QTC ENERGY PCL.

Sustainability Report 2024

รายงานความยั่งยืน 2567

Environmental Social Governance

Sustainable Business for a Sustainable World

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CEO's Message

Dear Stakeholders,

In 2024, the global and Thai economies experienced only modest growth, while political and geopolitical conflicts in several countries caused widespread global impacts. Nevertheless, infrastructure development investments both domestically and internationally continued to progress steadily, driven by the increasing use of clean and alternative energy sources. This expansion of clean energy infrastructure, along with the implementation of various national measures aimed at achieving Net Zero Emission targets, has led to increased private sector investment to adapt to these changes. These developments have positively impacted the transformer and renewable energy industries. Every expansion in energy infrastructure and investment in renewable energy naturally increases the demand for transformers and related products and services, contributing to the overall growth of the energy sector.

QTC has taken advantage of these circumstances to cautiously and strategically drive the organization forward, which was a key challenge in 2024. We invested in the energy sector by establishing QTC RE Co., Ltd., which operates as a distributor of comprehensive clean energy products in Thailand under leading global brands. We also launched QTC EV Co., Ltd., which invests in the infrastructure for a nationwide electric vehicle (EV) charging system. Our core strategy is to build strong partnerships with trade allies to ensure stable and sustainable business growth. The transformer business remains QTC's core operation and continues to have growth potential in line with the expansion of infrastructure and renewable energy investments. Furthermore, the demand for high-efficiency, energy-saving transformers and smart transformers is increasing. QTC continues to conduct research and development to meet the evolving needs of our customers.

In terms of overall performance in 2024, the Company recorded total revenue of 1,542.52 million baht, representing a 13.34% increase from 2023, and a net profit of 112.69 million baht, a 68.47% increase from the previous year. This success is attributed to effective organizational management across all areas by the executive team and all employees. Looking ahead, QTC will continue to expand its investments in the transformer business to support the growth of infrastructure and clean energy investments both domestically and internationally. We will also seek new investment opportunities to provide comprehensive energy solutions in alignment with the Company's vision.

In terms of internal management, the Company remains committed to human resource development and promoting excellence in environmental, social, and governance (ESG) practices.

Environment [E] : We have promoted a “Green Culture” within the organization through work processes and innovations aimed at reducing environmental impact. The Company has announced its goal to achieve Carbon Neutrality by 2035 and Net Zero by 2050. Achieving these goals requires behavioral changes, process improvements, and upgrades to tools, machinery, and vehicles, as well as increased use of clean energy. In 2024, the Company was certified as a member of the Thailand Carbon Neutral Network under the category “Climate Action Leading Organization (CALO),” marking a significant step toward achieving our declared goals.

Social [S] : We have continuously promoted a “Safety Culture,” which remains a key risk for QTC in 2024. The number of accidents slightly decreased from 2023, and the severity of incidents also declined. Analysis by the Safety Committee revealed that most accidents were caused by operator negligence and unsafe environments. These issues are of great concern to the management and board of directors, and we remain committed to our Zero Accident goal. In the past year, the Company supported organizational wellness initiatives to ensure employee happiness and promoted human rights practices. As a result, QTC received the “Moral Wellness Organization Award for the Private Sector 2024” and the “Human Rights Model Organization Award 2024 – Honorable Mention in the Large Business Category.” We also continued to support community development. In 2024, we held the “QTC Community Dialogue” for the 11th consecutive year, with participation from community representatives and local government agencies to identify beneficial initiatives. Most proposed projects focused on education, which QTC will support and implement in 2025. Our community engagement score for 2024 reached 100%.

Governance [G] : We have emphasized excellence in governance, requiring all executives to lead by example and all employees to strictly adhere to established practices. All operations must be transparent and auditable to build trust among stakeholders. In 2024, there were no complaints or whistleblower reports regarding violations of the business code of conduct. QTC received the “Investors’ Choice Award 2024,” recognizing listed companies with outstanding performance in organizing annual shareholder meetings for ten consecutive years under good corporate governance and fair, transparent business practices. We continue to disclose comprehensive information to shareholders and uphold high standards to ensure sustainable growth.

We firmly believe that prioritizing and actively implementing all three ESG dimensions—Environment, Social, and Governance alongside responsible business growth will enable QTC and its stakeholders to grow sustainably together.

Finally, on behalf of the Board of Directors, management, and all employees, we sincerely thank our shareholders, customers, partners, community members, and all stakeholders for their continued support and encouragement. We pledge to uphold our vision, mission, and sustainable development framework, and remain committed to advancing our production processes, tools, machinery, and human capital to thrive amid economic and social changes with stability and sustainability.

(Mr. Poonphiphat Tantanasin)

Chief Executive Officer

Awards for Success

Happy Moral Business Award 2024
for the Private Sector by ThaiHealth

Investors' Choice Award 2024
by the Thai Investors Association

ESG Ratings 2024

2024 Human Rights Model Organization Award
in the Large Enterprise Category, Honorary Award

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	:	Industry products in the industrial materials and machine business 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, Mabyangporn, 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.

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

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.

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:

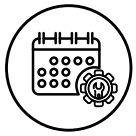
- Transformer installation services.
- Scheduled inspection and maintenance services.
- Transformer repair and maintenance services.
- Transformer oil filling and filtering services for transformers of all sizes and brands.
- Transformer lease services.
- Transformer testing services.
- Transformer and 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

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

Electric Vehicle Business

QTC EV Co., Ltd. (QTC EV) is engaged in the business of providing electric truck and bus charging services, or what the organization calls its “fleet charging solution”, to facilitate the replacement of fossil-fuel vehicles in the transport industry to electric vehicles. The company also serves as a distributor of electric trucks and buses in addition to providing a one-stop service to transport goods and passengers.

QTC’s Customers

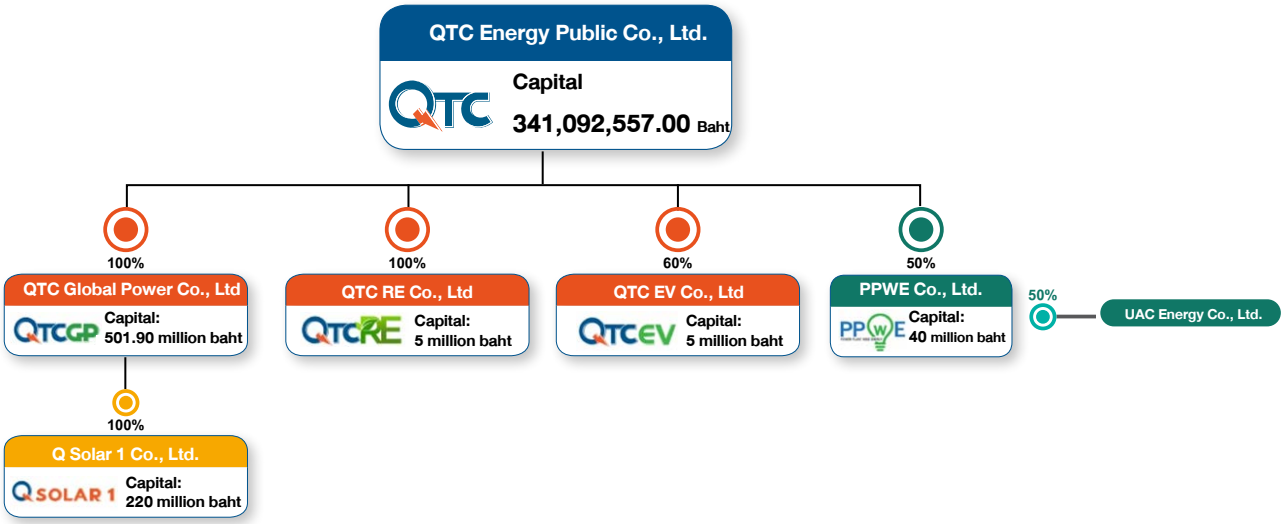
QTC’s transformers and smart monitoring systems are distributed to government agencies such as the Metropolitan Electricity Authority, the Provincial Electricity Authority, the Electricity Generating Authority of Thailand and ordinary government agencies, private designer groups, construction contractors, 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 2024

(List of Shareholders as of the 2024 Accounting End Date in the 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 a 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 a 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 a 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. **QTC EV Co., Ltd. (QTC EV)** was found on 29 April 2024 to a registered capital of 5 million baht. The company is engaged in the energy business related to electric vehicles.

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

4. Joint Venture: **PPWE Co., Ltd. (PPWE)** is engaged in the energy business. The company was founded on 12 January 2016 with a 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

Board of Directors

1. Mr. Krirk-krai Jirapaet
Chairman of the Board of Directors

2. Mr. Norachit Sinhaseni
Director

3. Mr. Natthaphon Lilawathananun
Director

4. Dr. Kamol Takabut
Director

5. Mrs. Wasara Chotithammarat
Director

6. Mr. Suroj Lamsam
Director

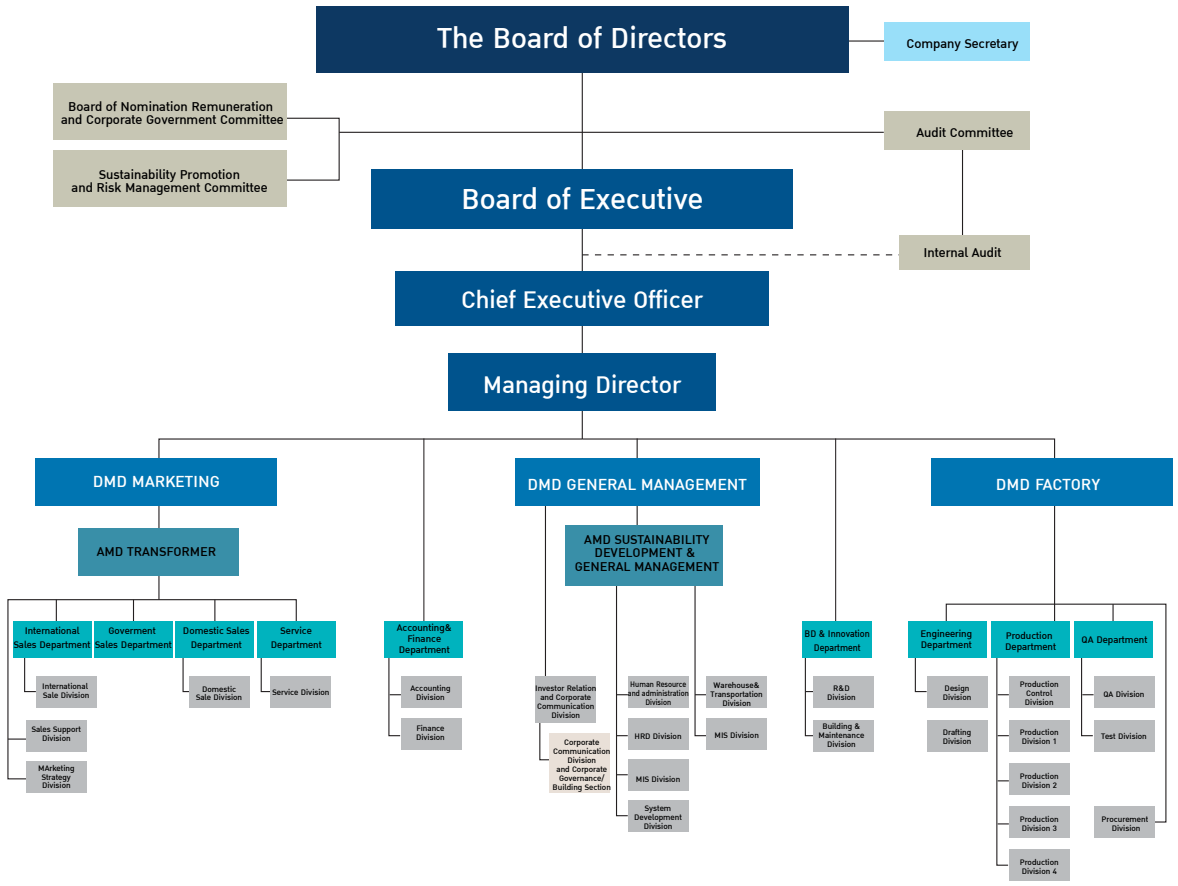
7. Mr. Monkhol Kittipoomvong
Director

8. Miss Panita Kuansataporn
Director

9. Mr. Poonphiphat Tantanasin
Director

10. Mr. Ruangchai Kritsnakriengkrai
Director

Governance Structure



Number of Company and Non-company Employees as of 31 December 2024

Employees Classified by Level (L) and Gender		Male (persons)					Female (persons)				
		QTC Energy	QTCGP	Q solar1	QTC RE	QTC EV	QTC Energy	QTCGP	Q solar1	QTC RE	QTC EV
Company Employees	High-ranking Executives (Level -13UC)	5	0	1	1	1	2	1	0	0	0
	Middle Management (Level 12-9)	12	0	0	0	0	11	0	0	3	0
	Supervisors (Level 8-7)	10	0	0	0	0	10	0	0	2	0
	Operators (Level 6-1)	154	0	8	7	1	63	1	5	7	0
	Total	181	0	9	8	2	86	2	5	12	0
		200					105				
		305									
Non-company Employees	Student Interns	10	0	0	0	0	9	0	0	0	0
	Occupational Health Nurses	0	0	0	0	0	1	0	0	0	0
	Janitors – Gardeners	1	0	0	0	0	6	0	0	0	0
	Security Officers	7	0	5	0	0	0	0	0	0	0
	Total	18	0	5	0	0	16	0	0	0	0
		23					16				
		39									

Roles, Duties and Responsibilities

- 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.

Moving Forward with Determination and Vision

Quality of DETAILS

DETAILS are the most important key of our operations and they are in every part of QTC from personnel, thinking methods, working methods, technologies, factories, products, including society and environment.

Vision

"To be a manufacturer, distributor, and provide complete technology services in the energy and electricity business with world-class quality, good governance, responsibility towards society, the environment and all stakeholders."

Mission

1. Being the leader of manufacturing, distributing and providing comprehensive quality technology services in the energy and electricity business.
2. Developing products, process, and services to create added value in the value chain
3. Developing human capital to create good and smart people
4. Operating businesses based on good governance principle and paying attention to community, social and environmental responsibilities
5. Building sustainable business growth in long-term to gain confidence and trust from all stakeholders

Work Philosophy

QTC is firmly committed to operating its business based on 3 principles as follows:

1. Ethical, moral, and transparent management
2. Provision of products and services meeting international quality and standards
3. Emphasizing on corporate social and environmental responsibility and human freedom rights

However, the Company reviews its vision and mission annually. In 2025 was revised and approved by the Board of Directors on December 12, 2024 so that the vision and mission is consistent with current economic situations.

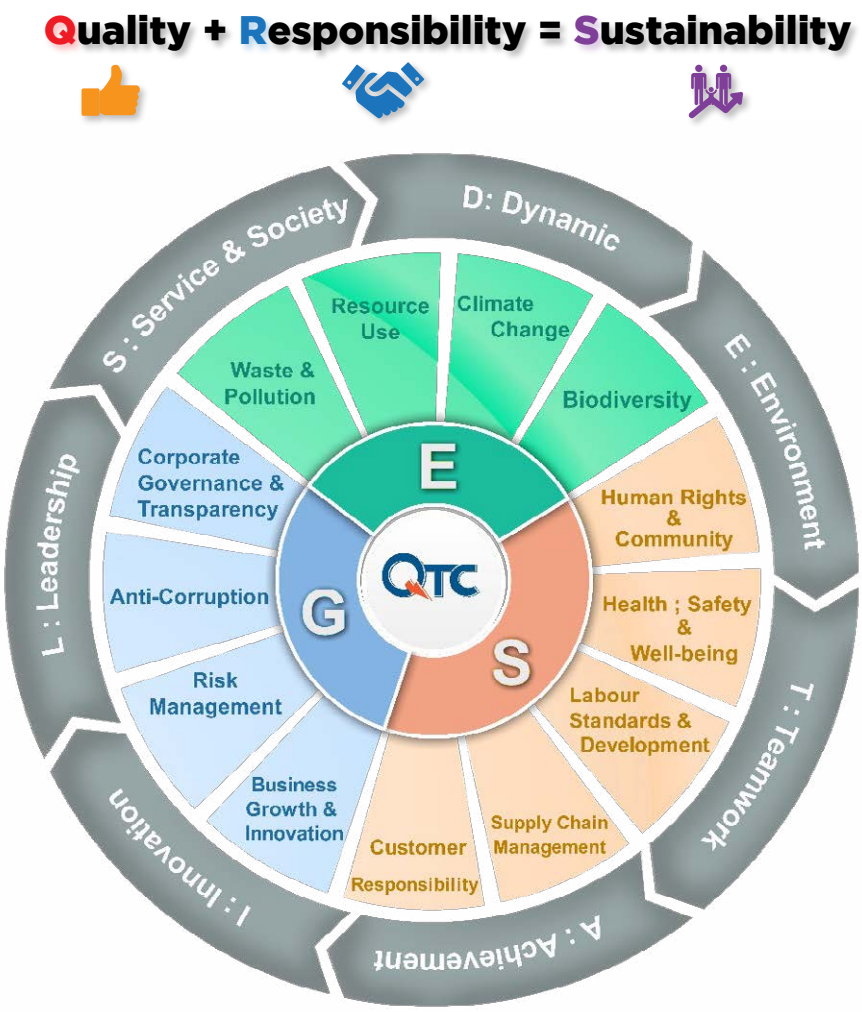
QTC Values for Sustainability

QTC's Sustainability

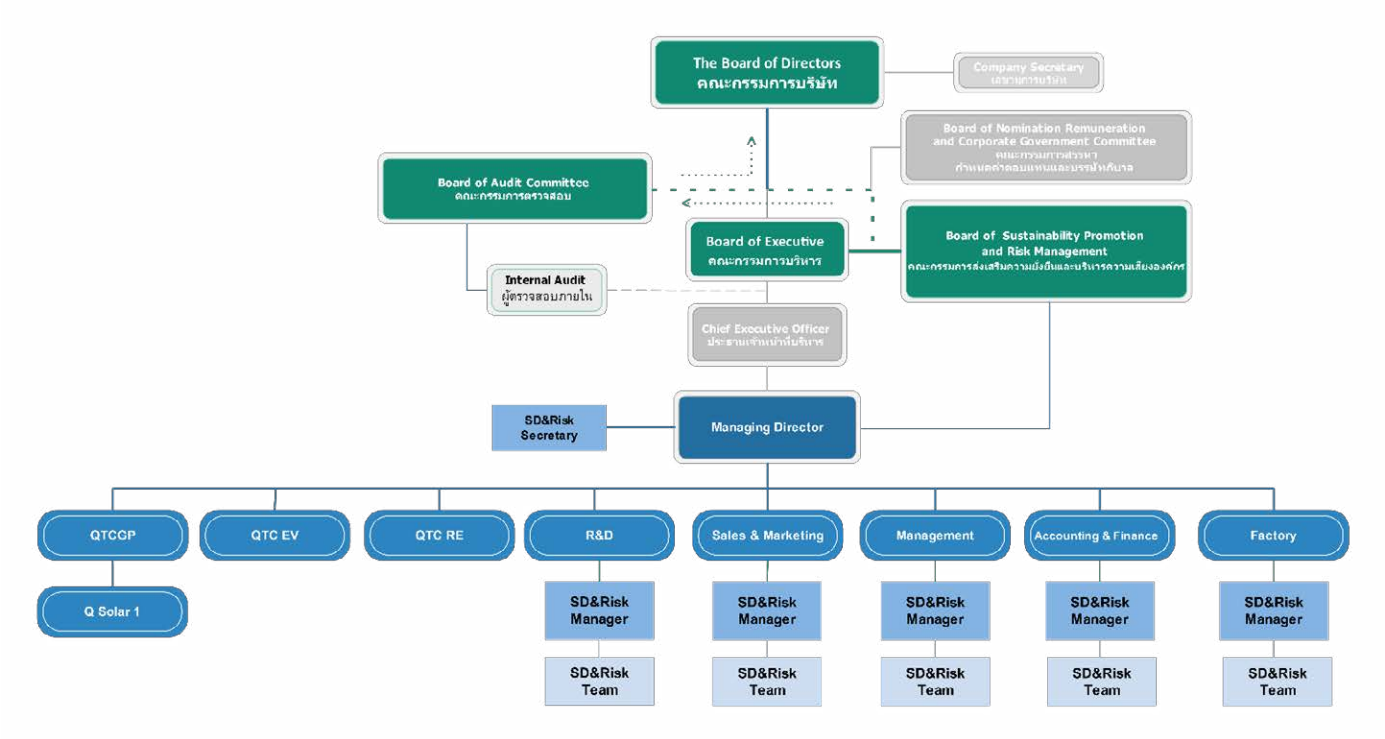
The QTC Sustainability Framework integrates the Quality of Details corporate value to drive work to be consistent with the organization's contexts according to the Q+R=S sustainability equation (Quality + Responsibility = Sustainability). In 2024, the QTC Sustainability Framework was reviewed against the changes in the economic, environmental, social and contextual conditions of the business operations of the Company and its subsidiaries. In addition, the QTC Sustainability Framework was revised and the issue of biodiversity was included in the sustainable development framework since then. Due to the nature of the subsidiary's business being related to solar energy generation, there may be impact to the local biodiversity in the invested locations. Furthermore, the issues of partner development and responsibility toward customers were also included in the sustainable development framework since there is a great necessity for the Company and its subsidiaries to place importance on the value chain in the development of processes in order to create sustainable growth together. The Board of Directors has agreed with and approved the revision to the sustainable development 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



Operating Structure of the Sustainability Promotion Committee



Roles and Duties in Brief

Board of Directors :

- ☞ Specify sustainable development policies and goals.
- ☞ Oversee work.

Corporate Sustainability Promotion and Risk Management Committee :

- ☞ Specify strategies.
- ☞ 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:

- ☞ 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:

- ☞ Manage according to the sustainable development framework.
- ☞ Monitor and report performance.

Report performance according to the sustainable development framework to the Board of Directors once a quarter.

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 "quality" and having "responsibility" to create balance in three dimensions, namely, the environmental, social, and governance and economic dimensions, 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 sustainable development goals (SDGs) related to the business throughout the value chain while respecting local traditions in the area where the Company or another company within the group is located.
3. Manage personnel fairly and give importance to labor skill development in addition to promoting work happiness for effective steering of the organization.
4. 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.
5. Promote and create innovation in work processes, products and services with responsibility to society and the environment to increase effectiveness and efficiency with added value for customers, the organization and related stakeholders.
6. Place importance on climate change by promoting efficient use of resources, reducing waste, 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 impact society and biodiversity.
7. Carry out comprehensive risk management in line with international standards in order to boost likelihood of success and minimize chances of failure or loss.
8. 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 2024, QTC further considered the stakeholders in the business of QTC EV, a new subsidiary that operates a business related to electric vehicles. From the review and evaluation, there was an increase in new stakeholder groups. Meanwhile, the number of stakeholders in the existing groups has increased along with the organization's growth.

Value Chain for Business

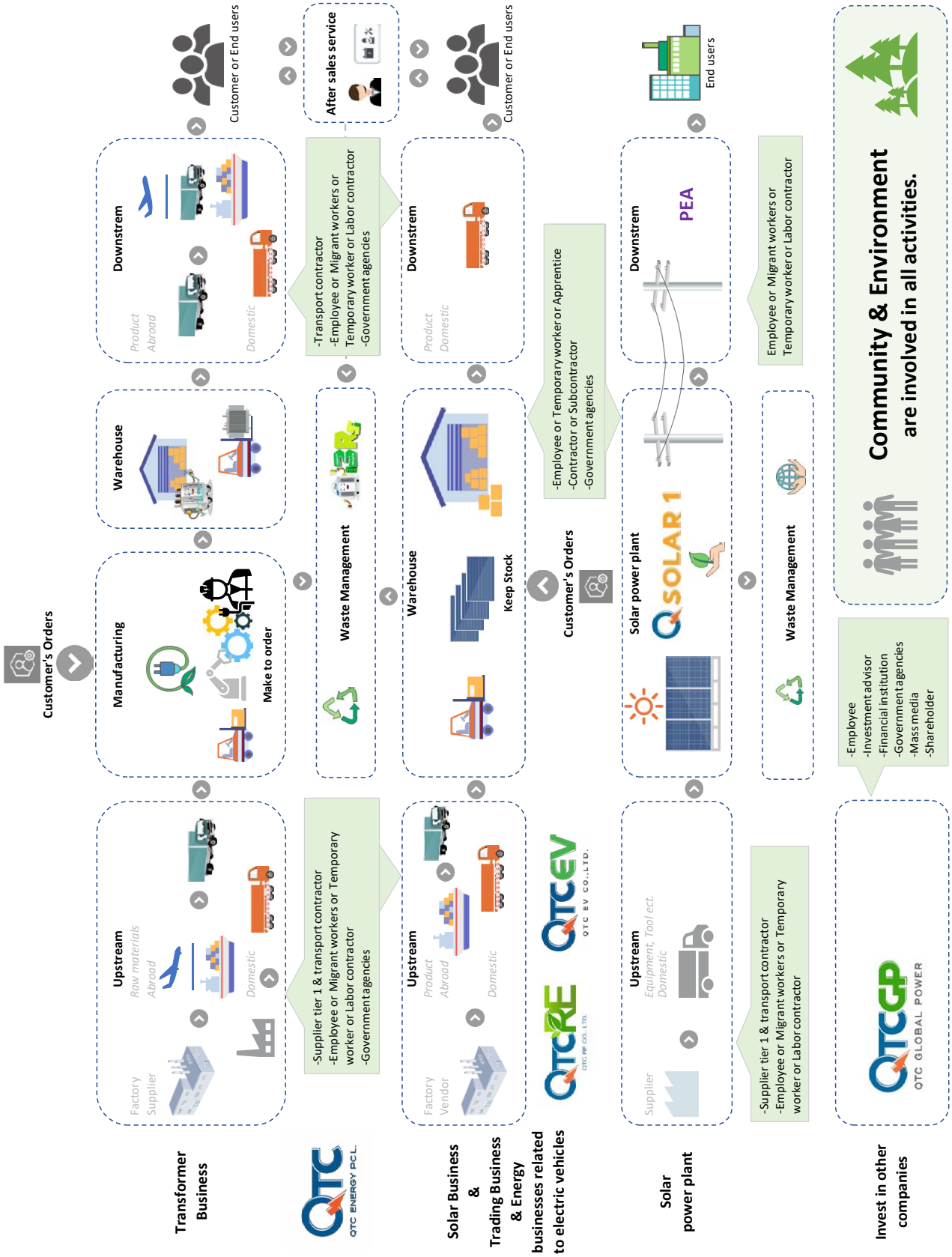


Chart Identifying Stakeholders in Processes and Impact Issues

Sale & Marketing	Raw Material&Product	Management & Manufacturing	Delivery	Procuct Usage	Maintenance Service	Waste Management
Stakeholder						
• Employees • Customers - Government - Domestic - Foreign • Dealer • Competitors	• Employees • Supplier • Vendor • Carrier • Competitors • Manufacturer	• Employees • Board of Directors • Customer • Dealer • Security guard & Maid • Shareholders • Banks • Comunities, Society • Government agency • Investors	• Employees • Transport Contractors • Broker Shipping • Shareholders • Banks • Comunities, Society • Government agency	• Customers • Product users • Comunities, Society	• Employees • Product users • Comunities, Society	• Comunities, Society • Waste disposal • Product users • Mass Media • Government agency
Identify actual and potential impacts						
▸Fair Trade ▸Corruption ▸Customer confidentiality ▸Responsibility for products and services ▸Human Rights ▸PDPA ▸Health and Safety ▸Compliance ▸Climate Change	▸Human Rights ▸Corruption ▸Fair operating practices ▸Supplier development ▸Pollution ▸Climate Change ▸PDPA ▸Health and Safety ▸Compliance	▸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	▸Human Rights ▸Health and Safety ▸Labor Practices ▸Pollution ▸Climate Change ▸Corruption ▸Fair Trade ▸Compliance ▸PDPA	▸Safety in Procut ▸Energy Usage ▸Responsibility for Products and Services ▸Compliance ▸Human Rights ▸PDPA ▸Climate Change	▸Human Rights ▸Health and Safety ▸Labor Practices ▸Responsibility for Products and Services ▸Compliance ▸Pollution ▸PDPA ▸Climate Change	▸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 2024, 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) Employees	Regular Employees Temporary Employees	• 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.	• 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.	• 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	ผู้Shareholders Investors Analysts	• 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.	• 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.	• 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)	• 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.	• 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.	• 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)	• Contract terms.	• Full electricity distribution according to contract terms. • Energy technology knowledge sharing.	• 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 and Electric Vehicle Customers	• Meet-ups and communication with customers. • Product exhibitions/ customer satisfaction surveys. • Academic and technical knowledge provision to customers. • Visits to warehouses. • Listen to new issues or needs from customers.	• 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 • Safety in using the products and services.	• 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 Manufacturers Couriers (Suppliers)	• 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.	• 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.	• 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.
	Goods Manufacturers (Vendors)	• 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.	• 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.	• 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	• Board of Directors' meetings. • Board of Audit meetings. • Nomination Committee meetings. • Performance evaluation of leadership.	• Correct compliance to laws and ethical principles. • Transparency and accountability. • Business success. • Environmental, social and governance responsibility. • Control of Board members' personal data.	• 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 Others	• Meetings and discussions to follow up on debts and to listen to issues.	• Compromise and leniency. • Personal data control.	• 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	• Meetings and discussions-quarterly performance announcements. • Shareholder meetings.	• Ability to comply with contract terms and agreements. • Transparency in operations. • Personal data control	• 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	• 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.	• 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.	• 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	• Exchanges of knowledge about legal specifications and correct practices. • Going onsite to evaluate and hear opinions.	• Strict compliance to terms and agreements. • Correct actions pursuant to the law. • Fair selection consideration. • Personal data control	• 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	• Meeting to reports on issues and obstacles. • Creating employment contracts.	• 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.	• 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	• 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.	• Gain knowledge and skills in the careers for which they are studying. • Safety and good environment while job-training. • Gender equality. • Personal data security.	• 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.

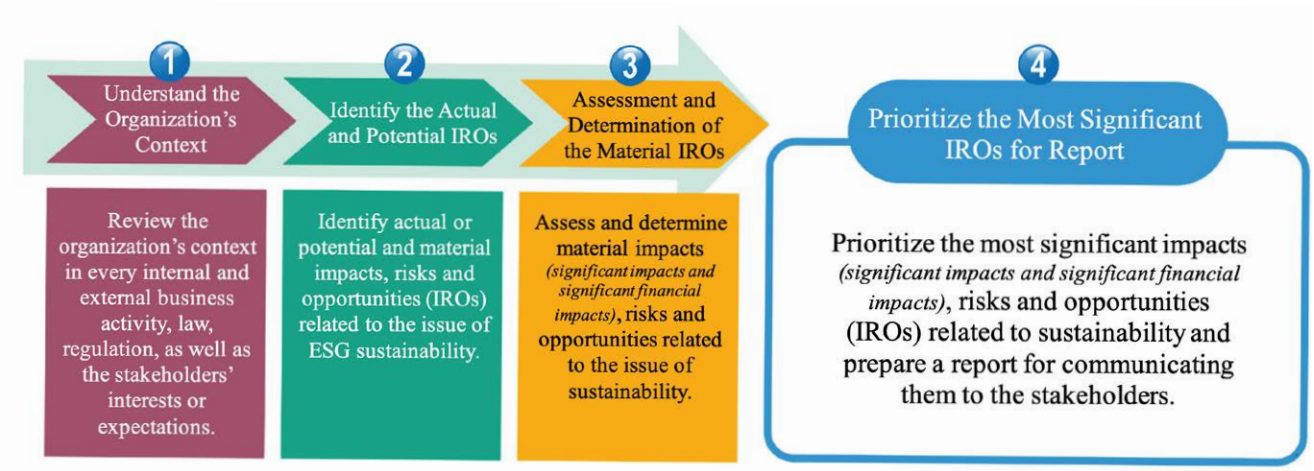
2. Secondary Stakeholders

Stakeholders	Expectation/Concern Survey Methods	Expectations/Concerns	The Organization's Response
(12) **Government Regulators** **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**	• Meetings and explanations of government agencies. • Business inspections and visits. • Conditions pursuant to laws related to business operations. • International practices. • News and information.	• 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.	• 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**	• Meetings and conversations. • News and information. • Group member meetings. • Marketing activities.	• Fair and transparent trade competition. • Exchanges of information about products, raw material sources and tools and machinery used in production.	• Compliance to ethics principles to operate business fairly and transparently.
(14) **Mass Media**	• Meetings with mass media at different occasions.	• Accurate and fast news and information on business progress. • Personal data control.	• 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**	• 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.	• Assisting and supporting activities for public interests. • Assisting and supporting products. • Providing assistance in case of disasters. • Not creating negative impacts to society.	• 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.

Material Topics

In 2024, the Company made changes its method for selecting key sustainability topics, stepping away from the previous single-dimension impact assessment process, which emphasized issues with key impacts on QTC and issues with key impacts on stakeholders, and embracing double materiality assessment that separate impacts into two aspects: the assessment of significant impacts (inside-out) and financial impacts (outside-in), as well as the assessment of risks and opportunities that have actually occurred or have the potential to occur in the future. The process is as follows:

Determining material topics



1. **Review of the Organization's Context:** Review the organization's context in terms of all business activities, internal factors, external factors, vision, goals or growth of the organization, various laws that may have changes or additions, and new social or trade conditions, in addition to hearing the opinions, expectations or concerns of each stakeholder group, both inside and outside the organization, through various channels in order to cover the environmental, social, and good governance and economic dimensions.

   - 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.

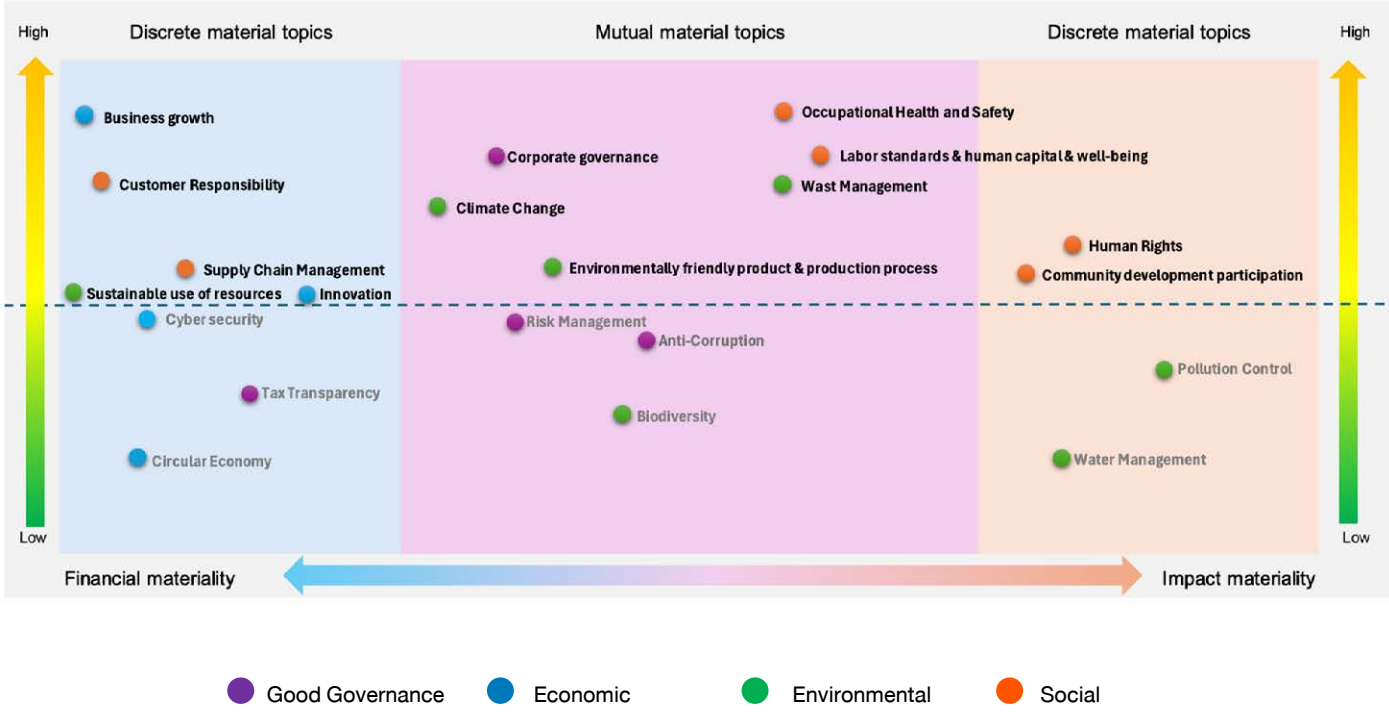
2. **Identify the Impacts, Risks, and Opportunities (IROs):** Use the issues considered in Step 1 to identify actual IROs that occurred in the past, or potential IROs that may occur in the future if the organization fails to take any action, with consideration to issues related to ESG sustainability.

3. **Assess and Determine Material Impacts:** Once the IROs for each issue have been identified, assess the impacts from two perspectives: impact assessment and financial assessment. In addition, both perspectives of the IROs must be assessed according to the criterial established in the operating manual.

4. **Prioritization and Selection of Significant IROs for Reporting:** After the impacts have been assessed and determined, use the impact assessment and financial assessment scores for the significant IROs for the same issues to create a matrix. The assessment scores are to range from 20-1 and the significant issues from scores of 10 points and higher will be considered for reporting. If the impact and financial assessment scores are in the same score range, they are to be categorized as mutual material topics. If they have different score levels, the topics are to be categorized as financial materiality or impact materiality, depending on which perspective scored higher.

Level of Significance	Minimally Significant	Significant	Very Significant	Most Significant
Score Range	1-5	6-10	11-15	16-20

Double Materiality Matrix



From the review of sustainability materiality according to the Double Materiality Assessment process above, it was found that sustainability materiality is still the same topic and the level of importance may change according to the current organizational context. It shows that each materiality topic is financially important or impact-important or financially important and impact-important together according to the Double Materiality Matrix. It was checked against the materiality topics in the GRI Sector Standards and found that QTC's business activities are not in the industry group that can report materiality. The review process of materiality and QTC's materiality topics has been approved by the Board of Directors.

Material Topics

Key Topic Group	Reported Material	Page	Financia Materiality	Mutual material	Impact Materiality
Corporate Governance	Key Sustainability Topic Assessment Results	31			
	Governance	33			
	Anti-Corruption	39			
	Personal Data Control	42		●	
	Legal Compliance	42			
	Whistleblowing/Complaint Channels	43			
	Risk Management	44			
Business Growth	Key Sustainability Topic Assessment Results	55			
	Economic Results	57			
	Distribution of Values to Stakeholders	62	●		
	Tax Transparency	63			
aInnovation Promotion	Key Sustainability Topic Assessment Results	64			
	Organizational Innovation Promotion Process	66			
	Process-Level Innovation Promotion	67	●		
	Individual-Level Innovation Promotion	70			
Environmentally Friendly Production Processes and Products	Key Sustainability Topic Assessment Results	76			
	Pollution Control	79			
	Biodiversity Preservation	82		●	
	Green Procurement	84			
	Environmentally Friendly Products	85			
Management of Production Waste and Scrap Materials	Key Sustainability Topic Assessment Results	88			
	Management of Production Waste and Scrap Materials	90		●	
Climate Change	Key Sustainability Topic Assessment Results	96			
	Greenhouse Gas Emission Reduction Operations	100		●	
	Greenhouse Gas Emission Reduction Project	103			
Sustainable Use of Resources	Key Sustainability Topic Assessment Results	112			
	Energy Consumption	115			
	Water Consumption	119	●		
	Raw Material Consumption for Production	121			
Responsibility Toward Customers	Key Sustainability Topic Assessment Results	127			
	Work Standards	120			
	Product Standards and Product Labels	130	●		
	Electrical Testing Standards	133			
	Customer Care	134			
Trade Partner Management	Key Sustainability Topic Assessment Results	138			
	Trade Partner Management	140	●		
Employee Safety and Health	Key Sustainability Topic Assessment Results	143			
	Safety	145		●	
	Health	154			
Labor Standards, Human Capital, and Employee Well-being	Key Sustainability Topic Assessment Results	158			
	Labor Standards	160			
	Human Capital	169		●	
	Well-being	177			
Human Rights	Key Sustainability Topic Assessment Results	182			
	Human Rights Due Diligence	184			●
Role in Social-Community Development	Key Sustainability Topic Assessment Results	191			
	Participation in Community Development	194			
	Social Investment	196			●
	Social Activities	198			

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:

Sustainable Development Performance in 2024

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 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
	%99.44 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 – 2022 2025.	Able to operate according to the plan for – 2022 2025.

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
	%84.96 of target employees trained. Target Not Achieved	Injury Frequency Rate (I.F.R.) 5.08	Injury Severity Rate (I.S.R.) 13.97	Average Severity Index (A.S.I.) 2.75	Zero employees with occupational diseases. Target 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	Total "Super Low Loss" Sales Have a Quantitative Share of More Than %10 of the Total Delivered Transformers in the Year
	%100 of employees passed training. Target Achieved	399 out of 341 major partners passed ESG evaluations. Target Achieved	A %25.38 growth decrease from 2023. Target Not Achieved	The SSL transformer delivery percentage was %1.3 of the total delivered transformers. Target Not Achieved

Good Governance

Good Corporate Governance

Good governance, or corporate governance, is important to companies listed on the Stock Exchange of Thailand. Because the Company raises 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 but appoint directors to manage the business. Therefore, the Company needs to govern the business systematically, transparently and with traceability 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 consideration given to both positive and negative impacts covering sustainability issues such as environmental, social, good governance and economic (ESG) issues 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. The assessment results of the key sustainability topics are as follows:

Good Corporate Governance

Risks

Laws, requirements or regulations, including international practices, etc., are considered a part of the organization that require strict adherence and compliance based on relevant contexts. These are subject to frequent changes. If the organization is negligent, fails to comply, or conceals information, the consequences may be negative impacts on the reputations of shareholders, investors, financial institutions, as well as other stakeholders, leading to the loss of confidence, trust and financial support. The business may be interrupted or disrupted in addition to facing difficulty and taking a long time to rebuild confidence.

Opportunities

Confidence, trust, and acceptance from shareholders, investors, financial institutions, as well as other stakeholders are important. They create the opportunity to seek new investments to expand business growth in the future.

Financial materiality

- The development of a protection system or measure to ensure that business operations comply with good governance principles, laws, honesty, and transparency throughout the value chain.
- Promote compliance with good governance principles, transparency, and traceability in the supply chain.
- Promote activities to raise awareness of anti-corruption efforts among employees and related stakeholders.

Impact materiality

- Strength in corporate management.
- Trust and support for operations from the stakeholders involved.
- Elevate the capabilities of partners in the supply chain.
- A culture of "zero tolerance for corruption".

The Company has taken careful steps to improve its work processes in accordance with international and legal practices to minimize or prevent negative impacts, as well as create competitive opportunities, 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 updated 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 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.
Goal 1 :	To become a model organization in the area of management with good governance and ethics.
Performance :	The results of the corporate governance assessment in 2025 by the IOD were five stars.
Goal 2 :	There must be zero cases of governance principle-business ethics violations, legal violations and corruption by committees, executives and employees.
Performance :	In 2024, 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 good corporate governance policy, business ethics, and other important policies 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.

1. Corporate Governance Policy: https://investor.qtc-energy.com/storage/download/corporate-governance/20250103-qtc-cg-policy-en.pdf
2. Business Code of Conduct: https://investor.qtc-energy.com/storage/download/corporate-governance/20250114-qtc-code-of-conduct-en.pdf

Mr. Norachit Sinhaseni
Chairman of the Nomination Committee

Mr. Kamol Takabut
Director

Mr. Poonphiphat Tantanasin
Director

Nomination, Remuneration and Governance Committee

Learn more about the background and qualifications of committee members in the 56-1 One Report 2024.

In 2024, the Nomination, Remuneration and Governance Committee met onsite two 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. In 2024, policies were reviewed and revised jointly with management to present to the Board of Directors for approval as follows: The policies have been published on the Company's website https://qtc-energy.com/th/

1.Sustainable Development Policy	After reviewing, the proposed revisions were approved.
2. Human Rights Policy	After reviewing, the proposed revisions were approved.
3. Business Ethics	After reviewing, the proposed revisions were approved.
4. Good Governance Policy	After reviewing, the resolution was to maintain the existing policy.
5.Organization's Vision and Mission	After reviewing, the resolution was to maintain the existing vision and mission.

The reviews of the internal control system and the internal audit system are the responsibility of 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 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. Moreover, the committee plays a role in monitoring the organization's risk management system since the organization has not appointed the members of the Risk Management Committee from independent directors according to the criteria of the Stock Exchange of Thailand.

Mr. Nattharphon Lilawattahanun
Chairman of the Audit Committee

Mr. Kamol Takabut
Director

Mrs. Wasara Chotithammarat
Director

Audit Committee

ปIn 2024, the Audit Committee conducted 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., to conduct the internal audit. Additionally, the Company commissioned the internal audit firm BK IA & IC Co., Ltd., to conduct a special audit on the organization's anti-corruption system. The audit results are reported directly to the Audit Committee. In 2024, the Audit Committee held six online meetings to monitor, audit and evaluate the results. The audits conducted by both external auditors found no significant issues related to corporate governance and corruption.

The Company received the SET ESG Ratings 2024 at Level AA in the industrial products category from the Stock Exchange of Thailand (SET), honoring the Company's dedication to developing its business under the sustainable development framework covering the environmental, social, and governance (ESG) dimension through business processes to enhance its ability to compete and the business's potential to grow sustainably.

