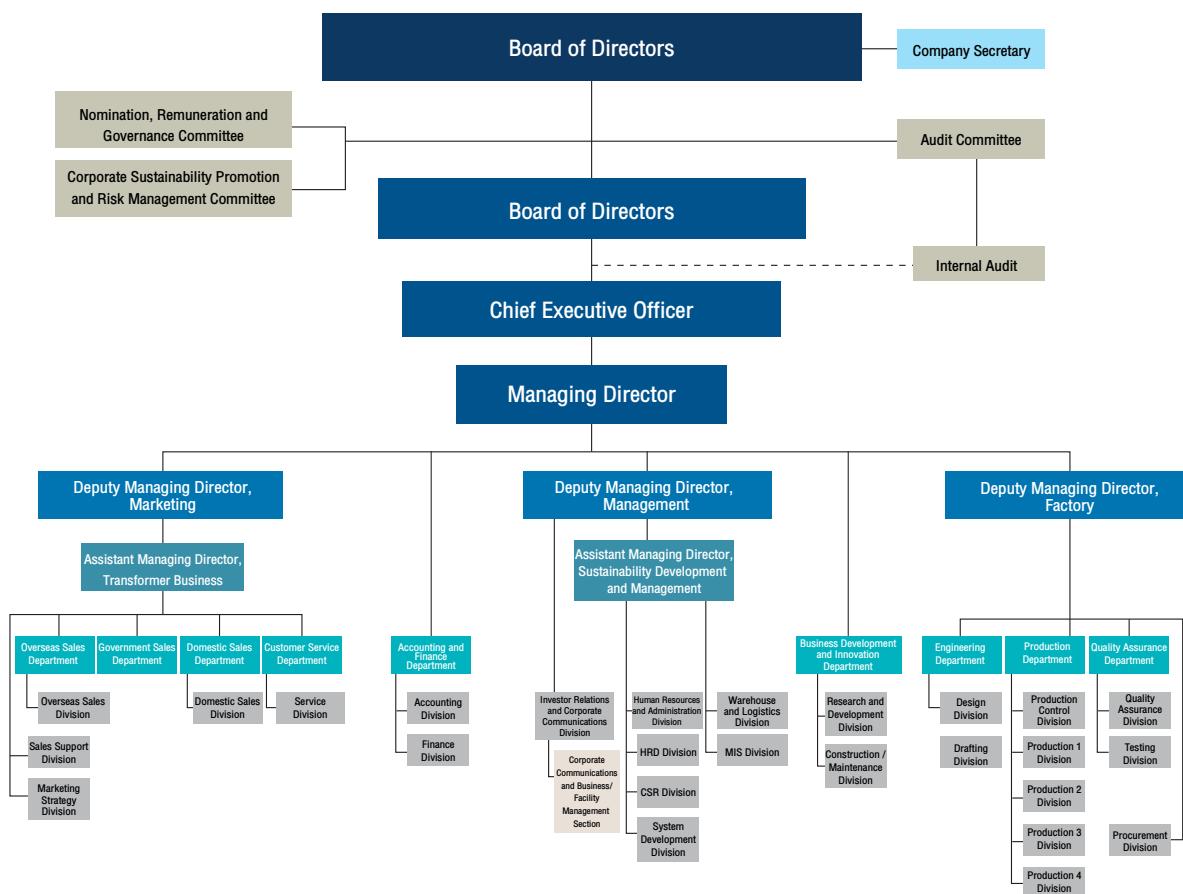
9. **Mr. Poonphiphat Tantanasin**
Director



10. **Mr. Ruangchai Kritsnakriengkrai**
Director

The ratio of male directors to female directors is **80 : 20**

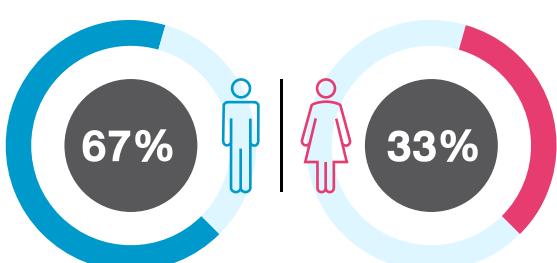
Governance Structure



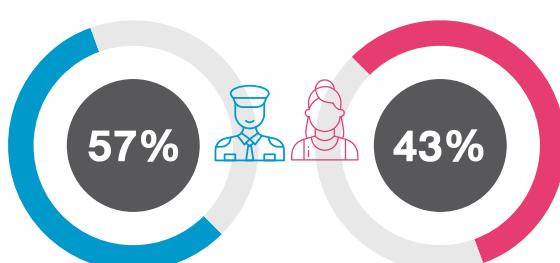
Total Number of Employees in the Organization as of 31 December 2023

Employees Classified by Level (L) and Gender	Male (persons)				Female (persons)			
	QTC Energy	QTCGP	Q Solar1	QTC RE	QTC Energy	QTCGP	Q Solar1	QTC RE
L12-UC Employees (High-Ranking Executives)	6	0	1	0	2	1	0	0
L9-11 Employees (Lower-Middle Management)	12	0	0	0	13	0	0	0
L7-L8 Employees (Supervisors)	9	0	0	0	8	0	0	0
L1-L6 Employees	154	0	10	0	65	1	5	0
Male/Female Employee Percentage	192				65			
					33%			

Male/Female Employee Percentage



Non-company Employees



Moving Forward with Determination and Vision

Quality of DETAILS

Detail is the heart of our work and permeates in everything that is QTC from people, thinking methods, work methods, technology, factories, products including society and the environment.

Vision

"We will be a producer, distributor and provider of world-class one-stop technology services in the power industry with good governance and responsibility to society, the environment and all stakeholders."

Mission

1. To become a leader in manufacturing, distribution and provision of quality and full-range technology in the power and electricity industry.
2. To develop products, processes and provide services to create added value in the value chain.
3. To develop human resources in order to create good and talented people.
4. To operate the business using governance principles along with corporate social responsibility.
5. To build long-term sustainable growth in order to create confidence and trust among stakeholders in all areas.

Work Philosophy

QTC is determined to engage in business by adhering to the following three principles:

1. Ethical, just and transparent management.
2. Product and service provision meeting international quality standards.
3. Focus on corporate social and environmental responsibility in strict compliance with human rights principles.

The Company reviews visions and missions annually. For 2023, visions and missions were reviewed and approved by the Board of Directors on 14 December 2023 in order for visions and missions to be consistent with current economic conditions.

Roles, Duties and Responsibilities (Brief)

- The Board of Directors is responsible for performing duties under the Board of Director's charter for the highest benefit of the Company and all stakeholders.
- The Board of Audit is composed of independent directors who assess the Internal Audit Team's performance and considers changing the Internal Audit Team. In addition, the Board of Audit has other roles and duties under the Board of Audit charter.
- The Nomination, Remuneration & Corporate Government Committee appoint and transfer high-ranking executives in addition to assessing high-ranking executives' performance. In addition, the Nomination, Remuneration and Corporate Government Committee has other roles and duties under the Nomination, Remuneration and Corporate Government Committee charter.
- The Corporate Sustainability Promotion and Risk Management Committee governs performance in line with sustainable development policies by covering issues in the sustainability management framework and expanding results to subsidiaries. The Corporate Sustainability Promotion and Risk Management Committee assesses the organization's economic, social, environmental and ethical risks along with preparing guidelines for preventing that risk. The Corporate Sustainability Promotion and Risk Management Committee reports to the Board of Audit and the Board of Directors.
- The Chief Executive Officer determines visions, policies, goals and distribution of authority and duties to drive the organization according to resolutions of the Board of Directors.
- The Managing Director determines business strategies and management to be consistent with visions for the ultimate benefit of stakeholders.

QTC Values for Sustainability



QTC & Sustainability

The QTC Sustainability Framework integrates the Quality of Details corporate value to drive work to be consistent with the organization's contexts according to the Q+R=S sustainability equation (Quality + Responsibility = Sustainability). In 2023, the QTC Sustainability Framework was reviewed against the changes in the economic, environmental, social and contextual conditions of the business operations of the Company and its subsidiaries by the Corporate Sustainability Promotion Committee, which voted to continue the use of the current QTC Sustainability Framework.

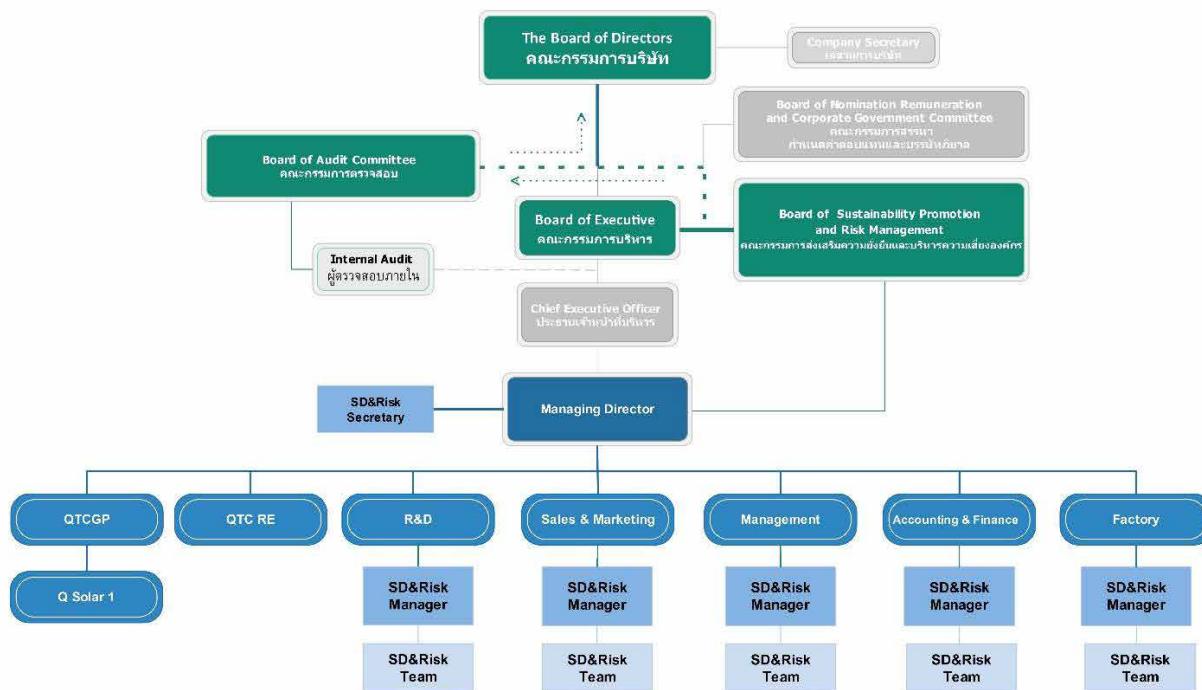
Specification of the sustainability management framework and provision of a review process are important mechanisms for driving internal management at the policy level and the management level in order to lead to practice and project operations in line with the specified framework. The Company will foster beliefs and build understanding for every employee in line with the sustainability equation that doing good work with quality and responsibility will build satisfaction for all stakeholders, build strength and sustainability for employees and the organization. The Company has the following sustainability framework and equation:

QTC Sustainability Framework

Quality + Responsibility = Sustainability



Operating Structure of the Sustainability Promotion Committee



Roles and Duties in Brief

Board of Directors:	<ul style="list-style-type: none"> ▶ Specify sustainable development policies and goals. ▶ Oversee work.
Corporate Sustainability Promotion and Risk	<ul style="list-style-type: none"> ▶ Specify strategies.
Management Committee :	<ul style="list-style-type: none"> ▶ Manage according to goals under the sustainable development framework. ▶ Review and identify stakeholders, and assess impacts. ▶ Consider impacts and sustainable development issues, prepare development guidelines to reduce or prevent impacts and take care of stakeholders properly. ▶ Review sustainability policies, goals, issues and present corrective guidelines to be modern and suitable for situations. ▶ Specify work plans and assign sustainable development work in practice.
Sustainability Promotion Work Group:	<ul style="list-style-type: none"> ▶ Specify work plans. ▶ Review operational-level impacts and present to the Corporate Sustainability Promotion and Risk Management Committee. ▶ Work according to plans and report results.
All Subsidiaries :	<ul style="list-style-type: none"> ▶ Manage according to the sustainable development framework. ▶ Monitor and report performance.

Sustainable Development Policies

"Quality of Details" forms an important foundation that will lead the Company and other companies within the group toward sustainable growth. This means management focused on creating balanced quality in three areas, namely, economic, social and environmental quality under international practices consistent with sustainable development goals (SDGs) related to the business. The practice guidelines for implementation are as follows:

1. Conduct business honestly and fairly in compliance with the law and trade specifications while promoting clarity and transparency in corporate management to concur with international principles. In addition, support anti-corruption and prevent unlawful gain-seeking while exercising authority to create the greatest fair benefits for stakeholders.
2. Promote practices under human rights principles by carrying out business activities according to the United Nations Guiding Principles on Business and Human Rights (UNGPs) and relevant sustainable development goals (SDGs) while respecting local traditions in the area where the Company or another company within the group is located.
3. Endeavor to improve and develop work procedures and services with the value chain based on Total Quality Management principles (TQM) to promote quality attitudes for personnel within the organization and added value for customers in addition to promoting long-term growth.
4. Place importance on climate change by promoting efficient use of resources, controlling and reducing greenhouse gas emissions along with reducing and controlling air, water and soil pollution from operations of the Company, affiliates and trade partners, which may cause social and environmental impacts.
5. Pay attention to and place emphasis on the occupational and environmental health and safety of employees, trade partners and contacts to prevent loss of life and property, including work-related injury or sickness.
6. Manage personnel fairly and give importance to labor skill development in addition to promoting work happiness for effective steering of the organization.
7. Promote and create innovation with responsibility to society and the environment to increase effectiveness and efficiency with added value for the organization and stakeholders.
8. Commit to comprehensive risk management in line with international standards in order to boost likelihood of success and minimize chances of failure or loss.
9. Create sustainable benefits for communities and society. Also support and engage in activities for public gain while promoting employees to have a good conscience for the public and performing good deeds for society.

The activities under the sustainable development policies contain indices for monitoring and evaluating the effectiveness of the Company's activities and activities of every company in the group, covering environmental, social, and governance aspects, or ESG. They provide essential information that reflect the roles and responsibilities of the business toward stakeholders, and set the corporation's development direction. Furthermore, the Company is confident that the aforementioned policies will be effectively, extensively monitored and implemented by employees and executives on every level within the Company and other companies in the group.

Stakeholders of QTC

The Company has established practical guidelines related to stakeholders (QTC_HM_104) to be used as clear guidelines in operations. The procedures in brief are as follows:

Stakeholder-related Procedures



The Corporate Sustainability Promotion Committee reviews the stakeholder-related operational guidelines once a year or every time there is a change in the business activities from the usual. In 2023, QTC considered additional impacts from climate change, legal compliance, health and safety in every activity in the value chain, and added impacts from biodiversity in the production and waste disposal processes which reflects the concerns of stakeholders. Stakeholders are still the same group but the number of stakeholders has increased along with the organization's growth.

Business Value Chain

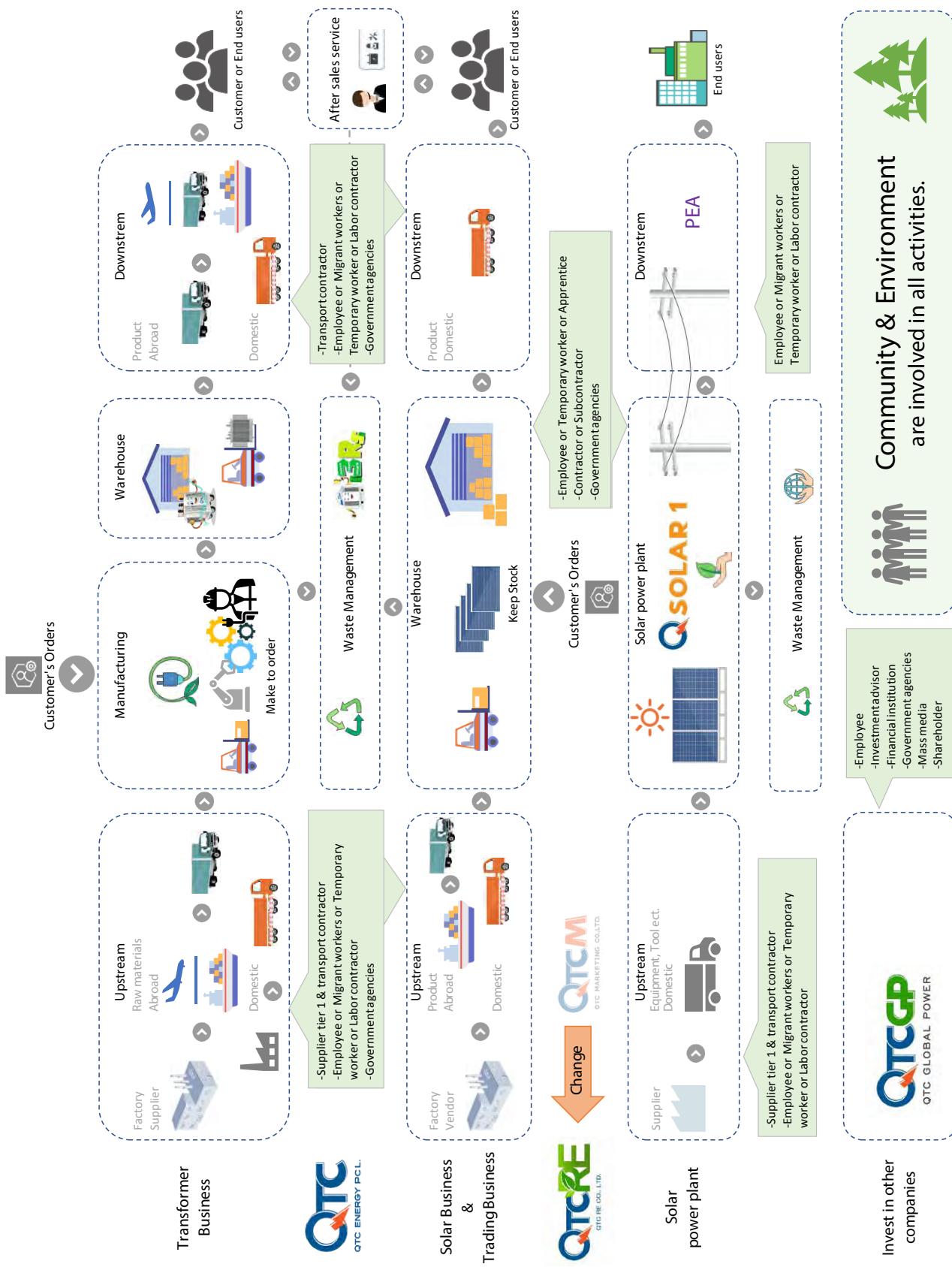


Chart showing the identification of stakeholders in the process and impact issues



Sale & Marketing	Raw Material&Product	Management & Manufacturing	Delivery	Product Usage	Maintenance Service	Waste Management
Stakeholder						
<ul style="list-style-type: none"> Employees Customers - Government - Domestic - Foreign Dealer Competitors 	<ul style="list-style-type: none"> Employees Supplier Vendor Carrier Competitors Manufacturer 	<ul style="list-style-type: none"> Employees Board of Directors Customer Dealer Security guard & Maid Shareholders Banks Communities, Society Government agency Investors 	<ul style="list-style-type: none"> Employees Transport Contractors Broker Shipping Shareholders Banks Communities, Society Government agency 	<ul style="list-style-type: none"> Customers Product users Communities, Society 	<ul style="list-style-type: none"> Employees Product users Communities, Society 	<ul style="list-style-type: none"> Communities, Society Waste disposal Product users Mass Media Government agency
Identify actual and potential impacts						
<ul style="list-style-type: none"> Fair Trade Corruption Customer confidentiality Responsibility for products and services Human Rights PDPA Health and Safety Compliance Climate Change 	<ul style="list-style-type: none"> Human Rights Corruption Fair operating practices Supplier development Pollution Climate Change PDPA Health and Safety Compliance 	<ul style="list-style-type: none"> Human Rights Labor Practices Health and Safety Good Corporate Governance Resource Use Pollution Climate Change Waste Management Transparency Corruption Compliance PDPA Risk Management Community Involvement Biodiversity 	<ul style="list-style-type: none"> Human Rights Health and Safety Labor Practices Pollution Climate Change Corruption Fair Trade Compliance PDPA 	<ul style="list-style-type: none"> Safety in Product Energy Usage Responsibility for Products and Services Compliance Human Rights PDPA Climate Change 	<ul style="list-style-type: none"> Human Rights Health and Safety Labor Practices Responsibility for Products and Services Compliance PDPA Climate Change 	<ul style="list-style-type: none"> Health and Safety Pollution Disposal Methods Compliance Human Rights PDPA Climate Change Biodiversity



Working with Stakeholders' Expectations/Concerns

The results from identifying stakeholders in the business value chain and analysis of the significance of potential impact on stakeholders will lead to stakeholder expectations/concerns via many channels based on the recommendations in the established operational guidelines. In 2023, stakeholders were classified and prioritized and methods for responding to stakeholder expectations/concerns were established with coverage of every group as follows:

Table Showing the Connection Between Stakeholders' Expectations/Concerns and the Organization's Response

1. Primary Stakeholders

Stakeholders		Expectation/Concern Survey Methods	Expectations/Concerns	The Organization's Response
(1) 	Regular Employees Temporary Employees	<ul style="list-style-type: none"> Monthly meeting of executives and employees. Suggestion activities, KAIZEN, QCC. Listening to employee opinions and complaints. Monthly Welfare Committee meetings. Monthly Safety Committee meetings. Annual employee happiness surveys. Annual corporate affection and engagement surveys. Quarterly corporate risk assessments. Annual safety risk assessments Annual environmental impact assessments. Complaint box 	<ul style="list-style-type: none"> Appropriate salary raises. Appropriate welfare. Work safety. Pleasant work environment. Equality and opportunities for advancements. Plans for skill and knowledge training. Good living conditions. Gender equality. Personal data security. 	<ul style="list-style-type: none"> Safety management pursuant to ISO45001 standards. Environmental management pursuant to ISO14001. Provident Fund. Strict adherence to employment policies. Health promoting workplace project. Organizational health and moral project. Fair and accountable wage payment and performance assessment systems. Career path development. Knowledge management. Individual Development Plan (IDP). Compliance with human rights policies. Strict compliance with human rights policies and practices. Strict compliance with personal data control policies and practices. Strict compliance with anti-corruption policies and practices.
(2) 	Shareholders Investors Analysts	<ul style="list-style-type: none"> Annual meetings of shareholders. Quarterly performance announcements. Financial analysts' meetings. Registered companies meet investors. Invitations for investors to visit factories. Listening to comments and complaints via the website. 	<ul style="list-style-type: none"> Good returns. Good governance over activities. Stable business and continuous growth. Correct, complete, up-to-date and transparent company information. Corporate risk management. Good audit and control system. Equal opportunities. Personal data control. 	<ul style="list-style-type: none"> Transparent, fair and accountable business governance. Appropriate dividend payment. Transparent disclosure of information. Clear strategic business plan preparation. Thorough risk management. Strict compliance with human rights policies and practices. Strict compliance with personal data control policies and practices. Strict compliance with anti-corruption policies and practices.

Stakeholders		Expectation/ Concern Survey Methods	Expectations/Concerns	The Organization's Response
(3)  Customers	Government Customers Private Customers Foreign Customers Domestic Retailers Foreign Retailers (Transformer Business Group)	<ul style="list-style-type: none"> • Meet-ups with customers/ • Retailers. • Product exhibitions. • Customer satisfaction surveys. • Academic and technical knowledge provision to customers/ • Retailers. • Opportunities for customers/retailers to observe production processes. • Joint activities with customers/retailers. 	<ul style="list-style-type: none"> • Receive accurate technical product and service information. • Appropriate product and service prices. • Transparent price competition. • Receive quality products and services. • Fair compliance of agreements. • Option to choose energy-conserving products and greenhouse gas emission-reducing products. • Warranty for products and services. • Customer confidentiality preservation. • Safety in product use. • Respect for human rights throughout the value chain. • Environmental, social and governance responsibility. 	<ul style="list-style-type: none"> • Good corporate governance that is transparent and verifiable. • Strict compliance with anti-corruption policies and practices. • Quality management pursuant to ISO9001. • Environmental management pursuant to ISO14001. • Health and safety management pursuant to ISO45001. • Total Quality Management to improve product and service processes. • CRM system. • Strict compliance with personal data protection policies and practices. • Strict compliance with human rights policies and practices. • Product certification pursuant to laboratory standard ISO17025. • Development of energy-conserving products by R&D team. • Open factories for visits to observe production processes.
PEA (Power Purchaser)		<ul style="list-style-type: none"> • Contract terms. 	<ul style="list-style-type: none"> • Full electricity distribution according to contract terms. • Energy technology knowledge sharing. 	<ul style="list-style-type: none"> • Visits to observe electricity generation to build confidence. • Modify and maintain electricity generation equipment for maximum efficiency. • Strict compliance with contract terms. • Strict compliance with anti-corruption policies and practices.
Solar Business Customers		<ul style="list-style-type: none"> • Meet-ups and communication with customers. • Product exhibitions/ customer satisfaction surveys. • Academic and technical knowledge provision to customers. • Visits to warehouses. 	<ul style="list-style-type: none"> • Receive accurate technical product and service information quickly and accurately according to needs. • Appropriate and competitive product and service prices. • Products have quality consistent with needs. • Punctual delivery. • Effective pre-post sale services. • Ability to solve problems for customers. • Fair compliance with agreements. • Warranty for products and services consistent with agreements. • Customer confidentiality preservation. 	<ul style="list-style-type: none"> • Prepare product catalogs, operation manuals and other documents with accurate technical information. • Plan effective work process management/control to minimize costs. • Plan vendor management/control to be consistent with agreements. • Create the Technical Support Team. • Prepare media related to the product without exaggerating in advertisements. • Manage deliveries, customer service and warranties under ISO9001 standards. • Strict compliance with human rights policies and practices. • Strict compliance with personal data protection policies and practices. • Strict compliance with anti-corruption policies and practices.

Stakeholders		Expectation/ Concern Survey Methods	Expectations/Concerns	The Organization's Response
(4) Trade Partners 	Deliverers Contractors Raw Material Suppliers/ Couriers	<ul style="list-style-type: none"> Annual deliverer and contractor evaluations. Production process and raw material quality inspections and discussions for improvement. Meeting to clarify and talk with main supplier groups. 	<ul style="list-style-type: none"> Receive accurate information quickly and according to time conditions. Fair compliance with agreements and payment terms. Fair and transparent price competition. Knowledge provision and raw material production process improvement. Personal data control. 	<ul style="list-style-type: none"> Strict compliance with procurement policies and protocol. Development of trade partners through recommendations, knowledge provision, understanding about developing raw materials to be better than standard specifications. Compliance with anti-corruption policies and promotion of implementation. No-gift policy. Code of conduct for QTC's suppliers. Strict compliance with personal data control and practices.
	Vendor	<ul style="list-style-type: none"> Inquire about goals of brand owners/product manufacturers. Attend meetings. Participate in activities organized by the brand owner/product manufacturer. Participate in trainings and testing according to the product owner's criteria. 	<ul style="list-style-type: none"> Achieve goals of the brand owner/product manufacturer. Create brand awareness in Thailand. Build good relationships between the brand owner/product manufacturer and sales representatives. Personal data control. 	<ul style="list-style-type: none"> Specify sales goals to be consistent with the brand owner. Create a solar business sales team separate from the transformer business. Create a specific technical team to support the solar business. Jointly organize sales promotion activities. Train sales employee on product knowledge. Share sales data to the product owner. Strict compliance with anti-corruption policies and practices. Strict compliance with personal data protection policies and practices.
(5) Company Directors 	Board of Directors	<ul style="list-style-type: none"> Board of Directors' meetings. Board of Audit meetings. Nomination Committee meetings. Performance evaluation of leadership. 	<ul style="list-style-type: none"> Correct compliance to laws and ethical principles. Transparency and accountability. Business success. Environmental, social and governance responsibility. Control of Board members' personal data. 	<ul style="list-style-type: none"> Good business governance in compliance with policies and strict enforcement. Strict compliance with policies and ensure implementation. Establish business plans consistent with goals. Professional corporate risk management. Compliance with personal data control policies. Report performance transparently every quarter.
(6) Trade Accounts Receivable 	Trade Accounts Receivable from Sale of Goods, Services, Electricity and Other	<ul style="list-style-type: none"> Meetings and discussions to follow up on debts and to listen to issues. 	<ul style="list-style-type: none"> Compromise and leniency. Personal data control. 	<ul style="list-style-type: none"> Negotiations. Trade account management and trade account risk management policies. Legal action. Strict compliance with personal data protection policies and practices.
(7) Creditors 	Financial Institutes Deliverers of Goods, Raw Materials and Other Services	<ul style="list-style-type: none"> Meetings and discussions. Quarterly performance announcements. Shareholder meetings. 	<ul style="list-style-type: none"> Ability to comply with contract terms and agreements. Transparency in operations. Personal data control 	<ul style="list-style-type: none"> Strict compliance with terms and agreements in contracts. Strict compliance with anti-corruption policies and practices. Strict compliance with personal data control policies and practices. Business visits and tours.

Stakeholders		Expectation/ Concern Survey Methods	Expectations/Concerns	The Organization's Response
(8) Local Communities 	Communities Surrounding Factories and Offices Communities Surrounding Power Plants	<ul style="list-style-type: none"> • Holding joint activities with communities. • Participation in community development. • The annual "Communities Meet QTC" activity. • The annual "Community Meets the Power Plant" activity. • Attending meetings with local community leaders. • News. 	<ul style="list-style-type: none"> • Good friendship with each other. • Promoting activities in the community. • Promoting local products. • Not creating negative impacts to the community in terms of safety and the environment. • Maintaining the balance of biodiversity in the community. • Transparency in operations. • Compliance with human rights and anti-corruption principles. 	<ul style="list-style-type: none"> • Promote public activities. • Promote volunteering employees to participate in public activities. • Environmental management pursuant to ISO14001. • Safety management pursuant to ISO45001. • Allocate budget for supporting community projects or activities appropriately. • Compliance with human rights policies and promote compliance. • Compliance with anti-corruption policies and promote compliance. • Strict compliance with personal data protection policies and practices. • Purchase products from people with disabilities in the community that are suitable for the Company's operations. • Invest in businesses that indirectly benefit society as appropriate. • Annual performance report in the "Communities Meet QTC" activity and via other media.
(9) Waste Disposers 	Waste Disposers Waste Processors	<ul style="list-style-type: none"> • Exchanges of knowledge about legal specifications and correct practices. • Going onsite to evaluate and hear opinions. 	<ul style="list-style-type: none"> • Strict compliance to terms and agreements. • Correct actions pursuant to the law. • Fair selection consideration. • Personal data control 	<ul style="list-style-type: none"> • Monitor and inspect actions of disposers. • Evaluate waste disposers' performance. • Strict compliance with anti-corruption policies and practices. • Strict compliance with personal data control policies and practices.
(10) Service Providers 	Security Service Providers Cleaning Service Providers	<ul style="list-style-type: none"> • Meeting to reports on issues and obstacles. • Creating employment contracts. 	<ul style="list-style-type: none"> • Fair compliance with payment terms and conditions. • Clear scope of operation. • Knowledge provision and development of service providers to the Company's satisfaction. • Good treatment of service provision staff. • Personal data control. 	<ul style="list-style-type: none"> • Strict compliance with procurement policies and protocol. • Provide training on the work and procedures according to the Company's policies. • Compliance with anti-corruption policies and promotion of implementation. • No-gift policy. • Code of conduct for QTC's suppliers. • Strict compliance with personal data control policies and practices. • Strict compliance with human rights policies and practices. • Treating service providers as employees.
(11) Educational Institutions 	Student Interns Professors from Educational Institutions	<ul style="list-style-type: none"> • Inquiries and listening to the expectations of students and professors who wish to officially train. • Meeting to discuss skill development approaches for students from various institutions. 	<ul style="list-style-type: none"> • Gain knowledge and skills in the careers for which they are studying. • Safety and good environment while job-training. • Gender equality. • Personal data security. 	<ul style="list-style-type: none"> • Have students train in agencies suitable for the career for which they are studying and periodically evaluate their performance. • Provide additional training on procedures as with the organization's employees. • Safety management pursuant to ISO45001 • Environmental management pursuant to ISO14001. • Strict compliance with human rights policies and practices. • Strict compliance with personal data control policies and practices. • Provide basic welfare comparable to employee welfare. • Advise on work projects. • Suitable compensation for student interns. • Evaluate student interns' engagement.

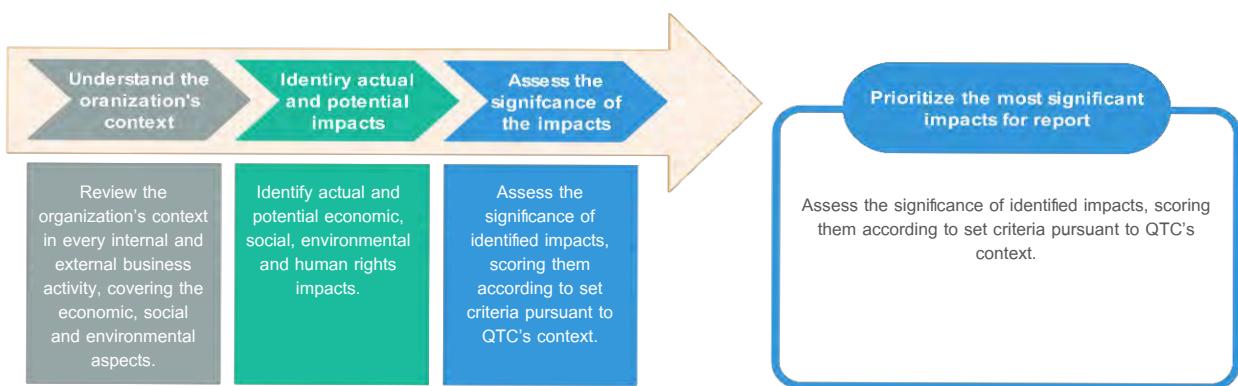
2. Secondary Stakeholders

Stakeholders	Expectation/Concern Survey Methods	Expectations/Concerns	The Organization's Response
(12) Government Regulators  <ul style="list-style-type: none"> • SEC • SET • Revenue • Excise • Provincial Industry • Provincial Labour • Provincial Resources • Transport Department • Subdistrict Administration Organization • Chamber of Commerce • Federation of Industries • Ministry of Energy • Ministry of Labour • Ministry of Industry • BOI 	<ul style="list-style-type: none"> • Meetings and explanations of government agencies. • Business inspections and visits. • Conditions pursuant to laws related to business operations. • International practices. • News and information. 	<ul style="list-style-type: none"> • Ability to comply with related laws. • Development of the organization's ability to participate in modifying environmentally-friendly production processes to reduce impacts to biodiversity. • Cooperate with the government sector to provide information for use in development. • Support government sector projects with benefit for the common good. • Environmental, social and governance responsibility. • Playing a part in strengthening the Thai economy for sustainable growth. 	<ul style="list-style-type: none"> • Comply with rules and regulations prescribed by the law in every area related to business operations. • Complete and punctual tax payments of every type. • Develop processes to seek opportunities for improvement and reduce environmental impacts. • Providing support information to the government sector for use in analyzing results. • Transparent disclosure of information. • Report information according to legal specifications. • Annual reports.
(13) Trade Competitors 	<ul style="list-style-type: none"> • Meetings and conversations. • News and information. • Group member meetings. • Marketing activities. 	<ul style="list-style-type: none"> • Fair and transparent trade competition. • Exchanges of information about products, raw material sources and tools and machinery used in production. 	<ul style="list-style-type: none"> • Compliance to ethics principles to operate business fairly and transparently.
(14) Mass Media 	<ul style="list-style-type: none"> • Meetings with mass media at different occasions. 	<ul style="list-style-type: none"> • Accurate and fast news and information on business progress. • Personal data control. 	<ul style="list-style-type: none"> • Meet and visit with mass media at least once a year. • Invite mass media to visit the business. • Strict compliance with personal data protection policies and practices.
(15) Non-local Communities and Society 	<ul style="list-style-type: none"> • Monitor domestic and international news about disasters that severely impact people. • Letters requesting assistance in various issues. • Going on-site to discuss and assess necessities. • Accepting recommendations or complains via the Company's website. 	<ul style="list-style-type: none"> • Assisting and supporting activities for public interests. • Assisting and supporting products. • Providing assistance in case of disasters. • Not creating negative impacts to society. 	<ul style="list-style-type: none"> • Support activities/donations for public interests that suit the corporate context. • Promote volunteering employees to participate in public activities. • Purchase products from businesses for society to promote growth. • Invest in businesses that indirectly benefit society as appropriate. • Annual performance report in the "Communities Meet QTC" activity and via other media.

Selection of Key Sustainability Topics

After identifying the stakeholders and assessing the impacts, as well as determining the expectations and concerns of stakeholders regarding the Company's business activities and methods used by the Company to respond to such expectations or concerns, the Corporate Sustainability Promotion Committee analyzes and prioritizes the impacts to screen for the most significant impacts for reporting to the stakeholders.

Key Topic Determination Process



1. **Key Topic Identification and Impact Assessment:** Considerations are made regarding the source information, beginning from the organization's context covering risk issues as well as short- and long-term goals of the organization previously stated in the corporate context review process, and information from stakeholders inside and outside the organization on issues given importance to by each group of stakeholders or expectations or concerns about positive and negative impacts in economic, social, environmental and human rights aspects. The importance of the impacts is assessed and scored based on set criteria.
 - **Inside the Organization:** Executive-level meetings of the Corporate Sustainability Promotion Committee and the Risk Management Committee regarding the organization's business trends and goals, operating-level meetings of the Welfare Committee and the Safety Committee, compilation of issues obtained from measuring employee engagement in the organization, issues obtained from the happiness survey of employees within the organization and the comment box. Information was collected about the meeting, survey results and suggestions of employees in each agenda for analysis of sustainability expectations/concerns for employees and the organization to be designated as key topics.
 - **Outside the Organization:** Review sustainable issues related to stakeholders' expectations from meetings of shareholders, meetings of the Board of Directors, meetings with customers, complaints, customer satisfaction survey results, community discussions, Communities Meet QTC, assessment of human rights impacts in the value chain, development plan of the government and relevant government agencies. Information was collected on opinions, expectations/concerns and recommendations by interviews, questionnaires, official and unofficial discussions and analysis of information about expectations/concerns to designate as key topics.

2. **Prioritization of Issues:** Such key topics are weighed by using assessment and weighing methods according to the criteria set by the Company (significance for QTC – significance for stakeholders), taking into account the key topics divided into five score ranges according to the level of significance. The “Significant”, “Very Significant”, and “Most Significant” levels are then reported.

Level of Significance	Least Significant	Minimally Significant	Significant	Very Significant	Most Significant
Score Range	1-2	3-4	5-6	7-8	9-10

3. **Review of Significant Issues:** From the review of the key sustainability topics for 2023, the Corporate Sustainability Promotion Committee expressed the opinion that sustainability topics with contents in the same category should be combined under the same issues and reported separately in the subtopics in order to make the report consistent. The key contents of “Ethics-Transparency”, “Anti-corruption”, “Personal Data Control”, “Legal Compliance” and Corporate Risk Management are combined under the key topic “Good Governance”, while the combined key contents are still reported in the reported topics. Meanwhile, the key contents of “Employment”, “Human Capital Development”, and “Employee Care” are combined under the key topic “Employee Development and Good Quality of Life” and the original key contents are still reported in the reported topics. The key contents of “Human Rights” are reported separately. Furthermore, the priority of the key materials of “Climate Change” has been raised from “Significant” to “Very Significant” as a result of the assessment of the climate change risks receiving a higher risk score. Additionally, the issue of “biodiversity”, which was originally classified as “Minimally Significant” (low level of significance to stakeholders), has been upgraded to “Significant” as a result of the assessment revealing that the issue has an increased level of significance at the “Significant” level to stakeholders in communities and government regulators for disclosure in the report.

The Corporate Sustainability Promotion Committee has reviewed the key topics in the GRI Sector Standards were reviewed, and it was found that QTC's business activities are not in the category of industries that can include the key topics in the report. The key content and key topic review process of QTC have been approved by the Board.

Key Sustainability Topics

Least Significant	Minimally Significant	Significant	Very Significant	Most Significant
<ul style="list-style-type: none"> • Fair Business Competition 	<ul style="list-style-type: none"> • Trade Partner Development • Role in Social-Community Development • Biodiversity 	<ul style="list-style-type: none"> • Innovation Promotion • Climate Change • Environmentally Friendly Production Processes • Sustainable Use of Resources • Human Rights 	<ul style="list-style-type: none"> • Governance • Employee Safety and Health • Employee Development and Good Quality of Life • Responsibility for Products and Services • Business Growth • Waste and Scrap Material Management 	

Key Sustainable Development Topics

Key Topic Group	Reported Material	Page	Scope of Impact			
			Economy	Environment	Society	Human Rights
Corporate Governance	Risks-Opportunities	33				
	Governance	35				
	Anti-Corruption	40	+			
	Personal Data Control	43			+	+
	Legal Compliance	44	-	-	-	-
	Risk Management	45				
Business Growth	Risks-Opportunities	53				
	Economic Results	56				
	Other Business Investment	59	+/	+/	+/	+/
	Value Distribution to Stakeholders	60				
Innovation Promotion	Risks-Opportunities	62				
	Organizational Innovation Promotion Process	64				
	Process-Level Innovation Promotion	65	+/	+/	+/	+/
	Individual-Level Innovation Promotion	69				
Responsibility for Products and Services	Risks-Opportunities	71				
	Work Standards	73	+	+	+	+
	Product Standards	74				
	Electrical Testing Standards	77				
	Customer Care	79	-	-	-	-
Supplier Management	Risks-Opportunities, Supplier Management	84	+/	+/	+/	+/
Environmentally Friendly Production Processes	Risks-Opportunities	90				
	Pollution Control	93	+	+	+	+
	Green Procurement	96	-	-	-	-
Waste and Scrap Material Management	Risks-Opportunities, Waste and Scrap Material Management	98	+/	+/	+/	+/
Climate Change	Risks-Opportunities	106				
	Carbon Footprint of Organization (CFO)	110				
	Greenhouse Gas Emission Reduction Project	114	+/	+/	+/	+/
	Environmentally Friendly Products	118				
Sustainable Use of Resources	Risks-Opportunities	120				
	Energy Consumption	123				
	Water Consumption	127	+/	+/	+/	+/
	Raw Material Consumption for Production and Services	129				
Biodiversity	Risks-Opportunities, Biodiversity	130	+/	+/	+/	+/
Employee Safety and Health	Risks-Opportunities	137				
	Safety	139	+	+	+	+
	Health	150	-	-	-	-
Employee Development and Good Quality of Life	Risks-Opportunities	156				
	Employment	158				
	Human Resource Development	164	+/	+/	+/	+/
	Employee wellbeing	174				
Human Rights	Risks-Opportunities, Human Rights	180	+/	+/	+/	+/
Role in Social-Community Development	Risks-Opportunities	189				
	Participation in Community Development	192				
	Social Investment	197	+/	+/	+/	+/
	Social Activities	197				

Main Strategies for Sustainable Development

With the organization's vision to be a "world-class" leader and the corporate culture emphasizing "quality of details", combined with sustainable development policies, the Company has set in place its main strategies for conducting business through risk management and impact assessment for stakeholders in all areas. Furthermore, indicators have been set for monitoring and evaluating environmental, social and governance, or ESG, work effectiveness leading to the objective of extensive implementation by executives and employees under QTC's sustainability equation of Quality + Responsibility = Sustainability". The Company's main strategies for sustainable development are as follows:



Performance according to key strategies in 2023

Green Culture Raise awareness about environmental responsibility to create a "green culture".	Employee awareness	TSP, Xylene, NOx	Zero Waste to Landfill	Carbon Neutrality 2035	Net Zero 2050
	%100 of Target Employees Pass Required Environmental Training	Air Pollution (Significant Items) Maintained within the Legal Limit	Production Waste (Non-hazardous waste) and Solid Waste Managed with 3Rs to Achieve Zero-to-Landfill	Greenhouse Gas Emissions Have Carbon Neutrality by 2035	Net Greenhouse Gas Emissions Is Zero by 2050
	%28 of target employees passed training. Target Not Achieved	TSP, Xylene and NOx levels were lower than the legal limit. Target Achieved	Zero to Landfill Target Achieved	Able to operate according to the plan for 2025 – 2022.	Able to operate according to the plan for 2025 – 2022.

Safety Culture Start safe – Work Safe – Finish Safe Raise awareness about safety to create a "safety culture"	Employee awareness	Zero Accident			Zero Occupational diseases
	%100 of Target Employees Pass Safety Training	Zero Accidents from Work Target Not Achieved			Zero Occupational Diseases
	%93.24 of target employees trained. Target Not Achieved	Injury Frequency Rate (I.F.R.) 13.54	Injury Severity Rate (I.S.R.) 27.08	Average Severity Index (A.S.I.) 1.12	Two employees with occupational diseases. Target Not Achieved

Governance & Economic Excellence Create sustainable economic growth with "quality" products and services with "responsibility".	Employee awareness	Evaluated suppliers	Environmentally friendly products	
	%100 of Employees Pass Required Ethics and Policy Training	Major Partners Pass Required ESG Evaluations	Total "Smart Transformer" Sales Grows by More Than %2	
	%100 of employees passed training. Target Achieved	%230 out of 232 major partners passed ESG evaluations. Target Achieved	A %70.90 growth from 2022. Target Achieved	Total "Super Low Loss" Sales Have a Quantitative Share of More Than %10 of the Total Delivered Transformers in the Year The SSL transformer delivery percentage was %2.04 of the total delivered transformers. Target Not Achieved

Quality of Details

คุณภาพแห่งความประณีต เพื่อพลังงานที่ยั่งยืน

Super Low Loss Transformer



Amorphous Alloy วัสดุแกนเหล็กนิวเคลียร์!

ช่วยลดการสูญเสียพลังงานไฟฟ้า
ได้มากถึง 81%*
จาก Core Loss

ประหยัดค่าไฟฟ้าลง
ได้กว่า 53%*

ลดการปล่อยก๊าซเรือนกระจก
ส่าหรดของสภาวะโลกร้อน
ได้กว่า 273 ตัน**

มีอายุการใช้งาน
ยาวนานมากกว่า 25 ปี

*เมื่อเทียบการใช้งานเฉลี่ยต่อ 50% **เมื่อเทียบกับจากอายุการใช้งานที่ 25 ปี

Oil Type Transformer



หม้อแปลงไฟฟ้าชนิดบ้าบัน

กันต่อกระถลัดวงจร
ได้ด้วย Copper Foil
ที่เป็นอัตลักษณ์มาตรฐาน

การผลิตครอบคลุม
ทุกมาตรฐานสากล

ทนทานและมีอายุการใช้งาน
ยาวนานด้วยกระดาษ
绝缘ที่ทนทานมาก

คุณภาพที่ให้อิทธิพลอย่างค่า
ความเป็นอนุนวยน์ของบ้าน
สูงกว่ามาตรฐาน

ลดค่าใช้จ่าย
ในการบำรุงรักษา

Dry Type Cast Resin Transformer



หม้อแปลงชนิดแห้ง ปลอดภัย ทนทาน

อันดับ Class F
ที่กันความร้อนได้สูงสุด
155 องศาเซลเซียส

อันดับเรซิ่น (Resin)
กันต่ออุณหภูมิสูงและไม่สามารถไฟ
ไหม้กับการติดตั้งภายในอาคาร

ประสิทธิภาพในการจ่าย
Overload สูงสุดถึง 40%

ช่วยลดค่าใช้จ่าย
ในการบำรุงรักษา

Smart Transformer Monitoring System



ระบบไฮเทคอัจฉริยะ คุ้มครองหม้อแปลง

ระบบ Sensor
ติดตามการทำงาน
ตลอด 24 ชั่วโมง

สามารถแจ้งเตือน เมื่อระบบ
ตรวจพบความผิดปกติ
ของหม้อแปลง

แสดงผลแบบ Real Time
ผ่านระบบ Cloud

ช่วยลดค่าใช้จ่าย
ในการบำรุงรักษาหม้อแปลง



Good Governance

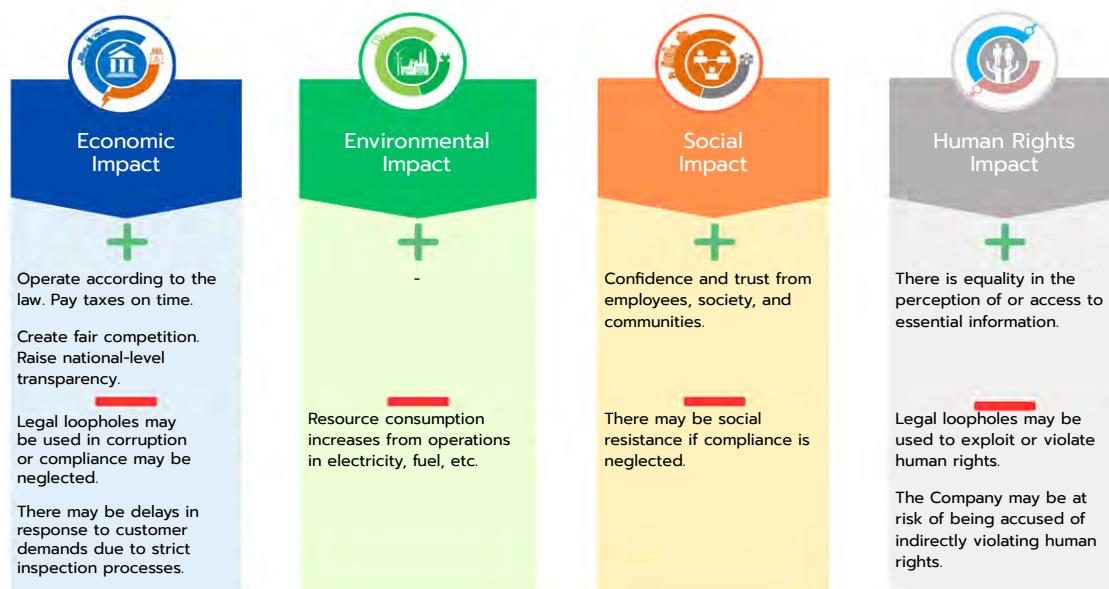
Good Corporate Governance

Corporate governance, or corporate governance, is important to companies listed in the Stock Exchange of Thailand. Because the Company raised funds from the public as capital for business operations, the Company has shareholders as co-owners. However, shareholders who own the business do not manage the business in person and appointed directors to manage the business. Therefore, the Company needs to govern the business systematically, transparently and in a traceable manner to ensure that the business operates for the long-term benefit of shareholders with consideration given to stakeholders from every group, which will bring about the Company's sustainable growth.

QTC recognizes the importance of good governance with coverage of the economic, social and environmental aspects in order to build confidence and value for the organization, shareholders and stakeholders according to the organization's objectives with long term sustainability and compliance with the law, rules, and principles with accuracy, transparency and accountability. QTC has the Board of Directors to represent shareholders in governance while the Nomination, Remuneration and Corporate Government Committee and the Board of Audit composed of independent directors reviews governance processes. Furthermore, the Company has strong internal audit processes covering the entire organization and work units that monitor changes in laws and regulations related to the business along with assessing compliance with the law in order to modify practice guidelines to be consistent and reduce risks from ethical violations or non-compliance with the law, which may have effects on stakeholders and QTC's business operations

From the identification and evaluation of both positive and negative impacts on key topics for stakeholders and QTC's sustainability, covering the economic, environmental, social and human rights aspects, the results are summarized in brief as follows:

Risks and Opportunities For Good Governance



The Company has taken careful steps to improve its work processes in accordance with international and legal practices to minimize or prevent negative impacts by establishing policies for managing various aspects of the work and clear operational goals as follows:

Objective: To ensure that the Company complies with all international and necessary laws, rules, regulations and practice guidelines in order to meet shareholder and stakeholder expectations/concerns.

Management: Review and modify the good governance policy, business ethics, the anti-corruption policy, the personal data control policy, the human rights policy, including other related policies and practice guidelines to be up-to-date on an annual basis along with providing training for executives and employees when any changes occur. Monitor, check, follow-up on work and report performance under the Board of Director's governance in order for corporate governance effectiveness to be comparable to leading organizations at the national and global levels.

Establish corporate risk management policy and establish a corporate risk management committee to assess risks that may affect business operations, as well as establish various measures to help manage opportunities and control risks under the risk management process in accordance with international standard COSO-ERM.



Target 1

1

- To become a model organization in the area of management with good governance and ethics.
- The results of the corporate governance assessment in 2023 by the IOD = 108% out of 120% (Excellent).



Target 2

2

- There must be zero cases of governance principle-business ethics violations, legal violations and corruption.
- In 2023, the goal was achieved. There were zero cases.



Ethics and Transparency

The Company gives importance to corporate governance, or good governance, as it considers it an important mechanism for developing an effective, transparent and accountable management system, which will help build trust and confidence among shareholders, investors, stakeholders and all related parties. The Company has established a written good corporate governance policy, and compiled and adapted rules, regulations and guidelines from the Securities and Exchange Commission of Thailand and the Stock Exchange of Thailand to the Company's business ethics practices to use them as the standard for business operations in a material way to create value and competitiveness and promote the Company's long-term sustainable growth.

To ensure strict implementation by the Company's directors, executives, employees and related stakeholders, the Board requires at least one review of the good corporate governance policy and business ethics per year and assigns the responsibility to the Nomination, Remuneration and Governance Committee, which comprises no less than three directors and executives. More than half of the total members of the Nomination Committee must be independent directors, and the Chairman of the Nomination Committee must be an independent director to monitor the performance and report to the Board.

Corporate Governance Policy: <https://investor.qtc-energy.com/th/corporate-governance/corporate-governance-policy>

Business Code of Conduct: <https://investor.qtc-energy.com/storage/download/corporate-governance/20211220-qtccodeofconduct-th.pdf>



Mr. Norachit Sinhaseni
Chairman of the Nomination
Committee



Mr. Kamol Takabut
Director



Mr. Poonphiphat Tantanasin
Director

Nomination, Remuneration and Governance Committee

- The Nomination, Remuneration and Governance Committee worked with an internal work group to review and revise the good governance policy to be consistent with international practices, and has proposed the revision to the Board. The revisions were approved and became officially effective and has been published on the Company's website (<https://qtc-energy.com/th/>). In 2023, the Nomination, Remuneration and Governance Committee met onsite and online four times to recruit, select and nominate suitable individuals for director and high-ranking executive positions along with considering remuneration for directors according to specified criteria.



Mr. Natthaphon Lilawattahanun
Chairman of the Audit Committee



Mr. Kamol Takabut
Director



Mrs. Wasara Chotithammarat
Director

Audit Committee

The Company has designated the Audit Committee consisting of three independent directors who are knowledgeable, skilled, experienced and qualified according to the requirements of the Stock Exchange of Thailand the role and responsibilities in reviewing the internal control system and internal audit system as well as the corporate risk management system to ensure that the conduct of directors, executives and employees is in accordance with good corporate governance policy and in accordance with business ethics, policies and related laws. These responsibilities also include receiving complaints or whistleblowing from the general public if they see any misconduct committed by the Company's directors, executives and staff.

- The Audit Committee conducts audits of corporate governance and anti-corruption operations in the organization along with an internal audit cycle covering all work processes by an independent external auditor, Kandit Advisory Services Co., Ltd. The audit results are reported directly to the Audit Committee. In 2023, the Audit Committee held five online meetings to monitor, audit and evaluate the results. The audit conducted by the external auditor found no significant issues related to corporate governance and corruption.
- The Company supported directors and high-ranking executives to have skills, knowledge and abilities to benefit effective corporate governance.