Promotion of Skill, Knowledge, and Ability Development for Directors and Executives

In 2024, the Company supported directors and high-ranking executives to have skills, knowledge and abilities to benefit effective corporate governance as follows:

First – Last Name	Course	Institute
Mr. Krirkkrai Jirapaet · Chairman of the Board	· Enhancing Governance, Standards, and Financial Insights	SET, IOD
Miss. Wasara Chotithammarat · Board Director (Independent) · Audit Director	· Key concerns of Audit Committees-In the age of great transformation	สำนักงานผู้สอบบัญชี อีวาย จำกัด
Mr. Ruangchai Kritsnakriengkrai · Board Director (Executive) · Managing Director	· Executive Energy Program, Class 8 (EEP8), Japan Study Trip · SET ESG Professionals Forum 2024 Innovative and Adaptive Governance: Leading Boards Excellence · Scaling up Synergies and Solutions for Net-Zero · ESG-Related Risks and Management: A Practical Guide for Listed Companies	FTI SET Sustainable Capital Market Development SET SET

First – Last Name	Course	Institute
Mr. Kitti Achariyaboonyong • Senior Deputy Managing Director, Marketing	• Data Analytics in Management Decision Making • Application form SGP 7/2024 • Scaling up Synergies and Solutions for Net-Zero • Strategy Essent Summit 2024 • SET ESG Professionals Forum 2024 Innovative and Adaptive Governance: Leading Boards Excellence • ISO 31000 Risk Management System and Interpretation	Rethink IOD SET Zipevent SET Sustainable Capital Market Development SGS
Mr. Phot Wongkham • Deputy Managing Director, Sales and Marketing	• Crack the Fin Code for Growth Potentials • ISO 31000 Risk Management System and Interpretation • Executive Energy Program, Class 9 (EEP9)	SET SGS FTI
Mr. Jaroensak Sanwong • Deputy Managing Director, Factory	• Behavior Based Safety (BBS) • ISO 31000 Risk Management System and Interpretation • Preparation for Operators to Apply for TISI License for a Power Transformer Business, Vol. 1 General Requirements, TISI 384, Vol. 1-2567	Coach Pramote Opasmongkonchai SGS Thai Industrial Standards Institute
Miss Suriphon Mitthammana • Deputy Managing Director, Sustainability Development and Administration	• Cyber Vision 2024: Adapt - Sustain-Breakthrough • Behavior Based Safety (BBS) • ISO 31000 Risk Management System and Interpretation • Business and Human Rights: Creating Opportunities for Thai Businesses for Sustainable Growth, Diversity and No Difference; Creating an Inviting Working Society • Workshop on FTSE Russell ESG Scores • Preparation for Operators to Apply for TISI License for a Power Transformer Business, Vol. 1 General Requirements, TISI 384, Vol. 1-2567 • ESG-Related Risks and Management: A Practical Guide for Listed Companies • IT Vision 2024: AI in Action • TCFD Disclosure and Climate Risk • Joint Crediting Mechanism (JCM) Implementation in Thailand	SET Coach Pramote Opasmongkonchai SGS SEC, Rights and Liberties Protection Department SET Thai Industrial Standards Institute SET SET SET TGO
Miss Pakanat Tungtrakool • Company Secretary	• SET ESG Professionals Forum 2024 Innovative and Adaptive Governance: Leading Boards Excellence • Corruption Risk and Control Workshop (CRC) • ISO 31000 Risk Management System and Interpretation • Workshop on FTSE Russell ESG Scores	SET IOD SGS SET

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

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

Accepting the "Investor's Choice Award" for 2024

Miss Pakanat Tungtrakool, Company Secretary, represented the Company in accepting the "Investors' Choice Award 2024" from Mr. Yingyong Nilsena, President of the Thai Investors Association. QTC is a listed company that has received the maximum evaluation score of 100 points for the 10th consecutive year from 2015-2024. The award honors listed companies in the SET with outstanding achievements in AGM management under good governance, fair and transparent business operations, and complete disclosure of information to shareholders while maintaining good standards in business operations to grow on the basis of sustainability. The award was presented at Professor Sangwian Intharawichai Conference Hall, Stock Exchange of Thailand Building.a

Accepting the TCC Ethics Club Brooch for 20247

Mr. Phot Wongkham, Assistant Managing Director for Marketing, represented the Company in accepting the brooch of the TCC Ethics Club from Mr. Sanan Angubolkul, Chairman of the Thai Chamber of Commerce, who presented the brooch during the ceremony for announcing the Outstanding Ethics Award at the 22nd TCC Best Awards for 2024, under the concept "Restoring Faith with Ethics", at the UTCC EVENTS LAB, University of the Thai Chamber of Commerce.

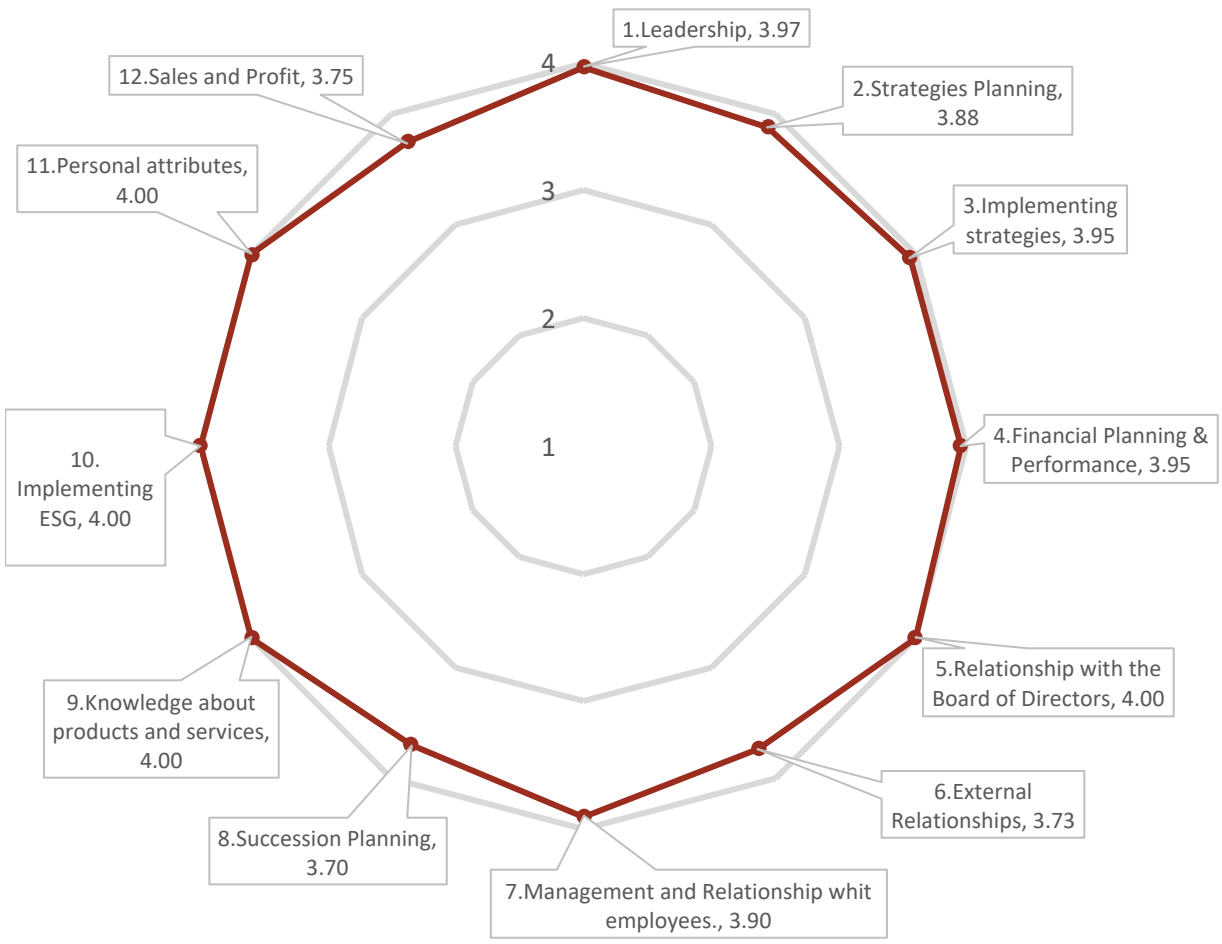
Performance Assessment of the CEO and the Entire Board of Directors

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 2024, 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: Five members of the Board of Directors (independent directors) performed independent assessments of the Chief Executive Officer's performance in 2024. Scores from each of the 12 major categories were averaged, with each category having a full score of four points.

Graph of Results from Assessment of the Chief Executive Officer's Performance in 2024

Full Score: 4 points, Mean Score: 3.75 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. Eight (non-executive) directors completed self-assessments of performance in 2024 and scores from each question were averaged from a full score of five points. The assessment results are as follows:

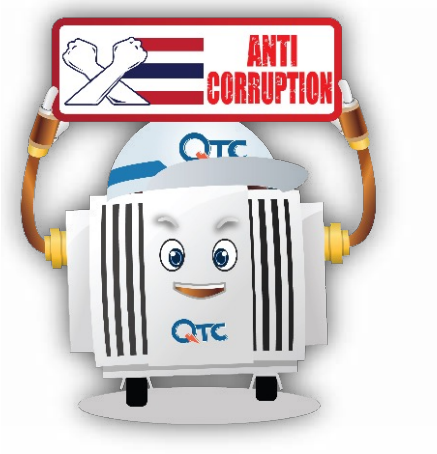
Graph of Self-assessment Results of the Board of Directors of 2024

Full Score: 5 points. Mean Score: 4.88 points. The score is at an excellent level.

	Assessment Topics	Mean Score for Each Assessment Topic
1	Work overview.	4.88
2	Overall understanding of director roles, businesses and strategies of the Company.	4.75
3	The Board of Directors and the management has good relationships.	4.88
4	The Board of Directors appropriately allocated sufficient time to consider topics such as the Company's policies	4.88
5	The Board of Directors prepares before every meeting.	4.63
6	The Chairman of the Board and the Managing Director jointly specify meeting agendas.	4.75
7	The Board of Directors can express opinions freely.	5.00
8	Every director attends meetings regularly except when directors have necessary reasons.	4.75
9	The Board of Directors expresses neutral opinions.	4.75
10	The Chairman allows and supports every director to express their opinions freely.	5.00
11:	The Board of Director has the opinion that investors have confidence in the Board of Directors.	4.63
12	The Company's corporate governance practices are accepted among Company employees.	4.75
13	The Board of Directors received all documents accompanying the meeting with sufficient time in advance.	4.50
14	Regular and sufficient meetings for work to achieve objectives.	4.88
15	Performance of the Chairman's duties.	4.88
16:	Trust in the Board of Directors and ability to express opinions and work together openly, straightforwardly, and without being overshadowed by any person.	4.75
17	Regular monitoring of management performance to ensure compliance with regulations.	4.75
18	Clear division of roles, duties and responsibilities in the Board of Directors, subcommittees and management.	4.75
19	Appropriate delegation of authority for the management without so much authority to cause risks or so little authority to prevent management fluidity.	4.63
20	Clear specification of authority and approval consideration processes for financial matters.	4.88
21	Arrangement for the Company to have sufficient and suitable risk management systems for the business.	5.00
22	Regular monitoring of risk management, i.e., requiring the management to regularly report on risk management to the Board.	4.63
23	Arrangement for the Company to have sufficient and suitable risk management systems for the business.	4.63
24	Regular internal audits and present the internal audit report to the Audit Committee or the Board.	4.75
25	Acknowledgement of connected transactions and transactions with conflicts of interest; appropriate and thorough consideration every time by considering the Company's best interest, as well as complete and accurate compliance with SET regulations.	4.75
26	Provision of specifications concerning business ethics and prohibitions that may cause conflicts of interest and ensuring compliance.	4.88
27	Equitable treatment of shareholders by the Board of Directors	4.75
28	Managing Director performance assessment: Appropriate processes for assessing the Managing Director's performance annually with consideration to the goals, performance and achievement of goals.	4.88

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 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 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_Eng_2564.pdf

Anti-corruption Policy Compliance Guideline:

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

Performance in 2024

- The Company applied for the renewal of its Thai Private Sector Collective Action Against Corruption (CAC) membership for the third time. The Company's membership status was due to expire in March 2025.
- The Company audited cases with potential conflicts of interest in 2024. 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 2024, no government employees were hired to be the Company's employee or consultant in compliance with the anti-corruption policy.

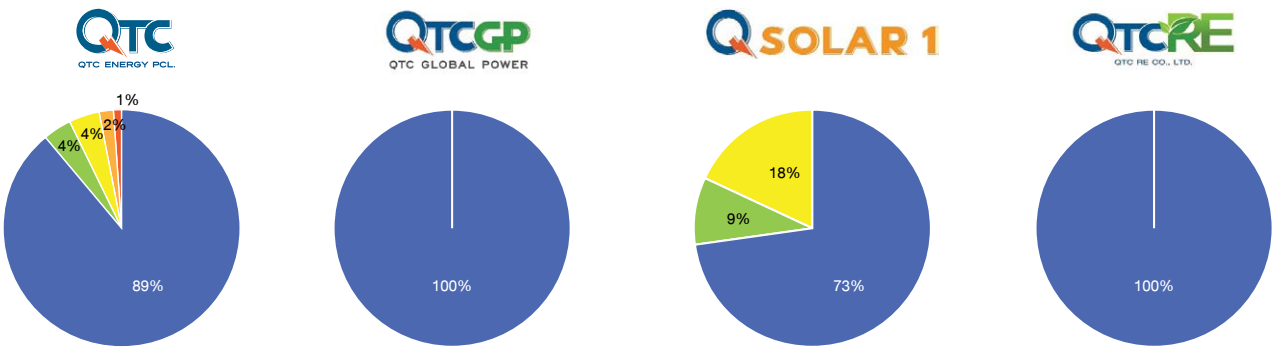
Employee Training and Measuring Results

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 has established this as a training need and as the required individual KPIs for every employee. Retraining and retesting are required to be conducted at least once a year.

Individual KPI

In 2024, the Company provided additional learning and testing formats to create a learning atmosphere and attract the employees' attention by setting up learning and testing booths at the 5S Safety and Happy Workplace 2024 event held at the Rayong factory between 20-22 August 2024. Employees that participated in the booths' activities and passed the tests according to the criteria will be recorded in the training history and these test scores could be used as individual KPIs. Furthermore, the employees also had the chance to receive numerous rewards. Employees who did not participate in the activities would receive online and onsite training as required.

Employee Knowledge and Understanding Measurement Sorted by Subsidiary Groups for 2024



Level 1	Level 2	Level 3	Level 4	Level 5
0–49%	50–59%	60–69%	70–79%	80–100%
Lowest Level	Low Level	Moderate Level	High Level	Highest Level
of Knowledge and Understanding	of Knowledge and Understanding	of Knowledge and Understanding	of Knowledge and Understanding	of Knowledge and Understanding

Target : Number of employees trained and tested for their knowledge and understanding ➡ 100%

All employees have Level 3 understanding or higher ➡ Target not achieved.

Employees with Level 1 and 2 understanding account for 3% of all employees and are re-trained on a case-by-case basis.

Anti-Corruption Communication-Promotion

- Disseminating the No Gift Policy to the public during the 2026 New Year's festival via the Company website and the Thai CAC's Facebook page.
- The Company communicated to invite QTC's partners to become members of the CAC to participate in the effort to solve corruption problems in Thailand's business sector. QTC is happy to support and advise on operational practices. In 2024, the Company did not set any goals, but effort was made to communicate and build understanding. In 2025-2026, there is a goal to have at least three partners announce their anti-corruption intentions.
- The Company communicated and campaigned for its employees and stakeholders to raise awareness and increase participation in anti-corruption efforts on important occasions.

6 September 2024

9 December 2024

The Company invited 120 student representatives and teachers from Ban Map Toei School, Ban Map Yang Phon School, Ban Huai Prap School, and Map Yang Phon Witthayakhom School to participate in the 5S Safety and Happy Workplace 2024 on 21 August 2024. The anti-corruption booth held practical activities in which knowledge was hidden in a game of "Snakes and Ladders for Transparency" to instill values and raise consciousness among youths about "zero tolerance for corruption".

Images of Students in the Community Participating in Activities on 21 August 2024.

Personal Data Control

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 Polic : https://qtc-energy.com/wp-content/uploads/2023/11/QTC66045-การคุ้มครองข้อมูลส่วนบุคคล-Privacy-Notice.pdf

In 2024, there were no violations or complaints according to the Personal Data Protection Policy.

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 2024, regulations and laws related to business operations are as follows:

- Regulations and laws directly related to business operations and complied with: 285 issues.
- Requirements and laws used as references: 162 issues.
- Requirements and laws directly related to business operations and in the process of being implemented in accordance with the timeframe required by law for 1 issue, clear operational plans for which have been established.

In 2024, operations were compliant with the law and there were no additional fines.

Whistleblowing or Complaint Channels

If any related stakeholder has questions or 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: :https://qtc-energy.com/wp-content/uploads/2021/10/01-Anti_Corruption.pdf

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: sustainability@qtc-energy.com
Email: audit@qtc-energy.com	Telephone: 038-891-411-4, Ext. 111
	Company Website: www.qtc-energy.com

"The Company will ensure protection for whistleblowers according to established policies."

Performance in 2024

External Stakeholders

The Audit Committee has not received any complaints or clues of any wrongdoing in all cases.

Internal Stakeholders

No wrongdoing was found that conflicts with policies or business ethics.

Risk Management

Risk management is an important and necessary tool for facilitating 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 opportunities for sustainable business growth.

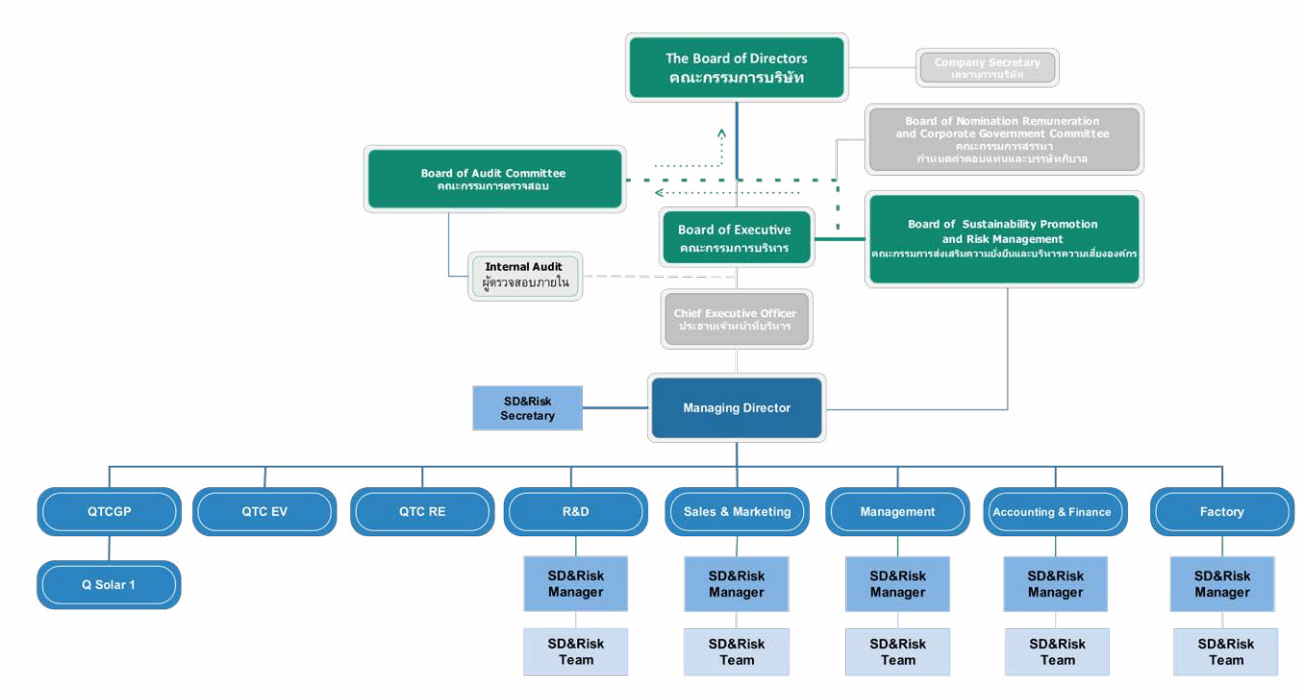
QTC recognizes that working to achieve business goals, uphold obligations according to the organization's vision to become a world class company and create confidence for stakeholders has challenges under economic, social and environmental evolutions, which may directly or indirectly create good opportunities 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/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 2024

- The Risk Management Committee organized four risk management processes in 2024 as scheduled.
- The risks with significance for the organization's objectives remain the same. These are divided into five aspects and 14 issues. Details on significant risks are as follows:

Strategic Risks	Financial Risk	Operational Risk	Compliance Risk	Business Continuity Risk
1. Dependence on Major Customers in the Transformer Business 2. Investment in Other Businesses 3. Climate Change (E)	4. Exchange Rate Fluctuations 5. Debtor Management	6. สOccupational Health and Safety (S) 7. Departures of Engineers, Skilled Technicians and Personnel in Significant Positions (S) 8. Dependence on Main Executives in Business Operations 9. Production Hazardous Waste and Scrap Materials Management (E)	10. Non-compliance with Laws 11. Corruption (G) 12. Human Rights (S)	13. Emergencies 14. Cyber Threats and Personal Data Control (G)

Significant Risks

1. Strategic Risk

Risk Topic	Measures and Performance
Dependence on Major Customers in the Transformer Business	As most of the transformer business income comes from bidding in the public sector, which has political uncertainties that affect its budgetary expenditures, and there are numerous competitors in the market that constitute uncontrollable factors, the Company has established strategies and measures for controlling and minimizing risks as follows: • There are units and personnel directly responsible for government liaison works as well as clearly defined roles and responsibilities. • Production standards and management processes are modified to responsibly reduce costs under international quality standards. • Expansion of the international market through OEM production. At present, this includes two countries: Australia and Japan (brands cannot be mentioned due to trade secrets). • Appointment of international distributors for selling products under the QTC brand to increase sales channels. • Development of super low loss and smart transformers to create a difference and to offer new alternatives for customers. • Expansion of the customer base for transformer maintenance services. • Expansion of the clean energy business (as a distributor). • Modification of the organizational structure to meet the diversified customer needs more efficiently. **Operations in 2024:** ▶ The Company won the bidding for IoT transformer sizes 160/22 and 250/22 (Provincial Electricity Authority) in two categories for a total of 699 transformers, in addition to winning the bidding for transformer size 750/24 (Metropolitan Electricity Authority) in one category for a total of 118 transformers. The total number of transformers delivered for electrical works was 1,306 transformers (The total for 2023 for delivering in 2024). ▶ The Company created trade partners by appointing distributors to sell products and provide transformer maintenance services covering every region of Thailand. ▶ The Company developed aluminum-coil transformers to increase the market shares for overseas customers in the main account group. ▶ The Company was able to sell transformers to Germany for a total value of 2.51 million baht. ▶ The income from sales and services in 2024 grew by 6.57% from 2023.

Risk Topic	Measures and Performance
Investment in Other Businesses	In order to diversify the risks from investment in energy businesses connected to the transformer business, subsidiaries have been established to operate specifically in said business under two guidelines as follows: 1. Investments are made through the operations of QTC Global Power Co., Ltd. (QTCGP), a subsidiary. In addition, the majority of QTC's personnel do not specialize in the energy business. Therefore, the Company has established the following risk prevention measures: • Commission external consultants to study the details covering economic, social, and environmental aspects of the projects in which the Company is interested in investing. • Any investment in other businesses requires approval from the Board of Directors and votes from shareholders. **Operations in 2024:** • EV charging stations under the Super Fast brand are operated by PPWE, a joint venture company. The income from EV charging stations in 2024 was 0.67 million baht. • Joint investments with the company Move EV X, an installer of EV bike battery swapping stations that can swap a battery within three minutes. Seven stations have been installed in various locales in Bangkok. The income will be perceived in 2025. 2. The purpose of establishing subsidiaries to operate specific businesses is to promote liquidity and flexibility in management and to develop "new role business models" to promote business growth and the advancement of skilled personnel in the organization. **Operations in 2024:** • QTC RE Co., Ltd., operates a trading business related to a full range of clean energy equipment. It serves as a distributor of products from internationally accepted quality brands. Income from operations amounted to 320.76 million baht. • QTC EV Co., Ltd. operates a business related to electric vehicles. In 2024, EV charging stations were built under the brand Pro Charge. The income amounted to 0.91 million baht.
Climate Change	The issue of impacts from climate change causes environmental crises such as unseasonal rain, draughts, flooding, global warming and impacts on 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 these things create both opportunities and risks for sustainable business operations in the future. 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 the long-term net zero goal by 2050. For more details on opportunity and risk assessment as well as the performance in 2024, view the topic "Climate Change" in the 2024 sustainability report.

2. Financial Risk

Risk Topic	Measures and Performance
Exchange Rate Fluctuations and Raw Material Price Fluctuations	The production of transformers requires the import of key materials accounting for 60% of the value of raw materials used per year, and the proportion of exported transformers account for 20-30% of the total sales. In addition, exchange rates and the price of raw materials such as copper and silicon steel fluctuate according to the global economy and important global events. For these reasons, the Company has established the following risk prevention measures: • Forward Contract Policy • Strict monitoring of the prices of key materials, such as copper, silicon steel and transformer oil, and reserving raw materials in advance if the Company sees an opportunity for a trade advantage. **Operations in 2024:** The Company saw a profit of 1.19 million baht from exchange rates. Overall, exchange rates remain fluctuating. The Company still needs to protect against risks from forward contracts. As a result, in 2024, the company was not affected by losses from exchange rates.
Debtor Management Risks	Due to the current trade competition, it is necessary to offer loans to customers for competitive advantage. At the same time, if the Company offers loans to customers who lack financial discipline and they failed to comply with debt repayment agreements, this would generate outstanding debt and cause the Company to not receive money as scheduled, affecting its financial liquidity management. Therefore, the Company has established the following control and preventive measures: • Having an allowance for doubtful accounts (as accounting expenses recorded under administration expenses) or calculating the expected credit loss. The Company uses the simplified approach to calculate the expected credit loss throughout the life of the loan and recognizes the loss from the time that a trade receivable and assets resulting from a contract are recognized. • Modifying the customer loan policy and establishing clear customer credit evaluation criteria. • If a customer does not pass the credit approval criteria, the sale is required to be paid in cash. • Having a policy to accelerate and follow up on outstanding debts exceeding one year by entering installment contracts. • Establishing a trade receivable allowance according to TFRS#9. **Operations in 2024:** The debt collection period is 67 days, which is shorter than the debt collection period of 69 days in 2023. The net trade receivable-specific business (before deducting the expected credit loss allowance) in 2024 was 179.56 million baht, a decrease from 285.27 million baht in 2023, or a decrease by 37.06%; the outstanding accounts receivable exceeding one year increased from 2023 by 7.32 million baht; and the allowance for expected credit loss decreased from 2023 by 1.03 million baht. The Company gives importance to collecting debts from large-scale customers to ensure on-time payment. Meanwhile, there were still impacts on the liquidity of small-scale customers. In case of payment problems, the Company would enter installment negotiations. Additionally, debtors with outstanding debt exceeding one year were still unable to pay the installments according to their agreements with the Company, although some of those installments were paid. In any case, the Company continued to follow up on collecting outstanding debts exceeding one year. In 2024, 5.59 million baht was able to be collected.

3. Operational Risk

Risk Topic	Measures and Performance
Occupational Health and Safety	Employee working conditions are related to the 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: • 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 benefits based on epidemic situations. • BBS (Behavior-based Safety) activities. **Operations in 2024:** The number of accidents decreased from 2023 by 5%. The Company did not achieve the goal of zero accidents. Details, preventive and corrective measures can be followed up on in the 2024 sustainability report under “Employee Health and Safety”.
Departures of Engineers, Skilled Technicians and Personnel in Significant Positions	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: • 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. **Operations in 2024:** The resignation rate for engineers, skilled technicians and personnel in significant positions was 4.60% out of the total employee resignation rate of 9.58%, or 52% of the total employee resignations, which is a decrease from 2023. 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.

Risk Topic	Measures and Performance
Dependence on Main Executives in Business Operations	Concerning the Company's administration, most of the leaders have specialized experience in transformers and are attached to the product brand, which plays a part in building stakeholder confidence. If there are any future changes related to the organization leaders, this may affect the confidence of major stakeholders such as shareholders and employees. Therefore, the Company has established the following protective measures: • Establishing a succession plan and selecting candidates. • Promoting leadership qualities and developing the skills of successors according to their career paths. • Promoting marketing by using mainly product brand and factory standards. **Operations in 2024:** The Company has sent personnel in important positions to develop additional necessary skills, knowledge and abilities according to the succession plan development guidelines. For more details, see the topic "Career Path Development & Succession Plan" in the 2024 sustainability report.
Production Hazardous Waste and Scrap Materials Management	Laws or regulations related to the management of industrial factory waste are constantly modified and revised to elevate the standard of responsibility of the parties who generate, transport, or dispose of waste to raise awareness and care about environmental impacts among people in society/communities. Online social media are quick and often provide unclear facts. If the organization does not give importance to legal compliance or neglects to control and ensure proper waste transportation or disposal, it may be at risk of damaging its reputation, having its business licenses suspended, or having to pay legal fines. In addition, there may be impact on biodiversity. Therefore, the Company has established the following control and preventive measures: • 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. **Operations in 2024:** The Company was able to bring 100% of landfill waste into the electricity generation process with 100% zero landfill. Seven hundred 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 2024 under "Production Waste and Scrap Materials".

4. Compliance Risk

Risk Topic	Measures and Performance
Non-compliance with Laws	The transformer manufacturing business involves industrial factories that produce, repair, distribute, and provide services to the public and private sectors, domestically and internationally. Therefore, there are numerous laws and regulations that the Company is required to follow. These laws or regulations are constantly subject to change over time to prevent business operation errors. The Company has established the following preventive measures: • Specifying responsible parties for monitoring, compiling, and evaluating compliance with trade laws and regulations through proper channels such as the Royal Thai Government Gazette, announcements, etc. • Establishing protocols for evaluating compliance with laws and regulations to be used as guidelines covering the entire organization. • The Document Control Unit prepares a registry of relevant trade laws and regulations and reports to the Risk Management Committee on a quarterly basis. **Operations in 2024:** There were no issues of legal non-compliance. However, there were issues under revision to ensure legal compliance. These were issues involving new law revisions, and there was time to ensure legal compliance and support plans.
Corruption	The transformer manufacturing business involves industrial factories that produce, repair, distribute, and provide services. The Company's business operations must be under the rules of related specifications and laws. Furthermore, the Company contacts, coordinates, pays fees, pays taxes, and trades with government agencies, which may create gaps for corruption. The Company has established the following control and preventive measures: • The Company specified anti-corruption policies and related guidelines to be used in the Company and every subsidiary. • 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 became a member of the Thailand Collective Action against Corruption (CAC). **Operations in 2024:** There were no events, complaints or whistleblowing of wrongdoings.

Risk Topic	Measures and Performance
Human Rights and Personal Data Protection	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» and «Personal Data Protection». The Company has conducted a comprehensive risk and impact assessment and established control and prevention measures as follows: • Published the human rights policy and the personal data protection policy. • Established guidelines that comply with the human rights policy and the personal data protection 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 2024:** There were no reports of human rights violations in the organization and the business supply chain. Human rights due diligence (HRDD) was carried out in 100% of the business value chain.

5. Business Continuity Risk

Risk Topic	Measures and Performance
Emergencies	There are risks from disasters such as flooding at the Bangkok main office or a fire at the main office or Rayong Factory or any subsidiary. The Company has established measures for preventing and preparing for emergencies as follows: • Preparing a fire prevention and suppression plan and holding drills annually. • Preparing an information recovery plan and holding drills annually. • Buying insurance policies that cover the risks. **Operations in 2024:** There were no emergencies resulting in business interruptions in both the Company and its subsidiaries, and the Company has implemented measures strictly and consistently.

Risk Topic	Measures and Performance
Cyber Threat	Cyber threats are security threats to business operations that have the likelihood to occur and create damage to important information in business operations. The Company has established the Cybersecurity Policy, provided related guidelines to prevent risks strictly and thoroughly, and provided knowledge and understanding to employees in addition to preparing backup plans in case of emergency. Cyber Security Policy: https://qtc-energy.com/wp-content/uploads/2023/03/it-security-policy.pdf **Operations in 2024:** ▶ The Company has commissioned T-NET Co., Ltd., a cybersecurity expert, to check for loopholes and evaluate risks to find opportunities to improve the stability and security of the system. From the operation, loopholes were detected that may put the system at risk of attack, and the Company has closed 100% of the risks detected. ▶ The Company has considered switching the ERP system from AX2012 to D365. The system will be implemented in 2025 to enhance the security of the ERP system. ▶ Attempts to access the system were detected. These were unsuccessful because the Company has put in place monitoring measures and has continuously improved its protective measures.

Training to Provide Knowledge

In 2024, the Company provided training in the ISO 31000 Risk Management System Requirement and Interpretation Course by SGS (Thailand) Limited on 28-29 October 2024 with the target group being the organizational risk management directors and work teams for the entire company group. This is because the organizational internal management of the Company and all its subsidiaries focuses on the implementation of ISOs such as ISO9001, ISO45001, ISO14001, ISO/IEC17025, etc. ISO standards are international and most of the executives and employees are familiar with them. Furthermore, the Company currently manages its organizational risks by using the COSO ERM standard, which emphasizes internal controls and financial reporting, and so it has the idea to implement ISO31000 to encourage everyone in the organization to participate in specifying and managing risks continuously, which is appropriate for employees at the operator and supervisor levels. The implementation of the ISO31000 system would need to be supplemented with the COSO ERM standard for enhanced efficiency. This integration of the organizational risk management system involves a revision plan and will be enforced in 2025. Adjustments may be made to the Risk Management Committee and related processes.

ISO 31000 Risk Management System Requirement and Interpretation Course
on 28-29 October 2024 at the Faraday Room, Rayong Factory

Results:
- Enhanced skills, knowledge, and abilities for the Organizational Risk Management Committee and Work Team regarding ISO 31000 risk management system.
- An organizational risk management system integration plan based on COSO ERM and ISO31000 standards.

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. The assessment results of the key sustainability topics are as follows:

Business Growth

Risks

- The transformer and energy industries are highly competitive. Large-scale and international companies entering this highly competitive market may cause the Company to face challenges in maintaining its market shares and growth.
- The transformer industry relies mainly on the domestic market (public sector). As a result, there are risks from uncertainties of public policies, politics, economic conditions, and the high competitiveness.
- Investment in new projects and business expansion requires large amounts of money, which may cause more debt for the Company as well as financial management risks.

Opportunities

Changes in external factors are opportunities for the organization to develop various products, services, and work processes; collaborate with trade allies to enhance competitiveness; and expand investment in other businesses.

Financial materiality

- Investment in the expansion of existing businesses, investment in new businesses, and investment in innovations.
- Marketing promotion to create brand awareness.
- Loan interest burdens.
- Payment of compensation to relevant stakeholders according to set policies.

Impact materiality

- Employment expansion.
- Increasing employee engagement with and happiness toward the organization.

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

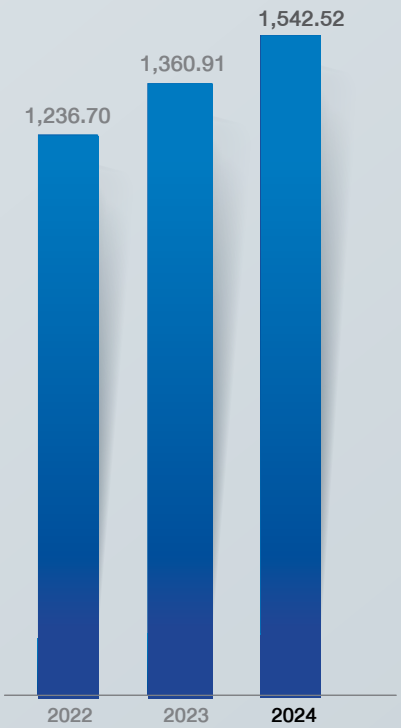
Objective :	To create sustainable business growth.
Management :	Strategic planning according to business paths, appropriate strategizing, effective corporate risk management, increase competitiveness with quality products and services including responsibility. Promotion of research and development to innovate products, services and production processes and expansion of investment in other businesses or new products to increase income and build financial strength.
Goal 1:	Total sales and services growth goal of at least 10% from the previous year (particularly in the transformer business).
Performance :	In 2024, there was a 21% growth from 2023.
Goal 2:	Total growth for all businesses of at least 20% from the previous year.
Performance :	In 2024, there was a 13.34% growth from 2023. The target was not achieved.
Goal 3:	Net profit for all businesses (consolidated financial statement) no less than 12%.
Performance :	In 2024, the net profit for all businesses was 7.44%. The target was not achieved.

Economic Results

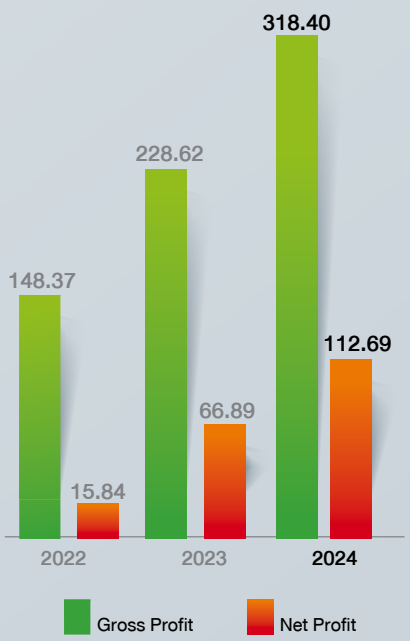
(Unit: Million Baht)

Financial	2022	2023	2024
Revenues from sales and services	1,216.45	1,337.12	1,515.44
Total revenues	**1,236.70**	**1,360.91**	**1,542.52**
Cost of sales and services	(1,068.08)	(1,108.49)	(1,197.05)
Gross margin	**148.37**	**228.62**	**318.40**
Selling and administrative expenses	(147.94)	(167.12)	(199.89)
Profit before interest and income tax	20.18	84.38	144.48
Net profit	15.84	66.89	112.69
Comprehensive income for the year	16.74	66.89	108.11
Net earnings per share	0.046	0.196	0.332
Dividend per share	0.20	0.20	0.25*
	(341,092,557)	(341,092,557)	(341,092,557)
Total assets	1,847.12	1,862.20	1,997.96
Total liabilities	263.87	280.18	373.94
Shareholders' equity	1,583.25	1,582.02	1,624.01

Total Income
(unit: million baht)



Gross Profit / Net Profit
(unit: million baht)



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

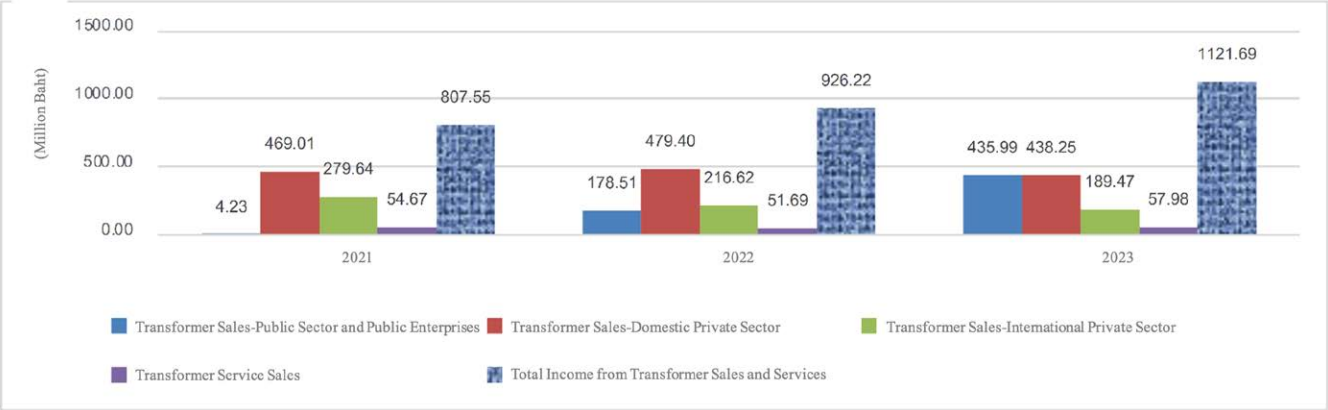
Significant Performance in 2024

In 2024, the Company was able to generate income from the sale of transformers and transformer services. QTC's core business grew from 2023 by 21.10%. The growth was due to the transformer sales in the public sector and public enterprises which grew by 144.24% and the transformer service sales grew by 12.17%. As for sales in the domestic and overseas private sectors, the sales decreased by 8.58% and 12.53%, respectively, due to a slowdown in private sector investments and the rather high price competition.

Table Showing Income from Transformer Sales and Services (Transformer Business)

Income from Sales and Services	2022	2023	2024
Transformer Sales-Public Sector and Public Enterprises	4.23	178.51	435.99
Transformer Sales-Domestic Private Sector	469.01	479.40	438.25
Transformer Sales-Overseas Private Sector	279.64	216.62	189.47
Transformer Service Sales	54.67	51.69	57.98
Total Income from Transformer Sales and Services	**807.55**	**926.22**	**1121.69**

Graph Comparing Income from Transformer Sales and Services (Transformer Business)



Due to the price competition in the domestic private transformer market, which has numerous manufacturers, the Company needs to use strategies involving the ability to better meet customer needs in a market with few competitors in order to maintain the existing customer base and create new customer bases. In 2024, QTC improved its production processes to support the production of particularly large transformers and was able to design customized transformers according to customer needs that were acceptable to customers while promoting the sale of super low loss (SLL) transformers. Moreover, the Company implemented strategies to deliver products rapidly by stocking standard-size transformers that are easy to sell to meet the needs of customers who need transformers quickly and have no time to wait for production. As for the international market, in 2024, QTC was able to penetrate the European market by delivering customized low loss eco-design transformers according to EU standard regulations and customer specifications. These were acceptable to customers and provided an opportunity to expand the market in the future.

Mr. Phot Wongkham
Assistant Managing Director,
Sales and Marketing

For more details, see the 56-1 One Report 2024 topic "Financial Report".

QTC Global Power Co., Ltd. (QTCGP)

QTC Global Power Co., Ltd. (QTCGP), operates a business that generates and distributes alternative- or clean-energy electricity in several forms, recognizing the importance of the environment and the issues of greenhouse gas emissions and PM 2.5 caused by combustion from fossil-fuel vehicles. Additionally, the number of electric bike users has grown, particularly riders, so this is a business opportunity to study the feasibility of entering into a joint venture with The Move Thunder Co., Ltd. (MOVE EV X), to open EV bike battery swapping stations that can swap out a battery within three minutes in Bangkok areas. In the first phase, seven stations will be launched, namely, Chaloem Phra Kiat 67 Branch, Suksawat 14 Branch, Lat Pphrao Wang Hin Branch, Phatthanakan 20 Branch, Vibhavadi Rangsit 1 Branch, Lanluang Branch, and Sukhumvit 101/1 Branch, which will begin perceiving income in 2025.

Miss Sasikarn Tantanasin

Managing Director

Signing of an MOU for the joint venture between QTCGP and MOVE EV X.

Q Solar 1 Co., Ltd. (Q Solar 1)

In 2024, the **Q Solar 1** power plant generated 12,586,800 kWh for distribution, a decrease from 2023 by 1.52% due to the power generation efficiency of solar panels that had been in use for 14 years which had decreased by 0.34%. In addition, the average sunlight intensity in 2024 was 1.14 kWh/m2.day less than in 2023. This has affected the income from electricity sale, which decreased from 2023 by 10.89%. There was also impact from the FT fees in 2024, which was decreased on average from 2023 by more than 56%, or up to 5.4 million baht in loss of value.

Mr. Chanwut Meeploi

Managing Director

Table Showing Amount of Generated Electricity and Income from Electricity Sale Between 2022-2024

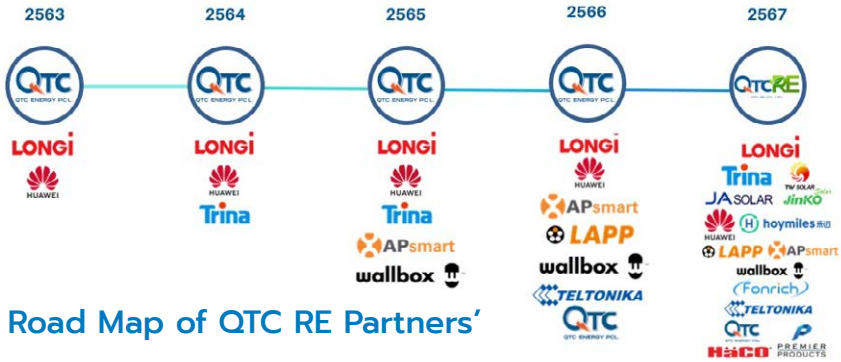
Description	2022	2023	2024
Generated Electricity Amount for Distribution (kWh)	12,770,880	12,781,560	12,586,800
Income from Electricity Sale (baht)	47,339,155.37	53,761,393.42	47,907,260.52
Mean Sale Price + FT Fee per Unit (baht)	3.71	4.21	3.81

From late-2023 to mid-2024, it was found that the electricity generation efficiency of solar panels was lower than the levels guaranteed by the manufacturer. This was due to dust on the solar panels that could not be washed using regular water and methods. Corrective action was taken by using automotive glass cleaners instead of just water. This method has been tested, and a formula has been developed to suit the solar panel types with the manufacturer. The operation was successful. The modified solution cleaned the dust well, and the panel efficiency test showed an average efficiency increase of 3-4%. Moreover, the solar panel cleaning solution developed jointly with the manufacturer will become a new product sold by QCT RE in the future.

Mr. Nipat Chingchamikorn

Managing Director

QTC RE Co., Ltd., (QTC RE) has officially launched business operations to support operations and move forward with an agreement with business partners. It serves as an authorized distributor for many world-class brands such as Huawei and Longi. In particular, Huawei has made the company a Gold Level distributor that has continuously generated the highest sales, which has been guaranteed by the Elite Reseller of the Year 2024 award from Huawei. Furthermore, in 2024, the company passed the registration process for inclusion in the Provincial Electricity Authority's vendor list under Category 6, Solar Energy System Installer, and Category 8, Private Power Purchase Agreement (Private PPA), in addition to being an operator included the Provincial Electricity Authority's vendor list for its business operations providing solar energy electricity generation system and energy collection system installation services.



The rapid development and changes in global innovations and technology, as well as modern lifestyles, have led more consumers to turn to environmental and AI products. As a result, QTC RE Co., Ltd., sees an opportunity in that type of business and in serving as a representative for these types of intelligence for the future based on the slogan "QTC RE Intelligence for the Future".

With the company's proactive business strategy, the development of the potential of the company's personnel and distributors in the Bangkok Metropolitan Region and the provinces have become an important matter. In 2024, QRC RE Co., Ltd., consistently held 11 online seminars and 5 onsite seminars nationwide that included lectures by experts and academics in the solar energy field to provide knowledge on products, new technologies, market trends, installation, maintenance, and other information to interested parties, trade partners, and distributors. The seminars were well received by all sectors. Moreover, the company gives importance to the e-commerce market growth in Thailand and online purchasing behaviors. The company sees the importance of accessing customers through every channel and expanding marketing opportunities. Hence, it has launched its official website and official social media channels for convenience and speed in providing information and purchasing by customers. The company has also increased the number of new warehouses in Bangkok to maximize product distribution speed and efficiency. The company plans to focus on expanding its market in the private sector and government enterprises and large-scale solar energy power plants in the next year for the stable and sustainable growth of the company in the future. *Learn more about the company's performance in 2024 in the 56-1 One Report 2024, and learn more about QTC RE at https://www.qtc-re.com/th.*

QTC RE On Facebook | @qtc_re On Line | qtc re On Instagram | @qtc.re On Tiktok | www.qtc-re.com On Website

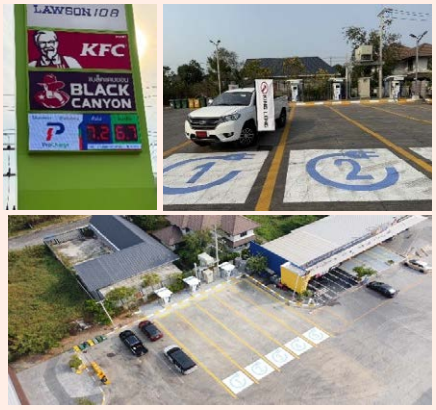
QTC EV Co., Ltd., was established on 29 April 2024 with a registered capital of five million baht. The company is a collaboration between people with experience in the EV field who will jointly manage the work, such as Mr. Pachok Chanpitak and Mr. Peera Lucksanapirak, to operate businesses related to EVs. This is a business opportunity resulting from the transition from today's society into a low-carbon society and the transition to using clean technology to reduce greenhouse gas emissions. In addition, this is a way to diversify risks from operating existing businesses and to create sustainable growth for all stakeholder groups. QTC EV operates all aspects of the business with opportunities related to EVs, such as the following:

- Serving as a commercial EV distributor for brands such as NEX, Foton, SANY, Thai EV, BYD, Kinglong, etc.
- Investing in building charging stations in enclosed spaces of customers that are organizations or stations in public spaces.
- Providing goods and passenger transportation services that use EVs jointly with partners.

Important operations in 2024 included the building of two fleet charging stations in important zones for logistic stations in the country under the trade name "ProCharge", **"a pro's charging station"**, as follows:

"ProCharge" Station 02 Laem Chabang, located in a Bangchak gas station around the second gate near the Silamas Warehouse on the exit from the port:
6 charging heads.

"ProCharge" Station 03 Chao Khun Thahan Lat Krabang, located in a Bangchak gas station on Chao Khun Thahan Road heading toward Lat Krabang:
6 charging heads.



Mr. Peera Lucksanapirak
Managing Director

The advantage of "ProCharge" stations is that they provide high charging power, fast charging, and wide parking areas. It is possible to charge without having to unhitch the trailer (for trailer trucks). The stations are easy to use, offer QR scanning, take RFID cards, and have an anti-corruption system that uses auto charge. Mac addresses are entered to read the vehicle's activities for identification verification when charging. Moreover, credit system services are provided to operators to facilitate charging first, while the payment will be collected at the end of every month.

QTC EV's business expansion plan involves building fleet charging stations with operations covering the central and eastern regions for customers in business groups related to the export of goods to Europe and the Americas and reducing greenhouse gas emissions in accordance with the CBAM measures in Scopes 1 and 3. Once public charging stations have full coverage, the company will focus on investments in customer areas with guaranteed usage and long-term charging service contracts. The company aims to access customer groups that have the desire to transition to using clean technology to reduce greenhouse gas emissions.

Learn more about the financial performance in the 56-1 One Report 2024 under the topic "Financial Report".

Distribution of Value to Stakeholders

	QTC Energy	QTCGP & Q Solar 1 & QTC RE & QTC EV
Distribution of Value to Shareholders	(บาท)	(บาท)
Dividends to Shareholders	68,118,531.40	
Dividends Per Share	0.2	
Personnel Investment		
Employees*	135,991,184	
Executive and Managing Directors in Subsidiaries and (Executive) Company Directors*	37,233,173	
Board of Directors (Non-executive)*	10,176,668	
Social Investment		
Donations and Financial Support	1,624,298.53	302,383.47
Support for Social Enterprises (SE) (Indirect)	0	0
Activities for Society	215,855.92	7,280.00
Funds for Promoting and Improving Quality of Life among Disabled Persons	478,800.00	0
Environmental Investment		
Internal Environmental Management Cost	70,933.60	69,240.00
Waste and Other Management Cost	231,728.50	0
Sharing of Value with Business Partners		
Domestic Procurement (Raw Materials)	507,928,144.66	303,780,689.78
Overseas Procurement (Raw Materials)	203,733,984.76	41,994,575.91
Power Plant Equipment Procurement and Maintenance (Domestic)	0	5,811,362.49
Product Procurement from Disabled Persons in Communities	88,500.00	
Other Economic Value		
Financial Cost (Interest)	177,288.48	2,233,665.06
Taxes Paid to the Government**	25,149,208.76	6,173,332.36

Table Showing Comparison of Sharing of Value to Stakeholders

Stakeholder Groups	Unit	Consolidated Statement			
		2021	2022	2023	2024
Dividends for Shareholders	(million baht)	68.22	68.22	68.12	68.12
Dividends per Share	(baht)	0.2	0.2	0.2	0.2
Directors, Executive Directors and Employees*	(million baht)	167.07	162.72	163.11	183
Community & Society	(million baht)	0.93	1.99	1.71	2.63
Environment	(million baht)	0.97	1.02	0.81	0.37
Business Partners	(million baht)	600.09	466.22	540.89	1,063.34
Quality of Life Promotion and Improvement for Disabled Persons.	(million baht)	0.34	0.34	0.48	0.48
Financial Institutes (Interest)	(million baht)	1.26	0.97	1.51	2.41
Government Sector (Taxes)**	(million baht)	18.24	3.54	14.77	31.32

* Salaries, wages, financial benefits, monthly wages, annual wages and meeting gratuities (not including seminar attendance and skill development fees, social security contributions, provident fund contributions, and non-financial benefits).

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

Tax Transparency

ฅQTC and all of its subsidiaries give importance to paying taxes, which is an important legal duty of organizations. The Company has established the Tax Policy to be used as a guideline to ensure that the tax plans are implemented efficiently with maximum benefits to the organization, to reduce financial risks, and to enhance business operation efficiency with legal compliance. Compliance the tax laws will help prevent fines or legal actions, create a good image for the organization, and promote long-term sustainability, in addition to helping to develop the country's overall economy and society.

Tax Policy : https://qtc-energy.com/th/tax-policy/

Table Showing Tax Payments for Every Company Between 2021-2024

Tax Payments	Operating Year							
	2021	2022	2023	2024				
				QTC Energy	QTC GP	Q Solar1	QTC RE	QTC EV
Corporate Income Tax	18.24	3.54	14.77	24.75	-	-	3.1	-
Value-added Tax				0	-	2.99	-	-
Building Tax, Signage Tax, Local Maintenance Tax				0.4	-	0.08	-	-
Total	**18.24**	**3.54**	**14.77**	**25.15**	**-**	**3.07**	**3.1**	**-**

Remarks: In 2024, the Company had purchase tax for which it had not claimed its sale tax credit carried over from 2023 (from overpayment of taxes). As a result, the Company was not required to pay additional taxes.

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 creations 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. The assessment results of the key sustainability issues are as follows:

Innovation Promotion

Risks

If the Company does not promote the creation of new innovations to support various changes, it may lead to various risks to business operations such as the loss of the ability to compete. If the Company is unable to adapt or develop new products and services, competitors with more innovations may surpass the Company. Customers may turn to more modern products to better meet their needs.

Opportunities

The promotion of innovations in the organization offers the opportunity to enhance the ability to develop products and services that meet customer needs, enhance the ability to compete, or break into new markets or business expansion.

- Creates innovations in production processes and services, helps to reduce costs, reduces waste, and enhance operational efficiency.
- Elevates employee knowledge and skills in terms of thinking and performance to jointly develop the organization.

Financial materiality

- Investment in advanced research, which may not meet expectations or take a long time to break even.
- Investment to create new innovations, such as products, services and production processes, to reduce costs and waste and to meet customer needs.
- Support of study trip activities or KAIZEN promotion activities.

Impact materiality

- Provides work and production processes that are modern, reduce impact on operators, and reduce environmental impact.
- Elevates employee knowledge and skills in terms of thinking and performance.

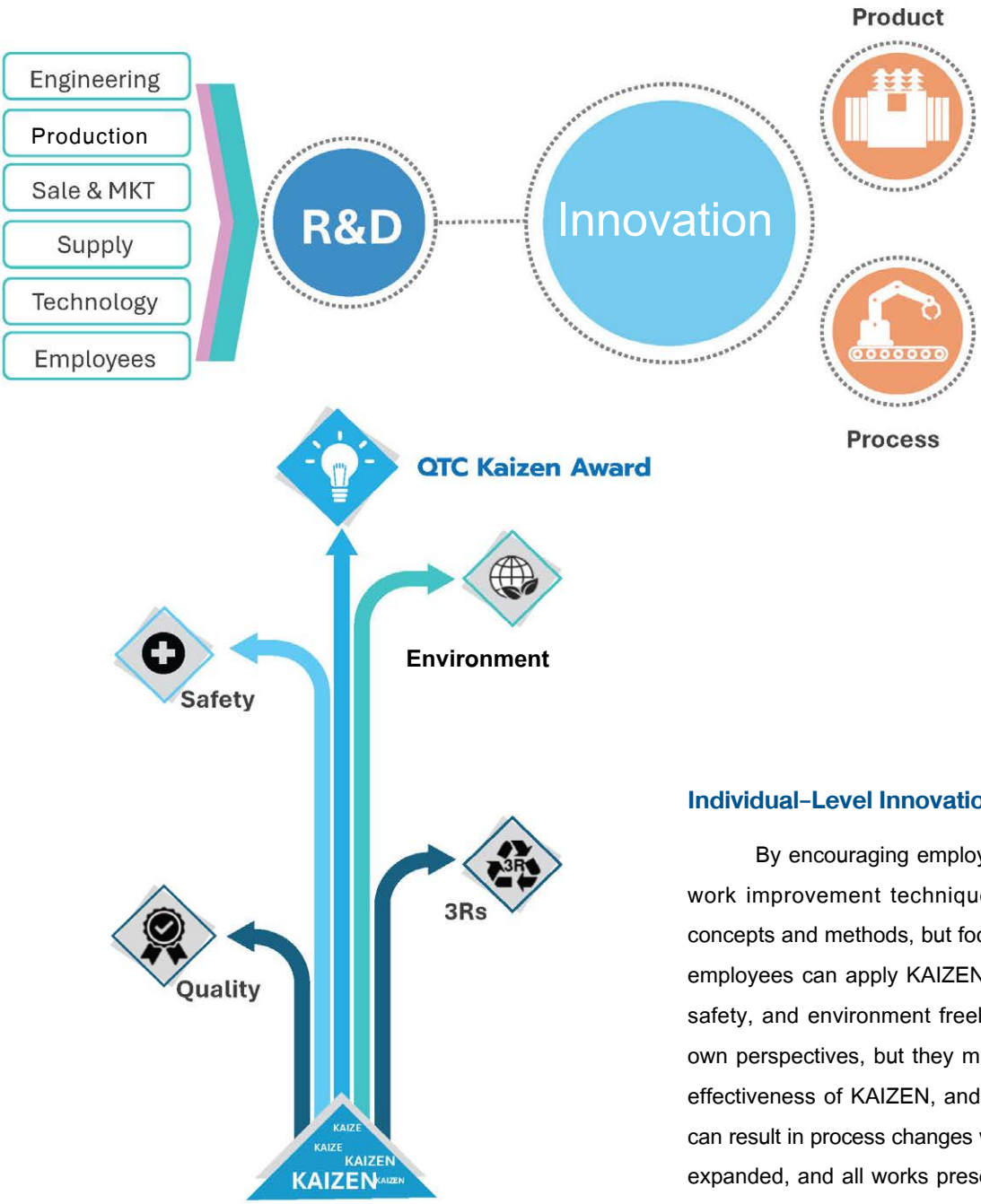
The Company is committed and gives importance to promoting innovation in the organization, including products, production processes, as well as various stages of work processes to promote and develop the skills, knowledge, and abilities of employees to have innovative ideas and develop further. The management 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.
Goal 1:	Have at least two articles on research and development results at the process level to create opportunities and reduce waste.
Performance :	In 2024, there were three projects resulting from process research and development to create opportunities and reduce waste. The target was achieved.
Goal 2:	Income growth from distribution of products from product research and development results at more than 2% per year.
Performance :	In 2024, the income from product sales from product research and development projects decreased from 2023 by 25.38%. The target was not achieved.
Goal 3:	Four KAIZENs by target employees per person per year.
Performance :	Target employees with >4 KAIZENs = 60.37%. Target employees with <4 KAIZENs = 39.63%.

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.



Individual-Level Innovation Promotion

By encouraging employees to use KAIZEN work improvement techniques, without limiting concepts and methods, but focusing on results. All employees can apply KAIZEN in terms of quality, safety, and environment freely according to their own perspectives, but they must demonstrate the effectiveness of KAIZEN, and KAIZEN works that can result in process changes will be promoted and expanded, and all works presented by employees will be rewarded according to set criteria.

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.

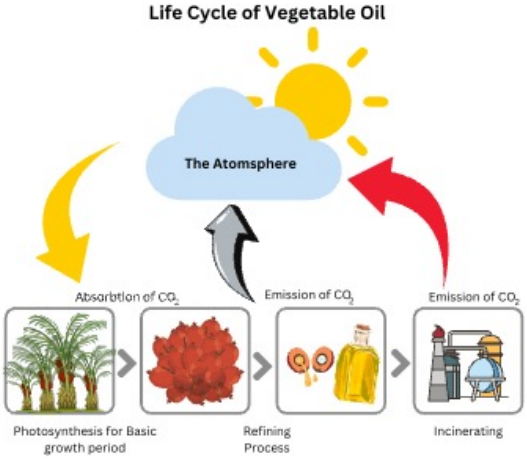
In 2024, the Company had five major research and development projects, spending an operating budget of 4.5 million baht. The projects included one joint venture innovative project with external organizations, three innovative internal process projects, and one electricity consumption reduction project. 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 2024 as follows:

Smart Transformer Monitoring Development

The Company continues to develop its smart transformer monitoring system to ensure that the products can properly meet customers needs based on technological changes and convenience for customers. In 2024, the Company improved the smart transformer's server by switching operating systems from Cent OS to Ubuntu, allowing the system to efficiently support the number of customers which is increasing every year. Moreover, QTC has developed a source code for the server for performance optimization, system stability, and security enhancement. These operations help the system to work faster with higher stability and security, which are important factors for maximizing service provision efficiency and supporting future growth.

In 2024, the smart transformer monitoring sales dropped from 2023 by 25.38%. However, the Company continues to move forward and promote smart transformer sales in addition to constant development, because it is confident that it can meet the needs of a large number of customers in the future.

Progress of the Bio-Transformer Oil Development Project



From the preliminary quality testing of BBGI and SCGC's oil, it was found that the oil was comparable to those of current manufacturers in the market (FR3, Midel, Dongnam Petroleum) while also having the advantage of its viscosity being closer to that of mineral oil, allowing for it to being used to replace mineral oil without having to change the existing standard transformer design to have different properties. When the oil was tested on actual 50kVA transformers, it passed all routine, impulse and temperature rise tests.

In 2024, QTC sold transformers that used palm oil from research and development for the first time to customers who had them installed for use. At present, no issues have been found and the transformers function normally comparable to standard transformers. Official commercial marketing will commence in 2025-2026.

Project to Enhance Tank Welding Efficiency

The production process requires strength and high-quality welding. The use of proper welding technology is crucial, which is why QTC switched the welder model used in conjunction with ABB robot welding from Fronius TPS2700 CMT to the Fronius400A PUSH welding system to support welding tasks for materials thicker than 6 mm to help increase work quality, reduce waste, and enhance production efficiency.

The upgrade of the welder model used with ABB robot welding from Fronius TPS2700 CMT to the Fronius 400A PUSH welding system was an important step in enhancing tank welding efficiency, supporting complex production processes, and facilitating continuous work for a long time without any breaks while providing strength and high quality. Production costs were reduced as follows:

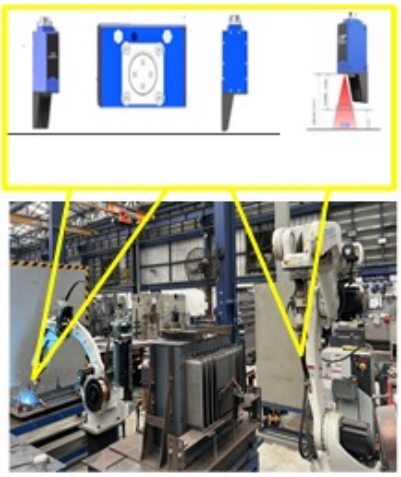
Project Effectiveness

- **The welding time for large tanks was reduced from 2.5 hours to 1.5 hours.**
- **Weld line inconsistency and porosity decreased by 10%.**
- **The number of spent grinding blades from repair of sub-standard work was reduced. (The amount of waste sent for disposal was reduced by about 25 kg/year.)**
- **The production cost was reduced by about 150,000 baht/year.**

Improving the Robot Welding System with Laser Tracking Sensors

In the manufacturing industry that uses automatic robots, laser tracking sensors play an important role in helping the robots to detect workpieces more accurately, reducing errors, and increasing production efficiency. In 2024, the Company installed two sets of laser tracking sensors to support the work of robots by improving their detection capabilities and adjusting positions in real time.

Laser tracking sensors help robots to identify the position of workpieces accurately, reducing deviations that may occur from the changing of positions or the twisting of materials. This facilitates improved control of weld lines and assembly positions. The robots fitted out with laser tracking sensors can work faster without the need for a human to frequently adjust the position of workpieces.



Project Effectiveness

- **The setup time for the jig and robot welding was reduced by 10 minutes/machine or 100 hours/year.**
- **The tank production capacity increased by 1,200 tanks/year.**
- **The amount of scrap wire waste in the process to be sent for disposal was reduced by about 30 kg/year.**
- **The production cost was reduced by 145,000 baht/year.**

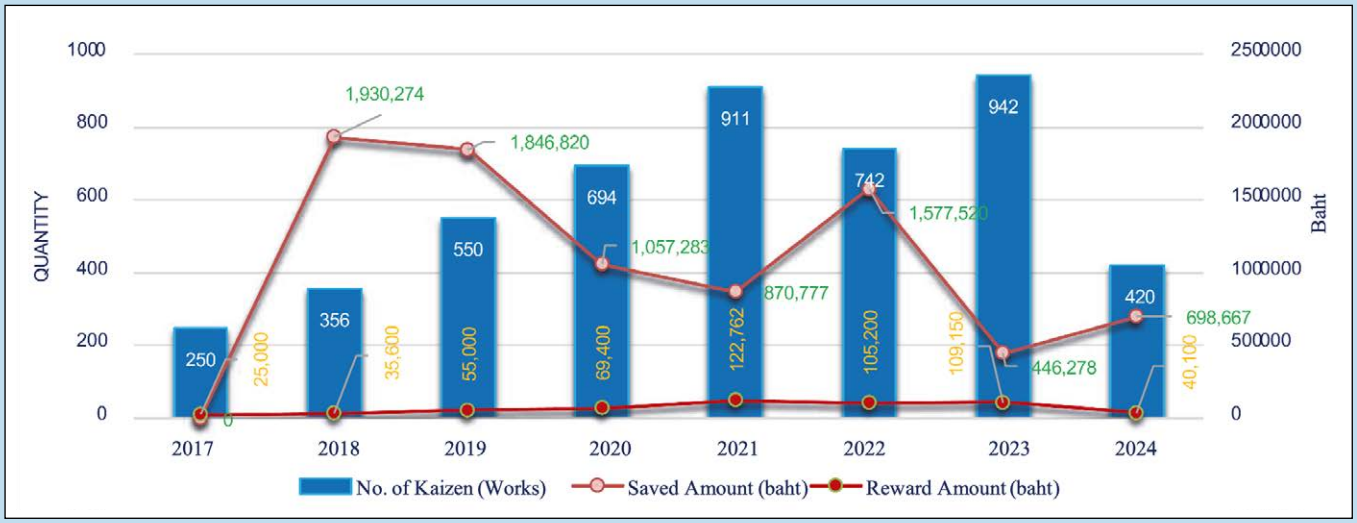
Individual-Level Innovation Promotion

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 2024, modifications were made to 420 KAIZEN works. The Company provides rewards for results for a total of 40,100 baht and saved 698,667 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.
- 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 can work effectively with less fatigue.
- Higher income from KAIZEN results.
- Increased knowledge and ability from KAIZEN modifications.
- Pride when the Company sees the value of employees and praises employees.

QTC Kaizen Award 2024

In 2024, the Company held the **"QTC KAIZEN AWARD 2024"** contest to provide a platform for employees to produce their or their work group's KAIZEN workpieces. Eight KAIZEN workpieces made the final round. The awards were considered by the Company's panel of experts with clearly defined benchmarks.

The employees' eight KAIZEN workpieces that made the final round, as well as the other 420 workpieces, can clearly add value to the employees and the organization.

QTC Kaizen Award 2024 Results

Award Type	Name	Name of Workpiece
Best Kaizen	Miss Arunrot Inthasiri and Mr. Chirayu Rattanathamrong	Office Work Technology: Behavior-based safety (BBS) reporting system
	Mr. Wutthiphong Tuprakhon and Mr. Rungrot Sidatma	Production: Jig for assembling 160 kVA transformer bases
	Mr. Chumphon Singdong and Mr. Wutthiphong Siduang	Production: Jig for assembling clamp 10 kVA handle parts
	Mr. Chirayu Ratthanathamrong	Office Work Technology: «Waste Storage" application development
	Miss Chariya Chaiwanglok, Miss Thiwaphon Phloengnoi, and Mr. Siraphat Chularatsin	Office Work Technology: Easy E-Learning step
	Mr. Withun Klinkeson and Miss Siriphon Phochai	Added air pipes under machines and air tubes to help blow sawdust. (Wood Cutting Room)
Outstanding	Miss Kanyanat Sunarak and Miss Thittaphan Praphakamon	Office Work Technology: Compiled a part list file.
	Mr. Wutthichai Borikhut and Mr. Chalom Namwichit	Production: Transformer 160 test lid

Environmental Responsibility

ESG DATA : Environment

Reported items				Unit	Year of operation		
					2022	2023	2024
Materials	Materials used by weight or volume	Total weight of materials that are used to produce and packgae (Non-renewable materials used)		Tonnes	4284.00	4486.00	6158.00
		Total weight of materials that are used to produce and packgae (Renewable materials used)		Tonnes	0	0	0
	Recycled input materials used	Percentage of recycled input materials used to manufacture the organization's primary products and services.		%	0	0	0
	Reclaimed products and their packaging materials	Percentage of reclaimed products and their packaging materials for each product category.		%	0	0	0
Energy	Energy consumption within the organization	Total energy consumed.		MJ	10,669,718.33	10,720,572.38	12,503,582.96
		Total non-renewable energy consumption.		MJ	10,538,948.33	10,079,806.04	11,395,463.36
		Diesel		MJ	2,818,372.26	3,230,968.61	3,218,723.48
		Gasoline		MJ	983,111.27	1,112,363.43	1,184,114.28
		Electricity (from grid)		MJ	6,737,464.80	5,736,474.00	6,992,625.60
		Total renewable energy consumption.		MJ	130,770.00	640,766.34	1,108,119.60
		Electricity consumption. (from PV)		MJ	130,770.00	640,766.34	1,108,119.60
	Energy consumption outside of the organization	Energy consumption outside of the organization		MJ			
	Energy intensity	Total Revenue		MB.	1,216.45	1,337.12	1,515.44
		Energy intensity ratio for the organization.		MJ/MB.	8,771.19	8,017.66	8,250.79
	Reduction of energy consumption	Total energy saved by efforts to reduce energy use and increase energy efficiency.		MJ	130,770.00	640,766.34	1,333,684.63
		Fuel Saving		MJ	N/A	N/A	225,565.03
		Electricity saving		MJ	130,770.00	640,766.34	1,108,119.60
	Reductions in energy requirements of products and services	Reductions in energy requirements of sold products.		MJ	2,423,620.44	1,962,505.90	2,950,192.80
		Energy requirements of sold products (Super Low Loss : SLL)		MJ	2,743,789.68	1,652,171.04	2,785,338.36
		Energy requirements of standard products		MJ	5,167,410.12	3,614,676.94	5,735,531.16
		Percentage of energy saved in energy requirements of sold products.		%	47	54	51
Water and Effluents	Water withdrawal	Water withdrawal by source	AREAS WITH WATER STRESS	Megaliters	0	0	0
		Groundwater - Freshwater	X	Megaliters	13.56	13.90	12.38
		Third-party water - Freshwater (Surface water-->Tap water)	X	Megaliters	0.91	1.39	2.17
		Total water withdrawal		Megaliters	14.48	15.29	14.55
	Water discharge	Water discharge by destination	AREAS WITH WATER STRESS	Megaliters	0	0	0
		Surface water - Freshwater (Factory RYG)	X	Megaliters	8.99	8.87	8.22
		Surface water - - Freshwater (Factory PRI)	X	Megaliters	4.57	5.03	4.15
		Surface water - - Freshwater (Headoffice BKK)	X	Megaliters	0.91	1.39	2.17
		Total Water discharge (effluent)		Megaliters	14.48	15.29	14.55
	Water consumption	Total water consumption		Megaliters	0	0	0

Reported items			Unit	Year of operation		
				2022	2023	2024
Emissions	Direct (Scope 1) GHG emissions	Gross direct (Scope 1) GHG emissions	tonCO2eq.	305	340	356
		Biogenic CO2 emissions (Gas separation calculation)	tonCO2eq.	N/A	N/A	N/A
	Energy indirect (Scope 2) GHG emissions	Gross energy indirect (Scope 2) GHG emissions	tonCO2eq.	904	762	931
	Other indirect (Scope 3) GHG emissions	Gross other indirect (Scope 3) GHG emissions	tonCO2eq.	631	670	648
		Total GHG emissions categories 1 Purchased goods and services	tonCO2eq.	Not reported: The Company plays a very small role in reducing or absorbing greenhouse gases from source production. This makes the % of significance low.		
		Total GHG emissions categories 2 Capital goods	tonCO2eq.	There is not enough information to report		
		Total GHG emissions categories 3 Fuel and energy related activities	tonCO2eq.	217.05	194.99	230.97
		Total GHG emissions categories 4 Upstream transportation and distribution	tonCO2eq.	128.38	150.39	126.53
		Total GHG emissions categories 5 Waste generated in operations	tonCO2eq.	68.05	43.70	40.08
		Total GHG emissions categories 6 Business travel	tonCO2eq.	Not reported: Corporate business travel by land, water, air, etc. has a low % of significance.		
		Total GHG emissions categories 7 Employee commuting	tonCO2eq.	31.57	40.43	49.92
		Total GHG emissions categories 8 Upstream leased assets	tonCO2eq.	It has no significance for the organization.		
		Total GHG emissions categories 9 Downstream transportation and distribution	tonCO2eq.	185.15	240.13	200.23
		Total GHG emissions categories 10 Processing of sold products	tonCO2eq.	It is not relevant to the enterprise, since transformer products are directly put into operation. No processing.		
		Total GHG emissions categories 11 Use of sold procudts	tonCO2eq.	It is a product that must be manufactured under standards and is largely subject to the customer's decision. Therefore, it makes the % significance low.		
		Total GHG emissions categories 12 End-of-life treatment of sold products	tonCO2eq.	There is not enough data to report %Low significance.		
		Total GHG emissions categories 13 Downstream leased assets	tonCO2eq.	There is no such activity in the organization.		
		Total GHG emissions categories 14 Franchises	tonCO2eq.	There is no such activity in the organization.		
		Total GHG emissions categories 15 Investments	tonCO2eq.	There is no such activity in the organization.		
	GHG emissions intensity	Total revenue from specific operations. (QTC Energy)	MB.	807.55	926.22	1,188.76
		GHG emissions intensity (Scope 1+2)	tonCO2eq./ MB.	1.50	1.19	1.08
		GHG emissions intensity (Scope 1+2+3)	tonCO2eq./ MB.	2.28	1.91	1.63
	Reduction of GHG emissions	Total GHG emissions reduced as scope 1	tonCO2eq.	N/A	N/A	16.57
		Total GHG emissions reduced as scope 2	tonCO2eq.	N/A	N/A	134.04
		Total GHG emissions reduced as scope 3	tonCO2eq.	N/A	N/A	127.65
	Nitrogen oxides and other air emissions	Total Nox per year	tons	0.78	0.22	0.19
		Total TSP per year	tons	24.56	0.76	3.65
		Total Xylen per year	tons	0.69	3.75	1.91

Reported items			Unit	Year of operation		
				2022	2023	2024
Waste	Waste generated	Total weight of waste generated	tons	301.24	249.89	437.4
	Hazardous waste generation	Total weight of waste diverted from disposal	tons	43.39	70.24	105.75
		Recycled (offsite)	tons	30.08	32.49	48.69
		Incinerator with energy recovery (offsite)	tons	13.31	37.75	57.06
		Total weight of waste diverted to disposal	tons	2.09	2.07	0.64
		Incinerator without energy recovery (offsite)	tons	2.03	2.07	0.64
		Landfill (offsite)	tons	0.06	0	0
	Non-hazardous waste generation	Total weight of waste diverted from disposal (waste recycled)	tons	224.16	175.81	328.46
		Recycled (offsite)	tons	224.16	175.81	328.46
		Incinerator with energy recovery (offsite)	tons	0	0	0
		Total weight of waste diverted to disposal	tons	31.6	1.77	2.55
		Incinerator without energy recovery (offsite)	tons	31.03	1.7	1.85
		Landfill (offsite)	tons	0.57	0.07	0.7
Supplier Environmental Assessment	New suppliers that were screened using environmental criteria	Number of new suppliers that were screened using environmental criteria.	Supplier	N/A	19	82
		Percentage of new suppliers that were screened using environmental criteria.	% of new suppliers	N/A	63	100
	Negative environmental impacts in the supply chain and actions taken	Number of suppliers assessed for environmental impacts.	Supplier	N/A	0	0
		Number of suppliers identified as having significant actual and potential negative environment impacts.	Supplier	N/A	0	0
		Percentage of suppliers indentified as hvaing significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment.	% of suppliers	N/A	0	0
		Percentage of suppliers indentified as hvaing significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment.	% of suppliers	N/A	0	0

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. The assessment results of the key sustainability issues are as follows:

Environmentally Friendly Production Processes and Products

Risks

Laws or regulations related to environmental management and industrial factory control are continually modified and revised to elevate operators' standard of responsibility. Society/communities' awareness about environmental impacts from the operations of factories have increased. If the organization fails to give importance to legal compliance and causes environmental impacts, it may be at risk of having its licenses suspended or face protest by society/communities, which would damage its reputation.

Opportunities

Social/community awareness and the intensity of laws offer an opportunity for the organization to adapt itself by using tools and machines that reduce environmental impacts and improving production processes to be environmentally friendly.

Financial materiality

- Investment in improving production processes, tools, and machines and opting to use clean energy.
- Switching the raw materials or materials used in production to the environmentally friendly kinds with higher costs.
- Measurement and monitoring of environmental impacts.
- Promotion and development of environmentally friendly processes for partners in the supply chain.
- Promotes the sale of environmentally friendly products.
- Promotes the use of green labels.

Impact materiality

- Elevates the ability to produce quality products quickly and punctually to reduce waste and injuries/illnesses from work.
- Acceptance from communities.
- Elevates the partners' environmental management capabilities.

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:

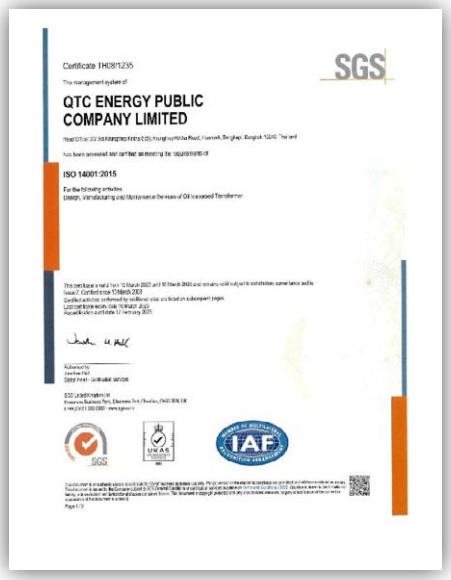
Objective :	1. To ensure control of pollution from production processes in compliance with legal requirements. 2. To develop work processes and production processes in order to reduce environmental impacts, directly and indirectly. 3. To promote environmentally friendly products. 4. To raise awareness among employees regarding environmental responsibility.
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
Goal 1:	Air quality measurements of TSP, Xylene, and NOx at ventilation stacks within the legal criteria.
Performance :	In 2024, the measurement of TSP, Xylene and NOx revealed levels within the legal requirements. The target was achieved
Goal 2:	Value of Green Label materials and equipment used increases by at least 5% per year.
Performance :	In 2024, green procurement value increased from 2023 by 32.93% for an increased value of 310,216.80 baht. The target was achieved.
Goal 3:	Confirmed reports of pollution impacts from activities of the Rayong factory.
Performance :	In 2024, the Company had no complaints from the community (certified by Map Yang Phon TAO). The target was achieved.
Goal 4:	100% of employees receive training and pass required environmental knowledge tests.
Performance :	In 2024, 99.44% of the operation was carried out. The target was not achieved.
Goal 5:	The quantitative share for the sale of “Super Low Loss” products exceeds 10% of all transformers delivered in the year.
Performance :	In 2024, SLL sales saw a quantitative growth of only 1.3%. The target was not achieved.
Goal 6:	Provide green spaces covering no less than 10% of the total area for all production factories.
Performance :	The QTC factory has a green space covering three rai or 10%. The Q Solar 1 power plant has a green space and forest covering 20 rai or 10%.
Goal 7:	Sponsor and maintain the “community forest” to promote biodiversity in the community.
Performance :	In 2024, the Company sponsored the Khamaeng Khong Man Community Forest for five years (from 2023-2029).

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:

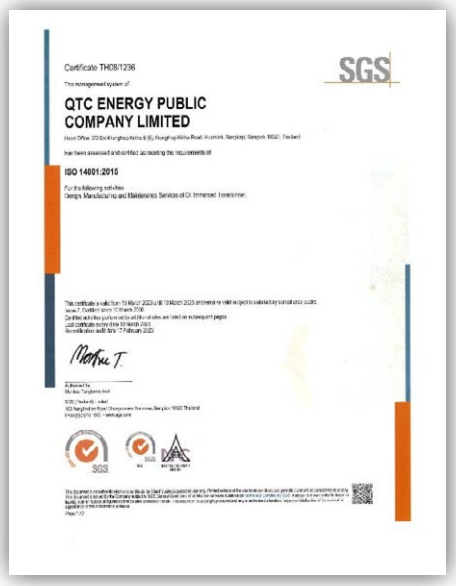
https://qtc-energy.com/th/energy-policy/


Certificate TH08/1235

SGS

QTC ENERGY PUBLIC COMPANY LIMITED

ISO 14001:2015

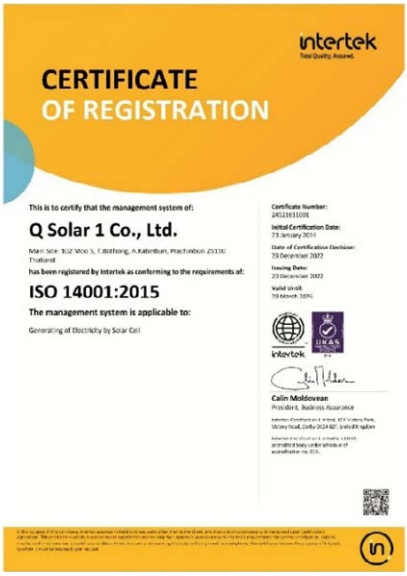

Certificate TH08/1236

SGS

QTC ENERGY PUBLIC COMPANY LIMITED

ISO 14001:2015

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


intertek

CERTIFICATE OF REGISTRATION

This is to certify that the management system of:

Q Solar 1 Co., Ltd.

has been registered by Intertek as conforming to the requirements of:

ISO 14001:2015

The management system is applicable to:

Generating of Electricity by Solar Cell

Calin Moldovean

President, Business Assurance

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 the temperatures 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 and not released into public waterways. The Bangkok office has a standard aerated wastewater treatment system with aerators that are tested regularly. 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 (2022-2024)

Tested Parameters	Test Results						Standard	Unit
	2022		2023		2024			
	06/06/2022	03/10/2022	25/05/2023	15/11/2023	20/05/67	30/10/67		
BOD_5	7	5	2.5	8.8	11.4	10.1	20	mg/l
Oil and Grease	4.0	Not Detected	<3.0	<3.0	<3.0	<3.0	5	mg/l
PH	7.23	7.16	6.6	7.6	6.4	7.0	5.5-9.0	-
Sulfides	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	mg/l as H_2S
Suspended Solids	45	19	33	30	20	20	50	mg/l
Temperature	32	30	31	31	31	31	40	°C
Total Dissolved Solids	Not Detected	Not Detected	207	57	55	53	3000	mg/l
Total Kjeldahl Nitrogen	Not Detected	1.3	<5	<5	<5	<5	100	mg/l as H_3S

Table Showing QTC Energy's Bangkok Office Wastewater Quality Test Results at the Final Point (2022-2024)

Tested Parameters	Test Results						Standard	Unit
	1/2022		1/2023		1/2024			
	30/05/2022	06/10/2022	25/05/2023	16/11/2023	24/05/2024	29/10/2024		
BOD_5	4	3	8.5	10.1	9.1	10.9	40	mg/l
Oil and Grease	Not Detected	Not Detected	<3.0	<3.0	<3.0	<3.0	20	mg/l
PH		6.93	7.1	7.0	7.0	6.5	5.0-9.0	-
Sulfides	Not Detected	0.6	<0.5	0.59	0.68	<0.5	3	mg/l as H_2S
Suspended Solids	10	Not Detected	6	9	21	22	50	mg/l
Temperature	30	29	31	30	30	30	N/R	°C
Total Dissolved Solids	350	486	526*	374	696*	506	1300	mg/l
Total Kjeldahl Nitrogen	5.9	2	26	30	21	25	40	mg/l as H_3S

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 the services of Smile Laboratory Company Limited, Private Analytical Laboratory Registration No. Wor. 286.

Table Showing Wastewater Quality Test Results of Q Solar 1 (2021-2024)

Tested Areas	Tested Parameters	Test Results			Standard Scores	Unit
		2022	2023	2024		
		21/7/2022	20/7/2023	25/6/2024		
Wastewater from Water System	BOD_5	7	<2	<2	20	mg/l
	Oil and Grease	ND.	<5	ND.	5	mg/l
	PH	7.3	7.1	7.5	5.5-9.0	-
	COD	<40	<40	54	120	mg/l
	Suspended Solids	13	8	<2.5	50	mg/l
Wastewater from the Lodgings' Cesspool	BOD_5	6	<2	<2	20	mg/l
	Oil and Grease	<5	<5	<5	5	mg/l
	PH	7.2	7.5	7.5	5.5-9.0	-
	COD	<40	<40	<40	120	mg/l
	Suspended Solids	<2.5	5	49	50	mg/l
Wastewater from the Office Building's Cesspool	BOD_5	<2	<2	<2	20	mg/l
	Oil and Grease	<5	Not Detected	Not Detected	5	mg/l
	PH	7.1	6.9	7.3	5.5-9.0	-
	COD	<40	<40	<40	120	mg/l
		13	7	<2.5	50	mg/l

The results of water quality measurement before releasing to the public passed the legal criteria.

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 (2022-2024)

Area	Parameters	Test Results						Standard	Unit
		2022		2023		2024			
		06-06-22	3-10-22	26-05-23	8-11-23	10-05-24	11-11-24		
Wood Cutting Room Sawdust Vacuuming Duct	Particulate	0.39	0.46	1.00	0.50	0.10	0.10	400	mg/m³
Spray Booth Stacks	Particulate	14.7	2.36	0.3	0.9	4.0	6.8	400	mg/m³
	Xylene	Not Detected	Not Detected	0.81	1.29	1.11	<0.47	200	ppm
MC 139 Factory 6	Total VOCs	6.75	110.0	2.7	8.37	9.82	9.97	-	ppm
Spray Booth Stacks	Particulate	1.22	0.49	0.4	1.0	2.7	11.7	400	mg/m³
MC 199 Factory 6	Total VOCs	112	70.5	3.16	105.0	7.07	5.45	-	ppm
	Xylene	Not Detected	0.51	1.96	1.63	1.53	1.04	200	ppm
Spray Booth Stacks	Particulate	0.59	7.95	0.5	0.7	1.4	0.5	400	mg/m³
	Xylene	Not Detected	Not Detected	<0.47	<0.47	<0.47	<0.47	200	ppm
Spray (Installation)	Total VOCs	94.0	70.0	4.54	179.0	2.75	3.45	-	ppm
Plasma Cutter Stacks	Particulate	61.3		5.3	7.7	17.2	0.8	400	mg/m³
	Oxide of Nitrogen as Nitrogen Dioxide	6		3.5	<1	2.2	<1	-	ppm
Laser Cutter Stacks, Factory 4	Particulate	7.23	4.70	2.50	4.0	6.8	0.8	400	mg/m³
	Oxide of Nitrogen as Nitrogen Dioxide	<1	Not Detected	<1.0	<1.0	1.7	<1.0	-	ppm
Oven Stacks (Vacuum)	Oil Mist	0.34	438	1.88	1.18	1.20	0.61	-	mg/m³
	Oxide of Nitrogen as Nitrogen Dioxide	Not Detected	Not Detected	<1.0	<1.0	<1.0	<1.0	200	ppm
Oven Stacks (Transformer Repair)	Oil Mist	78.80	96.00	0.65	0.36	0.65	0.51	-	mg/m³
	Xylene	Not Detected	Not Detected	<0.47	<0.47	<0.47	<0.47	200	ppm
	Oxide of Nitrogen as Nitrogen Dioxide	<1	Not Detected	1.1	<1	2.2	<1	200	ppm
Transformer Moisture Vacuuming Stacks	Oil Mist	0.27	0.41	0.59	0.59	1.28	0.53	-	mg/m³
Power	Oxide of Nitrogen as Nitrogen Dioxide	Not Detected	Not Detected	3.1	<1	<1	<1	200	ppm

Remarks: Q Solar 1 had no activities that caused air pollution.

Table Summarizing Comparisons of Test Results for Xylene, TSP, and Nox in the Air (Air Stacks) Converted into Tons/Year for QTC Energy (2022-2024)

Report Topic	2022			2023			2024		
	Amount	Measurement Unit	Unit Converted to Tons/Year	Amount	Measurement Unit	Unit Converted to Tons/Year	Amount	Measurement Unit	Unit Converted to Tons/Year
1. Test Results for Xylene in the Air	0.26	ppm	0.69	3.79	ppm	3.75	3.02	ppm	1.91
2. Test Results for TSP in the Air	50.70	mg/m3	24.56	12.4	mg/m3	0.76	26.45	mg/m3	3.65
3. Test Results for Nox in the Air	4	ppm	0.78	7.35	ppm	0.22	6.55	ppm	0.19

The air quality test results showed that the production processes had xylene, TSP, and Nox levels within the legal criteria.

Preservation of Biodiversity

QTC's manufacturing factories are located in industrial zones (purple) far from natural water sources and forests. Based on the assessment of impacts on biodiversity in production processes, no significant issues were found. Nevertheless, QTC gives importance to the preservation of biodiversity in the areas where the factories are located, because it understands well that the unceasing consumption of natural resources by humans plays a part in the loss of biodiversity. The loss of balance in nature will result in climate change. Therefore, QTC recognizes biodiversity preservation methods that can be implemented according to the organization's contexts. These include reducing the use of plastic by promoting and giving out cloth bags in place of plastic, sorting waste for proper disposal, using resources efficiently, increasing green areas by growing trees, and allocating a budget to sponsor the rehabilitation of community forests to preserve biodiversity and nature sustainably in the contexts of QTC.

"Forest in the Factory"

คQTC has provided a green area of about three rai out of the total 30 rai of land, or 10%, to grow a mixed deciduous forest and commercial trees sine 2013 to maintain soil moisture, hold groundwater, and serve as a food source and habitat for small animals and birds, creating a small ecosystem within the Forest in the Factory. Moreover, the forest can also serve as a place to store greenhouse gases.

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

"Sufficiency Agricultural Garden and Forest" at Q Solar 1 Power Plant

The area covers 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 according to Sufficiency Economy Philosophy guidelines. Currently, soil conditions have been restored to fertility. Furthermore, from the restoration of the area to support future business expansion, the power plant still has more areas for growing trees to provide large shade trees and absorb carbon dioxide. Hence, the "Grow a Forest, Reduce Global Warming" activity was held where up to 30 volunteers planted 555 trees (Siamese rosewood, Burma padauk, makha, teak) in a two-rai area on 14 September 2024.