First – Last Name	หลักสูตร	สถาบัน
Mr. Ruangchai Kritsnakriengkrai	<ul style="list-style-type: none"> Corporate Governance Executives Delivering Net Zero Together Refreshment Training Program Executive Energy Program (EEP) 	IOD FTI
Mr. Kitti Achariyaboonpong	<ul style="list-style-type: none"> Advanced Master of Management (AMM), Class 9 	Absolute Alliances
Mr. Nipat Chingchamikorn	<ul style="list-style-type: none"> Director Certification Program 	IOD
Mr. Phot Wongkham	<ul style="list-style-type: none"> Director Certification Program 	IOD
Ms. Suriphon Mitthammana	<ul style="list-style-type: none"> Driving Social Investment and Linking Businesses with Community Development Driving High Performance with Accountability Dialogue The Corporate Responsibility to Respect Human Rights One Report to Drive Businesses Toward Sustainability 	Community Organizations Development Institute PacRim Group SET

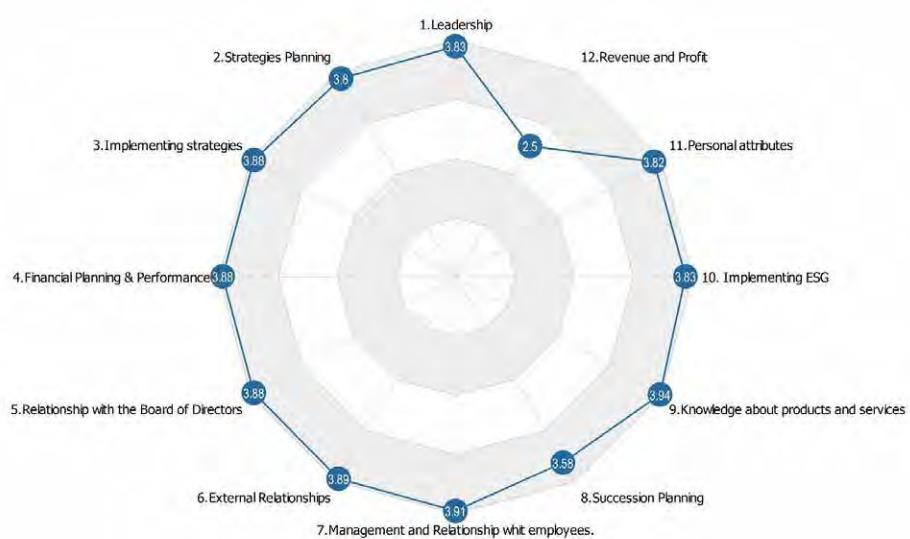
Performance Assessment of the CEO and the Entire Board of Directors

The Board of Directors requires performance of the Board of Directors and the ability to perform duties of the Chief Executive Officer to be assessed annually. In 2023, assessments had the following results:

1. The Chief Executive Officer's performance assessment was conducted with reference to the self-assessment forms for boards of directors of the Corporate Governance Center, Stock Exchange of Thailand, of December 2011: In 2023, a section on ESG performance assessment was added. The Board of Directors performed independent assessments of the Chief Executive Officer's performance in 2023. Scores were averaged from a full score of 4 points.

Graph of Results from Assessment of the Chief Executive Officer's Performance in 2023

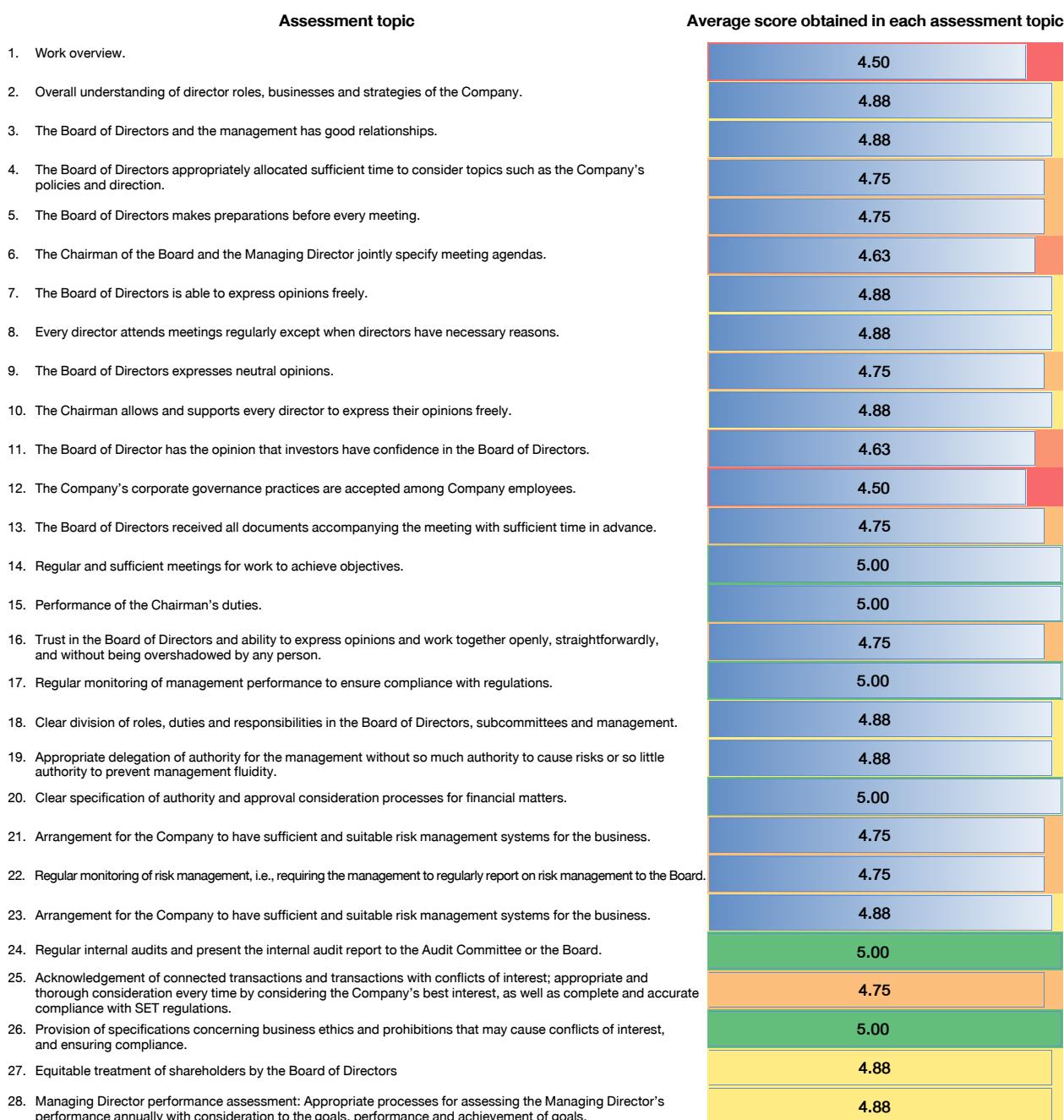
Full Score: 4 points, Mean Score: 3.83 points. The score is at an excellent level.



2. The Board of Directors was assessed with reference to the self-assessment forms for boards of directors of the Corporate Governance Center, Stock Exchange of Thailand, of 2015, to appropriately modify 28 questions. All 10 directors completed self-assessments of performance in 2023 and scores from each question were averaged from a full score of five points.

Graph of Self-assessment Results of the Board of Directors of 2023

Full Score: 5 points. Mean Score: 4.82 points. The score is at an excellent level.



Good Governance Evaluation Results by IOD (Score: 100 Points)

Good Governance Evaluation Results by IOD (Score: 100 Points)



Annual Shareholder Meeting Quality Assessment Results (Score: 100 Points)



Receiving the Outstanding Ethics Award,

21st TCC Best Awards in 2023

Mr. Phot Wongkham, Assistant Managing Director for the Transformer Business, represented the Company in receiving the Outstanding Ethics Award from Dr. Sumet Tantiwetchakun, Secretary of the Chaipattana Foundation at the 21st TCC Best Awards in 2023 organized by the Thai Chamber of Commerce and Board of Trade of Thailand under the concept of aiming to raise awareness and alertness in the business sector to create stability and strength. This is a verification of acceptance in ethical business operation with social responsibility, reflecting QTC's corporate driving policies that adhere to good corporate governance principles in management to bring about advancement and sustainable growth.



Q Anti-Corruption

QTC has an ideology of conducting business under good corporate governance by adhering to good corporate governance principles and business ethics by using the fair business competition strategies with the best quality of products. In addition, the Company recognizes that corruption is a serious threat that undermines fair competition and damages the economic and social development and violates human rights at the national level.

In order to ensure that the Company has good and accountable anti-corruption practices, the Company has prepared an anti-corruption policy in writing and a manual of relevant practices to guide personnel at all levels under the supervision of QTC to adhere to operational norms as part of the Company's business ethics by committing to promoting them as a part of the organization's **"zero tolerance of corruption"** culture and values.

Anti-corruption Policy:

https://qtc-energy.com/wp-content/uploads/2021/01/Anti-Corruption_Policy_Th_2564.pdf

Anti-corruption Policy Compliance Guideline:

https://qtc-energy.com/wp-content/uploads/2021/08/Anti_Corruption_Bochur.pdf

Performance in 2023

- The Company was invited by the Office of the NACC to serve as a lecturer, share experiences and lecture on the topic "Corporate Management with Corporate Governance Principles" in the activities of the Corporate Governance Development and Promotion in Partners of Government Agencies Project, activities to elevate the corporate governance of partners of government agencies in Region 2 in accordance with the objectives to drive and expand the results of corporate governance development and promotion in partners of government agencies, the development of mechanisms to drive corporate governance in the private sector, as well as to increase transparency in procurement processes in the government sector in which the private sector is a partner to cover all areas. The event was organized by the Office of the NACC on 31 January 2023 in Manithip Room of New Travel Lodge Hotel in Chanthaburi.



Lecture by Mr. Ruangchai Kritsnakriengkrai (Managing Director) and Ms. Suriphon Mitthammana (Assistant Managing Director for Sustainability Development and Administration)

- The Company audited cases with potential conflicts of interest in 2023. Audited groups included the Board of Directors, executives in management positions and higher in the Company and all subsidiaries, procurement officers and human resource management officers. Audit results showed no director, executive or employee with conflicts of interest.
- In 2023, no government employees were hired to be the Company's employee or consultant in compliance with the anti-corruption policy.



Employee Training and Measuring Results

The Company gives importance to developing knowledge and understanding for employees of the Company and all subsidiaries in accordance with its anti-corruption policy, including related stakeholders, by communicating via formats such as providing onsite and online training related to company policies, practices and regulations **to raise awareness in the prevention of dishonest behaviors** and to avoid all corruption-risk behaviors. The Company requires a review of the knowledge and understanding and evaluates its employees (in required individual KPIs) at least once a year.

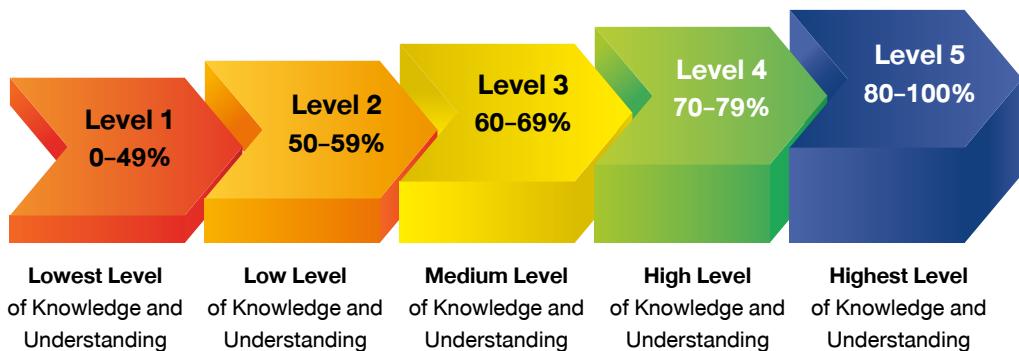
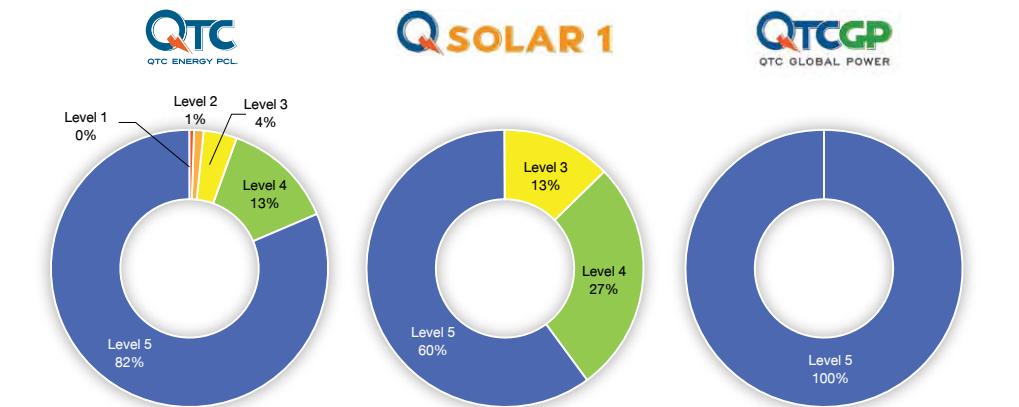


Individual KPI



Images showing onsite and online training to review knowledge and understanding for employees of the Company and all subsidiaries before measuring the results to be used in the evaluation of individual KPIs for 2023.

Employee Knowledge and Understanding Measurement Sorted by Subsidiary Groups for 2023



Number of Employees Trained and Tested for Their Knowledge and Understanding **100%**

Employees with Level 2 understanding are re-trained on a case-by-case basis.

Anti-Corruption Communication-Promotion

- Dissiminating the No Gift Policy to the public during the 2024 New Year's festival via the Company website and the Thai CAC's Facebook page.



- Organizing the anti-corruption booth in the "5S Safety and Happy Workplace 2023" event between 22-25 August 2023 in the Faraday Conference Room, Rayong Plant. Student representatives of Ban Map Toei School, Ban Map Yang Phon School, Ban Huai Prap School and Map Yang Phon Witthayakhom School along with 120 teachers were invited to participate in the activities on 24 August 2023. Lectures were given under the topic "Don't Cheat When You Grow Up" to the students and anti-corruption commitment was demonstrated together.



Images of Students in the Community Participating in Activities on 24 August 2023.



Images of Students from Ban Map Yang Phon Witthayakhom School Studying Workpieces and Demonstrating Commitment to Anti-Corruption Efforts on 28 August 2023.

Q Personnel Data Control

PDPA



- **Training for Directly Related Operators: 100%**
- **Training for General Staff/Student Interns: 100%**

The Company recognizes that personal data is extremely important because personal data, such as name, surname, address, telephone number, email address, and ID card number, and sensitive personal data, such as race, religion, gender, etc., or any other similar information as specified by law of all QTC stakeholders can be processed in a variety of ways, both to create benefits and abused in ways that cause damage to the data subject, or used for unlawful exploitation. Therefore, the Company gives importance to this by announcing its personal data protection policy and preparing related guidelines, improving work processes in accordance with the Personal Data Protection Act, B.E. 2562 (2019), providing training and understanding to employees, and publishing the personal data protection policy via the Company's website.

PDPA Policy: <https://qtc-energy.com/wp-content/uploads/2022/05/การคุ้มครองข้อมูลส่วนบุคคล-Privacy-Notice.pdf>

In 2023, there were no violations or complaints according to the Personal Data Protection Policy.

Cyber Attack Incident

On 12 September 2023, there was a cyber attack incident in which a hacker accessed and locked computer systems in the Company's local server, which is not a core operation system of the Company. Ransom was demanded for unlocking the data. However, the IT team was able to recover the system within 13 hours and backup data was able to be extracted for normal use. Therefore, no ransom was paid. Based on an inspection of the data in the system at the time, the majority of the data was considered general work information such as scan files or Excel reports. In the analysis of the general data, there was no data that would impact work, company secrets or personal data, and it could not be determined if the hacker received any data.

Later, on 30 January 2024, the Company learned that company data from the attack on 12 September 2023 was posted on the dark web. The size of the data was approximately 14 GB (a small portion of the data in the entire system). Therefore, the IT team downloaded the data for the management team to thoroughly inspect. On 3 February 2024, at 8:30 p.m., it was concluded that about 99.53% of the data was general work data that did not impact the Company and **about 0.47% of the data contained personal data**. The details are as follows:

1. There was personal data belonging to 11 of the Company's employees, all of which are documents such as copies of ID cards, copies of bank books and copies of medical certificates. All of these documents were crossed out and the objectives for their use were clearly stated. It is assumed that the employees scanned them for payment to the external personnel and had not erased them from the system.
2. There was personal data belonging to 39 external personnel who conducted transactions with the Company, all of which are documents such as copies of ID cards, copies of bank books and copies of car registrations. All of these documents were crossed out and the objectives for their use were clearly stated. It is assumed that the employees scanned them for reimbursement and had not erased them from the system.

The Company followed the Personal Data Protection Act by notifying the Personal Data Protection Commission (PDPC) on 6 February 2024 at 9:00 a.m., within 72 hours of discovering the personal data leak and later notified the data subjects individually. Additionally, the Company had its Personal Data Protection Committee study the incident and make preparations with the legal consultation team in case there complaints arise and there is a need to verify that the data is from the same dataset that was leaked in the aforementioned incident.

The Company has assessed risks from such incident and has partially taken corrective action. Furthermore, the Company has invited an expert in cyber security to provide additional recommendations and find loopholes to strengthen the system.

Whistleblowing or Complaint Channels

If any related stakeholder has questions or has seen any acts that suggests that a director, executive or employee of the Company or any of its subsidiaries may have a behavior that is a violation or noncompliance with the laws, regulations, requirements, code of conduct or governance policies of QTC or the anti-corruption policy or personal data protection policy, etc., you may inquire about the acts, report on clues or file a complaint, along with the details and evidence, via the following channels:

Whistleblowing or Complaint Channels	Channels for Consulting/Inquiring about Related Policies or Guidelines
 Mail addressed to: Audit Committee of QTC Energy Public Company Limited 2/2 Soi Krungthep Kritha 8, Intersection 5, Krungthep Kritha Rd., Huamark, Bangkapi, Bangkok, 10240  Email: audit@qtc-energy.com	 Email: sustainability@qtc-energy.com
	 Telephone: 038-891-411-4, Ext. 111  Company Website: www.qtc-energy.com

Performance in 2023



Legal Compliance

The assessment of legal compliance is a major risk for the Company due to the frequent changes in the requirements of the law and in order to prevent mistakes in business operations. Hence, the Company has established operational procedures for the assessment of legal compliance to cover business activities, determine the responsible team, and prepare a register of controlling laws in the Document Control Center. In 2023, regulations and laws related to business operations are as follows:

- Regulations and laws directly related to business operations and which are complied with: 272 issues.
- Requirements and laws used as references: 134 issues.
- Requirements and laws directly related to business operations and are in the process of being implemented in accordance with the timeframe required by law: Two issues. Clear operational plans have been established.

In 2023, operations were in compliance with the law.

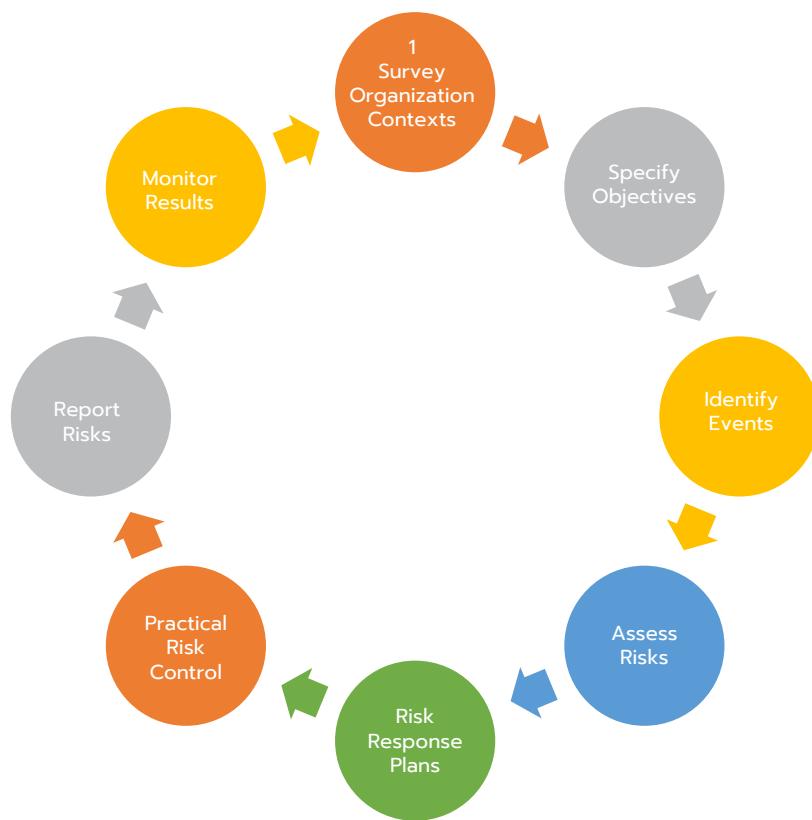


Risk Management

Risk management is one of the most important and necessary issues for successful business operations because economic changes, technological advances, social and environmental changes including crises may occur at any time. Controlling risks to prevent impacts on business is increasingly difficult because risks are external factors, causing the Company to have to adapt and reduce expected future risks in order to make operations and performance consistent with goals. Assessments to reduce risk create opportunity for sustainable business growth.

QTC recognizes that working to achieve business goals, uphold obligations according to the organization's vision to become a world class company and create confidence for stakeholders has challenges under economic, social and environmental evolutions, which may directly or indirectly create good opportunities or negative impacts on business operations. Therefore, QTC places importance on corporate risk management in every area covering economic, environmental, social and human rights dimensions under the governance of the Corporate Sustainability Promotion and Risk Management Committee, the Audit Committee and the Board of Directors.

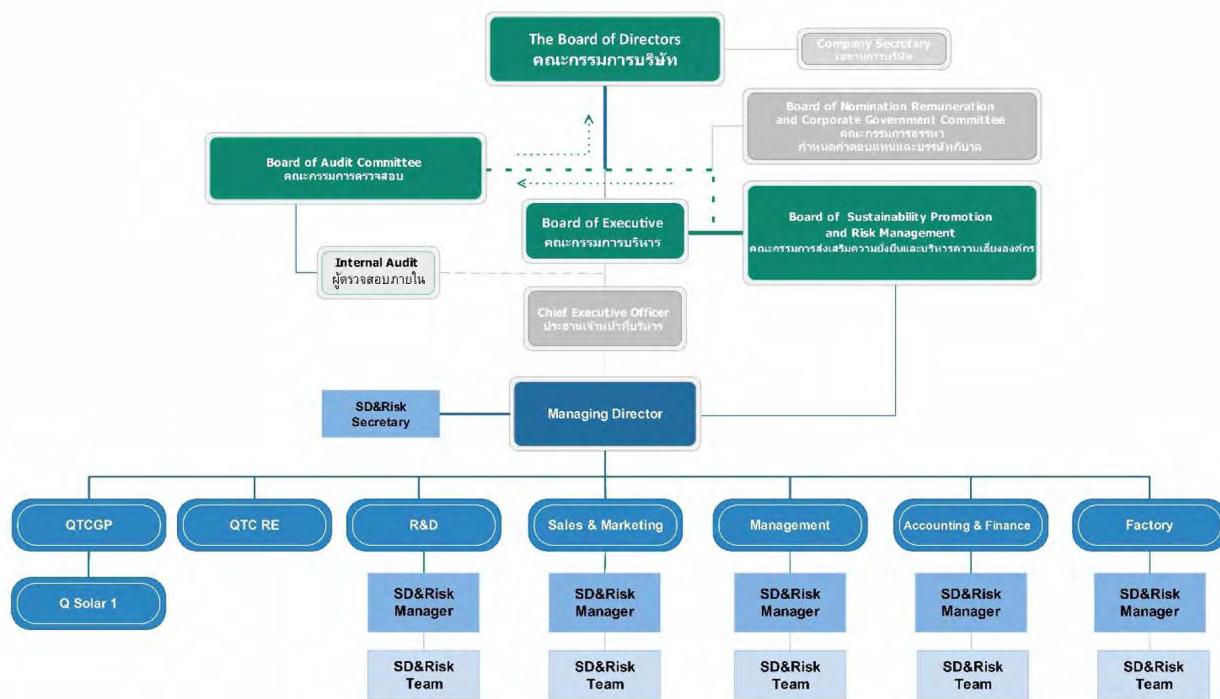
Corporate Risk Management Policy <https://qtc-energy.com/th/risk-management-policy-2/>



Corporate Risk Management Process

The Company prepared a corporate risk management handbook as clear practice guidelines according to ERM-COSO risk management standards by requiring risks to be reviewed by surveying the organization's environment or contexts in changed situations and following designated processes and steps under the responsibility of the Corporate Sustainability Promotion and Risk Management Committee along with reporting to the Board of Audit and directors on a quarterly basis.

Corporate Sustainability Promotion and Risk Management Committee Structure



Performance in 2023

- The Risk Management Committee organized four risk management processes in 2023 at specified times.
- The Company has five aspects and 14 issues regarding risks with significance for the organization's objectives. Details on significant risks are as follows:



More information can be viewed in the 56-1 One Report 2023.

Significant ESG Risks

E : Environment

Risk Topics	Measures and Performance
Climate Change	<p>The issue of impacts from climate change causes environmental crises such as unseasonal rain, draughts, flooding, global warming and impacts to the way of life of all living things in the world. Reducing such impacts require cooperation from all sectors in the world to reduce greenhouse gas emissions through direct and indirect mechanisms such as passing laws to control greenhouse gas emissions, collecting carbon taxes, sanctioning carbon products, and encouraging higher consumption of low-carbon products. All of these things create both opportunities and risks for sustainable business operations in the future.</p> <p>The Company has analyzed opportunities and risks for climate change in order to prepare for major changes including transition risks and physical risks, which are categorized as business strategy risks. The Company has set goals for carbon neutrality by 2035 and net zero by 2050.</p> <p>For more details on opportunity and risk assessment as well as the performance in 2023, view the topic "Climate Change" in the 2023 sustainability report.</p>
Hazardous Waste and Scrap Material Management	<p>In the manufacturing process and transformer service provision, the Company has scrap materials from manufacturing and hazardous waste requiring controlled disposal in compliance with Ministry of Industry notifications. Disposal is performed through disposal companies that follow methods specified by the Department of Industrial Works. However, the Company may have risks from disposal companies' irresponsibility and failure to comply with conditions, causing environmental impacts. Therefore, the Company specified the following preventive measures:</p> <ul style="list-style-type: none"> • The Company petitioned for approval to register disposal companies from the Department of Industrial Works by type of waste. • Teams evaluate areas and disposal methods in disposal companies' areas. • The Company controls transportation and containment to prevent spills and leakages before leaving the factory. • The Company uses the 3Rs principle to sort waste that can be sold and waste that cannot be sold. • The Company works toward zero landfill by sorting waste for sending to waste-to-energy plants instead of burying the waste, except for legally exempt items. <p>Operations in 2023: The Company was able to bring 100% of landfill waste into the electricity generation process with 100% zero landfill. Seventy kilograms of ceramic electrical insulators were buried. (These are legally exempt as they cannot be decomposed/do not emit greenhouse gas.) Additionally, there were no complaints on environmental impact from managing the hazardous waste and scrap materials from production. Performance can be monitored via the Sustainability Report 2023 under "Production Waste and Scrap Materials".</p>

S : Social	Risk Topics	Measures and Performance
	Occupational Health and Safety	<p>Employee working conditions are related to use of instruments, machinery, chemicals and work procedures. In addition, the factory coexisted with the community for over 20 years. Accidents may occur with effects on employees and communities. Therefore, the Company specified the following preventive measures:</p> <ul style="list-style-type: none"> • Safety management with ISO 45001 standards. • Appropriate work safety and PPE standard specifications and periodic machine maintenance. • Electrical system and building certification by outside experts. • Automatic fire alarm system installation. • Fire suppression and fire evacuation drills. • Safety awareness building with KYT activities. • Safety week activities to provide knowledge and raise awareness among employees and communities. • Safety committees (SCs) elected by employee representatives consider work safety guidelines. • Health promotion projects to reduce, abstain and quit smoking and drinking along with vaccination based on epidemic situations. <p>Operations in 2023: The number of accidents increased from 2022 by 11.11%. The Company did not achieve the goal to have zero accidents. Details, preventive and corrective measures can be followed up on in the 2023 sustainability report under "Employee Health and Safety".</p>
	Departures of Engineers, Skilled Technicians and Personnel in Significant Positions	<p>Because the factory is located in an industrial zone with significant labor competition from the level of manual laborers to professional employees, the Company outlined the following control and prevention measures:</p> <ul style="list-style-type: none"> • Appropriate employee wage and benefit restructuring by comparing with the same industry. • Modify assessment systems and pay fair wages. • Individual personnel development along IDP career paths. • Prepare key KM of the Company and create an online center of learning. • Create organization happiness following the Happy 8 guideline. <p>Operations in 2023: The resignation rate for engineers, skilled technicians and personnel in significant positions was 10.95% out of the total employee resignation rate of 13.98%, or 78.38% of the total employee resignations, which is the majority. The main reason for the resignations was to open personal businesses or take over family businesses, while some of the resignations were due to changing jobs to return to hometowns. This did not impact the organization's internal operations as the Company has carried out individual development plans (IDP) consistently to enable immediate replacements for vacant positions.</p>

Human Rights

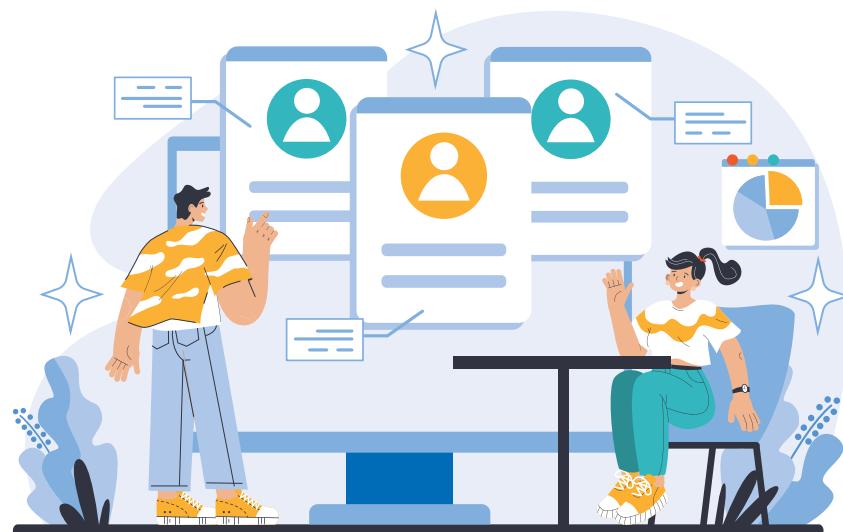
QTC Energy's business has several subsidiaries. Business activities include manufacturing, trading, and investing in various projects, each of which creates a business value chain from upstream, midstream to downstream. Many stakeholders are involved in this value chain. In addition, due to the organization's vision which demonstrates environmental and social responsibility and good governance, as well as the wish to become a world-class organization, the Company gives importance to social issues that are of global interest and concern: «Human Rights». The Company has conducted a comprehensive risk and impact assessment and established control and prevention measures as follows:

- Published human rights policies.
- Established guidelines that comply with the human rights policy and strictly enforced it.
- Provided training for employees and related stakeholders.
- Conducted human rights due diligence (HRDD) audits in the business value chain in accordance with the United Nations Guiding Principles on Business and Human Rights, as well as assessed human rights risks and impacts to prevent accusations of involvement in rights violations, which tend to occur when a company knows or should know when a business ally or partner is in violation of human rights, which would mean that the company is indirectly involved with the rights violation.

Operations in 2023:

- There were no reports of human rights violations in the organization and the business supply chain.
- Company regulations were revised and welfare covering LGBTQ employees was provided.
- Leave regulations were revised and male employees or employees with male status can receive paid paternity leave.
- Human rights due diligence (HRDD) was carried out in suppliers.

For more details, view the topic "Human Rights" in the 2023 sustainability report.



Risk Topics	Measures and Performance
Cyber Threat and Personal Data Protection in Computer Systems	<p>Cyber threats are security threats to business operations that have the likelihood to occur and create damage to important information in business operations and personal data stored in computer systems such as customer data, supplier data, employee data, etc. Therefore, the Company has established the Cybersecurity Policy and Personal Data Protection Policy and provided clear related guidelines as well as invested in a cybersecurity system to prevent risks strictly and thoroughly, and has provided knowledge and understanding to employees in addition to preparing backup plans in case of emergency.</p> <p>Cyber Security Policy: https://qtc-energy.com/wp-content/uploads/2023/03/it-security-policy.pdf</p> <p>Operations in 2023:</p> <p>On 12 September 2023, there was a cyber attack incident in which a hacker accessed and locked computer systems in the Company's local server, which is not a core operation system of the Company. Ransom was demanded for unlocking the data. However, the IT team was able to recover the system within 13 hours and backup data was able to be extracted for normal use. Therefore, no ransom was paid.</p> <ul style="list-style-type: none"> • Impacts <ul style="list-style-type: none"> ▶ The server was on local down time for 13 hours. ▶ The functions in the ERP-Microsoft Dynamic AX system could not be used in real-time between 12 – 13 September 2023. However, the system was returned to normal function on 14 September 2023. This did not affect the closure of the monthly accounting and business operations were not halted. • Preventive Action Taken <ul style="list-style-type: none"> ▶ The local server was changed and the firewall was updated. ▶ A new antivirus was installed for the server and client devices that can detect Ransomware LockBit better than the previous one. ▶ Another layer of solutions was added for the automatic offline backup of data for data security. • Preventive Action to Be Taken in the Future <ul style="list-style-type: none"> ▶ Hire a cybersecurity expert to reassess risks to find loopholes. ▶ Apply ISO/IEC27000 standards and request certification in the future. <p>Remarks: At the time of the incident, the Company was unable to assess if the hacker received any data. However, from the assessment of the majority of data in the system, the data includes scan files from general original documents or data that was exported from the ERP – Microsoft Dynamic AX system to be analyzed for preparing reports. For important data, the Company has a policy to store it in a separate location for safety. Later, on 30 January 2024, the Company learned that company data was posted on the dark web and so inspected 100% of the data. For more details on the results of the inspection, view the topic "Personal Data Control" in the 2023 sustainability report.</p>

Corruption

The transformer manufacturing business is an industrial factory with manufacturing, repair, distribution and services. Major customers of the Company include the Provincial Electricity Authority, the Metropolitan Electricity Authority, and the Electricity Generating Authority of Thailand which are state enterprises. Moreover, the Company's business operations must be under the rules of related specifications and laws. The Company contacts, coordinates, pays fees, pays taxes and request permits from government agencies, which may create gaps for corruption. The Company specified the following control and prevention measures:

- The Company specified anti-corruption policies and related guidelines to be used in the Company and every subsidiary and to be disseminated to business partners.
- The Company trains and educates employees by specifying necessary courses in trainings. Employees are required to pass training (100%) and have understanding assessment results higher than 80%.
- The Company requires internal audits by external auditors in risk-prone processes every quarter.
- The Company became a member of the Thailand Collective Action against Corruption (CAC).

Operations in 2023: There were no events, complaints or whistleblowing of wrongdoings. More information about the performance in 2023 can be viewed in the 2023 sustainability report under the topic "Anti-Corruption".





Economy

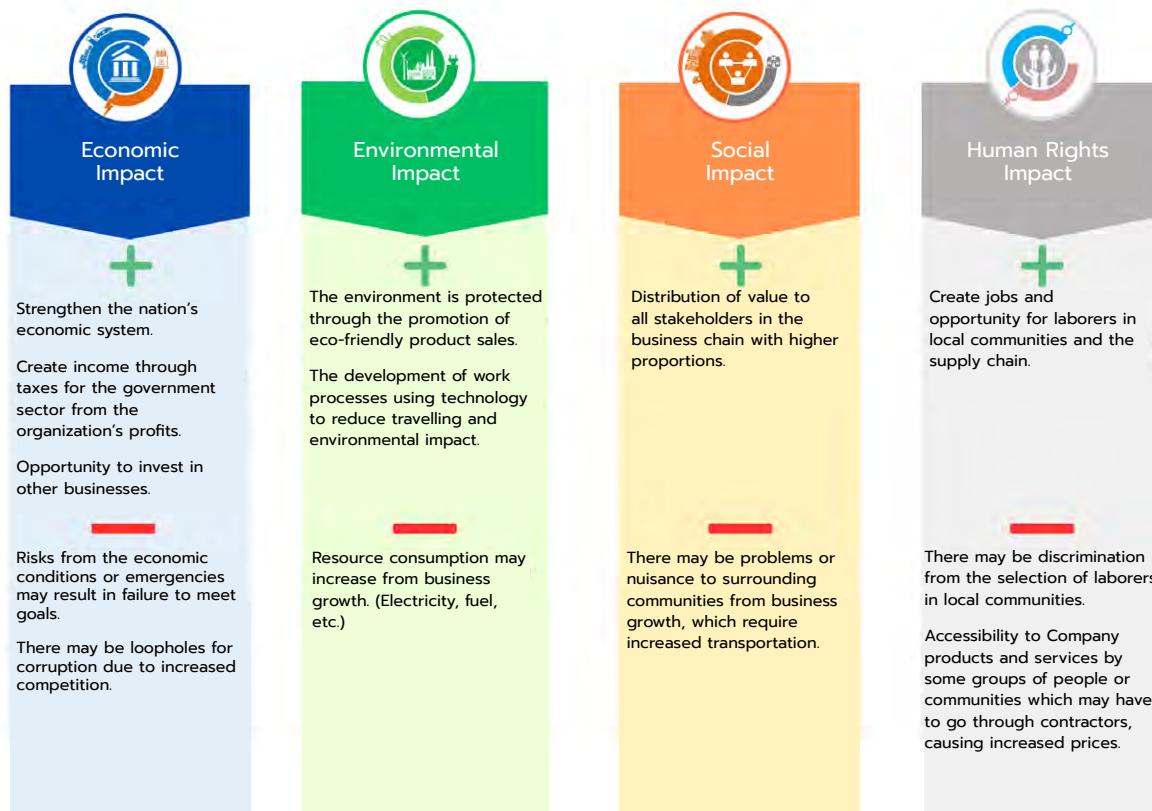
Business Growth



Business growth is a demonstration of the organization's ability to effectively manage resources while recognizing the importance of society and the environment under corporate governance and effective risk management, having new and unique innovations different from competitors, being able to use opportunities in risks as a business advantage with economic value, being able to create sales, make profit and pay appropriate returns to shareholders and other stakeholders. These are an important factor in investors' analysis of assets to select companies for investments in addition to building confidence, loyalty and trust in the Company among shareholders, employees and other stakeholders. Therefore, the Company needs to prioritize and maintain visions, obligations and create balance between profit, corporate governance and care for society and the environment, which has effects on sustainable business growth.

Based on both positive and negative impact assessment covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities For Business Growth



The Company has carefully implemented business growth, assessing impacts, risks and opportunities in all aspects, because it realizes that every baht spent belongs to the shareholders, and it strives to generate the best returns for shareholders and those involved in the business chain in a fair and transparent manner by establishing policies for managing various tasks and clear operational goals as follows

Objective : To create sustainable business growth.

Management : Strategic planning according to business paths, appropriate strategizing, effective corporate risk management, increase competitiveness with quality products and services including responsibility

Promotion of research and development to innovate products, services and production processes and expansion of investment in other businesses or new products to increase income and build financial strength.



Target

1

- Total sales and services growth goal of at least 10% per year in the transformer business.
- The performance in 2023 resulted in a 10.42% growth from 2022. The target was achieved.



Target

2

- Income from new energy product sale (with QTC as the distributor) growth of at least 20% per year in the solar business.
- The performance in 2023 resulted in a 0.75% growth from 2022. The target was not achieved.



Target

3

- Net profit (consolidated financial statement) no less than 12%.
- The performance in 2023 resulted in the net profit for separate businesses = 3.74% and the comprehensive statement = 5%. The target was not achieved due to higher production costs. In the future, the Company will consider reducing the target to suit real situations.

Significant Performance in 2023



► QTC, represented by Mr. Mr. Poonphiphat Tantanasin (center-left), CEO, and Mr. Kitti Achariyaboonpong (2nd from the left), Deputy Managing Director of QTC Energy Public Co., Ltd. (QTC), joined by Mr. Mark von Grabowski (center-right), CEO of JJ-LAPP (T), manufacturer of solar cables that connect solar panels to inverters, signed the strategic business cooperation agreement as a distributor of solar cables to access the market of operators who install solar panels on rooftops such as residences, factories and buildings as well as solar energy plants (solar farms) in Thailand. The goal was set to distribute about 10 million baht of cables in the initial phase and this is expected to reach 100 million baht in 2024.



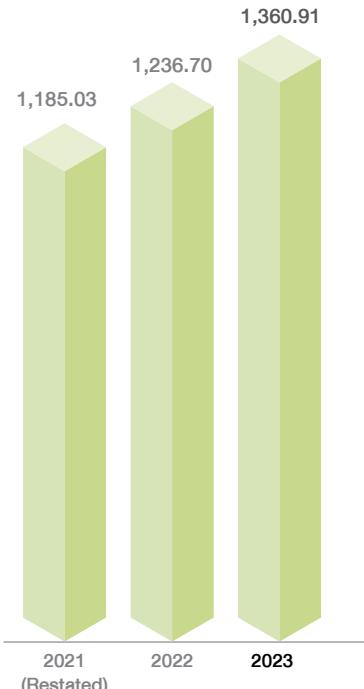
► QTC signed a commercial cooperation agreement for the project to develop and produce bio transformer oil in order to be the first in Thailand to try producing it and commercially capitalize the production in response to the Bio-Circular-Green Economy Policy between Mr. Kittiphong Limsuwannarot (center), CEO and President of BBGI Public Co., Ltd. ("BBGI"), along with Dr. Suracha Udomsak (left), Chief Innovation Officer and Vice President of New Business of SCG Chemicals Public Co., Ltd. or SCGC, and Mr. Poonphiphat Tantanasin (right), CEO of QTC Energy Public Co., Ltd. ("QTC"), transformer manufacturer, distributor and service provider.

Economic Results

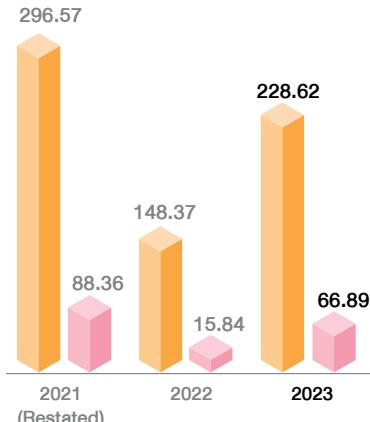
Financial	2021	2021 (Restated)	2022	2023
Revenues from sales and services	1,171.99	1,171.99	1,216.45	1,337.12
Total revenues	1,185.03	1,185.03	1,236.70	1,360.91
Cost of sales and services	(878.37)	(875.42)	(1,068.08)	(1,108.49)
Gross margin	305.05	296.57	148.37	228.62
Selling and administrative expenses	(145.47)	(189.27)	(147.94)	(167.12)
Profit before interest and income tax	161.19	108.20	20.18	84.38
Net profit	127.22	88.36	15.84	66.89
Comprehensive income for the year	130.53	91.67	16.74	66.89
Net earnings per share	0.373	0.259	0.046	0.196
Dividend per share	0.20	0.20	0.20	0.20*
	(341,092,557)	(341,092,557)	(341,092,557)	(341,092,557)
Total assets	1,986.93	1,885.60	1,847.12	1,862.20
Total liabilities	250.97	250.97	263.87	280.18
Shareholders' equity	1,735.96	1,634.63	1,583.25	1,582.02

Remarks: *Pending for an approval from the 2024 Annual General Meeting of Shareholders

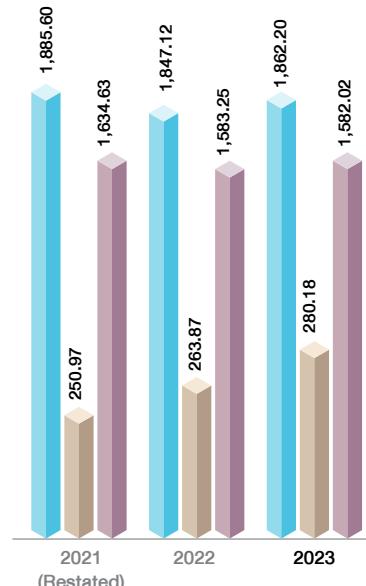
Total Income
(unit: million baht)



Gross Profit / Net Profit
(unit: million baht)



Total Assets, Total Liabilities, Shareholders' Equity
(unit: million baht)



■ Gross Profit

■ Net Profit

■ Total Assets

■ Total Liabilities

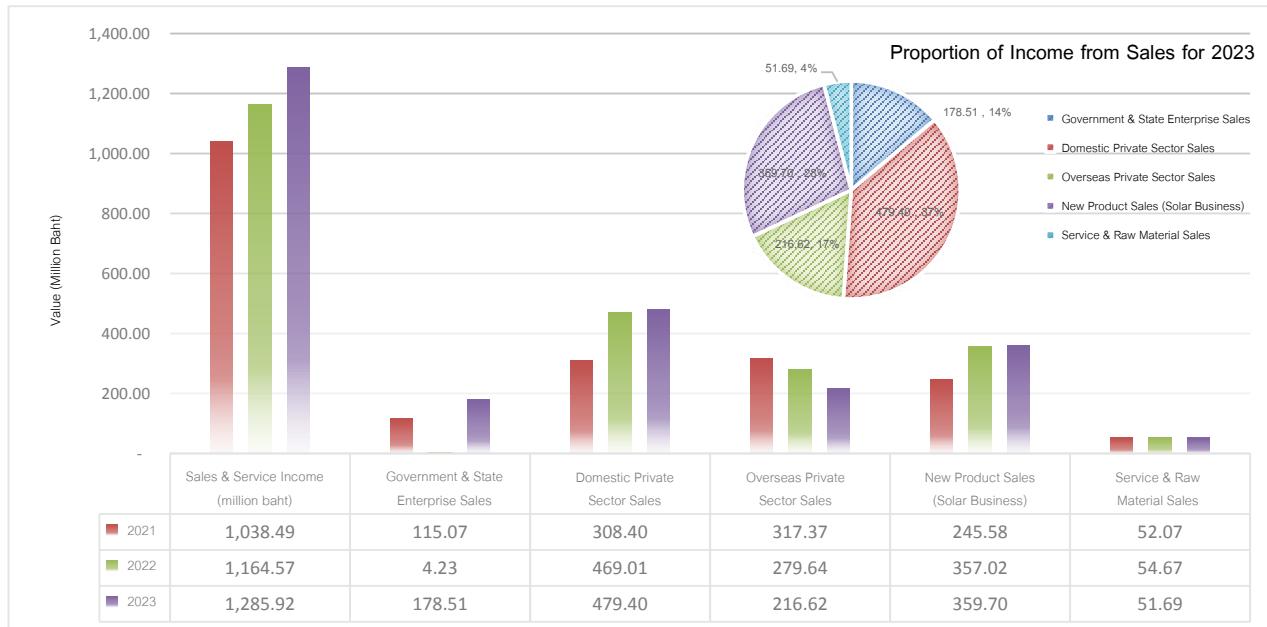
■ Shareholders' Equity

Table Showing Economic Results with Comparison of 2023 – 2021

Item		2021		2022		2023	
		Separate Statement	Consolidated Statement	Separate Statement	Consolidated Statement	Separate Statement	Consolidated Statement
Income from Sales and Services	(million baht)	1,038.62	1,171.99	1,164.57	1,216.45	1,285.92	1,337.12
EBITDA	(million baht)	161.58	187.07	152.06	101.55	112.16	161.19
Net Profit (Loss)	(million baht)	94.25	88.36	97.61	15.84	48.04	66.89
Accrued Profit (Loss)	(million baht)	126.82	80.56	157.12	29.18	137.04	27.95
Net Profit per Share	(baht)	0.28	0.26	0.29	0.05	0.14	0.20
Rate of Asset Returns	(%)	5.04	4.70	5.15	0.85	2.51	3.61
Rate of Shareholder Returns	(%)	5.77	5.41	5.90	0.98	2.90	4.23

See more details in the One Report 2023 under “**Financial Report**”.

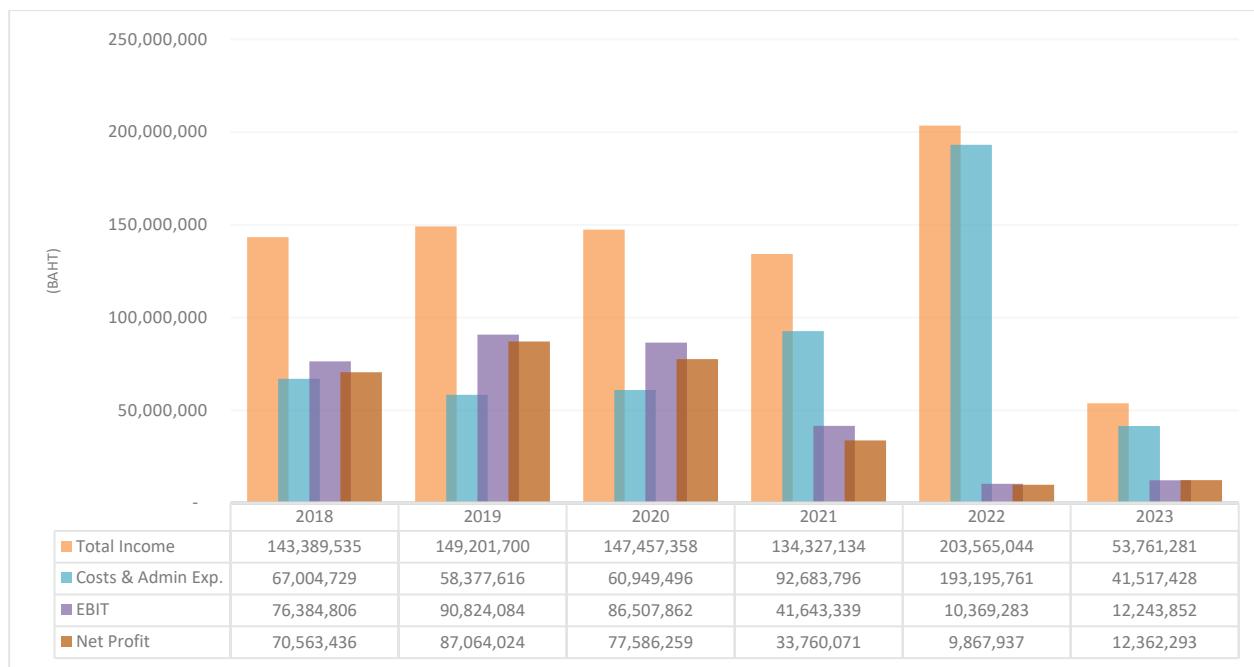
Sales & Service Income Graph Sorted by Income Type (Only QTC Energy) Comparing 2023–2021



According to the Table Showing Economic Results and the Sales & Service Income Graph (only QTC Energy, QTC Energy overall grew from 2022 by 10.42% while income from bidding in the government sector increased because QTC entered a bid and was able to deliver transformers valued at 178.51 million baht. This differed from 2022 where the subsidiaries entered the bid. Income from domestic private sector sales grew only slightly by 2.22% due to rather intense competition using low pricing strategies. As a result, QTC was unable to adjust its prices to be lower than the competition. Furthermore, foreign private sector sales decreased by 22.54% due to a slowdown in orders from overseas customers. In addition, income from services and raw material sales declined by 5.45% while income from new product sales in the solar business, such as PV panels, inverters, EV chargers and other energy-related equipment, was able to slightly grow by 0.75% from 2022.

2023 remained a difficult year for business operations. Although the COVID-19 pandemic has passed, there were still effects from a slowdown in investments in projects accumulated continuously from 2020 – 2022. Minor customers also still had financial liquidity issues, so they were unable to invest in additional business expansions. Moreover, the Russia-Ukraine war, the Isreal-Hamas war and the Red Sea crisis have impacted economic systems worldwide, causing customers to slow down their investments. Imported raw material prices have soared as well as transportation costs due to higher oil prices, impacting price competition in the market. Nonetheless, the performance for separate businesses as of the end of the fiscal year yielded a net profit of 48.04 million baht, a reduction of 50.78% from 2022.

Graph of Economic Performance (Only Q Solar 1) Comparing 2018 – 2023



According to the graph, in 2023, Q Solar 1 Co., Ltd. had income from power sales to the Provincial Electricity Authority at a total value of 53.76 million baht. If this is compared to the 47.34 million baht in income from electricity sales in 2022 alone, it shows that 2023 had 13.56% more income than 2022 as a result of the government's announcement on raising the FT cost, which raised the electricity price per unit. (Q Solar 1 Co., Ltd.'s contract to receive adder rates for electricity according to government policy at eight baht per kWh since 3 December 2021 has expired.) Consequently, the price of electricity sold to the Provincial Electricity Authority remained at 3.50 baht ((average) +- according to the FT cost. At the end of the 2023 fiscal year, the net profit was 12.36 million baht, an increase of 25.28% from 2022.

Q Solar 1 Co., Ltd. received BOI investment support under Promotion Card No.1114(1)/2554 dated 27 January 2001. The Company was granted juristic person income tax exemption benefits for the fiscal year of 1 January 2019 to 1 December 2019. Moreover, the Company was granted exemption from 50% of juristic person tax for five years from 2 December 2019 and to 1 December 2024.





Investment in Other Businesses

- ▶ EV charging stations under the "Super Fast" brand are managed by PPWE Co., Ltd., a joint venture between UEC Energy Co., Ltd. and QTC Energy Public Co., Ltd. In 2023 there were three EV charging stations open for services as follows:



**Wiphat Rungrueang Station
Nakhon Ratchasima**



**Siphalang Station,
Nakhon Ratchasima**



**Thamai Station,
Chanthaburi**

- ▶ QTC Global Power Company (QTCGP) purchased land in November 2023 with an area of 145-0-237 rai valued at 51.43 million baht in Prachinburi adjacent to the Q Solar 1 power plant and there was an nearby area that was the Bo Thong 33 Industrial Estate to prepare for presentation as an energy producer in accordance with the invitation to purchase electricity from renewable energy in the format of feed-in tariffs (FiT) in 2022 – 2030 for solar power installed on the ground by the Energy Regulatory Commission (ERC).
 - In 2023, the Company considered the impairment of investments in QTCGP. It was found that the returns on investment significantly reduced. On the other hand, QTCGP still had products undergoing feasibility studies that could increase investment values in the future, and so the management department used its discretion and allocated a reserve for the impairment of investments in subsidiaries in the amount of 12 million baht in 2023.
- ▶ QTC Marketing Co., Ltd. (QTC M) changed its name to QTC RE Co., Ltd. (QTC RE)  with a registered capital of five million baht to support expansions in the solar business in 2024 on 28 November 2023.



Distribution of Value to Stakeholders

	QTC Energy	QTCGP & Q Solar 1
Distribution of Value to Shareholders	(Baht)	(Baht)
Dividends to Shareholders	68,118,531.00	
Dividends Per Share	0.20	
Personnel Investment		
Employees*	129,847,071.00	
Executives and Managing Directors in Subsidiaries*	23,797,984.00	
Board of Directors (only independent directors)	9,463,459.00	
Social Investment		
Donations and Financial Support	1,333,108.89	200,708.87
Support for Social Enterprises (SE) (Indirect)	0.00	-
Activities for Society	176,016.97	-
Funds for Promoting and Improving Quality of Life among Disabled Persons	478,880.00	-
Environmental Investment		
Internal Environmental Management Cost	461,050.00	61,040.00
Waste and Other Management Cost	175,735.70	12,000.00
Environmental Project Operating Cost	96,097.00	-
Sharing of Value with Business Partners		
Domestic Procurement (Raw Materials)	397,393,630.29	
Overseas Procurement (Raw Materials)	140,923,801.89	
Power Plant Equipment Procurement and Maintenance		2,490,622.62
Product Procurement from Disabled Persons in Communities	83,742.00	
Other Economic Value		
Financial Cost (Interest)	1,001,086.00	507,081.00
Taxes Paid to the Government**	14,345,190.00	421,586.93

Table Showing Comparison of Sharing of Value to Stakeholders

Stakeholder Groups	Unit	Consolidated Statement		
		2021	2022	2023
Dividends for Shareholders	(million baht)	68.22	68.22	68.12
Dividends per Share	(baht)	0.20	0.20	0.20
Directors, Executive Directors and Employees*	(million baht)	167.07	162.72	163.11
Community & Society	(million baht)	0.93	1.99	1.71
Environment	(million baht)	0.97	1.02	0.81
Business Partners	(million baht)	600.09	466.22	540.89
Quality of Life Promotion and Improvement for Disabled Persons.	(million baht)	0.34	0.34	0.48
Financial Institutes (Interest)	(million baht)	1.26	0.97	1.51
Government Sector (Taxes)**	(million baht)	18.24	3.54	14.77

* Salaries, wages, benefits, social security funds, the Provident Fund, monthly wages, annual wages and meeting gratuities (not including seminar and skill development costs).

** Juristic person income tax, value-added tax, building tax, signage tax, local development tax.



Innovation Promotion

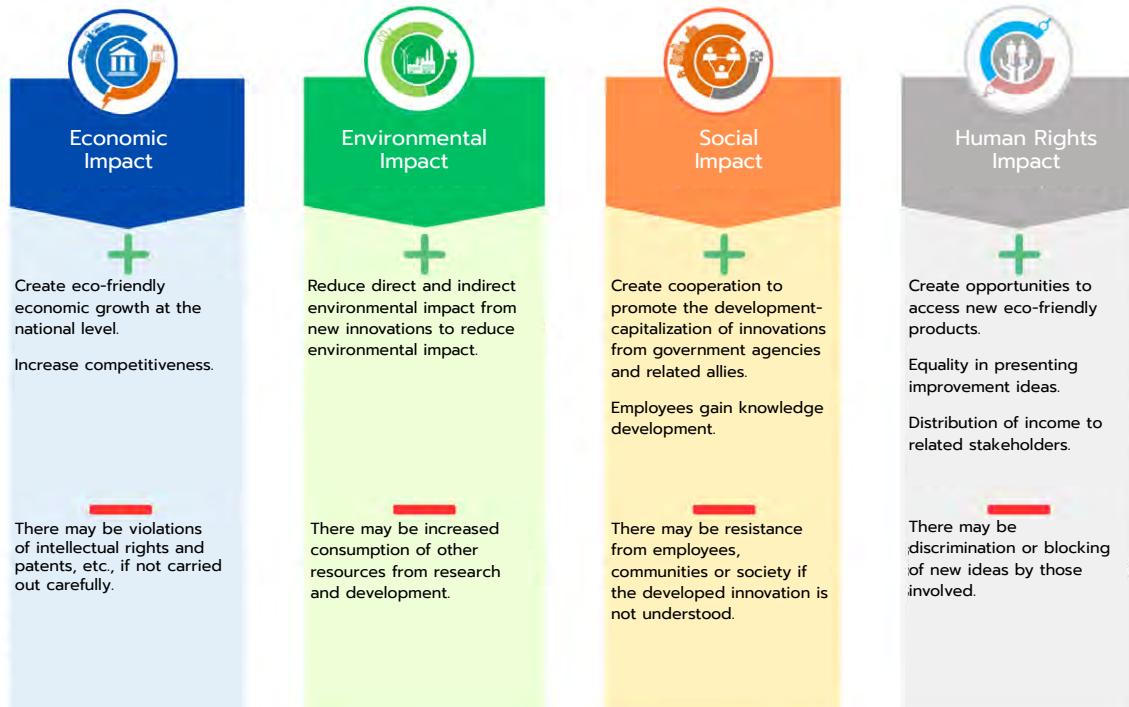


Rapid changes in digital technology, changes in industrial manufacturing processes with a greater focus on use of automated systems to replace humans including climate change have caused changes in social behaviors when considering purchases of quality, modern, simple-to-use products with fast delivery and caused effects on social expectations for business standards that give more consideration to environmental and social impacts.

Therefore, various changes have inevitably caused undeniable significant impact on the business environment inside and outside the company and changes became a concern for shareholders about the ability to manage changes which may have effects on the Company's economic status. Therefore, directors and executives must recognize the importance of changes and promote innovative thinking for employees at every level in the organization to participate in new creates and adapt to changes systematically and consciously with continual development of products, work processes and services. The Company consistently begins with small things by considering business directions to create added value for customers and stakeholders in society and the environment along with creating positive effects on the Company's employees and financial results.

Based on impact assessment, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities For Innovation Promotion



The Company is committed and gives importance to promoting innovation in the organization, including products, production processes, as well as various stages of work processes to promote and develop the skills, knowledge, and abilities of employees to have innovative ideas and develop further. The management guidelines are as follows:

Objective :

1. To strengthen the organization and prepare for changes.
2. To promote creative thinking skills among employees at every level.

Management :

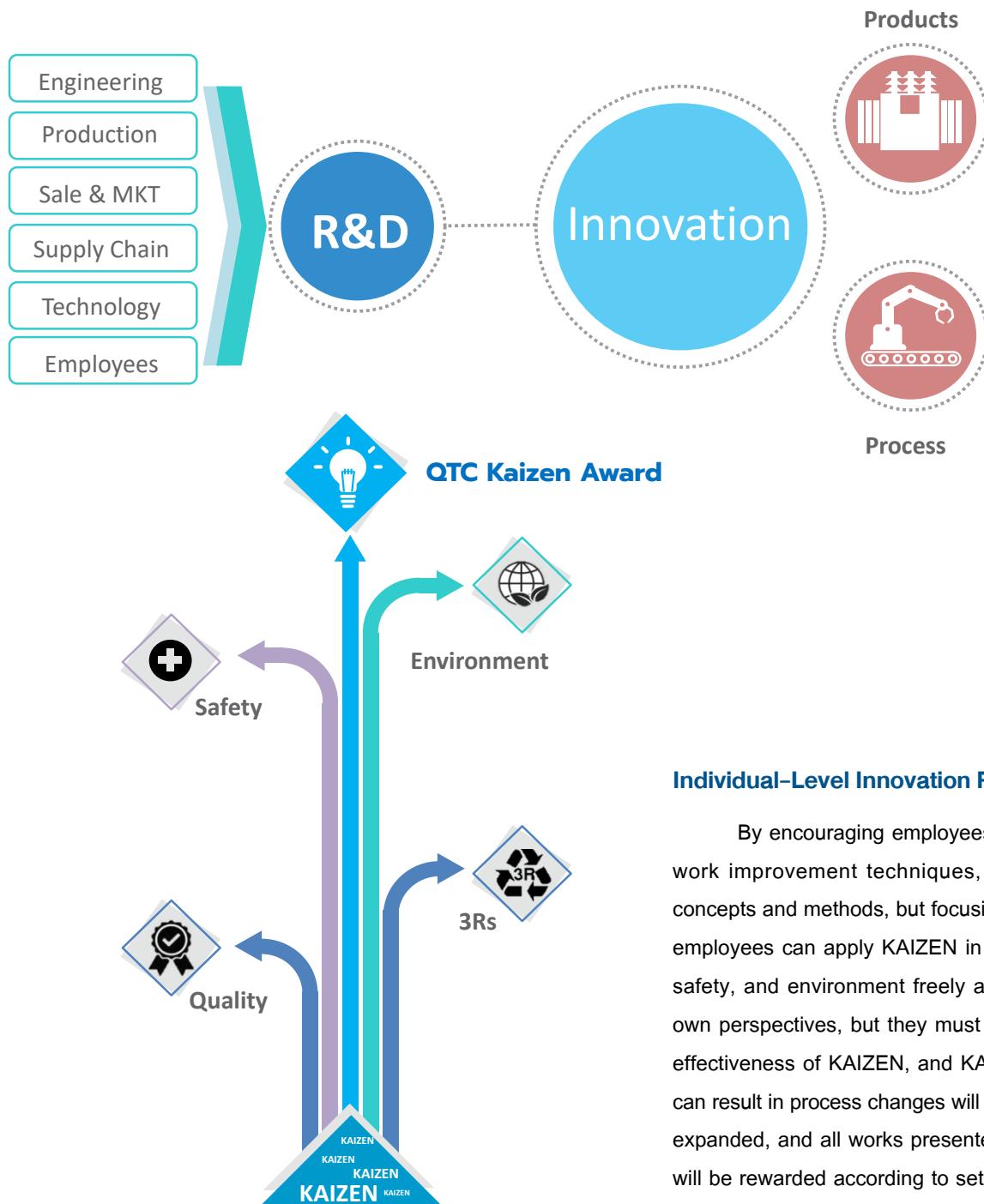
Create a product and production process research and development work unit, a KAIZEN promotion team and create motivation for modification or innovation ideas along with managing the organization's risks.



Innovation Promotion Process in the Organization

Process-Level Innovation Promotion

This is carried out by research and development teams with a focus on developing product and production process innovations in order to meet customer needs and expectations which change with the environment, situation or new rules.





Process-Level Innovation Promotion

Innovation in the organization at the process level considers risk assessment from changes in external and internal factors and may have effects on changes to customer and social expectations, which may impact the Company's sustainable business operations. The Company had changes with significance for innovation in the organization in the following three areas:

1. Production technology changes.
2. Information technology changes.
3. Climate change.

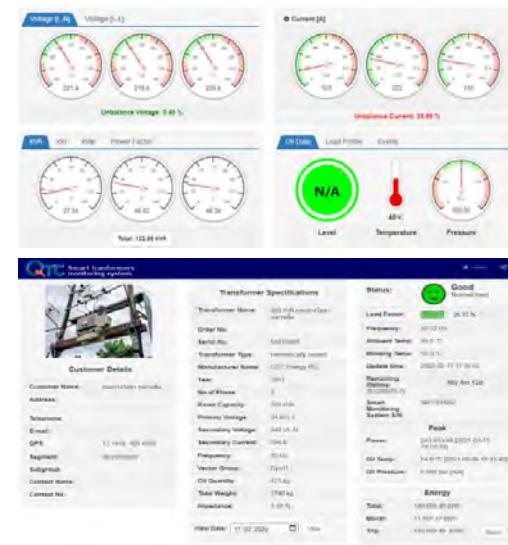
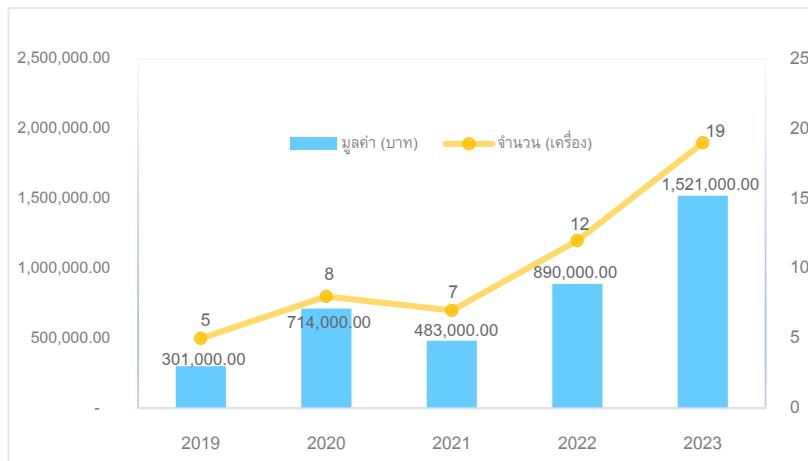
In 2023, the Company had seven major research and development projects, spending an operating budget of 4.8 million baht. The projects included two joint venture innovative projects with external organizations, and five innovative internal process projects. The projects presented in this report are a follow-up of projects from the previous year and examples of significant projects that can be published in 2023.

▶ Smart Transformer Monitoring Development Project

From the continuous development of the smart transformer monitoring system to ensure that products meet the right customer needs and promote innovative product sales, the sale of smart transformer monitoring systems grew from 2022 by 70.90%. This is a good sign that customers have started to see the benefits of Smart Transformer Monitoring, making the investment worthwhile. In 2023, the capabilities of the smart transformer monitoring system were being developed to elevate the functions to have higher efficiency and better meet customer needs. The products are expected to be released into the market by 2024 – 2025.

Smart Transformer Monitoring: 2019 – 2023

Smart Transformer Monitoring: 2019 - 2023

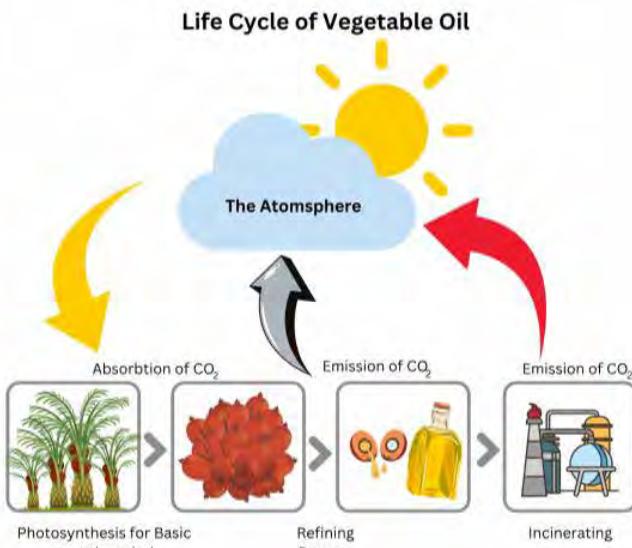


► Bio-Transformer Oil Development Project

Transformer oil is an important raw material imported from abroad. It encapsulates the coil and iron core in the tank, provides electrical insulation, and cools the interior, transferring heat into the tank's heat sink. Generally, transformer oil is mineral oil with an ignition point of about 170 °C, and cannot be installed in buildings or environmentally sensitive areas (solar-floating, offshore) because it has a low ignition point and is toxic and non-biodegradable.

If a transformer is to be installed in such areas, the oil type must be changed to one with a high ignition point (> 300 °C) which are usually plant-based, such as canola and soybean, and also have dielectric breakdown voltage properties and prices that are higher than mineral oil.

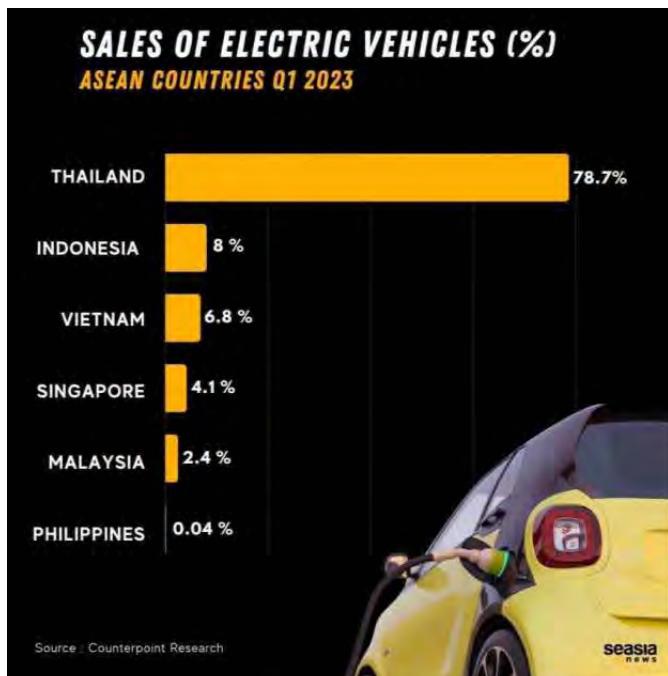
From the collaborative development between BBGI, SCGC and QTC until the product was tested in real use in 2022, currently the work team from all three companies have moved forward and published the product to raise awareness for the MEA and EGAT, as well as discussed collaborative approaches to develop and test palm oil in the future. For the sales promotion in 2023, QTC has already received orders from one customer for actual use, which is undergoing production.



► EV Fast Charger Project

The government's 30@30 policy to promote the use of electric vehicles (EVs) in Thailand has led to a widespread flow of EV purchases and uses. Between January and October 2023, there were 77,741 EV registrations with the Department of Land Transport, which is more than the previous 10 year's registrations combined. Sales in Thailand are the No. 1 highest in Southeast Asia at 78.7%.

As a result of this situation, QTC saw a business opportunity to become an EV Fast Charger manufacturer to replace expensive (1.5-2.0 MB) imports. Additionally, the Company can effectively control product quality from the selection of raw materials, design, assembly, testing and distribution process, allowing it to meet needs and provide after-sales service to customers efficiently. It is also a way to help the supply chain of the domestic electronic components manufacturing industry.



After the Company designed and produced 120-kW EV charger prototypes and sold them to PPWE and installed them for real use at charging stations in Nakhon Ratchasima, it continues to be committed to developing the product continuously. The next models have been designed with more functions and higher efficiency with the hope that they could be distributed and installed domestically and overseas. The chargers have passed the IEC61851 international standards. In 2023, they were being tested at the Electrical and Electronic Products Testing Center (PTEC). This is expected to be complete in 2024.

Moreover, QTC has collaborated in the project to develop and produce EV chargers with EGAT Diamond Service Co., Ltd. (EDS), which is a company in the EGAT Group. The objectives are to exchange information and collaborate in terms of technology, engineering, production process, marketing, distribution and servicing customers to elevate this commercially with the expectation of creating more products and services together.



► Project for Developing the Coating Process of Super Low Loss (Amorphous) Transformer Cores

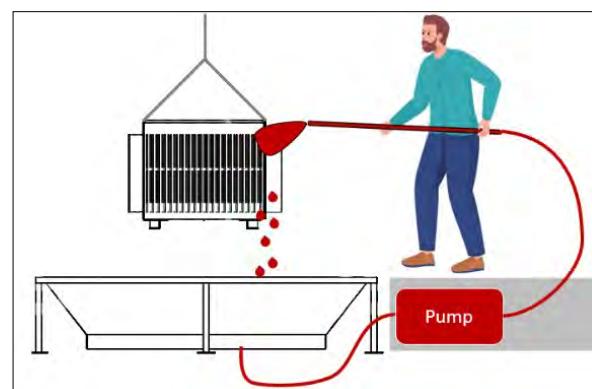
The research and development team has designed and improved the production process for Super Low Loss transformer cores. Previously, the process required at least 3 hours per cycle in the oven to coat with Epoxy, incurring an electricity cost of approximately 288 THB per unit. The new oven, using a special technique, reduces the coating cycle time to only 30 minutes and cuts the electricity cost to just 10 THB per unit. This achievement marks another step forward in making our processes more environmentally friendly and beneficial for the health of our workers. Details of the process cannot be disclosed due to trade secret considerations.



► Project to Improve the Body Shell Painting Process to Reduce Degraded Paint

The production process of the body shell includes a painting stage where paint is sprayed onto the shell positioned above a paint bath. Excess paint not adhering to the shell flows back into the bath for reuse. Each cycle uses approximately 10-20 liters of circulating paint. If the paint is not used up, it needs to be discarded, and the bath must be cleaned daily to prevent quality issues. This results in a significant amount of degraded paint and contaminated water that must be disposed of as hazardous waste. In 2022, this impacted the environment, incurred high disposal costs, and was an inefficient use of resources. To address these issues, a project was initiated in 2023 to improve the body shell painting process and reduce degraded paint waste. This project was a collaboration between the painting team, the system development department, and R&D, and included the following improvements:

- Reduced the size of the paint bath to match the size of the produced shells (reducing the amount of paint).
- Replaced the paint pump equipment with one that has a pressure suitable for the paint circulation rate (improving adhesion).
- Adjusted work cycles to enable continuous and increased daily painting (optimizing mixed paint usage).
- Raised environmental awareness among employees, encouraging them to use only the necessary amount of paint and minimize waste.



These improvements reduced the disposal rate of leftover paint by 4% compared to 2022, significantly decreasing the amount of degraded paint requiring disposal (refer to the results in the waste disposal performance table E1, Environmental section).



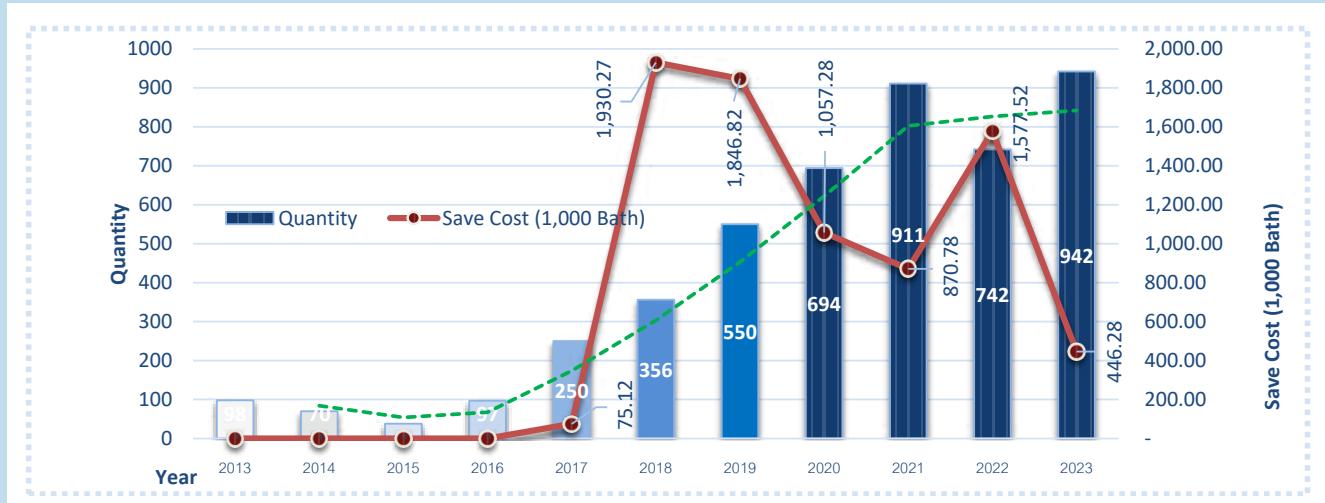
Individual-Level Innovation Promotion

QTC implemented KAIZEN and promoted involvement in operations from employees at every level since 2013 with continual modifications to the promotion process. Currently, the Company supports employees to complete KAIZEN in employees' work first because employees will have the most knowledge of employees' work. Education on KAIZEN and practicing thinking, analysis, experimentation skills with budget and time support for KAIZEN is important in pushing employees to dare to think and do many KAIZENs, which can reduce waste, work time, improve work quality and create satisfaction for internal and external customers. Therefore, employee KAIZEN can support and promote effective work process development and cost reduction.

In 2023, modifications were made to 942 KAIZEN works. KAIZEN in terms of quality, including 379 items in terms of safety 514 safety and 49 environmental issues. The Company provides rewards for results for a total of 109,150 baht and saved 446,2778 baht from modifications made to employees' work.

Value for QTC: Benefits for the Company from Supporting Employee KAIZEN

- Strength at the operational level and ability to continually adapt and improve.
- Added value for quality products and services while reducing work time.



Graph of Statistics Showing Amount of Savings from KAIZEN Modifications in 2013 – 2023

- Profit created by cost reductions from modifications to employee KAIZEN work.

Value for Employees: Benefits for Employees from KAIZEN Modifications

- Good work environments under safety standards.
- Employees are able to work effectively with less fatigue.
- Higher income from KAIZEN results.
- Increased knowledge and ability from KAIZEN modifications.

QTC Kaizen Award 2023



In 2023, the Company held the “**QTC KAIZEN AWARD 2023**” contest to provide a platform for employees to produce their or their work group's KAIZEN workpieces. Six KAIZEN workpieces made the final round. The awards were considered by the Company's panel of experts with clearly defined benchmarks.

The employees' six KAIZEN workpieces that made the final round, as well as the other 936 workpieces, can clearly add value to the employees and the organization.



QTC Kaizen Award 2023 Results

Award Type	Name	Name of Workpiece
Best Kaizen	Mr. Wuthichai Borikhut	Production: Jig For Assembling Studs, Bolts and HV Bushing
	Mr. Phongkawi Naophothong & Mr. Watchira Khamchaiyaphum	Production: Device for Cutting and Bending Paper-covered Wire
	Mr. Chetsada Prathip & Mr. Subanphot Maraphan	Production: Station for Placing Copper Bar Clamp
Outstanding	Mr. Withun Klinkeson	Production: Jig for Lifting Wood
	Mr. Thanwa Phumraya & Mr. Prachak Suwankham	Office Work Technology: Building 4 Robot Program for Welding Bases for 500-kVA Transformers

Responsibility for Products and Services

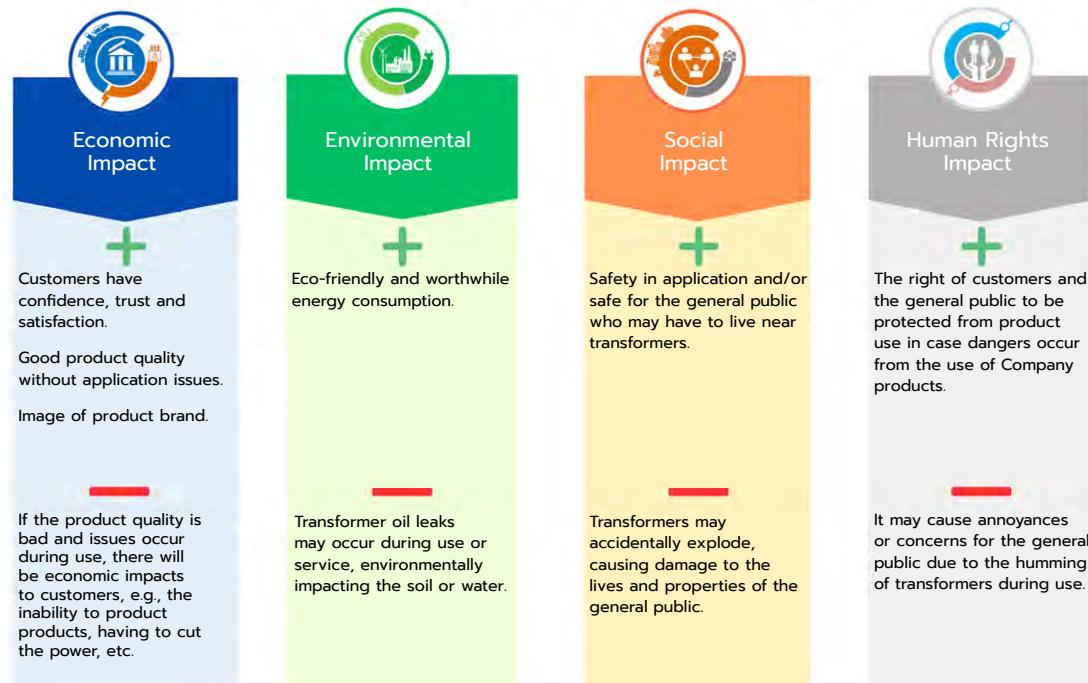


Transformers are a main piece of equipment in power transmission systems used for transferring electricity connected between high voltage and low voltage systems. Transformers can convert voltages or electricity currents, depending on designs and functions, to be consistent with objectives. Errors in design or substandard production may have effects on the safety of workers who are company employees and ordinary people and may cause economic impacts on customers and users. Furthermore, errors in design or substandard production may cause impacts on product brand image, resulting in loss of confidence in products among customers and negative advertisement by word-of-mouth.

Therefore, the Company needs to prioritize good and effective design standards, production standards and service standards in order to produce good results in the area of product quality, safety and display of labels related to main transformer properties for correct use. Furthermore, the Company recognizes the importance of maintaining confidential information belonging to customers and providing accurate and real technical information through advertisements, public relations and seminars in order to build confidence among customers, create good image for product brands and attachment to the Company's products and services.

Based on impact assessment, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities For Innovation Promotion



⇒ The quality of products and services is of utmost importance since transformers are specialized products that are used in conjunction with lethal levels of voltage. Therefore, the design must include maximum safety, according to or better than the standard, so every process and step must be taken with caution and responsibility before handing over to the customer. The management guidelines and work standards are clearly defined as follows:

Objective : To produce quality and safe products for users and create customer satisfaction.

Management : Manage various areas with international standards (International Organization for Standardization) and total quality management (TQM); design, manufacture and test under product standards and customer specifications, and ISO9001 and ISO/IEC 17025 systems; manage customer relations to create awareness of news and information and customer engagement along with surveying customer satisfaction and making continual improvements.



Target 1



- ⇒ Zero danger to transformer users due to substandard product quality.
 - ▶ In 2023, there were no reports of dangerous events involving users of QTC transformers.



Target 2



- Customer satisfaction > 90%.
 - ▶ In 2023, customer satisfaction averaged at 94%. The target was achieved.



Target 3



- Manage 100% of customer complaints.
 - ▶ In 2023, there were 13 customer complaints and 100% of them were successfully resolved within the specified time.



Target 4



- Provide transformer testing and maintenance services for more than 90% of transformers within the warranty period.
 - ▶ In 2023, 95% of this was carried out. The target was achieved.



Target 5



- Zero complaints of leaks of customers' personal data.
 - ▶ In 2023, there were no incidents or complaints about personal data leaks.

Q Work Standards

The Company implemented international standards in the organization by considering domestic and foreign customer needs from law enforcement and specifications along with considering the organization's consent to improve personnel ability, build confidence among customers and stakeholders in addition to increasing opportunities to compete. The standards applied include requests for accreditation from agencies trusted at the national and world levels and references for appropriate application without accreditation. The list of standards is as follows (not including accounting standards and product quality control standards):



Table of Work Standards for Which System Accreditation Was Requested

No.	Accredited Standards	Evaluation Frequency	Accrediting Agency	Accreditation No.
1	ISO14001:2015	Once per Year	SGS-NAC	TH08/1236
			SGS-UKAS	TH08/1235
2	ISO45001:2018	Once per Year	SGS	TH08/1237
3	ISO9001:2015	Once per Year	SGS-NAC	TH00/2729
			SGS-UKAS	TH00/2728
4	ISO/IEC17025	Once per Year	TIS	18035/0659
5	Green Industry Level 4	4 Years/Time	Ministry of Industry	GI(E) 4-046/2565

Table of Standards Used for Reference

No.	Reference Standards	Remarks
1	ISO26000	Used as reference for practice guidelines in the area of corporate social responsibility
2	ISO14064	Used as reference for guidelines in preparing reports on greenhouse gases and requesting annual accreditations.
3	ISO50001:2011	Used as reference for guidelines in energy management.
4	COSO-ERM	Used as reference for corporate risk management guidelines.
5	5S	Used as reference for work basics.



Product Standards

QTC transformers are designed, manufactured and tested under IEC standards, TIS 384-2543 standards and customer standards or standards of trading partners' countries such as ANSI, IEEE and JIS, etc. Furthermore, the Company sends transformers to be tested in the Short Circuit Performance Test in order to gain accreditation for QTC transformer quality from abroad such as to KAMA in the Netherlands and GFH Engineering & Test GmbH in Germany. In addition, the Company uses Green Label requirements for transformer products (TGL-117-16) as a manufacturing standard and requested permission to use the Green Label for transformer products from the Thailand Environment Institute, License No. GL2019/042.

Table of Standards Used as References in Designing QTC Transformer Products

IEC	ANSI/IEEE	UL	NEMA	DIN	JIS	AS	อื่น ๆ
IEC 60071-1	IEEE C57.12.90	UL 1561	NEMA Standards Publication No.TR 1-1993 (R2000)	DIN 42530	JIS C 3104	AS 2374	มอก.384-2543/TIS84-2000
IEC 60076-2	IEEE Std. C57.104-1991			DIN 42531	JIS C 3202		BS EN 50464
IEC 60076-3	ASTM D117-02			DIN 42532			EN 50588
IEC 60076-4	IEEE Std. C57.12.00			DIN 42533			มาตรฐานการติดตั้งทางไฟฟ้าสำหรับประเทศไทย พ.ศ. 2556
IEC 60076-5	IEEE C57.110			DIN 7168			
IEC 60076-6				DIN 125			
IEC 60076-7				DIN 127			
IEC 60076-8				DIN 933			
IEC 60076-10				DIN 934			
IEC 60076-11							
IEC 60076-12							
IEC 60076-14							
IEC 60296							
IEC 156							
IEC 61378-1							
IEC 61378-2							

QTC recognizes the importance of design, manufacturing and testing standards by referring to international standards in order to ensure that QTC transformer products have quality and safety for people in society when used along with helping to reduce environmental impacts as much as possible.

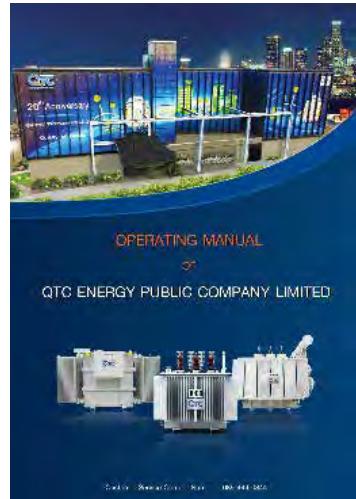
Table of Showing Standards of Licensed Products

Product Model	Licensed Product Standards	License No.
Oil-type transformer 3Ph < 250kVA 50Hz Voltage > 12kV < 24kV		1248-335/384
Oil-type transformer 3Ph > 250kVA < 1000kVA 50Hz Voltage > 12kV < 24kV		"
Oil-type transformer 3Ph > 1000kVA < 2000kVA 50Hz Voltage > 12kV < 24kV		"
Oil-type transformer 3Ph < 250kVA 50Hz Voltage > 24kV < 36kV		1249-336/384
Oil-type transformer 3Ph < 250kVA 50Hz Voltage < 12kV		1250-337/384
Oil-type transformer 3Ph > 250kVA < 1000kVA 50Hz Voltage < 12kV	TIS 384-2543/TIS84-2000	"
Oil-type transformer 3Ph < 250kVA 50Hz Voltage 12/24kV		"
Oil-type transformer 3Ph > 250kVA < 1000kVA 50Hz Voltage 12/14kV		"
Oil-type transformer 1Ph < 50kVA 50Hz Voltage > 12kV < 24kV		1251-337/384
Oil-type transformer 1Ph < 50kVA 50Hz Voltage 33kV		"
Oil-type transformer 1Ph < 50kVA 50Hz Voltage < 12kV		1447-373/384
Oil-type transformer 1Ph > 50kVA < 167kVA 50Hz Voltage < 12kV		"
Oil-type transformer 1Ph > 50kVA < 167kVA 50Hz Voltage > 12kV < 24kV		"
Oil-type transformer 1Ph < 50kVA 50Hz Voltage 12/24kV		"
Oil-type transformer 1Ph > 50kVA < 167kVA 50Hz Voltage 12/24kV		"
Oil-type transformer 3Ph > 1000kVA < 2500kVA 50Hz Voltage < 12kV		1460-373/384
Oil-type transformer 3Ph > 1000kVA < 2500kVA 50Hz Voltage > 12kV < 24kV		"
Oil-type transformer 3Ph > 250kVA < 1000kVA 50Hz Voltage > 24kV < 36kV		"
Oil-type transformer 3Ph > 1000kVA < 2500kVA 50Hz Voltage > 24kV < 36kV		"
Oil-type transformer 3Ph > 2500kVA < 7500kVA 50Hz Voltage < 12kV		2199-403/384
Oil-type transformer 3Ph > 2500kVA < 7500kVA 50Hz Voltage > 24kV < 36kV		"
Oil-type transformer 3Ph > 2500kVA < 7500kVA 50Hz Voltage > 12kV < 24kV		2212-405/384
Distribution transformer, 30kVA 1Ph 19,000-480/240V, Model 23001912		PEA-TRAN-18/2565
Distribution transformer, 50kVA 3Ph 22,000-416/240V, Model 25002257	PEA-PC-001	PEA-TRAN-19/2565
Distribution transformer, 100kVA 3Ph 22,000-416/240V, Model 31002273	PEA-TRAN-001	PEA-TRAN-20/2565
Distribution transformer, 250kVA 3Ph 33,000-416/240V, Model 32503330	PEA-FI-001	PEA-TRAN-21/2565
Distribution transformer, 30kVA 1Ph 22,000-480/240V, Model 23002221	RTRN-035/2561	PEA-TRAN-22/2565
Distribution transformer, 160kVA 3Ph 22,000-416/240V, Model 31602242		PEA-TRAN-23/2565
Distribution transformer, 50kVA 3Ph 33,000-416/240V, Model 25003322		PEA-TRAN-24/2565
Distribution transformer, 100kVA 3Ph 33,000-416/240V, Model 31003328		PEA-TRAN-25/2565
Distribution transformer, 160kVA 3Ph 33,000-416/240V, Model 31603322		PEA-TRAN-26/2565



Catalogs of Products and Services and Technical Information about Products

Can be downloaded at <https://qtc-energy.com/download/>



Display of Product Labels and Brands

QTC transformer products are required to display to following basic product labels, TIS standards and brands:

Brand Symbols and Certified

Product Standards

QR Code Showing Certified Product Numbers



Examples of Product Label and Brand Installation

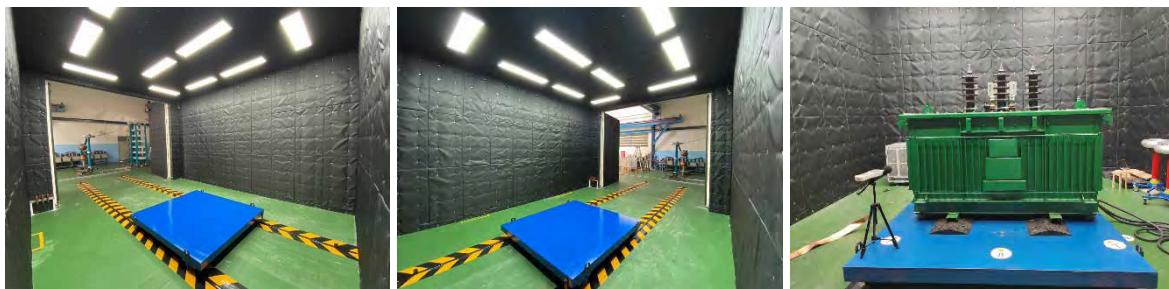
Sample of Nameplates Showing Significant Electricity Information

Q Electricity Testing Standards

QTC has a policy to certify product quality by testing electrical properties at 100% along with issuing QR codes for transformer test results according to serial numbers. QTC's testing laboratories are accredited for testing laboratory capacity according to TIS 17025-2548 (ISO/IEC17025), Accreditation No. Test 1657. In addition, the Company allows product owners to view product test results for Factory Acceptance Tests (FAT) in order to perform acceptance inspections and create confidence that customers will receive transformers with the highest quality according to expectations. The Company created the FAT VDO conference system through the MS Team. This new innovation was created as a result of the COVID-19 pandemic since 2020. Currently, the Company continues to provide Factory Acceptance Test (FAT) services via VDO conferences to customers who own products to reduce travelling.



From the development of a new testing laboratory in 2022 – 2023 for sound level and partial discharge testing, at present the room has been used for real testing and procedures have been improved according to the IEC/ISO17025 standard. The Company has applied to expand the scope of certification for the IEC/ISO17025 testing laboratory. Currently, the Company is waiting for an appointment queue from the TISI for an assessment in mid-2024. This is to elevate the capabilities of the laboratory to meet global standards and build more confidence in test results for customers.



Q Customer Care

The Company recognizes the importance of customer needs and the Company is committed to meeting customer needs in order to solve problems from the Company's products and services via customer complaint acceptance channels and customer satisfaction survey channels in order to make modifications and improvements to issues in customers' interests and concerns along with giving importance to communication and advertisement with accurate technical information through major marketing channels such as the Company's official Line Application account, Facebook and Catalog, etc. In addition, the Company hosts seminars to provide knowledge about products by giving consideration to customer privacy and confidentiality.

Performance in 2023

In 2023, QTC adjusted its marketing format from opening exhibition booths at events, which short-period marketing. We want to change to active marketing in the form of academic seminars which is specific marketing. From the perspective of limited resources and wanting to maximize them, holding seminars will create better direct recognition among the right groups or users. We hope to create knowledge and brand awareness without focusing on hard selling. Moreover, we have organized Campus Tours activities to provide knowledge about transformers to electrical engineering students at universities, which is long-term marketing. We plan to make this a long-term project to lay a foundation of recognition at the classroom level, so that future graduates will know how to select good quality products when they enter the workforce and think of the QTC brand. Marketing activities in 2023 are as follows:

QTC Public Seminar – Online

Online seminars were held with the objective to support customers who cannot conveniently attend onsite seminars and to create good relationships with customers to make them feel like the QTC team is nearby and that they can easily access support 24 hours a day. This is also a channel for accessing new customers and increasing recognition for the QTC brand. In 2023, a total of six online seminars were held.



QTC Public Seminar – Onsite

Onsite seminars were held with the objective to disseminate useful information about electrical and energy technology directly to target customers such as operators who are business owners, electrical engineering design and consultants, electrical system contractors, solar EPCs, EV charger installers and general interested parties, and to exchange knowledge and experiences, listen to suggestions from attendees and present QTC's products and services that can meet customer needs. In 2023, an operating budget of 1,000,000 baht was spent with support from vendors in terms of solar products. A total of five seminars were held as follows:

1. QTC Sustainable Energy Solution 2023 on Tue, 14 Feb 2023, 8.00 AM - 4:30 PM, @ Thantara Resort, Chiang Mai.



2. QTC Smart Energy Solution 2023, Wed, 26 Apr 2023, 8.00 AM - 4:30 PM, @ TR Rock Hill, Hat Yai.



3. Thailand's Future Energy 2023 Tue, 25 Jul 2023 08.00AM-17.00PM @ Pull Man Bangkok King Power, BKK



4. QTC Smart Energy Solution 2023, Tue, 29 Aug 2023, 8.00 AM - 4:30 PM, @ Ramada, Phuket.



5. QTC Smart Energy Solution 2023 Tue, 31 Oct 2023 08.00AM-16.30PM @ Centara, Udon Thani.



QTC Campus Tour “Teaching the Younger Generation”

The objective is to provide knowledge about transformers beyond what is in textbooks, especially materials on transformers, to demonstrate the potential as a full-range manufacturer and service provider in the energy sector including products in the transformer business, solar business and EV charger groups to engineering students of the Faculty of Electrical Engineering as well as to create brand awareness among future graduates who will grow in the electrical engineering field. The target groups included third- and fourth-year students in the Faculty of Electrical Engineering. In 2023, an operating budget of 30,000 baht was spent. (Expenses included snacks. The majority of the expenses, such as for traveling and lodgings, are already listed in the public onsite item.) The Company received cooperation from seven universities and colleges as follows:

No.	Activity Date	Location	Images of Activities	
1	13 Feb 2023, 11:00 a.m. - 1:00 p.m.	Chiang Mai University, Chiang Mai		
2	15 Feb 2023, 1:00 p.m. - 4:00 p.m.	Rajamangala University of Technology Lanna, Chiang Mai		
3	27 Apr 2023, 9:00 a.m. - 12:00 p.m.	Prince of Songkhla University, Songkhla		
4	23 Apr 2023, 9:00 a.m. - 12:00 p.m.	Si Wichai Rajamangala University of Technology, Songkhla		
5	30 Aug 2023, 9:00 a.m. - 12:00 p.m.	Phuket Technical College, Thalang, Polytechnic, Phuket		
6	1 Nov 2023, 9:00 a.m. - 12:00 p.m.	Khon Kaen University Khon Kaen		
7	2 Nov 2023, 9:00 a.m. - 12:00 p.m.	Rajamangala University of Technology Isan, Khon Kaen Campus, Khon Kaen		

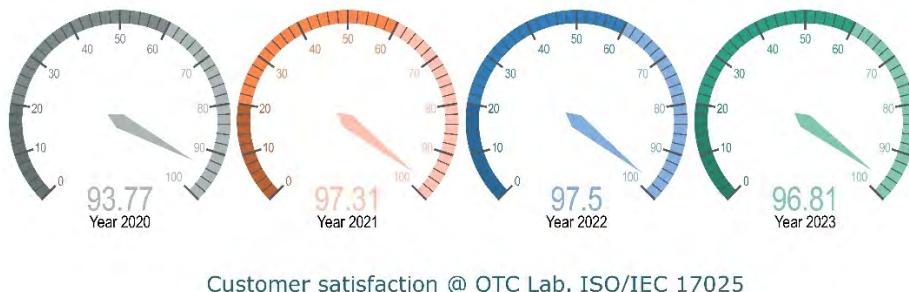
Customer Assessment for 2023

► **The Company surveys customer satisfaction annually.** The Company must receive no less than 70% of survey forms back and, of the replies, satisfaction must reach the target goal of no less than 90%. The Company's performance in 2023 achieved **the goal at 94%**.



- Overall customer satisfaction survey results achieved goals, except for foreign customer satisfaction. There are issues requiring improvement in the quality testing process and speed in responding to customer needs to improve foreign customer satisfaction in the future.

► **Customer satisfaction toward ISO/IEC17025 laboratory testing services. Goal > 90%.**



- From performance in 2023, a total of 129 customers viewed the FAT transformer testing process both online and onsite. Results from satisfaction assessment were at 96.81%. The Company achieved the goal.

► **Ability to Manage Customer Complaints in the Area of Goods and Services – Performance Goal: 100%**



- Concerning performance in 2023, the Company had 13 complaints from customers, an equal number to 2022. 100% of the complaints were resolved according to target, and the Company received no complaints concerning leaks of customer personal information.

► **Ability to Provide Inspection Services: The Company maintained transformers within the warranty period and achieved more than 90% of the goal.**



- Performance in 2023 showed 848 transformers within the warranty period. The Company was able to work according to customer confirmations for 806 transformers and failed to work according to plans with 42 transformers. In other words, 95% of the cases were able to be completed according to goal. Cases of transformer service carried over from 2022 were included in the items for 2023.

Goal:
0
In All Cases

Verified Non-compliance with Product Information and Labeling Requirements 

Verified Non-compliance with Marketing Communications 

Verified Breach of Customer Privacy and Leak of Customer Data 

Verified Unsafe Incidents from the Use of Transformer Products and Services 



Supplier Management

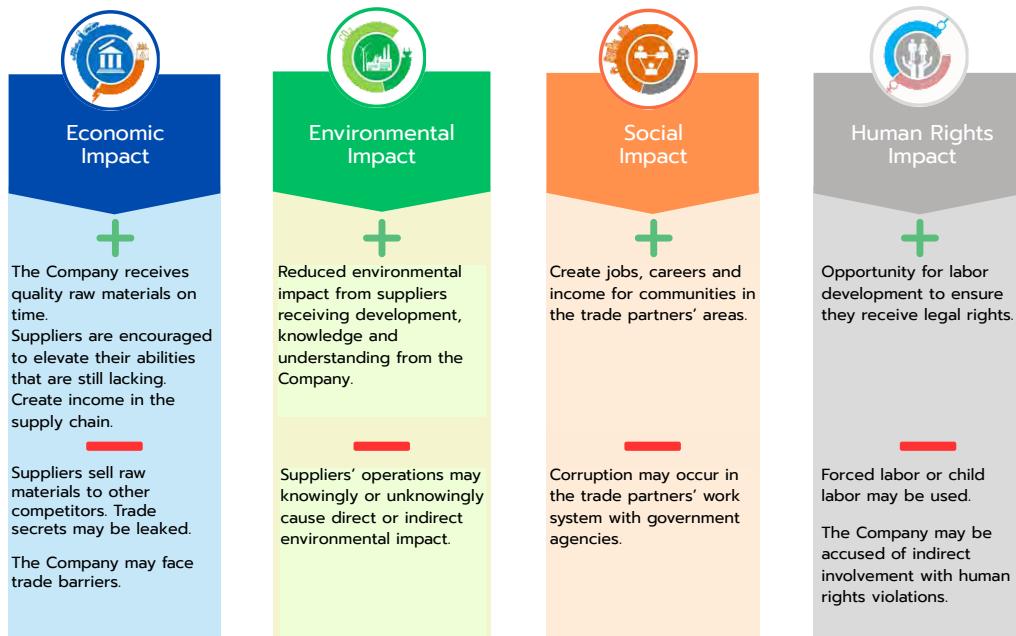


Currently, many diverse needs of customers or new legal rules and regulations or environmental changes have affected competition among manufacturers in order to be able to adapt to and meet the needs of customers and stakeholders effectively. Customers who place importance on sustainable development place importance on stakeholders throughout the value chain with direct impacts on the Company in meeting the needs of every customer group. Therefore, the Company needs to recognize the importance of systematic supply chain management with good production and delivery standard and environmental, social and governance responsibility in order to enable the Company to register vendors with major customers and enable QTC's suppliers to be able to control production with quality, punctual development with good internal management.

The Company gives importance to Tier 1 suppliers as a priority since suppliers pose a risk to the Company's operations in terms of production which requires quality raw materials, delivery which requires service providers to have high responsibility reflective of the organization's good image, and construction which requires skilled contractors with responsibility toward their own work that may impact communities and the environment in the Company's area. In addition, the Company is concerned about the internal actions of partner organizations regarding labor, human rights, corruption, and environmental care and prioritization. If suppliers neglect to comply with the Supplier Code of Conduct, it may have negative social and environmental impacts, and the Company may be viewed as having participated in such actions, creating significant risks of the Company receiving order cancellations from customers and facing trade barriers.

Based on impact assessment, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities For Supplier Management



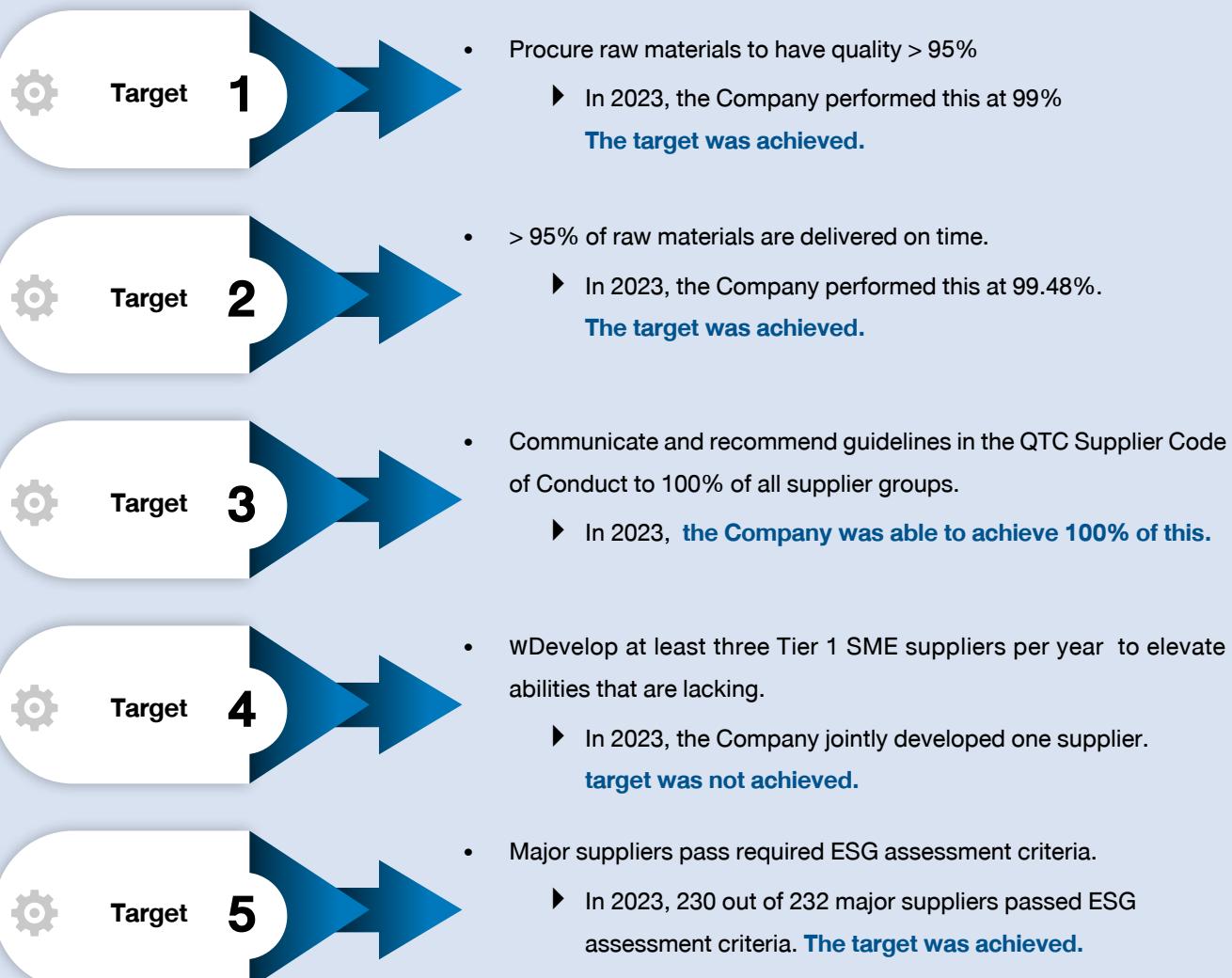
Based on the above impacts, the Company has clearly defined management guidelines and working standards as follows:

Objective :

1. To reduce the risk of production interruptions from shortages of key raw materials.
2. To build economic strength for SME suppliers in Thailand.
3. To deliver quality goods on time and create satisfaction in customers.
4. To promote good social and environmental practices.

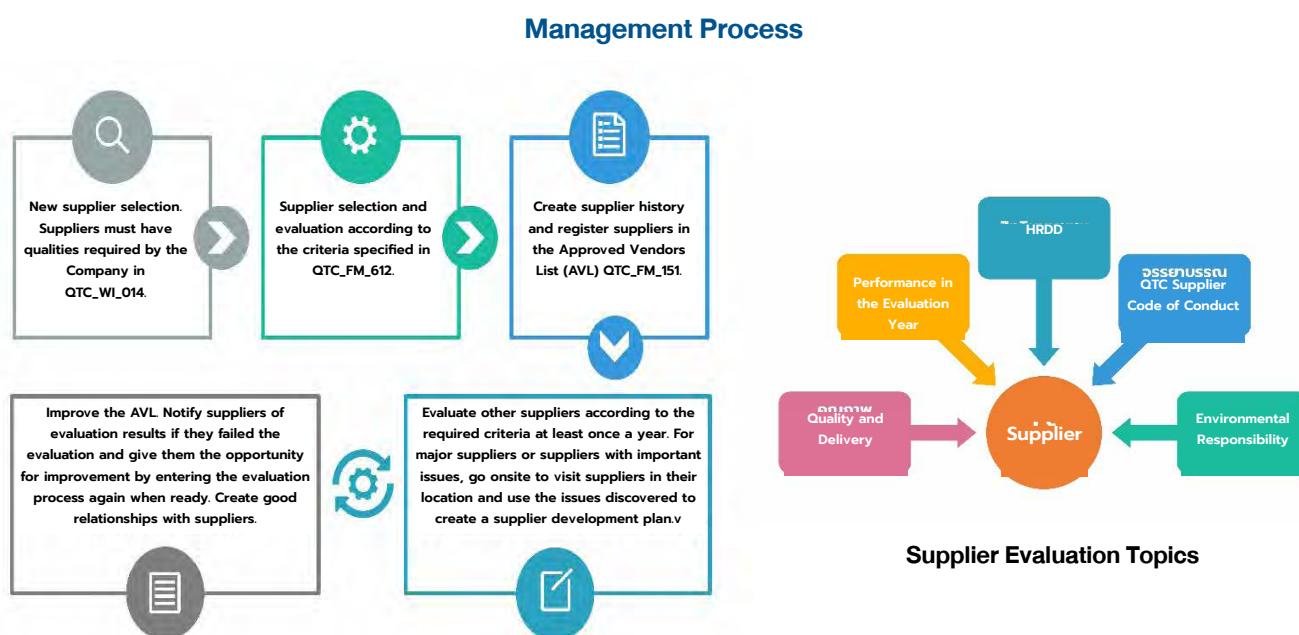
Management :

The Company prepares the procurement policy, the QTC Supplier Code of Conduct to cover ethical issues in business, human rights, labor rights, safety, resistance against corruption, communication and assessment of supplier capabilities according to business ethics, supplier registration and prepares plans for improving Tier 1 SME suppliers along with managing with ISO9001 standards and conducting human rights due diligence (HRDD).



Supplier Management guidelines

To ensure that operations have clear, transparent and traceable procedures, the Company has established the Procurement Policy and the QTC Supplier Code of Conduct to be used as guidelines so that suppliers operate correctly. Furthermore, the Company has established protocol related to supplier assessment and selection to be used as a guideline in the selection and assessment of the Company's major suppliers to be transparent and provide the opportunity for fair competition. Topics used to assess suppliers include the ability to manage the organization according to international standards such as ISO9001, ISO14001 and ISO45001, which can partially verify product quality. Furthermore, consideration must be given to the performance and service provision in the past year to determine whether how much they meet the Company's needs. In addition, suppliers' practices must be evaluated according to the QTC Supplier Code of Conduct. This includes legal practices, anti-corruption practices, labor treatment, environmental responsibility, etc., and HRDD must be performed for all Tier 1 suppliers.



QTC has classified its partners into 3 types and 7 groups based on the nature of their products and services to enable systematic management as follows:

Table Showing the Classification and Grouping of QTC's Partners

Type	Group	Product or Service Group
Critical Tier 1	1	Partners or suppliers that provide raw materials, services, tools, or machinery that affect quality.
	2	Partners or suppliers that provide transportation services for goods or raw materials.
	3	Partners or suppliers that provide waste disposal services.
	4	Partners or suppliers that provide environmental and safety measurement services.
	5	Partners that are construction contractors.
Tier 1	6	Partners or suppliers that provide general goods, materials, equipment, office supplies, printing, or other services.
Non-Tier 1	7	Partners that do not directly deliver goods to QTC but manufacture or supply to Critical Tier 1 or Tier 1 partners of QTC.