Images of the Agricultural Garden and Forestation Activity on 14 September 2024

"Ban Khamaeng Khong Man" Community Forest

An ongoing project from 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". In 2024, the Company went onsite to follow up on the forest conditions and provide a forest maintenance fund of 10,000 baht to the Forest Committee of the Ban Khamaeng Khong Man community for maintaining, repairing, fertilizing, and watering the trees during the dry season. On 14 June 2024, dead trees were replaced and the trees were fertilized and weeded to remove groundcovers that would inhibit tree growth. A total budget of 100,097 baht was spent on the project.

Image of Tree Replacement and Maintenance for 2024 (Year 2)

Green Procurement

Table with Summary of Green Procurement Value in 2021-2024

Item	Trademark	Green Procurement Value			
		2021	2022	2023	2024
70-Gram Copying Paper	Shih-Tzu	-	11,008.67	19,724.85	15,431.55
70-Gram Copying Paper	One Green	48,956.50	83,990.83	22,955.00	51,175.00
Eraser Product, Model ZL102-W	Pentel	3,800.64	4,205.04	3,873.61	3,410.64
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	616,076.72
Rented Copying Machines	Fuji Xerox	73,435.00	64,544.42	234,973.77	371,062.83
Cool Mode Clothing PCF#5003 POIN-TEL	Cool mode	-	-	211,500.00	169,200.00
Roll Tissue Paper	BJC/Kim soft	-	-	-	25822.70
Total Value		621,587.65	747,390.93	941,962.94	1,252,179.47

Green Procurement Value in 2024 increased from 2023 by 32.93% or 310,216.80 baht.

Environmentally Friendly Products

"Super Low Loss Transformer"

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 2024, super low loss (SLL) transformer sales amounted to 33 million baht, an increase from 2023 by 38%, accounting for 3% of the value of all transformer sales and about 1.3% of the total number of transformers delivered in 2024, which is up to 8.7% lower than the target. 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. Additionally, the Company continues to promote SLL transformer sales consistently, which remains a priority of the Company in the short and long term.

Value for QTC: Extra Income, Make a Difference

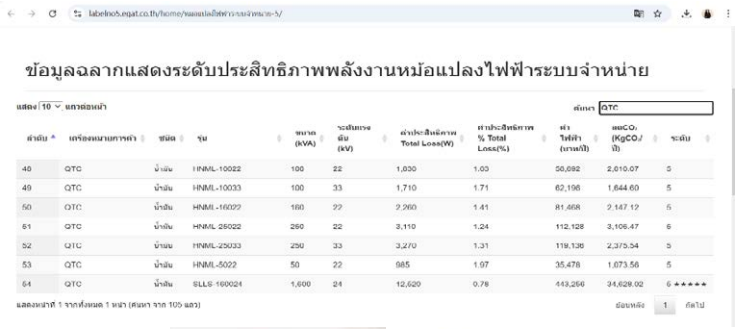
Year	Quantity (EA)	Sales Value (Million baht)	%Growth
2018	22	11	0
2019	29	22	100%
2020	24	16	-27%
2021	442	79	394%
2022	252	37	-53%
2023	22	24	-35%
2024	33	33	38%

Value for the Environment: GHG Emissions Reduced by 40%

Year	GHG emissions of TR.STD ($tonCO_2eq.$)	GHG emissions of SLL. ($tonCO_2eq.$)	Diff. GHG emissions ($tonCO_2eq.$)
2018	246.2596	210.145	36.1146
2019	369.5089	210.145	159.3639
2020	289.6507	164.3413	125.3094
2021	1105.0136	664.5637	440.4499
2022	620.0892	329.2547616	290.8345
2023	433.7612	198.2605	235.5007
2024	688.2637	334.2406	354.0231

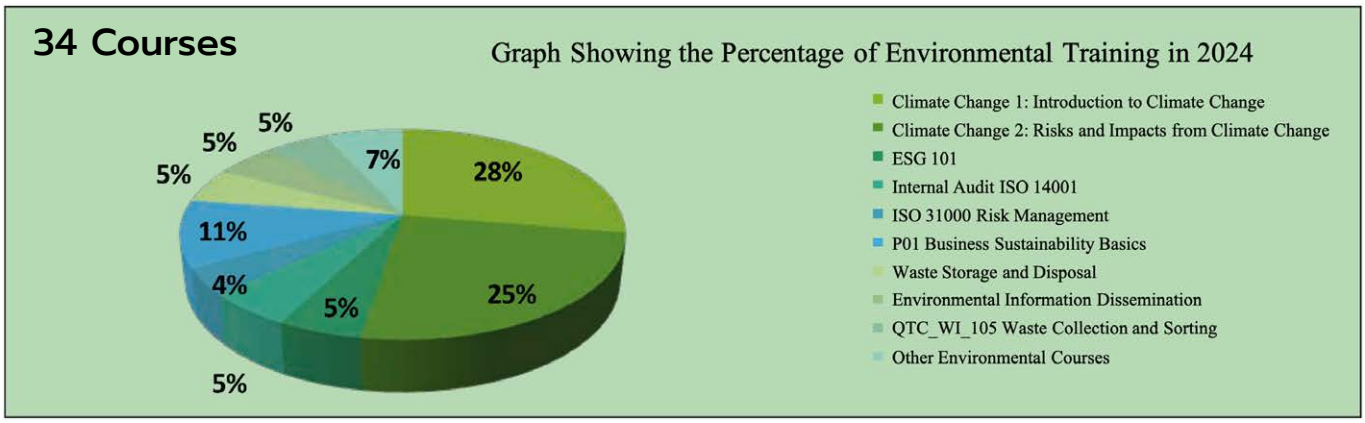
Value for Customers: ***With unique properties, super low loss transformers (Tr.SLL.) can reduce energy loss in the steel core by as much as 70% when compared to standard transformers, thereby saving electricity cost by 30% and reaching***

Transformers with Energy-saving Label No. 5



In 2024, the Company applied for the Energy-saving Label No. 5 standard certification from the Electricity Generating Authority of Thailand (EGAT) for seven transformer models under the Energy-saving Label No. 5 Project to promote and optimize energy consumption and environmental conservation, reduce CO2 emissions, transition to clean energy, and achieve carbon neutrality according to national goals. Miss Suanya Nutchaphan, Manager of Government Sales, represented the Company in accepting the Energy-saving Label No. 5 award from Dr. Prasert Sinsukprasert, Permanent Secretary of the Ministry of Energy, and Mr. Thepparat Theppitak, Director of EGAT, at the EGAT Head Office in Nonthaburi.

Promoting Education to Raise Environmental Consciousness



In 2024, the Company established a total of 34 courses for environmental knowledge development, 100% of which were provided to employees of all levels. The courses included classrooms, morning talks, and online courses; 99.44% of employees received training, and 19% of employees have not received training in the Climate Change Course. The Company plans to train the remaining employees to achieve 100% training in 2025.

Certificate Showing QTC Did Not Receive Environmental Complaints from the Community in 2024

ที่ รย ๗๒๔๐๔/๔๙

ที่ทำการองค์การบริหารส่วนตำบลมาบยางพร
ถนนปลวกแดง-ห้วยปราบ รย ๒๑๑๔๐

๑๔ มกราคม ๒๕๖๘

เรื่อง ข้อร้องเรียนด้านสิ่งแวดล้อม

เรียน กรรมการ/ผู้จัดการ บริษัท คิวทีซี เอนเนอร์ยี่ จำกัด (มหาชน)

ตามที่บริษัท คิวทีซี เอนเนอร์ยี่ จำกัด (มหาชน) ใบอนุญาตประกอบกิจการเลขที่ จ ๓๗๑-๑/๔๐ รย ดำเนินกิจการเกี่ยวกับการผลิตหม้อแปลงไฟฟ้า ตั้งอยู่เลขที่ ๑๔๙ หมู่ที่ ๒ ตำบลมาบยางพร อำเภอปลวกแดง จังหวัดระยอง ได้สอบถามข้อมูลร้องเรียนเกี่ยวกับบริษัทฯ ระหว่างเดือนกรกฎาคม - ธันวาคม ๒๕๖๗ นั้น

ในการนี้ องค์การบริหารส่วนตำบลมาบยางพร ได้ตรวจสอบข้อมูลการรับเรื่องร้องเรียนจากชุมชนรอบข้างหรือผู้เกี่ยวข้อง ตั้งแต่วันที่ ๑ มกราคม ๒๕๖๗ จนถึง วันที่ ๓๑ ธันวาคม ๒๕๖๗ พบว่าไม่มีข้อร้องเรียนที่เกิดจากการดำเนินกิจการของ บริษัท คิวทีซี เอนเนอร์ยี่ จำกัด (มหาชน)

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายรุ่งเพชร กำเหนิดทอง)
รองนายกองค์การบริหารส่วนตำบล ปฏิบัติราชการแทน
นายกองค์การบริหารส่วนตำบลมาบยางพร

ฝ่ายบริหารงานสาธารณสุข
กองสาธารณสุขและสิ่งแวดล้อม
โทร. ๐ ๓๘๐๒ ๖๘๒๘ ต่อ ๑๑๕

"ยึดมั่นธรรมาภิบาล บริการเพื่อประชาชน"

Management of Waste and Scrap Material from Production

The Company manages its waste in compliance with the regulations by the Department of Industrial Works (DIW) and has established its practices as policies. Additionally, the Company monitors and supervises operations to ensure compliance with laws, standards, guidelines, policies, goals, and protocols of the Company by reviewing its efficiency and effectiveness every year in addition to preparing reports for government agencies and disclosing information to stakeholders transparently and continually.

The Company is committed to managing hazardous and non-hazardous waste by adhering to the 3Rs (REDUCE, REUSE, and RECYCLE) to optimize resource consumption, ensure efficiency, and minimize waste. The assessment results of the key sustainability topics are as follows:

Management of Waste and Scrap Materials from Production

Risks

Laws or regulations related to the management of industrial factory waste are constantly modified and revised to elevate the standard of responsibility of the parties who generate, transport, or dispose of waste to raise awareness and care about environmental impacts among people in society/communities. Online social media are quick and often provide unclear facts. If the organization does not give importance to legal compliance or neglects to control and ensure proper waste transportation or disposal, it may be at risk of damaging its reputation, having its business licenses suspended, or having to pay legal fines.

Opportunities

Good waste management using the 3Rs principle can turn waste that would require payment for disposal into income for the organization in addition to reducing environmental impacts.

Financial materiality

- Investment in improvements to the production processes to reduce waste and optimize resource consumption.
- Sorting waste according to the 3Rs turns expenses into income.
- Responsibility for products in providing disposal services after the end of the products' useful life.

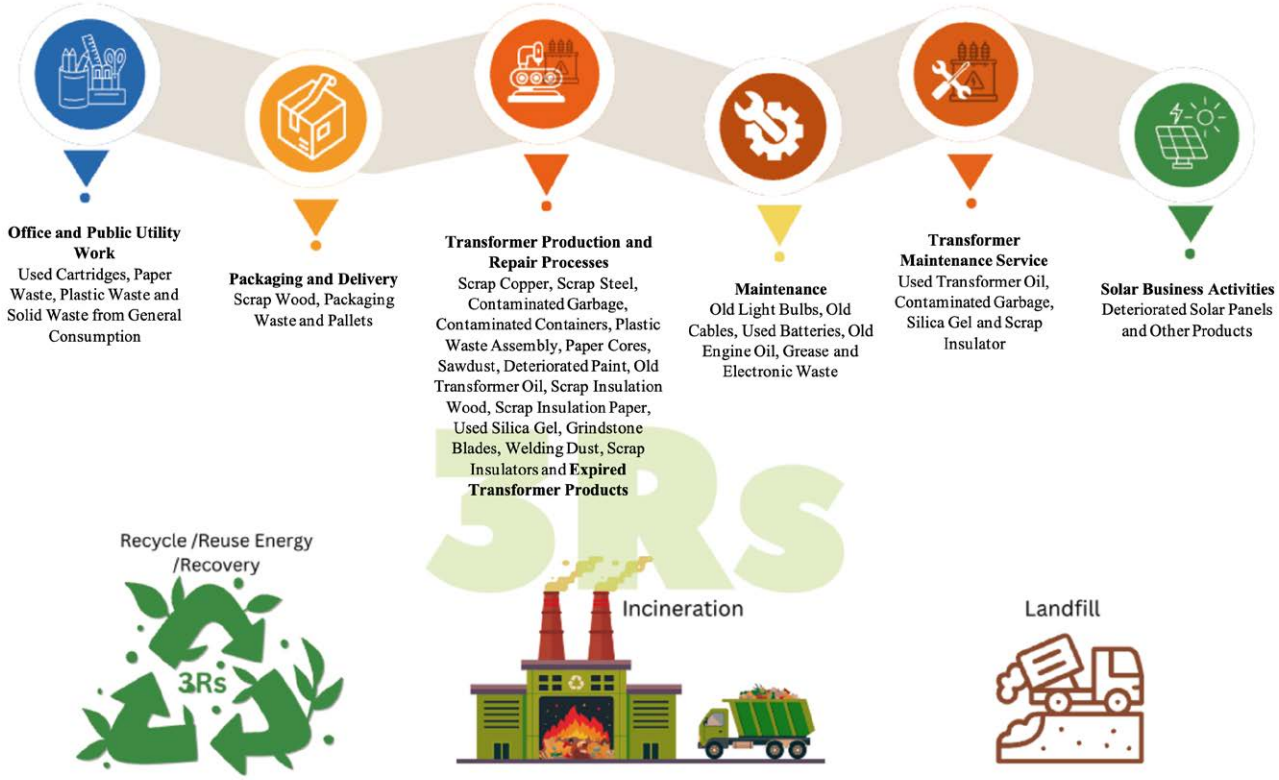
Impact materiality

- Reducing GHG emissions from landfills and incineration.
- Achieving the zero-landfill goal.

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.
Goal 1:	Hazardous waste created in the production process does not exceed the base year of 2022 by more than 0.01 tons/tons of production.
Performance :	The amount of hazardous waste created was 0.02 ton/tons of production, which is higher than the base year. This goal is not achieved.
Goal 2:	Create a green culture by managing disused materials using the 3Rs to achieve the zero waste to landfill target (non-hazardous waste).
Performance :	700 kg of insulators, which are legally exempt items, were buried. The target was achieved.
Goal 3:	Complaints or negative news about improper disposal or dumping of hazardous waste from factories.
Performance :	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 2024.

List of operators of collection, transportation, treatment and disposal of waste or unused materials in 2024

1. **Akki Prakarn Company Limited (Public Company)**
   - Collection and disposal: empty spray cans, lead and copper contaminated water, deteriorated solar panels, deteriorated paint (used), used grease, used printer cartridges, oil-contaminated water, oil filters, grinding wheel scraps, dust from welding/grinding/cutting work
   - Disposal method: 075 (Incinerate in a specific incinerator for hazardous waste)
   - Transporter: Akki Prakarn Company Limited (Public Company)
2. **Eastern Seaboard Environmental Complex Company Limited**
   - Collection and disposal: Contaminated Garbage, Contaminated Container, Used Grease, Empty Spray Cans, Expired Light Bulbs, Electronic Was Ceramic Cup, Used Battery
   - Disposal method: 042 (Mixed fuel) 049 (Reuse by other methods) 071 (Landfill according to sanitary principles only for non-hazardous waste)
   - Transporter: Eastern Seaboard Environmental Complex Co., Ltd.
3. **Thongwatana Waste Management Co., Ltd.**
   - Collection and disposal: Contaminated Container, Electrical wires, Scrap paper, Scrap wood, Scrap plastic pieces, Paper cores
   - Disposal method: 01 (Separate types for resale) 049 (Reuse by other methods)
   - Transporter: Thongwatana Waste Management Co., Ltd.
4. **Chok Sahapat and Supply Co., Ltd.**
   - Collection and disposal: Scrap glass (Glass Scrap), Scrap paper, Scrap wood, Scrap plastic, Scrap aluminum, Scrap copper, Scrap iron, Scrap stainless steel, Electrical wires
   - Disposal method: 01 (Separate for resale)
   - Transporter: Chok Sahapat and Supply Co., Ltd.
5. **Traiphaisan Factory Co., Ltd.**
   - Collection and disposal: Scrap paper, Paper core, Plastic scrap, Aluminum scrap, Copper scrap, Iron scrap, Stainless scrap
   - Disposal method: Oll (Separate for resale)
   - Transporter: Traiphaisan Factory Co., Ltd.
6. **N & J Inter Trade (555) Co., Ltd.**
   - Collection and disposal: Use Oil (Used transformer oil without PCB components), Used lubricating oil
   - Disposal method: 042 (Mixed fuel)
   - Transporter: N & J Inter Trade (555) Co., Ltd.
7. **Lydia Oil (Thailand) Co., Ltd.**
   - Collection and disposal: Use Oil (Used transformer oil without PCB components), Used lubricating oil
   - Disposal method: 042 (mixed fuel) 049 (recycled by other methods)
   - Transporter: Lydia Oil (Thailand) Co., Ltd.
8. **KPS Recycle Co., Ltd.**
   - Collection and disposal: scrap paper, scrap wood, scrap plastic, scrap aluminum, scrap copper, scrap iron, scrap stainless steel, wires
   - Disposal method: 01 (sorting for resale)
   - Transporter: KPS Recycle Co., Ltd.
9. **AK Mechanical and Recycling Co., Ltd.**
   - Collection and disposal: scrap plastic, Contaminate Container, Contaminated Garbage, deteriorated paint (used), used grease, oil-contaminated water, oil filters
   - Disposal method: 042 (mixed fuel)
   - Transporter: AK Mechanical and Recycling Co., Ltd.

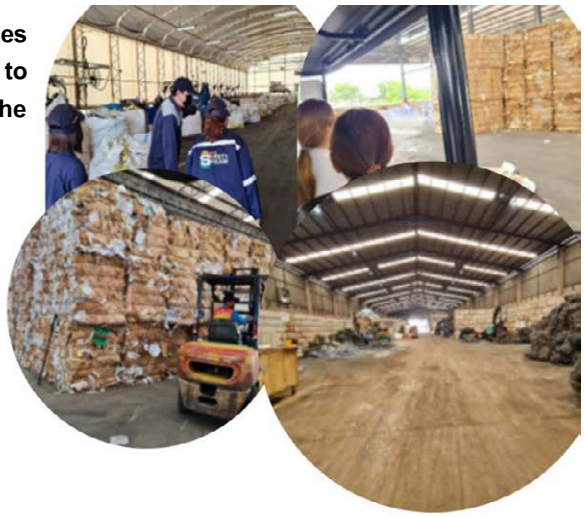
Transportation and disposal of waste (garbage) is done in Thailand and not transported for disposal abroad.

Operations of the Company and Disposal Service Providers in 2024 are compliant with legal requirements.

Checking and Monitoring Disposal Service Providers

In 2024, the Company inspected new two disposal company facilities onsite before adding them to the list of new disposal companies to ensure that the service providers operate in compliance with the law and their license.

1. **KI-Ecotech Co., Ltd.**
2. **KPS Recycle Co., Ltd.**



Performance

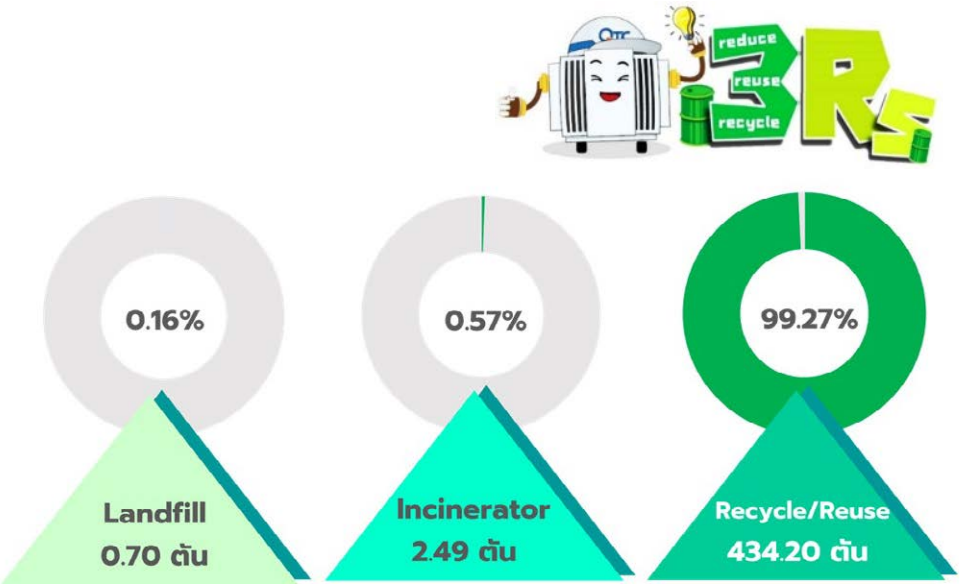
Table E1 – Volume of Disused Materials from Production in 2022-2024

List of Waste	Year of Operation		
	2022	2023	2024
Amount of Hazardous Waste (tons)			
Incineration in an Incinerator (tons)	2.03	2.07	0.64
Safe Burial in Landfills after Stabilization or Solidification (ton)	0.06	0	0
Reuse by Other Means (tons)	30.08	32.49	48.69
Used to Make Mixed Fuels (tons)	13.31	37.75	57.06
Total Amount of Hazardous Waste (tons)	45.48	72.31	106.39
Operating Expense (baht)	394,148.40	145,943.70	185,239.50
Income from Reusable Waste (baht)	111,700.00	645,238.00	672,929.96
Amount of Non-hazardous Waste (tons)			
Incineration in an Incinerator (tons)	31.03	1.70	1.85
Sanitary Burial in Landfills (tons)	0.57	0.07	0.70
Sort for Redistributions (tons)	224.16	175.81	328.46
Used to Make Mixed Fuels (tons)	0	0	0
Total Amount of Non-hazardous Waste (tons)	255.76	177.58	331.01
Operating Expense for Disposal (baht)	9,129.00	29,792.00	38,089.00
Income from Reusable Waste (baht)	13,241,559.09	5,275,981.53	11,635,453.75

Based on the improvement of the methods for sorting waste and categorizing disused materials, the Company was able to better dispose of the disused materials from the production process using the 3Rs, while also reducing the disposal of disused materials by incinerator. Compared to 2022, the Company was able to reduce the disposal of disused materials by incinerator in 2024 by 92.47%.

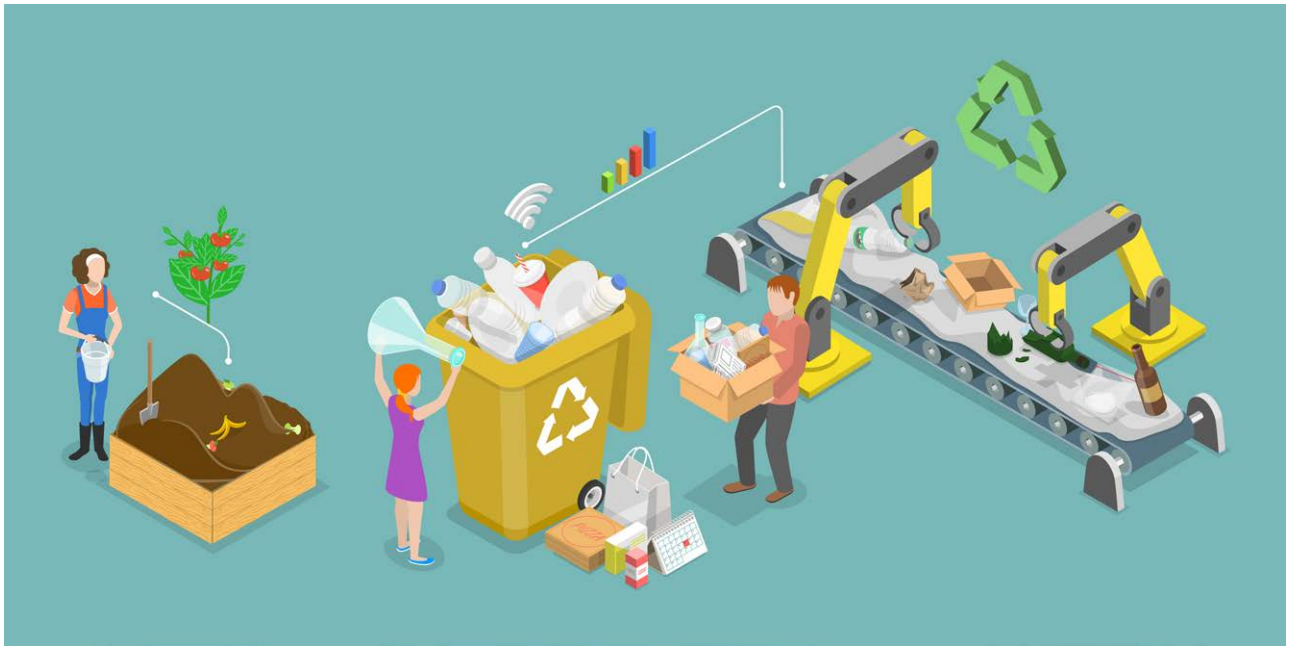
• Zero waste to Landfill

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 0.70 tons, or 0.16% 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 2024, the Company was able to achieve the “Zero to Landfill” goal while earning 11.6 million baht from the recycle/reuse sorting method.

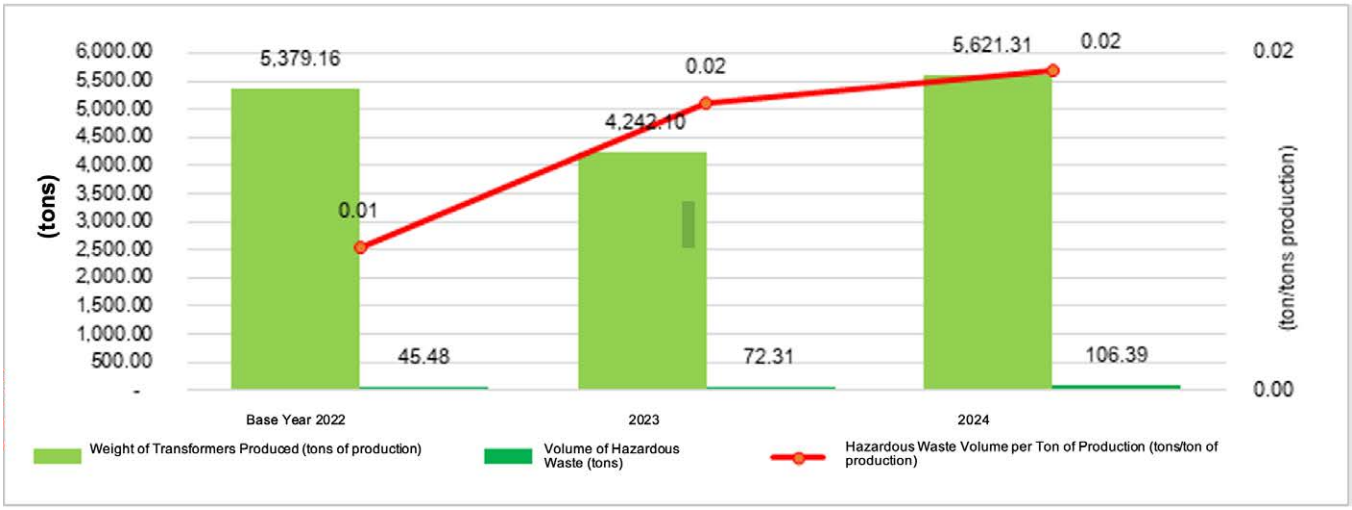


Waste Volume Per Production Unit

Table E2 Showing Generation of Disused Waste per Tons of Production

Description	Year of Operation		
	Base Year 2022	2023	2024
Weight of Transformers Manufactured (ton of production)	5,379.16	4,242.10	5,621.31
Total Waste (ton)	301.24	249.89	437.40
Hazardous Waste (ton)	45.48	72.31	106.39
Non-hazardous Waste (ton)	255.76	177.58	331.01
Total Waste per Tons of Production (tons/ton of production)	0.06	0.06	0.08
Hazardous Waste per Tons of Production (tons/ton of production)	0.01	0.02	0.02
Non-hazardous Waste per Tons of Production (tons/ton of production)	0.05	0.04	0.06

Graph E2 Showing Waste in Tons/Ton of Production



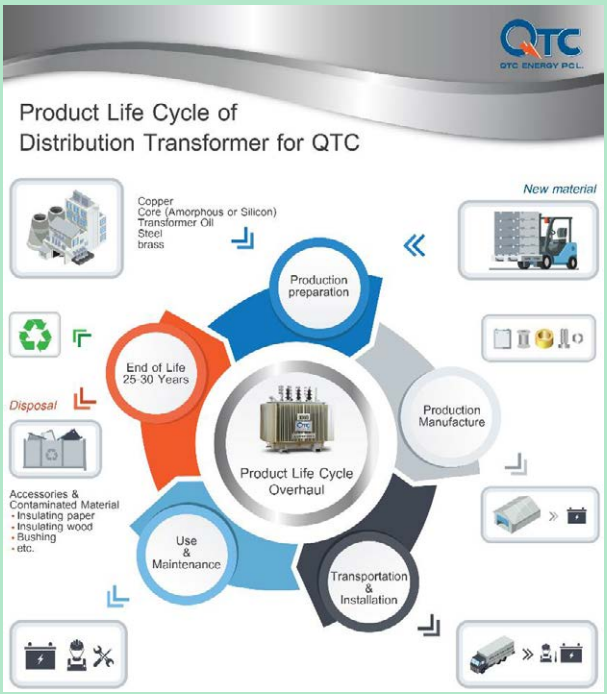
The performance in 2024 has a production volume of 5,621.31 tons of transformers, with waste generated in the process with production of 437.39 tons, accounting for 0.08 tons/ton of production (tontons production), 38.94% higher than the base year, with hazardous waste accounting for 0.02 tons/ton of production (ton/tons of production), higher than the base year, not achieving the target, and non-hazardous waste accounting for 0.06 tons/ton of production (ton/ions of production), with non-hazardous waste not sent for landfill disposal, achieving the Zero to Londfill target.

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 an 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 2024, 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, it is one of the countries most severely affected by climate change. 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. The assessment results of the key sustainability topics are as follows:

Climate Change

Risks

Global warming resulting from GHG generated by human activity, especially in the industrial sector, has caused countries around the world to issue measures to jointly achieve net zero emission goals to reduce the effects of climate change by elevating legal measures and regulations such as imposing carbon tax measures, green procurement requirements, or international trade measures, etc. these impact business adaptability as it requires increased financial costs to change production, transportation, and product development processes in order to reduce GHG emissions in addition to having to pay carbon taxes or buy carbon credit. Furthermore, the organization may face impacts on its reputation or trade barriers if it fails or is unable to comply with the terms of various laws or regulations related to business operations.

Opportunities

As a result of the efforts of each country and organization to achieve net zero emission goals, it is necessary to manage GHG throughout the value chain by increasing the use of clean energy, environmentally friendly products and services, etc. Therefore, this is an opportunity for the organization to improve its production processes, use clean technology, optimize energy and resource consumption, develop products and services, and expand the clean energy business which can meet customer needs.

Financial materiality

- Increase the proportion of clean energy consumption from solar rooftops to over 50%.
- Reduce the proportion of fossil energy consumption in combustion activities of combustion engines by over 50%.
- Investment in the clean energy business to diversity risks and promote financial stability.

Impact materiality

- Reduce GHG emissions in Scope 1, 2, and 3 by over 21% by 2028 and achieve net zero GHG emission by 2050.
- Create a good work environment, which affects health and safety.
- Elevate the cooperation of stakeholders in the supply chain in GHG management.

QTC recognizes well the potential risks and opportunities in terms of finances and impacts that affect the organization itself as well as related stakeholders. As a part of Thai society and an organization contributing to GHG emissions in the atmosphere, albeit a small part, QTC gives importance to this issue and is making efforts to reduce GHG emissions through GHG reduction projects. Additionally, QTC will use the opportunity to expand its market and create sustainable growth. Hence, it has established the following operational objectives and goals:

Objective :	1. To maintain global balance, reduce global warming, and reduce the severity of natural impacts from climate change. 2. To create trade opportunities and enhance competitiveness in business. 3. To drive the stakeholders in the value chain to join in reducing GHG emissions.
Management :	Environmental management with ISO14001 and ISO14064-3 standards, corporate footprint assessment guidelines by the Thailand Greenhouse Gas Management Organization (Public Organization), and net-zero GHG emission regulations and guidelines by the Thailand Greenhouse Gas Management Organization (Public Organization).
Project 1:	Pathway to Net Zero 5 Year
Goal :	Reduce GHG emissions in Scope 1, 2, and 3 by 2028 compared to Base Year 2022.
Performance :	In 2024, the accumulated GHG emissions in Scope 1, 2, and 3 compared to the base year was 7.14%. This amount of GHG emissions is more than the pathway by 226 tonCO2eq.
Project 2:	Carbon Neutrality
Goal 1:	Reduce the total GHG emissions-to-income proportions (tonCO2eq./million baht) by 5% per year.
Performance :	In 2024, the amount decreased from 2022 by 28.56%. The amount decreased from 2023 by 14.92%. (The target was achieved.)
Goal 2:	The amount of CO2 emissions in Scope 1, 2, and 3 is equal to the amount of CO2 sequestered by 2035.
Performance :	In 2024, CO2 emissions in Scope 1, 2, and 3 were equal to 1287 tonCO2eq. (To be offset by 2035.)
Project 3:	Net Zero Emissions
Goal :	Net zero GHG emissions in Scope 1, 2, and 3 by 2050.
Performance :	In 2024, GHG emissions in Scope 1, 2, and 3 were equal to 1935 tonCO2eq. (To be offset by 2035.)

QTC ENERGY PCL.

Carbon Neutrality & Net Zero Goal Achievement Plan

2022-2023

- Install 400kW solar rooftops; reduce electricity consumption in Scope 2 by 20%.
- Improve internal processes that involve burning to reduce greenhouse gas emission in Scope 1 by 10%.
- Improve waste management processes to reduce landfills and incineration in Scope 3.
- Promote Super Low Loss sales to reduce greenhouse gas in Scope 3.

2024 - 2527

- Change 25% of fuel vehicles to electric vehicles to reduce greenhouse gas emission in Scope 1.
- Improve internal processes that involve burning to reduce greenhouse gas emission in Scope 1 by 10%
- Install 117kW solar rooftops to reduce Phase-3 electricity consumption.
- Work with transportation operators to improve delivery processes to reduce greenhouse gas emission in Scope 3 by 20%.
- Conduct greenhouse gas absorption activities.
- Promote Super Low Loss sales to reduce greenhouse gas in Scope 3.
- Buy carbon credit if the performance exceeds the pathway.
- Install batteries to store electricity from solar rooftops for use at night.

2028

- Change 50% of fuel vehicles to electric vehicles.
- Install more solar rooftops if the carbon increases along with the organization's growth.
- Offset with carbon credit according to the pathway if unable to reduce GHG according to target.

Net Zero Pathway

2029-2034

- Change 70% of fuel vehicles to electric vehicles to reduce GHG emissions in Scopes 1 & 3.
- Change 100% of diesel vehicles to electric vehicles to reduce GHG emissions in Scopes 1 & 3.
- Conduct GHG absorption activities.
- Offset with carbon credit.

2035

- Change external transportation system to transportation using EVs by collaborating with external operators to reduce GHG in Scope 3.
- Conduct greenhouse gas absorption activities.
- Offset with carbon credit.
- Carbon Neutrality

Carbon Neutrality

2036-2049

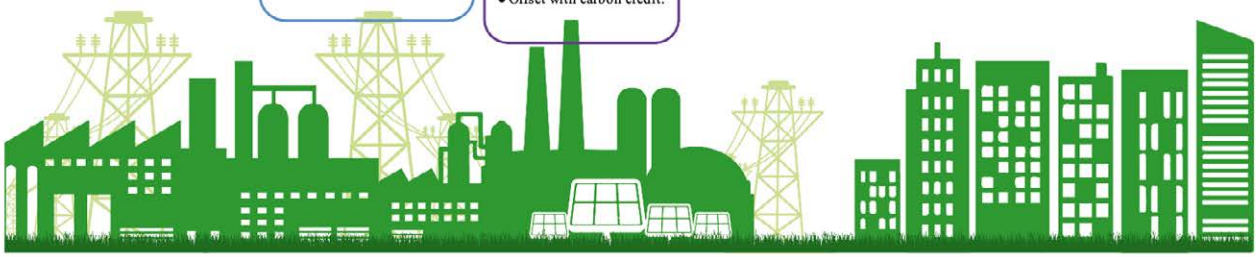
- Change 100% of fuel vehicles to electric vehicles to reduce greenhouse gas emission in Scope 1.
- Work with transportation operators to improve delivery processes to reduce greenhouse gas emission in Scope 3.
- Innovate raw materials used in production to reduce greenhouse gas emission in Scope 3.
- Work with producers of main raw materials to develop the production process to reduce greenhouse gas emission in Scope 3.
- Conduct greenhouse gas absorption activities.

2050

- Conduct greenhouse gas absorption activities.
- Offset with carbon credit. (Forest Project)
- **Net Zero**

Net Zero Emission

CO_2 N_2O SF_6



Statement on Changes in GHG Emissions Data

ฎIn 2024, the Company joined the project to "drive industries in the EEC toward achieving net-zero goals" with the objective to develop skills, knowledge, and abilities to manage the organization's GHG efficiently, to increase technical knowledge and skills in setting net-zero goals, and to develop techniques for the organization's carbon offset steps. The Company received funding from the Thailand Greenhouse Gas Management Organization (Public Organization) (TGO) and the project's operational period was from February-September 2024.

From participation in the abovementioned project, the Company has reviewed the scope of reporting and the assessment criteria for the significance of activity categories in Scope 3, resulting in the following changes in GHG emissions data:

1. The original scope of reporting including the scope of activities in the solar business and the transformer business. This has been revised and only the scope of reporting for specific activities in the transformer business of QTC Energy Co., LTD. has been included. As a result, the GHG emissions for 2022 and 2023 have been recalculated with the activities in the solar business being excluded.

2. The significance assessment criteria for the activity categories in Scope 3 have been reviewed. Emphasis was put on the significance of the organization's role in significantly reducing GHG emissions in each category, resulting in the following revisions of the criteria:

   a. The assessment weight for the topic Magnitude was reduced from 50% to 30%.

   b. The assessment weight for the topic Level of Influence (Reduction of Potential) was increased from 30% to 50%.

   The changes in the aforementioned criteria resulted in significant activities in Scope 3 being reduced from eight categories (namely, Purchased Goods and Service, Fuel- and Energy-related Activities, Upstream Transportation and Distribution, Waste Generated in Operations, Business Travel, Employee Commuting, Downstream Transportation and Distribution, and Use of Sold Products) to five categories (namely, Fuel- and Energy-related Activities, Upstream Transportation and Distribution, Waste Generated in Operations, Employee Commuting, and Downstream Transportation and Distribution).

3. The GHG emissions in Base Year 2022 and 2023 were recalculated using the scope of reporting in Section 1 and the significance assessment criteria in 2, resulting in different GHG emissions from the previously reported amounts. This is summarized in the following table:

Year of Operation Scope 1		ปริมาณ GHG (tonCO_2eq.)			
		Scope 2	Scope 3	2 ,1, and 3 Combined	
Original Calculation Results	Base Year 2022	315	904	574,693	575,912
	2023	351	762	602,997	604,110
New Calculation Results	Base Year 2022	305	904	631	1,840
	2023	340	762	670	1,772

4. The Company prepared a 5-year pathway to net zero plan using 2022 as the base year, 2024 as the pathway start year, and 2028 as the pathway end year.

5. The Company registered new corporate carbon footprint figures for 2022 and 2023 according to new calculations and canceled the original figures, in addition to registering its net-zero pathway. SGS (Thailand) Co., Ltd., audited, certified, and registered to apply for recertification by the TGO. The plan for and results from the pathway to net zero have been published on the website https://qtc-energy.com/th/net_zero_pathway/ .

Greenhouse Gas Emission Reduction

Implementation of the 5-year Pathway to Net Zero

QTC Energy Public Co., Ltd. gives importance to and recognizes its social and environmental responsibility and intends to establish GHG reduction goals consistent with the Paris Agreement which has goals to limit global warming to 1.5°C. The Company pledges to provide personnel and resources as necessary to carry out its plans or activities for reducing emissions or sequestering GHG from the organization in order to achieve the following goals:

1. Achieve net zero GHG emissions by 2050.
2. Achieve the 5-year net zero pathway goal by establishing GHG reduction targets in Scope 1, 2, and 3 to reduce GHG by 21% by 2028 compared to Base Year 2022 in addition to achieving carbon neutrality by 2035 and achieving net zero emissions by 2050, respectively.

Scope of Reporting

₩Consideration of greenhouse gas emission sources of QTC Energy Public Company Limited covering the area of the head office in Bangkok and the factory area in Rayong Province using the operational control approach.

Net Zero Pathway 5 Year

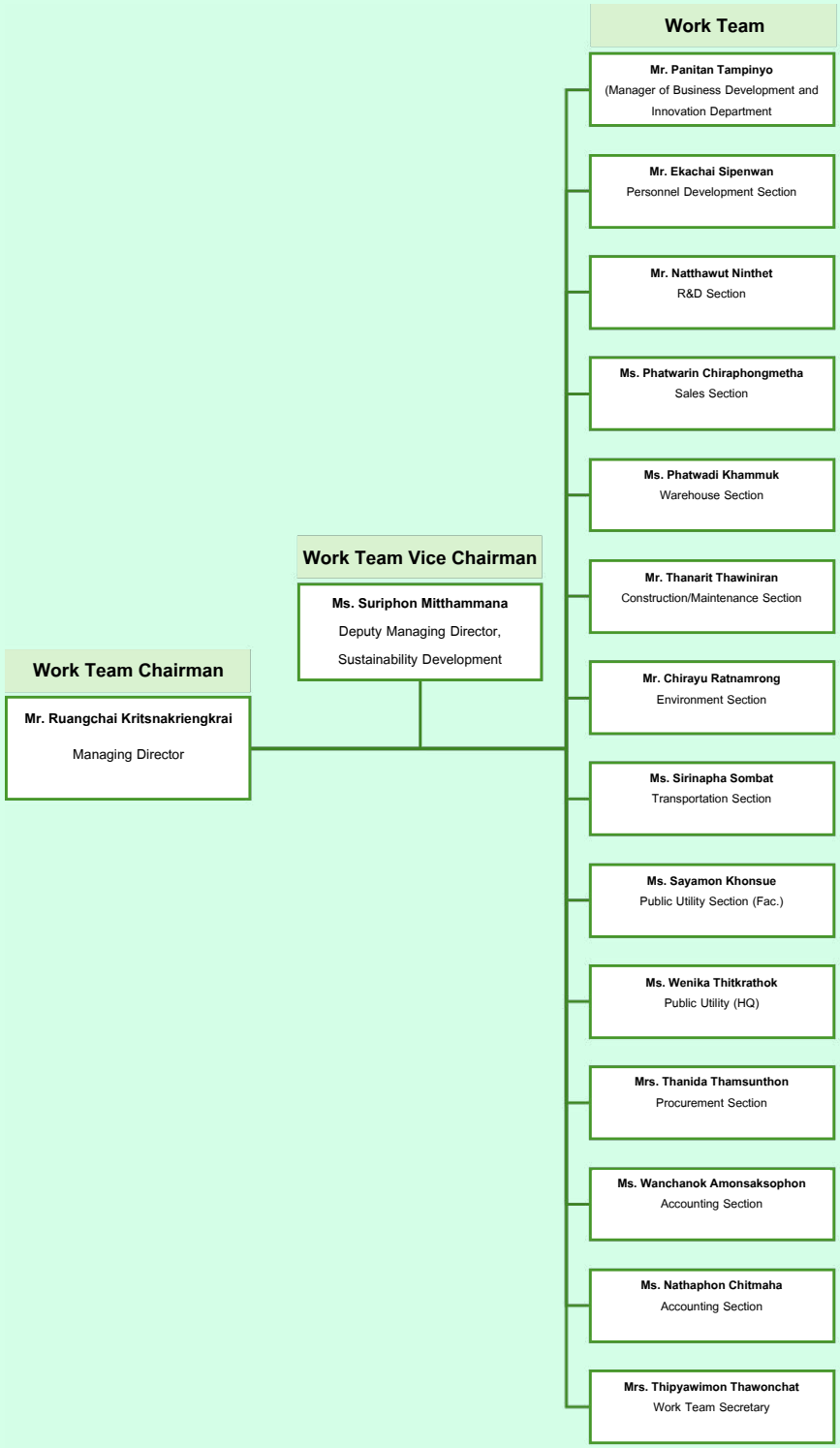
Goal: Reduce GHG in Scope 1, 2, and 3 by 21% by 2028 compared to Base Year 2022.

Amount of GHG Emission	Year of Operation						
	Base Year 2022	2023	2024 (Start of Pathway)	2025	2026	2027	2028
Category 1 (ton CO2eq.)	*304*		*284*	*271*	*261*	*250*	*240*
Category 2 (ton CO2eq.)	*904*		*839*	*807*	*775*	*743*	*710*
Category 3 (ton CO2eq.)	*631*		*586*	*563*	*541*	*518*	*496*
Total Results (Category 3+2+1) (ton CO2eq)	*1,840*		*1,709*	*1,642*	*1,576*	*1,511*	*1,446*
% of Accumulated Reduction Compared to Base Year (Compared to the Total Results)	**Reduce by %3.57 per year from Base Year**		***7.14%***	***10.71%***	***14.29%***	***17.86%***	***21.43%***

Strategies:

1. Increase the use of clean energy instead of fossil energy and improve processes to reduce GHG emissions.
2. Carbon Offset

Work Team for Managing the Pathway to Net Zero GHG (5 Years) for 2024-2028

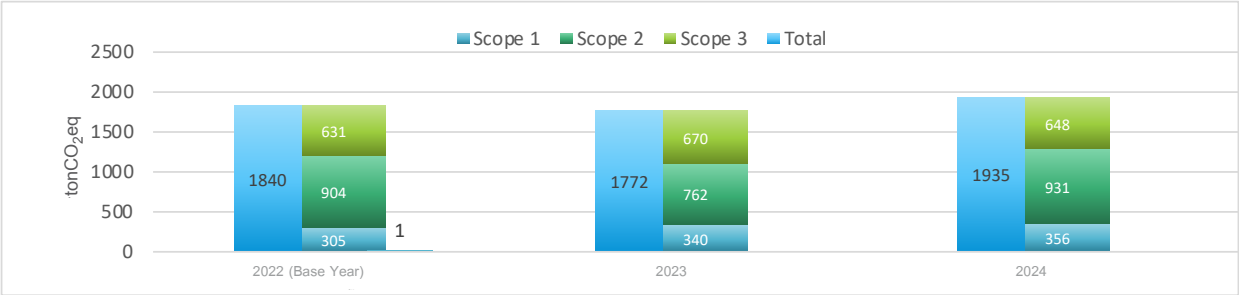


Duties of the Work Team

1. Compile GHG emission data and calculate the corporate GHG emissions as well as analyze the results compared to the base year.
2. Prepare work plans or activities for reducing emissions or sequestering GHG to be consistent with the goal to achieve carbon neutrality by 2035 and to achieve net zero by 2050.
3. Control and monitor operations for the work plans or activities for reducing emissions or sequestering GHG and report to the Board of Directors once per quarter.
4. Promote and raise awareness about the effects of climate change among employees and related stakeholders.
5. Integrate the work plans or activities for reducing emissions or sequestering GHG and raise awareness among employees so that they participate in the corporate sustainability culture (Quality of Details).
6. Submit reports on goals for auditing according to the criteria and terms established by the TGO.
7. Report the results of corporate GHG management operations to the public via the annual sustainability report.

GHG Emissions Compared to Base Year 2022

Amount of GHG Emissions			Year of Operation						
			2022 (Base Year)	2023	2024 (Pathway Start Year)	2025	2026	2027	2028
Scope 1	Total Direct GHG Emissions from Business Operations ($tonCO_2eq.$)		305	340	356				
Scope 2	Total Indirect GHG Emissions from Energy Consumption ($tonCO_2eq.$)		904	762	931				
Scope 3	Total Indirect GHG Emissions from Scope 3 (tonCO2eq.)		631	670	648				
	Category 1	Purchased goods and services	Not reported: The Company plays a very small role in reducing or sequestering GHG from upstream production. As a result, the significance % is low.						
	Category 2	Capital goods	Insufficient data for reporting.						
	Category 3	Fuel- and energy related activities	217	195	231				
	Category 4	Upstream transportation and distribution	128	150	127				
	Category 5	Waste generated in operations	68	44	40				
	Category 6	Business travel	Not reported: Land, water, air, and other types of travel for business have a low significance %.						
	Category 7	Employee commuting	32	40	50				
	Category 8	Upstream leased assets	Insignificant to the organization.						
	Category 9	Downstream transportation and distribution	185	240	200				
	Category 10	Processing of sold products	Unrelated to the organization since transformer products are used directly without having to be processed.						
	Category 11	Use of sold products	These products must be manufactured under standards and depend mainly on customer decisions. Therefore, the significance % is low.						
	Category 12	End-of-life treatment of sold products	Insufficient data for reporting and the significance % is low.						
	Category 13	Downstream leased assets	No such activity in the organization.						
	Category 14	Franchises	No such activity in the organization.						
	Category 15	Investments	No such activity in the organization.						
Total GHG Emissions in Scope 1 + 2 ($tonCO_2eq.$)			**1209**	**1102**	**1287**				
Total GHG Emissions in Scope 1 + 2 + 3 ($tonCO_2eq.$)			**1840**	**1772**	**1935**				



Graph Showing GHG Emissions Since Base Year 2022-2024

Certificate of Corporate GHG Emissions in 2024 by SGS (Thailand) Co., Ltd.

Projects for Reducing Greenhouse Gas Emissions

5-year GHG Emissions Reduction Project Plan

No.	Project	Expected GHG Volume Reduction (tCO2eq/Y)						
			2023	2024	2025	2026	2027	2029
1	140-kWp Solar Rooftop Installation Project (Phase 1)	-	116.67	115.86	115.04	114.22	113.41	112.59
2	117-kWp Solar Rooftop Installation Project (Phase 2)	-	96.21	95.54	94.86	94.19	93.52	92.84
3	117-kWp Solar Rooftop Installation Project (Phase 3)	-	-	40.78	97.18	96.49	95.81	95.12
4	Less Solar Lighting Project to Install Twenty 400W Solar Spotlights (Replace) for Outdoor Use	-	-	-	6.92	6.92	6.92	6.92
5	Replace Diesel Forklifts with Two 3-ton Electric Forklifts	-	4.55	9.11	13.66	13.66	13.66	13.66
6	Replace E20 Office Cars for Executives with Hybrid E20 Cars	-	-	17.09	17.09	17.09	17.09	17.09
7	Waste Sorting Project to Reduce Waste Disposal by Incinerators	-	-	57.73	57.73	57.73	57.73	57.73
8	Replace 100% of Benzene and Diesel Engines with EVs (Starting in 2029 and According to Replacement Schedule)	-	-	-	-	-	-	-
Total		-	217.44	336.09	402.48	400.30	398.13	395.95

Performance in 2024

Solar Rooftop Installation Project Phase 1, 2, and 3

Images of the Solar Rooftop Installation Project

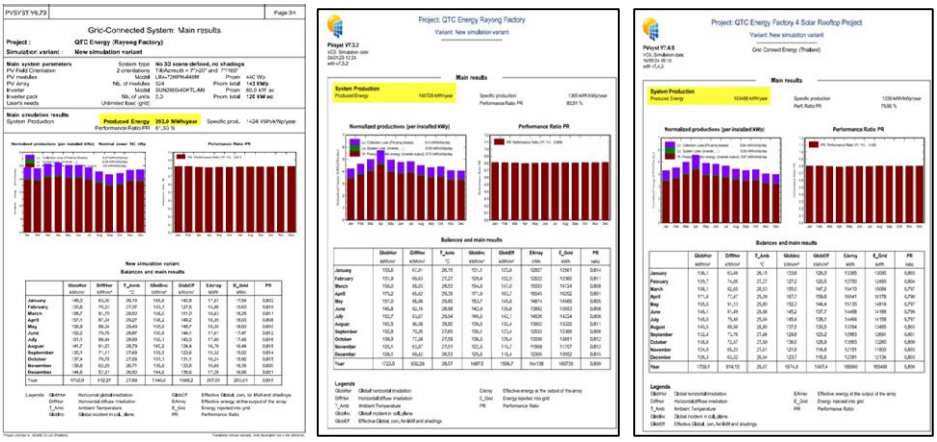


Image of Phase 1 and 2 Installation

Image of Phase 3 Installation

Performance:

1) Install all three phases of solar rooftops. Sizes: #1=140kW, #2=117kW, #3=117kW
2) The target was not achieved in 2024. The GHG emissions from electricity generation was reduced by 160.51 tonCO_2eq., which is lower than the expected amount of 91.66 tonCO_2eq. according to the pathway.

Table Showing the GHG Reduction Potential of the Solar Rooftop Installation Project

GHG Reduction Potential in 2024	GHG Emissions (tonCO2eq.)			
	Scope 1	Scope 2	Scope 3	Total
Expected Reduction Volume According to the Pathway	-	210.59	41.58	252.17
Actual Reduction Volume	-	134.04	26.47	160.51
Difference from the Operation	-	(76.55)	(15.11)	(91.66)

Cause Analysis:

1) Due to delays in Phase 3 of the Solar Rooftop Project, which was expected to begin generating electricity in June 2024 but faced operational obstacles, the trial electricity generation began in December 2024.
2) The pathway had set the electricity generation date calculation at 365 days. However, there were only 302 days of electricity generation in 2024, which was the reason the Company was unable to achieve the GHG emissions reduction target from this project.
3) The machine daytime work cycles were inconsistent with the electricity generation capabilities of the solar rooftop system. The machines stop working during the lunch break, while the solar system was able to generate electricity well during the same time. Since the electricity demand was lower than the electricity generation capacity, the system reduces the generation capacity to prevent backflow into the input lines.
4) An accident prevented electricity generation by the system for 11 days.

Guideline for Future Improvements :

1) Consider adjusting the machine work cycles to enable work during lunchtime for maximum electricity generation efficiency.
2) Consider increase solar rooftop installations along with battery installation to store electricity for use when electricity cannot be generated in order to reduce energy consumption from transmission lines by 2026-2025.
3) Increase safety inspections and inspect the system's function regularly according to the PM plan.

Project to Replace Diesel Forklifts with Two 3-ton Electric Forklifts

3-ton Electric Forklift

3.5-ton Electric Forklift

Performance:

1) Diesel forklifts were replaced with one -3ton electric forklift (in 2023) and one -3.5ton electric forklift (in 2024) and two -3ton forklifts were sold according to plan.
2) The target was not achieved. In 2024, only 8.27 tonCO_2eq. of GHG was reduced from replacing the forklifts with one -3 ton electric forklift and one -3.5 ton electric forklift, which is 0.38 ton CO_2eq. lower than the expected volume in the pathway.

Table Showing the GHG Reduction Potential of the Electric Forklift Project

GHG Reduction Potential in 2024	GHG Emissions (tonCO_2eq.)			
	Scope 1	Scope 2	Scope 3	Total
Expected Reduction Volume According to the Pathway	9.70	(1.30)	0.70	9.11
Actual Reduction Volume	9.96	(1.86)	0.62	8.72
Difference from the Operation	0.26	(0.56)	(0.08)	(0.38)

Cause Analysis:

1) No meter was installed on the battery charging point of either of the forklifts to calculate the electricity consumption for calculating and deducting the real GHG emission volume, and the current values obtained were calculated from the consumption rate, work hours, and distance. As a result, the data may be slightly inaccurate.

Guideline for Future Improvements:

1) Consider installing electricity meters on both battery chargers to collect the electricity unit consumption data to enable more accurate calculation and deduction of the GHG emission volume as well as to monitor changes or malfunction of the batteries.
2) Consider replacing 5-ton fuel forklifts with 5-ton electric forklifts in 2025.

E20 Project to Replace E20 Office Cars for Executives with Hybrid E20 Cars

Images of Seven Hybrid E20 Cars

Two 4WD Honda CRV H-EV

One 2WD Honda Accord H-EV

Two 2WD Honda HRV H-EV

Nissan Kicks e-Power and Toyota Yaris Cross HEV 2WD mobile units (1 unit per model)

Performance:

1) Five additional E20 gasoline cars were replaced with hybrid E20 gasoline cars in 2024 for a total of seven cars according to plan. The hybrid cars included four 1.5-L cars, one 2.0-L 2WD cars, and two 2.0-L 4WD cars.

2) The target was not achieved. In 2024, only 7.49 tonCO_2eq. of GHG was reduced from replacing the gasoline cars with hybrid gasoline cars, which is 9.60 tonCO_2eq. lower than the expected volume in the pathway

ตารางแสดงศักยภาพในการลดก๊าซเรือนกระจกจากโครงการเปลี่ยนใช้รถยนต์ไฮบริด E20

GHG Reduction Potential in 2024	GHG Emissions (tonCO_2eq.)			
	Scope 1	Scope 2	Scope 3	Total
Expected Reduction Volume According to the Pathway	15.10	-	1.99	17.09
Actual Reduction Volume	6.61	-	0.87	7.48
Difference from the Operation	(8.48)	-	(1.12)	(9.60)

Cause Analysis :

1) The consumption rate of the hybrid cars in the pathway was set at 23.18 Km/L for every car type. In reality, the replacement hybrid gasoline cars do not all have the same engine size according to the performance results in 1). Each car has a different consumption rate depending on the engine and usage characteristics. As a result, the fuel consumption calculation in the pathway is rather very different from actual usage.

2) The use of the five hybrid cars in 2024 only covered about seven months, not the entire year. However, the pathway's calculation was for the entire month, resulting in the fuel consumption being combined with that of the previous cars, which had a higher consumption rate than the pathway's consumption rate and this cannot be clearly separated.

Guideline for Future Improvements:

1) The situation will be reassessed in 2025. Adjustments may be made to the plan by accelerating the plan to use 100% EVs to achieve the GHG emission reduction target according to the pathway.

2) The pathway for this project may need to be reset to be more consistent or realistic. This would require recertification by the TGO.

Waste Sorting Project to Reduce Waste Disposal by Incineration

Images of the Waste Sorting Project to Reduce Waste Disposal by Incineration

Performance: The target was achieved. In 2024, the Company was able to reduce up to 99.69 tonCO2eq. GHG emissions from waste sorting according to the 3Rs, which is 41.96 tonCO2eq. more than the expected amount in the pathway. This may be due to the production volume rising along with the income growth resulting in more waste. In any case, waste disposal by incineration in 2024 amounted to 2,490 kg, which was up to 1,281 kg less than 2023 and up to 25,946 kg less than Base Year 2022.

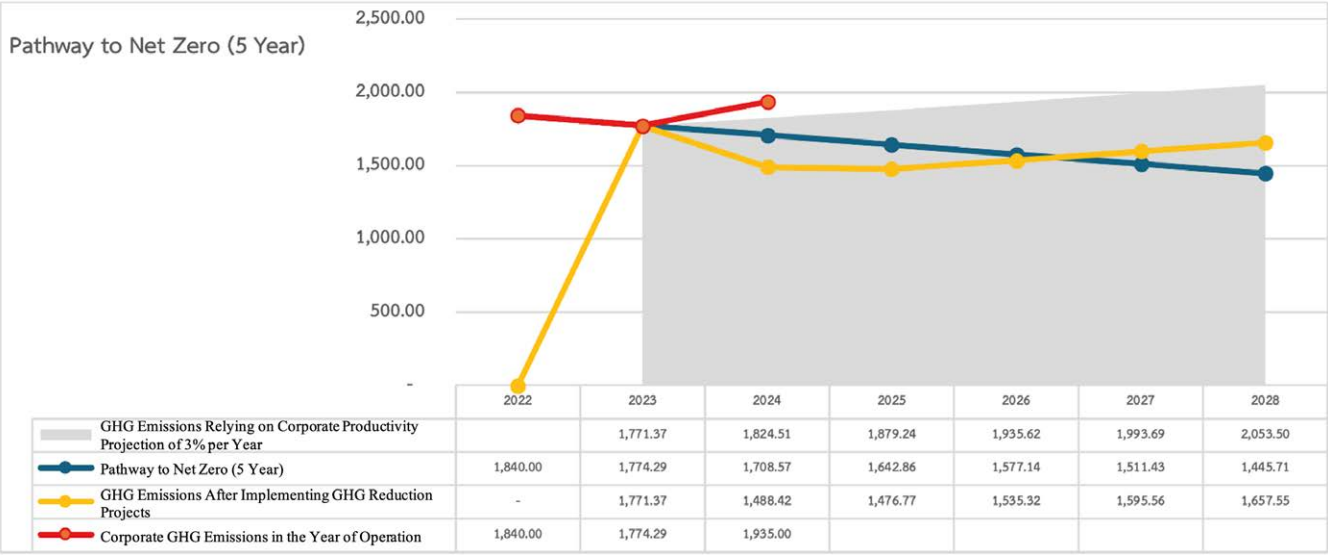
Table Showing the GHG Reduction Potential of the Waste Sorting Project to Reduce Waste Disposal by Incineration

GHG Reduction Potential in 2024	GHG Emissions ($tonCO_2eq.$)			
	Scope 1	Scope 2	Scope 3	Total
Expected Reduction Volume According to the Pathway	-	-	57.73	57.73
Actual Reduction Volume	-	-	99.69	99.69
Difference from the Operation	-	-	41.96	41.96

Table Summarizing the Overall Performance in Pathway Start Year 2024 Compared to Base Year 2022

Report Topic	Year of Operation			
	Base Year 2022	Pathway Start Year 2024		
		Expected Amount	Actual Amount	Difference
Income (million baht)	808	856	1189	333
Amount of GHG Emissions ($tonCO_2eq.$)	1840	1709	1935	226
GHG Emission Reduction Potential ($tonCO_2eq.$)	-	336	276	(60)

Graph Showing Performance Compared to the Pathway to Net Zero (5 Years)



According to the table summarizing the overall performance in Pathway Start Year 2024 compared to Base Year 2022 and the graph showing performance compared to the pathway to net zero (5 years), it can be seen that there were errors in corporate income growth projections, which was set at only 3% in the pathway, affecting the GHG emission projection based on the pathway to net zero (5 years). In reality, the Company's income growth in 2024 was up to 47.21% higher than the pathway, which is the Company's greatest income statistic in the transformer business so far. This has increased business activities according to the purchase orders and has resulted in up to 226 tonCO_2eq. higher GHG emissions that the figure in the pathway to net zero (5 years). The Company will offset carbon by 226 tonCO_2eq. in 2025 to ensure that the GHG emissions in 2024 is equal to or lower than the pathway's figure, which was 1709 tonCO_2eq.

Performance Summary of the Pathway to Net Zero (5 Years)

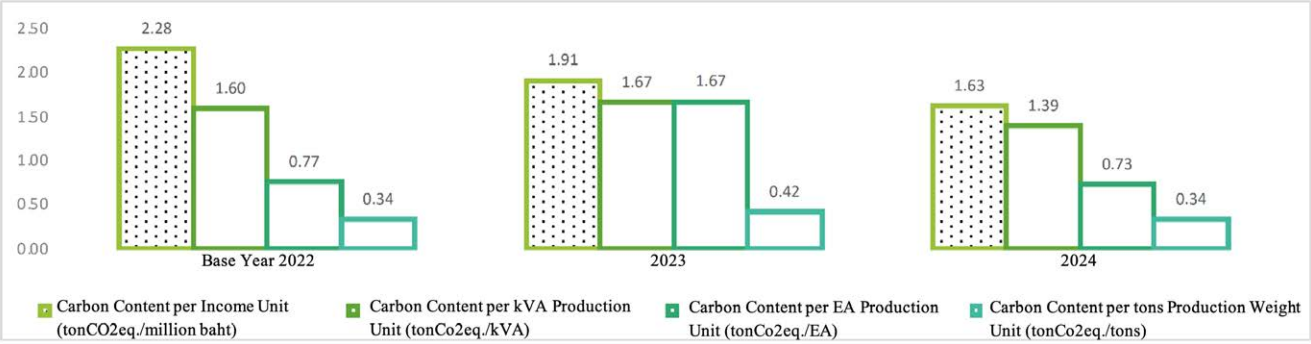
Goal 1 : GHG emissions in 2024 does not exceed 1709 tonCO_2eq.

Performance : 1935 tonCO_2eq. (The target was not achieved.)

Carbon Offset Requirement : 226 tonCO_2eq.

Table and Graph Comparing Carbon Content per Unit

Report Topic		ปีฐาน 2565	ปี 2566	ปี 2567
Income (million baht)		**808**	**926**	**1,189**
Production Volume (MVA)		1,149	1,062	1,390
Production Volume (EA)		2,404	1,059	2,653
Weight of Manufactured Products (tons)		5,379	4,242	5,621
GHG Emission Volume (tonCO2eq.)		**1,840**	**1,772**	**1,935**
Carbon Content	**per Income Unit (tonCO_2eq./million baht)**	**2.28**	**1.91**	**1.63**
Carbon Content	per kVA Production Unit (tonCo_2eq./kVA)	1.60	1.67	1.39
Carbon Content	per EA Production Unit (tonCo_2eq./EA)	0.77	1.67	0.73
Carbon Content	per ton Production Weight Unit (tonCo_2eq./ton)	0.47	0.42	0.34



Based on the table and graph comparing carbon content per unit above, it can bee seen that the Company was able to manage and reduce the GHG proportion per income unit (million baht) according to target.

Performance Summary of the Carbon Neutrality and Net Zero Goals

Goal :	The amount of GHG emissions per income (tonCO_2eq./million baht) is reduced by %5 per year.
Performance :	In 2024, the amount was reduced from Base Year 2022 by %28.56. The amount was reduced from 2023 by %14.92. (The target was achieved.)
Goal :	The amount of CO_2 emissions in Scope 1 and 2 is equal to the CO_2 sequestration in 2035.
Performance :	In 2024, CO_2 emissions in Scope 1 and 2 were equal to 1287 tonCO_2eq.
CO_2 Sequestration :	-
Carbon Offset Requirement :	1287 tonCO_2eq. (To be offset by 2035.)
Goal :	The amount of GHG emissions in Scope 2 ,1, and 3 is at net zero by 2050.
Performance :	In 2024, GHG emissions in Scope 2 ,1, and 3 were equal to 1935 tonCO_2eq.
CO_2 Sequestration :	-
Carbon Offset Requirement :	1935 tonCO_2eq. (To be offset by 2050.)

Raising Awareness and Promoting Participation

"Climate Change"

Due to the Company's plans to achieve the Pathway to Net Zero goals in 2028, 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.

Goal : 100% of employees receive training and passed the tests.

Performance : 211 employees, or 81%, received training and passed the tests.

The target was not achieved.

In 2025, the Company will modify the learning format, re-evaluate employees, and set this as individual KPIs.

The Company educated and raised awareness among employees about climate change in 2024 in the form of two classes of e-learning. Some groups of employees learned through e-learning. It was inconvenient for some groups in the production line to learn through e-learning, so the Company had to go onsite and provide education as well as tests. There were obstacles in the operation and the learning format was modified for convenience and ease-of-access by all employees. The format will be ready for implementation in 2025.

Activities to Support Net Zero Operations

The Company joined the project to drive industries in the EEC toward achieving net-zero goals. Miss Suriphon Mitthammana, Deputy Managing Director for Administration, represented the Company in accepting an award from Mr. Korkij Danchaivichit, Secretary General of the Eastern Economic Corridor Office of Thailand, which reiterates the importance given by the organization to climate change in order to achieve net-zero goals by 2050. The award was presented at the Century Park Hotel in Bangkok.

The Company accepted a certificate for the “Corporate Carbon Footprint Testing Platform to Transition into Net Zero Project” from Miss Phakamon Supappunt, Director of Low Carbon Business Certification Office, Thailand Greenhouse Gas Management Organization (Public Organization). The project capitalizes on results and tests platforms in reporting GHG emissions under corporate carbon footprint standards, which can allow organizations in the business sector to manage GHG at the corporate level efficiently, sustainably, and continually in order to transition into net-zero GHG emission and elevate corporate-level net-zero certification in the future. The certificate was presented at TK Palace Hotel and Convention in Bangkok.

The Company accepted a membership certificate by the Thailand Carbon Neutral Network in the category «Climate Action Leading Organization (CALO) from the Thailand Greenhouse Gas Management Organization (Public Organization), or TGO, as the TCNN Secretary Office and the TCNN Commission.

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. The assessment results of the key sustainability topics are as follows:

Sustainable Use of Resources

Risks

Reckless consumption of resources can lead to scarcity in the future, impacting the environment and future generations.

Opportunities

Efficient resource consumption methods can lead to new innovations and cost reduction.

Financial materiality

- Increase the use of clean energy from solar rooftops by over 50%.
- Reduce the use of fossil fuel in the combustion activities of combustion engines by more than 50%.
- Improve the system for using underground water for maximum benefits.
- Improve production processes and product designs to optimize the use of materials or raw materials and reduce costs.

Impact materiality

- Reduce waste volume in production processes.
- Clean water is available and sufficient for consumption by employees.
- No impacts or problems for people in communities related to the drawing of underground water for consumption.

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.
1. Non-Renewable Energy	
Goal 1.1:	MEA electricity consumption (kWh) per employee (person) not exceeding Base Year 2021. (Target: Not exceeding 3,540kWh/person.)
Performance:	In 2024 ➡ 2,198 kWh/person. The target was achieved.
Goal 1.2:	PEA electricity consumption (kWh) per production unit (MVA) not exceeding 5% based on Base Year 2021. (Target: Not exceeding 1,413kWh/MVA.)
Performance:	In 2024 ➡ 1,203 kWh/MVA. The target was achieved.
Goal 1.3:	The PEA electricity consumption (kWh) per unit of electricity generation for sale (kWh) not exceeding Base Year 2021. (Target: Not exceeding 0.0054kWh/kWh.)
Performance:	In 2024 ➡ 0.0052 kWh/kWh. The target was achieved.
2. Thermal Energy – Fuel Oil	
Goal 2.1:	Diesel consumption (L)/transportation weight (ton) in transportation activities by QTC vehicles not exceeding 5% based on Base Year 2022. (Target: Not exceeding 66.87 L/ton.)
Performance:	In 2024 ➡ 44 L/ton. The target was achieved.
Goal 2.2:	Diesel consumption (L)/number of transformers (unit) in service activities not exceeding 5% based on Base Year 2022. (Target: Not exceeding 7.8 L/unit.)
Performance:	In 2024 ➡ 8.57 L/Unit. The target was achieved.
Goal 2.3:	Total fuel oil consumption (L)/amount of electricity generation for sale (kWh) not exceeding Base Year 2021. (Target: Not exceeding 0.00038 L/kWh.)
Performance:	In 2024 ➡ 0.00031 L/kWh. The target was achieved.
3. Water Resources	
Goal 3.1:	MWA water consumption (m3)/employee (person) at Bangkok Office not exceeding Base Year 2021. (Target: Not exceeding 17.7 m3/person.)
Performance:	In 2024 ➡ 23.6 m3/person. The target was not achieved.
Goal 3.2:	Groundwater consumption (m3)/employee (person) at Rayong Factory not exceeding Base Year 2021. (Target: Not exceeding 42.6 m3/person.)
Performance:	In 2024 ➡ 36.4 m3/person. The target was achieved.
Goal 3.3:	Groundwater consumption (m3)/amount of electricity generation (kWh) at Q Solar 1 not exceeding Base Year 2021. (Target: Not exceeding 0.00045.)
Performance:	In 2024 ➡ 0.00033 m^3/kWh. The target was achieved.

Overview of Resource Consumption Efficiency

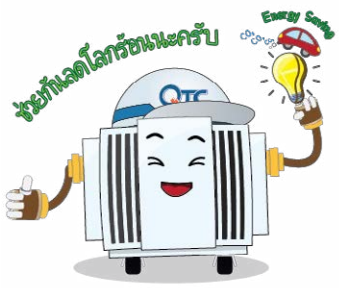
Target:

Consumption of Each Resource Type Not Exceeding Base Year 2021

Resource Consumption Description		Year of Operation				
		Unit	2021 (Base Year)	2022	2023	2024
Total Income		**Million Baht**	**1,186.03**	**1,236.70**	**1,360.91**	**1,542.52**
Number of Employees at the End of the Year		**person**	**278**	**283**	**287**	**305**
Electricity	Electricity Consumption from Power Lines	kWh	1,979,801	1,871,518	1,593,465	1,942,396
	Electricity Consumption from Solar Rooftops	kWh	25,391	36,325	177,991	307,811
	Total Electricity Consumption	**kWh**	**2,005,192**	**1,907,843**	**1,771,456**	**2,250,207**
	Electricity Consumption from Power Lines Reduced by 5% per Year	**kWh**	**-**	**-5.47%**	**-19.51%**	**-1.89%**
	Total Electricity Consumption per Total Income	**kWh/million baht**	**1,690.68**	**1,542.69**	**1,301.67**	**1,458.79**
	Total Electricity Consumption per Total People	**kWh/ person**	**7,212.92**	**6,741.49**	**6,172.32**	**7,377.73**
Fuel Oil	Benzene Consumption	liter	27,189	31,230	35,336	37,615
	Diesel Consumption	liter	72,349	77,385	88,714	88,378
	Total Fuel Oil Consumption	**liter**	**99,539**	**108,615**	**124,050**	**125,993**
	Total Fuel Oil Consumption/Total Income	**liters/ million baht**	**83.93**	**87.83**	**91.15**	**81.68**
Water	MWA Water Consumption	m^3	883	913	1,392	2,168
	Groundwater Consumption	m^3	14,810	13,562	13,896	12,377
	Total Water Consumption	**m^3.**	**15,693**	**14,475**	**15,288**	**14,545**
	Total Water consumption per Employee	**m^3/person**	**56.45**	**51.15**	**53.27**	**47.69**

Measures to Promote Efficient Resource Consumption

"Always turn off the tap after use."



"Turn off the light and unplug when not using."

"Going the same way? Let's go together."

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

Description	Year of Operation			
	2021 (Base Year)	2022	2023	2024
Metropolitan Electricity Authority (kWh) (Non-renewable Energy)	177,000	178,718	190,000	200,000
12kW Solar Rooftop (kWh) (Renewable Energy)	10,841	15,835	14,511	15,087
Average Number of Employees (Person)	50	53	55	91
Electricity Consumption (Non-Renewable Energy)/Employee (Person)	3,540	3,372	3,455	2,198

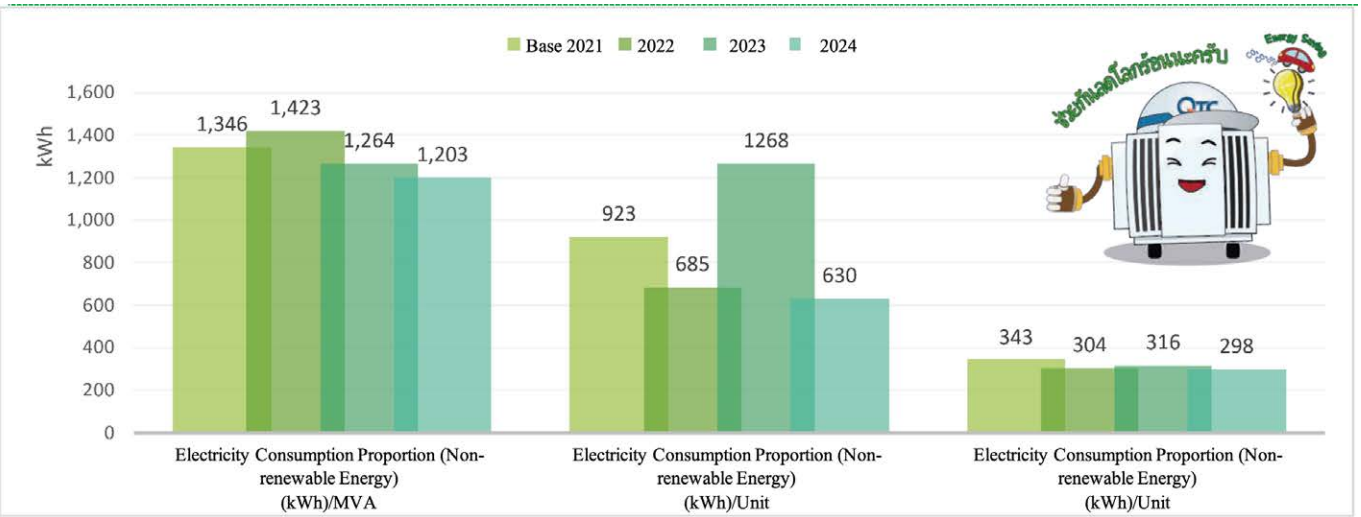
According to Table and Graph EN1, the Bangkok Office's electricity consumption in 2024 increased from 2023 by 5%, with 92% of electricity consumption from MEA (non-renewable energy) and 8% from solar rooftops (renewable energy). The increase of electricity consumption from 2023 was due to an increase 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.

Goal: The electricity consumption (non-renewable energy)/employee (person) does not exceed Base Year 2021 or does not exceed 3,540kWh/person. **The performance in 2024 achieved the target. The electricity consumption was 2,198kWh/person.** (The number of people includes employees from subsidiaries stationed at the Bangkok office.)

Table EN2 Showing Efficiency of Electricity Use at the Rayong Factory

Description	Year of Operation			
	2021 (Base Year)	2022	2023	2024
Provincial Electricity Authority (kWh) (Non-Renewable Energy)	1,733,672	1,635,544	1,342,592	1,672,680
374kW Solar Rooftop for 3 Phases (kWh) (Renewable Energy)	-	8,090	148,580	268,140
Production Volume in Units of Power (MVA)	1,288	1,149	1,062	1,390
Production Volume in the Number of Transformer Units (Unit)	1,878	2,388	1,059	2,653
Production Volume in Production Weight (Ton)	5,059	3,909	4,242	5,621
Proportion of Electricity Consumption (Non-Renewable Energy) (kWh)/MVA	1,346	1,423	1,264	1,203
Proportion of Electricity Consumption (Non-Renewable Energy) (kWh)/Unit	923	685	1268	630
Proportion of Electricity Consumption (Non-Renewable Energy) (kWh)/Ton	343	418.36	316	298

In Table EN2, it can be seen that in 2024 the total electricity consumption (non-renewable energy + renewable energy) in the Rayong factory was higher than in Base Year 2021 by 12% or 201,148kWh. The electricity consumption proportions were 86% from the PEA and 14% from solar rooftops (renewable energy). This is due to activities in 2024 involving higher production than in 2021 and construction activities that required increased electricity consumption. (The units could not be separated according to activity.)



In Table EN2 and Graph EN2, the proportion of electricity consumption from PEA power lines (non-renewable energy) per production unit decreased by 31.69% from Base Year 2021. The power line electricity consumption per ton production weight unit decreased from Base Year 2021 by 13.17% and the electricity consumption per MVA production unit decreased from Base Year 2021 by 10.61% or 1,203kWh/MVA. **The target was achieved.**

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

Description	Q Solar 1 Solar Energy Generation			
	2021 (Base Year)	2022	2023	2024
PEA Electricity (kWh) for Internal Use (Non-Renewable Energy)	69,129	57,256	60,873	65,280
Solar Rooftop (kWh) for Internal Use (Renewable Energy)	14,550	12,400	14,900	24,584
Electricity Generation (kWh) for Sale (Renewable Energy)	12,895,080	12,770,880	12,781,560	12,586,800
Non-Renewable Energy Consumption (kWh) to Electricity Generation for Sale (kWh)	0.0054	0.0045	0.0048	0.0052

Table EN3 shows 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 2024, the consumption of electricity from PEA power lines (kWh) per unit of electricity generation for sale (kWh) decreased from Base Year 2021 by 3.96%, or 0.002kWh/production unit. 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 2024, 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	2022	2023	2024
Diesel (L)	70,647.00	77,927.38	87,990.94	87,614.78
Benzene (L)	24,036.17	28,883.17	32,041.51	28,618.74
Total Fuel Consumption (L)	94,683.17	106,810.55	120,032.45	116,233.52

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

Description	Year of Operation			
	2021	2022 (Base Year)	2023	2024
Diesel (Delivery Activities by QTC Vehicles) (L)/	N/A	31,417.95	38,057.44	35,365.72
Benzene (Service Activities) (L)/	N/A	34,344.48	40,508.25	42373.93
Weight of Transformers Delivered by QTC (tons)	488	493	723	804
Number of Transformers Serviced (Units)	4,298	4,621	4,784	4942
Proportion of Diesel Consumption (L)/Delivered Transformer Weight (tons)	N/A	63.69	52.63	44
Proportion of Diesel Consumption (L)/Serviced Units (Units)	N/A	7.43	8.47	8.57

According to Table EN4.2, in 2024, 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 30.92% or 20 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 from Base Year 2022 by 2% or one liter per one transformer serviced. The target (not exceeding 7.8 L/unit) was not achieved. *There were still uncertainties about the different distances traveled for services in each year.*

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

Description	Year of Operation			
	2021 (Base Year)	2022	2023	2024
Diesel (For Trucks, Cars) (L)	1,702.34	808.18	723.19	701.60
Benzene (For Grasscutters, Water Pumps) (L)	3,153.26	2,388.92	3,294.05	3,174.31
Total Fuel Use (L)	4,855.60	3,197.10	4,017.24	3,875.91
Generated Electricity (kWh) for Renewable Energy Distribution	12,895,080	12,770,880	12,781,560	12,586,800
Total Fuel Consumption (L)/Generated Electricity (kWh)	0.00038	0.00025	0.00031	0.00031

According to Table EN5, the total fuel oil consumption (L) to electricity generation for sale (kWh) was 19.86%, or a decrease of 0.00007 L/production unit. **The target was achieved.** (Target: Not exceeding 0.00038.)

Miss Suriphon Mitthammana, Deputy Managing Director for Administration, accepted a certificate from Dr. Prasert Sinsukprasert, Permanent Secretary of the Ministry of Energy, that certifies QTC as one of the 75 leading organizations that expressed their intention to support energy conservation and join the energy conservation network “Energy Beyond Standards” that is committed to serving as a key mechanism in helping the country to overcome the energy crisis by conducting internal corporate energy conservation operations while encouraging sustainable energy conservation to mitigate the effects of the rising energy prices under the “5P” measure (“Turn off, Adjust, Disconnect, Change, Plant)). The certificate was presented at the EGAT 50th Anniversary Building.

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. Therefore, the wastewater generated was equal to the amount of water used.

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

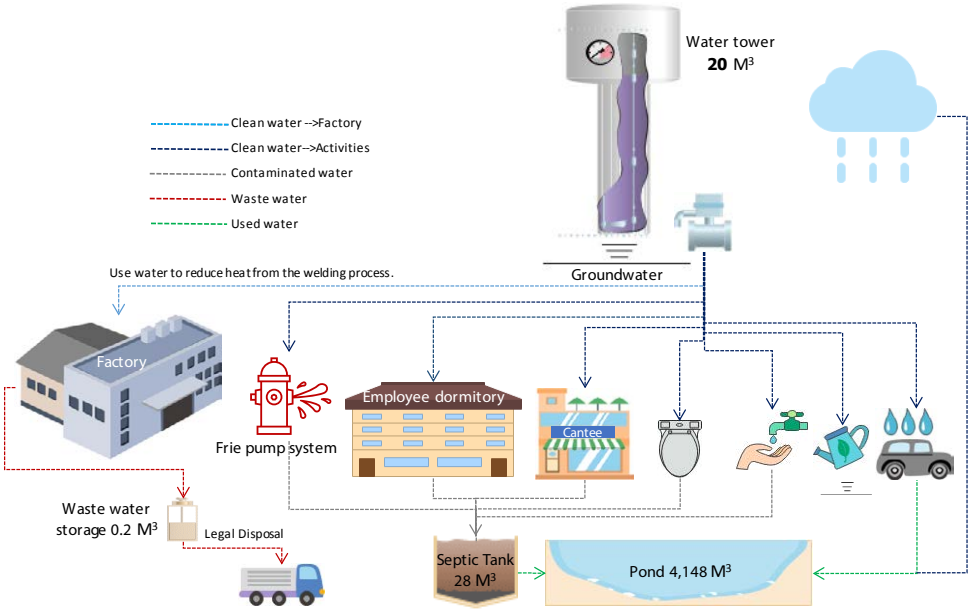


Table EN6 Water Consumption in 2021-2024

Description	QTC Energy			
	Base Year 2021	2022	2023	2024
Bangkok Office: Metropolitan Waterworks Authority (m3)	883	913	1392	2146
Average Number of Employees – Bangkok Office (persons)	50	53	55	91
Rayong Factory: Underground Water Withdrawal (m3)	8,948	8,989	8,869	8224
Average Number of Employees – Rayong Office (persons)	210	212	209	226
Water Consumption (m3)/Employee (Person), Bangkok Office	17.7	17.2	25.3	23.6
Water Consumption (m3)/Employee (Person), Rayong Factory	42.6	42.4	42.4	36.4
Total Effluent/Wastewater for Bangkok Office + Rayong Factory (m^3)	**9,786**	**9,857**	**10,216**	**10,325**

According to Table EN6, in 2024, the MWA water consumption per employee for Bangkok Office increased from Base Year 2021 by 33.23% or 5.69 m3 per person. The target was not achieved due to the underground water storage tank being cracked again in 2024 from bored piling work at a construction site near the office and it took a long time to find the location of the crack and repair it. At present, the issue has been resolved. As for the groundwater consumption per employee at Rayong Factory, there was a decrease from Base Year 2021 by 14.58% or 6.2 m3 per person. **The target was achieved.**

The amount of wastewater was calculated from the amount of water used in the year deducted from the amount in the 45-m3 water storage tank at the end of the year. The information is revised at a later date.

• • Water Management by Q Solar 11

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.

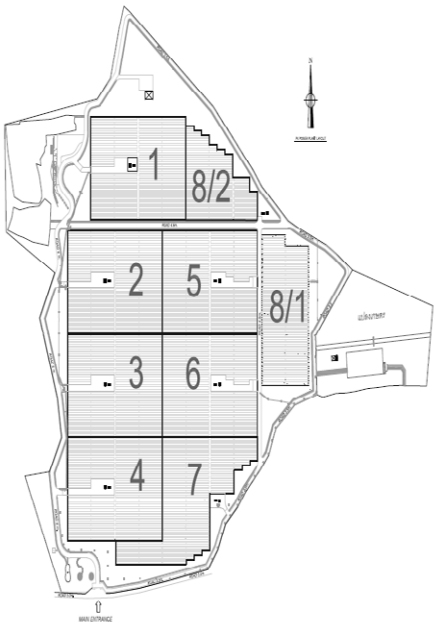


Table EN7 Groundwater and Natural Water Withdrawal and Natural Water Storage for 2021-2024 (Q Solar 1)

Description	Year of Operation			
	2021 (Base Year)	2022	2023	2024
Q Solar 1 Groundwater (m3)	5,862	4,573	5,027	4,153
Electricity Generation (kWh) for Sale: Renewable Energy	12,895,080	12,770,880	12,781,560	12,586,800
Groundwater Consumption (m3)/Electricity Generation (kWh)	**0.00045**	**0.00036**	**0.00039**	**0.00033**
Effluent/Wastewater	**5,847**	**4,558**	**5,012**	**4,138**
Natural Reservoir (Reservoir 1) (m3)	>101,076	>101,076	>101,076	>101,076
Natural Reservoir (Reservoir 2) (m3)	>42,972	>42,972	>42,972	>42,972
Natural Reservoir (Agricultural Plot) (m3)	>5,948	>5,948	>5,948	>5,948

According to Table EN7, the groundwater consumption (m3) per unit of electricity generation for sale (kWh) decrease from Base Year 2021 by 26.68% or 0.00012 m3 per production unit. The target was achieved. (Target: Exceeding 0.00045)

The amount of wastewater was calculated from the amount of water used in the year deducted from the amount in the 15-m3 water storage tank at the end of the year. The information is revised at a later date.

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.

Concerning the electricity, fuel oil, and municipality water consumption for QTC RE, these were from warehouse rental, office cars, and transportation activities in 2024. Office activities used the same resources as QTC Energy at the Bangkok main office.

Summary of the Electricity, Fuel Oil, and Municipality Water Consumption Report for QTC RE Co., Ltd.

Description	Volume	Expense (baht)
Electricity (kWh)	4,436	44,360
Diesel (L)	61.53	2,030
Benzene (L)	2,399	84,237
Municipality Water (m3)	22	440

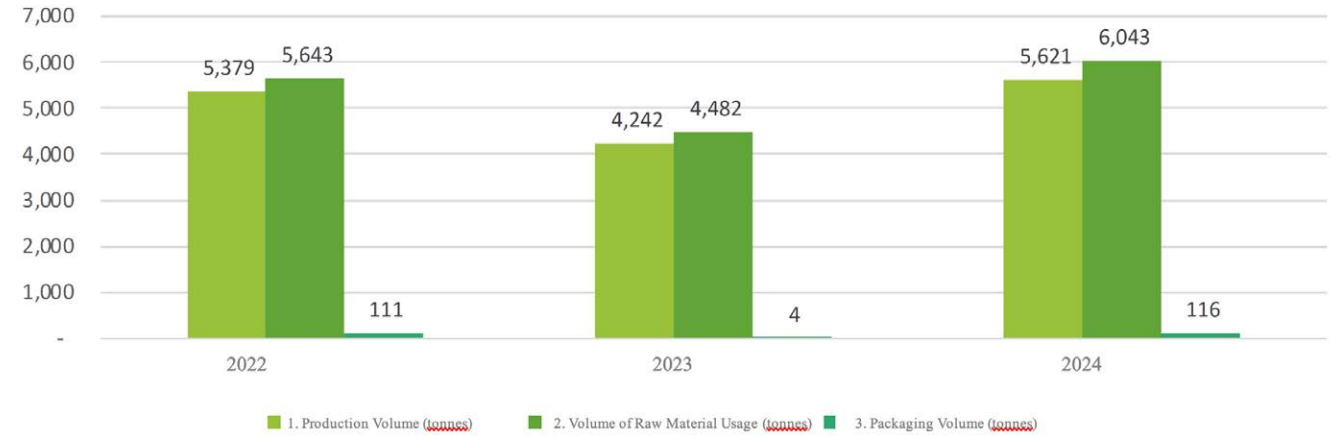
Use of Raw Materials for Production

The QTC Factory in Rayong manufactures distribution transformers and repairs transformers. 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. The weight is obtained from the transformer design combined with the weight of raw materials sent for disposal. The weight of the packaging was obtained from unit conversion using the following calculation method:

- Production Volume: The weight is obtained from the transformer design. The 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 Volume: Packaging is done in some orders according to customer agreements, most of which are packages for export and government bidding. Calculations of the weight of materials used from the production order design has a deviation of + 5 percent.

Table and Graph EN8 Showing Production Volume, Volume of Raw Material Usage, and Packaging 2022-2024

Description	Year of Operation		
	2022	2023	2024
1. Production Volume (tons)	5,379	4,242	5,621
2. Volume of Raw Material Usage (tons)	4,173	4,482	6,042
3. Packaging Volume (tons)	111	4	116
4. Volume of Raw Material Waste from Production (tons) Sent to Be Recycled.	263	240	421
5. Volume of Raw Material Waste from Production (tons) Sent to Be Destroyed	0.57	0.07	0.7



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.