All suppliers will receive communication about the practices related to the QTC Supplier Code of Conduct and are required to sign to acknowledge and verify their practices in writing. From the performance in 2023, this was able to be achieved 100%.

QTC Supplier Code of Conduct

- ▶ <https://investor.qtc-energy.com/storage/download/corporate-governance/20180613-qtc-coc-for-suppliers-th-02.pdf>

Performance in 2023

► **Supplier Evaluation** (Critical Tier 1) According to QTC's Supplier Selection/Evaluation Criteria and Code of Conduct for Partners (ESG Criteria) The evaluation encompasses quality practices, delivery performance, social and human rights aspects, and environmental considerations. The results are as follows:

Type	Group	Total Number (AVL Registry)		Number Evaluated		Number Passed	
		Existing Partners	New Partners	Existing Partners	New Partners	Existing Partners	New Partners
Critical Tier 1	1. Partners delivering raw materials, services, tools, or machinery affecting quality.	184	9	168	4	168	4
	2. Partners providing transportation services	31	1	37	5	35	5
	3. Partners providing waste disposal services	2	1	2	1	2	1
	4. Partners providing environmental and safety measurement services	2	1	2	0	2	0
	5. Partners that are construction contractors	19	4	12	1	12	1
Tier 1	6. Partners providing general materials, equipment, or other services	5	3	0	0	0	0
Non-Tier 1	7. Partners not directly delivering to QTC	0	0	0	0	0	0
Total		243	19	221	11	219	11
		262		232		230	

► Supplier Development

From going onsite to inspect one of the Critical Tier 1 suppliers who is a producer of raw materials delivered directly to the Company and evaluate according to ESG criteria set by QTC. and comprehensive human rights due diligence (HRDD). it was found that there was a high health and safety risk for employees since the production factory contains equipment and machinery and work practices that may be hazardous to operators or impact employee health in the long term. The employees did not wear personal protective equipment during operation, the equipment and machinery had improper protection, and the factory did not have any trained and licensed safety officers. Moreover, there were issues regarding product stocking that did not use a FIFO system.

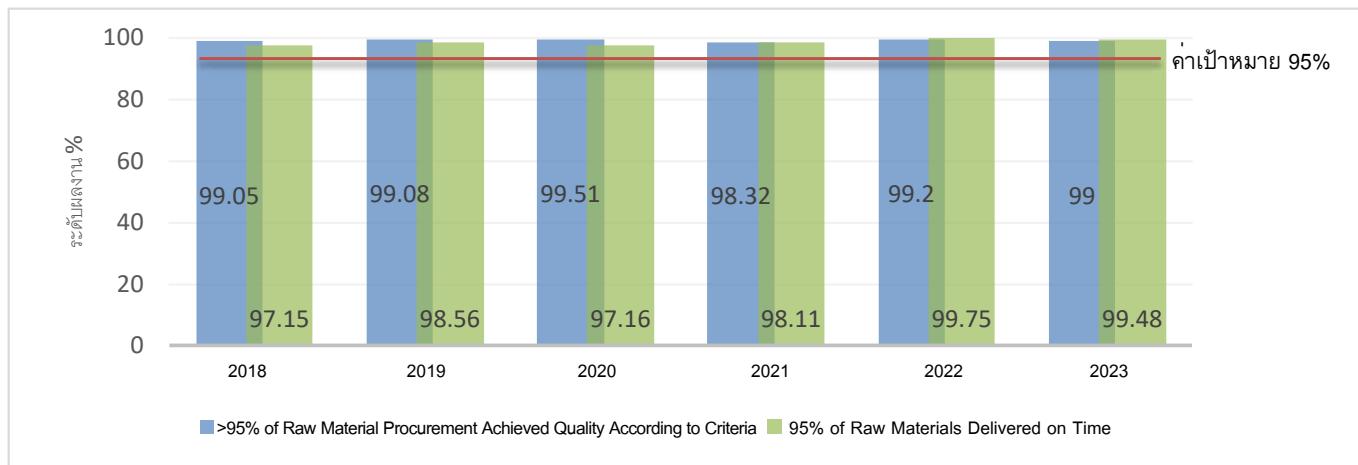
From the issues found, QTC has suspended purchases and requested that the supplier make improvements within seven days due to the issue of employee safety being important and a basic right that employees must receive from the operator. Furthermore, this may negatively affect QTC. The QTC team offered to serve as a mentor and recommended that improvement measures be carried out systematically as follows:

1. Provide knowledge, assess risks of dangers from operations and order for the risks to be resolved.
2. Send executives or employees to attend training courses. Provide safety officers at levels appropriate to the number of employees as required by law.
3. Advise on stock management using FIFO.
4. Advise on the use of the 5S for improvements as it is a system that is the easiest and fastest to implement.

Based on a reevaluaiton, it was found that the supplier had continuously improved operations and had a clear improvement plan. Therefore, QTC gave said supplier the chance to remain a QTC supplier. However, they are required to be inspected more frequently at twice a year. If any issues have been neglected and there is non-compliance with the QTC Supplier Code of Conduct again, the supplier will be removed from the Approved Vendor List (AVL).

The Company is unable to reveal the name of said supplier or images of the onsite inspection or images to accompany the recommendations since it did not receive consent to disclose this information from the supplier.

► Performance According to Main Goals of the Procurement Process



■ Domestic Procurement Value of Products and Services

Operating Year	Total Procurement Value (Baht)	Local Purchase Value (Rayong)		Purchase Value Outside the Area	
		Value (Baht)	Proportion (%)	Value (Baht)	Proportion (%)
2020	433,586,552.81	26,048,185.38	6.01%	407,538,367.43	93.99%
2021	618,317,867.95	41,634,264.11	6.73%	576,683,603.84	93.27%
2022	634,930,272.90	38,365,767.33	6.04%	596,564,505.57	93.96%
2023	528,050,729.46	39,907,332.45	7.56%	488,143,397.01	92.44%





Environmental Responsibility

Environmentally-friendly Production Processes

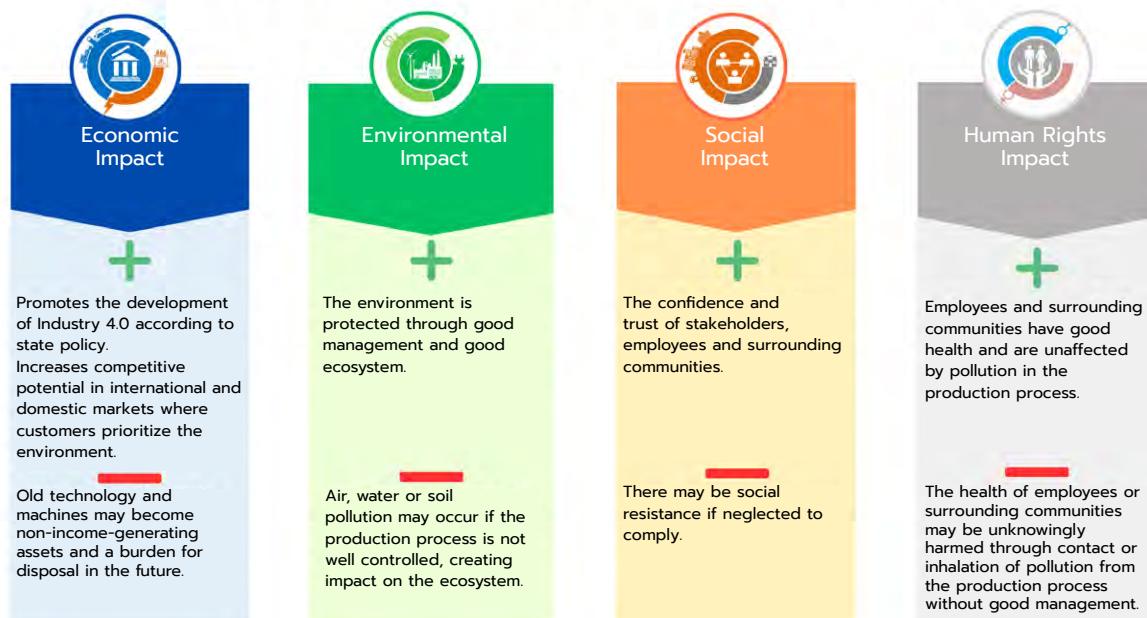


The burning of fuels and use of chemicals in production processes of industrial factories are major causes of air and water pollution that affects the health of operators and people in communities/society as well as environments in ecosystems and global warming. If an industrial factory does not consider the aforementioned impacts and does not recognize the importance of controlling processes to meet legal standards, there may be resistance from people in the community preventing smooth business operations or causing suspension of business licenses or causing business to be closed under laws enforced by government agencies.

QTC is aware of potential impacts on operators in the Company, the surrounding community members and environment, which may lead to negative impacts on human rights and the lifestyle of communities surrounding the Company and may impact the organization's business in the future. Therefore, the Board of Directors and executives recognize the importance of management in production processes, selection of energy-conserving machines and tools for production without creating environmental impacts. The Company has systems to effectively prevent or hold pollution. In addition, the Company checks and monitors pollution according to legal requirements in the Company and subsidiaries.

Based on impact assessment of the production process, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities For Environmentally-friendly Production Processes



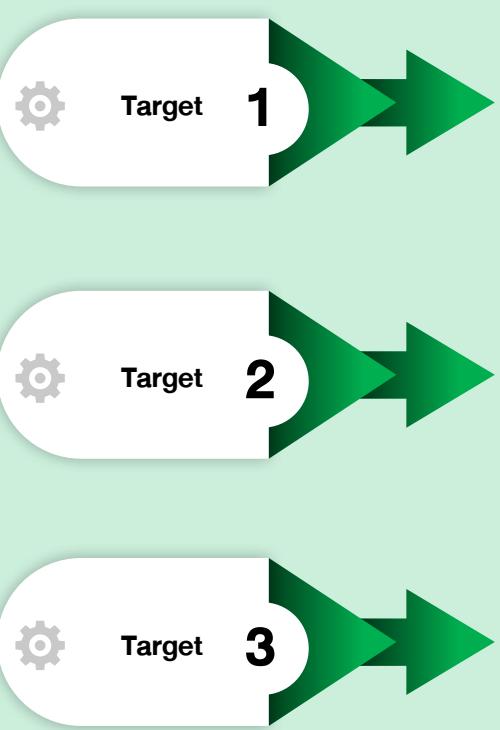
Objective :

1. To ensure control of pollution from production processes in compliance with legal requirements.
2. To develop work processes and production processes in order to reduce environmental impacts, directly and indirectly.

Management :

Environmental management with ISO14001 standards, environment policies, related laws, measurement of standard values specified by law and green procurement with consideration given to product quality and environmental impacts from products.

As a result of such effects, the Board of Directors and executives give importance to improving every step of the production process to ensure safety for operating employees, visitors and surrounding communities, as well as the ecosystem. Most importantly, operations must comply with or be better than environmental laws because the Company recognizes that such impacts pose significant risks to its reputation and sustainability. Hence, the Company has established the objectives, management standard and operational goals as follows:



- Air quality measurements of TSP, Xylene, and NOx at ventilation stacks within the legal criteria.
 - ▶ In 2023, the measurement of TSP, Xylene and NOx revealed levels lower than the legal requirements. **The target was achieved**
- Value of Green Label materials and equipment used increases by at least 5% per year.
 - ▶ In 2023, green procurement value was 941,962.24 baht, an increase of 26.30% from 2022. **The target was achieved**
- Complaints from the community in case of pollution impacts from activities of the Rayong factory.
 - ▶ In 2023, the Company had no complaints from the community (certified by Map Yang Phon TAO). **The target was achieved**

Environmental Management Systems

The Company implemented ISO14001: 2015 environment management standards and asked to be certified by an outside auditor once per year. QTC Energy asked to be certified for systems by SGS (Thailand) Limited. Q Solar 1 asked to be certified for systems by Intertek Certification Limited.



Environmental Policy: <https://qtc-energy.com/th/energy-policy/>



ISO14001: 2105 (UKAS & NAC) Standard Certification Document: QTC Energy



ISO14001: 2105 (UKAS) Standard Certification Document: Q Solar 1



Pollution Control

Wastewater Quality

QTC's manufacturing factory is located in a place without public water resources, whether natural or via plumbing. Hence, water usage is only possible through extraction of ground water. Nevertheless, no water is used in the manufacturing process of electrical transformers. Water is used only for the cooling circulation of the vacuum oven system and reducing temperature of weld works. In these usages, water is stored for repeated usage throughout the entire year and then transported for proper disposal. As for the rinsing of contaminated equipment of the company, the company provides water containers for storing contaminated water and transports them for disposal outside according to schedule. Hence, discarded water is water resulting from washing in bathrooms and kitchens and car washing only. Used water is collected in wells dug inside the Company to water trees. The Company measured factory wastewater quality regularly for at least twice a year by using Eastern Thai Consulting 1992 Co., Ltd., Accreditation No. Wor.-003, a private laboratory with ISO/IEC17025, ISO9001:2015, ISO14001:2015 and ISO45001:2018 standard accreditation.

Table Showing QTC Energy's Factory Wastewater Quality Test Results at the Final Point (2021-2023)

Tested Parameters	Test Results						Standard	Unit
	1/64 10/05/21	2/64 24/11/21	1/65 06/06/22	2/65 03/10/22	1/66 25/05/23	2/66 15/11/23		
BOD ₅	9	3	7	5	2.5	8.8	20	mg/l
Oil and Grease	4.9	Not Detected	4.0	Not Detected	<3.0	<3.0	5	mg/l
PH	7.48	6.67	7.23	7.16	6.6	7.6	5.5-9.0	-
Sulfides	<0.5	Not Detected	<0.5	<0.5	<0.5	<0.5	1	mg/l as H ₂ S
Suspended Solids	21	17	45	19	33	30	50	mg/l
Temperature	33	28	32	30	31	31	40	°C
Total Dissolved Solids	<65	Not Detected	Not Detected	Not Detected	207	57	3000	mg/l
Total Kjeldahl Nitrogen	1.6	Not Detected	Not Detected	1.3	<5	<5	100	mg/l as H ₂ S

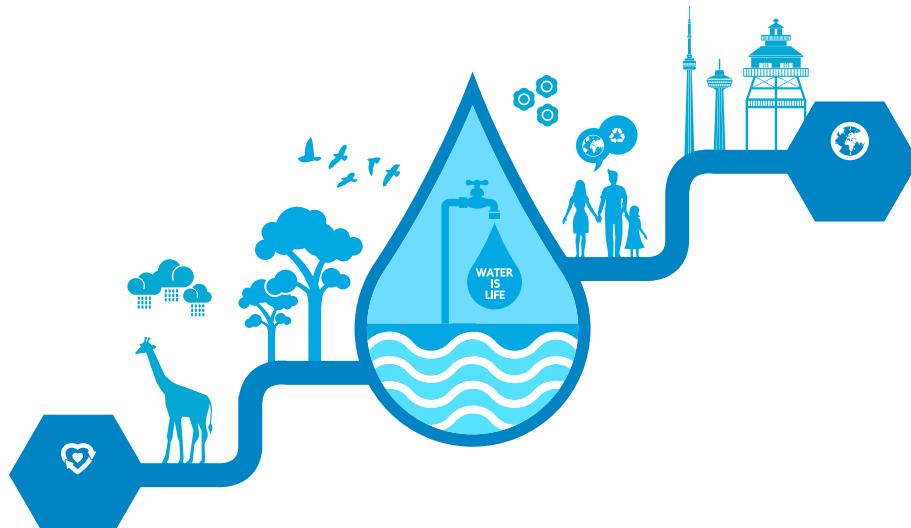
ตารางแสดงผลการตรวจคุณภาพน้ำทิ้งของ QTC Energy สำนักงานกรุงเทพฯ ณ จุดสุดท้าย (ปี 2564-2566)

Tested Parameters	Test Results						Standard	Unit
	1/64 27/8/21	2/64 1/12/21	1/65 30/05/22	2/65 06/10/22	1/66 25/05/23	2/66 16/11/23		
BOD ₅	4	7	4	3	8.5	10.1	40	mg/l
Oil and Grease	Not Detected	Not Detected	Not Detected	Not Detected	<3.0	<3.0	20	mg/l
PH	7.07	6.81		6.93	7.1	7.0	5.0-9.0	-
Sulfides	<8	0.7	Not Detected	0.6	<0.5	0.59	3	mg/l as H ₂ S
Suspended Solids	<0.5	16	10	Not Detected	6	9	50	mg/l
Temperature	28	28	30	29	31	30	N/R	°C
Total Dissolved Solids	159	356	350	486	526*	374	500	mg/l
Total Kjeldahl Nitrogen	2.4	14.4	5.9	2	26	30	40	mg/l as H ₂ S

Q Solar 1 generates solar energy to sell to the Provincial Electricity Authority. Water is used to clean 86,688 solar panels for 20 times per year, for agriculture at a center for studying the Sufficiency Economy Philosophy and for cleaning in daily life. The Company's water is from ground water and reservoirs for holding water to use during dry seasons. When rainwater or overflow is drained from reservoirs, the water is released into public canals. Therefore, Q Solar 1 gives importance to consistent wastewater quality control, installs aerator systems to increase oxygen for water in reservoirs and tests water quality once per year. The Company uses services of Smile Laboratory Company Limited, Private Analytical Laboratory Registration No. Wor. 286.

Table Showing Wastewater Quality Test Results of Q Solar 1 (2021-2023)

Tested Areas	Tested Parameters	Test Results			Standard	Unit
		1/64 21/7/21	1/65 21/7/22	1/66 20/7/23		
Wastewater from Water System	BOD ₅	<2	7	<2	20	mg/l
	Oil and Grease	<5	ND.	<5	5	mg/l
	PH	7.1	7.3	7.1	5.5-9.0	-
	COD	<40	<40	<40	120	mg/l
	Suspended Solids	<2.50	13	8	50	mg/l
Wastewater from the Lodgings' Cesspool	BOD ₅	<2	6	<2	20	mg/l
	Oil and Grease	Not Detected	<5	<5	5	mg/l
	PH	7.0	7.2	7.5	5.5-9.0	-
	COD	<40	<40	<40	120	mg/l
	Suspended Solids	11	<2.5	5	50	mg/l
Wastewater from the Office Building's Cesspool	BOD ₅	<2	<2	<2	20	mg/l
	Oil and Grease	Not Detected	<5	Not Detected	5	mg/l
	PH	7.2	7.1	6.9	5.5-9.0	-
	COD	<40	<40	<40	120	mg/l
		7	13	7	50	mg/l



Air Quality

QTC's electrical transformer production processes involve stages that have to release air outside. Hence, the company has installed a modern preliminary prevention system in related production processes to minimize the release of pollution to outside atmosphere and conducts regular air quality inspection twice per year using Eastern Thai Consulting 1992 Co., Ltd., Accreditation No. Wor.-003, a private laboratory with ISO/IEC17025, ISO9001:2015, ISO14001:2015 and ISO45001:2018 standard accreditation. Air quality test results at the end of stacks when working was consistent with legal requirements. Test results were as follows:

Table Showing Comparison of Air Measurement Results in Stacks for QTC Energy (2021-2023)

Area	Parameters	Test Results							Standard	Unit
		1/64 09-04-21	2/64 30-04-21	3/64 24-11-21	1/65 06-06-22	2/65 3-10-22	01/66 26-05-23	02/66 8-11-23		
Wood Cutting Room Sawdust Vacuuming Duct	Total Suspended Particulate	0.95		1.87	0.39	0.46	1.00	0.50	400	mg/m ³
Spray Booth Stacks	Total Suspended Particulate		4.66	2.98	14.7	2.36	0.3	0.9	400	mg/m ³
MC 139 Factory 6	Xylene		Not Detected	Not Detected	Not Detected	Not Detected	0.81	1.29	200	ppm
MC 199 Factory 6	Total VOCs		152.0	121.0	6.75	110.0	2.7	8.37	-	ppm
Spray Booth Stacks	Total Suspended Particulate		0.84	7.67	1.22	0.49	0.4	1.0	400	mg/m ³
MC 199 Factory 6	Total VOCs		135	242	112	70.5	3.16	105.0	-	ppm
Spray Booth Stacks (Installation)	Xylene		Not Detected	4.25	Not Detected	0.51	1.96	1.63	200	ppm
Plasma Cutter Stacks, Factory 4	Total Suspended Particulate	3.43		2.25	0.59	7.95	0.5	0.7	400	mg/m ³
Plasma Cutter Stacks, Factory 4	Oxide of Nitrogen as Nitrogen Dioxide	<1		27	6		3.5	<1	-	ppm
Plasma Cutter Stacks, Factory 4	Carbon Monoxide								870	ppm
Plasma Cutter Stacks, Factory 4	Oil Mist								-	mg/m ³
Laser Cutter Stacks, Factory 4	Total Suspended Particulate				7.23	4.70	2.50	4.0	400	mg/m ³
Laser Cutter Stacks, Factory 4	Oxide of Nitrogen as Nitrogen Dioxide				< 1	Not Detected	<1.0	<1.0	-	ppm
Oven Stacks (Vacuum)	Total Suspended Particulate								400	mg/m ³
Oven Stacks (Vacuum)	Oil Mist	212.0		3.87	0.34	438	1.88	1.18	-	mg/m ³
Oven Stacks (Vacuum)	Carbon Monoxide								690	ppm
Oven Stacks (Vacuum)	Oxide of Nitrogen as Nitrogen Dioxide	Not Detected		Not Detected	Not Detected	Not Detected	<1.0	<1.0	200	ppm
Oven Stacks (Transformer Repair)	Oil Mist	0.25		3.10	78.80	96.00	0.65	0.36	-	mg/m ³
Oven Stacks (Transformer Repair)	Xylene			Not Detected	Not Detected	Not Detected	<0.47	<0.47	200	ppm
Transformer Moisture Vacuuming Stacks	Oxide of Nitrogen as Nitrogen Dioxide	<1		Not Detected	<1	Not Detected	1.1	<1	200	ppm
Power	Oil Mist	0.16		7.89	0.27	0.41	0.59	0.59	-	mg/m ³
Power	Oxide of Nitrogen as Nitrogen Dioxide	<1		Not Detected	Not Detected	Not Detected	3.1	<1	200	ppm



Q Green Procurement



Table with Summary of Green Procurement Value in 2021-2023

Item	Trademark	Green Procurement Value		
		2021	2022	2023
70-Gram Copying Paper	Shih-Tzu	-	11,008.67	19,724.85
70-Gram Copying Paper	One Green	48,956.50	83,990.83	22,955.00
Eraser Product, Model ZL102-W	Pentel	3,800.64	4,205.04	3,873.61
AAA Alkaline Batteries, LR03T Model, and AA Batteries, LR6T Model	Panasonic	6,454.08	8,067.60	6,475.66
Rented Copying Machines	Ricoh	488,941.43	575,574.36	442,460.04
Rented Copying Machines	Fuji Xerox	73,435.00	64,544.42	234,973.77
Cool Mode Clothing PCF#5003 POINTEL	Cool mode	-	-	211,500.00
Total Value		621,587.65	747,390.93	941,962.94

Green Procurement Value in 2023 increased from 2022 by 26.03% or 194,572.01 baht.

Certificate Showing QTC Did Not Receive Environmental Complaints from the Community in 2023



ที่ รย ๓๒๔๐๔/๔๔

ที่ทำการองค์การบริหารส่วนตำบลมหาบ Yang Phra
ถนนปลากัด-ห้วยปราบ รย ๒๑๑๔๐

มกราคม ๒๕๖๗

เรื่อง ข้อร้องเรียนด้านสิ่งแวดล้อม

เรียน กรรมการ/ผู้จัดการ บริษัท คิวทีซี เอนเนอร์ยี จำกัด (มหาชน)

อ้างถึง หนังสือ บริษัท คิวทีซี เอนเนอร์ยี จำกัด (มหาชน) ลงวันที่ ๒ มกราคม ๒๕๖๗

อ้างถึง บริษัท คิวทีซี เอนเนอร์ยี จำกัด (มหาชน) ใบอนุญาตประกอบกิจการเลขที่ จ ๓-๗๑-๑/๔๐ รย ดำเนินกิจการเกี่ยวกับผลิตหม้อแปลงไฟฟ้า โรงงานตั้งอยู่เลขที่ ๑๔๙ หมู่ที่ ๒ ถนนปลากัด-ห้วยปราบ ตำบลมหาบ Yang Phra อำเภอปลากัด จังหวัดระยอง ขอให้ตรวจสอบและรวบรวมข้อเรียนเกี่ยวกับ บริษัท คิวทีซี เอนเนอร์ยี จำกัด (มหาชน) กรณีเกิดข้อร้องเรียน ตั้งแต่วันที่ ๑ มกราคม ๒๕๖๖ จนถึง ๓๑ ธันวาคม ๒๕๖๖ นั้น

ในการนี้ องค์การบริหารส่วนตำบลมหาบ Yang Phra ได้ตรวจสอบข้อมูลการรับเรื่องร้องเรียน ตั้งแต่วันที่ ๑ มกราคม ๒๕๖๖ จนถึง ๓๑ ธันวาคม ๒๕๖๖ พบว่าไม่มีข้อร้องเรียนที่เกิดจากการดำเนินกิจการของบริษัท คิวทีซี เอนเนอร์ยี จำกัด (มหาชน)

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายรุ่งเพชร กำเนิดทอง)

รองนายกองค์การบริหารส่วนตำบล ปฏิบัติราชการแทน

นายกองค์การบริหารส่วนตำบลมหาบ Yang Phra

ฝ่ายบริหารงานสาธารณสุข
กองสาธารณสุขและสิ่งแวดล้อม
โทร. ๐ ๓๘๐๒ ๖๘๒๘ ต่อ ๑๑๕

“ยึดมั่นธรรมาภิบาล บริการเพื่อประชาชน”

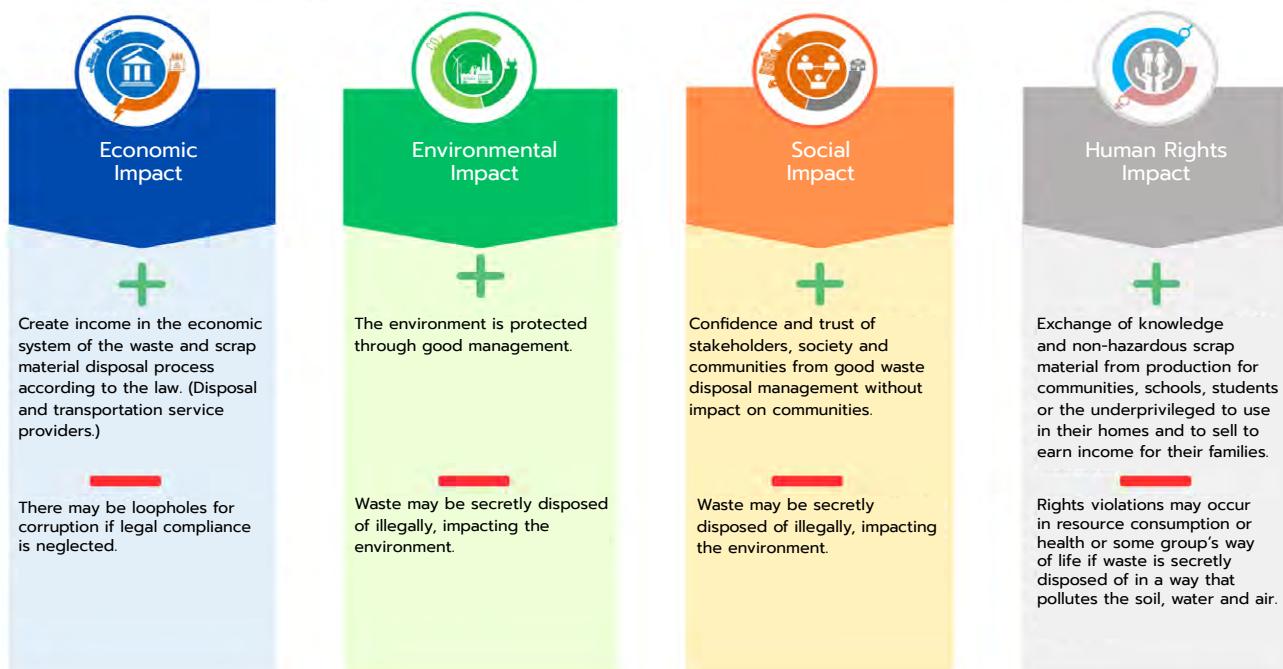
Management of Waste and Scrap Material from Production



Toxic or hazardous waste from industrial factories or industrial waste remains a major problem affecting the environment directly and requiring urgent correction to reduce impact on the environment and people in society. Hazardous waste from industrial factories should be disposed of by licensed waste disposal plants which are accredited with standards by the Department of Industrial Works (DIW). However, there are currently risks that hazardous waste created by industrial factories does not enter proper disposal processes. This may be caused by hazardous waste disposal plants wanting to reduce operating costs, and so they secretly improperly dispose of waste from waste-generating factories, such as improperly disposing hazardous waste by burying in landfills for non-hazardous waste to lower expenses or dispose of liquid hazardous waste in public water sources in order to not create disposal expenses. These actions will lead to severe impacts on the environment and people in the future. Furthermore, improper waste disposal may cause impacts on the reputation and brand of the hazardous waste creator, even though the hazardous waste creator did not break the law.

Based on impact assessment of the management process for waste and scrap material from production, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities For Management of Waste and Scrap Material from Production



Due to the abovementioned impacts, the Board of Directors and executives are concerned and recognize the importance of managing hazardous and non-hazardous waste and disused materials from production. Furthermore, this issue is given attention by stakeholders in the community who have concerns regarding how good factory management processes are and if there will be any impact on community members' lifestyles. The Company promises to work correctly to be above criteria and standards specified by the law because the Company is well aware that the aforementioned issue is a significant risk to the Company's reputation and sustainability. Hence, the Company has established the objectives, management standards, and operational goals as follows:

Objective :

1. To create a green culture.
2. To ensure that management of waste from production processes are in compliance with legal specifications.
3. To demonstrate responsibility for in the life cycle of QTC transformer products.

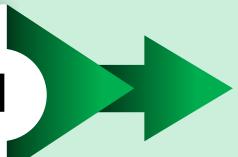
Management :

Environmental management with ISO14001 standards, environmental policies, laws, zero landfill guidelines, sort waste with the 3Rs principles, select, check and follow-up on waste disposal service providers along with preparing for waste management emergencies.



Target

1



- The amount of Type Hazardous waste generated in the production process in ton/tons of production does not exceed the 2022 base year (no more than 0.02 ton/tons of production).
 - ▶ In 2023, the amount of target waste was 0.02 ton/tons of production. **The target was achieved.**



Target

2

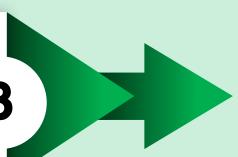


- Create a green culture by managing disused materials using the 3Rs to achieve the zero waste to landfill target. (Non-hazardous waste)
 - ▶ In 2023, 70 kg of insultors, which are legally exempt items, were buried. **The zero waste to landfill target was achieved.**



Target

3

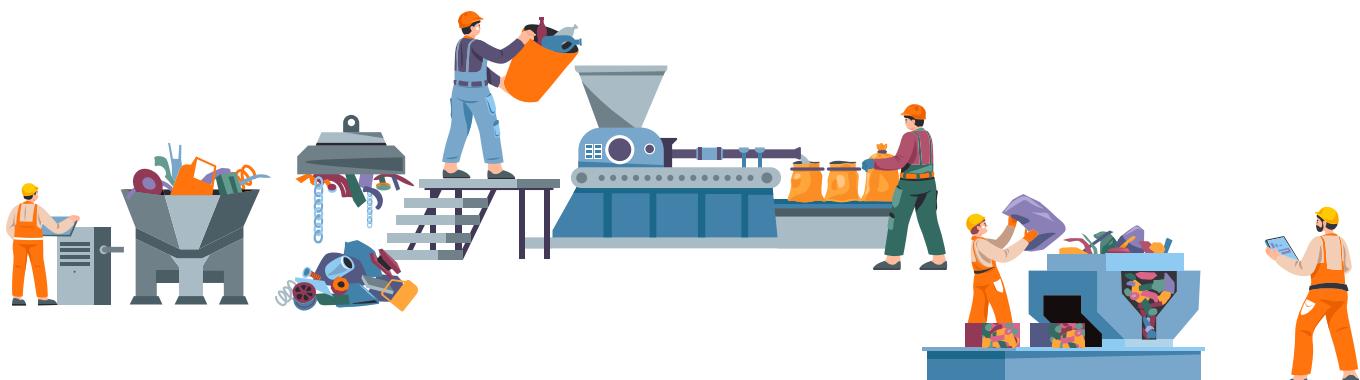


- Complaints or negative news about improper disposal or dumping of hazardous waste from factories.
 - ▶ In 2023, there were no reported complaints or negative news. **The target was achieved.**

Sorting and Disposal of Scrap Materials



Due to waste management risks that may affect the Company's reputation and stakeholders' trust, the Company has established a waste material management system with the 3Rs principle to ensure compliance with the standards and laws by identifying the processes that generate waste, systematically sorting and storing waste, identifying waste type and disposal methods for large volumes of waste will be taken into account to find improvement opportunities to reduce waste volume at the source. The disposal methods with the least environmental impact will be considered for disposal of materials no longer in use and carried out by external waste disposal companies licensed by the Department of Industrial Works, Ministry of Industry.



Waste Disposal Service Provider Selection

Selection of waste or disused material collection, transportation, treatment and disposal service providers is a process in which the Company is required to select, request approval and randomly inspect disposal service provider factory areas and monitor operations of disposal service providers from transportation to treatment to ensure that disposal service providers follow steps permitted by the Department of Industrial Works (DIW) and decrees of the Map Yang Porn Sub-district in 2023.

List of QTC's Waste or Disused Material Collection, Transportation, Treatment and Disposal Service

- 1 Akkhie Prakarn Public Co., Ltd.**
 - Collected and Disposed of: Empty spray cans, lead- and copper-contaminated water, deteriorated solar panels, used degraded paint, used crease, used cartridges, oil-contaminated water, oil filters, grindstone scraps, dust and powder from welding/grinding/cutting work
 - Disposal Method: 075 (incineration in an incinerator specifically for hazardous waste)
 - Transportation Provider: Akkhie Prakarn PCL, DIW-T-085800068
- 2 Bangpoo Environmental Complex Company Limited**
 - Collected and Disposed of: Batteries
 - Disposal Method: 052 (processed to extract metal for reuse)
 - Transportation Provider: Waste Management Siam Co., Ltd., DIW-T-050200708
- 3 Eastern Seaboard Environmental Complex Co., Ltd.**
 - Collected and Disposed of: Contaminated materials, contaminated garbage, used grease, oil-contaminated water, empty spray cans, contaminated containers, expired light bulbs, electronic waste ceramic cups,
 - Disposal Method: 042 (used to make mixed fuels) and 049 (reuse by other means), 071 (sanitary burial in landfills specifically for non-hazardous waste)
 - Transportation Provider: Thong Wattana Waste Management Co., Ltd., DIW-T-064800055
 - Waste Management Siam Co., Ltd., DIW-T-050200708
- 4 N & J Inter Trade (555) Company Limited**
 - Collected and Disposed of: Used oil (used transformer oil not containing PCB), used lubricant oil.
 - Disposal Method: 042 (used to make mixed fuels)
 - Transportation Provider: N & J Inter Trade (555) Co., Ltd., DIW-T-182800029
- 5 Lydia Oil (Thailand) Company Limited**
 - Collected and Disposed of: Used oil (used transformer oil not containing PCB), used lubricant oil.
 - Disposal Method: 042 (used to make mixed fuels), 049 (reuse by other means)
 - Transportation Provider: Lydia Oil (Thailand) Co., Ltd., DIW-T-200900108
- 6 AK Mechanical and Recycling Company Limited**
 - Collected and Disposed of: Plastic scraps, 15-L plastic barrels, used silica gel, contaminated garbage, glue scraps, used degraded paint, used grease, oil-contaminated water, oil filters.
 - Disposal Method: 042 (used to make mixed fuels)
 - Transportation Provider: AK Mechanical and Recycling Co., Ltd., DIW-T-095800108
 - Siwat Khonsong Co., Ltd., DIW-T-190200014
- 7 Thong Wattana Waste Management Company Limited**
 - Collected and Disposed of: Contaminated containers, electric wires, paper scraps (including cardboard), wood scraps (including sawdust), plastic scraps, 15-liter plastic barrels, paper cores
 - Disposal Method: 011 (sort for redistribution), 049 (reuse by other means)
 - Transportation Provider: Thong Wattana Waste Management Co., Ltd., DIW-T-064800055
- 8 Choksaahaphat & Supply Company Limited**
 - Collected and Disposed of: Glass scraps, paper scraps, wood scraps, plastic scraps, copper scraps, steel scraps, electrical wiring, lathing scraps.
 - Disposal Method: 011 (sort for redistribution)
 - Transportation Provider: Choksaahaphat & Supply Co., Ltd., DIW-T-160900717
- 9 Sapphaisan Factory Company Limited**
 - Collected and Disposed of: Scrap paper (including cardboard), plastic covering waste, aluminum scraps, pure copper scraps/contaminated copper scraps, thick steel scraps, silicon steel scraps, paper cores, lathing scraps, gas waste, plastic cores
 - Disposal Method: 011 (sort for redistribution)
 - Transportation Provider: Phaisan Siri Transport Co., Ltd., DIW-T-150200103

***Transportation and disposal of waste (garbage) is done in Thailand and not transported for disposal abroad**

***Operations of the Company and Disposal Service Providers in 2023 are compliant with legal requirements**

Checking and Monitoring Disposal Service Providers

In 2023, the Company inspected one disposal company facility (A.K. Mechanical and Rycycling Co., Ltd.) before adding the company to the list of new disposal companies, then inspected and followed up on one existing disposal company (Choksahaphat & Supply Co., Ltd.) to ensure that the service provider operates in compliance with the law and their license.



Performance

Table E1 – Volume of Disused Materials from Production in 2021-2023

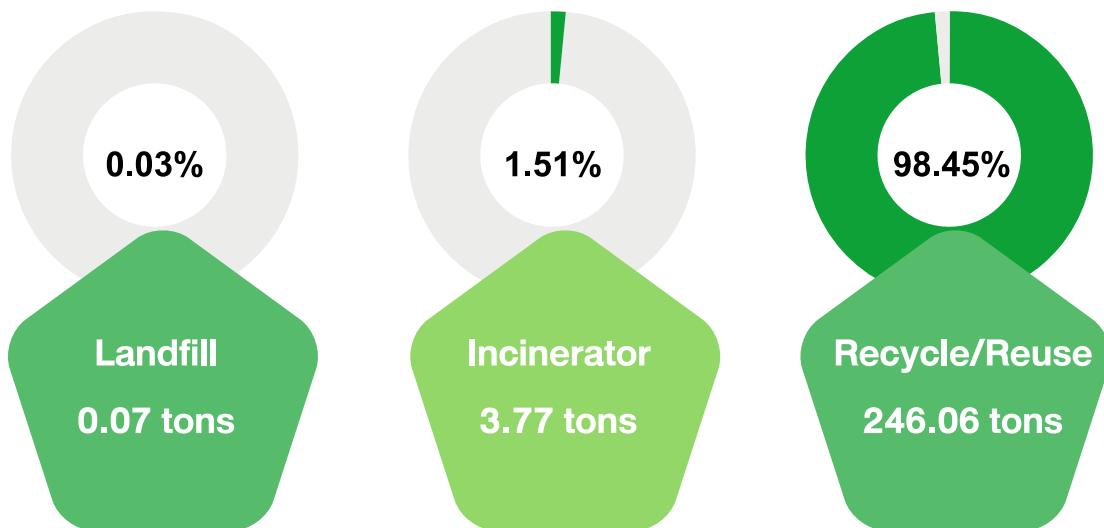
Disposal Method			2021		2022		2023		
Volume (Ton)			Volume (Ton)		Volume (Ton)		Volume (Ton)		
Compliance With 3Rs: Environmentally Friendly Disposal Methods	Recycle/ Reuse	011 Sort for Redistributions	130.69		224.08		175.81		
		033 Return to Seller for Repackaging or Reuse	-		0.08		-		
		042 Used to Make Mixed Fuels	32.02		13.31		37.75		
		049 Reuse by Other Means	19.70	182.54	30.08	267.55	32.46	246.05	
		044 Used as a Substitute Raw Material in a Cement Kiln	0.14		-				
		052 Processed to Extract Metal for Reuse	-		-		0.03		
Volume of Remaining Waste to be Disposed of That May Impact the Environment	Incinerator	075 Incineration in an Incinerator Specifically for Hazardous Waste	24.42	24.42	33.06	33.06	3.77	3.77	
Waste to be Disposed of That May Impact the Environment	Landfill	071 Sanitary Burial in Landfills Specifically for Non-Hazardous Waste	-		0.57		0.07		
		073 Safe Burial in Landfills after Stabilization or Solidification	0.09	0.09	0.06	0.63	-	0.07	
Total Volume (Ton)			207.04		301.24		249.89		
Transportation and Disposal Expenses from the Production Process (Million Baht)			0.40		0.42		0.18		
Income from Disposal Method 011 (Million Baht)			10.26		14.38		6.33		

Note: Non-hazardous waste is 011,071,033 = 175.88 ton. Hazardous waste is 042,044,049,052,073 075 = 74.01 ton.

Based on the improvement of the chassis coating process and improvement of the coating well to make the amount of coating used as cost-effective as possible, reduce production costs and minimize degraded paint from the process in 2020, it can be seen that the amount of disused materials in Disposal Code 075 decreased by 88.60% when compared to 2022. As a result, the total amount of disused materials from production in 2023 was reduced by 17.04% from 2022. (For more information, see "Process Innovation Promotion".)

- **Zero waste to Landfill**

The Company gives importance to and supports waste separation operations with the principle of 3Rs and the selection of appropriate disposal methods to minimize environmental impacts with the goal of achieving zero waste to landfill. Wastes that are unable to be disposed of using other methods are added to landfills according to the exceptions in the "Zero Waste to Landfill Project" conditions. These wastes were disposed of by disposal companies licensed by the Department of Industrial Works to ensure proper landfill disposal methods.



Graph E1 Showing Comparison of Disused Materials (kg) Sorted According to 3Rs and KAIZEN Principles

According to Table E1 and Graph E2, the volume of disused materials buried after sorting and using the recycle/reuse and incineration methods was about 0.07 tons, or 0.03% of all disused materials. These were ceramic waste disposed of by landfill according to sanitation principles, and were exceptions to the zero-landfill conditions. Therefore, in 2023, the Company was able to achieve the "Zero to Landfill" goal and have income from sorting by method. Recycle/Reuse amount 6.3 million baht

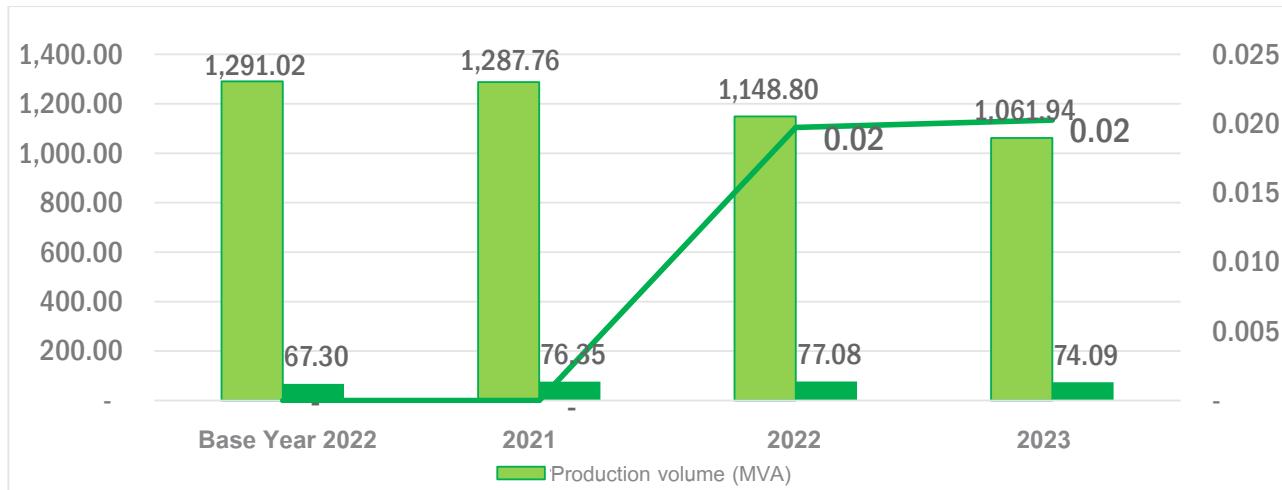


► Volume of hazardous waste per production unit

Table E2 Showing Generation of Disused Waste per Tons of Production

Item	Year of Operation			
	2020	2021	Base Year 2022	2023
Production Volume (MVA)	1,291.02	1,287.76	1,148.80	1,061.94
Prefabricated Transformer Weight (Tons of Production)	-	-	3,909.42	3,658.85
Volume of hazardous waste (Ton)	67.30	76.35	77.08	74.09
Volume of hazardous waste per production unit (Ton/MVA)	0.05	0.06	0.07	0.07
Volume of hazardous waste per ton of production (Ton/Ton of Production)	-	-	0.02	0.02

Graph E2 Showing proportion of hazardous waste per ton of production



According to Table E2 and Graph E2, the performance did not achieve the goal, so data were collected, and indicators were developed to have more stable and reliable values by using the proportion of hazardous waste per tons of production equivalent to 0.02 ton/tons of production. In other words, for every 1.02 tons of transformer production materials used, one ton of transformers are produced and 0.02 ton of hazardous waste is generated, accounting for 1.96%. In 2023, new indicators were determined. The waste volume types hazardous waste in ton/tons of production did not exceed Base Year 2022 (no more than 0.02 ton/tons of production).

The performance in 2023 achieved the goal. The waste volume types hazardous waste in ton/tons of production was 0.02 ton/tons of production, which did not exceed Base Year 2022.

► Disposal of Expired Transformer Products

Return Policy for Product Remains

After the end of life of the transformers, the transformers can be returned back to QTC for proper disposal and recycled. The disposal of the transformers is free of charge.

The disposal shall be requested and granted by the owner of the transformers in writing. The customer shall arrange to transport the transformers to QTC Factory in Rayong province, at their own expenses.



In 2023, no expired transformers were sent for disposal at QTC's Factories in Rayong.

Management of Disused Solar Panels

In 2023, Q Solar 1 did not send solar panels for disposal because BOI rights are in use. Additionally, damaged solar cells in QTC's solar business have not been sent for disposal because they are items that must wait to be claimed by the manufacturer first.



Climate Change



The Company accepts climate change as a global environmental problem in terms of causes and effects with origins from greenhouse gas (GHG) emissions from human economic activities to create prosperity and good living conditions for over a hundred years. Development caused energy consumption and carbon dioxide emissions in the atmosphere. Every country had a part in climate change, causing the world's temperature to rise and causing impacts on the overall environment worldwide. As polar icecaps melt, countries in the tropical zone will have more crises from heat and droughts.

From 2021 onward, every country must reduce GHG emissions in line with the Paris Agreement. Every country is able to do this freely because of differences in each country's ability, capacity and readiness including different geographic limitations and climate. Although Thailand emitted less than one percent of the world's GHG emissions, this likelihood is rising. To reduce potential impacts, the Thai government set a goal to achieve carbon neutrality by 2050 and achieve net-zero goals by 2065. Moreover, the Thai government is prepared to pass an act on climate change to be enforced at every agency in the public and private sectors to achieve the national goals.

QTC recognizes current environmental impacts and severity of future impacts as part of Thai society and an organization contributing to GHG emissions in the atmosphere, albeit a small part. However, QTC has given importance to this issue and is making efforts to reduce GHG emissions by developing manufacturing processes and modifying behaviors to use energy cost-effectively, researching and developing products capable of reducing GHG from use. These efforts build value for the organization and stakeholders while contributing to the effort to reduce GHG emissions according to Thailand's goals. Based on impact assessment of climate change, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities

For Climate Change

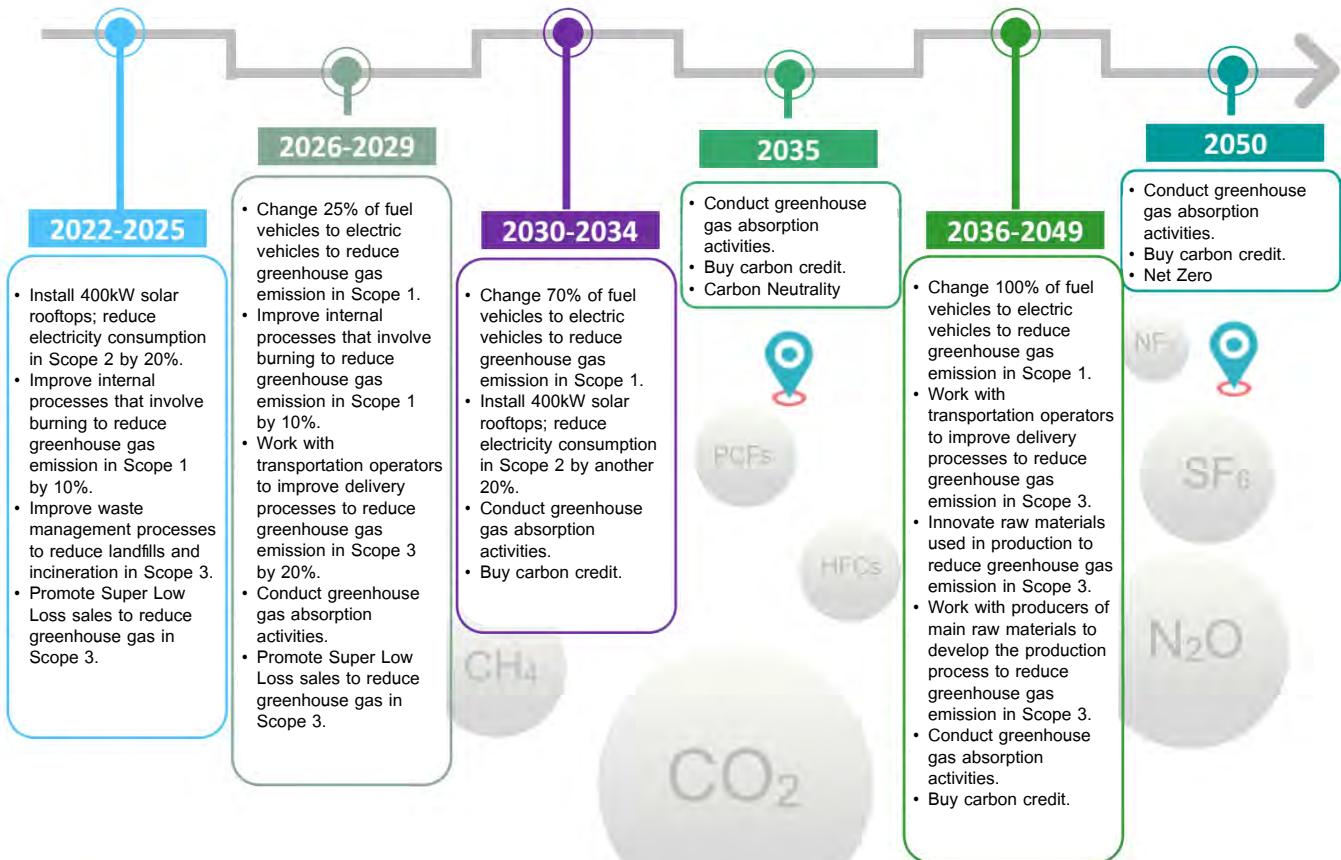
Economic Impact	Environmental Impact	Social Impact	Human Rights Impact
 <p>Eco-friendly product development, greenhouse gas emission reduction. Ability to create income in domestic and international economic systems.</p> <p>Opportunities to improve business-related processes to reduce greenhouse gas emission by using new technology.</p> <p>Opportunities to expand clean energy businesses.</p> <p>High investment in product and work process development.</p> <p>Requiring to pay high carbon taxes when enforced by law if the Company does not reduce greenhouse gas emissions.</p> <p>Possible trade barriers from the transition into a low-carbon economy from countries or customers with high negotiating power.</p> <p>Higher production and management costs.</p>	 <p>Atmospheric greenhouse gas is reduced or the global temperature is reduced according to the Cop26 goal.</p> <p>The diversity of the environment and living things are protected from mechanisms implemented to achieve the net zero goal.</p> <p>Other environmental aspects may be disturbed or destroyed if the greenhouse gas-reducing activities are not carefully assessed for risks.</p> <p>Global warming, droughts, forest fire, dead trees and reduced forest areas.</p>	 <p>Confidence and trust from stakeholders, employees and surrounding communities.</p> <p>Improved working conditions from improvement efforts.</p> <p>There may be social resistance if proper operation is neglected.</p> <p>There may be misunderstandings and resistance from employees in changing work processes to reduce energy and resource use that affect greenhouse gas emission reduction if the objectives and goals are not clarified and knowledge are not provided to employees.</p>	 <p>Overall reduction of risks and severity of climate change impacts on the organization, society, communities and environment.</p> <p>Impact from droughts, flooding, global warming, unseasonal rain, etc., that directly impact the way of life of living things in the world.</p>



คุณภาพเพื่อความยั่งยืน
QUALITY OF DETAILS >>
 D - DYNAMICS E - ENVIRONMENT
 T - TEAMWORK, A - ACHIEVEMENT
 I - INNOVATION L - LEADERSHIP S - SERVICE



Carbon Neutrality & Net Zero Goal Achievement Plan



Based on the assessed impacts, there are risks and opportunities due to climate change. Therefore, the Board of Directors and executives give importance to being a part of the global population that contributes to reducing GHG emissions by improving work processes, replacing machinery to reduce electrical energy consumption, switching to electric vehicles to reduce fuel consumption, and installing solar rooftop systems to reduce energy consumption from power lines. All of these things require the establishment of clear goals and long-term operation plans. The Company has calculated the overall scope of operations of the Bangkok Office and the Rayong Factory covering all activities, and established new indicators using 2022 as the new base year.

Objective :

1. To have processes for collecting and analyzing data for preparing greenhouse gas emission reports.
2. To develop the organization's personnel to have awareness of impacts from climate change.
3. To reduce negative impacts from climate change.
4. To create business opportunities from climate change

Management :

Environmental management with ISO14001 standards, ISO14643 standards, TGO greenhouse gas report criteria and environmental policies.



- Achieve carbon neutrality by 2035 (B.E. 2578).
 - 1.1 The amount of GHG emissions (Scope 1+2) to sales (million baht) was 5% less than the previous year (starting from Base Year 2022).
 - ▶ In 2023, the GHG emission intensity was 17.31% less than Base Year 2022. **The target was achieved.**



- Achieve net zero by 2050 (B.E. 2593).
 - 2.1 The amount of GHG emissions (Scope 1+2+3) to sales (million baht) was 5% less than the previous year (starting from Base Year 2022).
 - ▶ In 2023, the GHG emission intensity was 5% less than Base Year 2022. **The target was achieved.**
 - 2.2 The amount of GHG emissions from Scope 3, Category 9, to sales (million baht) was 5% less than the previous year (starting from Base Year 2022).
 - ▶ In 2023, the GHG emission intensity, Cat.9, was 5.9% less than Base Year 2022. **The target was achieved.**
 - 2.3 Promote super low loss transformer sales to have a quantitative share of more than 10% of the total number of delivered transformers in the year of calculation. (Reduce GHG emissions in Scope 3, Category 11: Use of Sold Products.)
 - ▶ In 2023, SSL transformer sales accounted for 2.04% of the total deliveries. **The target was not achieved.**

Carbon Footprint for Organization Report Preparation Process.

The Company began preparing the Carbon Footprint for Organization Report (CFO report) since 2015 and the Company continued work with a scope covering activities at the Rayong factory and an objective to be reviewed and certified for organization carbon footprint at the Limited Assurance Level with a reliability of 95 percent by using ISO14064-3 standards and TGO GHG reporting criteria as references and guidelines in GHG management. The gases monitored were CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃. In addition, the Company appointed the organization's carbon footprint work group to perform the following duties:

- Collect data on volume of use according to items specified in greenhouse gas reporting criteria.
- Calculate and analyze results on a quarterly basis.
- Make performance reports to the Board of Directors on a quarterly basis.
- Prepare reports on greenhouse gas emissions based on TGO criteria on an annual basis.
- Request certification of results from an outside reviewer on an annual basis. Report to the MRB Committee to prepare greenhouse gas emission reduction plans on an annual basis.
- Register the organization's carbon footprint on an annual basis.
- Disseminate greenhouse gas emissions data to employees in the organization and communicate it in the sustainability report.