Social Responsibility

ESG DATA : Social

		Reported items	Unit	Year of operation 2022 Male	2022 Female	2023 Male	2023 Female	2024 Male	2024 Female
Employment	workforce	Total workforce	Person	302		313		223	121
		Employees	Person	190	93	192	95	200	105
		Workers who are not employees	Person	19		26		23	16
		Ratio of Female : 1 Male						0.54 : 1	
	Worker by area	**Employees**	Person	190	93	192	95	200	105
		Bangkok	Person	32	37	37	37	44	42
		Rayong	Person	148	51	145	52	148	58
		Prachin Buri	Person	10	5	11	5	8	5
		Workers who are not employees	Person	19		26		23	16
		Bangkok	Person	5		8		2	5
		Rayong	Person	14		18		16	11
		Prachin Buri	Person	0		0		5	0
	Total Employee by Employment Contract and by Area (Full-time)	**Permanent contract**	Person	187	92	190	93	193	101
		Bangkok	Person	29	35	37	36	41	41
		Rayong	Person	148	51	143	52	148	58
		Prachin Buri	Person	10	6	10	5	4	2
		Temporary contract	Person	3	1	3	1	7	4
		Bangkok	Person	1	1	1	1	3	1
		Rayong	Person	2	0	2	0	0	0
		Prachin Buri	Person	0	0	0	0	4	3
	GroupTotal Employee Hire by Age Group and Gender	<30 years	Person	56	31	52	25	64	29
			% of total employee	19.79%	10.95%	18.12%	8.71%	20.98%	9.51%
		30 - 50 years	Person	121	55	125	62	122	68
			% of total employee	42.76%	19.43%	43.55%	21.60%	40.00%	22.30%
		51-60 years	Person	10	6	12	7	12	7
			% of total employee	3.53%	2.12%	4.18%	2.44%	3.93%	2.30%
		>60 years	Person	3	1	3	1	2	1
			% of total employee	1.06%	0.35%	1.05%	0.35%	0.66%	0.33%
	Total Employee by Employee Category (Level)	Top management (Level 13-UC)	Person	5	2	5	2	8	3
			% of total employee	1.77%	0.71%	1.74%	0.70%	2.62%	0.98%
		Middle management (Level 9-12)	Person	12	14	14	14	12	14
			% of total employee	4.24%	4.95%	4.88%	4.88%	3.93%	4.59%
		Supervisor (Level 7-8)	Person	9	6	9	8	10	12
			% of total employee	3.18%	2.12%	3.14%	2.79%	3.28%	3.93%
		Employee (Level 1-6)	Person	164	71	164	71	170	76
			% of total employee	57.95%	25.09%	57.14%	24.74%	55.74%	24.92%
	Total Employee by Nationality		Person	190	93	192	95	200	105
	Employees : Thai		Person	185	91	187	93	192	102
			% of total employee	65.37%	32.16%	65.16%	32.40%	62.95%	33.44%
	Management : Thai		Person	5	2	5	2	8	3
			% of total employee	1.77%	0.71%	1.74%	0.70%	2.62%	0.98%
	Number of disabled people receiving career promotion		Person	-	3	4	-	3	1
	Salary and compensation	Total Salary and compensation	Million baht	97.65	50.31	102.15	54.51	114.44	58.78
			% of Total Salary	66.00%	34.00%	65.20%	34.80%	66.06%	33.94%
		Ratio of women's salary : men's salary.		0.52 : 1		0.53 : 1		0.51 : 1	
		Top management (Level 13-UC)	Million baht					29.49	7.75
			% of Total Salary					17.02%	4.47%
		Ratio of women's salary : men's salary.						0.26 : 1	
		Middle management (Level 9-12)	Million baht					12.00	15.26
			% of Total Salary					6.93%	8.81%
		Ratio of women's salary : men's salary.						1.2 : 1	
		Supervisor (Level 7-8)	Million baht					8.39	8.43
			% of Total Salary					4.84%	4.86%
		Ratio of women's salary : men's salary.						1 : 1	
		Employee (Level 1-6)	Million baht					64.57	27.36
			% of Total Salary					37.27%	15.79%
		Ratio of women's salary : men's salary.						0.42 : 1	
	New Employee by Area	Total New Employee	Person	23	10	28	23	41	15
		Bangkok	Person					8	7
		Rayong	Person	23	10	28	23	29	8
		Prachin Buri	Person					4	0

Reported items			Unit	Year of operation					
				2022		2023		2024	
				Male	Female	Male	Female	Male	Female
Employment	New Employee Hire by Age Group and Gender	<30 years	Person	32		39		29	8
			% of total New employee	96.97%		76.47%		51.79%	14.29%
		30 - 50 years	Person	1		12		12	7
			% of total New employee	3.03%		23.53%		21.43%	12.50%
		51-60 years	Person	0		0		0	0
			% of total New employee	0.00%		0.00%		0.00%	0.00%
		>60 years	Person	0		0		0	0
			% of total New employee	0.00%		0.00%		0.00%	0.00%
	Dismissal employee by Area	Total dismissal employee	Person	24	9	24	16	33	6
		Bangkok	Person	24	9	24	16	3	3
			% of total dismissal employee					7.69%	7.69%
		Rayong	Person					24	3
			% of total dismissal employee					61.54%	7.69%
		Prachin Buri	Person					6	0
			% of total dismissal employee	72.73%	27.27%	60.00%	40.00%	15.38%	0.00%
		Employees voluntarily dismissal	Person					23	5
			% of total dismissal employee					58.97%	12.82%
	Dismissal employee Age Group and Gender	<30 years	Person	24		25		14	2
			% of total employee	72.73%		62.50%		35.90%	5.13%
		30 - 50 years	Person	9		15		14	3
			% of total employee	27.27%		37.50%		35.90%	7.69%
		51-60 years	Person	0		0		3	1
			% of total employee	0.00%		0.00%		7.69%	2.56%
		>60 years	Person	0		0		2	0
			% of total employee	0.00%		0.00%		5.13%	0.00%
	Turnover rate	Total employee turnover rate	% of total employee	11.66%		13.94%		12.79%	
		Voluntary employee turnover rate	% of total employee					9.18%	
	Paternity & Parental Leave	Number of employees that were entitled to parental & Maternity leave.	Person	93		95		200	105
		Number of employees that took parental leave.	Person	93		95		6	5
		Number of employees that took Maternity leave.	Person	5		4		0	5
		Number of employees that returned to work in the reporting period after maternity & parental leave ended.	Person	5		4		6	5
		Number of employees that returned to work after maternity & parental leave ended that were still employed 12 months after their return to work.	Person	5		4		6	5
		Employee returning to work retention rate of employees that took maternity & parental leave.	%	100%		100%		100%	100%
Training and Education	Average hours of training	Number of employees who received training.	Person	190	93	192	95	200	105
		Total number of training hours provided to employees.	Hours	4,191	2,241	4,843	3,265	5,139	2,375
		Training Expenses	Baht	677,318	347,621	875,415	425,616	1,068,597	582,912
		Average training hours per employees.	Hours/ person/ year	23		28		25	
		Average training hours per gender.	Hours/ person/ year	22	24	25	34	26	23
		Average training Expenses per gender.	Baht/ person/ year	3,565	3,738	4,559	4,480	5,343	5,552
	Average hours of training by Employee Category (Level)	Top management (Level 13-UC)	Person	17	16	19	16	8	3
			Hours/ person/ year					36	
		Middle management (Level 9-12)	Person					12	14
			Hours/ person/ year	23		18		50	
		Supervisor (Level 7-8)	Person	9	6	9	8	10	12
			Hours/ person/ year	29		38		46	
		Employee (Level 1-6)	Person	164	71	164	71	170	76
			Hours/ person/ year	22		29		20	

Reported items			Unit	Year of operation					
				2022		2023		2024	
				Male	Female	Male	Female	Male	Female
Training and Education	Employee Receiving Regular Performance and Career Development Reviews by level	**Total Employee Receiving Regular Performance**	Person	190	93	192	95	200	105
			% of total employees	100%	100%	100%	100%	100%	100%
		Total Employee Receiving Career Development.	Person			43	24	46	30
			% of total employees			14.98%	8.36%	15.08%	9.84%
		Top management (Level 13-UC)	Person (Offered Quantity)			1	1	0	0
			% of total employees			1.49%	1.49%	-	-
			Person (Confirmed Quantity)			1	0	-	-
			% of employee confirmed			100%	0%	-	-
		Middle management (Level 9-12)	Person (Offered Quantity)			0	0	1	2
			% of total employees			-	-	1.32%	2.63%
			Person (Confirmed Quantity)			-	-	1	2
			% of employee confirmed			-	-	100%	100%
		Supervisor (Level 7-8)	Person (Offered Quantity)			3	2	7	5
			% of total employees			4.48%	2.99%	9.21%	6.58%
			Person (Confirmed Quantity)			3	2	7	5
			% of employee confirmed			100%	100%	100%	100%
		Employee (Level 1-6)	Person (Offered Quantity)			39	21	38	23
			% of total employees			58.21%	31.34%	50.0%	30.3%
			Person (Confirmed Quantity)			34	19	30	22
			% of employee confirmed			87.18%	90.48%	78.95%	95.65%
	Security Practices	Security personnel trained in human rights policies or procedures	Person	7	0	7	0	12	0
		Security personnel trained in human rights policies or procedures	% of security personnel	100%		100%		100%	
Occupational Health and Safety	Workers Covered by an Occupational Health and Safety Management System	**Employees**							
		Covered by an occupational health and safety management system	Person	283		287		305	
			%	100%		100%		100%	
		Covered by such a system that has been internally audited	Person	283		287		305	
			%	100%		100%		100%	
		Covered by such a system that has been audited or certified by an external party	Person	264		269		267	
			%	93%		94%		88%	
		Workers who are not employees (Trainee , Maid-Gardener, Security guard)							
		Covered by an occupational health and safety management system	Person	19		26		39	
			%	100%		100%		100%	
		Covered by such a system that has been internally audited	Person	19		26		39	
			%	100%		100%		100%	
		Covered by such a system that has been audited or certified by an external party	Person	19		26		34	
			%	100%		100%		87%	
		Contractor							
		Covered by an occupational health and safety management system	Person	0		0		932	
			%	0%		0%		100%	
		Covered by such a system that has been internally audited	Person	0		0		932	
			%	0%		0%		100%	
		Covered by such a system that has been audited or certified by an external party	Person	0		0		932	
			%	0%		0%		100%	
	The number and rate of fatalities as a result of work-Related Injury.	**Employees**							
		Number of fatalities as a result of work-Related Injury.	Case	0		0		0	
		Rate of fatalities as a result of work-Related Injury.	Case/1 million manhours	0		0		0	
		Workers who are not employees (Trainee , Maid-Gardener, Security guard)							
		Number of fatalities as a result of work-Related Injury.	Case	0		0		0	
		Rate of fatalities as a result of work-Related Injury.	Case/1 million manhours	0		0		0	
		Contractor							
		Number of fatalities as a result of work-Related Injury.	Case	0		0		0	
		Rate of fatalities as a result of work-Related Injury.	Case/1 million manhours	0		0		0	

Reported items			Unit	Year of operation					
				2022		2023		2024	
				Male	Female	Male	Female	Male	Female
Occupational Health and Safety	The number and rate of high-consequence work-related injury (excluding fatalities)	**Employees**							
		Number of high-consequence work-related injury	Case	3		6		2	
		Rate of high-consequence work-related injury	Case/1 million manhours	4.37		8.70		2.64	
		Workers who are not employees (Trainee , Maid-Gardener, Security guard)							
		Number of high-consequence work-related injury	Case	0		0		0	
		Rate of high-consequence work-related injury	Case/1 million manhours	0		0		0	
		Contractor							
		Number of high-consequence work-related injury	Case	0		0		0	
		Rate of high-consequence work-related injury	Case/1 million manhours	0		0		0	
	The number and rate of recordable work-related injuries	**Employees**							
		Number of recordable work-related injuries	Case	2		3		2	
		Rate of recordable work-related injuries	Case/1 million manhours	2.91		4.35		2.64	
		Workers who are not employees (Trainee , Maid-Gardener, Security guard)							
		Number of recordable work-related injuries	Case	0		0		0	
		Rate of recordable work-related injuries	Case/1 million manhours	0		0		0	
		Contractor							
		Number of recordable work-related injuries	Case	0		0		0	
		Rate of recordable work-related injuries	Case/1 million manhours	0		0		0	
	The number of hours worked.	**Employees**							
		Number of Employees	Person	283		287		305	
		Number of hours worked.	Manhours	686,238.50		689,360.10		758,756.50	
		Workers who are not employees (Trainee , Maid-Gardener, Security guard)							
		Number of Contractor	Person	19		26		39	
		Number of hours worked.	Manhours	56,576.00		74,970.00		86,592.00	
		Contractor							
		Number of Contractor	Person	0		0		932	
		Number of hours worked.	Manhours	0.00		0.00		40,639.00	
	Work-Related ill health.	**Employees**							
		The number of fatalities as a result of work-related ill health.	Case	0		0		0	
		The number of cases of recordable work-Related ill health.	Case	0		2		0	
		Workers who are not employees (Trainee , Maid-Gardener, Security guard)							
		The number of fatalities as a result of work-related ill health.	Case	0		0		0	
		The number of cases of recordable work-Related ill health.	Case	0		0		0	
		Contractor							
		The number of fatalities as a result of work-related ill health.	Case	0		0		0	
		The number of cases of recordable work-Related ill health.	Case	0		0		0	
Supplier Social Assessment	Suppliers that were screened using social criteria	Number of new suppliers that were screened using social criteria.	Supplier	N/A		19		82	
		Percentage of new suppliers that were screened using social criteria.	% of new suppliers	N/A		63		100	
		Number of suppliers assessed for social impacts.	Supplier	N/A		262		341	
		Number of suppliers identified as having significant actual and potential negative social impacts.	Supplier	N/A		1		2	
		Percentage of suppliers indentified as hvaing significant actual and potential negative social impacts with which improvements were agreed upon as a result of assessment.	% of suppliers	N/A		0.38%		0.59%	
		Percentage of suppliers indentified as hvaing significant actual and potential negative social impacts with which relationships were terminated as a result of assessment.	% of suppliers	N/A		0.38%		0.59%	
Customer & Marketing		Number of incidents of non-compliance concerning the health and safety impacts of products and services	case	0		0		0	
		Number of incidents of non-compliance concerning product and service information and labeling	case	0		0		0	
		Number of substantiated complaints concerning breaches of customer privacy and losses of customer data	case	0		0		0	
Local Communities		Operations with local community engagement, impact assessments, and development programs	page 191-199						
		Number of operations with significant actual and potential negative impacts on local communities	Case	0		0		0	

Customers Responsibility

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. The assessment results of the key sustainability topics are as follows:

Customers Responsibility

Risks

- The transformer and energy industries are highly competitive. Large-scale and foreign companies entering this highly competitive market may face challenges in maintaining their market share and expanding their market.
- Transformers are industrial products with technical specifications. If deliveries do not comply with the agreements or requirements, the brand's reputation may be affected and the Company may lose customers.

Opportunities

Business operations with responsibility for products and services and honest communication about technical information provides the organization with the opportunity to compete in any market under the QTC brand. It also provides the opportunity to efficiently and continuously develop production processes, services, and communication with customers.

Financial materiality

- Promote brand awareness for QTC products via marketing activities according to target groups.
- Prepare readiness to provide services to customers in transformer usage emergencies 24 hrs./day nationwide.
- Develop products and services to provide customers with good alternatives.
- Buy insurance to cover delivery activities to mitigate impacts in case of accidents.

Impact materiality

- Increase customer satisfaction.
- Reduce customer complaints.
- Create brand loyalty for products and services.

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.
Goal 1:	Zero danger to transformer users due to substandard product quality.
Performance :	There were no reports of dangerous events involving users of transformers.
Goal 2:	Customer satisfaction > 90%.
Performance :	Customer satisfaction averaged at 91%. The target was achieved.
Goal 3:	Manage 100% of customer complaints.
Performance :	There were 8 customer complaints and 100% of them were successfully resolved.
Goal 4:	Provide transformer testing and maintenance services for more than 90% of transformers within the warranty period.
Performance :	98% of maintenance within the warranty period was carried out. The target was achieved.
Goal 5:	Zero complaints of leaks of customers' personal data.
Performance :	There were no reported incidents of customers' personal data leaks.

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

ISO9001 : คุณภาพ

ISO14001 : สิ่งแวดล้อม

ISO45001 : ความปลอดภัยฯ

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 and Labels

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.

Table of Standards Used as References in Designing QTC Transformer Products

IEC	ANSI/IEEEE	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	TIS 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			Electricity Installation Standards for Thailand BE. 2556 (A.D. 2013)
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.

In addition, in 2024, the Thai Industrial Standards Institute issued a new TISI standard for power transformers, replacing TISI 384-2543 with TISI 384-2567, which will come into effect in 2025. The Company has prepared a plan to improve its standards and has requested time as permitted by law.

Table of Showing Standards of Licensed Products

รุ่นของสินค้า	มาตรฐานผลิตภัณฑ์ที่ได้รับอนุญาต	เลขที่อนุญาต
Oil-type transformer 3Ph < 250kVA 50Hz Voltage > 12kV < 24kV	TIS. 384-2543	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		"
Oil-type transformer 3Ph < 250kVA 50Hz Voltage 24/12kV		"
Oil-type transformer 3Ph > 250kVA < 1000kVA 50Hz Voltage 24/12kV		"
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 24/12kV		"
Oil-type transformer 1Ph > 50kVA < 167kVA 50Hz Voltage 24/12kV		"
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

In 2024, QTC applied for Made in Thailand (MiT) certification, which is granted by the Federation of Thai Industries (FTI) to qualified operators. The ASEAN value content principles were used as the value calculation guideline, requiring at least 40% of the raw material value to be produced in Thailand. This was done to increase QTC's competitiveness and create pride in Thai-made products. The list of products are as follows:

Made in Thailand

List of Transformers with the MiT Certification

No.	Tr.(kva)	kv	Detail	Model / Item
1	30	22	30 kVA 1Ph. 22000-480/240V (SC)	23002221
2	50	22	50kVA. 3Ph. 50Hz. Dyn11 22000-416/240V. (SC)	25002257
3	100	22	100kVA. 3Ph. 50Hz. Dyn11 22000-416/240V. (SC)	31002273
4	160	22	160kVA. 3Ph. 50Hz. Dyn11 22000-416/240V. (SC)	31602242
5	250	22	250kVA. 3Ph. 50Hz. Dyn11 22000-416/240V. (SC)	32502255
6	30	19	30 kVA 1Ph. 19000-480/240V (SC)	23001922
7	50	33	50kVA. 3Ph. 50Hz. Dyn11 33000-416/240V. (SC)	25003322
8	100	33	100kVA. 3Ph. 50Hz. Dyn11 33000-416/240V. (SC)	31003328
9	160	33	160kVA. 3Ph. 50Hz. Dyn11 33000-416/240V. (SC)	31603322
10	250	33	250kVA. 3Ph. 50Hz. Dyn11 33000-416/240V. (SC)	32503330
11	160	22	160kVA. 3Ph. IoT TR.50Hz. Dyn11 22000-416/240V. (SC)	31602242
12	250	22	250kVA. 3Ph. IoT TR.50Hz. Dyn11 22000-416/240V. (SC)	32502255
13	160	33	160kVA. 3Ph. IoT TR.50Hz. Dyn11 33000-416/240V. (SC)	31603322
14	250	33	250kVA. 3Ph. IoT TR.50Hz. Dyn11 33000-416/240V. (SC)	32503330

MiT Certificate Example

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

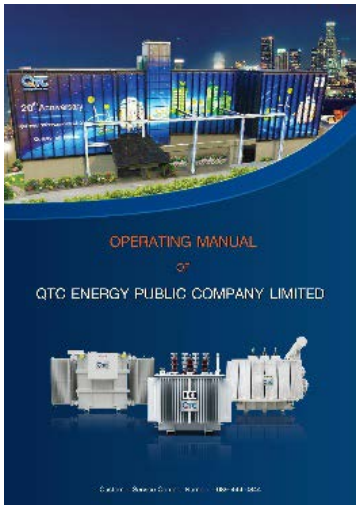
QR Code Showing Certified Product Numbers

Examples of Product Label and Brand Installation

Sample of Nameplates Showing Significant Electricity Information

Catalogs of Products and Services and Technical Information about Products

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



Electricity Testing Standards

คQTC 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 for customers who own products to reduce travelling.

Work System Certification and Scope of Certification for the Testing Laboratory

แบบ กมช./สมอ.๒
Form NSC/TISI 2

ใบรับรองเลขที่ 25-LB0017
(Certificate No.)

ใบรับรองระบบงาน
(Certificate of Accreditation)

อาศัยอำนาจตามความในพระราชบัญญัติการมาตรฐานแห่งชาติ พ.ศ. ๒๕๕๑
(By Virtue of National Standardization Act B.E. 2551 (2008))

เลขาธิการสำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม
(Secretary-General, Thai Industrial Standards Institute)

ออกใบรับรองฉบับนี้ให้
(Issues this certificate to)

บริษัท คิวทีซี เอนเนอร์ยี่ จำกัด (มหาชน)
(QTC Energy Public Company Limited)

ตั้งอยู่เลขที่
(Address)

๑๔๙ หมู่ที่ ๒ ตำบลมาบยางพร อำเภอปลวกแดง จังหวัดระยอง
(149 Moo 2, Map Yang Phon, Pluak Daeng, Rayong)

ได้รับการรับรองความสามารถ
(Certificate of competence)

ตามมาตรฐานเลขที่ มอก. ๑๗๐๒๕ - ๒๕๖๑
(Standard No. TIS 17025-2561 (2018) (ISO/IEC 17025: 2017))

ข้อกำหนดทั่วไปว่าด้วยความสามารถของ ห้องปฏิบัติการทดสอบและห้องปฏิบัติการสอบเทียบ
(General requirements for the competence of testing and calibration laboratories)

หมายเลขการรับรองที่ ทดสอบ ๑๖๕๗
(Accreditation No. Testing 1657)

โดยมีรายละเอียดสาขาและขอบข่ายที่ได้รับรอง แสดงไว้ใน QR CODE และ www.tisi.go.th
(Details of the scheme and scope of the certificate are shown in QR CODE and www.tisi.go.th)

ออกให้ ณ วันที่ ๑๑ พฤศจิกายน พ.ศ. ๒๕๖๗
(Issue date : 11 November B.E. 2567 (2024))

(นายวีระศักดิ์ เพ็งพลัง)
ผู้อำนวยการสำนักงานคณะกรรมการการมาตรฐานแห่งชาติ
ปฏิบัติราชการแทน
เลขาธิการสำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม

Signed by สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม (tisi.)
Thai Industrial Standards Institute (TISI)
Date: 2024-11-11T15:42:26.588+07:00
8913fr22

กระทรวงอุตสาหกรรม สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม
(Ministry of Industry Thailand, Thai Industrial Standards Institute)

NSC-TISI-TIS 17025
TESTING 1657

รายละเอียดสาขาและขอบข่ายใบรับรองห้องปฏิบัติการ
(Scope of Accreditation for Testing)
ใบรับรองเลขที่ 25-LB0017
(Certificate No. 25-LB0017)

ชื่อห้องปฏิบัติการ (Laboratory Name): บริษัท คิวทีซี เอนเนอร์ยี่ จำกัด (มหาชน)
หมายเลขการรับรองที่ (Accreditation No.): ทดสอบ 1657
ฉบับที่ (Issue No.): 03
ออกให้ตั้งแต่วันที่ 24 ตุลาคม พ.ศ. 2567 (Valid from 24 October B.E. 2567 (2024))
ถึงวันที่ 30 สิงหาคม พ.ศ. 2569 (Until 30 August B.E. 2569 (2026))
สถานภาพห้องปฏิบัติการ (Laboratory status): ☑ ถาวร (Permanent) ☐ นอกสถานที่ (Site) ☐ ชั่วคราว (Temporary) ☐ เคลื่อนที่ (Mobile) ☐ หลายสถานที่ (Multisite)

สาขาการทดสอบ (Field of Testing)	รายการทดสอบ (Parameter)	วิธีทดสอบ (Test Method)
สาขาไฟฟ้า (Electrical field)		
1. หม้อแปลงไฟฟ้ากำลัง ชนิดระบายความร้อนด้วยน้ำมัน (Power transformers : Oil-immersed type Transformers)	- การวัดความต้านทานขดลวด (Measurement of winding resistance)	มอก. 586-2543 (IEC 60076-1 Edition 3.0 2011-04)
	การวัดอัตราส่วนแรงดันและการตรวจสอบการกระจัดเฟส (Measurement of voltage ratio and check of phase displacement)	
- ขนาด 1 kVA ขึ้นไปถึง 2 000 kVA สำหรับหม้อแปลงไฟฟ้ากำลัง 1 เฟส ที่มีแรงดันไฟฟ้าสูงสุดไม่เกิน 36 kV (1 phase transformers with rated power 1 kVA up to 2 000 kVA and rated voltage up to including 36 kV)	- ความสามารถต่อแรงดันสนามความถี่กำลังไฟฟ้าของตัวหม้อแปลง (Applied voltage test)	
	- การทดสอบความสามารถต่อแรงดันเหนี่ยวนำฟ้าแลบ (Induced voltage withstand test)	
- ขนาด 5 kVA ขึ้นไปถึง 5 000 kVA สำหรับหม้อแปลงไฟฟ้ากำลัง 3 เฟส ที่มีแรงดันไฟฟ้าสูงสุดไม่เกิน 36 kV (3 phase transformers with rated power 5 kVA up to including 5 000 kVA and rated voltage up to including 36 kV)	- การวัดความสูญเสียไม่มีโหลดและกระแสไม่มีโหลด (Measurement of no-load loss and current)	
	- การวัดค่าพิกัดอิมพีแดนซ์ของขดลวดและการวัดค่าสูญเสียมีโหลด (Measurement of impedance and load loss)	
	- การทดสอบอุณหภูมิเพิ่มขึ้น (Temperature rise test)	
	- ฉนวนไฟฟ้าชั่วคราวชั้นต้น (Full wave lightning impulse test)	

กระทรวงอุตสาหกรรม สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม
(Ministry of Industry, Thai Industrial Standards Institute)
หน้าที่ 1/2

รายละเอียดสาขาและขอบข่ายใบรับรองห้องปฏิบัติการ
(Scope of Accreditation for Testing)
ใบรับรองเลขที่ 25-LB0017
(Certificate No. 25-LB0017)

ฉบับที่ (Issue No.): 03
ออกให้ตั้งแต่วันที่ 24 ตุลาคม พ.ศ. 2567 (Valid from 24 October B.E. 2567 (2024))
ถึงวันที่ 30 สิงหาคม พ.ศ. 2569 (Until 30 August B.E. 2569 (2026))
สถานภาพห้องปฏิบัติการ (Laboratory status): ☑ ถาวร (Permanent) ☐ นอกสถานที่ (Site) ☐ ชั่วคราว (Temporary) ☐ เคลื่อนที่ (Mobile) ☐ หลายสถานที่ (Multisite)

สาขาการทดสอบ (Field of Testing)	รายการทดสอบ (Parameter)	วิธีทดสอบ (Test Method)
สาขาไฟฟ้า (Electrical field)		
1. หม้อแปลงไฟฟ้ากำลัง : ชนิดระบายความร้อนด้วยน้ำมัน (Power transformers : Oil-immersed type Transformers)	- Measurement of winding resistance	- IEC 60076-1 Edition 3.0 2011-04
	- Measurement of voltage ratio and check of phase displacement	
	- Measurement of no-load loss and current	
- ขนาด 1 kVA ขึ้นไปถึง 2 000 kVA สำหรับหม้อแปลงไฟฟ้ากำลัง 1 เฟส ที่มีแรงดันไฟฟ้าสูงสุดไม่เกิน 36 kV (1 phase transformers with rated power 1 kVA up to 2 000 kVA and rated voltage up to including 36 kV)	- Measurement of short-circuit impedance and load loss	
	- Applied voltage test	- IEC 60076-3 Edition 3.0 2013-07
	- Induced voltage withstand test	
- ขนาด 5 kVA ขึ้นไปถึง 5 000 kVA สำหรับหม้อแปลงไฟฟ้ากำลัง 3 เฟส ที่มีแรงดันไฟฟ้าสูงสุดไม่เกิน 36 kV (3 phase transformers with rated power 5 kVA up to including 5 000 kVA and rated voltage up to including 36 kV)	- Lightning impulse tests (LI, LIC, LIN, LINTT)	
	- Temperature rise test	- IEC 60076-2 Edition 3.0 2011-02
	- Insulation resistance test	- IEEE Std C57.12.90-2015
	- Determination of sound levels	- IEC 60076-10 Edition 2.0 2016-09

กระทรวงอุตสาหกรรม สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม
(Ministry of Industry, Thai Industrial Standards Institute)
หน้าที่ 2/2

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 2024

In 2024, the Company continued to use academic seminars to conduct active specific marketing with the hope to create understanding about a full range of modern electrical systems and to raise brand awareness both offline and online. 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. The performance in 2024 was as follows:

QTC Public Seminar - Offline

"A New ERA of Thailand Energy 2024"

5 Seminars Covering All Regions of Thailand

	20 Feb 2024; Thantara Resort Chaing Mai Chaing Mai		
	02 Apr 2024; Avani Khon Kaen KhonKaen		
	19 Jun 2024; Holiday Inn Sriracha Chonburi		
	15 Aug 2024; Pull Man Bangkok King Power Bangkok		
	16 Oct 2024; Ramada Chao Fah Phuket		

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 2024, a total of four online seminars were held.

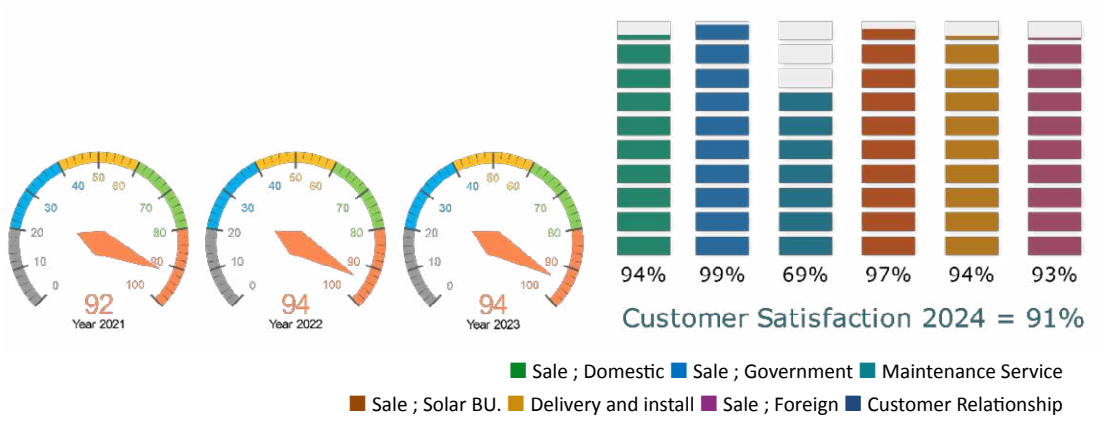
QTC Campus Tour "Teaching the Younger Generation"

In 2024, three activities were held at the Faculties of Electrical Engineering of three universities as follows:

No.	Activity Date	Location	Images of Activities	
1	8 Feb 2024 ; 09.00-12.00	King Mongkut's University of Technology North Bangkok		
2	21 Feb 2024 ; 09.00-12.00	Chiang Mai University		
3	21 Feb 2024 ; 13.00-16.00	Rajamangala University of Technology Lanna		

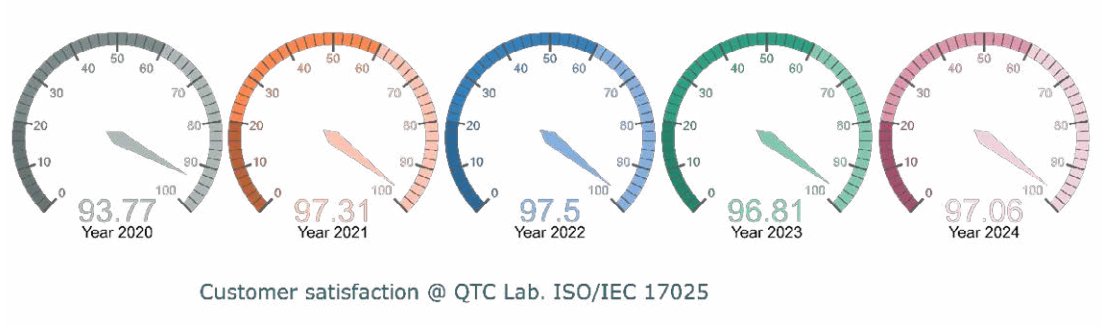
Customer Assessment for 2024

- **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 2024 achieved **the goal at 91%.**



- 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%.**

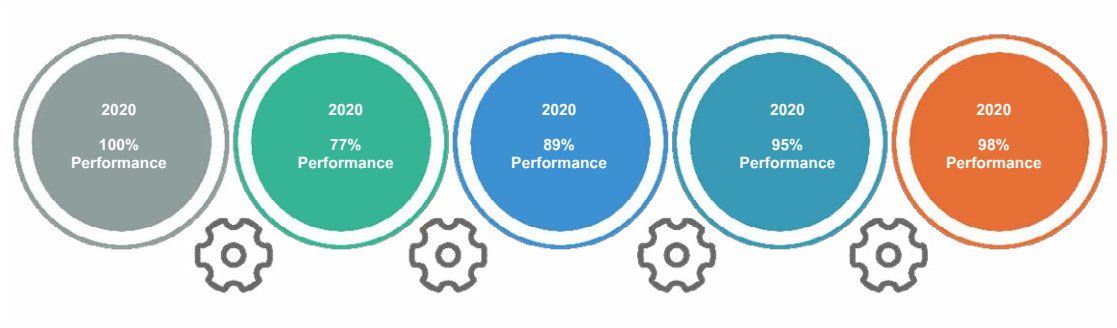


- From performance in 2024, a total of 151 customers viewed the FAT transformer testing process both online and onsite. Results from satisfaction assessment were at 97.06%. The target was achieved.

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

- Concerning performance in 2024, the Company had 8 complaints from customers, a decrease from 2023. 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 2024 showed 656 transformers within the warranty period. The Company was able to work according to customer confirmations for 643 transformers and failed to work according to plans with 13 transformers. In other words, 98% of the cases were able to be completed ***according to target.***

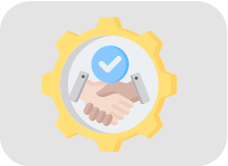
Goal: 0 In All Cases

- 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. The assessment results of the key sustainability topics are as follows:



Supplier Management

Risks

- Reliance on just a few suppliers of transformer production raw materials may put the Company at risk of raw material shortages or uncontrollable changes in raw material prices, which would affect production costs.
- The operations of raw material suppliers, vendors, or contractors in the supply chain may have human rights violations, environmental destruction, or serious criminal activity. This may affect the organization's reputation and may impact QTC's value chain.

Opportunities

The improvement of processes to acquire additional raw material suppliers, especially for key raw materials, provides an opportunity for the Company to negotiate prices and conditions.

Financial materiality

- Assessment and inspection of the operations of suppliers.
- Provision of recommendations and joint development of the work processes of suppliers.
- Setting of terms for prices, delivery, and quality and reduction of purchasing costs.

Impact materiality

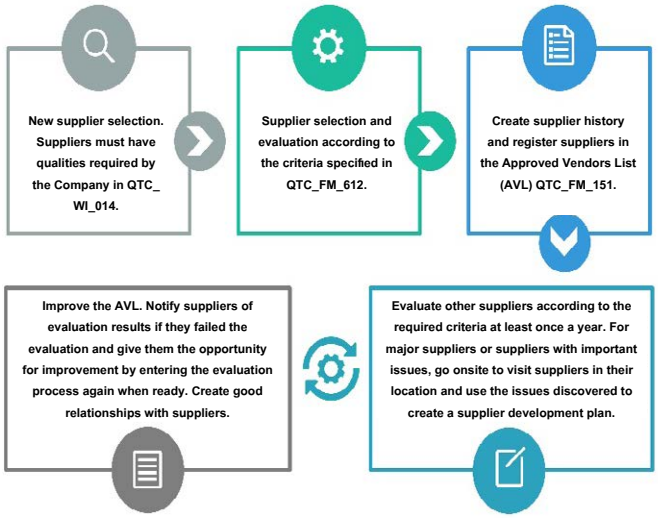
- Raw materials have quality and are delivered on time.
- Enhance the efficiency of the supplier management process.

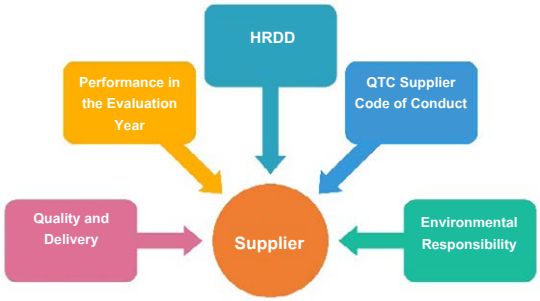
Objective :	1. To reduce the risk of production interruptions from shortages of key raw materials. 2. To build economic strength for SME suppliers in Thailand. 3. To deliver quality goods on time and create satisfaction in customers. 4. To promote good social and environmental practices.
Management :	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).
Goal 1:	Procure raw materials to have quality > 95%
Performance :	In 2024, the Company performed this at 99.43%. The target was achieved.
Goal 2:	> 95% of raw materials are delivered on time.
Performance :	In 2024, the Company performed this at 99.65%. The target was achieved.
Goal 3:	Communicate and recommend guidelines in the QTC Supplier Code of Conduct to 100% of all supplier groups.
Performance :	In 2024, the Company was able to achieve 100% of this. The target was achieved.
Goal 4:	Develop at least three Tier 1 SME suppliers per year to elevate abilities that are lacking.
Performance :	In 2024, the Company jointly developed one supplier. The target was not achieved.
Goal 5:	Conduct HRDD on 100% of Tier 1 suppliers within 2024.
Performance :	In 2024, HRDD was conducted on 100% of Tier 1 suppliers. The target was achieved.

Supplier Management Guldeline

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.

Supplier Management Process





Supplier Evaluation Topics

ฦQTC sorts suppliers into three categories and seven groups based on product or service characteristics to enable systematic management as follows:

Table Showing the Categories and Groups of QTC Suppliers

Category	Group	Product or Service Group
Critical Teir 1	1	Suppliers of raw materials, services, equipment, and machines that affect quality.
	2	Suppliers of product and raw material transportation services.
	3	Suppliers of disposal services for disused materials.
	4	Suppliers of environmental and safety inspection services.
	5	Suppliers who are construction contractors.
Teir 1	6	Suppliers who are distributors of products, materials, equipment, stationary, or other general services.
Non-Teir 1	7	Suppliers who do not deliver products directly to QTC but who produce for or deliver to Critical Tier 1 or Tier 1 suppliers 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 2024

- The Company **assessed suppliers/vendors** (producers and vendors of raw materials with effects on quality) according to the criteria for selecting/assessing deliverers and the QTC Supplier Code of Conduct (ESG assessment criteria), which compiles issues of quality, delivery, social-human rights and environmental practices. In 2024, no significant social-human rights and environmental issues were found. Only quality issues were found to require performance improvement as follows:

Table showing the evaluation results of partners according to QTC's ESG evaluation criteria for the year 2024

Category	Group	2023		2024					
		No. of Suppliers That Passed Assessment		Total No. of Suppliers (According to the AVL)		No. of Suppliers Assessed		No. of Suppliers That Passed Assessment	
		Existing Suppliers	New Suppliers	Existing Suppliers	New Suppliers	Existing Suppliers	New Suppliers	Existing Suppliers	New Suppliers
Critical Teir 1	1. Suppliers of raw materials, services, equipment, and machines that affect quality.	168	4	193	38	193	38	193	38
	2. Suppliers of product transportation services.	35	5	32	22	32	22	32	22
	3. Suppliers of disposal services for disused materials.	2	1	3	0	3	0	3	0
	4. Suppliers of environmental and safety inspection services.	2	0	3	1	3	1	3	1
	5. Suppliers who are construction contractors.	12	1	15	6	15	6	13	6
Teir 1	6. Suppliers who are distributors of materials, equipment, or other services.	0	0	13	15	13	15	13	15
Non-Teir 1	7. Suppliers who do not deliver products directly to QTC.	0	0	0	0	0	0	0	0
Total		**219**	**11**	**259**	**82**	**259**	**82**	**257**	**82**
		230		**341**		**341**		**339**	

Based on the assessment, two suppliers were found to have operations with significant social impact. Therefore, the Company had to suspend the use of their services and provide them with the opportunity to make improvements until they can pass the assessment. In any case, the Company cannot disclose the name of these suppliers.

- **Supplier Development**

The Company has a plan for visiting suppliers and prepares self-audit documents for them to conduct annual self-audits, including major topics such as quality and ESG performance. Suppliers with major issues are selected for onsite assessments to review their compliance with guidelines and operational issues that impact quality or delivery in order to find improvement and development guidelines together.

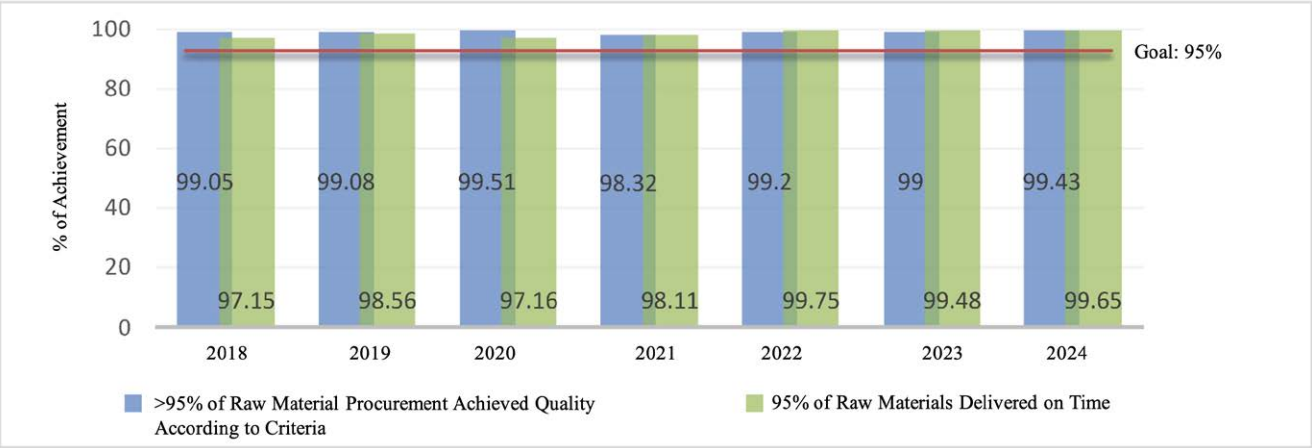
The Company conducted an onsite inspection of the Critical Tier 1 supplier of raw materials that affect quality who, in 2023, had issues concerning delivery of substandard quality raw materials and non-traceability. The Company had recommended that the supplier make the following improvements:

1. Ensure 100% inspection of raw materials and record test results before delivering to the Company.
2. After testing, specify the lot number for every piece of raw material by stamping on the pieces to allow for traceability.

After proposing the guidelines and the improvements made by the supplier, zero issues were found in 2024 related to substandard quality raw materials. This supplier has a plan to apply for the certification of their quality management system by 2025 and the Company will be glad to provide recommendations by an experienced work team and will visit to inspect and provided recommendations according to the established annual plan.

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



ฆDomestic Procurement Value of Products and Services

Year of Operation	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%
2024	960,995,038.62	69,507,791.61	7.23%	891,487,247.01	92.77%

Safety & Health

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.

Safety & Health

Risks

The health and safety of employees as well as stakeholders related to business processes are significant risks for which the organization must ensure practices that are better than legal requirements. A high budget is required to create preventive measures because when an accident occurs, it results in not only injured or ill employees but also expenses for which the organization must be held accountable, such as medical fees, remedial fees, compensation, or damage to property, the severity of which depends on the actual incident. Furthermore, if these risks are not controlled and result in injury or death, it may damage the organization's reputation, causing loss of trust, or it may impact the approval status of the organization's business licenses. Moreover, if an accident occurs in the supply chain, it may cause an interruption in the delivery of raw materials and also affect the organization's production and product delivery.

Opportunities

The effort to achieve the zero-accident goal has led to work process improvements to reduce risks of accidents and risks to the health and well-being of employees. The management of a safe work environment and safety awareness for employees have resulted in a safety culture, leading to production and product delivery that comply with agreements and have quality. Employees are happy to work and feel attached to the organization, which reduces the resignation rate and provides an advantage in labor recruitment.

Financial materiality

- Reduce the severity and chance of accidents by improving the work environment, tools, and machines to provide safety to operators.
- Promote activities to raise awareness among employees about health and safety.
- Mitigate impacts from accidents by buying insurance that covers both property and medical expenses for employees.
- Promote and develop the health and safety management of suppliers in the supply chain.

Impact materiality

- Zero accidents.
- Create a safety culture in the organization.
- Elevate suppliers' ability to manage health and 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.
Goal 1:	Zero work-related accidents.
Performance :	In 2024, there were 19 accidents. The target was not achieved.
Goal 2:	Zero occupational health problems, injuries or illnesses.
Performance :	In 2024, no employees had occupational injuries or illnesses. The target was achieved.
Goal 3:	100% of target employees receive occupational safety training.
Performance :	In 2024, 84.96% of target employees were trained. The target was not achieved.

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

<u>All Employees</u>
ACTION
Take real action. Report issues/prevent recurrence.
Monitor results.

<u>Supervisors/SC/SO</u>
CHECK
Inspect safety.
Control performance.
Inspect the environment.
OTC

<u>Executives</u>
PLAN
Establish policies.
Establish goals.
Review performance.

<u>Supervisors/Operators</u>
DO
Assess risks.
Determine methods/plans.
Train, raise awareness.

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 Number (person)	QTC RE Number (person)
	Services & Bangkok Office Number (person)	Rayong Factory Number (person)		
Supervisor SOs	16	11	1	2
Technical SOs	-	-	-	-
Professional SOs	-	2	-	-
Executive SOs	12	16	1	4

1 : 5 1 : 9 1 : 3

SO-to-Employee Ratio

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. Wanchanok Amonsaksophon	Director
5	Mr. Wachira Indi	Director	5	Miss Thitsana Ruammai	Director/Secretary
6	Miss Pawitchaya Chansanit	Director			
7	Miss Arunrot Inthasiri	Director/Secretary			
Calculated as %4.49 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.

Accident Investigation Process

Accident Protocol

The Company requires there to be an incident investigation protocol (QTC_PD_042) to be used as steps for reporting the investigation and taking corrective action to prevent recurrence in order to respond to an incident in a timely manner and correct and eliminate the cause of the incident.

01 Report Accident
The employee at the accident site reports the accident to their supervisor.

02 Investigate and Analyze the Cause
The supervising SO investigates and analyses the cause of the accident using Why-Why Analysis.