Corporate Carbon Footprint

Table C1 Showing the Organization's GHG Emissions in 2015 – 2023

Year	GHG Emission (ton CO ₂ eq.)					
	Scope 1 (ton CO ₂ eq.)	Scope 2 (ton CO ₂ eq.)	Scope 3 (ton CO ₂ eq.)	Total Emission Scope 1+2 (ton CO ₂ eq.)	Total Emission Scope 1+2+3 (ton CO ₂ eq.)	
Site Factory Only	2015 (Old Base year#1)	426	899	63	1,325	1,388
	2016	401	672	68	1,073	1,141
	2017	391	907	57	1,298	1,355
	2018 (Old Base year #2)	328	909	64	1,237	1,301
	2019	282	908	50	1,190	1,240
	2019 Re-calculation of Base year #3 (AR5)	284	780	50	1,064	1,113
	2019 Re-calculation of Base year #3.1 (AR5)	282	775	50	1,057	1,107
	2020	276	745	55	1,021	1,076
	2021	253	863	698,296	1,116	699,412
Site Office-BKK & Factory-RY	2022 New Base Year	315	904	574,693	1,219	575,912
	2023	351	762	602,997	1,113	604,110
Types of GHGs included :		CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ , NF ₃				

Table C2 Showing GHG Emission Intensity

Year	Total Emission Scope 1+2 (ton CO ₂ eq.)	Total Emission Scope 1+2+3 (ton CO ₂ eq.)	Capacity (Unit)	GHG emissions intensity Scope 1+2 ton CO ₂ eq./Unit	Capacity (MVA)	GHG emissions intensity Scope 1+2 ton CO ₂ eq./MVA	Revenue (Million baht)	GHG emissions intensity Scope 1+2 ton CO ₂ eq./ Million baht	GHG emissions intensity Scope 1+2+3 ton CO ₂ eq./ Million baht
Site Factory Only	2015 (Old Base year#1)	1,325	1,388	3,728	0.36	1791.85	0.74	-	-
	2016	1,073	1,141	2,341	0.46	1136.98	0.94	-	-
	2017	1,298	1,355	4,162	0.31	1659.53	0.78	-	-
	2018 (Old Base year #2)	1,237	1,301	3,602	0.34	1522.68	0.81	-	-
	2019	1190	1240	1,693	0.70	1240.31	0.96	-	-
	2019 Re-calculation of Base year #3 (AR5)	1,064	1,113	1,693	0.63	1240.31	0.86	-	-
	2019 Re-calculation of Base year #3.1 (AR5)	1,057	1,107	1,693	0.62	1240.31	0.85	-	-
	2020	1,020	1,076	1,686	0.61	1291.02	0.79	-	-
	2021	1,116	699,412	1,878	0.59	1,287.76	0.87	1,038.62	1.07
Site Office-BKK & Factory-RY	2022 (Site Office-BKK & Factory-RY) New Base Year	1,219	575,912					1,164.57	1.05
	2023 (Site Office-BKK & Factory-RY)	1,113	604,110					1,285.93	0.87

Tables C1 and C2 clarify the following:

- Data on GHG emissions between 2015 – 2021 include GHG emission calculations from only the Rayong Factory. This is to be used as reference only.
- Data on GHG emissions since 2022 include GHG emission calculations for all business activities for the Bangkok Office and the Rayong Factory using 2022 as the new base year for carbon neutrality and net zero goals.
- Since 2022, the GHG emission intensity to sales (million baht) has been used.
- The amount of GHG emissions in Scope 1 and 2 in 2023 was 8.70% less than 2022, achieving the target. This was because, starting from 2022 and continuing into 2023, a solar rooftop was installed at the Rayong Factory to generate electricity to compensate for the consumption of electricity from PEA transmission lines, resulting in reduced consumption of electricity from transmission lines and GHG emissions from electricity consumption.
- The amount of GHG emissions in Scope 1 and 2 to sales (million baht) in 2023 was 17.31% less than 2022. The target was achieved.
- The amount of GHG emissions in Scope 1, 2 and 3 to sales (million baht) in 2023 was 5% less than 2022. The target was achieved. For activities in Scope 3, the reduction of GHG had not been adequately managed because it was necessary to create understanding and request collaboration from internal and external stakeholders related to operations. However, there are still opportunities for continuous improvement according to the Company's plans and goals in the long term.

Table C3: Management Efficiency of GHG in Scope 3, Category 9 and 11

Year	Category 9			Category 11			
	Downstream transportation and distribution			Use of sold products			
	Total Emission (ton CO2 eq.)	Revenue (Million baht)	GHG emissions intensity ton CO ₂ eq./1M	Total Emission (ton CO2 eq.)	Delivery of all transformers (EA)	Delivery of Super Low Loss Transformer (EA)	Delivery Ratio of Super Low Loss/Standard Transformer
2022	132,332.48	1,164.57	113.63	438,373.17	2,236	252	11.27%
2023	137,498.90	1,285.93	106.93	461,135.31	1,077	22	2.04%

According to Table C3, Category 9, in 2023, the GHG emission intensity was 106.93 tonCo2eq./1M, a reduction of 5.90% from 2022, thereby achieving the target. This was due to improvements in the delivery efficiency in 2023 to reduce the cost per trip and GHG emissions. In addition, there are issues to be continuously improved.

According to Table C3, Category 11, in 2023, the sale and delivery of super low loss transformers accounted for 2.04% of the total number of transformers delivered. The target was not achieved. As a result, the GHG emissions in Category 11 were higher than in 2022, while the number of delivered transformers in 2023 was lower than in 2022. Since super low loss transformers are major variables in reducing GHG emissions due to their unique qualities, it is necessary that the Company drives and raises awareness among employees and give importance to playing a part in the overall reduction of GHG in the future.

Certificate of Corporate Greenhouse Gas Emissions in 2023 from 1 January 2023 to 31 December 2023, No. TH-IE-23-5006108-001, Reviewed and Certified by SGS (Thailand) Company Limited



The full GHG Verification Statement can be downloaded from

https://qtc-energy.com/wp-content/uploads/2024/02/500000593_CFO_Statement_QTC_FY2023_240228.pdf

Regarding the Corporate Carbon Footprint Report of 2022, the Company asked to be accredited by the Thailand Greenhouse Gas Management Organization (Public Organization) (TGO) in 2023, Accreditation No. TGO CFO FY23-08-153 (Verification Period: 01/01/2022 – 31/12/2022).



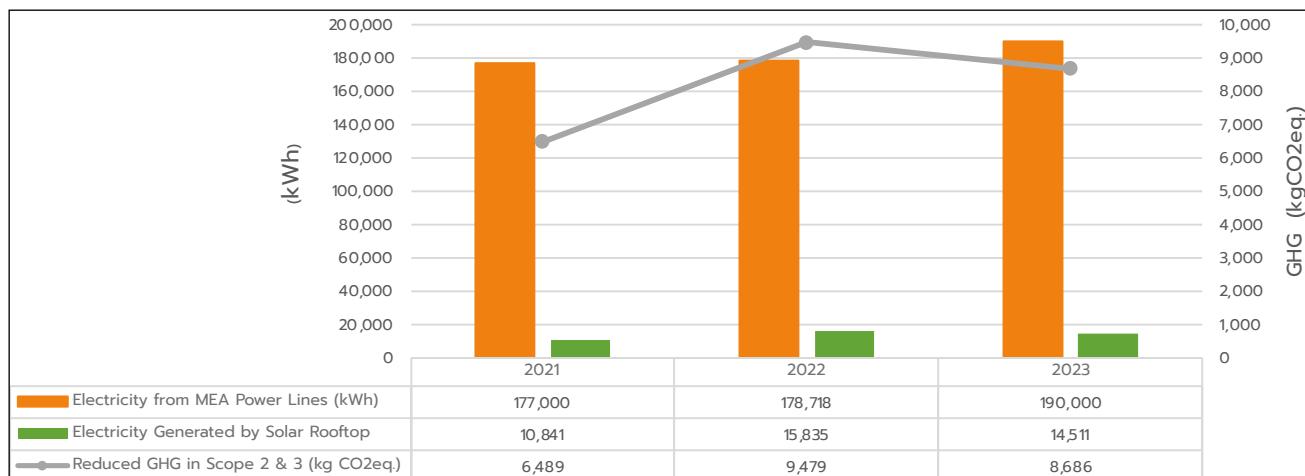
Q Projects for Reducing Greenhouse Gas Emissions

► 12kW Solar Rooftop Installation Project at the Bangkok Office

From the project to install a 12-kW solar rooftop at the Bangkok office at the end of 2020 as a center of learning for engineers, sales employees and service technicians about maintenance techniques. The Company installed the system on grid in the MDB for use in the office during daytime, the results are as follows:

Table Showing the Amount of Electricity Generated from the 12kWSolar Rooftop: Bangkok Office

Head Office Solar Rooftop Project	Year of Operation					
	2021		2022		2023	
	Electricity (kWh)	Reduced GHG (kgCO ₂ eq.) in Scope1 & 3	Electricity (kWh)	Reduced GHG (kgCO ₂ eq.) in Scope1 & 3	Electricity (kWh)	Reduced GHG (kgCO ₂ eq.) in Scope1 & 3
Electricity Generated from Solar Rooftop	10,841	6,489.42	15,835	9,478.83	14,511	8,686.28
Electricity from MEA Power Lines	177,000		178,718		190,000	
Total Electricity Consumption Demand	187,841		194,553		204,511	



According to the table and graph, in 2023, the Bangkok Office had a total electricity demand of 204,511 kWh, an increase of 5.12% from 2022 due to the Bangkok Office having 10 more employees than in 2022. As a result, the electricity consumption increased along with the increase in activities. Meanwhile, the capacity to generate electricity from the 12kW solar rooftop was only 14,511 kWh, a decrease of 8.36% from 2022 due to systems improvements during May and October. Moreover, there was external building construction in a direction that was likely to obscure sunlight, which might affect the solar rooftops in the future. However, based on the graph for 2023, a total of 8,686 kgCO₂eq of GHG (Scope 2 and 3) was able to be reduced by the use of the solar rooftop.



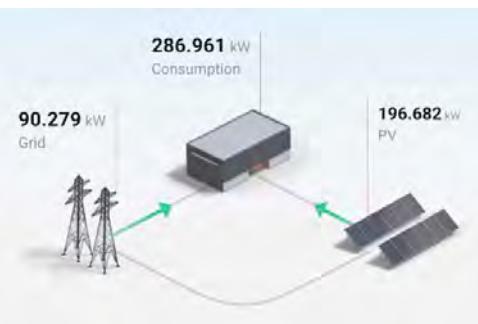
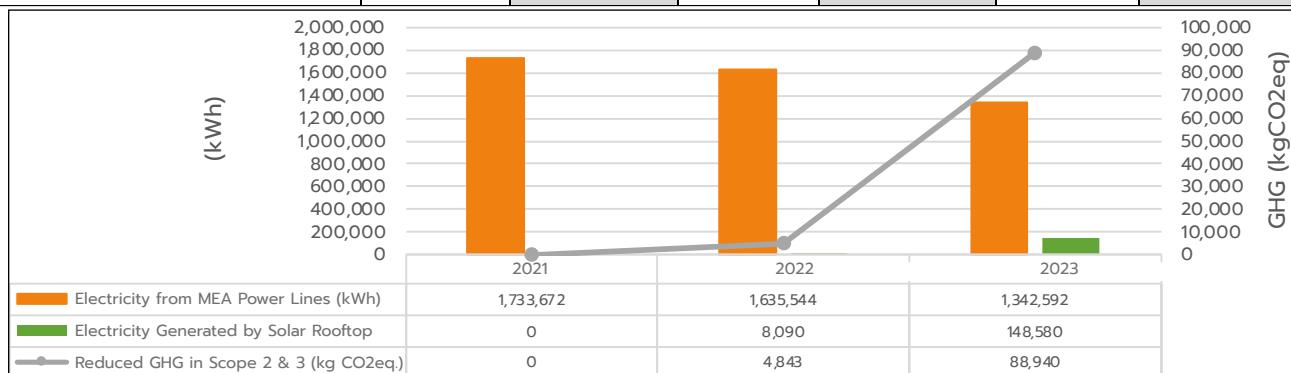
► 400kW Solar Rooftop at Rayong Factory

In the 400kW solar rooftop installation project that received investment support from the "Investment Promotion Measures for Saving Energy, Using Renewable Energy or Reducing Environmental Impact" from the Board of Investment (BOI), Investment Promotion Certificate No. 65-0471-1-07-1-0, the Company has installed solar rooftops according to the following objectives:

1. Solar Rooftop Project #1, Size: 140kWp; installed and ready to generate electricity as of December 2022.
2. Solar Rooftop Project #2, Size: 117kWp; installed and ready to generate electricity as of November 2023.
3. Solar Rooftop Project #3, Size: Not exceeding 143kWp; to be installed additionally in 2024 within Quarter 2/2024.

Table and Graph Showing the Amount of Electricity Generated from the Solar Rooftops: Rayong Factory

Rayong Factory Solar Rooftop Project	Year of Operation					
	2021		2022		2023	
	Electricity (kWh)	Reduced GHG (kgCO ₂ eq.) in Scope1 & 3	Electricity (kWh)	Reduced GHG (kgCO ₂ eq.) in Scope1 & 3	Electricity (kWh)	Reduced GHG (kgCO ₂ eq.) in Scope1 & 3
Electricity Generated from Solar Rooftops	0	0.00	8,090	4,842.67	148,580	88,939.99
Electricity from PEA Power Lines	1,733,672		1,635,544		1,342,592	
Total Electricity Consumption Demand	1,733,672		1,643,634		1,491,172	



Rooftop View of the Installation of Solar Rooftops #1 and #2

According to the table and graph, in 2023, the Rayong Factory had a total electricity demand of 1,491,172kWh consisting of 1,342,592kWh from power lines (PEA) and 148,580kWh from solar rooftops. The Company was able to reduce a total of 88,940 kgCO₂eq. in GHG emissions in Scope 2 (energy use) and Scope 3 (fuel- and energy-related activities) by using the solar rooftops and saved a total of 742,900 baht in electricity cost in 2023 (electricity calculated at five baht per unit).

The Company will continue to install solar rooftops to achieve the size permitted by the BOI in 2024. At present, the Company has not requested the right to exercise any tax and investment budget benefits as it intends to achieve the permitted size first.

► 3-ton Electric Forklift

As the Company recognizes its responsibility toward the environment and climate change to achieve the carbon neutrality and net zero goals, the Company purchased TOYOTA Model 8FD30 Counter Balance Battery, which is a model that efficiently withstands water particles from outdoor use and has SAS stability control to ensure the stability of the vehicle both when turning and lifting. The vehicle has qualifications that match the functions required. The Company has also sold its 3-ton diesel combustion engine forklifts. Performance in 2023 was as follows:

Table Showing the Comparison Between Diesel Fuel Consumption by Forklifts and Production

Items	Year of Operation		
	2021	2022	2023
Diesel Fuel Consumption for Forklifts (L)	11,370.20	10,853.90	7,902.40
Sales (1M)	1,038.62	1,164.57	1,285.93
GHG Emissions, Scope 1: Mobile Combustion (tonCO2eq.)	31.16	29.75	21.66
GHG Emissions, Scope 3: Category 3: Fuel- and Energy-related Activities (tonCO2eq.)	4.00	3.82	2.78
Proportion of Diesel Fuel Consumption for Forklifts (L)/Sale (1M): GHG Emission Intensity	10.95	9.32	6.15
Proportion of GHG Emissions from Forklift Activities in Scope 1 and Scope 3 (tonCO2eq.)/Revenue (1M): GHG Emission Intensity	0.0339	0.0288	0.0190

According to the table showing the diesel fuel consumption for forklifts between 2021 and 2023, the amount of diesel fuel consumption for forklifts started to decrease after the purchase of electric forklifts to replace diesel engine forklifts. In 2023, the amount of fuel consumption for forklifts and GHG emissions in Scope 1 (Mobile Combustion) and Scope 3, Category 3, achieved a fuel reduction of 27.19% less than 2022. In 2023, the proportion of diesel fuel consumption for forklifts was 6.15 liters per one million baht in sales, and the proportion of GHG emissions from forklift activities (Scope 1+2) was 0.0190 tonCO2eq. per one million baht in sales, which was 34.06% less than 2022, which saved 103,806 baht in electricity costs (assuming that fuel price = 29.94 baht and that the fuel amount was equal to that of 2022 (no electric forklifts yet)).

Based on the aforementioned performance, the Executive Committee and the Board of Directors agreed to replace another 3-ton diesel engine forklift with a 3-ton electric forklift within 2024 as the 3-ton diesel engine forklift was starting to get old and had frequent problems and to further promote operations to achieve carbon neutrality and net zero.



TOYOTA 8FD30 Electric Forklift in Real Use

Overview of the GHG Emission Reduction Project (QTC Energy)

Project/Activity	Project/Activity Results	ปัจจุบัน		
		2564	2565	2566
Bangkok Solar Rooftop	Amount of Generated Electricity (kWh)	10,841	15,835	14,511
Rayong Solar Rooftop	Amount of Generated Electricity (kWh)	-	8,090	148,580
Electric Forklift	Amount of Reduced Diesel Fuel Consumption (L)	-	1,690	3,690
	GHG Emission Reduction in Scope 1 (kgCO2eq.)	-	4,631.65	10,112.90
	GHG Emission Reduction in Scope 2 (kgCO2eq.)	5,419.42	11,960.11	81,529.19
	GHG Emission Reduction in Scope 3 (kgCO2eq.)	534.90	2,811.73	11,608.69

► Solar Energy Tuk-Tuk Project

The Project started and prototypes were created in 2020. At present, five solar energy tuk-tuks and one four-wheel solar energy vehicle have been built to be used in checking solar panels and control box functions daily. In emergencies or abnormal situations where the control center needs to check and make corrections urgently in an area of more than 200 rai, the inventions in the project can be used. Results from the project are as follows:

Table Showing GHG Emissions from Diesel Fuel Consumption for Vehicles Used in Q Solar 1 Power Plant

Year of Operation	Amount of Diesel Fuel (Liter)	Amount of GHG Emission (Ton Co2 eq)		% of Change
		2019	2020	
Base Year 2019	4,448.58	12.19		0
Base Year 2020	3,352.16	9.19		-24.65%
Base Year 2021	1,702.34		4.67	-61.73%
Base Year 2022	808.18		2.21	-81.83%
Base Year 2023	723.19		1.98	-111.13%

In 2023, Q Solar 1 was able to build one additional solar energy tuk-tuk for use in the power plant. Based on the table, diesel fuel consumption in 2023 continued to decrease consistently, resulting in a reduction of more than 100% of GHG emissions from mobile combustion from Base Year 2019.

The amount of diesel fuel used in 2023 still amounted to 723.19 liters because in some internal activities, it is necessary to use diesel engines such as fire trucks, cars and large trucks. As for activities that require a vehicle to move around within the power plant, the solar energy tuk-tuks are used instead of other fuel-powered vehicles.



Q Environmentally Friendly Products

"Super Low Loss Transformers"

These transformers are researched and developed by the QTC engineering teams and a trade ally, Hitachi Metals, Ltd., since 2008 from the Company's vision and mission to be committed to manufacturing quality products while recognizing the importance of the environment including changes in the world caused by climate change. People in the world's societies are beginning to place importance on changing consumption behaviors to reduce environmental impacts and greenhouse gas emissions into the atmosphere. Therefore, this is an important opportunity for QTC to drive super low loss transformers toward global recognition.



In 2023, super low loss (SLL) transformer sales decreased from 2022 by over 35% while the number of units sold decreased by over 91% from 2022. This was because the sales were domestic in 2023 and the SLL transformers were large, which gave them higher prices than small transformers. The majority of SLL transformer customers were large-scale organizations that gave importance to climate change and energy conservation and that were confident in the unique properties of SLL as well as the QTC brand that prioritizes the best quality for its customers' benefits. Regarding the development of the SLL market in 2023, the Company emphasized active marketing by raising awareness among educational institutions and target customers in particular to create understanding and future growth opportunities. Driving SLL transformer sales remains a priority of the Company in the short and long term.

Value for QTC: Extra Income, Make a Difference

Value for the Environment: GHG Emissions Reduced by 40%

Year	Quantity (EA)	Sales Value (M.)	%Growth	Year	GHG emissions of TR.STD	GHG emissions of SLL	Diff. GHG emissions
2018	22	11	0	2018	246.2596	210.145	159.3639
2019	29	22	100%	2019	369.5089	210.145	159.3639
2020	24	16	-27%	2020	289.6507	164.3413	125.3094
2021	442	79	394%	2021	1105.0136	664.5637	440.4499
2022	252	37	-53%	2022	232.6269	116.7415	115.8853
2023	22	24	-35%	2023	154.1827	73.5293376	80.65332

Value for Customers: *With unique properties, super low loss transformers (Tr.SLL.) can reduce energy loss in the steel core by as much as 70% when compared to standard transformers, thereby saving electricity cost by 30% and reaching the cost-efficiency point in 3-5 years.*



Raising Awareness

Due to the Company's plans to achieve carbon neutrality goals in 2035 and net zero emission goals in 2050, the Company needs cooperation from every employee in changing behaviors related to resource utilization. The Company intends to achieve this by providing instruction on the effects of climate change, the definition of greenhouse gas emissions, how greenhouse gases are created, and how every person can participate in reducing greenhouse gas emissions to reduce the impacts of climate change.

From 2024 onward, the Company will set goals to raise awareness by setting individual-level KIPs for learning and self-improvement through e-learning kits.

Carbon Neutrality 2035 & Net Zero 2050



In 2023, the Company continued to **place importance on raising awareness** among employees in QTC and all subsidiaries by providing training and communicating knowledge through executive-employee activities to raise awareness about the effects of climate change and participation in the organization's goals, changes in personal behaviors and changes in internal processes to reduce combustion, modifications in the waste management process, reductions in landfills, incineration, and other greenhouse gas emission reduction activities related to environmental policies and plans for achieving carbon neutrality and net zero emissions.

Furthermore, the Company shared knowledge with stakeholders in the community by **providing knowledge about greenhouse gases and how the public sector can participate to reduce greenhouse gas emissions** for community representatives at activities where QTC meets with the community and students at Map Yang Phon Witthayakhom School, Industrial Arts Class, who came to study work in order to gain inspiration about a preferred career path in the future.



ลือสาร และ แบ่งปันรู้ภายนอก



Sustainable Use of Resources



Natural resources are used by humans for basic living. However, because humans need many amenities, natural resources are used for commercial benefits and business activities such as use of fossils for fuel production, use of water for food and beverage production, coal excavation for electricity generation, cutting trees for furniture and use of other natural resources to create equipment, tools, instruments and clothing, etc. If these activities use natural resources in a wasteful manner without using resource for full benefits, natural resources will become gradually depleted and unable to replenish to meet human needs, which may have future impacts on the future because of imbalance in nature, causing disasters such as floods, degraded soil, droughts and famines, etc.

QTC is a juristic person engaged in the energy business. Transformers are used with electricity. When manufacturing transformers, electricity is needed for manufacturing and testing at the highest ratio when compared to other resources. Furthermore, fuel is used to transport products and raw materials in addition to making business contacts. The production of transformers uses raw materials, each of which is naturally created from various resources such as copper, iron, trees, oil, etc. Moreover, Q Solar 1, the Company's subsidiary that generates electricity from solar energy, needs to use main electricity to support the solar energy generation process. In addition to electricity and oil, water is used for consumption and management. Therefore, the Company places importance on cost-effective use of various resources with awareness that resources such as electricity or oil or raw materials used in production which came from converting natural resources into energy, raw materials and products, and cost-effective use will help to extend use of that resource for mutual social benefits and cut the Company's costs.

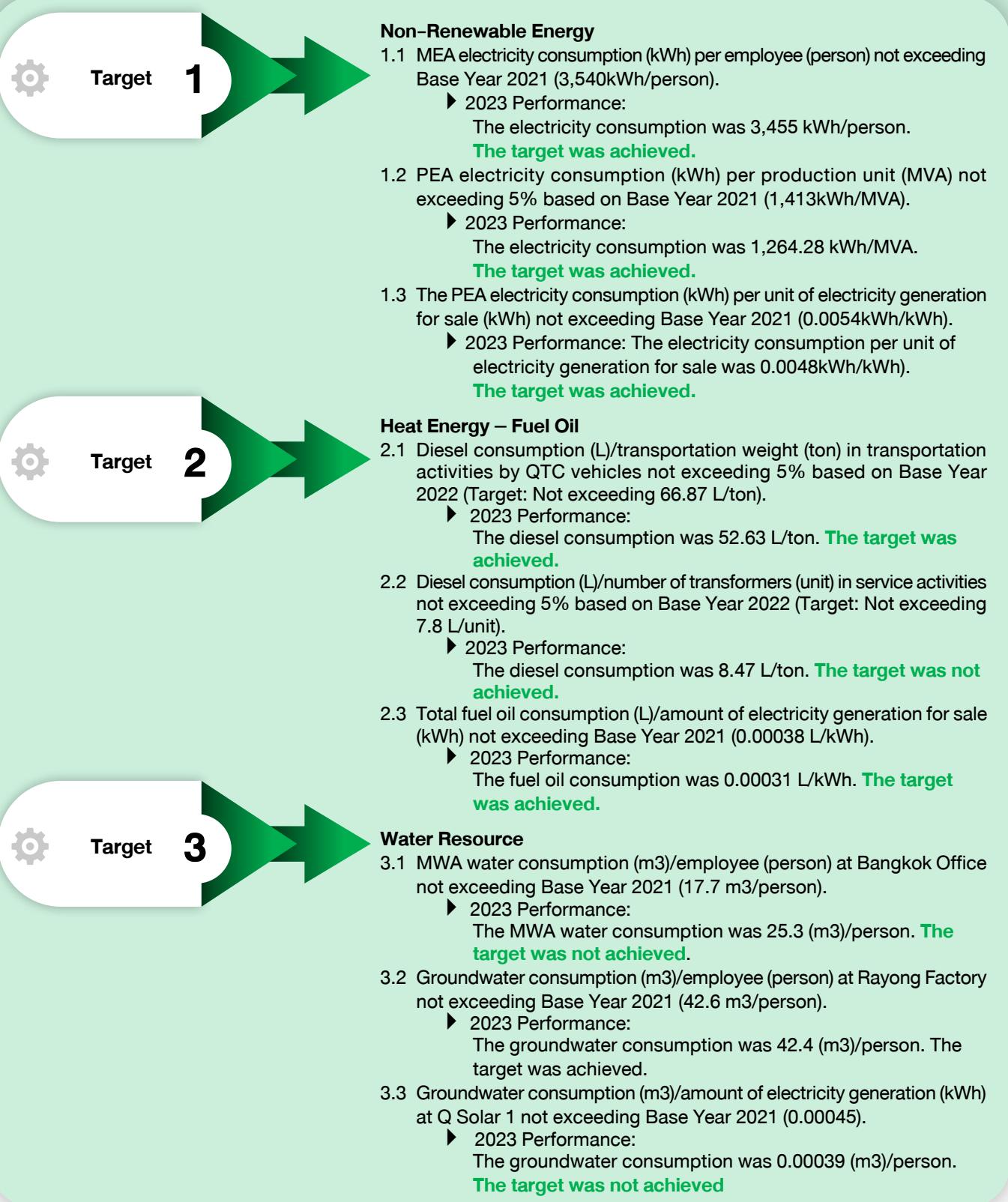
Based on impact assessment of resource consumption including electricity, fuel, water and raw materials for production, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities For Sustainable Use of Resources



Due to the concerns of stakeholders and the organization from such impacts, the Company has established objectives and goals for the cost-effective use of electricity, fuel oil and water as necessary. The goals are as follows:

Objective :	1 To use resources for maximum cost-efficiency. 2. To reduce business operation costs.
Management :	Quality management with ISO9001 standards, energy management with ISO50001 standards (implemented without requesting accreditation) and ISO14001 standards including the organization's environment, energy and corporate carbon footprint policies.



Overview of Resource Consumption Efficiency

Target:

Consumption of Each Resource Type Not Exceeding Base Year 2021

Resource Consumption Description		Year of Operation		
		2021 (Base Year)	2022	2023
Total Income		1,185.03	1,236.70	1,360.91
Average Total Number of Employees per Year (person)		278	281	287
Electricity	Electricity Consumption from Power Lines (kWh)	1,979,801	1,871,518	1,593,465
	Electricity Consumption from Solar Rooftops (kWh)	25,391	36,325	177,991
	Total Electricity Consumption (kWh)	2,005,192	1,907,843	1,771,456
	Electricity Consumption from Power Lines (kWh) Reduced by 5% per Year	-	-5.47%	-14.86%
	Total Electricity Consumption (kWh)/Total Income (million baht)	1,692.10	1,542.69	1,301.67
Fuel Oil	Benzene Consumption (L)	27,189	31,230	35,336
	Diesel Consumption (L)	72,349	77,385	88,714
	Total Fuel Oil Consumption (L)	99,539	108,615	124,050
	Total Fuel Oil Consumption (L)/Total Income (million baht)	84.00	87.83	91.15
Water	MWA Water Consumption (m3)	883	913	1,392
	Groundwater Consumption (m3)	14,810	13,562	13,896
	Total Water Consumption (m3)	15,693	14,475	15,288
	Total Water consumption (m3)/Employees (person)	56.45	51.51	53.27

Measures to promote efficient resource utilization



Close the water tap every time after use. Turn off the light switch, unplug every time after use.

Similarly, go together.

Join us in caring for the world Mr.Details



Ms.Quality

Q Energy Use

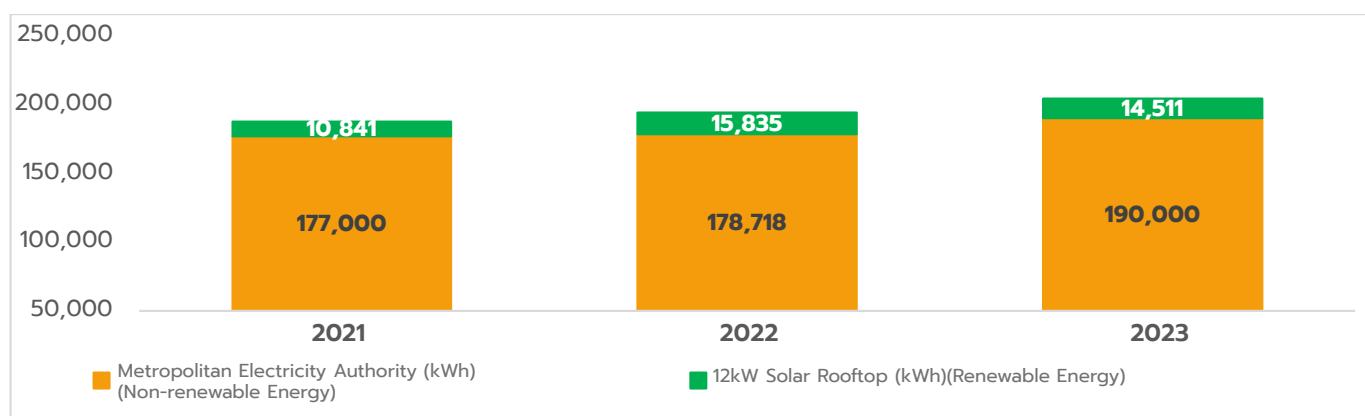
Processes in manufacturing activities, service provision, office work and electricity generation of QTC, QTCGP and Q Solar 1 use energy from the following two parts:

1. Electricity

QTC's factory does not fit the criteria for energy conservation pursuant to the law. The Company uses electricity purchased from two outside sources consisting of electricity from the Metropolitan Electricity Authority for use in the main office in Bangkok and electricity from the Provincial Electricity Authority for use in the factory in Rayong (non-renewable energy) and the solar rooftops (renewable energy).

Table and Graph EN1 Showing Amount of Electricity Used in the Bangkok Office

Item	Year of Operation		
	2021 (Base Year)	2022	2023
Metropolitan Electricity Authority (kWh) (Non-renewable Energy)	177,000	178,718	190,000
12kW Solar Rooftop (kWh) (Renewable Energy)	10,841	15,835	14,511
Average Number of Employees (Person)	50	53	55
Electricity Consumption (Non-Renewable Energy)/Employee (Person)	3,540	3,372	3,455

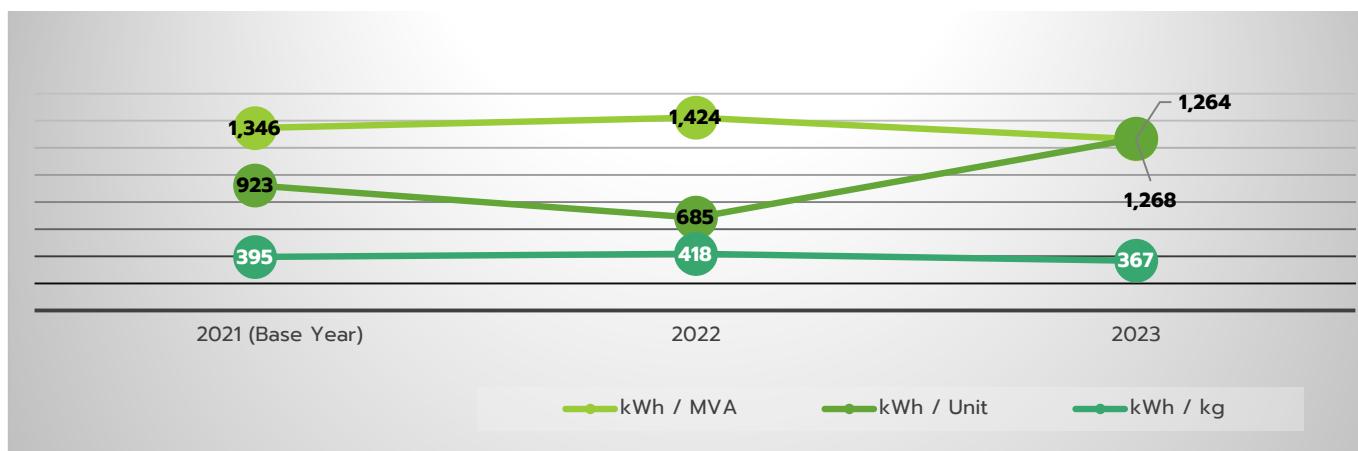


According to Table and Graph EN1, the Bangkok Office's electricity consumption in 2023 increased from 2022 by 6.31%, with 92% of electricity consumption from MEA (non-renewable energy) and 8% from solar rooftops (renewable energy). The increase of electricity consumption from 2022 was due to an increase in office personnel. There was an increase in the use of air conditioners, water pumps and office supplies. As a result, electricity consumption increased in line with business activities.

In 2023, the Company set an electricity consumption goal (non-renewable energy) for the Bangkok Office, whereby the proportion of electricity consumption (non-renewable energy) (kWh)/employee (person) is not to exceed that of Base Year 2022 or no more than 3,540kWh/person. In 2023, the goal was achieved.

Table EN2 Showing Efficiency of Electricity Use at the Rayong Factory

Item	Year of Operation		
	2021 (Base Year)	2022	2023
Provincial Electricity Authority (kWh) (Non-Renewable Energy)	1,733,672	1,635,544	1,342,592
12kW Solar Rooftop (kWh) (Renewable Energy)	-	8,090	148,580
Production Volume in Units of Power (MVA)	1,288	1,149	1,062
Production Volume in the Number of Transformer Units (Unit)	1,878	2,388	1,059
Production Volume in Production Weight (Ton)	4,391	3,909	3,659
Proportion of Electricity Consumption (Non-Renewable Energy) (kWh)/MVA	1,346	1,423	1,264
Proportion of Electricity Consumption (Non-Renewable Energy) (kWh)/Unit	923	685	1,268
Proportion of Electricity Consumption (Non-Renewable Energy) (kWh)/Ton	395	418	367



In Table EN2 and Graph EN2, it can be seen that in 2023 the total electricity consumption in the Rayong factory was lower than in Base Year 2021 by 14% or 242,500kWh. The electricity consumption proportions were 90% or 1,342,592kWh from the PEA and 10% or 148,580kWh from solar rooftops (renewable energy).

As for electricity consumption from PEA power lines (non-renewable energy) per production unit, this increased by 37% from Base Year 2021 (used as reference). The electricity consumption per kg production weight decreased from 2021 by 7.07% and the electricity consumption per MVA production unit decreased from 2021 by 9% or 1,264kWh/MVA. The target was achieved.

In 2023, new indicators were used with 2021 as the base year instead of 2019 due to improvements made in the production process between 2021 and 2023, which have more similar activities than in 2019.

Table and Graph EN3 Showing Efficiency of Electricity Use at Q Solar 1

Item	Q Solar 1 ผลิตไฟฟ้าพลังงานแสงอาทิตย์					
	2021		2022		2023	
	Meter	Meter	Meter	Meter	Meter	Meter
6100034354	23056659	6100034354	23056659	6100034354	23056659	6100034354
Public Utilities	Systems	Public Utilities	Systems	Public Utilities	Systems	Systems
PEA Electricity (kWh) for Internal Use Non-Renewable Energy	17,529	51,600	7,336	49,920	8,433	52,440
Solar Rooftop (kWh) for Internal Use Renewable Energy	14,550		12,400		14,900	
Electricity Generation (kWh) for Sale Renewable Energy	12,895,080		12,770,880		12,781,560	
Non-Renewable Energy Consumption (kWh) to Electricity Generation for Sale (kWh)	0.0054		0.0045		0.0048	

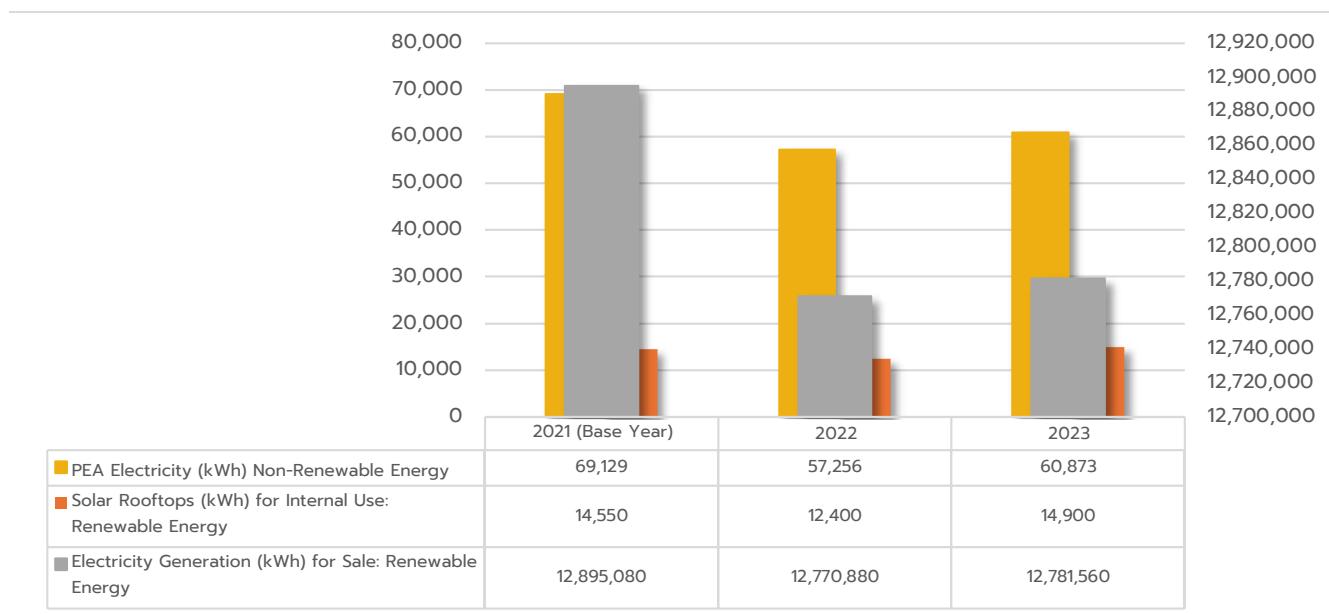


Table EN3 and Graph EN3 show Q Solar 1 Power Plant's efficiency in using electricity from power lines (PEA) and solar rooftops for internal management and electricity generation from solar energy for sale to the PEA. In 2023, new indicators were determined for electricity consumption efficiency where the consumption of electricity from PEA power lines (kWh) per unit of electricity generation for sale (kWh) was not to exceed that of Base Year 2021.

In 2023, the consumption of electricity from PEA power lines (kWh) per unit of electricity generation for sale (kWh) decreased from Base Year 2021 by 11.16% or 0.006kWh. The target was achieved.

2. Thermal Energy-Fuel

Diesel and benzene (gasoline) are used for activities such as transportation outside the Company, services, transportation inside the Company, employee shuttles and office cars. In 2023, the Company used fuel according to the following table

Table EN4.1 Total Fuel Consumption by QTC Energy: Non-renewable Energy

Description	Year of Operation		
	2021 (Base Year)	2022	2023
Diesel (L)	70,647.00	77,927.38	87,990.94
Benzene (L)	24,036.17	28,883.17	32,041.51
Total Fuel Consumption (L)	94,683.17	106,810.55	120,032.45

Table EN4.2 Proportion of Diesel Consumption per Unit for QTC Energy Non-renewable Energy

Description	Year of Operation		
	2021 (Base Year)	2022	2023
Diesel (External Delivery Activities)	N/A	31,417.95	38,057.44
Benzene (Service Activities)	N/A	34,344.48	40,508.25
Weight of Transformers Delivered by QTC (tons)	488	493	723
Number of Transformers Serviced (Units)	4,298	4,621	4,784
Proportion of Diesel Consumption (L)/Delivered Transformer Weight (tons)	N/A	63.69	52.63
Proportion of Diesel Consumption (L)/Serviced Units (Units)	N/A	7.43	8.47

According to Table EN4.2, in 2023, the proportion of diesel consumption for external transportation activities by QTC vehicles to the weight of delivered transformers (ton) reduced from Base Year 2022 by 17% or 11 liters per ton. The target (not exceeding 66.87 L/ton) was achieved. In addition, the proportion of diesel consumption for service activities to the number of serviced transformers increased by 2% or one liter per one transformer serviced. The target (not exceeding 7.8 L/unit) was not achieved. In 2023, new indicators were determined for efficiency in measuring results

Table EN5 Fuel Consumption by Q Solar 1 (Non-Renewable Energy)

Description	Year of Operation		
	2021 (Base Year)	2022	2023
Diesel (For Trucks, Cars) (L)	1,702.34	808.18	723.19
Benzene (For Grasscutters, Water Pumps) (L)	3,153.26	2,388.92	3,294.05
Total Fuel Use (L)	4,855.60	3,197.10	4,017.24
Generated Electricity (kWh) for Renewable Energy Distribution	12,895,080	12,770,880	12,781,560
Total Fuel Consumption (L)/Generated Electricity (kWh)	0.00038	0.00025	0.00031

According to Table EN5, performance efficiency indicators were determined, whereby the total fuel oil consumption (L) to electricity generation for sale (kWh) was to not exceed that of Base Year 2021. In 2023, the amount decreased from 2021 by 16.53% or 838.36 liters. **The target was achieved.**

Q Water Use

• Water Management of Factory in Rayong

QTC's factory is located in an area without natural and public water sources. Groundwater had to be used for consumption. No water was used in the transformer manufacturing process. The main office in Bangkok used water from the Metropolitan Waterworks Authority.

Image of Underground Water Consumption Activities of QTC's Factory in Rayong

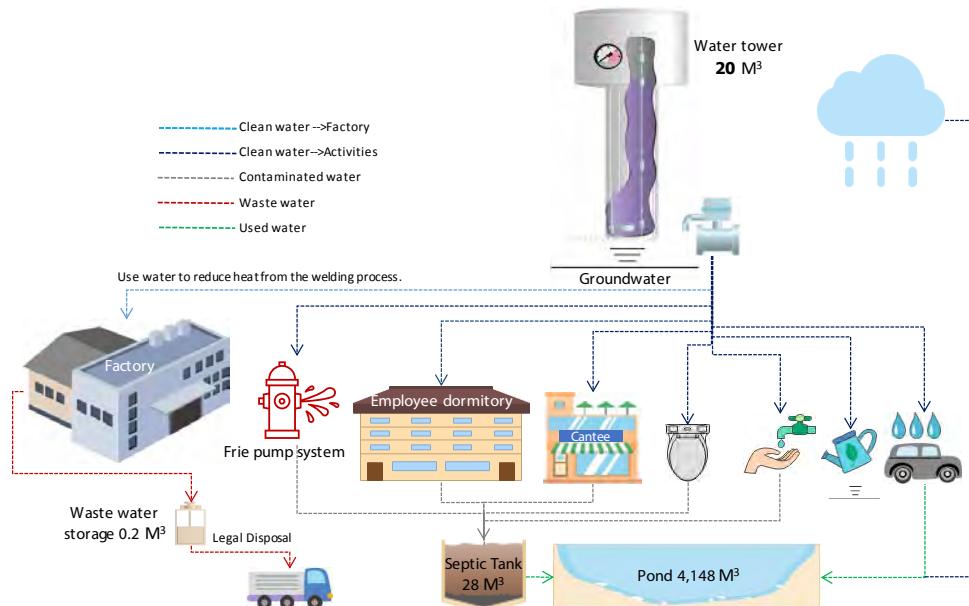


Table EN6 Water Consumption in 2021-2023

Description	QTC Energy		
	2021 (Base Year)	2022	2023
Bangkok Office: Metropolitan Waterworks Authority (m3)	883	913	1392
Average Number of Employees – Bangkok Office (persons)	50	53	55
Rayong Factory: Undergroundwater Withdrawal (m3)	8,948	8,989	8,869
Average Number of Employees – Rayong Office (persons)	210	212	209
Water Consumption (m3)/Employee (Person), Bangkok Office	17.7	17.2	25.3
Water Consumption (m3)/Employee (Person), Rayong Factory	42.6	42.4	42.4
Total Effluent/Wastewater for Bangkok Office + Rayong Factory (m3)	7,865	7,922	8,209

According to Table EN6, in 2023, the MWA water consumption per employee for Bangkok Office increased from Base Year 2021 by 4% or 7.6 m³ per person. The target was not achieved due to leakage in the underground water storage tank in 2023 from bored piling work at a construction site near the office. This caused a crack in the underground water storage tank resulting in a large volume of water leaking out. At present, the issue has been resolved. As for the groundwater consumption per employee at Rayong Factory, there was a decrease from 2021 by 1% or 0.2 m³ per person. **The target was achieved.**



• Water Management by Q Solar 1

Q Solar 1 has an area of more than 200 rai in the community of Ban Bo Thong, Kabinburi, Prachinburi, and needs to use water for benefits in two areas:

1. Use of water for public consumption and to clean 86,688 solar panels in order to maximize electricity generation efficiency. Solar panels were used for 20 times per year and needed 6,500 cubic meters of clean groundwater per year to remove heavy metals and stains before operations.
2. Use of water to irrigate trees and for activities in agricultural plots of the Sufficiency Economy Philosophy Center. In this part, water does not need to be treated water. Therefore, QTC dug three ponds to hold water in the rainy season to use in dry seasons with a capacity for storing 149,996 cubic meters of rainwater per year. The remaining water is gradually drained into public canals. This can reduce groundwater pumping and have an added benefit from slowing potential floods from rainwater from areas where solar panels are installed to communities around the power plant.

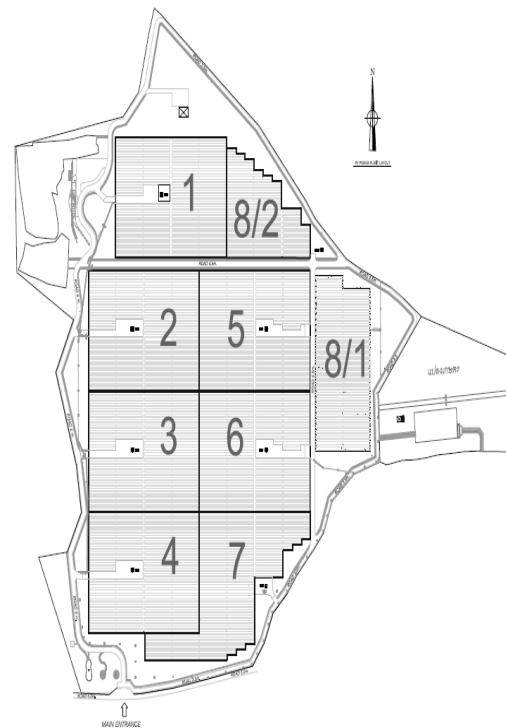


Table EN7 Groundwater and Natural Water Withdrawal and Natural Water Storage for 2021-2023 (Q Solar 1)

Description	Year of Operation		
	2021 (Base Year)	2022	2023
Q Solar 1 Groundwater (m ³)	5,862	4,573	5,027
Electricity Generation (kWh) for Sale: Renewable Energy	12,895,080	12,770,880	12,781,560
Groundwater Consumption (m³)/Electricity Generation (kWh)	0.00045	0.00036	0.00039
Effluent/Wastewater	4,690	3,658	4,022
Natural Reservoir (Reservoir 1) (m ³)	>101,076	>101,076	>101,076
Natural Reservoir (Reservoir 2) (m ³)	>42,972	>42,972	>42,972
Natural Reservoir (Agricultural Plot) (m ³)	>5,948	>5,948	>5,948

According to Table EN7, indicators were determined for measuring performance efficiency, whereby the groundwater consumption (m³) per unit of electricity generation for sale (kWh) was to not exceed that of Base Year 2021. In 2023, the amount decreased from 2021 by 13.48% or 835 m³. The target was achieved.

All three of the Company's areas did not have a wastewater treatment system. Thus, the Company has no projects to reuse treated water but uses measures to conserve water and use water efficiently.

Q Use of Raw Materials for Production and Service Provision

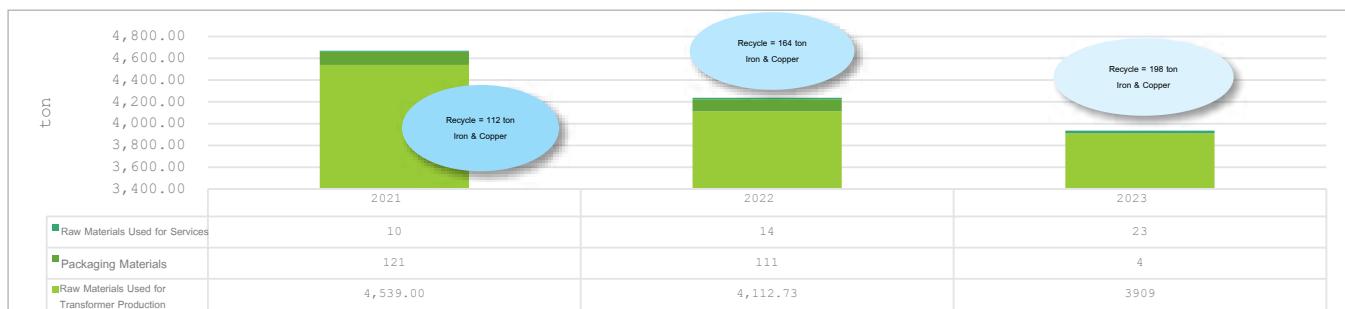
The QTC Factory in Rayong manufactures distribution transformers and provides transformer maintenance and repair services. Some materials were imported from abroad while some materials were procured in Thailand. Some raw materials can be reused after being recycled in a processing plant and cannot be reused immediately due to effects on transformer quality. Some raw materials cannot be reduced and have to be disposed of as waste. Data on the weight of raw materials used in production was collected. Some items can be calculated in weight units and other units needed to be converted by using the following methods:

Raw materials with counting units that are not weight units such as meters, sheets, pieces, sets and liters, etc., will be sampled for one weighing unit and converted into kilograms before use to calculate pieces for production or be converted by using an international metric to convert the value in kilograms.

- When transformers are designed, transformer weight is calculated by using the weight of raw materials to calculate weight in kilograms according to the standard design and production formulas are issued to requisition raw materials specified in designs. The list of raw materials requisitioned and production formulas may have a deviation of + 5%.
- Packaging done in some orders according to must customer agreements are packages for export and biddings. Calculations of the weight of materials used from the production order design has a deviation of + 5 percent.
- Most raw materials used in providing services were transformer oil and other accessories, which are converted in kilograms.

Table and Graph EN8 Showing Volumes of Production, Services and Raw Materials/Materials in 2021-2023

Description	2021			2022			2023		
	Counting Unit			Counting Unit			Counting Unit		
	Machine (units)	Capacity (MVA)	Weight (Ton)	Machine (units)	Capacity (MVA)	Weight (Ton)	Machine (units)	Capacity (MVA)	Weight (Ton)
1. Volume of new Transformers Manufactured and Repaired Transformers.	1878	1288	4391	2388	1149	3909	1059	1061.94	3659
2. Volume of Maintenance Services	4269	N/A	N/A	4621	N/A	N/A	4784	N/A	N/A
3. Volume of Raw Materials Used in Production	N/A	N/A	4539	N/A	N/A	4113	N/A	N/A	3909
4. Volume of Raw Materials Used for Packaging	1531	N/A	121	1139	N/A	111	1139	N/A	4
5. Volume of Raw Materials Used for Services	N/A	N/A	10	N/A	N/A	14	N/A	N/A	23
6. Volume of Materials Sent for Recycling to Process into Starting Raw Materials (Copper and Steel)	N/A	N/A	112	N/A	N/A	164	N/A	N/A	198



The Company did not establish goals regarding the proportion of raw material consumption per production unit as the production of transformers use fluctuating amounts of raw materials according to customers' specs which depend on the design of each order of transformers. Therefore, the Company was unable to create the appropriate indicators, and so the overall consumption is reported.

Biodiversity

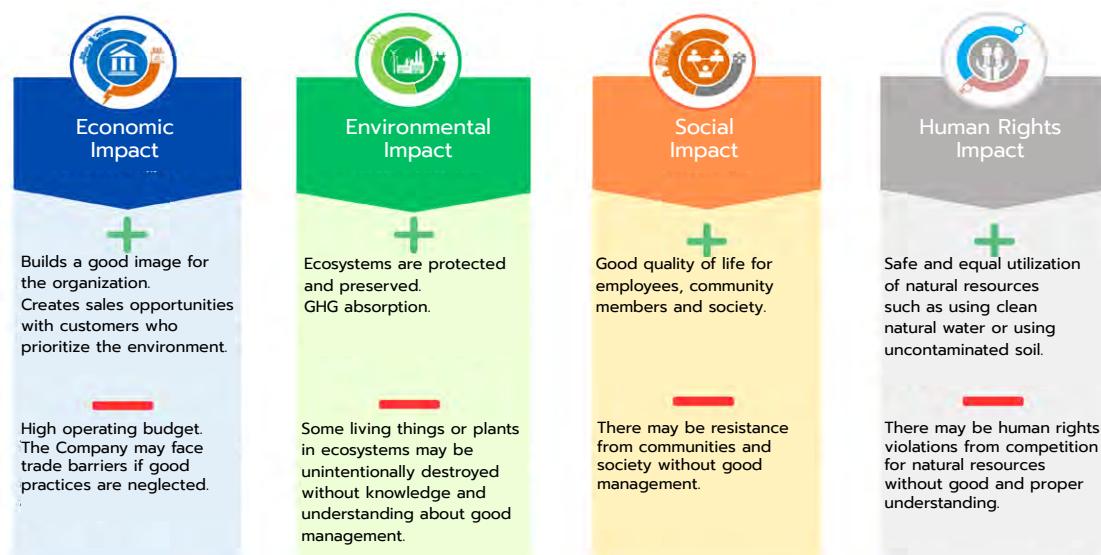


Economic growth in the industrial sector and urban society is likely to expand, causing effects on ecosystems and biodiversity where life exists in many forms. For example, land utilization to establish industrial estates affects existing ecosystems, causing effects on aquatic animals and plants. Climate change also affects biodiversity. These effects are mostly caused by humans. Without support or protections for biodiversity in ecosystems, severe effects may be caused to plants and animals that are sensitive or unable to adapt, causing these plants and animals to become extinct in nature, which would also cause chain reactions in the natural life cycle, including humans.

Currently, biodiversity issues have become important to stakeholders in the community, society, and the government sector, including domestic and foreign customers. Business organizations that do not consider these issues in business operations may be at risk of losing permissions for business operations or causing trade barriers. QTC is well aware of the importance of biodiversity. Even though QTC's business operations do not cause effects on biodiversity due to good management systems, business operations in subsidiaries to construct solar power plans, which require changes in land utilization, may affect biodiversity and the stakeholders involved. Therefore, the Company must include biodiversity issues in systematic management in order to control and reduce potential effects in the future.

Risk assessment in areas where two of the Company's factories are located, namely, the transformer factory in Rayong and the Q Solar 1 power plant in Prachinburi, found both factories to be distant from conservation areas or areas with biodiversity and have no biodiversity risks in conservation areas. However, QTC continues to place importance on this issue by assessing positive and negative effects with coverage of economic, environmental, social, and human rights aspects of areas where factories are located. Risks and opportunities in operations are as follows:

Risks and Opportunities For Biodiversity

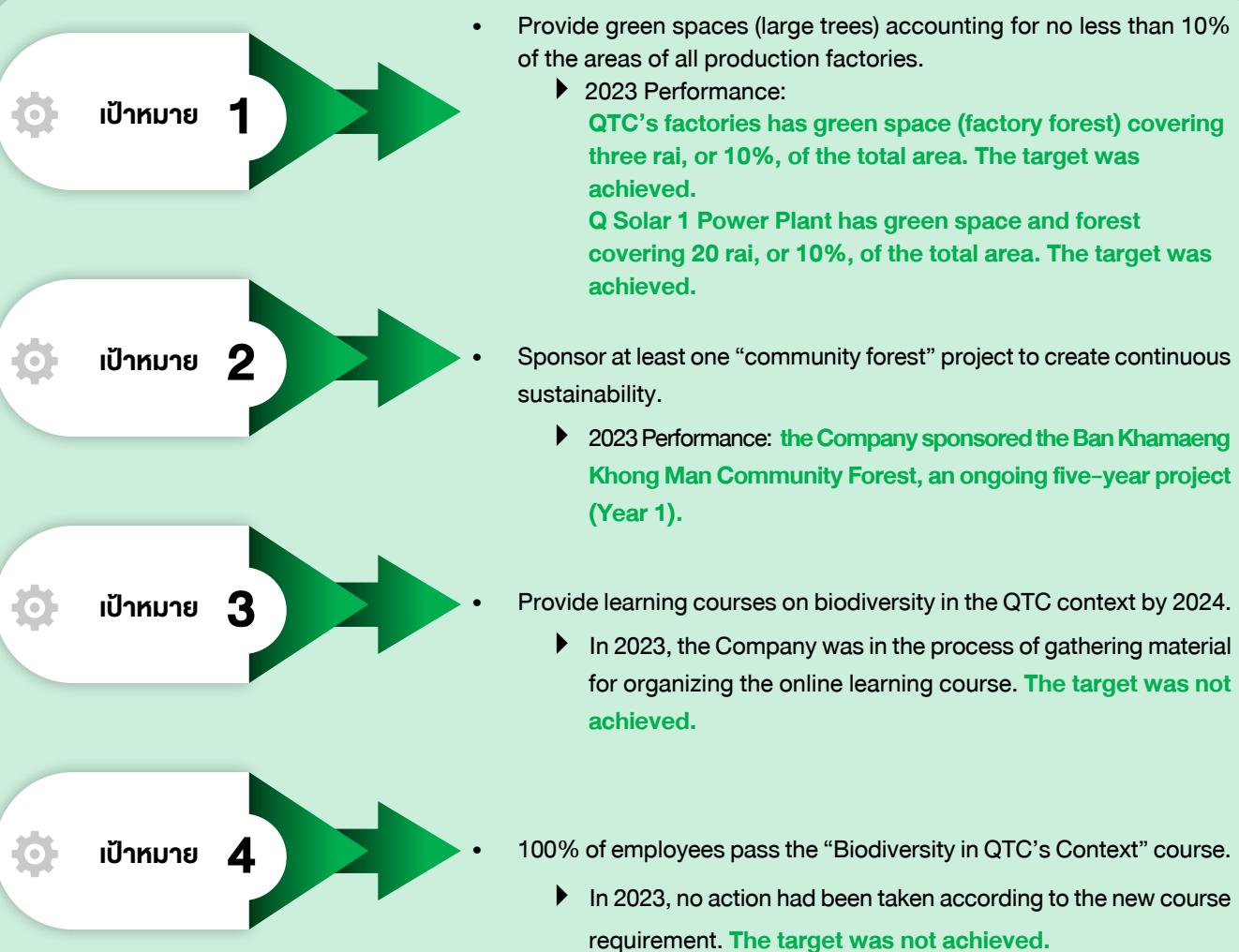


Objectives:

1. To have systematic management.
2. To develop the organization's employees to be aware of impact to the environment and biodiversity by creating courses to provide knowledge that they can easily understand.
3. To reduce negative impacts from business activities with potential impact on biodiversity.

Management :

Environmental management with the ISO14001 standard and an environmental policy covering biodiversity protection.



Because QTC's transformer factory is located on arid land without water sources and forests in the self-development industrial zone in Pluak Dang, Rayong, assessment of effects on biodiversity in the Company's production process found the Company's water utilization to require groundwater extraction, which may affect the underground ecosystem if groundwater dries up and becomes insufficient to sustain the lives of small organisms living underground. Furthermore, the Company's production process uses large quantities of transformer oil. Oil spills into the soil or contamination in wastewater may affect aboveground and aquatic ecosystems including trees and forests in the factory's area. The Company's management in the area of the factory in Rayong is as follows:

Management

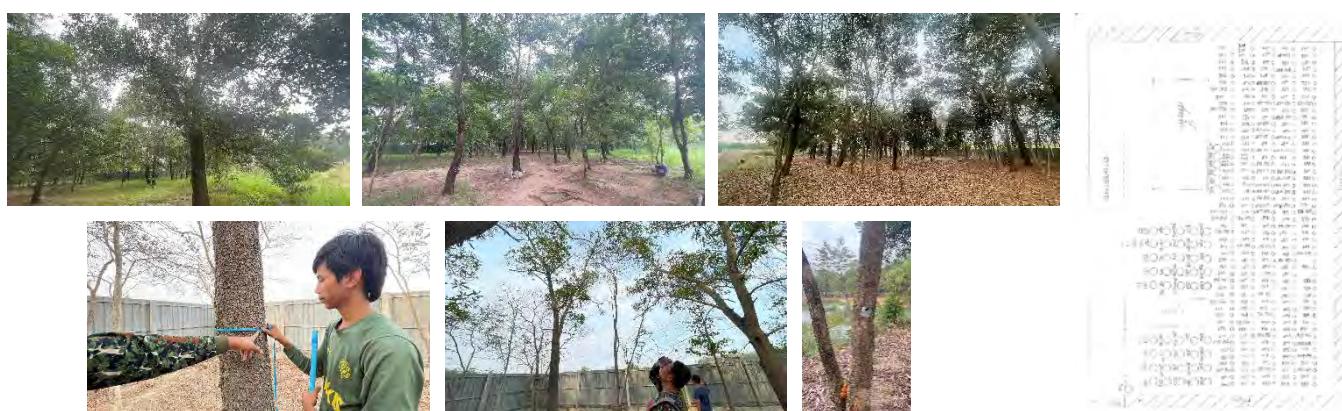
The Company's environmental management follows the ISO14001 standard system with coverage of every activity and accreditations. SGS conducts accreditation inspections on an annual basis.

- The Company has modified its environmental policy to cover biodiversity effects.
- The environmental policy is available at <https://qtc-energy.co/th/energy-policy/>.
- The Company sets a budget to support "community forests" and create a volunteer mindset with QTC and the community.

"Forest in the Factory"

The Company has continually recognized and placed importance on conditions at the location of the Rayong factory for a long time. The factory's conditions are dry without water sources. Groundwater extraction for consumption may affect groundwater quantities in the future. This may cause effects on small organisms in the underground ecosystem. Therefore, the Company prepared the "Forest in the Factory" project since 2013 by setting aside 3 rai of factory land out of 30 rai or 10% of the total area to plant a mixture of plants and commercial trees to maintain soil moisture and hold groundwater. The Company also excavated a large pond to cultivate aquatic plants and released fish into the pond to live naturally as a food source for employees and nearby people.

Currently, the plants and commercial trees have grown to be more than ten years old. These trees have flowered and fruited to provide food for insects, small animals, and many types of birds that have begun to live in the "Factory Forest" area such as greater racket-tailed drongos, woodpeckers, orioles, squirrels, and reptiles such as monitor lizards and pythons, which came to live in a small ecosystem in QTC's factory. Apart from creating benefits for small ecosystems, the "Forest in the Factory" can hold greenhouse gases. In 2024, the Company will consider carbon credits from the "Forest in the Factory" In December 2023, the Company invited forestry officials from the Province of Rayong to advise about measuring sizes and heights to calculate the amount of carbon stored in each type of tree as part of the Company's guidelines to achieve net zero emission goals by 2035.



Images of the forests in QTC's factories at present.

"Sufficiency Agricultural Garden" at Q Solar 1 Power Plant

Q Solar 1 Co., Ltd. operates in the business of generating electricity from solar panels with a generation capacity of 8.7 MW. The company is located in Bo Thong, Kabinburi, Prachinburi, with an area of approximately 200 rai. Because the location is shared with a community, water resources are shared with the community. Therefore, any power plant activities require awareness of the effects on community and environment. Negative effects must be transformed into positive effects for the power plant, community, and environment. Because the terms for constructing a solar power plant require setting aside a green zone of at least 10% of the area to compensate for inability to plant large trees in areas equipped with solar panels because the trees will block sunlight, the Q Solar 1 power plant manages as follows:

- Environmental management follows the ISO14001 standard system with coverage of every activity. Accreditations are achieved through annual assessments by Intertek.
- **The "Sufficiency Agricultural Garden"** has an area of 17 rai and was created to restore land damaged by grading to install solar panels by planting ground covering plants, garden vegetables, fruit trees, and various trees. The soil is conditioned by composting. Ducks, chickens, and fish are raised according to Sufficiency Economy Philosophy guidelines. Currently, soil conditions have been restored to fertility and the produce is shared with employees and sold to community members at inexpensive prices. Large trees used for shade are planted in three rai outside the area where solar panels are installed because trees may block sunlight, which is an important resource in electricity generation. Moreover, the company has three water retention ponds with a rainwater storage capacity of 149,996 cubic meters to store water for use in the power plant's solar panel cleaning activities and watering trees in the garden. In addition, the water retention ponds reduce effects on the community in rainy seasons with heavy rainfall. The water retention ponds will reduce water flow and prevent severe water flows from affecting the community.



Images of the agricultural space at the Q Solar 1 Power Plant.

“Ban Khamaeng Khong Man” Community Forest

In 2023, the Company allocated a budget to support the Ban Khamaeng Khong Man in planting large trees to replace old trees that had been burned in a forest fire. In addition, the Company allocated a budget to care for trees for a period of five years under the “QTC Plants Forests, Reduces Global Warming, and Returns Balance to Forests” with cooperation from 150 people in the Community Forest Community, the Provincial Forestry Center, local people and students including the Company's volunteers to plant 1,050 trees of over 10 species on 7 November 2023. Tree species were selected and provided by the Community Forest Committee because the trees must be native tree species to facilitate growth. The Company has an agreement with the Ban Khamaeng Khong Man Community Forest Community in which the Company promises to take care of the forest area and ensure the forest grows. The Company will monitor performance on at least an annual basis and provide 10,000 baht per year to nurture the forest. If the planted trees die, the Company will allocate more of the budget to plant replacements. The budget expenditure in the project is a total of 200,000 baht. In the first year, 90,097 baht has been spent.

Information for Ban Khaemong Khongman Forest

Community Forest Name: Ban Khamaeng Khong Man Community Forest

Starting Year: 2018

Location: Chak Don, Klaeng, Rayong

Area: 73 rai, 1 ngan, 91 square wa

Forest Type: Land According to Public Land Certificate

Village: Ban Khamaeng Khong Man (Moo 8)

Registration Year: 2018 Ending Year: 2027

Project Approval Document No.:

Thor. Sor. 1604.43/2886 Lor. Wor. 14 Feb '18



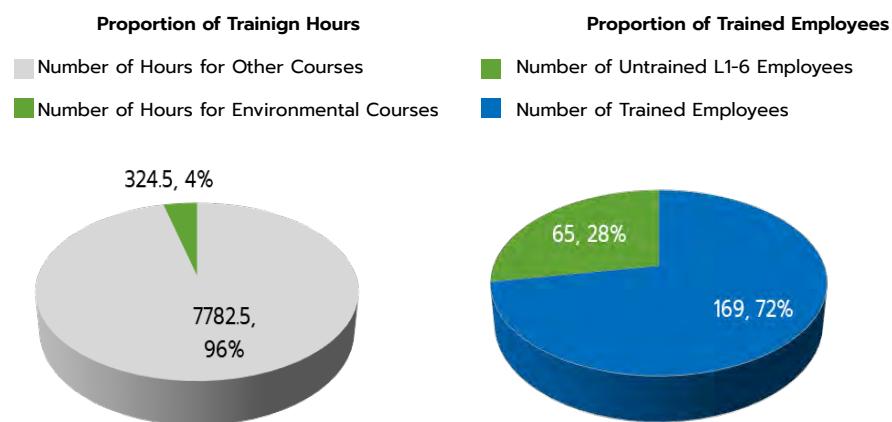
Images of the “QTC Plants a Forest to Reduce Global Warming and Restore Balance in the Forest” activity.

Raising Awareness and Building Environmental Responsibility

In 2023, the Company did not complete preparation of the "Biodiversity in QTC Contexts" course. Therefore, the Company has not provided training for employees in the new course. However, the Company recognizes the importance of the aforementioned issue and has announced a new environmental policy with coverage of biodiversity issues. Employees have been instructed about risks and effects on the aforementioned issues at executive-employee meeting activities and employees were asked to strictly follow the policy.

The "Biodiversity in QTC Contexts" course will be prepared in an e-learning format for employees to learn freely outside of working hours. In addition, a test form will be used to record the training backgrounds of each employee and completed in 2024.

Graph Showing Proportions for Environmental Training Hours and Trained Operation-Level Employee in 2023



Target: 100% of target employees receive environmental training.

The target was not achieved.



QTC received the Green Industry Award for Level 4 Green Culture from Mr. Ekkaphat Wangsuwan, Deputy Permanent Secretary of the Ministry of Industry at the Green Industry Awards 2023 under the program to develop places of operation into green industries and raise awareness among society in Fiscal Year 2023 of the Department of Industrial Works. The event was held at the Royal Thai Army Club (Vibhavadi) on 27 July 2023.



Social Responsibility

Employee Health & Safety

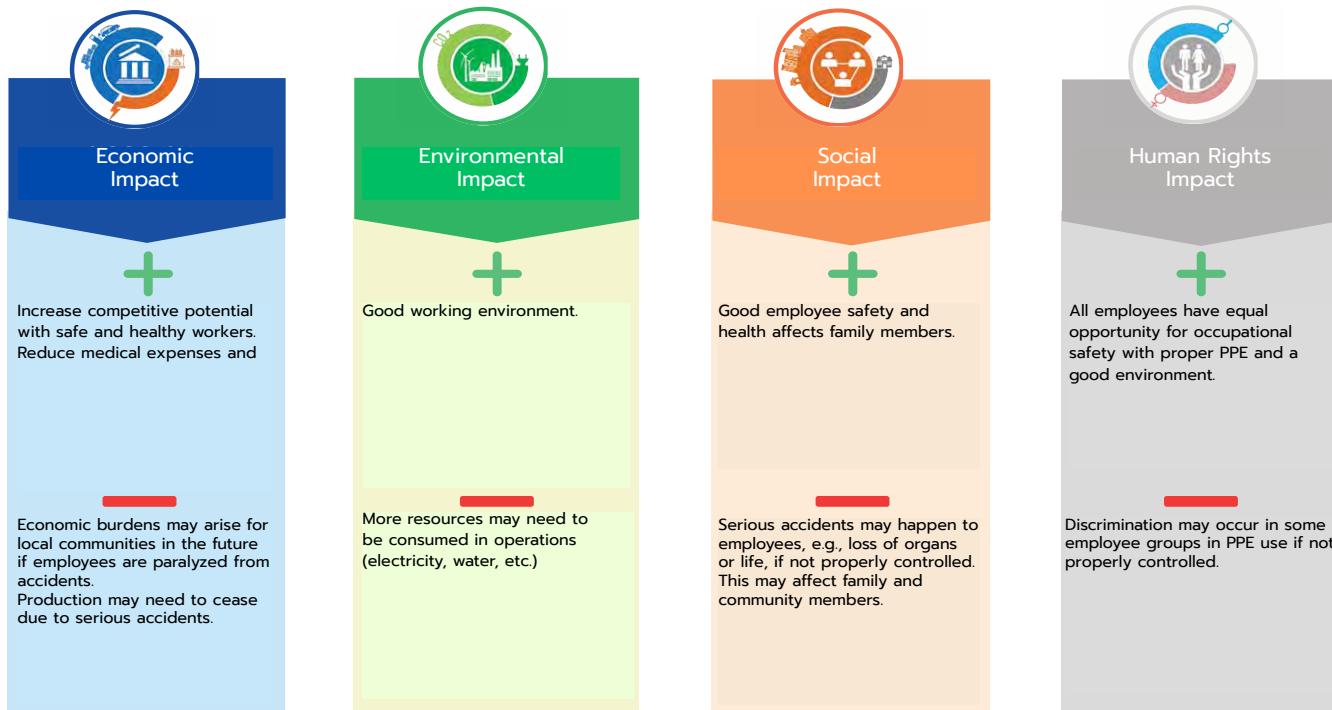


The Company is committed to implementing management systems, occupational health and safety standards and technology to achieve safety goals without injury to the point of death, loss of workdays or occupational injury and illness, and to promoting individual skill development and work system improvement to continuously raise the organization's potential by providing policies on occupational safety health and environment as well as safety rules for operations that impact employees as well as related stakeholders.

Assessment of issues important to stakeholders and QTC found employee safety and health to be the most important sustainability issue and a risk requiring strict control. The Company's directors and executives are aware of risks with potential impacts on employees and the Company's business. Therefore, the Company sees the importance of this issue and is committed to create safety for the work of employees and stakeholders in order to prevent accidents, injuries, illnesses and the Company makes efforts to discover, remove or control lack of safety and create a culture of safety in the organization.

Based on impact assessment of the all steps of the work process, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities For Employee Health & Safety



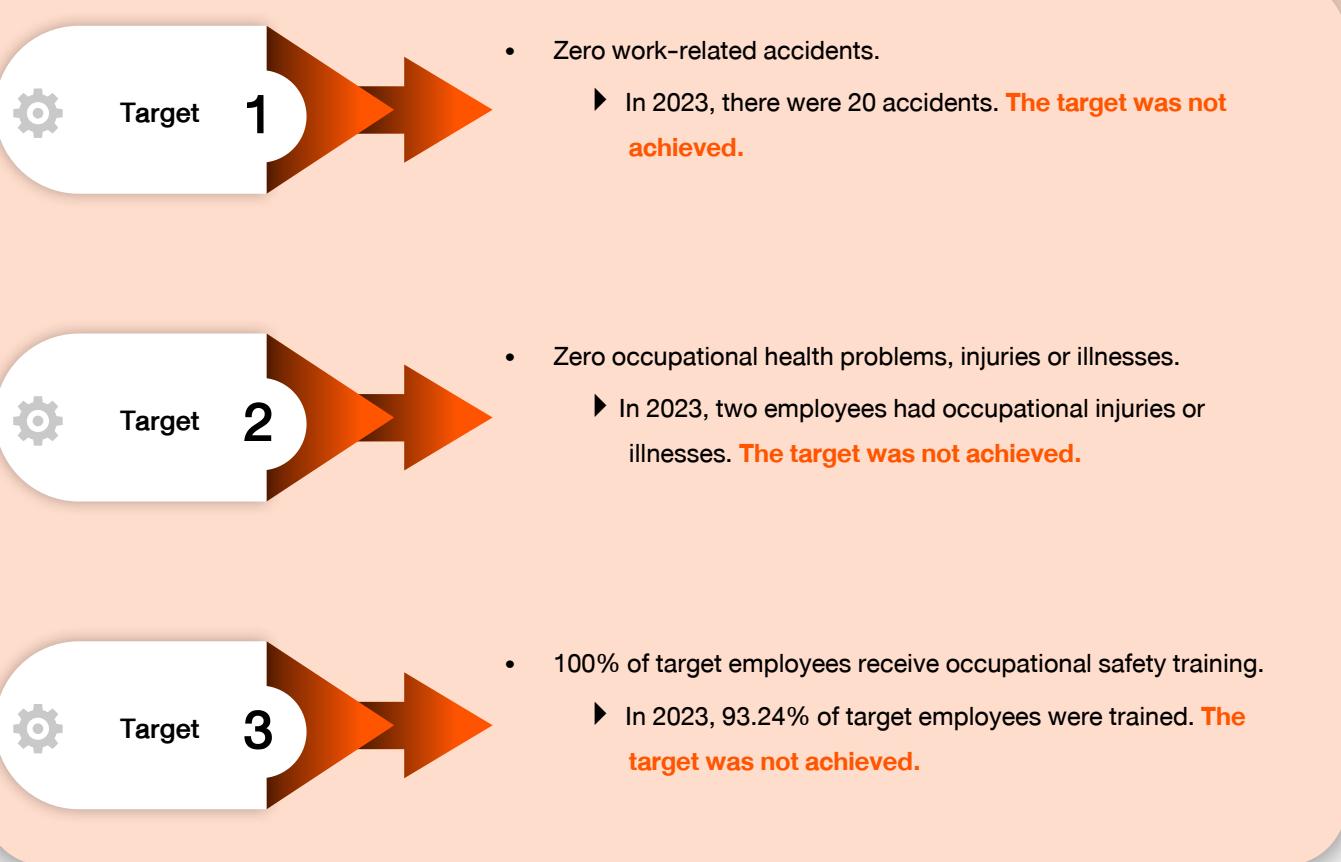
According to the aforementioned impacts, the Board of Directors and executives are concerned and gives importance to the implementation of occupational safety, health and environment management. In addition, such impacts are a major concern for employees, their families, and other relevant stakeholders. If an employee of the Company has suffered a serious accident or illness from work, it will not only affect the Company's operations, but will also affect the employee, their family and the surrounding society significantly. Therefore, the Company has set management standards and operational goals as follows:

Objective :

1. To create a culture of safety in the organization.
2. To prevent risk of factors that may cause accidents or employee health problems
3. To modify work environments to be suitable and support employees' physically and psychologically when working.

Management:

Management of safety, occupational health and work environment with ISO45001:2018 standards, designation of safety policies and goals to create guidelines and a happy workplace policy along with providing necessary personnel in the area of safety in addition to promoting procurement of personal protective equipment (PPE), modifying work environments to facilitate work and supporting activities that promote a culture of safety in the organization.



Safety

Occupational safety is the most important issue in which every employee at every level, including other stakeholders, involved must practice to create a safety culture. Furthermore, work safety is a corporate risk that must be controlled.



Safety, Occupational Health and Work Environment Policy: <https://qtc-energy.com/th/safety-policy/>

Standard Systems

The Company managed from safety, occupational health and work environment management system by implementing ISO45001:2018 standards and the Company was accredited for standards on an annual basis by SGS (Thailand) Company Limited. The Company made the following clear personnel and framework specifications:

Occupational Safety, Health and Environment Management Framework

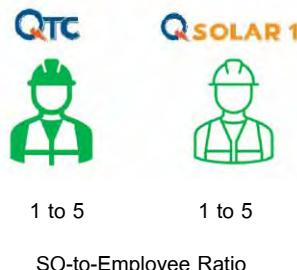


การรับรองมาตรฐาน ISO45001:2018

The Company requires safety to be evaluated and reviewed at least on an annual basis to select significant issues to prepare risk control and mitigation plans. Significant safety risks consist of fires, chemical leaks and use of forklifts to move objects.

The Company sent personnel to be trained and appointed as safety officers at various levels to perform duties required by law with the following safety officer-to-employee ratio:

Level	QTC Energy		Q Solar 1 Amount (person)
	Services & Bangkok Office Amount (person)	Rayong Factory Amount (person)	
Supervisor SOs	15	13	1
Technical SOs	-	-	-
Professional SOs	-	2	-
Executive SOs	14	16	1



Safety Committee (SC) Members in 2023-2024

(from elections in 2022)

Rayong Factory			Bangkok Office		
No.	First-Last Name	Position	No.	First-Last Name	Position
1	Mr. Charoensak Sarawong	Committee Chairman	1	Mr. Wichai Homchai	Committee Chairman
2	Mr. Thanakrit Thawiniran	Director	2	Miss Nittaya Sodaphrom	Director
3	Mr. Wichian Tawongchai	Director	3	Mr. Prawit Loetsi	Director
4	Mr. Aphichat Thakong	Director	4	Mr. Kiatsak Kritphaithun	Director
5	Mr. Siwa Sisuea	Director	5	Miss Natnaphat Thewakhunanon	Director/Secretary
6	Miss Pawitchaya Chansanit	Director			
7	Miss Arunrot Inthasiri	Director/Secretary			

Calculated as %4.46 of all employees on the Committee.

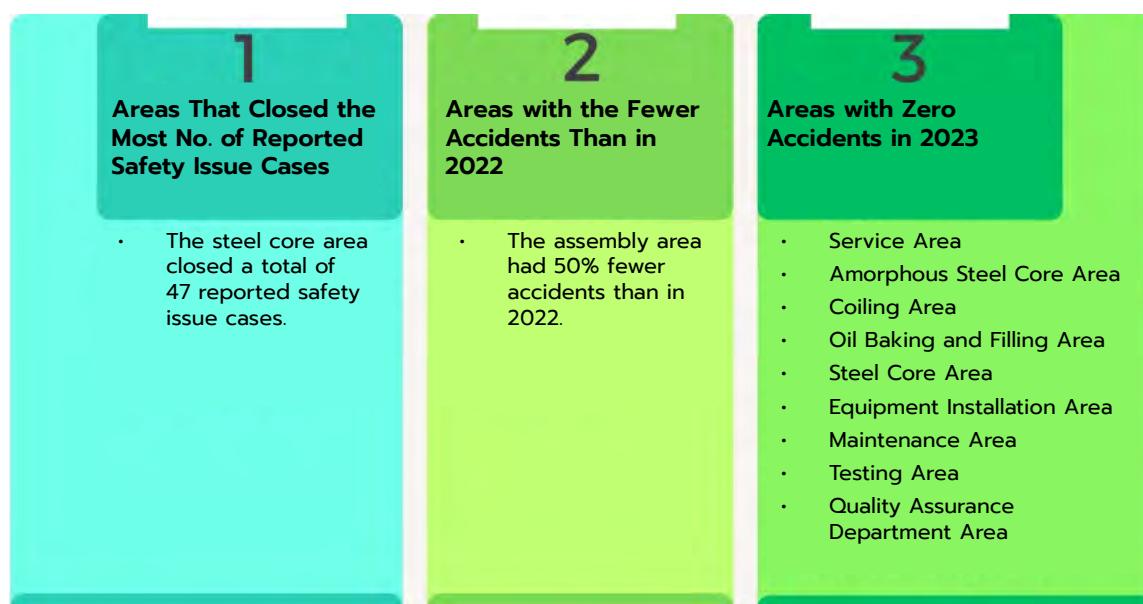
The roles and duties of the Safety Committee are in compliant with the Ministerial Regulations on Specification of Standards for the Management of Safety, Occupational Health and Environments in Working, B.E. 2549 (2006). Executives at every level recognize the importance of this issue and provided support including time, supporting tools, personnel and the budget necessary for proper use in safety management. A high-ranking executive was appointed to be the Chairman of the Safety Committee to closely monitor safety, follow-up and report performance to the Executive Committee on a monthly basis along with reporting performance to the Board of Directors on a quarterly basis.



Incentivization

In 2023, the Safety Committee (SC) prepared safety plans to reduce the number and severity of accidents. Plans included activities in various areas such as promoting employee participation in assessing safety, finding and resolving near-misses to reduce and prevent accidents and providing plans to incentivize all employees to participate in reducing accidents, etc. In 2023, the number of accidents increased from 2022 by 11% due to accidents resulting in serious injury to the point of disrupted workdays. The SC went onsite to investigate the accidents and implemented the Why-Why analysis to find the root cause along with the supervisors and employees at the work stations as well as to find solutions to prevent recurrence.

Nevertheless, in 2023, there were work areas without any accidents and areas with lower numbers of accidents than in 2022 to boost morale and promote participation and awareness of employee safety. Therefore, the Company presented awards and award money to these areas and designated all areas that received the awards as model safety areas. The areas awarded were as follows:



Total Prize Money in All Areas: 55,000 Baht



Transfer of Knowledge into Practice

In transferring knowledge and improving employee skills related to work safety, the Company used multiple channels to work such as by training in specified necessary courses, KYT activities and safety talk, practicing to learn, sharing first-hand accident experiences, and using videos or public relations documents to help employees including outside persons who work in the Company to have awareness of safety, generosity and help to prevent accidents to themselves, colleagues and the Company's property. In 2023, the Company organized 10 major practical training courses and spent 117,100 baht in operations as follows:

1

Forklift Driving Safety Course
By Eastern Training and Consultant Co., Ltd.

On 15 May 2023

- Target Group: A total of 27 out of 33 registered forklift drivers, or 81.82%, attended the training.
- Objectives: To provide knowledge and ensure that the employees knew proper procedures and were able to apply their knowledge in driving forklifts safely.
- Budget Spent: 17,000 baht



2

Occupational Disease and Work Safety Review Course
By Professional Safety Officers

On 19 – 30 June 2023, 10 Classes

- Target Group: A total of 226 out of 259 registered Rayong Factory and Bangkok Office employees, or 87.26%, attended the training.
- Objectives: To comply with legal requirements and inform employees of disease-causing health risk factors, disease prevention methods, and major disease symptoms.
- Budget Spent: -



3

Occupational Disease Course and Safety Promotion Activities at Q Solar 1 Power Plant
By Professional Safety Officers

On 6 July 2023

- Target Group: A total of 16 employees, or 100% of all employees, attended the training.
- Objectives: To comply with legal requirements and inform employees of disease-causing health risk factors, disease prevention methods, and major disease symptoms.
- Budget Spent: -



4

Machine Usage in the Steel Core Work Shop Course
By Supervisor and Systems Development Division

On 21 July 2023

- Target Group: Employees who use machines in the workshop area, 100% of whom attended.
- Objectives: To inform employees operating machines in the workshop area of the risks, dangers and protective measures, enabling them to inspect the machines before proper and safe operation.
- Budget Spent: -



5

Crane Operator, Supervisor, Signal Man, and Rigger Course
By Eastern Training and Consultant Co., Ltd.

On 31 July – 1 August 2023

- Target Group: A total of 13 out of 15 registered new employees, or 86.67%, attended the training.
- Objectives: To provide knowledge and ensure that the employees knew proper procedures and were able to apply their knowledge in operating cranes safely.
- Budget Spent: 30,000 baht



6

Safety Review Course for Working with Crane Operators, Signal Men and Riggers
By Eastern Training and Consultant Co., Ltd.

On 31 August 2023

- Target Group: Employees trained to operate cranes must take review courses every two years. A total of 45 out of 47 registered employees, or 95.74%, attended the training.
- Objectives: To review roles and duties in safe crane operation with awareness about safety in working with cranes.
- Budget Spent: 24,000 baht

7

Basic Fire Suppression and Fire and Evacuation Drill
By Hua Mak Fire Suppression and Rescue Station, Fire Suppression and Rescue Division 4

On 21 November 2023

Drill Summary

- A total of 17 employees, or 89.47%, participated in the fire suppression practice and drill.
- A total of 54 people were evacuated (100% on the evacuation day).
- The evacuation time from the first to the last person was two minutes.
- The arrival time of the external fire suppression unit was five minutes.
- Budget Spent: 24,000 baht



8

Basic Fire Suppression Training (Rayong Factory)
By Disaster Prevention and Mitigation Department, Map Yang Phon SAO

On 16 November 2023

- A total of 17 out of 21 registered employees, or 90.48%, attended the training.
- Budget Spent: 19,100 baht



9

Fire and Evacuation Drill (Rayong Factory)
By Disaster Prevention and Mitigation Department, Map Yang Phon SAO

On 22 November 2023

Drill Summary

- A total of 211 people were evacuated (100% on the evacuation day).
- The evacuation time from the first to the last person was 407 minutes.
- The arrival time of the external fire suppression unit was ten minutes.
- Budget Spent: 7,000 baht



10

Safety in Working with Machines in the Paper-cutting Room
By Supervisor and Professional Safety Officers

On 24 November 2023

- Target Group: Six employees, or 100%, who worked with machines in the paper-cutting room attended the training.
- Objectives: To inform employees who used machines in the paper-cutting room of the risks, dangers and protective measures, enabling them to inspect the machines before proper and safe operation.
- Budget Spent: -



Safety Training Goals for Employees in the Target Group



In 2023, 10 safety training courses were held. The number of target employees attending the training accounted for 93.24%, which failed to meet the goal as the employees were busy or resigned. For the mandatory courses for occupational safety, employees who did not pass the will not be able to perform their duties in that field. They would have to be trained in the next year. However, employees who lack additional training to develop their job skills are not employees with direct duties.

Enforcement of Regulations

The Company has strict measures for enforcing safety rules and regulations. According to accident reports from past to present, most accidents are caused by human negligence in not wearing personal protective equipment before working or not wearing it at all times when working. This is because of lack of awareness of danger that may happen at all times. Executives and supervisors have the duty to understand and give warning according to the system in addition to disciplining employees.

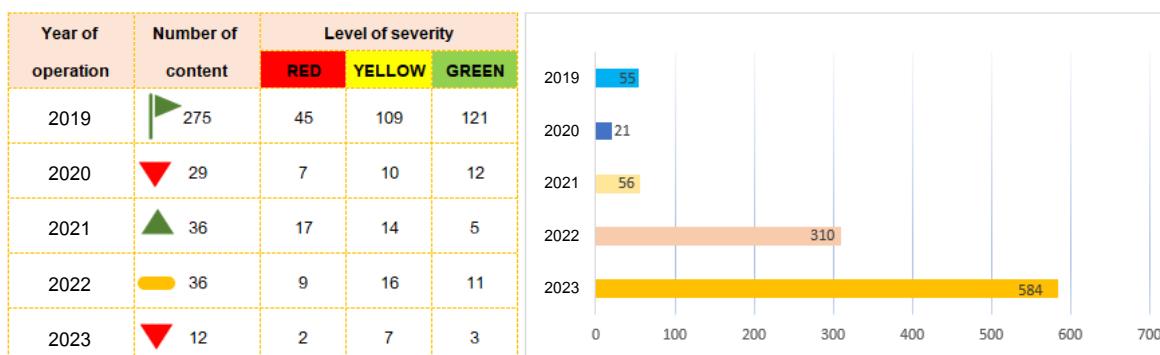
In 2023, safety rules were strictly enforced and four warning forms were issued for unsafe work to employees who worked without consideration for personal safety, the safety of colleagues and the Company's property.



มีสติก่อนทํางานนะ

Build Participation

The promotion of KAIZEN and writing near-miss reports builds employee participation in presenting concepts and eliminating lack of safety before accidents. In 2023, employees sent 584 safety KAIZEN articles out of 942 KAIZEN articles and 12 near-miss reports were sent.



“ Safety Health & Environment”

In 2023, the Company organized safety promotion activities and raised awareness and participation among employees in the “5S Safety & Happy Workplace 2023” activity on 22-25 August 2023. The activities included the “Work Safe” photography competition, inventions using disused production materials, exhibition booths for the Happy Workplace Project, anti-corruption lecture, and exhibition booths from external departments who were invited to participate in the activities. Moreover, the Company provided opportunities for students in the Map Yang Phon Subdistrict to participate in the activities at the Faraday Conference Room in Rayong Factory. A total budget of 68,532.95 baht was spent on this activity.



Images of the Atmosphere at the 5S Safety & Happy Workplace 2023 Event

Images of “Work Safe”



Competition for inventions from recycled materials.

There were 13 entries submitted for the competition from 21 participating employees.

No	Name of Work	Owner of Work	Award
1	Cooling Container	Pongkawi Naowphonthong	1 st Prize
		Watchira Kamchaimuan	
2	WALL-E Lamp	Kanoksak Naowphonthong	1 st Runner-up
		Bandit Suthosa	
3	Chair Green	Ekkachai Siphenwan	2 nd Runner-up



Tests and Measurements in the Areas of Safety, Occupational Health and Work Environments

The Company regularly measures and tests work environments to monitor risk factors for employee health. Results from tests and measurements in 2023 are as follows:

Table Showing Sound Measurements in Work Areas

Area	Test Point	Test Results						Standard	Unit		
		2021		2022		2023					
		10/5/21	11/6/21	15/6/22	03/10/22	08/06/23	14/08/3				
Factory 3	Unicoil Metal Cutter	74.6		78.1		76.0		85	dB(A)		
Oil Baking & Filling	Tanking	74.9		74.9		74.0		85	dB(A)		
Amorphous Steel Core	Amorphous Steel Cutter	73.1			73.2		71.0	85	dB(A)		
Assembly	Wood Cutting Room	80.5		82.7		83.0		85	dB(A)		
Steel Core	Workshop	85.4		80.6	86.3	79.0		85	dB(A)		
Assembly	Workshop	76.7		76.7		74.0		85	dB(A)		
Equipment Installation	Spray Booth	73.5		77.1		76.0		85	dB(A)		
Coiling Building	Coiler	69.0		74.7		67.0		85	dB(A)		
Coiling Building 2	Coiler	71.0		87.5	70.8	69.0		85	dB(A)		
Paper Cutting Room	Paper Cutting	74.9		73.9		69.0		85	dB(A)		
Factory 4	Chassis Assembly and Welding	87.5		83.3		88.0		85	dB(A)		
	Plasma Cutter	84.5		82.6		78.0		85	dB(A)		
Factory 4	Glorystar Laser Cutter			79.2		81.0		85	dB(A)		
Factory 5	Chassis Welding and Assembly	85.1		83.5		81.0		85	dB(A)		
	Robot Chassis Welding and Assembly	83.8		86.5		83.0		85	dB(A)		
Factory 5	Steel Pellet Shooting Area		82.3	87.4		82.0		85	dB(A)		
Factory 5	Automatic Steel Pellet Shooting Area	86.7		83.8		96.0		85	dB(A)		
	Spray Booth MC 139	75.9		77.5		77.0		85	dB(A)		
Factory 6	Spray Booth MC 199	81.3		76.9		75.0		85	dB(A)		
Factory 6	Auto Coater			76.1		75.0		85	dB(A)		

In 2023, the results from two tests and measurements of noise disturbance in work areas showed two areas to have higher sound levels than legal requirements, which have been designated as danger areas for workers. Workers who will enter the area are required to wear PPE specified in hearing conservation plans. The Company is looking for opportunities to make modifications in order to further reduce sound levels

Results from Measuring Noise Disturbance outside Factories in 24 Hours (Community)

Parameter	Area	Annual Test Results			Standard	Unit
		2021	2022	2023		
		19-20/5/21	15-16/6/22	08-09/5/23		
General Volume Level (Leg 24hr)	Employee Dormitory	65.4	65.6	64.6	70	dB(A)
General Volume Level (Lmax)	Employee Dormitory	91.1	88.9	89.9	115	dB(A)

Test Results of the Environment for Working with Chemicals

Area	Parameter	Annual Test Results					Standard	Unit
		01/21	01/22	02/22	01/23	02/23		
		10/5/21	15/6/22	3/10/22	08/06/23	14/08/23		
Steel Core: Steel Cutting/Slitting Factory 3	Iron Dust	Not Detected	Not Detected		<0.01		10	mg/m ³
	Total dust	<0.20	Not Detected		Not Detected		15	mg/m ³
Steel Core: Steel Arrangement Factory 3	Acetone	Not Detected	Not Detected		<5.54		1,000	ppm
	Xylene	Not Detected	Not Detected		<0.83		100	ppm
	Toluene	Not Detected	<0.25		<0.96		200	ppm
	Total dust	0.25	0.34		2.2		15	mg/m ³
Steel Core: Steel Arrangement Factory 1	Xylene	Not Detected	Not Detected		<0.83		100	ppm
	Toluene	0.43	Not Detected		<0.96		200	ppm
	Acetone	Not Detected	Not Detected		<5.54		1,000	ppm
		0.25	Not Detected		Not Detected		15	mg/m ³
Steel Core: Work Shop	Xylene	Not Detected	Not Detected	Not Detected	<0.83		100	ppm
Steel Clamp Paint	Toluene	<0.25	Not Detected	Not Detected	<0.96		200	ppm
	Acetone	Not Detected	Not Detected	Not Detected	<5.54		1,000	ppm
Steel Score: Work Shop	Iron Dust	<0.007	<0.007	<0.007	<0.01		10	mg/m ³
Steel Cutting Machine/Drill Press	Iron Fume	<0.007	<0.007	<0.007	<0.01		10	mg/m ³
	Total dust	0.34	Not Detected	<0.20	<0.8		15	mg/m ³
	Carbon Monoxide				1.0		50	ppm
	Total dust		Not Detected		1.8		15	mg/m ³
Coiling: Coiling	Copper Fume	Not Detected	Not Detected		<0.01		0.1	mg/m ³
	Respirable Dust	Not Detected					5	mg/m ³
	Total dust				<0.8		15	mg/m ³
Coiling: Coiling 2	Copper Fume	Not Detected	Not Detected		<0.01		0.1	mg/m ³
	Respirable Dust	<0.15	0.34				5	mg/m ³
	Total dust	0.42	0.51		<0.8		15	mg/m ³
Coiling: Paper Cutting Room	Respirable Dust	Not Detected	Not Detected		1.6		5	mg/m ³
	Copper Fume	<0.007	Not Detected		<0.01		0.1	mg/m ³
Assembly: Copper Core Welding	Iron Fume						10	mg/m ³
	Total dust	<0.20	Not Detected		Not Detected		15	mg/m ³
	Lead						0.2	mg/m ³
	Copper Fume	Not Detected	Not Detected		<0.01		0.1	mg/m ³
Assembly: Workshop	Iron Fume	Not Detected	Not Detected		<0.01		10	mg/m ³
	Carbon Monoxide	Not Detected	Not Detected		1.0		50	ppm
Welding/Low Power Core Polish	Total dust	0.51	Not Detected		1.7		15	mg/m ³
	Respirable dust	0.17	Not Detected		0.5		5	mg/m ³
Assembly: Wood Cutting Room	Total dust	0.34	<0.20		1.8		15	mg/m ³
	Xylene	0.40	Not Detected		<0.83		100	ppm
	Toluene	0.44	Not Detected		<0.96		200	ppm
Installation: Spray Booth	Total dust	<0.20	Not Detected		0.8		15	mg/m ³
	Oil Mist	0.15	0.13		0.12		5	mg/m ³
Transformer Repair	Total dust	0.77	<0.20		1.0		15	mg/m ³
	Carbon Monoxide	Not Detected	Not Detected		<1.0		50	ppm
	Iron Fume	0.011	Not Detected		0.04		10	mg/m ³
Factory 4 Chassis: Welding & Assembly	Total dust				<0.01		1	mg/m ³

Area	Parameter	Annual Test Results					Standard	Unit
		01/21	01/22	02/22	01/23	02/23		
		10/5/21	15/6/22	3/10/22	08/06/23	14/08/23		
Factory 4 Chassis: Plasma Cutting Machine	Carbon Monoxide	Not Detected	Not Detected		<1		50	ppm
	Iron Fume	<0.007	Not Detected		0.22		10	mg/m³
	Total dust	<0.20	<0.20		<1.2		15	mg/m³
Shot Peening Room (Internal)	Iron Fume		<0.007		2.83		10	mg/m³
	Iron Dust		3.90		2.83		10	mg/m³
	Respirable Dust		3.86		2.4		5	mg/m³
	Oxygen		21.1				19.5 - 23.5	%
	Iron Fume						10	mg/m³
Shot Peening Room (External)	Iron Dust		0.050		0.24		10	mg/m³
	Total dust		Not Detected		2.0		15	mg/m³
Amorphous	Total Hydrocarbon	10.4		26.00		2.33	N/A	ppm
	Total dust	<0.20		Not Detected		<0.8	15	mg/m³
	Bis-phenol A	Not Detected		Not Detected		Not Detected	5	mg/m³
Factory 5 Chassis: Welding & Assembly	Carbon Monoxide	Not Detected	Not Detected		<1.0		50	ppm
	Iron Fume	0.052	0.008		0.04		10	mg/m³
	Total dust	0.51	Not Detected		1.2		15	mg/m³
	Chromium				<0.01		1	mg/m³
Factory 5 Chassis: Robot Assembly	Carbon Monoxide	Not Detected	Not Detected		<1.0		50	ppm
	Iron Fume	<0.007	Not Detected		0.03		10	mg/m³
		0.51	<0.20		<0.8		15	mg/m³
Factory 6 Chassis: Spray Booth (MC139)	Toluene	3.12	Not Detected		<0.96		200	ppm
	Xylene	8.09	Not Detected		<0.83		100	ppm
	Total Dust	<0.20	Not Detected		Not Detected		15	mg/m³
Factory 6 Chassis: Spray Booth (MC199)	Toluene	5.08	0.56		<0.96		200	ppm
	Xylene	4.27	5.33		<0.83		100	ppm
	Total Dust	0.34	Not Detected		1.80		15	mg/m³
Factory 6 Chassis: Transformer Painting	Toluene	9.93	0.96		<0.96		200	ppm
	Xylene	9.63	65.00		<0.83		100	ppm
	Total Dust	<0.20	Not Detected		<0.8		15	mg/m³

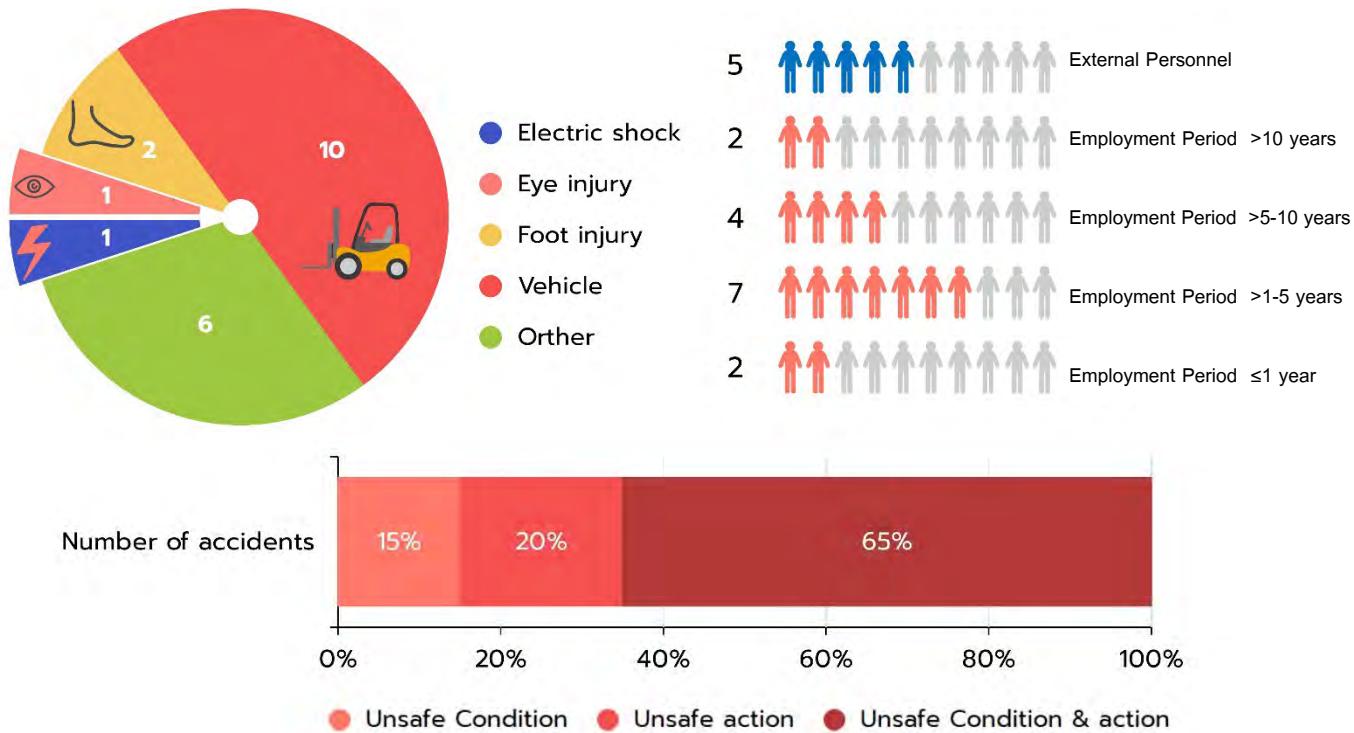
Statistics on Accidents

In 2023, the Company had a target to have fewer accidents than in 2022. However, there were 20 accidents in 2023, which was two more accidents than in 2022. The target was not achieved. Nevertheless, the Board of Directors continues to give importance to and aims to achieve the zero-accident target in 2024 and requests that every department quickly find proper preventive measures and raise more awareness about safety.

Table comparing workplace accident statistics (2021 - 2023)

Severity/Damage	จำนวนครั้ง / ปี											
	QTC						Q Solar 1					
	2564		2565		2566		2564		2565		2566	
	Employee	Partner/Contractor	Employee	Partner/Contractor	Employee	Partner/Contractor	Employee	Partner/Contractor	Employee	Partner/Contractor	Employee	Partner/Contractor
Property Damage	15	3	8	6	6	5	-	-	-	-	-	-
Minor Injury – No Work Interruption (time)	4	-	2	-	3	-	-	-	-	-	-	-
Severe injuries requiring work stoppage (occurrences)	2	1	2	-	6	-	-	-	-	-	-	-
Total number of occurrences	21	4	12	6	15	5	-	-	1	-	-	-
Total number of workdays lost due to workplace accidents (days)	10	1	16	-	18	-	-	-	17	-	-	-
Work-related accidents resulting in loss of life (number of people)	-	-	-	-	-	-	-	-	-	-	-	-

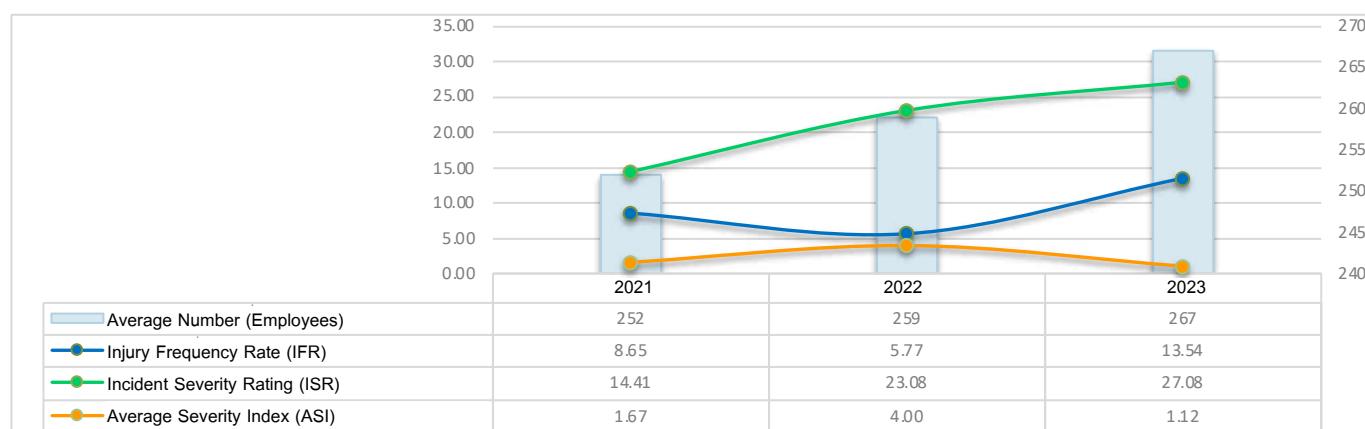
Accidents Sorted by Hazard Characteristics and by Employment Periods of Accident Victims for 2023



According to investigations of accidents and based on the graph of accidents by causes, accidents in 2023 were caused by unsafe employee actions and conditions that were non-condusive for work, which rose by 65%. Furthermore, from the image of accidents classified by characteristics of danger, ten vehicle accidents can be seen to have occurred with property damage for the Company, five of which were due to external personnel (contractors, transportation operators, raw materials delivery) and the damage was valued at 286,160.21 baht. The Company was able to claim the full amount for the damages. As for internal accidents involving employees, the damage was valued at 11,796.36 baht. Overall, the number of accidents and damage had a declining trend from 2022. However, the severity trend increased due to there being six accidents resulting in work interruption, which was an increase by four accidents from 2022.

The employment period of seven employees who had an accident was mostly 1-5 years. On this issue, the Safety Committee (SC) provides retraining on work safety to employees annually. For external personnel, a supplier development plan is provided jointly with the Procurement Division. Furthermore, control plans and risk reduction plans are provided to support operations to reduce accidents.

Graph Showing Comparison of Statistical Data on Safety According to ANSI Standards in 2021-2023



In 2023, the injury frequency rate (IFR) and injury severity rate (ISR) increased due to the increased number of accidents and interrupted workdays due to accidents from 2022. Nonetheless, in 2023, the highest number of days off for injured employees was lower, resulting in the average severity index (ASI) decreasing from 2022. In 2022, the highest number of days off for injured employees was 13 days. In 2023, the highest number of days off for injured employees was seven days.

Summary of operating results for the year 2023, zero accident target (Zero Accident)

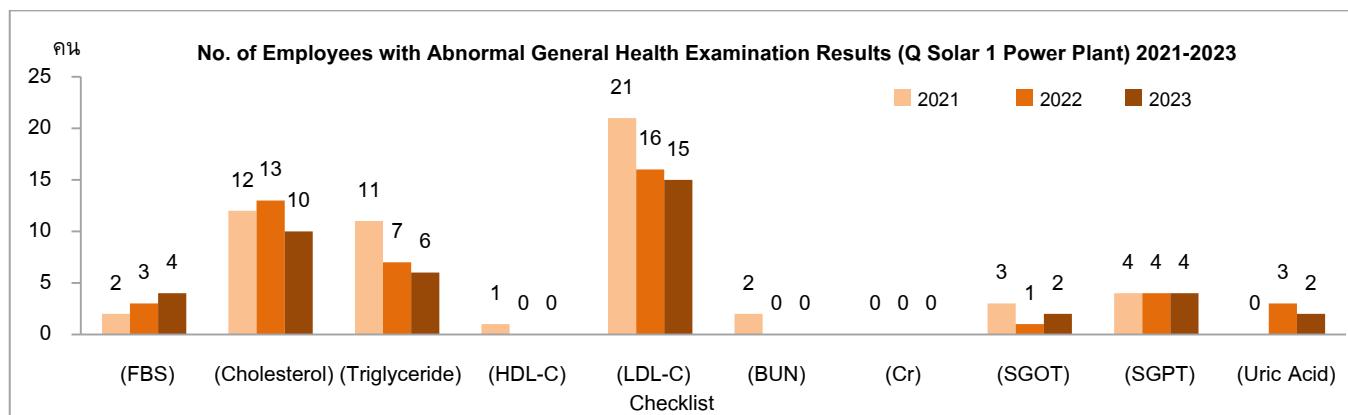
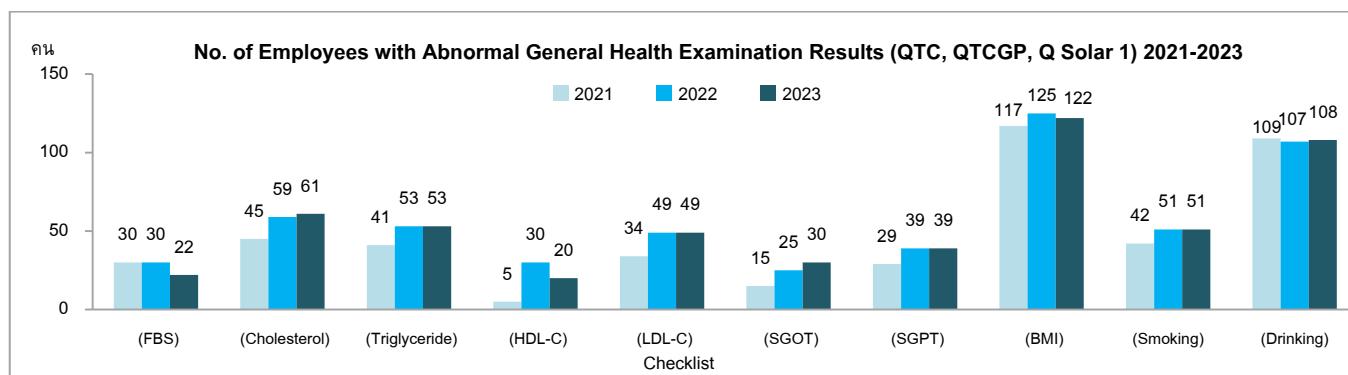
Indicators	Calculation formula	Target	Performance
1 Injury Frequency Rate : I.F.R	(Number of injured people x 1,000,000)/total number of working hours	Decreased %10 from 7.78> 2021)	13.54 did not meet the target tends to increase
2. Injury Severity Rate : I.S.R	Number of days lost x 1,000,000/total number of working hours	Decreased %10 from 2021 12.97>))	27.08 did not meet the target tends to increase
3.Work accidents leading to death	Count the number of people	0	There were no fatal accidents.