03 Correct and Prevent
The supervising SO and employee at the operating area correct and prevent the cause of the accident.

04 Monitor and Assess
The executive SO and technical SO monitor the corrective actions.

Incentivization

In 2024, the Company supported the Safety Committee (SC) in organizing activities to promote safety and improve work conditions to reduce accidents and activities to create BBS (behavior-based safety), as well as promoting employee participation in assessing safety risks, finding and resolving near-misses, and incentivizing employees in all areas to participate in accident reduction, etc.

For areas in the Rayong factory and areas with reduced accidents from 2023, the Company awarded certificates and money to operators in those areas to boost morale and promote employee participation in the work to achieve the zero-accident goal. In 2024, there was one area with accidents reduced by over 50% and nine areas with zero accidents. The award money amounted to 59,251 baht.

Areas with Accidents Reduced by Over 50%

- Chassis Section

Zero-accident Areas

- Service Section
- Amorphous Steel Core Section
- Coiling Section
- Oil Baking and Filling Section
- Maintenance Section
- Equipment Installation Section
- Testing Department
- Quality Assurance Department
- Transformer Repair Section

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 2024, safety rules were strictly enforced and two 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.

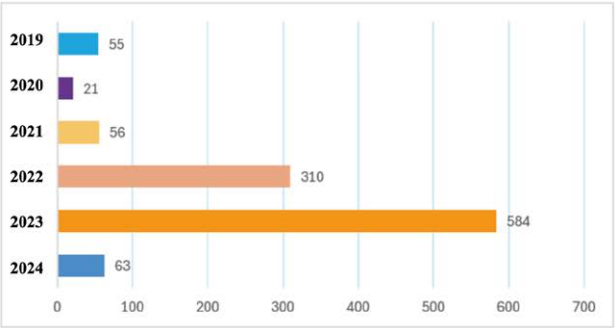
Build Participation

The promotion of KAIZEN and writing near-miss reports builds employee participation in presenting concepts and eliminating lack of safety before accidents. In 2024, employees sent 63 safety KAIZEN articles out of 420 KAIZEN articles and 26 near-miss reports were sent.

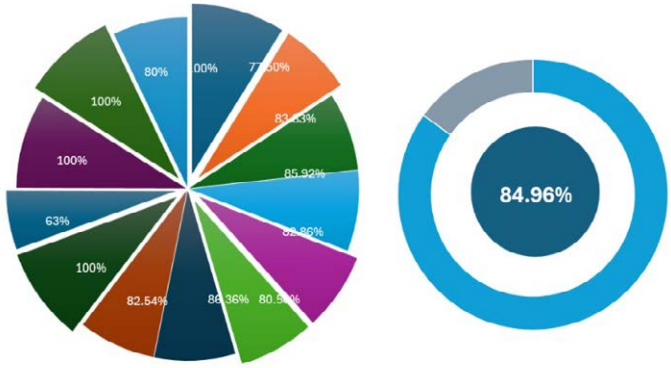
Statistics for Participation in Writing Near-miss Reports

Year of operation	Number of Content	Level of senverity		
		RED	YELLOW	GREEN
2019	275	45	109	121
2020	29	7	10	12
2021	36	17	14	5
2022	36	9	16	11
2023	12	2	7	3
2024	26	4	10	12

Statistics for Participation in Creating Safety KAIZEN



Transfer of Knowledge into Practice



% of targeted employees who participated in the training

In 2024, 13 safety training courses were held. The number of target employees attending the training accounted for 84.96%, 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.

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 2024, the Company organized 13 major practical training courses and spent 187,100 baht in operations as follows:

Various public relations news to make employees and outsiders who come to work within the company aware of safety, kindness, and help prevent accidents to themselves, their colleagues, and the company's property. In 2023, 10 important practical training courses were organized with a budget of 117,100 baht as follows

No.	Date	Course Name	Purpose of Training	Budget (baht)	Target		Performance	
					No. of People	% Receiving Training	No. of People	% Receiving Training
1	12-Jan-2024	Safety When Working with Chemicals	To ensure that employees who work with chemicals have the knowledge and understanding about the dangers of chemical and can safely prevent hazards when working with chemicals.	-	8	100%	8	100%
2	25-Apr-2024	Behavior-based Safety (BBS) Training for All SO Levels and the SC	To ensure that executives, supervisors, and the SC have the knowledge and understanding, can serve as a good role model, and support BBS activities.	32,100	40	100%	31	78%
3	17-May-2024	Behavior-based Safety (BBS) Observation Guidelines for the BBS Committee	To ensure correct knowledge and understanding about how to conduct BBS activities and submit BBS reports in the system.	-	24	100%	20	83%
4	20-29 May-2024	Behavior-based Safety (BBS) Observation Basics for Employees	To ensure that all employees have the basic knowledge of and cooperate in BBS activities.	-	199	100%	171	86%
5	18-Sep-2024	Knowledge and Understanding of Hearing Conservation Measures	To ensure that employees working in areas where the noise exceeds the legal limit have the knowledge and understanding about methods to prevent dangers from loud noises and understand the steps in the hearing conservation project.	-	35	100%	29	83%
6	10-Oct-2024	Proper and Safe Forklift Operation	To ensure that employees have the correct knowledge and understanding of the work protocol and can implement the knowledge to safely operate forklifts.	17,000	36	100%	29	81%
7	16-17 Oct-2024	Legal Requirements for Overhead Crane Operators	To ensure that employees have the correct knowledge and understanding of the work protocol and can implement the knowledge to safely operate cranes.	30,000	22	100%	19	86%
8	18-Oct-2024	Review of Legal Requirements for Overhead Crane Operators	To review the roles and duties in safe crane operation and ensure awareness about safety in working with cranes.	25,000	63	100%	52	83%
9	28-Nov-2024	Safety Training for Working with Electricity for Service Technicians	To ensure that employees who work with electricity have the knowledge and understanding and can operate safely.	20,000	33	100%	33	100%
10	29-Nov-2024	Safety Training for Working at Heights for Service Technicians	To ensure that employees who work at heights have the knowledge and understanding and can operate safely.	20,000	32	100%	20	63%
11	29-Nov-2024	Safety When Working with Chemicals (Service Technicians)	To ensure that employees who work with chemicals have the knowledge and understanding about the dangers of chemical and can safely prevent hazards when working with chemicals.	-	18	100%	18	100%
12	10-Dec-2024	Basic Firefighting (Rayong Fac.)	To ensure that employees have basic knowledge of fire prevention and suppression and can implement the knowledge.	20,000	27	100%	27	100%
13	17-Dec-2024	Basic Firefighting (Bangkok Office)	To ensure that employees have basic knowledge of fire prevention and suppression and can implement the knowledge.	23,000	15	100%	12	80%
Safety Training Summary				187,100	552	100%	469	85%

5S Safety & Happy Workplace 2024

with Focus on “BBS (Behavior-based Safety)”

In 2024, the Company organized safety promotion activities under the concept “5S Safety & Happy Workplace 2024” with a focus on the topic of “BBS (behavior-based safety)” to ensure effective occupational safety and hygiene and to raise awareness about climate change. The Happy Workplace Organization Policy was used to drive forward the activities to create “good and skilled” people in the dimension of “sufficiency, discipline, honesty, volunteer-mindedness, and gratitude” to ensure compliance in the same direction and create unity to facilitate the organization’s sustainable growth. A total budget of 92,822.64 baht was spent on the activities.

Images of the Atmosphere at the 5S Safety & Happy Workplace 2024 Event

Safety Photography Competition Activity

Inventions from Disused Materials Competition

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 2024 are as follows:

Table Showing Sound Measurements in Work Areas

Area	Test Point	Test Results					Standard	Unit
		2022		2023		2024		
		15/6/22	3/10/22	8/6/23	14/8/23	20/5/67		
Factory 3	Unicoil Metal Cutter	78.1		76.0		76.0	85	dB(A)
Oil Baking & Filling	Tanking	74.9		74.0		76.0	85	dB(A)
Amorphous Steel Core	Amorphous Steel Cutter		73.2		71.0	74.0	85	dB(A)
Assembly	Wood Cutting Room	82.7		83.0		82.0	85	dB(A)
Steel Core	Workshop	80.6	86.3	79.0		81.0	85	dB(A)
Assembly	Copper Core Welding Workshop	76.7		74.0		77.0	85	dB(A)
Equipment Installation	Spray Booth	77.1		76.0		76.0	85	dB(A)
Coiling Building	Coiler	74.7		67.0		72.0	85	dB(A)
Coiling Building 2	Coiler	87.5	70.8	69.0		70.0	85	dB(A)
Paper Cutting Room	Paper Cutting	73.9		69.0		74.0	85	dB(A)
Factory 4	Chassis Assembly and Welding	83.3		88.0		85.0	85	dB(A)
Factory 4	Glorystar Laser Cutter	79.2		81.0		82.0	85	dB(A)
Factory 5	Chassis Welding and Assembly	83.5		81.0		93.0	85	dB(A)
Factory 5	Robot Chassis Welding and Assembly	86.5		83.0		83.0	85	dB(A)
Factory 5	Steel Pellet Shooting Area	87.4		82.0		88.0	85	dB(A)
Factory 5	Automatic Steel Pellet Shooting Area	83.8		96.0		82.0	85	dB(A)
Factory 6	Spray Booth MC 139	77.5		77.0		76.0	85	dB(A)
Factory 6	Spray Booth MC 199	76.9		75.0		74.0	85	dB(A)

In 2024, the work area noise disturbance test results showed two areas to have higher sound levels than legal requirements, which have been designated as danger areas. Workers and anyone entering 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	ผลตรวจ			Standard	Unit
		2022	2023	2024		
		15-16/6/22	8-9/5/23	20-21/5/24		
General Volume Level (Leq 24hr)	Employee Dormitory	65.6	64.6	66.8	70	dB(A)
General Volume Level (Lmax)	Employee Dormitory	88.9	89.9	92.8	115	dB(A)

Test Results of the Environment for Working with Chemicals

Area	Parameter	Test Results					Standard	Unit
		2022		2023		2024		
		6/15/2022	10/3/2022	6/8/2023	8/14/2023	5/20/2024		
Steel Core: Steel Cutting/Slitting Factory 3	Iron Dust	Not Detected		<0.01		<0.004	10	mg/m³
	Total dust	Not Detected		Not Detected		<0.8	15	mg/m³
Steel Core: Steel Arrangement Factory 3	Xylene	Not Detected		<0.83		<0.83	100	ppm
	Toluene	<0.25		<0.96		<0.96	200	ppm
	Total dust	0.34		2.2		<0.8	15	mg/m³
Steel Core: Steel Arrangement Factory 1	Xylene	Not Detected		<0.83		<0.83	100	ppm
	Toluene	Not Detected		<0.96		1.92	200	ppm
	Total dust	Not Detected		Not Detected		<0.8	15	mg/m³
Steel Core: Work Shop	Xylene	Not Detected	Not Detected	<0.83		<0.83	100	ppm
Steel Clamp Paint	Toluene	Not Detected	Not Detected	<0.96		<0.96	200	ppm
Steel Score: Work Shop	Iron Dust	<0.007	<0.007	<0.01		<0.004	10	mg/m³
Steel Cutting Machine/Drill Press	Iron Fume	<0.007	<0.007	<0.01		<0.004	10	mg/m³
	Total dust	Not Detected	<0.20	<0.8		<0.8	15	mg/m³
	Carbon Monoxide			1		1	50	ppm
Coiling: Coiling	Total dust	Not Detected		1.8		<0.8	15	mg/m³
	Copper Fume	Not Detected		<0.01		<0.004	0.1	mg/m³
Coiling: Coiling 2	Total dust			<0.8		<0.8	15	mg/m³
	Copper Fume	Not Detected		<0.01		<0.004	0.1	mg/m³
Coiling: Paper Cutting Room	Total dust	0.51		<0.8		<0.8	15	mg/m³
	Respirable Dust	Not Detected		1.6		<0.5	5	mg/m³
Assembly: Copper Core Welding	Copper Fume	Not Detected		<0.01		<0.004	0.1	mg/m³
	Total dust	Not Detected		Not Detected		1.2	15	mg/m³
Assembly: Welding/Low Power Core Polish Workshop	Copper Fume	Not Detected		<0.01		<0.004	0.1	mg/m³
	Iron Fume	Not Detected		<0.01		<0.004	10	mg/m³
	Carbon Monoxide	Not Detected		1		<1.0	50	ppm
Assembly: Wood Cutting Room	Total dust	Not Detected		1.7		<0.8	15	mg/m³
	Respirable dust	Not Detected		0.5		<0.5	5	mg/m³
Installation: Spray Booth	Total dust	<0.20		1.8		<0.8	15	mg/m³
	Xylene	Not Detected		<0.83		<0.83	100	ppm
	Toluene	Not Detected		<0.96		<0.96	200	ppm
Transformer Repair	Total dust	Not Detected		0.8		<0.8	15	mg/m³
	Oil Mist	0.13		0.12		0.12	5	mg/m³
Chassis:	Total dust	< 0.20		1		<0.8	15	mg/m³
Chassis Welding & Assembly, Factory 4	Carbon Monoxide	Not Detected		<1.0		1	50	ppm
	Iron Fume	Not Detected		0.04		0.117	10	mg/m³
	Chromium			<0.01		<0.004	1	mg/m³
Chassis: Plasma Cutting, Machine Factory 4	Carbon Monoxide	Not Detected		<1.0		<1.0	50	ppm
	Iron Fume	Not Detected		0.22		0.018	10	mg/m³
	Total dust	<0.20		<1.2		<0.8	15	mg/m⁴
Chassis:	Iron Fume	<0.007		2.83		482	10	mg/m³
Shot Peening Room (Internal), Factory 5	Iron Dust	3.9		2.83		482	10	mg/m³
	Respirable Dust	3.86		2.4		7.8	5	mg/m³
Chassis:	Iron Dust	0.05		0.24		0.027	10	mg/m³
Shot Peening Room (External), Factory 5	Total dust	Not Detected		2		<0.8	15	mg/m³
Amorphous	Total dust		Not Detected		<0.8	<0.8	15	mg/m³
	Bis-phenal A		Not Detected		Not Detected	Not Detected	5	mg/m³
Factory 5 Chassis: Welding & Assembly	Carbon Monoxide	Not Detected		<1.0		2	50	ppm
	Iron Fume	0.008		0.04		0.018	10	mg/m³
	Total dust	Not Detected		1.2		<0.8	15	mg/m³
	Chromium			<0.01		<0.004	1	mg/m³
Factory 5 Chassis: Robot Assembly	Carbon Monoxide	Not Detected		<1.0		3	50	ppm
	Iron Fume	Not Detected		0.03		0.021	10	mg/m³
	Total dust	<0.20		<0.8		<0.8	15	mg/m³
Factory 6 Chassis: Spray Booth (MC139)	Toluene	Not Detected		<0.96		<0.96	200	ppm
	Xylene	Not Detected		<0.83		<0.83	100	ppm
	Total Dust	Not Detected		Not Detected		<0.8	15	mg/m³
Factory 6 Chassis: Spray Booth (MC199)	Toluene	0.56		<0.96		<3.63	200	ppm
	Xylene	5.33		<0.83		3.58	100	ppm
	Total Dust	Not Detected		1.8		<0.8	15	mg/m³
Factory 6 Chassis: Transformer	Toluene	0.96		<0.96		<3.63	200	ppm
	Xylene	65		<0.83		5.23	100	ppm
		Not Detected		<0.8		1.5	15	mg/m³

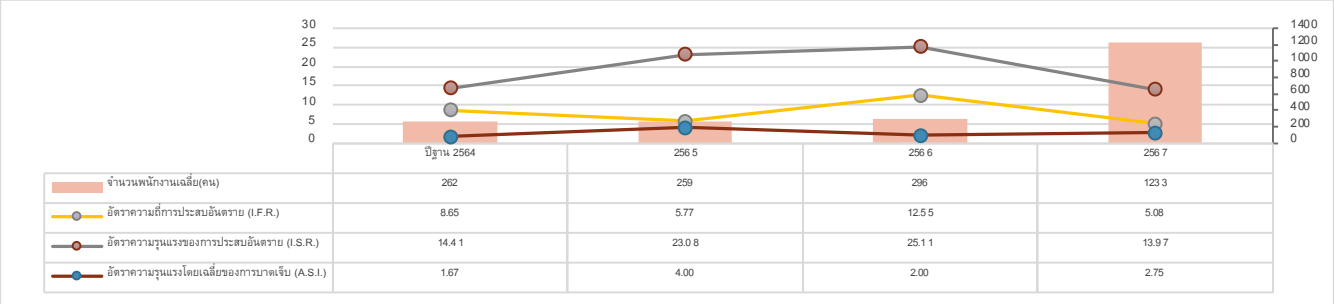
The test results for every station and parameter showed values better than the legal standard.

Statistics on Accidents

In 2024, the Safety Committee (SC) prepared a safety work plan to reduce the IFR and ISR with the goal to reduce them by more than 10% of Base Year 2021 (the year with the best IFR and ISR values). The performance in 2024 showed that the IFR decreased by 41.27% from 2021, achieving the goal. The ISR decreased by 3.05% from 2021, which failed to achieve the goal. As for the ASI, this increased from 2021 by 64.67% and no fatal accidents occurred as shown in the table summarizing the performance. Nevertheless, the Board of Directors continues to give importance to and aims to achieve the zero-accident target in 2025 and requests that every department quickly find proper preventive measures and raise more awareness about safety.

Graph Comparing Statistical Data of Safety

Based on the ANSI Standard for QTC Energy from 2021-2024



Remarks: The average number of employees for 2024 included external personnel operating in the factory.

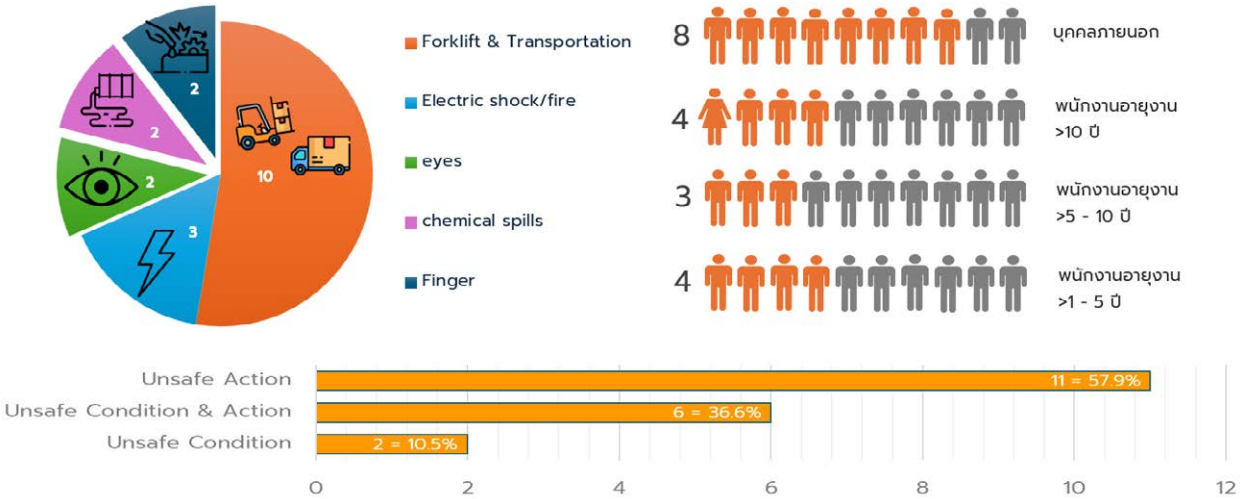
Summary of Performance According to the Zero-accident Goal for QTC Energy Only

Indicator	Calculation Formula	Goal	Performance		
			2022	2023	2024
1. Injury Frequency Rate (IFR)	(No. of Injuries x 1,000,000)/ Total Hours Worked	Reduced by %10 from 2021 7.78≥))	5.77 The goal was achieved.	12.55 The goal was not achieved. There is a rising trend.	5.08 The goal was achieved.
2. Injury Severity Rate (ISR)	No. of Lost Workdays x 1,000,000/Total Hours Worked	Reduced by %10 from 2021 12.97≥))	23.08 The goal was not achieved. There is a rising trend.	25.11 The goal was not achieved. There is a rising trend.	13.97 The goal was not achieved.
3. Fatal Accidents	Number of People	Zero	Zero	Zero	Zero

Table Comparing Work Accident Statistics for QTC Energy (2021-2024)

Severity/Damage	No. of Accidents/Year							
	2021		2022		2023		2024	
	Employees	External Personnel	Employees	External Personnel	Employees	External Personnel	Employees	External Personnel
Property Damage	15	3	8	6	6	5	9	6
Minor Injury – No Work Interruption (time)	4	0	2	-	3	-	2	-
Severe Injury Resulting in Interruptions (time)	2	1	2	-	6	-	2	-
Total Injuries (time)	21	4	12	6	15	5	13	6
Total Number of Work Days Lost due to Work Accident (day)	10	3	16	-	18	-	11	-
Fatal Accidents in Areas of Operation	-	-	-	-	-	-	-	-

Accidents Sorted by Hazard Characteristics and by Employment Periods of Accident Victims for 2024



According to investigations of accidents and based on the graph of accidents by causes, up to 57.9% of accidents in 2024 were caused by unsafe employee actions and up to 36.6% of accidents were caused by unsafe employee actions combined with unsafe work conditions. Only 10.5% of accidents were caused by unsafe work conditions alone. Based on the chart showing accidents sorted by hazard characteristics, it can be seen that the accidents that caused damage to the Company's property were 10 accidents involving vehicles. These included six accidents caused by lifting and transportation by forklifts, which cost 657,175.36 baht in damage, of which the Company was able to claim 374,445.69 baht. Four accidents were caused by external personnel (contractors, transport service providers, and raw material deliverers), resulting in 185,020.20 baht in damages, which the Company was able to claim in full. As for internal accidents caused by employees resulting in damages, the trend for property damage increased from 2023.

The employment period of employees involved in accidents included every employment period with employees in the 1-5-year period causing four accidents, employees in the >5-10-year period causing three accidents, and employees in the >10 period causing four accidents. 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, the Company's work protocols have been revised to cover the safety of external personnel working for the Company and training was provided to external personnel working for the Company.

Table Comparing Work Accident Statistics for Subsidiaries (2022-2024)

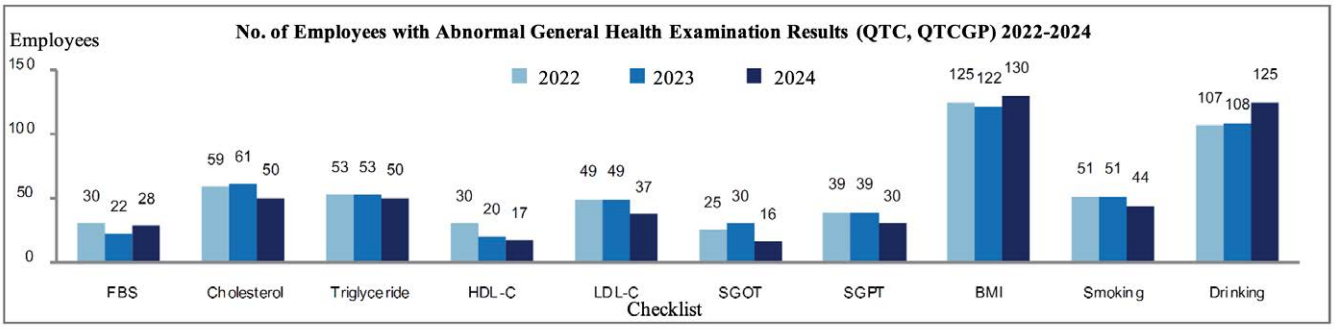
Severity/Damage	No. of Accidents/Year							
	Q Solar 1						QTCGP, QTC RE, QTC EV	
	2022		2023		2024		2024	
	Employees	External Personnel	Employees	External Personnel	Employees	External Personnel	Employees	External Personnel
Property Damage	-	-	-	-	-	-	-	-
Minor Injury – No Work Interruption (time)	-	-	-	-	-	-	-	-
Severe Injury Resulting in Interruptions (time)	1	-	-	-	-	-	-	-
Total Injuries (time)		-	-	-	-	-	-	-
Total Number of Work Days Lost due to Work Accident (day)	17	-	-	-	-	-	-	-
Fatal Accidents in Areas of Operation	-	-	-	-	-	-	-	-

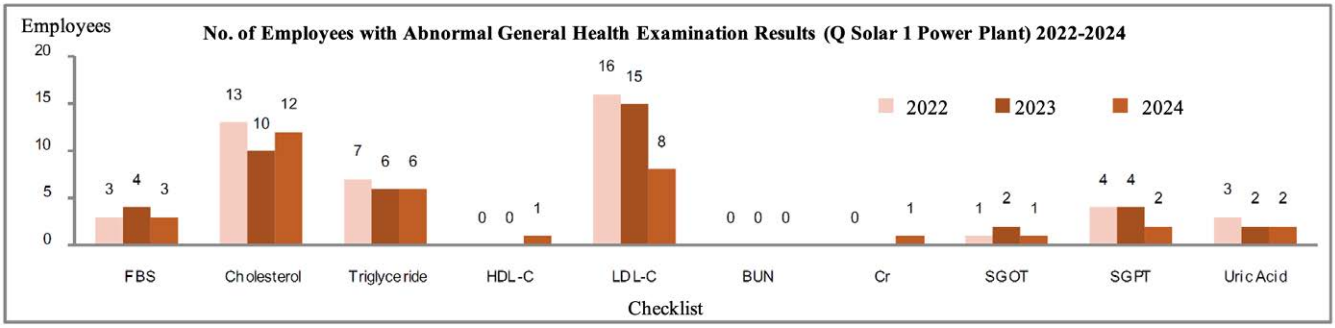
Health

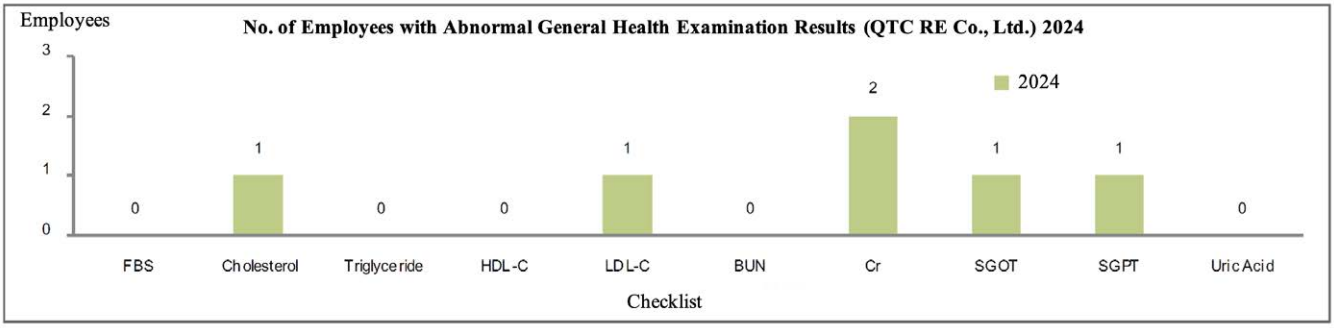
Employees' good health is an important factor enabling employees to perform duties and responsibilities effectively. The Company announced policies to promote health and organization happiness http://qtc-energy.com/th/hpe-policy in addition to organizing work areas to have an attractive and clean environment 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. In 2024, QTC, QTCGP, and QTC RE 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 2024, a budget of 733,058.92 baht was spent for the four companies.



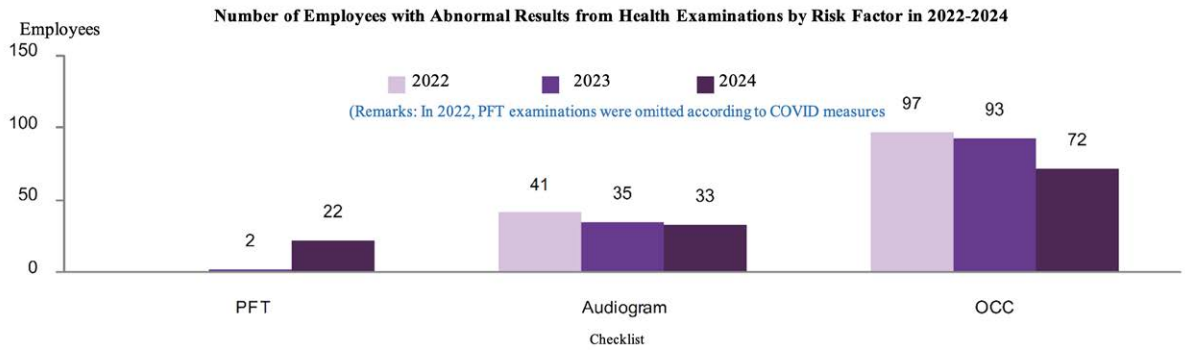




According to the graphs, employees of QTC, QTCGP, QTC RE, and Q Solar 1 with abnormal general health examination results were found to have decreased slightly from 2023. Employee health will remain an important issue in 2025 that will require the Company to encourage employees to exercise and take better care of personal health.

Health Examinations by Risk Factor

Health examinations based on work risks in 2024 showed risks were lower than in 2023 due to improvements and corrections in the area of work environments, the provision of suitable protective equipment for work in each area, as well as implementation of the hearing conservation project.



Images of Annual Health Examinations in 2024

Work-related Illnesses

Statistics on Work-related Illnesses in 2022-2024

Description	No. of Illnesses/Year						
	QTC			Q Solar 1			QTCGP, QTC RE, QTC EV
	2022	2023	2024	2022	2023	2024	2024
Work-related Illnesses (employees)	-	2	-	-	-	-	-
No. of Interrupted Work Days Due to Work-related Illnesses (days)	-	-	-	-	-	-	-

In following up on the annual health examination results and advice from occupational physicians, no employees were found to have had any illnesses from work in 2024.

Health Consultation

Statistics of health consultation services by registered nurses at the factory in 2024 show that 11 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

QTC Fun & Fit Season 5: Your Lifestyle is an ongoing activity from 2023 to create discipline in regular exercise, resulting in employees who are physically and mentally strong to promote a healthy workplace organization. The activity closed in April 2024 with 59 employees having participated. A total budget of 5,000 baht was spent on the activity. In conclusion, there were rather few employees interested in participating. The Company will make improvements to draw the interest of employees in other ways.

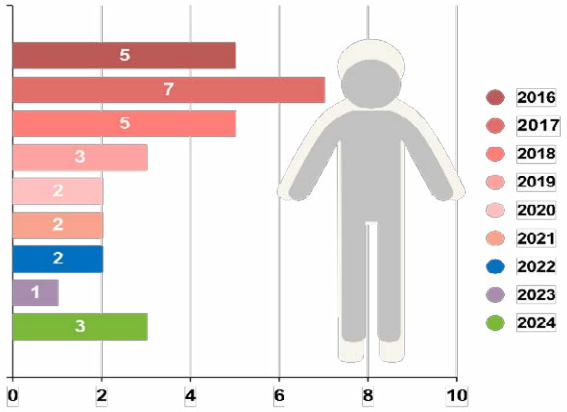
Sports Clubs

The Company continues to allocate a budget for promoting employee exercise based on employee preference and skills. This included various sports clubs such as football club, takraw club, badminton club, pétanque club, and fitness club to provide a variety of exercise styles. In 2024, a total budget of 207,706 baht was spent.

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. In 2024, the Company found three employees with narcotic substances, two of whom accepted therapy and to change behaviors and will retain employee status. The remaining employee voluntarily resigned and did not consent to therapy or to change behavior. The Company had 18,256 baht in operating expenses in 2024.

Statistics on Narcotic Substance Detections in the White Factory Project in 2016-2024



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 2024, vaccinations were carried out at QTC and QTC RE by MYP Healthcare Co., Ltd. and at Q Solar 1 by Chularat 304 Inter Hospital with a budget of 108,210 baht and 83.61% of employees consented to be vaccinated. In 2024, four employees, or 1.5% of all employees, had influenza. Three of these employees consented to be vaccinated even with non-severe influenza symptoms. The remaining employee, who also had non-severe influenza symptoms, did not consent to be vaccinated.

Hypertension and Diabetes Screening Project

The cost-free screening project for hypertension and diabetes based on consent from employees was carried out by MYP Healthcare Co., Ltd. Sixty-three employees voluntarily joined the program. Employees who are at risk of hypertension and diabetes will receive advice on proper self-care practices from the staff and registered nurses.

Labor Standards, Human Capital and 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. In addition, 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. The assessment results of the key sustainability topics are as follows:

Labor Standards, Human Capital and Wellbeing.

Risks

- Neglect or failure to comply with labor laws or regulations or labor-related international standards may cause the Company to have high legal costs or cause the employees to become dissatisfied, leading to labor strikes or labor disputes which would, in turn, impact the organization's reputation.
- The demand for skilled, qualified, knowledgeable, and capable employees has increased in the domestic and international labor market, leading to a talent war, or "labor buying", which puts the Company at risk of losing "good and skilled employees" in whom it has consistently invested and

Opportunities

The promotion and development of employees in the organization to have the skills, knowledge, and abilities creates progress in the employees' career path and creates corporate conditions that make people happy. This provides the organization with the opportunity to be able to compete in every fluctuating economic condition or to rapidly expend business growth.

Financial materiality

- Investment in training and developing skills, knowledge, and abilities of old/new employees.
- Recruitment of new employees.
- Investment in promoting activities to promote a happy workplace.
- Wages and compensation.

Impact materiality

- Higher work or production efficiency.
- % of employee engagement in the organization.
- Higher level of employee happiness.

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.
Goal 1:	Zero labor disputes.
ผลการดำเนินงาน :	There were no reported labor disputes.
Goal 2:	Increase the individual capabilities of 100% of employees with >3 years of employment in the target group and obtain over 86% of their performance evaluation results by 2028.
Performance :	In 2024, performance evaluation results were obtained for over 86% of employees in the target group.
Goal 3:	Create at least five important KMs for the organization per year through employee participation.
Performance :	Fifteen organizational KMs were created. The target was achieved. (Accumulated KMs: 78)
Goal 4:	The rate of resignation-voluntary resignation (for the entire company group) is less than 20%.
Performance :	The total resignation rate was 12.79%. The voluntary resignation rate was 9.18%. The target was achieved.
Goal 5:	The happiness score of the people in the organization is more than 75%.
Performance :	The employees' happiness score was 68.2%. The target was not achieved.
Goal 6:	ความผูกพันองค์กรมากกว่า 80%
Performance :	The survey results for the year = 80.20%. The target was achieved.

Labor Standards

QTC gives importance to compliance with labor laws and 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/human-resource-management-policy/ In 2024, the number of employees at the end of the year for all companies in the group increased by 6.27%. Ratios of employment and wages were as follows:

Graph Showing Employment Ratios for QTC Energy Co., Ltd.

Report Topic		Unit	Year of Operation					
			2022		2023		2024	
			Male	Female	Male	Female	Male	Female
Employees	**Total Number of Employees**	**person**	**179**	**85**	**181**	**88**	**181**	**86**
	Employees	person	179	85	181	88	181	86
	Commissioned Laborers	person	-	-	-	-	-	-
	Ratio of Female Employees to One Male Employee		**0.47:1**		**0.49:1**		**0.48:1**	
Employees Sorted by Area of Operation	**Employees**	person	179	85	181	88	181	86
	Bangkok Office	person	31	34	37	35	33	28
	Rayong Factory	person	148	51	145	52	148	58
	Commissioned Laborers	**person**	**-**	**-**	**-**	**-**	**-**	**-**
	Bangkok Office	person	-	-	-	-	-	-
	Rayong Office	person	-	-	-	-	-	-
No. of Contract Employees and Temporary Employees (Full-time)	**Contract Employees**	**person**	**176**	**84**	**179**	**86**	**179**	**85**
	Bangkok Office	person	28	33	36	34	31	27
	Rayong Factory	person	148	51	143	52	148	58
	Temporary Employees	**person**	**3**	**1**	**3**	**1**	**2**	**1**
	Bangkok Office	person	1	1	1	1	2	1
	Rayong Office	person	2	-	2	-	-	-
No. of Employees Sorted by Age Range	<30 years	person	55	28	51	25	58	24
		% of All Employees	20.83	10.61	21.72	8.99	21.72	8.99
	30 – 50 years	person	114	52	118	57	110	56
		% of All Employees	43.18	19.70	41.20	20.97	41.20	20.98
	51-60 years	person	7	4	9	5	11	5
		% of All Employees	2.65	1.52	4.12	1.87	4.12	1.87
	>60 years	person	3	1	3	1	2	1
		% of All Employees	1.14	0.38	0.75	0.37	0.75	0.37
No. of Employees Sorted by Level	Top Executives (Level 13-UC)	person	4	1	4	1	5	2
		% of All Employees	1.52	0.38	1.49	0.37	1.87	0.75
	Middle Management (Level 9-12)	person	12	14	14	14	12	11
		% of All Employees	4.55	5.30	5.20	5.20	4.49	4.12
	Supervisors (Level 7-8)	person	9	6	9	8	10	10
		% of All Employees	3.41	2.27	3.35	2.97	3.75	3.75
	Operators (Level 1-6)	person	154	64	154	65	154	63
		% of All Employees	58.33	24.24	57.25	24.16	57.68	23.60
Number of Employees Sorted by Nationality		**person**	**179**	**85**	**181**	**88**	**181**	**86**
Employees: Thai Nationality		person	175	84	177	87	176	84
		% of All Employees	66.29	31.82	65.80	32.34	65.92	31.46
Executives: Thai Nationality		person	4	1	4	1	5	2
		% of All Employees	1.52	0.37	1.49	0.37	1.87	0.75
No. of Disabled Persons Receiving Occupational Support		**person**	**-**	**3**	**4**	**-**	**3**	**1**

Graph Showing Employment Ratios for All Subsidiaries

(QTCGP, Q Solar1, QTC RE, QTC EV)

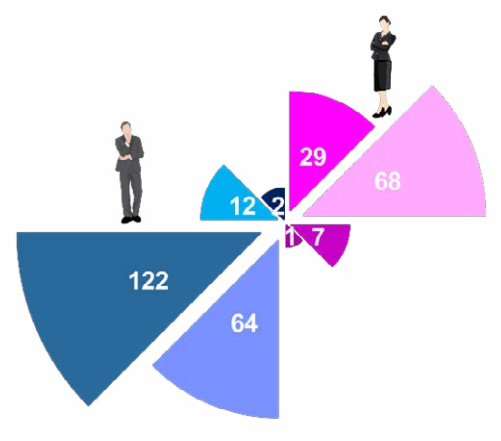
Report Topic		Unit	Year of Operation					
			2022		2023		2024	
			Male	Female	Male	Female	Male	Female
Employees	**Total Number of Employees**	**person**	11	8	11	7	19	19
	Employees	person	11	8	11	7	19	19
	Commissioned Laborers	person	-	-	-	-	-	-
	Ratio of Female Employees to One Male Employee		**0.73 : 1**		**0.64 : 1**		**1 : 1**	
Employees Sorted by Area of Operation	**Employees**	person	**11**	**8**	**11**	**7**	**19**	**19**
	Bangkok Office	person	1	3	0	2	11	14
	Prachinburi Factory	person	10	5	11	5	8	5
	Commissioned Laborers	person	-	-	-	-	-	-
	Bangkok Office	person	-	-	-	-	-	-
	Prachinburi Factory	person	-	-	-	-	-	-
No. of Contract Employees and Temporary Employees (Full-time)	**Contract Employees**	**person**	**11**	**8**	**11**	**7**	**14**	**16**
	Bangkok Office	person	1	2	1	2	10	14
	Prachinburi Factory	person	10	6	10	5	4	2
	Temporary Employees	**person**					**5**	**3**
	Bangkok Office	person	-	-	-	-	1	-
	Prachinburi Factory	person	0	0	0	0	4	3
No. of Employees Sorted by Age Range	<30 years	person	1	3	1	0	6	5
		% of All Employees	5.26	15.79	5.56	0.00	16.22	13.51
	30 – 50 years	person	7	3	7	5	12	12
		% of All Employees	36.84	15.79	38.89	27.78	32.43	32.43
	51-60 years	person	3	2	3	2	1	2
		% of All Employees	15.79	10.53	16.67	11.11	2.70	5.41
	>60 years	person	-	-	-	-	-	-
		% of All Employees	-	-	-	-	-	-
No. of Employees Sorted by Level	Top Executives (Level 13-UC)	person	1	1	1	1	3	1
		% of All Employees	5.26	5.26	5.56	5.56	8.11	2.70
	Middle Management (Level 9-12)	person	-	-	-	-	-	3
		% of All Employees	-	-	-	-	-	8.11
	Supervisors (Level 7-8)	person	-	-	-	-	-	2
		% of All Employees	-	-	-	-	-	5.41
	Operators (Level 1-6)	person	10	7	10	6	16	13
		% of All Employees	52.63	36.84	55.56	33.33	43.24	35.14
Number of Employees Sorted by Nationality		**person(s)**						
Employees: Thai Nationality		person	10	7	10	6	16	18
		% of All Employees	52.63	36.84	55.56	33.32	43.24	48.65
Executives: Thai Nationality		person	1	1	1	1	3	1
		% of All Employees	5.26	5.26	5.56	5.56	5.41	2.70
No. of Disabled Persons Receiving Occupational Support		**person**	-	-	-	-	-	-

100% of company employees and executives have Thai nationality.

Table Summarizing Numbers and Employment Ratios for All Companies for 2021 – 2024 by Level and Gender

Employees Categorized by Level	Year of Operation					
	2022		2023		2024	
	Male	Female	Male	Female	Male	Female
Top Executives (Level 13-UC)	2	5	2	5	3	8
Middle Management (Level 9-12)	14	12	14	14	14	12
Supervisors (Level 7-8)	6	9	8	9	12	10
Operators (Level 1-6)	71	164	71	164	76	170
Total No. of Employees	**93**	**190**	**95**	**192**	**105**	**200**
Proportion of Female Employees to Male Employees (%)	**32.86%**	**67.14%**	**33.10%**	**66.90%**	**34.43%**	**65.57%**

Table Summarizing Numbers and Employment Ratios for All Companies for 2021 – 2024 by Age Range and Gender



Employees Sorted by Age Range	Female (person(s))	Male (person(s))	Total (person(s))
<30 years	29	64	93
30 – 50 years	68	122	190
51-60 years	7	12	19
>60 years	1	2	3
Total No. of Employees	**105**	**200**	**305**
Proportion of Female Employees to Male Employees (%)	**34.43%**	**65.57%**	
Female Employee-to-Male Employee Ratio	**0.43 : 1**		

Number of Local and Non-local Employees for All Companies for 2024

Report Topic	Female (person(s))	Male (person(s))	Total (person(s))	Proportion (%)
No. of Non-local Executives	1	1	186	60.98%
No. of Non-local Employees	50	134		
No. of Local Executives	2	7	118	39.02%
No. of Local Employees	52	58		
Total	**105**	**200**	**305**	**100%**

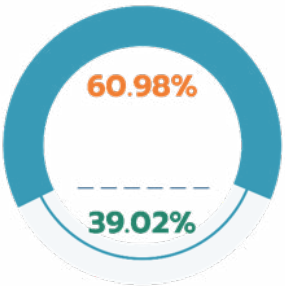


Table Showing the Total Number of Work Hours for 2024

Report Topic	QTC Energy	QTC GP	Q Solar 1	QTC RE	QTC EV
No. of Work Hours (hour(s))	518,040	3,312	28,548	35,328	3,136
No. of Overtime Hours (hour(s))	133,833	1	3,484	1,008	0
Total No. of Work Hours (hour(s))	**651,873**	**3,313**	**32,032**	**36,336**	**3,136**

Table Showing Ratios of Wages and Remuneration for QTC Energy Co., Ltd.

Report Topic		Unit	Year of Operation					
			2022		2023		2024	
				Female	Male	Female	Male	Female
Wages and Remuneration	Total Wages and Remuneration	million baht	92.59	46.90	96.90	51.05	102.97	49.64
		% of the wage	66.38	33.62	65.50	34.50	67.47	32.53
	Female Employee Wage-to-Male Employee Wage Ratio		**0.51 : 1**		**0.53 : 1**		**0.48 : 1**	
	Top Executives (Level 13-UC)	million baht	51.63		58.57		22.77	6.28
		% of the wage	37.01		39.59		14.92	4.12
	Female Wage-to-Male Wage Ratio						**0.28 : 1**	
	Middle Management (Level 9-12)	million baht					12.00	13.22
		% of the wage					7.86	8.66
	Female Wage-to-Male Wage Ratio						**1.1 : 1**	
	Supervisors (Level 7-8)	million baht	10.63		9.90		8.39	7.05
		% of the wage	7.62		6.69		5.50	4.62
	Female Wage-to-Male Wage Ratio						**0.84 : 1**	
	Operators (Level 1-6)	million baht	77.23		79.48		59.81	23.09
		% of the wage	55.37		53.72		39.19	15.13
	Female Wage-to-Male Wage Ratio						**0.39 : 1**	

Table Showing Ratios of Wages and Remuneration for All Subsidiaries (QTCGP, Q Solar1, QTC RE, QTC EV)

Report Topic		Unit	Year of Operation					
			2022		2023		2024	
				Female	Male	Female	Male	Female
Wages and Remuneration	Total Wages and Remuneration	million baht	5.06	3.41	5.25	3.46	11.47	9.14
		% of the wage	59.79	40.21	60.25	39.75	55.65	44.35
	Female Employee Wage-to-Male Employee Wage Ratio		0.67 : 1		0.66 : 1		0.84 : 1	
	Top Executives (Level 13-UC)	million baht	-	-	-	-	6.72	1.46
		% of the wage	-	-	-	-	32.60	7.10
	Female Employee Wage-to-Male Employee Wage Ratio						0.24 : 1	
	Middle Management (Level 9-12)	million baht	-	-	-	-	-	2.04
		% of the wage	-	-	-	-	-	9.89
	Female Employee Wage-to-Male Employee Wage Ratio							
	Supervisors (Level 7-8)	million baht	-	-	-	-	-	1.37
		% of the wage	-	-	-	-	-	6.66
	Female Employee Wage-to-Male Employee Wage Ratio							
	Operators (Level 1-6)	million baht	-	-	-	-	4.75	4.27
		% of the wage	-	-	-	-	23.05	20.70
	Female Employee Wage-to-Male Employee Wage Ratio		-	-	-	-	0.90 : 1	

Table and Graph Showing Ratios of Wages by Gender (All Companies) for 2024

Report Topic	Female	Male	Total
No. of Employees (person(s))	105	200	305
Wages and Remuneration (million baht)	58.78	114.44	173.22
% of the Wage and Remuneration	33.94%	66.06%	100.00%
Average Wage (million baht/person)	0.56	0.57	0.57
Female Wage-to-Male Wage Ratio	**0.98 : 1**		

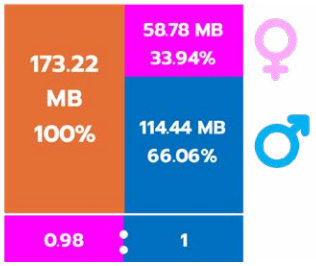


Table of Wages for Executives and Employees (All Companies) for 2021-2024

Year of Payment	Executive Committee Members (Employees) and Managing Directors in All Subsidiaries		Employees of QTC and All Subsidiaries	
	Monetary Amount	%	Monetary Amount	%
2021	**27,714,446**	**17.88**	**127,319,161**	**82.12**
2022	**22,923,820**	**15.49**	**125,035,661**	**84.51**
2023	**23,793,582**	**15.19**	**132,871,880**	**84.81**
2024	**37,233,173**	**21.49**	**135,991,184**	**78.51**

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, insurance for accidents, and other expenses paid by the Company to employees in compliance with the law, etc.
- Payment of Wages: Wages are paid once per month on the last work day of the month by making transfers into employee bank accounts.