Employees' good health is an important factor enabling employees to perform duties and responsibilities effectively. The Company announced policies to promote health and organization happiness <http://qtc-energy.com/th/hpe-policy> in addition to organizing work areas to have an attractive and clean environment covering issues in the areas of lights, sounds, heat, chemicals, consumption and quitting alcohol, smoking and substance abuse, etc. Furthermore, the Company organizes annual health examinations and continually monitors results.

Annual Health Examinations

The Company arranges for employees to receive health examinations once a year at the Bangkok office including QTCGP and the factory in Rayong. In 2023, the Company used two medical facilities, namely, Phayathai Sriracha Hospital and Samitivej Srinagarindra Hospital. Examinations at Q Solar 1 were performed by Chularat 304 Inter Hospital. The Company arranged for doctors of vocational medicine to survey work environments in order to determine health examination programs according to risk factors. The health examination program's coverage is in compliance with the law and has additional provisions for employees according to age and gender of risk. In 2023, a budget of 676,290 baht was spent for the three companies. This year, the Company once again required lung capacity tests using spirometry after omitting them due to Covid-19. In any case, Covid-19 prevention measures remained strictly observed.

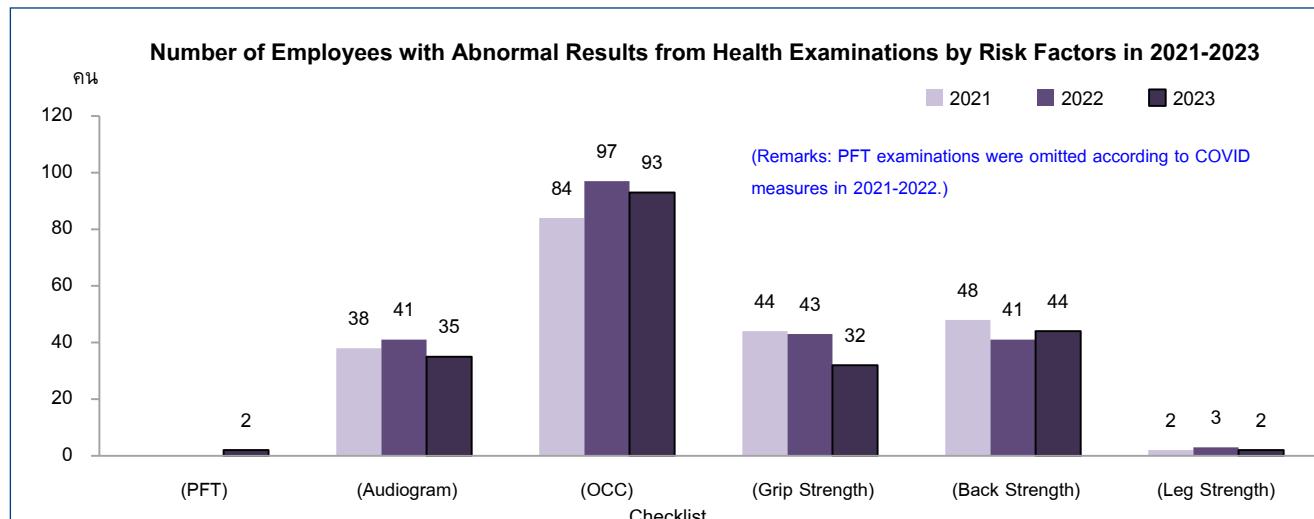


According to the graphs, employees of QTC, QTCGP and Q Solar 1 with abnormal general health examination results were found to have decreased slightly from 2022. Employee health will remain an important issue in 2024 that will require the Company to encourage employees to exercise and take better care of personal health.

Health Examinations by Risk Factor

Health examinations based on work risks in 2023 showed risks were lower than in 2022 due to improvements and corrections in the area of work environments and provision of suitable protective equipment for work in each area including the hearing conservation project. However, risks increased and require corrections and improvements as follows:

Back strength was tested in 44 employees to determine the strength of muscles used to work. This factor may be dependent on weight, gender, age, work environments, and health behaviors. The Company supports providing instruction on anatomy, preparing workplaces appropriately under the 5S system, and organizing the health promotion project through exercise for employees.



Health examinations based on work risk factors in 2023 showed fewer risks than in 2022 due to improvements in work conditions and provision of proper protective equipment for operation in each area of the hearing preservation program. However, the risks that increased and required corrective action were as follows:

- Back strength tests were performed on 44 employees to determine the strength of muscles used at work. Factors may depend on weight, gender, age, work environment and health behaviors. The Company promoted knowledge about ergonomics, provided suitable workplaces by using the 5S system and provided employees with a program to promote health by exercising.



Images of Annual Health Examinations in 2023 Still under COVID-19 Prevention Measures

Work-related Illnesses

Statistics on Work-related Illnesses in 2021-2023

Description	No. of Illnesses/Year					
	QTC			Q Solar 1		
	2021	2022	2023	2021	2022	2023
Work-related Illnesses (employees)	1	-	2	-	-	-
No. of Interrupted Work Days Due to Work-related Illnesses (days)	4	-	-	-	-	-

In 2023, two employees had work-related illnesses that affected hearing. The employees were exposed to loud noise throughout work periods of eight hours each. Previously, occupational diseases were monitored by preparing records of hearing tests compared to the baseline (start date) in order to use data to accompany meetings with doctors at the Occupational Medicine Clinic, Rayong Hospital. The doctor diagnosed and summarized both employees had reduced hearing caused by work-related illnesses. Therefore, the Company referred the employees to otolaryngological specialists and monitored symptoms periodically.

Health Consultation

Statistics of health consultation services by registered nurses at the factory in 2023 show that 38 employees sought advice from the nurses on abnormal health examination results such as abnormal creatinine and abnormal triglyceride levels as well as abnormal audiogram results.



Health Promotion Project



QTC Fun & Fit Season 5 : Your Lifestyle

The health of people in the organization is important. Exercise can promote strong health.

In 2023, the Company set a budget to promote personalized exercise based on personal skills which can be done anywhere at any time. This program continued from 2020 under the QTC Fun & Fit Season 5: Your Lifestyle activity to create discipline in regular exercise, resulting in employees who are physically and mentally strong to promote a healthy workplace organization.

No.	Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	G	S	B	R	Tot
1	QTC02 มนู ใจดี	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	16	0	1	1	18
2	QTC10 อดิศ ใจดี	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	16	0	0	1	17
3	QTC41 อาทิต พลกิจ	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15	0	0	0	15
4	QTC10 ลูกน้ำ ใจดี	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	14	0	0	2	16
5	QTC20 ดัชชิง ใจดี	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	10	6	0	0	16
6	QTC51 แอนดี้ ใจดี	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	10	2	3	1	16
7	QTC04 โนน ใจดี	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	6	6	3	2	17

Sports Clubs

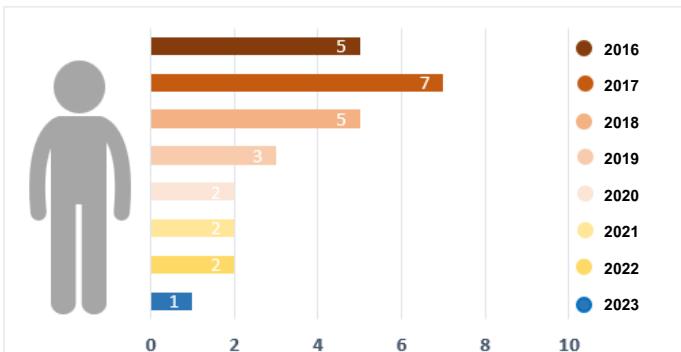
The Company has a program that continued from 2015 in which the Company allocates a budget for promoting continuous employee exercise based on their own preference and skills in various sports clubs such as football club, takraw club, badminton club and petong club. In 2023, the Company contacted an indoor fitness center to provide another exercise option for employees. The members of these clubs did not have to pay fees.



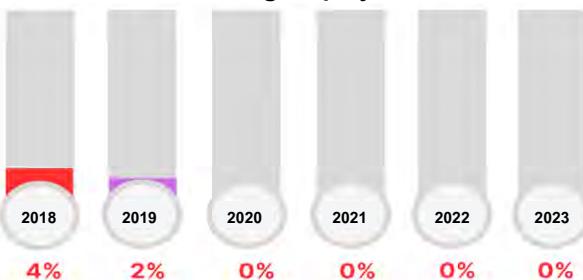
White Factory Project

The Company continues to place importance on actively preventing and suppressing substance abuse due to awareness that threats from substance abuse will have effects on employees' health, relationships with coworkers, families, communities and the Company. The Company continually organizes random tests for narcotic substances without giving notifications in advance in line with policies and strictly enforces rules and regulations by having police officers (Pluak Dang Police Station) perform 100 percent inspections. The Company found one employee with narcotic substances. The employee accepted therapy and to change behaviors and will retain employee status. The Company had 13,160 baht in expenses in 2023.

Statistics on Narcotic Substance Detections in the White Factory Project in 2016-2023



Influenza Rates among Employees for the Year



Influenza Vaccination Project

The influenza vaccination project is aimed at promoting employee health and reducing illness caused by health risks. The project was carried out since 2019. Results in the past were unable to prevent influenza at 100 percent according to medical principles. However, some risks were reduced.

Therefore, the Company made influenza vaccinations a part of the annual health examination program and requires vaccinations to be by employee consent at no cost. In 2023, vaccinations were carried out by MYP Healthcare Co., Ltd. with a budget of 97,220 baht and 90.42% of employees consented to be vaccinated. In 2023, no employees had influenza, possibly because Covid-19 prevention measures required employees to adjust self-care by following promoted measures.

Hypertension, Diabetes, Cervical Cancer, and Breast Cancer Screening Project



The cost-free screening project for hypertension and diabetes based on consent from employees was carried out by MYP Healthcare Co., Ltd. The employees who voluntarily joined the program are as follows:

1. Hypertension screening was carried out for 14 employees and 13 employees were found to be at risk.
2. Diabetes screening was carried out for 18 employees and 13 employees were found to be at risk.
3. Breast cancer screening was carried out for five employees.
4. Cervical cancer screening was carried out for 14 employees.

Item 3-4: The tester sent the test results directly to employees. At-risk employees were able to ask for consultation and recommendations on self-care from the factory nurses.



Human Resource Development & Employee wellbeing.



Human resources or human labor is a key factor in the success of all business operations. Human capital enables the development of higher potential continuously. The organization must give importance to the treatment of labor as required by law or better than what is required by law. It must oversee, develop capabilities, give equal and fair opportunities, and respect the rights of laborers without discrimination. If the organization is unable to provide good management or neglects to comply with the law, it may result in the dissatisfaction of laborers and criticism in social media or legal disputes about labor. This would damage the reputation of the brand or the organization or may cause laborers to not want to work and to quit to find new jobs, which would cause the organization to lose its key capital.

The organization should have the view that “humans” are the “capital” of the organization with the potential of adding value, that “humans” are corporate assets that cannot be touched, and that “humans” are corporate assets that cannot be depreciated. Therefore, “humans” are essential factors that drive the success of the organization toward achieving its goals. However, this depends on how much knowledge, abilities and skills or expertise as well as experience the organization could draw out of each person in the organization to its benefit. If an organization has people with diverse skills and the ability to gather all of that diversity to create potential for the organization, that organization would have capabilities and advantage above its competitors because “humans” are essential “human capital” for the organization.

It is difficult for an organization to have “skilled people” and create advantage above its competitors and this takes time to develop. However, what is even more difficult is keeping these “skilled people” with the organization at all times because every organization in the labor market seeks “people” who are skilled and capable to drive their work toward achieving corporate goals. It is a labor competition that poses risks for organizations that invest in developing their own skilled people but could not keep those “skilled people”. Therefore, aside from developing skilled and capable people, caring and seeing the value of humanity and encouraging the “people” to keep doing good deeds and know how to share with other in addition to having a volunteering spirit naturally makes “skilled people” into “good people” who are attached to the organization which is the highest profit of the organization.

One out of five of QTC's core missions is "human development" to create "good" and "skilled" people. It is a challenge for the organization to be able to use "human capital" who are important potential for business competitiveness. It is also a risk that the organization may lose its essential "human capital" due to the current labor competition. Therefore, the directors and executives give importance to strictly complying with the law and developing human capital into "good and skilled people" at the same time, so that everyone would view QTC as their second home and be willing to grow together sustainably.



Based on impact assessment of the all steps of the work process, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities

Employment / Human Capital Development / Employee Wellbeing

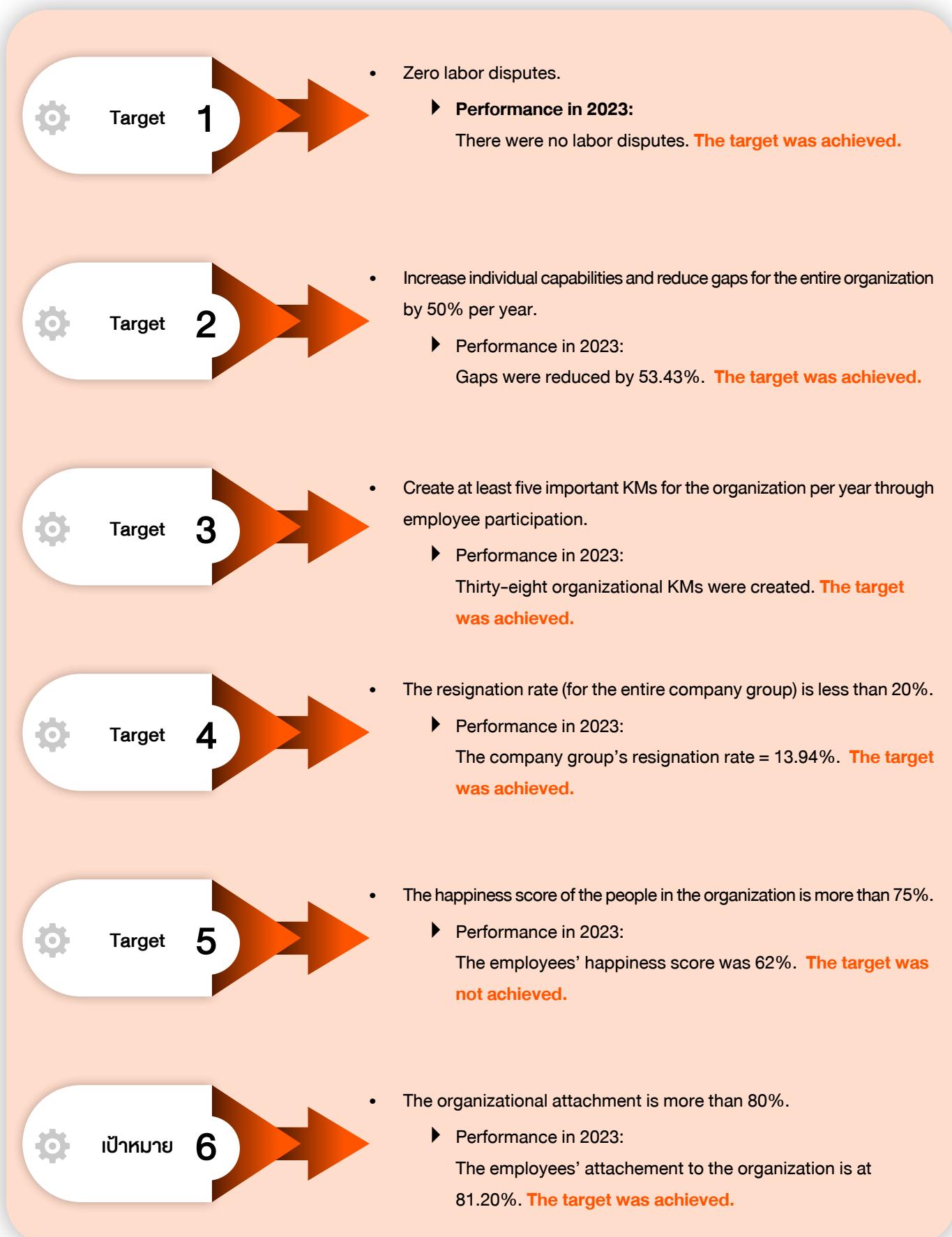
		Economic Impact	Environmental Impact	Social Impact	Human Rights Impact
		+			
Employment	Human Capital Development	-			
		Creates income in the economic system. The government receives income tax.	Increased resource consumption. (Electricity, fuel, water, etc.)	Creates jobs and income for local and non-local laborers. Participation in community development.	Equal opportunity according to international practices and company policies.
Employee Wellbeing		Strikes may occur to negotiate terms, resulting in business interruption.	Promotion of a green culture and environmental conservation awareness.	Non-local company workers may cause friction in local communities.	Discrimination may occur with some employee groups if not well controlled.
		Laborers are more skilled and capable, adding value and competitiveness to the organization. High development budget. Retention of or competition for skilled labor or resignation of employees with high development costs.	Increased resource consumption. (Electricity, water, fuel, etc.)	Creates good people, develops skilled people into good people and skilled people in families.	Equal opportunity to develop and grow according to international practices and company policies. Discrimination may occur with some employee groups if not well controlled.
		Employees are attached to the organization and do not resign. High budget for upkeep of activities. Retention of or competition for skilled labor or resignation of employees with high care costs.	Promotion of a green culture and environmental conservation awareness.	Happy co-existence, attachment and sharing with outside societies.	Equal opportunity according to international practices and company policies. Discrimination may occur with some employee groups if not well controlled.

Objective :

1. To ensure compliance with labor laws and other applicable laws.
2. To create the potential of the organization's competitiveness with human capital.
3. To create a happy organization to strengthen the organization and provide employees with a balanced life.

Management :

Human Resource Management Policy; Human Rights Policy; company regulations related to work rules and requirements (Employee Manual); compliance with labor-related laws; a happy workplace organization; driving the organization with Happy Workplace: Happy 8 + 1; compliance with ISO9001, ISO14001 and ISO45001; and providing complaint channels and inspection processes.





Employment

The Company gives importance to fair employment with wages no less than the minimum wage prescribed by law. In addition, the Company provides appropriate and necessary benefits for employees in addition to providing equal recruitment opportunities with no discrimination against ethnicity, religion and gender in line with the human resource management policy: <https://qtc-energy.com/th/human-resource-management-policy/>. In 2023, the number of employees at the end of the year for all three companies was 1.41% less. Ratios of employment and wages were as follows:

Graph Showing Employment Ratios

Employment Conditions as of 31 December	QTC Energy						QTCGP & Q Solar 1					
	2021		2022		2023		2021		2022		2023	
	Number (employee)	%	Number (employee)	%	Number (employee)	%	Number (employee)	%	Number (employee)	%	Number (employee)	%
By Gender												
Male	176	67.95	179	67.80	181	67.29	14	66.67	11	57.89	11	61.11
Female	83	32.05	85	32.20	88	32.71	7	33.33	8	42.11	7	38.89
By Level												
L12 - UC	8	3.09	8	3.03	8	2.97	2	9.52	2	10.53	2	11.11
Male	6	75.00	6	75.00	6	75.00	1	50.00	1	50.00	1	50.00
Female	2	25.00	2	25.00	2	25.00	1	50.00	1	50.00	1	50.00
L9 – L11	18	6.95	23	8.71	25	9.29	1	4.76	-	-	-	-
Male	7	38.89	10	43.48	12	48.00	1	100.00	-	-	-	-
Female	11	61.11	13	56.52	13	52.00	-	0.00	-	-	-	-
L7 – L8	19	7.34	15	5.68	17	6.32	-	-	-	-	-	-
Male	11	57.89	9	60.00	9	52.94	-	-	-	-	-	-
Female	8	42.11	6	40.00	8	47.06	-	-	-	-	-	-
L1 – L6	214	82.63	218	82.58	219	81.41	18	85.71	17	89.47	16	88.89
Male	152	71.03	154	70.64	154	70.32	12	66.67	10	58.82	10	62.50
Female	62	28.97	64	29.36	65	29.68	6	33.33	7	41.18	6	37.50
By Age												
<30 years old	90	34.75	83	31.44	76	28.25	5	23.81	4	21.05	1	5.56
Male	61	67.78	55	66.27	51	67.11	2	40.00	1	25.00	1	100.00
Female	29	32.22	28	33.73	25	32.89	3	60.00	3	75.00	-	-
>30-50 years old	153	59.07	166	62.88	175	65.06	12	57.14	10	52.63	12	66.67
Male	107	69.93	114	68.67	118	67.43	9	75.00	7	70.00	7	58.33
Female	46	30.07	52	31.33	57	32.57	3	25.00	3	30.00	5	41.67
>50-60 years old	13	5.02	11	4.17	14	5.20	4	19.05	5	26.32	5	27.78
Male	5	38.46	7	63.64	9	64.29	3	75.00	3	60.00	3	60.00
Female	8	61.54	4	36.36	5	35.71	1	25.00	2	40.00	2	40.00
> 60 years old, Hired After Retirement	3	1.16	4	1.52	4	1.49	-	-	-	-	-	-
Male	3	100	3	75.00	3	75.00	-	-	-	-	-	-
Female	-	0	1	25.00	1	25.00	-	-	-	-	-	-
By Area												
Bangkok Office												
Male	32	12.36	31	11.742	13	11.742	1	4.76	1	5.26	-	5.26
Female	32	12.36	34	12.879	12	12.879	2	9.52	3	15.79	2	15.79
Rayong/Prachinburi Factory												
Male	144	55.6	148	56.061	169	56.061	13	61.9	10	52.63	11	52.63
Female	51	19.69	51	19.318	75	19.318	5	23.81	5	26.32	5	26.32
Total Employees at End of Year (employees)	259		264		269		21		19		18	

Table of Employment Ratios in 2023 Ending 31 December 2023

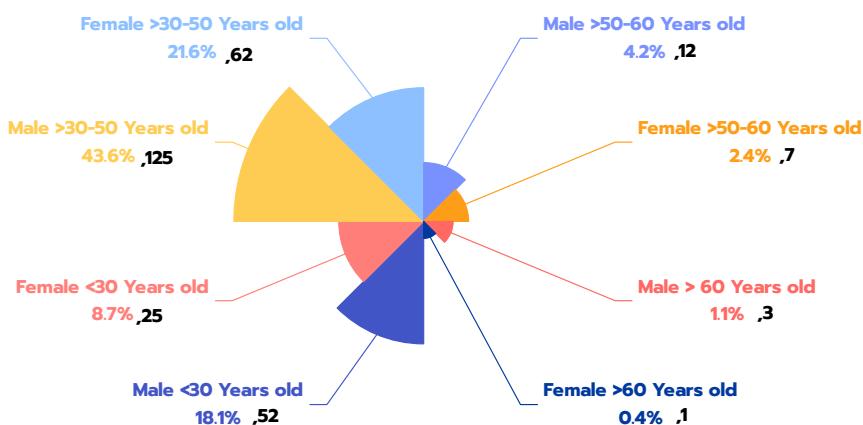
Employees Sortd by Level (L) and Gender	Male				Female			
	QTC Energy	QTCGP	Q Solar1	QTC RE	QTC Energy	QTCGP	Q Solar1	QTC RE
L12-UC Employees (Top Executive)	6	0	1	0	2	1	0	0
L9-L11 Employees (Low Middle Management)	12	0	0	0	13	0	0	0
L7-L8 Employees (Supervision)	9	0	0	0	8	0	0	0
L1-L6 Employees	154	0	10	0	65	1	5	0
Ratio of Male/Female Employees	192				95			
	67%				33%			

Graph of Employment Ratios in 2023

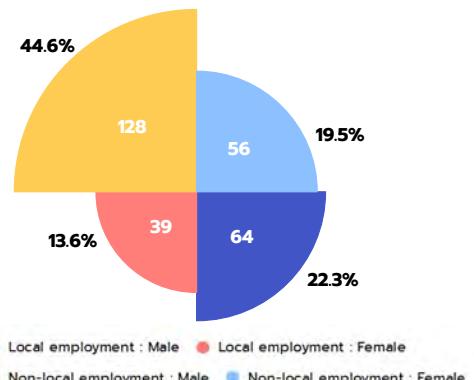
Graph of Employment Ratio by Gender



Graph of Employment Ratio by Gender - Age Range



Graph of Local and Non-Local Employment by Gender



100% of employees and executives of the Company have Thai nationality

Number of Local Top Executives



Table Showing Ratios of Wages and Remuneration

Employment Conditions as of 31 December	QTC Energy						QTCGP & Q Solar 1					
	2021		2022		2023		2021		2022		2023	
	Amount (million baht)	%										
By Gender												
Male	93.57	65.67	92.59	66.38	96.90	65.50	6.85	54.56	5.06	59.79	5.25	60.25
Female	48.91	34.33	46.90	33.62	51.05	34.50	5.70	45.44	3.41	40.21	3.46	39.75
By Level												
Level 9 – UC	53.37	37.46	51.63	37.02	58.57	39.59	-	-				
Levels 7 – 8	12.77	8.96	10.63	7.62	9.90	6.69	-	-				
Levels 1 – 6	76.34	53.58	77.23	55.37	79.48	53.72	-	-				
Total Employees at End of Year (employees)	142.48		139.49		147.95		12.55		8.47		8.72	

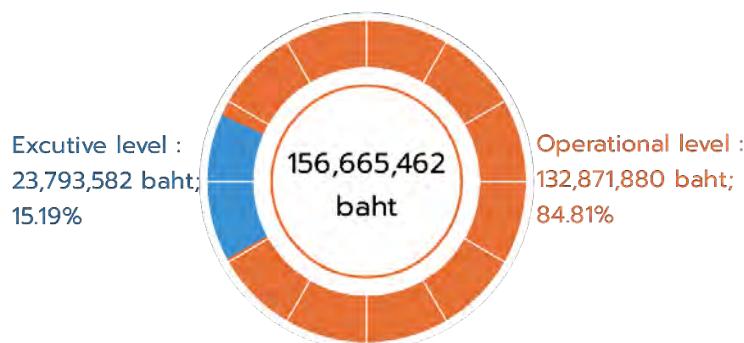
Table of Wages for Executives and Employees

Year of Payment	Executives and Managing Directors in Subsidiaries			Employees		
	Amount (baht)		%	Amount (baht)		%
2021	27,714,446.00		17.88	127,319,161.00		82.12
2022	22,923,820.00		15.49	125,035,661.00		84.51
2023	23,793,582.00		15.19	132,871,880.00		84.81

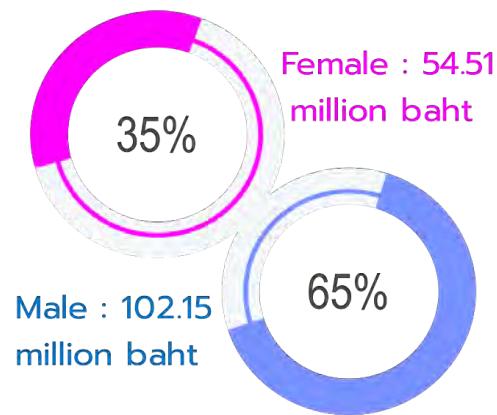
Remarks:

- These wages and remunerations do not include other privileges provided by the Company such as training and development costs, support for activities or recreation, etc., and other expenses paid by the Company to employees in compliance with the law.
- **Payment of Wages:** Wages are paid once per month on the last work day of the month by making transfers into employee bank accounts.

Graph of Wages for Executives and Employees for 2023



Graph of Wages for Male and Female Employees for 2023



Average Wages for Male Employees: 532,039.84 baht/person/year

Average Wages for Female Employees: 573,829.58 baht/person/year

Female/Male Employee Wage Ratio: 1.08 : 1 baht

In 2023, female employees received about 7.85% higher average wages than male employees.

Table Showing Provident Fund Membership of the Group (QTC Energy, QTCGP, Q Solar 1)

Item	Year		
	2021	2022	2023
Total Number of Employees at the End of the Year (Persons)	280	283	287
Number of Employees Who Are Members of the Provident Fund (Persons)	144	151	148
Proportion of Employees Contributing to the Fund (%)	51.43%	53.36%	51.57%
Amount Contributed by the Company to the Provident Fund (Baht)	2,981,809.00	3,137,081.00	3,256,438.00

Graph Showing the Proportion of Employees Who Became Members of the Fund in 2023

Employees Not Contributing to the Provident Fund for All Three Companies



Table of Minimum Wage by Organization Location

Organization Location	Minimum Starting Wage (not including other benefits)	Minimum Wage Prescribed by Law
Bangkok Office (monthly)	10,620 baht/month	10,590 baht/month
Rayong Factory	10,620 baht/month	10,620 baht/month
Q Solar 1 Power Plant (monthly)	10,500 baht/month	10,200 baht/month
Q Solar 1 Power Plant (daily)	340 baht/day	340 baht/day

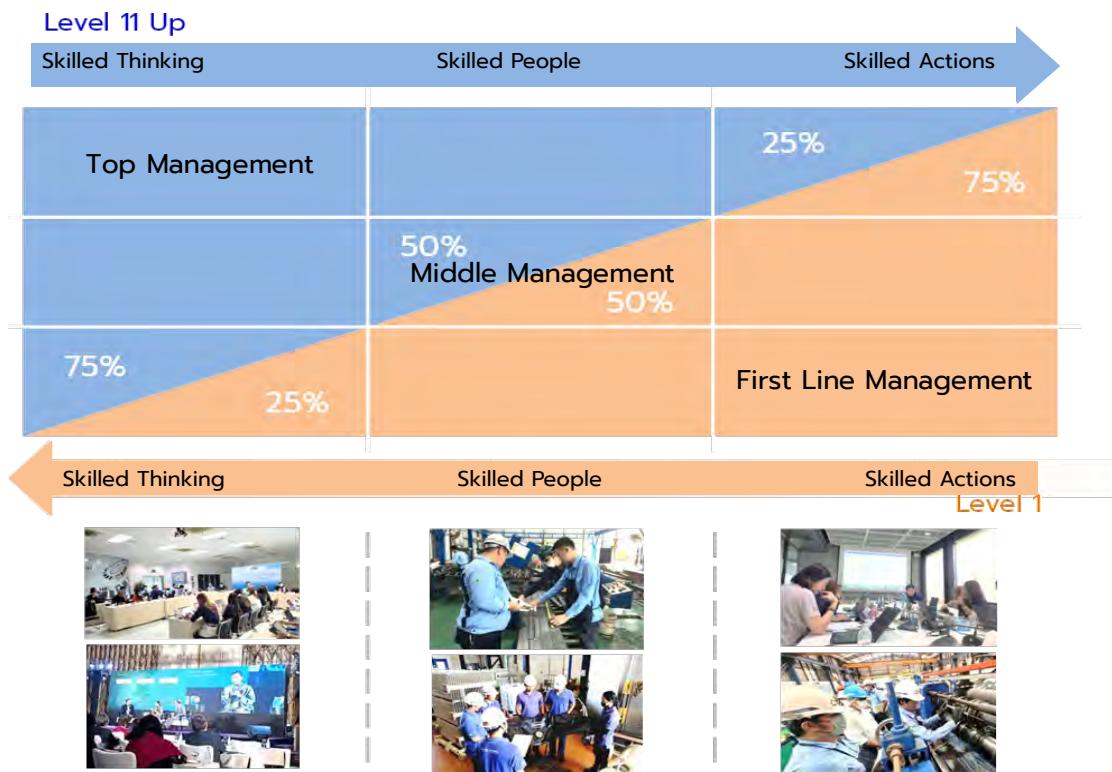
Entry-level Wages and Benefits

Description	L1 - L6	L7 - L8	L9 - UC	
			Section	Department
Starting Wages (Not Including Experience): Baht	10,620 – 25,000		According to Wage Structure	
Traveling Costs	◎	◎	◎	-
Cost of Living	◎	◎	-	-
Controlled Engineering Profession Certificate Cost		Only Certified Engineers	-	-
Risk Cost		Only High-Risk Positions	-	-
Chemical Fees	Only Employees with Chemical-Related Work			
Hard Work Fees	Only Steel Core and Warehouse Employees			
Shift Fees	Only Late-Shift Employees	-	-	-
Diligence Allowance	◎	◎	-	-
Accident Insurance	◎	◎	◎	◎
Telephone Fees	-	Some Positions	◎	◎
Office Car	-	-	-	◎
Children's Scholarship (if any) According to Terms	◎	◎	-	-
Provident Fund (%15 from employees at most. The Company contributes %6-3 according to terms)	◎	◎	◎	◎
Funeral Assistance for Employee Relatives	◎	◎	◎	◎
Funeral Assistance for Employees	◎	◎	◎	◎
Wedding Assistance (One-time Payment)	◎	◎	◎	◎
Assistance for Childbirth Expenses	◎	◎	◎	◎
Medical Expenses at No More Than One Times Salary/Person/Year	◎	◎	◎	◎
Dental Procedure Cost (1,000 Baht/Year)	◎	◎	◎	◎
Skill Fee	◎	◎	-	-
Food Cost for Overtime Work	◎	◎	-	-
Reward for Not Taking Leave	◎	◎	-	-
Transportation Cost	◎	◎	◎	-
Dormitory	◎	◎	◎	◎
Annual Vacation	◎	◎	◎	◎
Reward for Work Life at 10 Years and 20 Years	◎	◎	◎	◎
Uniform Cost	◎	◎	◎	◎
Cost of Maternity Clothes (only pregnant employees)	◎	◎	◎	◎
System Maintenance Cost	Only Test Laboratory Workers		-	-
Daily Food Cost	Only Daily Employees	-	-	-
Type 2 Driver's License	Only Drivers	-	-	-
Meeting Allowance	Only Safety Committee/Welfare Committee Members	-	-	-
Reward for Kaizen Work	◎	◎	◎	-
Reward for Photo Contest/Articles	◎	◎	◎	-
Commission/Rewards from Sales	◎	◎	◎	◎
Bonus	◎	◎	◎	◎

Q Human Capital Development

QTC is committed to improving personnel according to individual development plans based on core competency in order for employees to become “good and talented” personnel. QTC is committed to improving skills, knowledge, and capabilities of each work position to have clear career development consistent with the Company’s structure and systematic growth in order to cause employees to have attachment to the organization as ownership capable of driving the Company’s success with sustainability. QTC’s human capital development performance in 2023 was as follows:

Corporate Structure-Based Employee Development Model



Training Expenses in 2023

In-house Training
Total Expense:
659,236 baht



Public Training
Total Expense:
641,795 baht

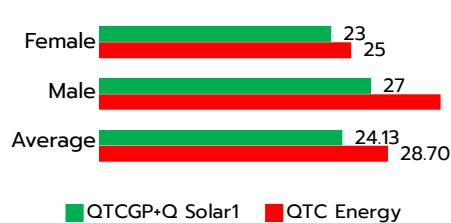


E S G

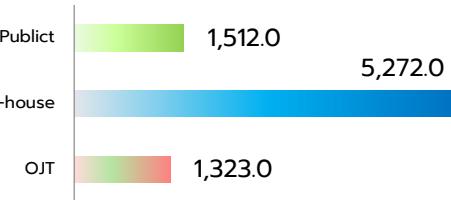
Employee Knowledge and Skill Development Courses for 2023



Average Number of Training Hours/Person/Year



Number of Hours Sorted by Development Type



■ QTCGP+Q Solar1 ■ QTC Energy

Statistics on Training Hours

Employee Status	QTC Energy						QTCGP & Q Solar 1					
	2021		2022		2023		2021		2022		2023	
Sorted by Level	Total Training Hours	Average/Person/Year										
L9-UC	647	23.96	654.5	21.82	591	18	36	12	72	36	-	-
L7-L8	373	18.65	498.5	29.32	671	39	-	-	-	-	16	16
L1-L6	2,354	11.48	4,970	23.55	6,459	29	642	30.57	237	13.94	370	25
Sorted by Gender												
Male	2,233	13.14	4,003	22.74	4,583.5	25	444	23.37	171	15.55	252	23
Female	1,141	13.91	2,120	25.85	3,137.5	34	234	46.8	106	13.25	134	27
Total Training Hours for the Year (hours)	3,374		6,123		7,721		678		309		386	
Average Employees per Year (employees)	254		258		268		24		16		19	
Training Expenses	490,008		905,891		1,301,031		1,5000		119,048		-	

%99.30 of Employees Received Development in 2023

Individual Development Plan

In ongoing improvements to the knowledge and skills of executives at the manager level and up in the Management Development Program in 2023, HRD developed three successors as replacements for key positions in support of the Company's growth direction and business plans based on competencies specified in individual development plans (IDP). HRD expanded results in 2024 and now requires every employee to have individual development plans consistent with the Company's business goals.

Topics in the 2023 Successor Development Plan

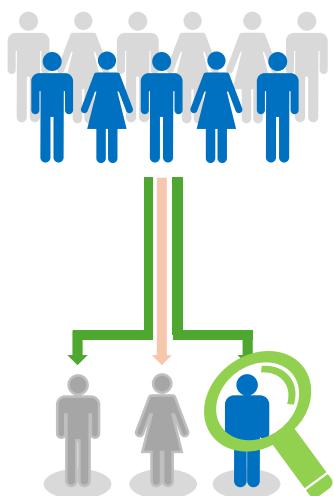


- The Practice of Directorship
- Directors' Legal Liabilities
- Director's Role in Financial Statements
- Assessing Company Performance
- Director's Legal Environment
- Risk Issue Boards
- Board's Role in Strategy
- Building Board Effectiveness
- Achieving Boardroom Performance



In 2023, QTC changed the name of QTC Marketing Co., Ltd. to QTC RE Co., Ltd. to engage in the business of purchases-sales involving clean energy equipment as a distributor for leading world-class brands. In this matter, the Executive Board considered selection of successors who were continually developed according to the succession plan to the position of Managing Director.

Succession Plan



Mr. Niphat Chingchamikon
Age: 40 years

Started working on 13 June 2005
Career Path:
2005 Private Sales Engineer
2007 Project Sales Acting Supervisor
2010 Project Sales Supervisor
2014 Customer Service Manager
2020 Solar Business Assistant Managing Director
2023 Promoted to Managing Director of QTC RE PLC for 2024

Employment Period: 18 years, 6 months



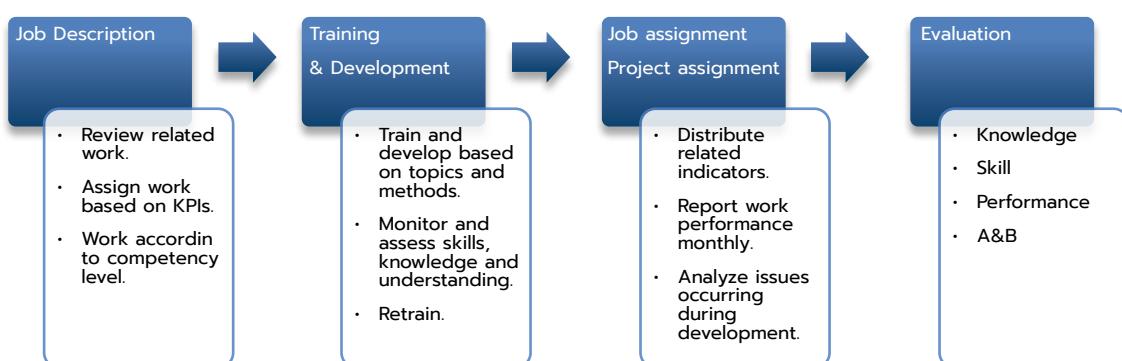
Career Development



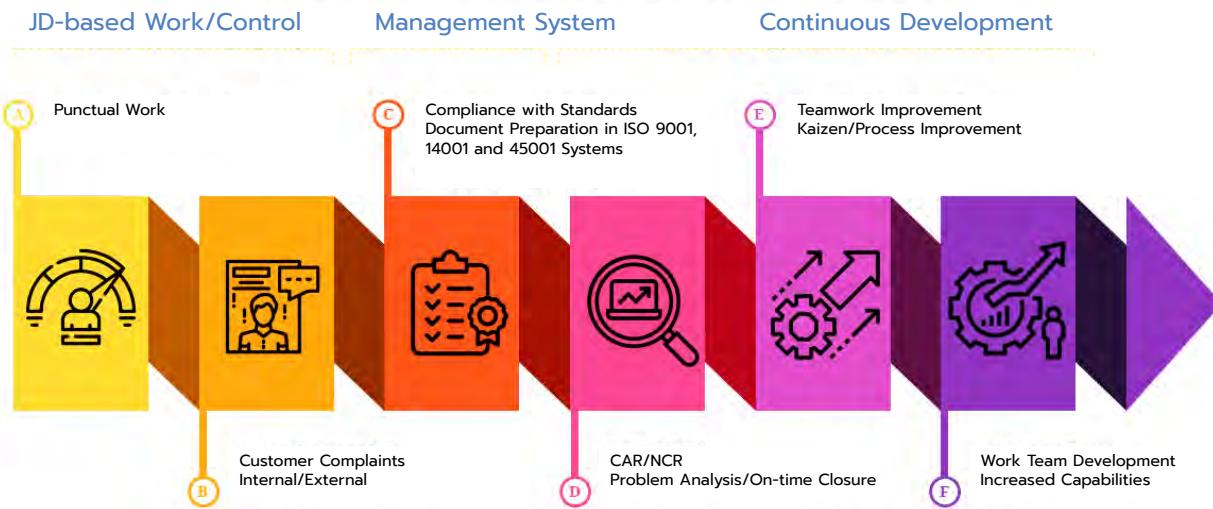
The Company gives importance in career path development based on the capabilities and readiness of each employee in the target group with good performance, attitudes, knowledge and skills. As a result, employees are motivated to develop themselves in line with individual skills, knowledge and abilities (put the right man on the right job) and feel that they have value and that they are accepted, which increases their attachment to the organization. In 2023, there were 39 employees in the target group who were considered for inclusion in the development plan. These are separated into 22 regular employees from the main office, 17 regular employees from the Rayong branch, 24 male employees and 15 female employees. The percentage of employees developed according to plan was %94.87. Each aspect of the "QTC Sustainability ESG" course was as follows:

- Environment Aspect
- Climate change
- Requirement ISO 14001
- Leadership
- Competency Management
- Requirement ISO 45001
- Planning
- Controlling / Reporting
- QCC / Process Improvement
- OH&S Risk
- Performance Management

Chart Showing Career Path Development Steps



Assessment Topics During Development



Employees in the target group who were assessed monthly for knowledge, ability, and performance based on new indicators of activities in job descriptions in growth positions (talented people) by supervisors and HRD including for good attitude/behavior consistent with assigned positions (good people) throughout the development period received scores for adjustments to job levels. Employees in the target group: 39 people, 37 people received development work, and 2 people requested to withdraw. 22 employees met criteria for consideration of position adjustments for growth in the career path and

Names of Employees Who Received Position and Level Adjustments

No.	First-Last Name	Previous Position	Level	New Position	Level	Department Based on the New Structure
Position Adjustment	1 Ms. Natnaphat Thewakhunanon	Section Supervisor	7	Division Manager	9	Sales Support Division
	2 Mr. Nathaphon Thappawong	Senior Engineer	6	Quality Assurance Section Supervisor	7	Quality Assurance Division
	3 Mr. Natthaphat Khomwitthichai	Senior Sales Engineer	6	Section Supervisor	7	International Sales Section
	4 Mr. Thiraphon Phidet	Senior Sales Engineer	6	Section Supervisor	7	Private Sales Division 2
	5 Mr. Phisek Chimnok	Officer	5	Section Supervisor	7	MIS Division: System
	6 Ms. Arunrot Inthasiri	Professional SO	5	Section Supervisor	7	Safety Section
	7 Ms. Waratthaya Chawianghong	Officer	5	Section Supervisor	7	Planning Section
	8 Mr. Decha Yuenyao	Officer	4	Team Leader	5	Heating and Oil-filling Section
	9 Mr. Siwaphong Prakangwe	Staff	2	Team Leader	5	Chassis Section
	10 Mr. Chalom Namwichit	Staff	3	Team Leader	5	Chassis Section
	11 Mr. Phongkawi Naophothong	Staff	3	Team Leader	5	Transformer Repair Section
	12 Mr. Khanchit Soithong	Staff	3	Team Leader	5	Coiling Section
Level Adjustment	13 Ms. Chuthamani Rotchanaeng	Acting Division Manager	5	Acting Division Manager	7	Warehouse and Logistics Division
	14 Ms. Emika Surathanakoset	Officer	5	Officer (Senior)	6	Customer Relations Section
	15 Mr. Phraiwan Saraphong	Sales Engineer	5	Sales Engineer (Senior)	6	Service Sales Section
	16 Mr. Somchai Saeng	Service Technician	3	Service Technician	5	Bangkok Service Division
	17 Mr. Samran Khankao	Officer	4	Officer	5	Steel Core Section
	18 Mr. Seksan Bunsan	Staff	2	Officer	4	Testing Section
	19 Mr. Phaiwan Wichaiwong	Staff	3	Officer	4	Chassis Section
	20 Mr. Wihan Khongsangsa	Staff	3	Officer	4	Chassis Section
	21 Mr. Phunphon Sutacha	Staff	2	Staff	3	Chassis Section
	22 Mr. Chatchai Saengaphai	Staff	2	Staff	3	Steel Core Section

Goal 1: Number of target employees developed according to career path > 80%

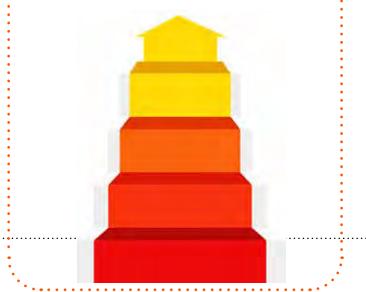
Results: 37 people were developed From 39 people, accounting for 94.87%

Goal 2: Number of employees who have passed the Career Path development and have been evaluated and passed the specified criteria > 80%.

Results : 22 people passed the criteria, accounting for 59.46% (Target not achieved)

@ For the 15 people who do not pass the criteria, additional development will be made on the issues that are shortcomings and reevaluate in 2024

@ For 2 people who have withdrawn, there will be a change. A development path appropriate to one's abilities from a craftsman to an expert in the future.



Employee Development



Sales Employees

Sales employees are considered another important group for the Company. In 2023, individual and group development plans were creating by using training, seminars and coaching with an emphasis on building the sales team and good work attitudes as well as strategic sales techniques. The following key topics were developed:

- ▶ Knowledge about the Company's business.
- ▶ Knowledge about each type of product.
- ▶ Knowledge about customers, customer purchasing behaviors and channels to access customers.
- ▶ Knowledge about the art of selling and attitude, sales psychology, sales strategies and techniques used in successful sales.
- ▶ Knowledge about the market and competitors, competitive market analysis and market trends.



Engineering and Production

Engineering and production employees account for the majority of the Company's manpower. Knowledge and capability development plans are divided based on competency, "functional skills", knowledge and practical skills (skilled actions. There are 15 required courses in the development plan, including Autodesk Product Design, Autodesk Inventor Essentials, Root Cause Analysis to Improve Work, Oil Analysis Tests and Work Standards Through Coaching, On-the-Job Training, Consult, and Job Rotation, to ensure that employees can work in designing, drafting and producing products that are consistent with the Company's growth direction. In the year, 90.83% of employees were developed according to this group's criteria.

To develop knowledge, skills and expertise based on skill topics in various jobs in which employees still have gaps, each year the company assesses the skill matrix. The supervisors of the employees' original affiliation and the HRD provide knowledge, training and development to improve employees' work competency which impact product quality and related work processes.

Skill Matrix chart



Criteria for Employee Competency Assessment

	0%	No knowledge. Unable to operate.
	≤25%	Able to operate with supervision. Unable to make work decisions.
	26 - 60%	Able to operate unsupervised. Unable to make work decisions.
	61 - 85 %	Able to operate unsupervised. Able to make work decisions.
	86-100%	Able to operate with good understanding.



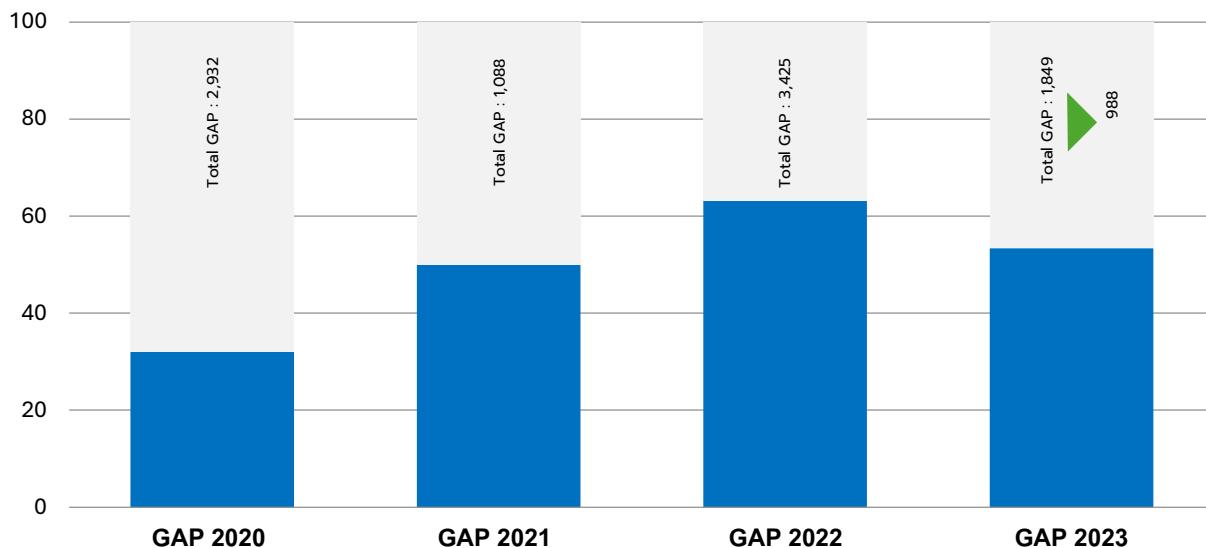






In 2023, the Company combined the GAP remaining from 2022 with skill matrix assessment results of new employees including the sales, engineering, production, and office employees involved in the supply chain from in-house training and public training. In 2023, the Company was able to reduce GAP by 53.43% from the goal of > 50%.

Graph Showing Reduced Gap after Personnel Development



Year	Total GAP
GAP 2020	2,932
GAP 2021	1,088
GAP 2022	3,425
GAP 2023	988

Goal: Increase individual ability to reduce overall GAP by 50% per year.

170

Sustainability Report 2023
QTC Energy Public Company Limited

Labor Development in the Education Sector

The company places great importance on Thai education at all levels, particularly vocational education institutions which will produce skilled and quality labor for the future of the Thai industrial sector. QTC has a policy of supporting these institutions with both funding and expertise in various ways, such as providing knowledge directly at educational institutions, offering tours of our facilities to students, or accepting students for internships in their field of study. This is part of our commitment to developing and promoting high-quality Thai labor, ensuring they are both good and skilled individuals who can compete globally, and creating awareness of the QTC brand among students from an early age, which will benefit the brand in the future.

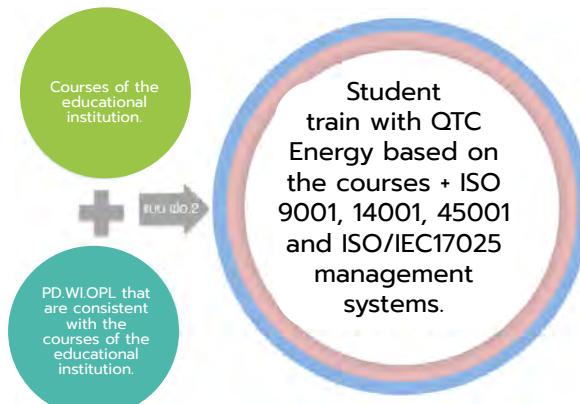
In 2023, the company assigned Mr. Ekkachai Siphawan, Manager of the Personnel Development Department, to participate in providing guidance on labor development in the education sector, cooperative education, and dual education systems for vocational education institutions. This was part of the 'Seminar for Stakeholders in the Driving of Production and Development of Vocational Education Manpower for Enterprises in the EEC Area,' held on August 25, 2023, at the Sroi Phet Conference Room, Golden City Hotel, Rayong Province, in collaboration with Lieutenant Colonel Thanu Wongjinda, Secretary-General of the Vocational Education Commission.



The Company cooperates in student development with education institutes that have development guidelines consistent with the Company according to the institutes' courses. The Company is prepared in the areas of modern work systems, machines, equipment, and technology. In addition, the Company accepts students to train and gain occupational experience to promote skills, industry discipline, and participation in the Company's activities for promoting the organization's wellness and moral health, and adjust behaviors in the areas of gratitude, discipline, sufficiency, honesty, and volunteer-mindedness to impart skills, knowledge, and capabilities for students during training to become good people for society, communities, and the country.



Student Development Model of QTC Energy Public Co., Ltd.



Activities to Support Courses QTC Core Value & Culture

Quality of Work Life



Training with Work Systems, Instruments, and Machines in Courses Taken by Students



Students enrolled in job training receive training from instructors at facilities registered with the Labor Skill Development Institute on the subject taught. Instructors provided instruction according to training plans of each field including in theory and practice with a focus on enabling students to work according to standards of each assignment along with building awareness in the areas of quality, safety, and environment consistent with the Company's management process. Focus on creating talented and quality people.

Activities for Promoting Organization Health and Morals

During job training, apart from training students as planned for each subject, the Company places importance on building good behaviors consistent with morals in five areas. The Company allows students to participate in the Company's activities such as the Forest Planting Activity, the On Tour School Building Renovation Volunteer Activity, the QTC Loves Children Activity, and the 5S Safety & Happy Workplace Activity to promote coexistence with others in society with discipline, happiness, and daring to express in activities or cooperation. Focus on creating good people for society



Educational institutions that will send students for internships in 2023



- Chulalongkorn University
- King Mongkut's University of Technology North Bangkok
- Rajamangala University of Technology Krungthep
- Rajamangala University of Technology Tawan-ok
- Pihulsongkram Rajabhat University
- Sattahip Technical College
- Rayong Technical College
- Bankhai Technical College
- Maptaphut Technical College
- IRPC Technological College
- Pathum Thani Technical College
- Chonburi Technical College



Training Subjects in 2023

- Electrical Engineering
- Electronic Engineering
- Electrical Power
- Electricity Control
- Mechatronics and Robotics
- Industrial Techniques
- Metal Techniques
- Industrial Techniques
- Information Technology
- Accounting
- Logistics and Supply Chain

Summary of Operations for 2023

- A total of 31 students successfully completed their internships across 11 fields of study from 13 educational institutions.
- Students earned an average of 363 baht per day per person.
- The company received corporate income tax deductions based on actual expenses incurred (actual expenses totaled 912,578 baht).
- There were 4 major projects developed by the students that QTC could significantly integrate into its operational processes."

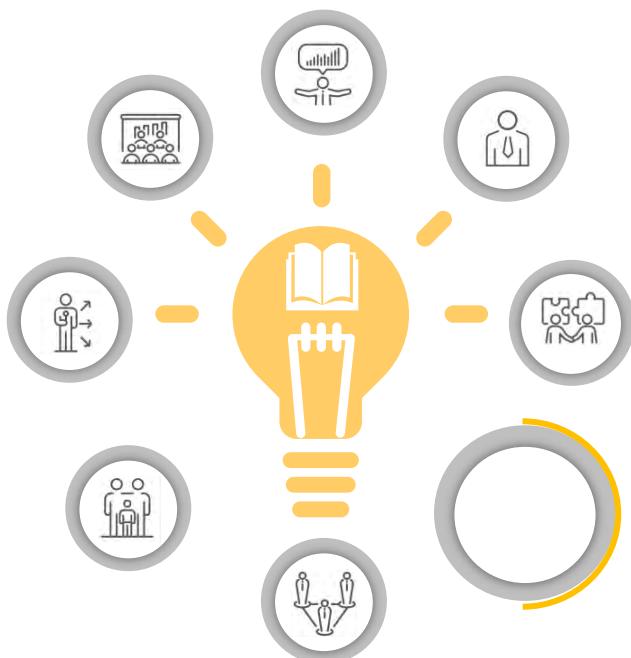
QTC KM

Knowledge Management

In 2023, the HRD raised awareness in the organization so that all employees would participate in managing corporate KM. Employees who participated in career management at the middle-management level based on their competency in QCC/process improvement to ensure efficiency, effectiveness and innovation. Target employees **used the guidelines in the training topic One-Point Lesson (OPL)** to write and share personal knowledge and experience with a focus on using images rather than text to communicate with and train new employees or old employees who needed to review knowledge in a short length of time and in a way that makes it easy and convenient to learn and kept up with changes in time, situation, customer needs and work context that enables immediate access to up-to-date information.

This quickly multiplied the number of KMs and enabled the development of potential for employees and the organization, as well as reduced costs according to total quality management (TQM) guidelines.

Stakeholder



Employee Wellbeing

The Company is aware that employees are an important resource in driving the organization toward goals, paying attention to work and creating happiness in employees' lives. The Company has an important mission to provide support in the area of personnel, time and necessary resources under the Happy Workplace Policy at <https://qtc-energy.com/th/happy-workplace-policy/>. The Company moves projects to provide knowledge and understanding through supporting activities as appropriate choices for each person. The Company's goal is to create sustainable happiness and work-life balance including engagement in the organization and lower resignation rates.

Table Showing Ratios of New Entries and Dismissals

Description	QTC Energy						QTCGP & Q Solar 1					
	2021		2022		2023		2021		2022		2023	
	Number (employee)	%	Number (employee)	%	Number (employee)	%	Number (employee)	%	Number (employee)	%	Number (employee)	%
No. of Employees at End of Year	254		258		268		24		23		19	
New Employees												
Male	45	79	22	68.75	26	59.09	-	-	1	100	2	28.57
Female	12	21	10	31.25	18	40.91	1	100	-	-	5	71.43
New Employees												
Less than 30 years old	52	91	31	96.87	34	77.27	1	100	1	100	5	71.43
>50-30 years old	5	9	1	3.13	10	22.73	-	-	-	-	2	28.57
>60-50 years old	-	-	-	-	0	0.00	-	-	-	-	-	-
> 60 years old, hired after retirement	-	-	-	-	0	0.00	-	-	-	-	-	-
Dismissed Employees by Gender												
Male	36	72	20	68.97	23	65.71	6	75	4	100	1	20.00
Female	14	28	9	31.03	12	34.29	2	25	-	-	4	80.00
Dismissed Employees by Age												
Less than 30 years old	42	84	23	79.31	22	62.86	3	37.5	1	25	3	60.00
>50-30 years old	8	16	6	20.69	13	37.14	1	12.5	3	75	2	40.00
>60-50 years old	-	-	-	-	0	0	4	50	-	-	-	-
> 60 years old, hired after retirement	-	-	-	-	0	0	-	-	-	-	-	-
Employee Resignation Rate per Year (%)	19.69		11.24		13.06		33.33		17.39		26.32	

Graph of Resignation Statistics for 2021-2023

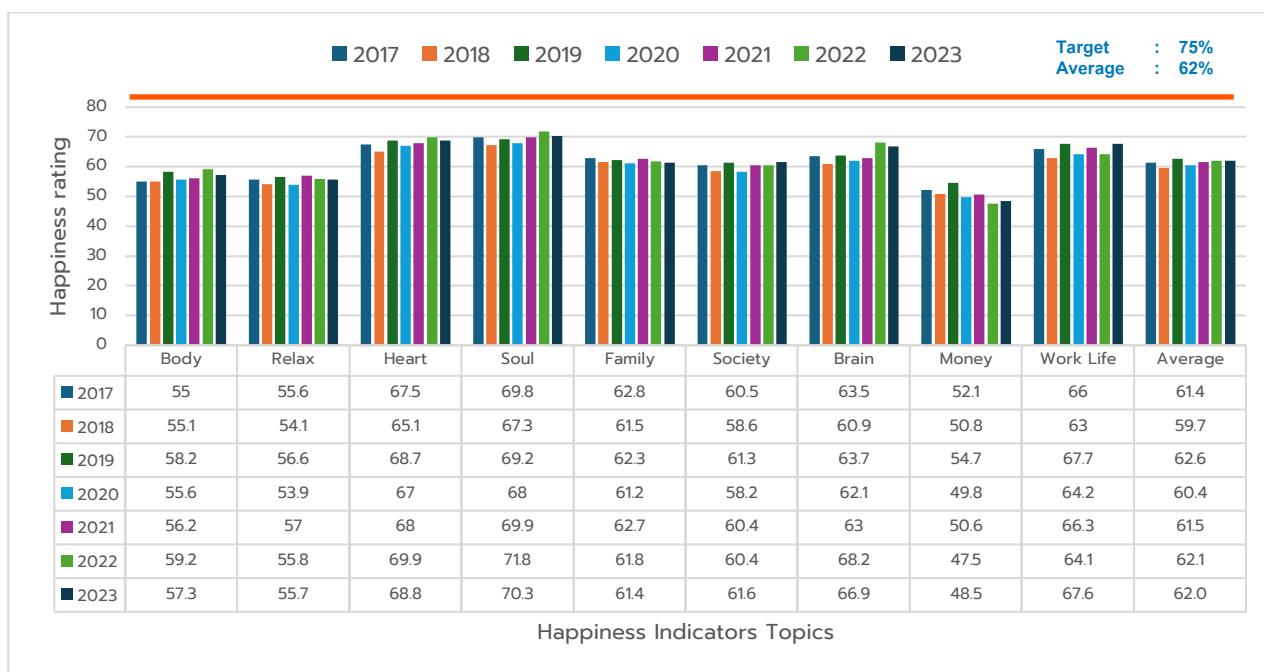


In 2023, the resignation rate for only QTC was 13.06%, while QTCGP and Q Solar 1 had a resignation rate of 26.32%. The total resignation rate in the Company Group was 17.77%. The Company achieved the goal (of not exceeding 20% per year).

Happiness in the Organization

The Company measured happiness of QTC Energy employees continually since 2016 by using the Happinometer in an online format. In 2023, a survey was conducted in November 2023 with 158 respondents out of 264 employees, or a respondent proportion of 59.85% consisting of 102 male and 56 female employees, and the data was sent to the Thailand Centre for Happy Worker Studies, the Institute for Population and Social Research, Mahidol University, in order to study and determine happiness in various dimensions with preparing detailed summary reports as follows:

Graph Showing Comparison of Mean Happiness Scores by Dimension in 2017-2023



Graph of Happiness Scores Levels for Each Aspect for 2023

Average Rating	Happy Body	Happy Relax	Happy Heart	Happy Soul	Happy Family	Happy Society	Happy Brain	Happy Money	Work Life Balance	Happiness at the individual level
Overview (158 person)	57.3	55.7	68.8	70.3	61.4	61.4	66.9	48.5	67.6	62.0

Based on the overall assessment of 128 employee representatives, the happiness score was 62.0, a slight decrease from 2022 (0.1). Similar to the score in 2022, this score was at the "Happy" level. This failed to achieve the goal of 75%, with a significant dimension being the "Happy Money" dimension which was consistent with the 2022 economic condition. The Company will further use the results to elevate and provide financial knowledge to elevate the happiness level for the people in the organization.

As for the happiness survey of working people nationwide in 2023, the survey results of the Thailand Centre for Happy Worker Studies, the Institute for Population and Social Research, Mahidol University, had not been publicly disclosed so they could not be used to compare with the happiness score of QTC's employees.

Employee Engagement in the Organization

In 2023, employee engagement in the organization was surveyed based on a sample of 284 employees out of a total of 288 employees in October 2023 covering QTC Energy, QTCGP and Q Solar 1 (except for executive committees). Respondents completed 100% of the survey forms. The questions were divided into four drivers (MORE) and 14 factors for a total of 49+2 questions. An application developed by Human Achievement Service Co., Ltd. and the copyright belonged only to QTC and companies in the group. The survey results in 2023 are as follows:

284 out of 288 Employees Were Surveyed (Except for Executive Committee)	Employee engagement 2022		Employee engagement 2023	
	Score	Calculated into %	Score	Calculated into %
	3.99	79.80%	4.06	81.20%

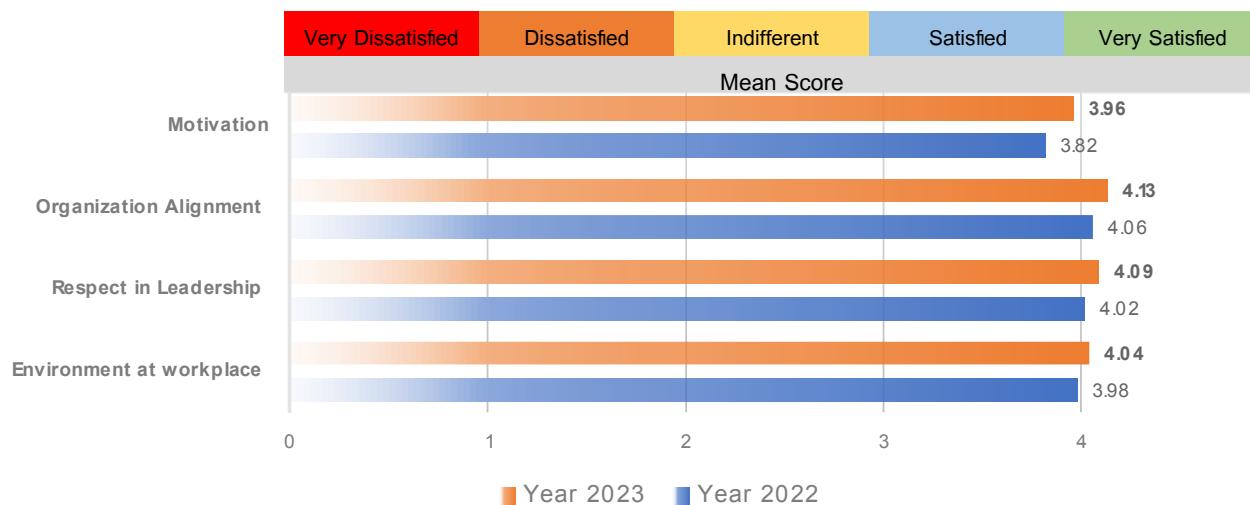


Image of Employee Engagement in the Organization Comparing 2022-2023



As for the overall picture of employee engagement in the organization in 2022 compared to 2023, the overall score of the employee satisfaction in the organization in 2023 was at the "Very Satisfied" level, an increase of 0.34 points from 2022. The change in results based on the required criteria resulted in an employee engagement score of 81.20%, a 1.4% increase from 2022. The performance in 2023 achieved the goal of over 80%. However, some aspects of the questions had scores that failed to meet the goal (less than four). This information will be analyzed to find the cause and prepare a joint work plan with the related departments to raise the score in the topics that received scores of lower than four in 2024.

Wellness activities in the workplace

The Company continues to promote activities to support employees in having positive attitude toward employees, colleagues, the organization and society. Most activities were activities in projects continuing from the previous year for consistency and sustainability.

"Happy Money, Good Living, No Debts, No Poverty" Project

The Company continues to encourage its employees to live sufficiently and to make their time off from work useful and earn extra income for themselves. In 2023, the Company allocated spaces in the factory for a kitchen vegetable garden. The employees had a rotation to take care of the garden. When there was produce, the employees could harvest it for eating to help reduce expenses from buying vegetables in the market while also getting organic vegetables. Furthermore, this fosters good relationships among employees who spend the time doing activities together.



Happiness from Good Money

Management in Life



Morals & Ethics Promotion Activities in 2023

The Company continues to place importance on and promote moral and ethical actions among employees in order for employees to be good, responsible to themselves and surrounding persons through the following activities:

Happiness from Having Ethics

Regarding Oneself and Others



Images of the Seminar on Guidelines to Drive Morals on 10 June 2023

In 2023, the Company hosted an internal seminar on "Guidelines for Driving Morals in the Organization" with Dr. Suriyadewa Thripati, Director of the Morals Center, as the lecturer. A team from the Thai Health Promotion Foundation Office (THPH) participated in the activities to support employees to have values of good thinking, action, morals, ethics, being good members of society, and being ready to improve knowledge in all areas, train employees to have skills and expertise as talented personnel of the organization, and announce a "happy moral organization" policy to expand results to employees at every level and allow employees to participate in thinking and doing well to become a sustainable organizational value.

Photograph Competition to Support the Family 2023

"Happiness in a Warm Family"



Winners of 2023



"A Warm Family"
Sirinnappa Sombat



**"I Love My Mother the Most
Because She's My Best Love"**
Chutima Somunchan



**"I Love My Father the Most Because
He's My Best Love"**
Kiattisak Kritphaithun

Employee Value Promotion 2023

In 2023, the Company awarded employees who had been working for twenty years and employees who had been working for ten years. The employees were awarded during the 2024 New Year's activities. The following persons received awards:

No.	First Last Name	Position	Level	Award	No.	First-Last Name	Position	Level	Award
1	Mr. Wiraphong Saomueang	Staff	3	20 years	11	Ms. Atchara Buakhom	Officer	5	10 years
2	Ms. Nittaya Sodaphrom	Section Supervisor	7	20 years	12	Ms. Mayuri Suramani	Officer	5	10 years
3	Ms. Chanisa Bunprasoet	Section Supervisor	7	10 years	13	Mr. Thanaban Suksawat	Section Supervisor	7	10 years
4	Mr. Chanti Chandakun	Staff	1	10 years	14	Ms. Yuphawadi Nonthaphap	Officer	4	10 years
5	Mr. Waraphong Samakkhi	Staff	2	10 years	15	Mr. Wongduean Chanthakhet	Staff	1	10 years
6	Mr. Kanoksak Naophothong	Staff	3	10 years	16	Mr. Ongat Wanprake	Staff	1	10 years
7	Mr. Itsariyathep Khiaowichit	Staff	3	10 years	17	Ms. Siriphon Chuenban	Officer	4	10 years
8	Mr. Thanawat Khongniam	Senior Division Manager	10	10 years	18	Ms. Sasikan Tanthanasin	Managing Director		10 years
9	Mr. Sawan Thaphimksi	Service Technician	4	10 years	19	Mr. Phaibun Phrommanu	Security Officer		10 years



Rece

Recreation Activities in 2023

Annual Vacation in 2023



"Rest, if you're stressed. Learn how to relax."



Plant a Forest, Then Visit Samet



In 2023, the Company organized the annual vacation trip and continued to use the same conservation format to share benefits with the society and environment.

"Plant a Forest, Then Visit Samet" included activities in which the Company took volunteering employees to plant a forest at the Rayong Botanic Garden, go kayaking to enjoy nature and then ride on a boat to visit Samet Island. While on the island, employees got to relax before arriving at their lodgings at Malibu Samed Resort, Rayong. A total of 142 students joined the activities. A budget of 446,000 baht was spent.

New Year Activities

The Company organized the 2024 New Year activities under the theme "Sports Ha Hey, QTC Hey Ha". The event was organized off-site at the Map Yang Phon 15 Arena football club. In the event, there were football matches and fun sports for employees to enjoy to build a team spirit and good relationships with each other. Furthermore, awards were given to employees with good performance in the year. Moreover, the employees who participated in the activities were entitled to participate in a lottery for a cash reward of 340,000 baht. There were 247 participating employees and a total budget of 604,633.80 baht was spent on the activities.



Human Rights



Every human has rights, freedom, dignity, and equality without limitations concerning gender, religion, beliefs or expressions under legal confirmations and protections in the Constitution of the Kingdom of Thailand and international treaties. The state has the authority to protect human rights of people in the country. In business operations, importance given to respect for human rights among employees and the stakeholders involved throughout the value chain will create trust among stakeholders and within the organization. If business organizations do not place importance on human rights, human rights violations occur in the organization, or human rights violations occur in the supply chain, the organization can be seen as complicit in human rights violations, which may result in lawsuits or news dissemination via online media that affects the organization's image.

QTC recognizing the importance of and respecting international human rights in the organization where the organization is able to control practices easily with coverage and outside the organization in the value chain which is complex and difficult for the organization to control to be a challenge in business operations. If the Company neglects or allows human rights violations to occur within the organization or the business value chain, this will affect the organization's sustainability because the organization will not be sustainable if the organization depends on only business talent. Trust and support from all stakeholders to create good practices without exploitation while respecting human rights are important pillars for the organization's sustainable business growth. Assessment of positive and negative effects with coverage of economic, environmental, social, and human rights aspects was as follows:

Risks and Opportunities For Human Rights



Objectives :

1. To ensure that the organization's internal and external operations throughout the business value chain comply with international human rights principles.
2. To reduce or avoid potential human rights risks in the business value chain.
3. To ensure that the Company is not be accused of being involved in human rights violations that tend to occur in cases where a company is well aware or should be well aware that their business partners or suppliers have violated human rights, which is equivalent to the company being indirectly involved in the violations.

Management :

Announcement of the Human Resource Management Policy, Human Rights Policy and Human Rights Due Diligence practices; assessment of human rights risks and impacts, company regulations related to work rules and requirements (Employee Manual); compliance with labor-related laws; and provision of complaint channels and inspection processes.



Human Rights Due Diligence : HRDD

The Company has established a comprehensive human rights due diligence (HRDD) process to identify, prevent and mitigate any human rights impacts that arise or may arise from the Company's business operations under the recommendations of the UN Guiding Principles on Business and Human Rights (UNGPs) and the National Human Rights Commission. It is expected that any business that is related in its value chain will operate in accordance with the Company's human rights policy. In addition, the Company strictly promotes human rights practices within the organization. This is done through established codes of practice and various channels of activities so that all employees are informed about their legal rights and respect each other's rights. The employees are given the opportunity to express their opinions or gather under the rules and regulations stipulated by law. The measurement of human rights performance within the organization is determined by the complaints or disputes about human rights violations of employees.

The Company has considered the scope of human rights risks and impacts from the vision and mission of the Company covering its subsidiaries under the UNGPs, which can be summarized as follows:

Scope of Human Rights Risks and Impacts of QTC

	Employee Rights	<ul style="list-style-type: none"> ● Employment Status ● Discrimination ● Employee Privacy ● Health and Safety ● Freedom of Assembly
	Community and Environmental Rights	<ul style="list-style-type: none"> ● Standard of Living ● Cultural Inheritance ● Impact from Pollution ● Community Health and Safety ● Access to Water and Natural Resources ● Waste and Hazardous Waste
	Customer and Distributor Rights	<ul style="list-style-type: none"> ● Health and Safety ● Information and News Accuracy ● Customer Data Security
	Business Ally Management (Trade Partners, Contractors)	<ul style="list-style-type: none"> ● Employment Status ● Labor Protection ● Health and Safety ● Stability and Security

Human Rights Policy: <https://qtc-energy.com/th/human-right-policy/>

Results of Comprehensive Human Rights Due Diligence (HRDD)

In 2023, the Company conducted additional comprehensive HRDD in activities with changes in 2023 as well as the Company's suppliers as follows:

1. Checklist 1: Major Risks in Factory Construction/Operating Areas/Business Expansion/Mergers
 - In 2023, the Company had a project to raise the ground level in the Rayong Factory area to prepare for future expansion. Based on the inspection, no human rights violations were found. Risks have proper preventive measures.
2. Checklist 2.1: Significant Human Rights Risks to Regular Employees, and
3. Checklist 2.2: Significant Human Rights Risks to Temporary Employees
 - 100% of the operation was carried out in 2022, and in 2023 the Company announced changes in its regulations and welfare to comprehensively cover the human rights of all employees in the Company and its subsidiaries as follows:
 - Adjustments were made to the company regulations to cover LGBTQ employees as follows:
 - o LGBTQ employees are able to take paid marriage leave based on gender equality rights. The payment will be under the conditions specified by the Company. (An employee may exercise this right only once throughout the employment period.)
 - o LGBTQ employees who identify as male are able to take paid ordination leave based on gender equality rights. The payment will be under the conditions specified by the Company. (An employee may exercise this right only once throughout the employment period.)
 - o Male employees are able to take a paid paternity leave of three days. The payment will be under the conditions specified by the Company.
 - o LGBTQ employees are able to take a paid paternal leave of three days. The payment will be under the conditions specified by the Company.
 - Adjustments were made to the employee welfare to cover LGBTQ employees as follows:
 - o The Company provides 3,000 baht to help with wedding payments for employees of all genders who have been working for the Company for at least one year.
 - o The Company provides maternity benefits based on actual cost and not exceeding 5,000 baht for female employees and LGBTQ employees whose gender status is female.
 - o The Company provides a welfare basket valued at no more than 1,000 baht to employees of all gender status.
 - o Regarding uniforms, the Company permits LGBTQ employees to select their uniform based on their gender status.
 - o Regarding restrooms. The Company permits LGBTQ employees to use restrooms based on their gender status.
4. Checklist 2.3: Significant Human Rights Risks to Wage Contractors
 - There were no wage contractors in the Company and its affiliates.

5. Checklist 2.4: Significant Human Rights Risks to Migrant Workers

- There were no migrant workers in the Company and its affiliates.

6. Checklist 3: Significant Human Rights Risks to Communities and Societies Surrounding Areas of Operation

- In 2023, an audit was conducted within the community at the location of Q Solar 1 Power Plant. No human rights violations were found. For risk issues that concern the community, the Company has established appropriate policies, operating standards, and preventive and mitigation measures for potential impacts.
- No audit has been conducted within the community at the location of the Bangkok Office as there were two ongoing construction sites in the area surrounding the office that may cause errors in the rights inspection. This will be conducted within 2024.

7. Checklist 4: Significant Human Rights Risks to Other Organizations with Business Relationships

- In 2023, the Company continued to audit key suppliers from 2022 as follows:

Key Suppliers	No. of Required Key Suppliers (suppliers)	Inspected Cases (suppliers)	% of Performance	Remaining Cases to Be Performed in 2024 (suppliers)
Producers of Raw Materials That Impact Quality	46	20	43%	26
Distributors of Raw Materials that Impact Quality	54	26	48%	28
Construction Contractors	7	3	43%	4
Delivery Service Providers	17	5	29%	12
Security Officers, Janitors	2	2	100%	0
Other Important Groups	29	8	28%	21
Total	155	64	41%	91

- From the HRDD on 48 key suppliers of QTC in 2023, one supplier in the "Producers of Raw Materials That Impact Quality" group had human rights violation risks toward their employees in terms of the employees' working environment. From the inspection, the supplier company had not provided their employees with PPE for wearing during operation and provided no SOs for overseeing safety as required by law. Therefore, QTC had to suspend its purchase orders and gave the supplier the chance to make improvements. QTC will provide further improvement and development recommendations.
- There was a total of 230 suppliers on the AVL, with 155 suppliers being key suppliers according to QTC's criteria. HRDD was conducted on 64 suppliers, accounting for 41%. The remaining 91 cases will be conducted in 2024 (to achieve the goal of 100% by 2024).

8. Checklist 5: Significant Human Rights Risks to Customers

- In 2023, the Company conducted an audit on sales and service policies and various regulations according to the sales checklist. 100% of the audit was carried out separately on the transformer and solar businesses and buying customers in 2023, with no human rights issues against customers found.

Human Rights Knowledge Promotion

The Company encourages all employees to understand and behave with respect to the rights of others, including relevant regulations, practices, and policies, which are prescribed as mandatory training courses for all job positions. In 2023, training was provided for employees who did not receive 100% of the training in 2022. As for new employees and all student interns, they received 100% of the training before beginning work. Additional training was provided to contractors who operated on the Company's premises. The performance results were as follows:

Training for executives directly involved : 100%

Training for general staff/student interns : 100%

Operating contractors : 100%

Security service providers : 100% (Additional training in case of personnel replacement.)

Janitorial and gardening service providers: 100% (Additional training in case of personnel replacement.)

100% of staff and directly related personnel received human rights training.

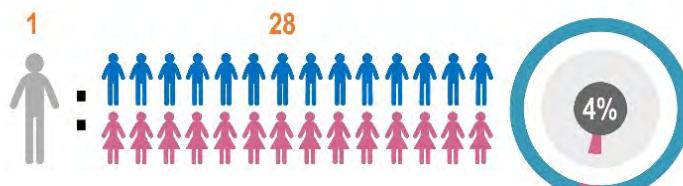
100% of security officers and janitors received human rights training.

Human Rights in the Organization: Benefits Committee

The Company created an elected Benefits Committee with the role and duty of representing employees of the Company and all subsidiaries in order to present opinions for improving environments, public utilities and benefits specified by law to the Company. Employee representatives (Human Resources Division) participated in meetings on a quarterly basis. If the work of the Benefits Committee was approved by the Executive Committee and the Board of Directors, effects will cover every subsidiary. The current Benefits Committee has a term of two years (2023 – 2024) and consists of the following persons:

Benefits Committee					
Rayong-Prachinburi Factory			Bangkok Prachinburi Main Office		
First – Last Name	Representative of	Position	First– Last Name	Representative of	Position
1. Mr. Krittaphat Klaifon	QA Dept.	Chairman	6. Mr. Somchai Saing	Customer Service Dept.	Chairman
2. Mr. Samran Khankaeo	Production Dept.	Director	7. Mr. Itsaret Serikitikun	Transformer Sales Dept.	Director
3. Ms. Wilaiwan Nakhun	Production Dept.	Director	8. Ms. Wanchanok Amongsaksophon	Accounting & Finance Dept.	Director
4. Ms. Arisa Balap	QA Dept.	Director	9. Ms. Wenika Thitkrathok	Factory Administration	Director
5. Ms. Sayamon Khonsue	Personnel-Administration Div.	Director/Secretary	10. Ms. Wimonphan Damrongwetphon	Solar Business	Director/Secretary

**Ratio of Benefits Committee to
All Employees Including Every Subsidiary**



No Joint Negotiation Agreements in 2023

In 2023, the Benefits Committee had no issues to present to the Executive Committee for consideration.

Children's Rights in the Organization: “Breastfeeding Corner”

The Company continues to support mothers to use “mothers’ corners” to allow mothers to use breast pump services and refrigerate breast milk for infants to allow infants to receive mothers’ milk for as long as possible. This connects infants’ opportunity for good and quality upbringing (mothers can ask supervisors to use services at any time to pump breast milk). Services are provided from 8:30 a.m. – 4:30 p.m. of every business day. In addition, the Company arranges for nurses to provide key information regarding lactogenesis and childcare. In 2023, one male employee exercised the right to take paternity leave.

Table of Female Employees Who Took Maternity Leave

Year	2021		2022		2023	
	QTC	QTCGP&Q Solar1	QTC	QTCGP&Q Solar1	QTC	QTCGP&Q Solar1
Employees Who Took Maternity Leave (employees)	3	-	3	2	3	1
Employees Who Returned to Work (employees)	3	-	3	2	3	1 (1 employee's leave carried over to 2023)

“Breastfeeding Corner”



QTC Babies in '23

Baby Boston of Mother June



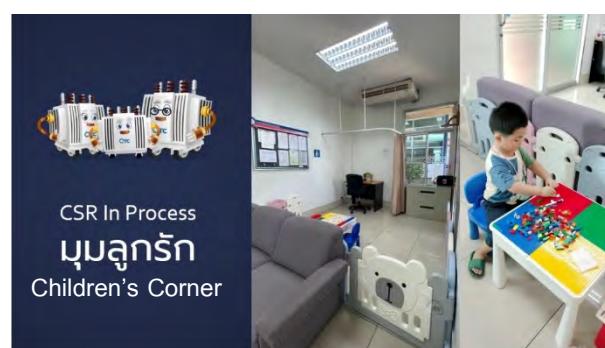
Baby Namwan of Mother Khwan



Images of the babies are published in this SD Report with consent from their mothers.

Children's Rights in the Organization “Children’s Corner”

According to the complaint black box, employees with small children have concerns when children are out of school without caregivers, causing employees to leave students home alone and send children to summer school, which creates more expenses. When children leave lessons early, children have to wait until employees leave work to pick children up, or employees may have to resign from work. Therefore, some employees have to decide to send children to live with relatives in other provinces to be cared for, causing employees to have to wait until a holiday to travel and visit children, which created a distance in employees’ relationships with children. Due to the aforementioned issues, to build good relationships and closeness in the family in line with the happy family concept, the Company has prepared space in the infirmary separate from the breastfeeding corner to provide space for receiving children of employees whose lessons have ended and who traveled to the factory by bus. The factory nurse will provide care for children while waiting for employees to leave work and be ready to take children home. In 2023, one employee brought a child to wait during the summer and three employees brought children to wait after lessons.



Children's Rights in the Organization: : Scholarship Project for Employees' Children

In 2023, the Benefits Committee considered 67 scholarship applications for employees' children according to specified conditions. Scholarships are divided into the following three levels:

1 Preschool:	20 Scholarships	@1,000 baht	20,000 baht
2 Primary Education:	31 Scholarships	@1,500 baht	46,500 baht
3 Secondary Education:	16 Scholarships	@2,000 baht	32,000 baht

Total: 98,500 baht



Verified Human Rights Violations in the Organization



Goal:

0

In All Cases

Verified Human Rights Violations in the Value Chain



Verified Forced Labor or Non-compliance with Labor Laws



Note: There is 1 risk regarding human rights in the value chain.
But there is still no case of reporting violations.

Complaint or Whistleblowing Channel

- Every **employee** can complain or report incidents to the Human Resources Department or executives according to the chain of command if they find that they have not been treated fairly, or were treated unfairly, or when personal rights have been violated, or when they have seen actions of a person in the organization that violate the rights of others, through complaint channels specified in Section 7 of the Employee Manual on Complaints and Complaint Consideration. If employees have concerns that they will not receive justice, they can report complaints to the Audit Committee directly via another channel.
- External personnel** or stakeholders may make complaints or demands directly to the Board of Audit.

Whistleblowing or Complaint Channels	Channels for Consulting/Inquiring about Related Policies or Guidelines
 Mail addressed to: Audit Committee of QTC Energy Public Company Limited 2/2 Soi Krungthep Kritha 8, Intersection 5, Krungthep Kritha Rd., Huamark, Bangkok, 10240  Email: audit@qtc-energy.com	 Email: sustainability@qtc-energy.com  Telephone: 038-891-411-4, Ext. 111  Company Website: www.qtc-energy.com

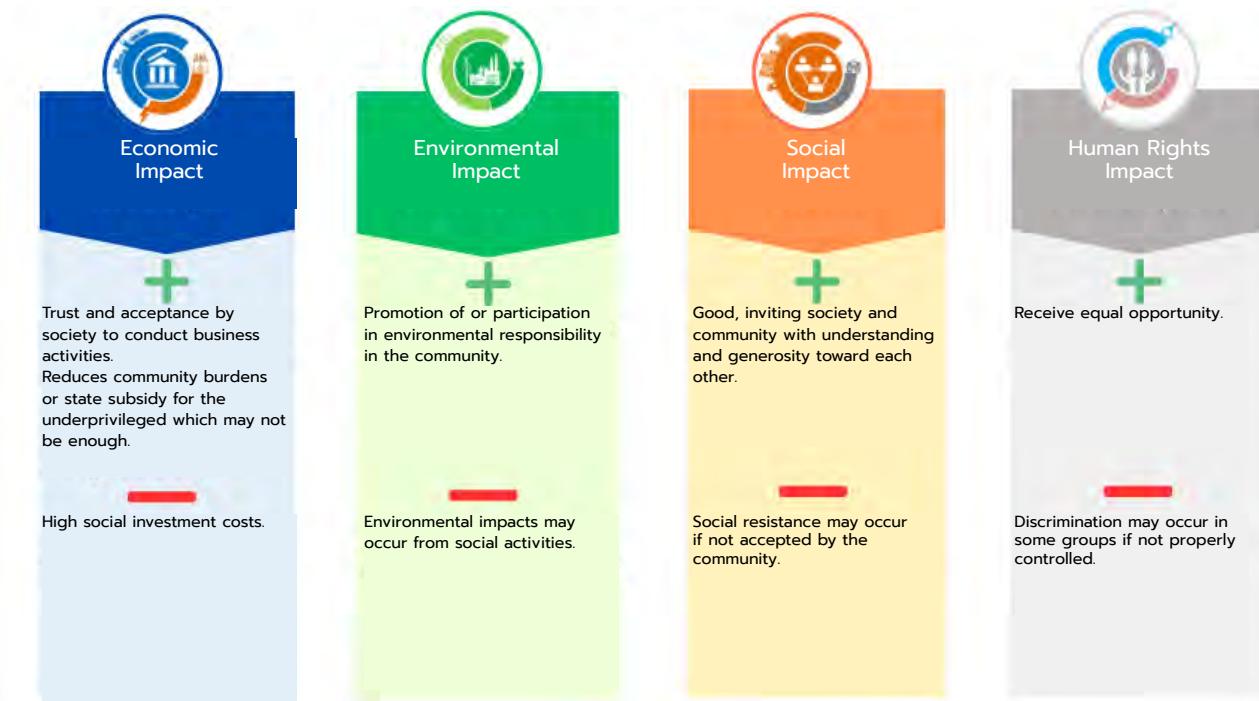
Role in Social-Community Development



In the past, most capitalist businesses were understood to work for profit without concern for social and environmental impacts with larger businesses causing greater impacts such as use of natural resources for production without concern for impacts on community members who share resources, causing community members to not accept and resist businesses, which may ultimately cause businesses to close. Currently, corporate social responsibility (CSR) plays major role in determining short-term and long-term business strategies in order to create sustainability for organizations, people in society and the environment as an expression of responsibility for direct or indirect impacts from business operations on society, communities and the environment. Corporate social responsibility may require investments in the short term and may give returns to the organization in other forms such as acceptance and support from communities, resulting in a license to operate. If an organization can cooperate with the community to develop the organization and communities, including the environment, to grow with responsibility, the organization will gain a license to grow. Therefore, CSR or corporate social responsibility is important in creating sustainability for the organization.

Based on impact assessment of the all steps of the work process, both positive and negative, covering economic, environmental, social and human rights aspects, the following risks and opportunities were found:

Risks and Opportunities For Social Responsibility



QTC recognizes the importance of corporate social responsibility because the Company believes corporate social responsibility is not only an expression to create a good image for product brands or the Company, but a real effort beginning with CSR in process and expanding into CSR after process by appropriately applying ISO26000 standard practice guidelines to the contexts of QTC and every subsidiary. The Company prepared corporate social responsibility personnel and allocated operating budgets with appropriate approval from the Board of Directors. The Company uses the strategy to build trust from stakeholders to ensure that every business process of the Company that causes social and environmental impacts is controlled and modified to reduce impacts as much as possible along with building participation in developing communities and the environment in every area based on capabilities of the organization and personnel by prioritizing participation in community development and social investment to create sustainability.

Objectives :

1. To gain trust and support from stakeholders in communities where the Company or subsidiaries are located.

Management :

ISO26000 corporate social responsibility standards, ISO14001 environment management standards, sustainable development policy, the Corporate Sustainability and Risk Management Committee and "Communities Meet QTC" activities.



- Zero complaints from communities due to impacts from business operations of the Company or subsidiaries.
 - ▶ Performance in 2023:
No complaints from communities or society. **The target was achieved.**



- At least one community development project for public benefit per year.
 - ▶ Performance in 2023:
There was one community development project for public benefit. **The target was achieved.**



- Community engagement survey >80%.
 - ▶ Performance in 2023:
Community engagement was at 96.90%. **The target was achieved.**

QTC Meets Communities

The 10th "QTC Meets Communities" was held on 21 November 2023. Mr. Poonphiphat Tantanasin, the CEO, opened his own house to welcome community representatives from local government agencies, schools and hospitals and community leaders to exchange ideas for jointly developing the Map Yang Phon community for sustainable growth. The Company used this opportunity to report on the environmental, social and governance performance to the attendees, and also inquired about concerns about QTC's business operations that may cause unintended impacts to the community. A total budget of 28,802 baht was spent.



Issues Presented to by Communities from the Discussion

- 1. Offering an open house to allow students to learn from experience.
- 2. Expanding QTC Handmade to volunteers and the elderly in the community.
- 3. Offering a science camp to support students so that they gain new experiences and receive equal opportunity to students in large cities.
- 4. Adjusting scenery inside schools through the Volunteers On Tour activity.
- 5. Providing knowledge about climate change, allowing communities to participate and reduce impacts.



In all these issues, the Company's management team is willing to cooperate and support in all aspects related to education by tasking the CSR Unit with the responsibility of coordinating and preparing projects with schools in the future.

From the discussion, community representatives spoke highly of QTC that gives importance to the development of the community together and there are no significant issues from the business operations of the company that have a negative impact on people in the community.



Participation in Community Development

QTC Handmade Project Teaches Making Keychain Dolls from Leftover Paper



The issue at the 9th Community Meets QCT Seminar in 2022 on the topic of QTC Handmade Project Teaches Making Keychain Dolls from Leftover Paper to Community Schools shows performance in 2023 did not meet goals due to age-related barriers from low concentration and transition in levels of education, which caused instruction to be inconsistent and prevented achievement of goals.

However, the QTC teaching team saw opportunity to expand results to autistic children at the “House for Special People: A Social Enterprise”, which is a vocational education facility for autistic children and parents in addition to being a social enterprise for which the Company continually supports product purchases. Therefore, the

project was proposed and a team was brought to teach with positive responses. The activity to shape dolls from leftover paper allowed autistic children to have more concentration and create results from creative ideas. The Company purchased the children's work for activities in the Company and the Company has the opportunity to give the children's work to other stakeholders at appropriate occasions. The children are also able to sell paper keychain dolls via other channels to generate income for the children and parents while also allowing opportunities to improve skills in autistic children.

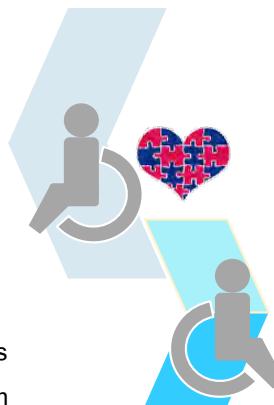
Furthermore, the Company brought students to open a booth at the Green Industry Award ceremony at the Royal Thai Army Club on 27 July 2023 to allow students to build awareness in people at the event.



Images of Exhibition Booths at the Green Industry Awards at the Royal Thai Army Club

on 27 July 2023

Procurement Projects to Support Disabled Persons



Special People's Home Social Enterprise

This project is an ongoing project from discussions in 2017. The Company continued to support goods from disabled persons in the Wheelchair Home community, which has registered as an enterprise called "Special People's Home Social Enterprise", offering a variety of products. In 2023, the Company continues to support products such as the following:

- Cleaning cloths: 1,800 kg valued at 32,400 baht.
- Handwoven bags from autistic children: 260 bags valued at 51,912 baht.
- Paper dolls: 50 dolls valued at 750 baht.



Science and Technology Camp

In 2023, the Company collaborated with the teachers and students of the Faculty of Electrical Engineering and Computer, King Mongkut's University of Technology North Bangkok, in organizing the science week activities at Ban Map Yang Phon School, a community school, on 15 August 2023 with 250 fifth-grade students in attendance. This is to provide students with the opportunity to learn and gain new experiences by connecting scientific principles with daily life and to provide them with equal educational opportunity based on the suggestions of the community. The project had a total budget of 51,674 baht.



"Volunteers On Tour" Project

The On Tour Paint for Children Volunteer Team combines the power to do good of volunteer employees with painting ability to voluntarily develop school buildings for schools in various provinces that are in need of improvements in scenery, imagination, learning and creativity promotion and development. In 2023, the team visited three schools with 78 volunteers who participated and 24,754 baht was spent from the budget.

The On Tour Paint for Children Volunteer Team and volunteers from King Mongkut's University of Technology North Bangkok participated in modifying the landscape and painting school buildings with undersea images to support imagination in learning among students. The Company spent 10,540 baht from the Company's budget.



Ban Yang Pao School (Mae Ramid Luang Branch)

Om Koi, Om Koi, Chiang Mai

Between 8-9 December 2023

The On Tour Paint for Children Volunteer Team and local volunteers repaired paintings of cute cartoons on preschool building walls and the water retention pond into a painting of the Amazon rainforest for the school by using 9,214 baht from the Company's budget and employee donations.



Khlong Yang Nuson School

Huai Ot, Watthana Nakhon, Sa Kaeo

Between 29-30 April 2023

The On Tour Paint for Children Volunteer Team and local volunteers painted walls to improve the school building of the small children's development center and the playground with brightly colored cartoons by using 5,000 baht from the Company's budget and employee donations.



Children's Development Center

Huai Ot, Watthana Nakhon, Sa Kaeo

On 25 February 2023

Quality of Life Promotion and Development Project for Thai Disabled Persons

The Company does not employ people with disabilities because their job descriptions may pose a safety risk to the disabled. Therefore, the Company Considered. Provide support for the project to provide vocational training for the disabled according to Section 35 since 2017 onwards.

In 2023, QTC Energy Public Co., Ltd. supported four disabled persons in the Ratchaburi project area to develop their potential and skills in raising 60 18-month-old animals (egg chickens) per disabled person. The Company spent 478,880 baht. Project operations were under the responsibility of the Thai Chamber of Commerce. The Company has continuously conducted vocational training for persons with disabilities under Section 35 for a period of seven years, with a total of 19 persons with disabilities under the project and with a total contract value of 2,158,610 baht.



On 5 December 2023, Sunthon Mitthamana, Assistant Director for Sustainability Development and Management, visited disabled people and jointly closed the "Quality of Life Promotion and Development Project for Thai Disabled Persons" with community leaders, community representatives and family of the disabled persons at the Nong Phan Chan SAO, Nong Phan Chan, Ban Kha, Ratchaburi.



The Company received consent from the disabled persons who participated in the project to disclose their images and information.

QTC Open House to Educate and Promote Youth Development



QTC Open House



The Company provided educational institutions with the opportunity to bring their students to visit and view its production and management processes such as occupational safety, health and environment management, environmental management, etc., and provided the students with supplementary knowledge about innovation development and impacts from climate change and GHG at the production factory in Rayong.

Visiting Educational Institutions

occupational health and safety on 11 October 2023.

Map Yang Phon School (fourth – fifth grade): 102 students in the field of industrial arts on 28 August 2023.

Ban Map Toei School, Ban Map Yang Phon School and Ban Huai Prap School (fourth – fifth grade), and Map Yang Phon Witthayakhom School (eighth grade): 120 students in the field of 5S Safety & Happy Workplace on 24 August 2023.



The Company assigned a work team to greet, lecture, guide tours and perform activities to be consistent with the awareness based on the academic grades of the students to create value from the experiences and knowledge so they can be used in future studies and work.

Based on the participation in community development, the Company assessed the success and surveyed the engagement for each project. In 2023, the community engagement survey showed a result of 96.90%

Community Engagement

96.90%



Q Social Investment

Regarding investments for society, in 2023, no actions were taken.

Q Activities for Society

► "QTC Loves Children" Activity of 2023

This activity is organized annually by the Company at a community school designated by Map Yang Phon TAO. In 2023, the activity was held on 14 January 2023 at Ban Map Yang Phon School, Pluak Dang, Rayong, with a budget of 23,748 baht. Ten QTC employees volunteered at the activity.



► Transformer Donation

Map Yang Phon Witthayakhom School: In 2023, the Company gave one 250-kVA transformer to Map Yang Phon Witthayakhom School in Map Yang Phon, Pluak Dang, Rayong. The school expanded to offer education for upper secondary school students from formerly offering education only up to the lower secondary level. When the number of students increased, school buildings, equipment, instruments, and educational media caused the school to need more electricity. The transformer was given on 2 February 2023 with a total budget of 211,639.37 baht.



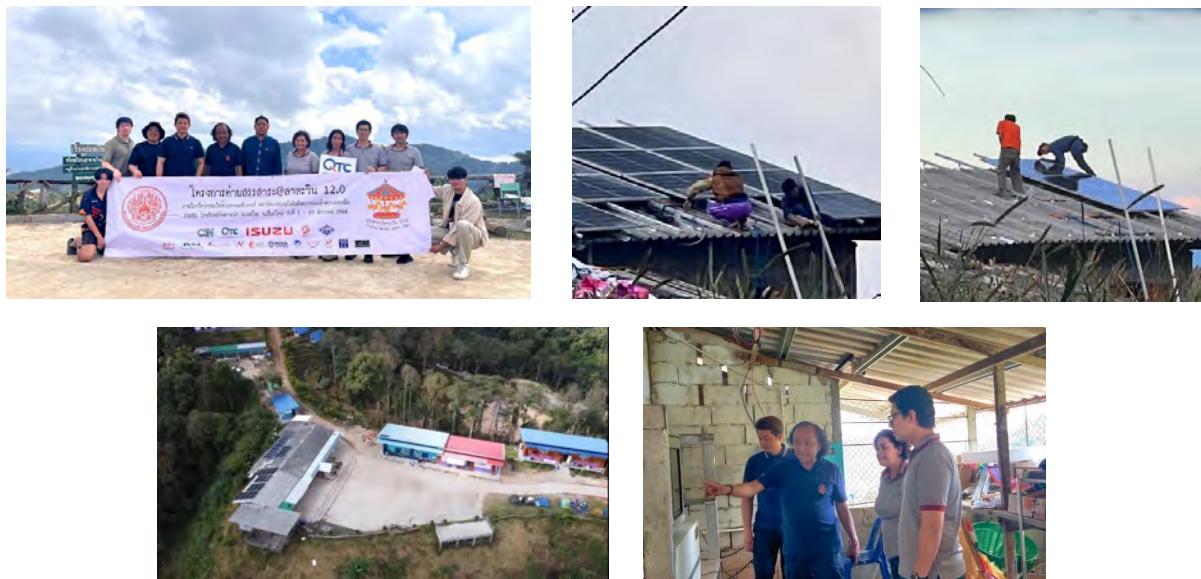
► Nikhom Sang Ton Eng School:

The Company gave one 250-kVA transformer to Nikhom Sang Ton Eng School Rayong Province 8 in Mae Nam Khu, Pluak Dang, Rayong. Previously, the school shared a transformer with the community, causing frequent electricity outages that were a barrier to education. The transformer was given on 14 March 2023 with a total budget of 160,799.24 baht.



► Solar Panel Donation: Sansara Camp @ Salawin 12.0 @ Ban Yang Pao School, Om Koy, Chiang Mai

The Company gave 28 solar panels valued at 122,176.47 baht to install a 10-kWp off-grid solar rooftop at Ban Yang Pao School, Ban Ramid Luang Classroom, which is located in a remote area where power transmission cables from PEA cannot reach. The system was installed to be ready for use by teachers and students at Sansara Camp, King Mongkut's University of Technology North Bangkok. The Company sent representatives to visit the camp in order to perform acceptance inspection of the work on 8-9 December 2023.



► Blood Donation

The Company arranged for executives and employees to participate in the blood donation activities of the Thai Chamber of Commerce and Board of Trade of Thailand under the "900,000 CC 90th anniversary of The Thai Chamber of Commerce" project. This blood donation will be used to support critical patients at the National Blood Center, Thai Red Cross, Henry Dunant Road, on 20 July 2023.



Echoes from Community Representatives



The provision of vocational education to develop highly competent vocational manpower requires collaboration from places of operation to develop professional courses during education and to provide professional experience for vocational students to prepare them for the professional world after they graduate.

QTC Energy Public Co., Ltd.

plays a part in providing dual vocational training to develop the vocational manpower at Rayong Technical College in order to develop the national economy and society to advance beyond the moderate-income trap to high income. Therefore, we would like to give our thanks on this occasion.

A handwritten signature in blue ink, appearing to read "Kittiphong Uttamawethin".

(Mr. Kittiphong Uttamawethin)
Director of Rayong Technical College

In 2023, there were no complaints from community and society.

GRI Content Index

About This Report

QTC has reported in accordance with the GRI Standards: 2021 by specifying organization content and data, management guidelines and key sustainability issues in 2023 with coverage of economic, environmental, social and human rights performance along with considering association to every stakeholder group under these criteria and reporting scope:

Period of Report

: 1 January 2023 to 31 December 2023

Report Cycle

: Annual

Names of Companies and Subsidiaries :

QTC Energy Public Co., Ltd.

QTC Global Power Co., Ltd.

Q Solar 1 Co., Ltd.

Report Quality Assurance

: This report's significant contents were reviewed by the Corporate Sustainability Promotion and Risk Management Committee and the report was presented to the Board of Directors for consideration of approval to present information to the public. The Company has no policy for the report and key performance indicators to be certified by external agencies.

Previous Report

: Sustainability Report 2022, QTC Energy Public Co., Ltd:

<https://qtc-energy.com/wp-content/uploads/2023/05/1.-QTC-SD-Report-2022-th.pdf>

Inquiry

: To inquire for more information or make proposals, contact the Corporate Sustainability Development Department,

QTC Energy Public Co., Ltd.

Email: sustainability@qtc-energy.com

Tel: 0388911411-3 ext. 111 or 08-4362-8633

Please express your opinion toward the value of this report by scanning the QR code.



GRI Content Index

Statement of use	QTC Energy PCL. has reported in accordance with the GRI Standards for the period 1 January 2023 to 31 December 2023 .
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard(s)	No sector guidelines apply.

General disclosures

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION		OMISSION
		SD Report	56-1 One Report	
GRI 2: General Disclosures 2021	2-1 Organizational details	p.5-9		
	2-2 Entities included in the organization's sustainability reporting	p.12,200		
	2-3 Reporting period, frequency and contact point	p.200		
	2-4 Restatements of information			There are no restatements of information in this report
	2-5 External assurance			Did not seek certification from a third party.
	2-6 Activities, value chain and other business relationships	p.18-20		
	2-7 Employees	p.12,159-163		
	2-8 Workers who are not employees	p.12		
	2-9 Governance structure and composition	p.12	p.67	
	2-10 Nomination and selection of the highest governance body		p.71-72	
	2-11 Chair of the highest governance body		p.6, 68	
	2-12 Role of the highest governance body in overseeing the management of impacts	p.46	p.72-73	
	2-13 Delegation of responsibility for managing impacts	p.45-46		
	2-14 Role of the highest governance body in sustainability reporting	p.16		
	2-15 Conflicts of interest	p.40	p.85-86, p.88-92	
	2-16 Communication of critical concerns	p.21-25,28		
	2-17 Collective knowledge of the highest governance body	p.36	p.6-12	
	2-18 Evaluation of the performance of the highest governance body	p.37-38		
	2-19 Remuneration policies		p.192-193	
	2-20 Process to determine remuneration			
	2-21 Annual total compensation ratio	p.60-61		
	2-22 Statement on sustainable development strategy	p.29-30		
	2-23 Policy commitments		Our policy commitments: https://qtc-energy.com/th/sustainability-policy/	
	2-24 Embedding policy commitments	p.33-34, p.53-54, p.62-63, p.71-72, p.84-85, p.90-91, p.98-99, p.106-108, p.120-121, p.130-131, p.137-138, p.156-157, p.180-181, p.189-190		

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION		OMISSION
		SD Report	56-1 One Report	
	2-25 Processes to remediate negative impacts		https://qtc-energy.com/wp-content/uploads/2021/10/01-Anti_Corruption.pdf	
	2-26 Mechanisms for seeking advice and raising concerns		https://qtc-energy.com/wp-content/uploads/2021/10/01-Anti_Corruption.pdf	
	2-27 Compliance with laws and regulations	p.44		
	2-28 Membership associations	p.9		
	2-29 Approach to stakeholder engagement	p.18-25		
	2-30 Collective bargaining agreements	p.186		
Material topics				
GRI 3: Material Topics 2021	3-1 Process to determine material topics	p.26-27		
	3-2 List of material topics	p.27		
Economic performance				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.53-54		
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	p.56-61		
	201-2 Financial implications and other risks and opportunities due to climate change	p.106,p.118	p.23	
	201-3 Defined benefit plan obligations and other retirement plans	p.162	p.78, p.148-150	
	201-4 Financial assistance received from government	p.58		
Market presence				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.156-158		
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	p.160,p.163		
	202-2 Proportion of senior management hired from the local community	p.160		
Indirect economic impacts				
GRI 3: Material Topics 2021	3-3 Management of material topics			
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	p.59		
	203-2 Significant indirect economic impacts	p.2-3,p.56-61		
Procurement practices				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.84-86		
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	p.87-88		
Anti-corruption				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.33-34		
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	p.40,42		
	205-2 Communication and training about anti-corruption policies and procedures	p.41		
	205-3 Confirmed incidents of corruption and actions taken	p.44		
Materials				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.120-121		
GRI 301: Materials 2016	301-1 Materials used by weight or volume	p.129		
	301-2 Recycled input materials used	p.129		
	301-3 Reclaimed products and their packaging materials	p.129		

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION		OMISSION
		SD Report	56-1 One Report	
Energy				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.120-121		
GRI 302: Energy 2016	302-1 Energy consumption within the organization	p.122-125		
	302-2 Energy consumption outside of the organization			Not Applicable
	302-3 Energy intensity	p.122-125		
	302-4 Reduction of energy consumption	p.114-117		
	302-5 Reductions in energy requirements of products and services	p.118		
	Water and effluents			
GRI 3: Material Topics 2021	3-3 Management of material topics	p.120-121		
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	p.127-128		
	303-2 Management of water discharge-related impacts	p.93-94		
	303-3 Water withdrawal	p.127-128		
	303-4 Water discharge	p.127-128		
	303-5 Water consumption	p.127-128		
Biodiversity				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.130		
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	p.130,132-134		
	304-2 Significant impacts of activities, products and services on biodiversity	p.130		
	304-3 Habitats protected or restored	p.132-134		
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations			Information unavailable
Emissions				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.106-108		
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	p.110		
	305-2 Energy indirect (Scope 2) GHG emissions	p.110		
	305-3 Other indirect (Scope 3) GHG emissions	p.110-111		
	305-4 GHG emissions intensity	p.111		
	305-5 Reduction of GHG emissions	p.114-117		
Waste				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.98-99		
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	p.100		
	306-2 Management of significant waste-related impacts	p.101-102		
	306-3 Waste generated	p.102		
	306-4 Waste diverted from disposal	p.103		
	306-5 Waste directed to disposal	p.102		
Supplier environmental assessment				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.84		
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	p.85		
	308-2 Negative environmental impacts in the supply chain and actions taken	p.84		
Employment				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.156-158		

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION		OMISSION
		SD Report	56-1 One Report	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	p.174		
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	p.163		
	401-3 Parental leave	p.187		
Occupational health and safety				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.137-138		
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	p.139-140		
	403-2 Hazard identification, risk assessment, and incident investigation	p.137		
	403-3 Occupational health services	p.150,152, p.154-155		
	403-4 Worker participation, consultation, and communication on occupational health and safety	p.141,143-144		
	403-5 Worker training on occupational health and safety	p.142-143		
	403-6 Promotion of worker health	p.153-155		
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	p.141, p.145-151		
	403-8 Workers covered by an occupational health and safety management system	p.148-149		
	403-9 Work-related injuries	p.148-149		
	403-10 Work-related ill health	p.152		
Training and education				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.156-158		
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	p.165		
	404-2 Programs for upgrading employee skills and transition assistance programs	p.166-170		
	404-3 Percentage of employees receiving regular performance and career development reviews	p.165		
Diversity and equal opportunity				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.156-158		
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	p.160		
	405-2 Ratio of basic salary and remuneration of women to men	p.162		
Forced or compulsory labor				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.180-181		
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	p.185		
Security practices				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.180-181		
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	p.186		
Local communities				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.189-191		
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	p.191-196		
	413-2 Operations with significant actual and potential negative impacts on local communities	p.189-190		

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION		OMISSION
		SD Report	56-1 One Report	
Supplier social assessment				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.84-86		
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	p.87		
	414-2 Negative social impacts in the supply chain and actions taken	p.84		
Customer health and safety				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.71-72		
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	p.71		
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	p.83		
Marketing and labeling				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.71-72		
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	p.73-78		
	417-2 Incidents of non-compliance concerning product and service information and labeling	p.83		
	417-3 Incidents of non-compliance concerning marketing communications	p.83		
Customer privacy				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.71-72		
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	p.83		



คุณภาพแห่งความประณีต
QUALITY OF DETAILS >>
D - DYNAMICS E - ENVIRONMENT
T - TEAMWORK A - ACHIEVEMENT
I - INNOVATION L - LEADERSHIP S - SERVICE

QTC Energy Public Company Limited

2/2, Soi Krungthep Kritha 8, Intersection 5

Krungthep Kritha Rd., Hua Mak, Bangkapi, Bangkok, 10240

Tel. 0-2379-3089-92 Fax. 0-2379-3099



www.qtc-energy.com

Paper made from 
Green Card Paper
100% EcoFiber
by SCG Paper