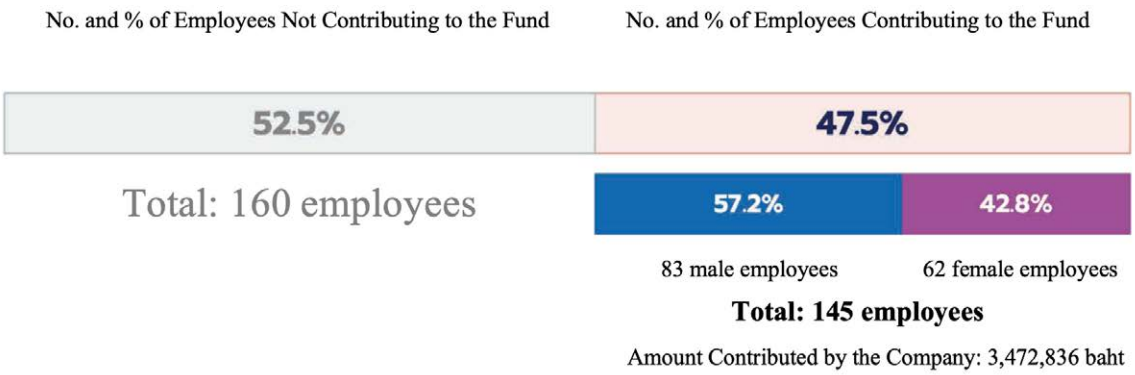
Table of Wage Ratio Between Top Executives and Employees for 2024

Table Showing Provident Fund Membership (All Companies) for 2021-2024

Description	Year			
	2021	2022	2023	2024
Total Number of Employees at the End of the Year (Persons)	280	283	287	305
Number of Employees Who Are Members of the Provident Fund (Persons)	144	151	148	145
% of Employees Contributing to the Fund	51.43%	53.36%	51.57%	47.54%
Amount Contributed by the Company to the Provident Fund (Baht)	**2,981,809.00**	**3,137,081.00**	**3,256,438.00**	**3,472,836.00**

Graph Showing the Proportion of Employees Who Became Members of the Fund in 2024 (All Companies)

Table Showing Amounts Co-paid by the Company According to Law and Accident Insurance for 2021-2024



Report Topic	Year			
	2021	2022	2023	2024
Amount Contributed by the Company to the Social Security Fund (baht)	1,433,208.97	1,641,441.00	2,429,136.00	2,550,916.00
Amount Contributed by the Company to the Workmen's Compensation Fund (baht)	133,757.00	122,180.00	131,701.00	162,407.17
Amount Paid by the Company for Workers' Accident Insurance (baht)	299,190.77	315,121.18	298,593.73	303,947.49

Table Showing Amounts Paid by the Company to Internal Companies and Personnel, Janitorial-Landscaping-Security Guard Services for 2024

Report Topic	Gender (person(s))		Wages Sorted by Company Using the Service (baht)				
	Male	Female	QTC Energy	QTCGP	Q solar1	QTC RE	QTC EV
Compensation for Student Interns	23	15	1,012,870.88	0	0	0	0
Wages for Industrial Nurses	0	1	320,000.00	0	0	0	0
Wages for Companies Providing Janitorial-Landscaping Services	1	6	1,458,600.00	0	0	0	0
Wages for Companies Providing Security Guard Services	12	0	1,751,500.00	0	612,000.00	0	0
Total	**36**	**22**	**4,542,970.88**	**0**	**612,000.00**	**0**	**0**
			5,154,970.88				

Table Showing Proportions of New and Terminated Employees for QTC Energy Co., Ltd.

Report Topic		Unit	Year of Operation					
			2022		2023		2024	
			Male	Female	Male	Female	Male	Female
No. of Employees at the End of the Year		**person(s)**	179	85	181	88	181	86
New Employees by Area of Operation	Total New Employees	person(s)	22	10	26	18	31	10
	Bangkok Office	person(s)	22	10	26	18	2	2
	Rayong Factory	person(s)					29	8
New Employees by Age Range	<30 years	person(s)	31		34		25	7
		% of total new employees	96.87		77.27		60.98	17.07
	30-50 years	person(s)	1		10		6	3
		% of total new employees	3.13		22.73		14.63	7.32
	51-60 years	person(s)	-		-		-	-
		% of total new employees	-		-		-	-
	>60 years	person(s)	-		-		-	-
		% of total new employees	-		-		-	-
Terminated Employees (Resignations) by Area of Operation	Total Terminated Employees (Resignations)	person(s)	20	9	23	12	26	5
		% of total employees	68.97	31.03	65.71	34.29	83.87	16.13
	Bangkok Office	person(s)	20	9	23	12	2	2
		% of resigned employees					6.45	6.45
	Rayong Factory	person(s)					24	3
		% of resigned employees	68.97	31.03	65.71	34.29	77.42	9.68
	No. of Employees Who Voluntarily Resigned	**person(s)**					**21**	**4**
		% of resigned employees					**67.74**	**12.90**
Terminated Employees (Resignations) by Age Range	<30 years	person(s)	23		22		13	1
		% of resigned employees	79.31		62.86		41.94	3.23
	30-50 years	person(s)	6		13		12	3
		% of resigned employees	20.69		37.14		38.71	9.68
	51-60 years	person(s)	-		-		-	1
		% of resigned employees	-		-		-	3.23
	>60 years	person(s)	-		-		1	0
		% of resigned employees	-		-		3.23	0.00
Rate of Resignation	**Rate of Total Resignations**	**% of total employees**	**10.98**		**13.01**		**11.61**	
	Rate of Voluntary Resignations	**% of total employees**					**9.36**	

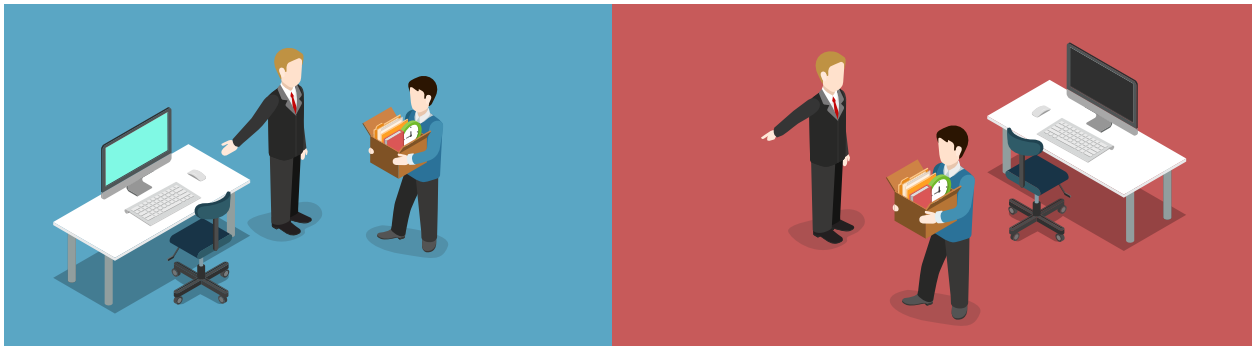
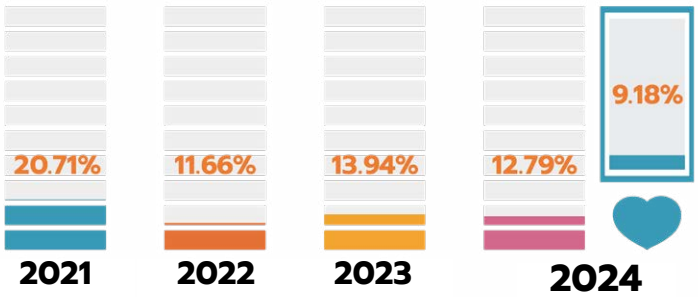


Table Showing Proportions of New and Terminated Employees

(QTCGP, Q Solar1, QTC RE, QTC EV)

Report Topic		Unit	Year of Operation					
			2022		2023		2024	
			Male	Female	Male	Female	Male	Female
No. of Employees at the End of the Year		**person(s)**	**11**	**8**	**11**	**7**	**19**	**19**
New Employees by Area of Operation	Total New Emplo	person(s)	1	0	2	5	10	5
	Bangkok Office	person(s)	1	-	2	5	6	5
	Prachinburi Factory	person(s)					4	-
New Employees by Age Range	<30 years	person(s)	1	-	-	5	4	1
		% of total new employees	100.00	-	-	71.43	26.67	6.67
	30-50 years	person(s)	-	-	-	2	6	4
		% of total new employees	-	-	-	28.57	40.00	26.66
	51-60 years	person(s)	-	-	-	-	-	-
		% of total new employees	-	-	-	-	-	-
	>60 years	person(s)	-	-	-	-	-	-
		% of total new employees	-	-	-	-	-	-
Terminated Employees (Resignations) by Area of Operation	Total Terminated Employees (Resignations)	person(s)	4	0	1	4	7	1
		% of total employees	100.00		20.00	80.00	87.50	12.50
	Bangkok Office	person(s)	4	-	1	4	1	1
		% of resigned employees					12.50	12.50
	Prachinburi Factory	person(s)					6	-
		% of resigned employees	100.00	-	20.00	80.00	75.00	-
	No. of Employees Who Voluntarily Resigned	**person(s)**					**2**	**1**
		% of resigned employees					**25.00**	**12.50**
Terminated Employees (Resignations) by Age Range	<30 years	person(s)	1		3		1	1
		% of resigned employees	25.00		60.00		12.50	12.50
	30-50 years	person(s)	3		2		2	-
		% of resigned employees	75.00		40.00		25.00	-
	51-60 years	person(s)	-		-		3	-
		% of resigned employees	-		-		37.50	-
	>60 years	person(s)	-		-		1	-
		% of resigned employees	-		-		12.50	-
Rate of Resignation	**Rate of Total Resignations**	**% of total employee**	**21.05%**		**27.78%**		**21.05%**	
	Rate of Voluntary Resignations	**% of total employee**					**7.89%**	



In 2024, the rate of resignation for all employees was 12.79% and the rate of voluntary resignation was 9.18%.

Table of Minimum Wage by Organization Location

Organization Location	Minimum Starting Wage (not including other benefits)	Minimum Wage Prescribed by Law
Bangkok Office (monthly)	10,890 baht/month	10,890 baht/month
Rayong Factory	10,890 baht/month	10,830 baht/month
Q Solar 1 Power Plant (monthly)	10,500 baht/month	10,500 baht/month
Q Solar 1 Power Plant (daily)	355 baht/day	355 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	⦿	⦿	⦿	⦿

Human Capital

QTC is committed to continually improving personnel according to the development framework for employees to become **"good and talented"** personnel with enhanced knowledge, abilities, and new skills, allowing them to efficiently adapt and grow in rapidly changing environments and to be consistent with customer needs, technology, and competition in the industry. The performance in 2024 was as follows:

Core competency

- Dynamics • Teamwork
- Achievement • Service
- Developing Self & Others

Managerial competency

- Coaching • Motivation
- Performance Management
- Management Presentation

Functional competency

- Technical Competency
- QTC Training Need
- Functional Skill • QTC QP

Employee Knowledge and Skill Development Courses for 2024

E – Environmental

- Climate Change 1: Introduction to Climate Change
- ESG 101
- Climate Change 2: Risks and Impacts from Climate Change
- P01: Business Sustainability Basics
- Internal Audit ISO 14001
- ISO 31000 Risk Management
- Waste Storage and Disposal
- Environmental Information Dissemination
- Waste Collection and Sorting
- Other Environmental Courses

S – Social

- Behavior-based Safety (BBS)
- Creating Corporate Culture and Employee Engagement
- Work Safety Committee
- Supervisor Safety Officers
- Executive Safety Officers
- Value Chain Analysis
- Train the Trainer: Teaching Techniques (OJT)
- Work Improvement and Development Techniques for Quality Work

G – Governance

- Business Strategic OKRs Target
- Business and Human Rights: Sustainable Growth Opportunities for the Thai Business Sector
- Cybersecurity Awareness
- ESG Risk Management: Navigating Climate Risks
- Business Analysis
- Financial Statement Analysis
- Stock Market's Joint Anti-Corruption Efforts
- Ransomware
- Taxes for International Transactions
- Human Rights Policy

ESG DNA ยุคความรู้ด้านความยั่งยืน สำหรับบุคลากรทุกระดับในองค์กร

สรุปผู้เรียนผ่าน 2 หลักสูตรพื้นฐานของบริษัท

SET

There were 63 learners who passed the courses in the project, or 60%.

ESG 101 Course:
68 people or 64.76%

P01 Course:
64 people or 60.95%

Employee Development

The Company gives importance to continually training and developing employee skills. Throughout 2024, the Company provided 373 required courses in the training plan to ensure that the employees' knowledge and abilities meet the needs of customers and the management plan efficiently. The Company has set goals for the technical and sales upskilling of 37 target employees, divided into 15 sales employees and 22 technical employees. Eleven courses are required in the functional skill development plan for the target group.

373 Course

Core competency

11 Course

Managerial competency

15 Course

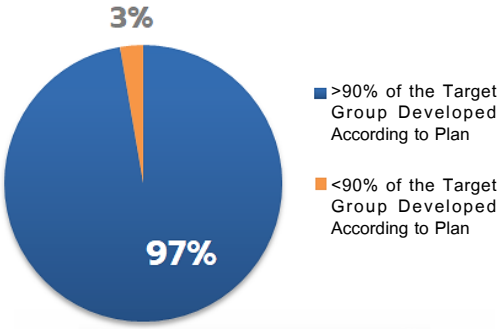
Functional competency

305 Course

ISO:9001,14001,45001

42 Course

Graph Showing Participation in Development by Target Employees



Up Skill Technical

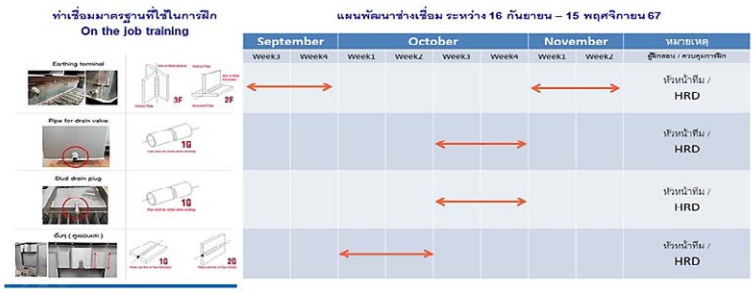
6 Course

5 Course

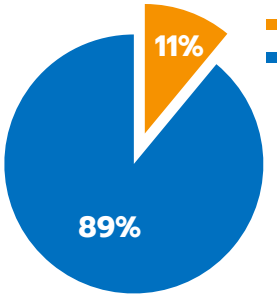
Up Skill Sale

Multi Skill Development

The development of more employee skills than existing primary skills to increase their own potential and create work efficiency has had positive effects on production balance management, reducing bottlenecks and loss from waiting as well as ensuring quality work delivery meeting customer needs. The Company created a plan for developing “chassis assembly technician” production employees jointly with knowledgeable and skilled trainers in MIG welding, developing employees using on-the-job training, establishing standard welding positions, and theoretical and practical training as well as testing. There



Developing Assembly Technicians to MIG Weld



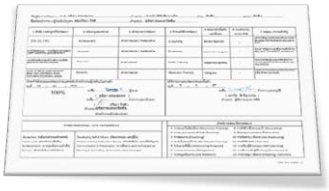
Passed <80% of Development According to Plan

Passed ≥80% of Development According to Plan

246 Target Employees

221 Employees Passed ≥80% of Development

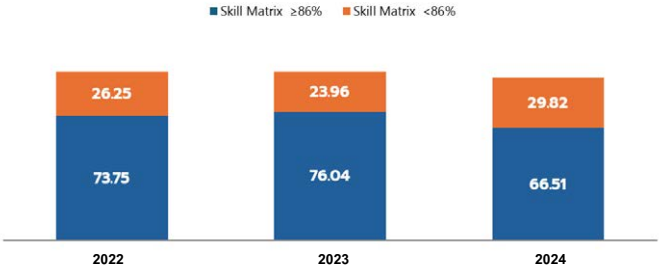
25 Employees Passed <80% of Development



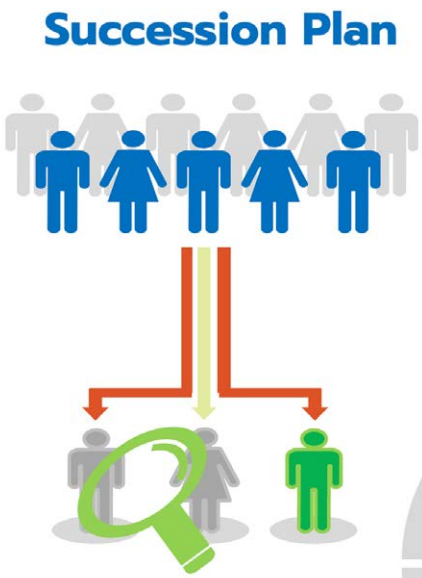
The Company requires the development of employees’ functional competencies, requiring these as each employee’s skill matrix. The Company has a goal to ensure that the required skills of employees with employment periods of three or more years are developed with a total skill matrix evaluation score of over 86% by 2028, starting from Base Year 2022. The work skill development plan includes in-house, on-the-job, and public training.

In 2024, the overall results of the evaluation of target employees (employees with employment periods of three or more years) showed a decreased success rate compared to 2023 due to the increase in the skill levels required for some positions.

Graph Showing the Skill Matrix Evaluation Results for Employees with Employment Periods of ≥3 Years



Succession Plan



In ongoing improvements to the knowledge and skills of executives at the manager level and up in the Management Development Program, the Company continued to develop two successors (originally three successors, but one was promoted in 2023) as replacements for key positions in support of the Company's future growth direction. Both successors still require development in terms of skills, knowledge, capabilities, and experience. There are additional development plans in 2025.

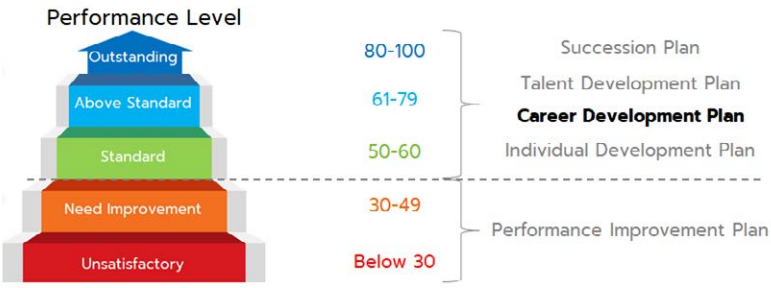
Topics in the 2024 Successor Development Plan

- Executive Energy Program, Class 9
- Risk Management System and Interpretation
- Crack the Fin Code for Growth Potentials
- Advanced Master of Management (AMM), Class 12

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. Every year, the Company selects personnel with the knowledge and skills meeting the set criteria and considers them for career path development in each occupational field available in the organization's management structure.

Career Development Criteria for Selecting Employee Groups for Career Development



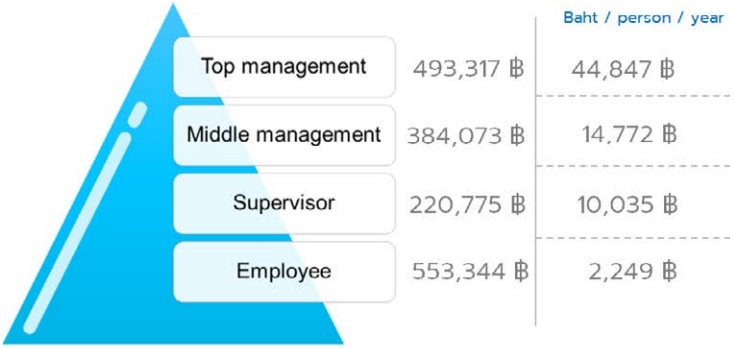
Images of Career Development for Target Employees

In 2024, the Company reviewed and evaluated 100% of the performance of employees at all levels according to the required indicators. Additionally, there were 76 target employees from all companies who were considered for inclusion in the development plan, accounting for 24.92% of all employees, with the development divided by level. Based on the performance results, a total of 67 employees, or 88.16% of target employees, passed the development criteria and were promoted according to the table.

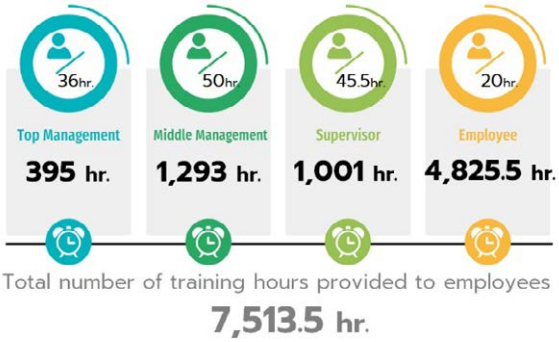
Employee Receiving Regular Performance and Career Development Reviews by level

Reported items		Unit	Year of operation				
			2022		2023		2024
			Male	Female	Male	Female	Male	Female
Employee Receiving Regular Performance and Career Development Reviews by level	Total Employee Receiving Regular Performance	Person	190	93	192	95	200
		% of total employees	100%	100%	100%	100%	100%
	Total Employee Receiving Career Development.	Person			43	24	46
		% of total employees			14.98%	8.36%	15.08%
	Top management (Level 13-UC)	Person (Offered Quantity)			1	1	0
		% of total employees			1.49%	1.49%	-
		Person (Confirmed Quantity)			1	0	-
		% of employee confirmed			100%	0%	-
	Middle management (Level 9-12)	Person (Offered Quantity)			0	0	1
		% of total employees			-	-	1.32%
		Person (Confirmed Quantity)			-	-	1
		% of employee confirmed			-	-	100%
	Supervisor (Level 7-8)	Person (Offered Quantity)			3	2	7
		% of total employees			4.48%	2.99%	9.21%
		Person (Confirmed Quantity)			3	2	7
		% of employee confirmed			100%	100%	100%
	Employee (Level 1-6)	Person (Offered Quantity)			39	21	38
		% of total employees			58.21%	31.34%	50.0%
		Person (Confirmed Quantity)			34	19	30
		% of employee confirmed			87.18%	90.48%	78.95%

Training Hours and Training Costs for All Companies in 2024



Training Costs (By Level)



Training Hours (By Level)

Statistics on Training Hours for All Companies

Report Topic		Unit	Year of Operation					
			2022		2023		2024	
			Male	Female	Male	Female	Male	Female
Average No. of Training Hours	Total No. of Employees	person(s)	190	93	192	95	200	105
	No. of Employees Trained	person(s)	190	93	192	95	200	105
	No. of Training Hours	hour(s)	4,191	2,241	4,843	3,265	5,139	2,375
	Training Cost	baht	677,318	347,621	875,415	425,616	1,068,597	582,912
	Average No. of Training Hours/ Person/Year	hours/person/	23		28		25	
	Average No. of Training Hours/ Gender/Year	year	22	24	25	34	26	23
	Average No. of Training Cost/Gender/ Year	hours/person/	3,565	3,738	4,559	4,480	5,343	5,552
Average No. of Training Hours Sorted by Level	Top Executives (Level -13UC)	year	17	16	19	16	8	3
		baht/person/					36	
	Middle Management (Level 12-9)	year			12 14			
		person(s)	23		18		50	
	Supervisors (Level 8-7)	hours/person/	9	6	9	8	10	12
		year	29		38		46	
	Operators (Level 6-1)	person(s)	164	71	164	71	170	76
		hours/person/	22		29		20	

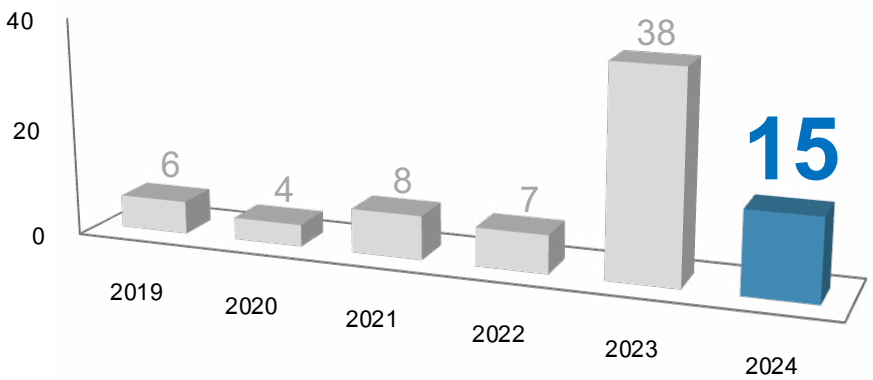
QTC KM
Knowledge Management

The Company's knowledge management in 2024 was another key process in employee knowledge and skill development as well as corporate work efficiency improvement. The following was implemented:

Knowledge Collection and Storage:	The collection of information and knowledge from various sources such as trainings, meetings, and routine work in order to compile an easily accessible database.
Knowledge Sharing:	Promotion of knowledge sharing among employees through meetings, seminars, and the use of information technology, such as intranet and online platforms.
Knowledge Implementation:	The Company used the collected and shared knowledge to improve work processes and develop new products to enhance efficiency and competitiveness.
Evaluation and Improvement:	The Company evaluates its knowledge management periodically to optimize processes and methods.

Organization and Consolidation of Corporate KM

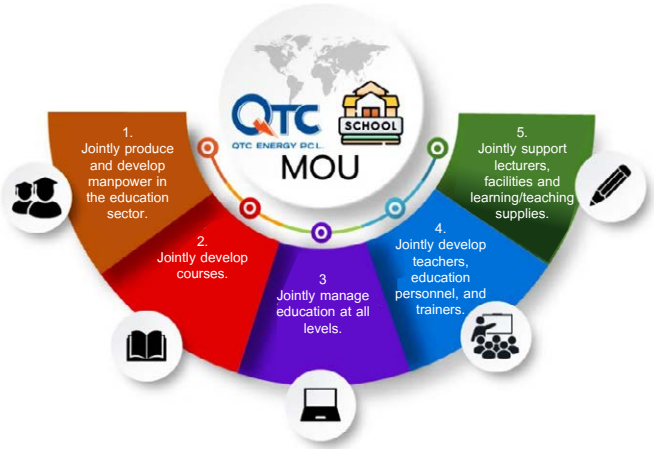
≥5 Goals per Year



Labor Development in the Education Sector

QTC Energy Public Co., Ltd. continuously develops labor in the education sector. In 2024, the Company expanded the collaborative MOUs with educational institutions in Rayong and Chonburi to produce and develop professional manpower at the skill, technical, and technological levels to build knowledge potential and professional skills to efficiently meet standards in the long term.

Performance and Collaboration Activities



Summary of operations

Internship students in 2024

1. Number of interns, completed internships 36 people from 8 majors, 12 educational institutions
2. Students have an average income of 363 per day/person
3. The company is entitled to a corporate income tax deduction from actual expenses (actual expenses 1,368,909 baht
4. There are 3 major projects from student development that QTC can use significantly in the work process.

Signing MOUs with Technical Colleges in the EEC

Map Ta Phut Technical College
On 7 March 2024 at Multi-purpose Conference Hall

Rayong Technical College
On 28 September 2024 at Vocational Education Seminar-Conference Room

As a result of QTC Energy Public Co., Ltd., continuously entering collaborative MOUs for developing professional manpower with vocational education institutions, there are students from each class who have completed their internship and have the knowledge, skills, attitudes, and good behaviors consistent with the training plans of the colleges and educational institutions under the Department of Vocational Education with whom the Company has collaborated. Hence, the Company was given an award in a ceremony along with other public and private organizations.

Rayong Technical College on 28 October 2024
By Mr. Kittiphong Uttamawethin, Director

Intrachai Commercial College on 20 November 2024
By Mr. Phitsanuwet Phophet, Director

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.

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

The Company continues to promote activities to encourage its employees to have good attitudes about themselves, their colleagues, the organization, and the general society. Most of the activities were from the ongoing projects of the previous year to ensure consistency and sustainability. This year, a young coach, Mr. Chakkraphong Metsaphan, an expert in finance, visited on 5 April 2024 to provide financial management knowledge and techniques under the topic "Happiness Can Be Created Through Financial Management" to provide employees with the concepts and guidelines for their own financial management.

Morals & Ethics Promotion Activities in 2024

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 activities. In 2024, the Company hosted an internal seminar on "A Better Life Through Self-discipline" by Mr. Pasin Intarawong to support employees to have values of good thinking, action, morals, ethics, being good members of society, to create sustainable organizational values under the "happy moral organization" policy.

Photograph Competition to Support the Family 2024

"Happiness in a Warm Family"

Winners of 2024

"A Warm Family"
Benchawan Sirinat

"I Love My Mother the Most
Because She's My Best Love"
Sawittri Nakchan

"I Love My Father the Most
Because He's My Best Love"
Watcharin Phansiri

Employee Value Promotion 2024

In 2024, 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 2025 New Year's activities. The following persons received awards:

No.	First Last Name	Position	Award	No.	First-Last Name	Position	Award
1	Mr. Panya Saengsanga	Dept. Manager	10 years	14	Mr. Sarawut Sukna	Staff	10 years
2	Ms. Panicha Yotket	Staff	10 years	15	Mr. Phunphon Sutacha	Staff	10 years
3	Mr. Yotchai Chomchalao	Staff	10 years	16	Mr. Aphichat Thakong	Staff	10 years
4	Mr. Sumet Ninsonthi	Staff	10 years	17	Mr. Pariwat Rattanuchannai	Staff	10 years
5	Mr. Wirawat Paenbangna	Staff	10 years	18	Mr. Wachinwit Thanakiatsibun	Officer	10 years
6	Mrs. Patimakon Phankaen	Staff	10 years	19	Ms. Chuthamani Rotchansaeng	Dept. Manager	10 years
7	Mr. Chamnian Phanthasen	Expert	10 years	20	Mr. Wichian Tawongchai	Sect. Head	20 years
8	Mr. Chalom Namwichit	Team Leader	10 years	21	Mr. Thongthun Thompat	Staff	20 years
9	Mr. Thanwa Phumraya	Staff	10 years	22	Mr. Samran Khankaeo	Officer	20 years
10	Mr. Wihan Khongchiangcha	Officer	10 years	23	Mr. Decha Yuenyao	Team Leader	20 years
11	Mr. Siwaphong Prakangwe	Team Leader	10 years	24	Ms. Sudarat Chaohuaimak	Staff	20 years
12	Mr. Phraiwan Wichaiwong	Officer	10 years	25	Mr. Thuang Phimram	Staff	20 years
13	Mr. Phongsai Dithamma	Staff	10 years	26	Mr. Thanakrit Thawiniran	Senior Sect. Head	20 years

Recreation Activities in 2024

Happy Relax

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

Annual Vacation in 2024

A Trip to Nakhon Nayok to Rest Your Soul

In 2024, the Company organized the annual vacation trip and continued to use the same conservation format to share benefits with the society and environment. "A Trip to Nakhon Nayok to Rest Your Soul" was an activity in which employees volunteered to donate learning and sports supplies to the students at Wat Tha Dan School and release fish into nature at Khun Dan Prakan Chon Dam. In addition, the employees were brought to relax at the Home and Hill Resort in Nakhon Nayok. A

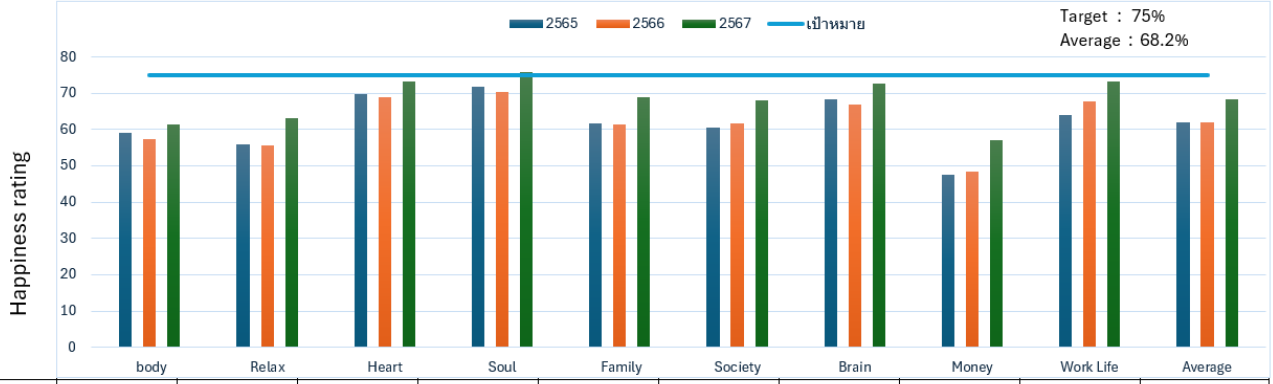
New Year Activities

The Company organized the 2024 New Year activities under the theme "Free Fair Fun". The event was organized off-site at the Eastpana Hotel in Siracha, Chonburi. In the event, there was a themed costume competition and rewards for all participants amounting up to over 400,000 baht. A total of 280 employees participated in the activities and a total budget of 766,250 baht was spent.

Happiness in the Organization

The Company measured happiness of employees for all companies in the group by using the Happinometer in an online format. In 2024, a survey was conducted in October with 200 respondents out of 300 employees, or a respondent proportion of 88% consisting of 117 male and 83 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 2022-2024



	body	Relax	Heart	Soul	Family	Society	Brain	Money	Work Life	Average
2565	59.2	55.8	69.9	71.8	61.8	60.4	68.2	47.5	64.1	62.1
2566	57.3	55.7	68.8	70.3	61.4	61.6	66.9	48.5	67.6	62.0
2567	61.4	63.2	73.3	75.9	68.8	68.1	72.6	57.1	73.3	68.2

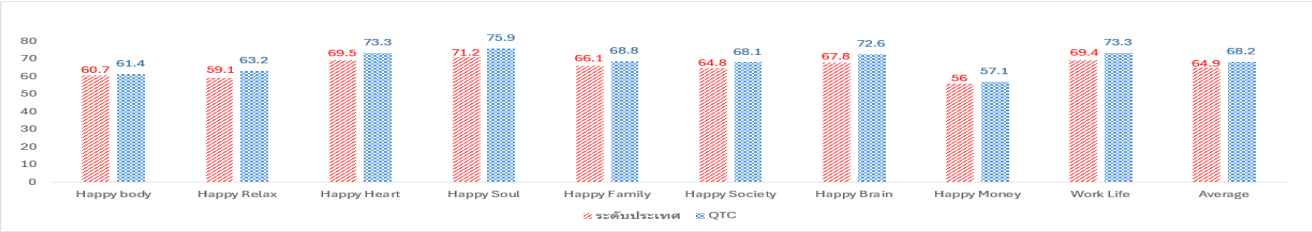
Graph of Happiness Scores Levels for Each Aspect for 2024

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 (200 person)	61.4	63.2	73.3	75.9	68.8	68.1	72.6	57.1	73.3	68.2

Based on the overall assessment of 200 employee representatives, the average happiness score was 68.2, an increase from 6.2 in 2023. The 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 2024 economic condition. The Company will further use the results to elevate and provide financial knowledge to elevate the happiness level of the people in the organization.

As for the happiness survey of working people nationwide in 2024, the survey results of the Thailand Centre for Happy Worker Studies, the Institute for Population and Social Research, Mahidol University, were used to compare with the happiness of QTC employees. In the graph, it can be seen that the average happiness level of 200 QTC employee representatives was higher than the average happiness level of workers nationwide.

Graph Comparing the Happiness Levels Between QTC Employees and Workers Nationwide in 2024



Organization Happiness Support Activities

Employee Engagement in the Organization

In 2024, employee engagement in the organization was surveyed based on a sample of 221 employees out of a total of 304 employees in October 2024 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 2024 are as follows:

221 out of 304 Employees Were Surveyed (Except for Executive Committee)	2022		2023		2024	
	Score	Converted into %	Score	Converted into %	Score	Converted into %
	3.99	79.80%	4.06	81.20	4.01	80.20%

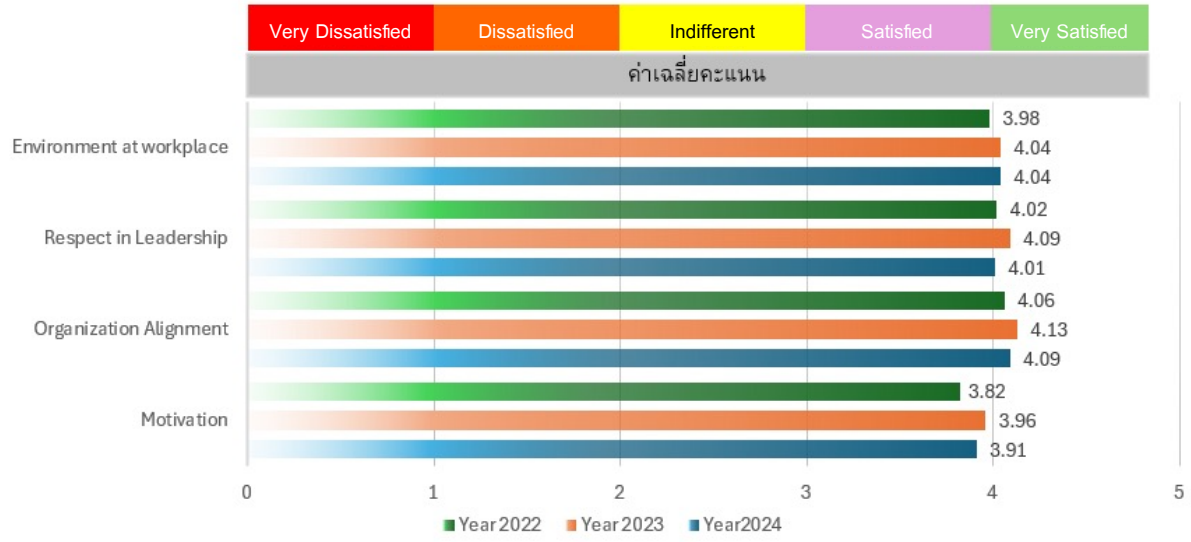
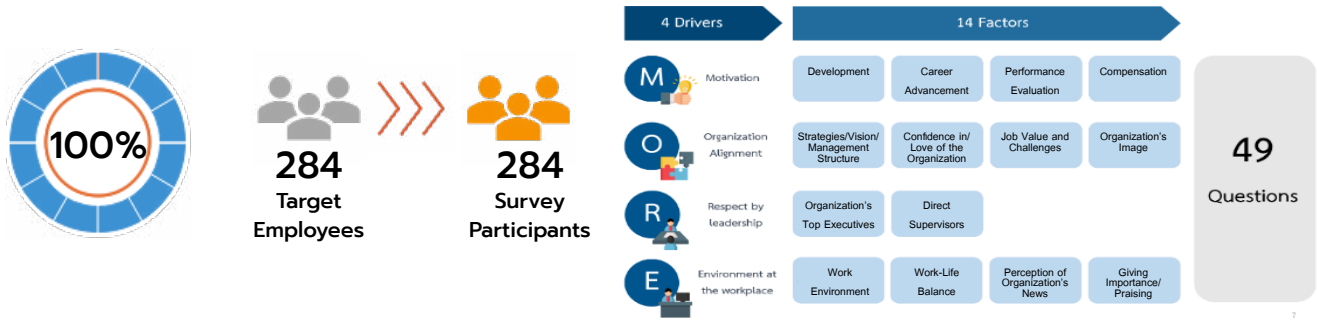


Image of Employee Engagement in the Organization Comparing 2023-2024



Survey of Employee Engagement in the Organization for 2024

A total of 284 out of 288 target employees (excluding the Executive Committee)

completed 100% of the survey.

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. The assessment results of the key sustainability topics are as follows:

Human Rights

Risks

Human rights are protected by the constitutional laws of the Kingdom of Thailand and international treaties and a subject of interest for people around the world. If the organization neglects to comply with the law or neglects to promote human rights to the point that human rights violations occur in the organization or the supply chain, the organization could be viewed as being complicit to such violations, resulting in law suits, fines, or exposure in online media which would damage the organization's reputation and product brands as well as cause it to have to face resistance from society.

Opportunities

Efficient human rights management to comply with applicable laws not only helps to prevent issues, but also creates a good work environment, resulting in satisfied employees with higher work efficiency.

Financial materiality

- Development of work processes to conduct HRDD throughout the value chain.

Impact materiality

- Good work society and environment results in higher employee work efficiency.
- Higher employee engagement in the organization.
- Creates confidence that suppliers in the supply chain would not violate human rights.

Objective :	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.
Goal 1:	100% of employees and directly related parties are trained on the Human Rights Policy.
Performance :	100% - The target was achieved.
Goal 2:	100% of HRDD in the business value chain is performed by 2024.
Performance :	100% - The target was achieved.
Goal 3:	Zero cases of human rights violations inside and outside the organization throughout the business value chain.
Performance :	There were no reports of human rights violations inside and outside the organization. The target was achieved.

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 (UNGP) 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 UNGP, which can be summarized as follows:

Scope of Human Rights Risks and Impacts of QTC

Employee Rights
- Employment Status
- Discrimination
- Employee Privacy
- Health and Safety
- Freedom of Assembly

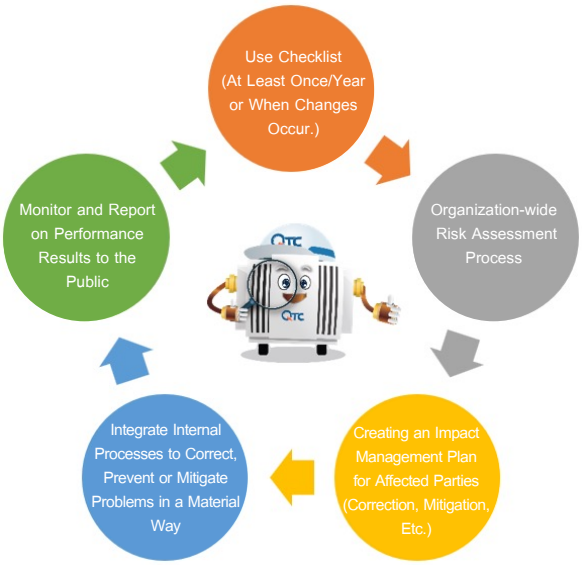
Community and Environmental Rights
- Standard of Living
- Cultural Inheritance
- Impact from Pollution
- Community Health and Safety
- Access to Water and Natural Resources
- Waste and Hazardous Waste

Customer and Distributor Rights
- Health and Safety
- Information and News Accuracy
- Customer Data Security

Business Ally Management (Trade Partners, Contractors)
- Employment Status
- Labor Protection
- Health and Safety
- Stability and Security

Human Rights Policy : https://qtc-energy.com/humans-right-policy/

Comprehensive HRDD Process Related to the Business of QTC Company Energy PCL and Its Affiliates



Comprehensive Human Rights Audit (HRDD) in accordance with the guidelines is conducted by executives in the field under their responsibility to identify human rights risks according to the scope of the organization in each situation within the Company and its subsidiaries, and throughout the value chain, that may arise from business activities.

When conducting comprehensive HRDD related to the business in accordance with the prescribed audit form, if a high-risk issue is found and the recommended preliminary mitigation methods have been considered, the executive using this checklist is to consider the issue further conduct an in-depth assessment of the human rights risk and lead to the integration of internal processes to prevent, mitigate or avoid problems, as well as create an impact mitigation plan, report on and monitor results continuously and present the audit results along with a human rights risk assessment report (if any) to the Corporate Sustainability Promotion and Risk Management Committee as required.

Example of the HRDD Form of the Company and Its Affiliates

รายการตรวจสอบที่ 1 ความเสี่ยงสำคัญในการก่อสร้างโรงงาน/พื้นที่ปฏิบัติการ/การขยายธุรกิจ/การควบรวมกิจการ

สัญลักษณ์ : ความเสี่ยงต่ำ | ปฏิบัติตามนี้ | ติดต่อผู้เชี่ยวชาญ | ขอความยินยอมที่สมัครใจ | ความเสี่ยงสูง | หาข้อมูลเพิ่มเติมก่อน | ให้ชุมชนมีส่วนร่วม | ประเมินความเสี่ยงทั่วทั้งองค์กร

การจัดการที่ดิน : การตรวจสอบโฉนดหรือเอกสารสิทธิ์ในที่ดิน อ้อนหลังไปนานพอที่จะมีข้อมูลเกี่ยวกับประวัติการใช้ที่ดินดังกล่าว ควรดำเนินการจนเสร็จสิ้นกระบวนการ ก่อนที่บริษัทจะตอบคำถาม ต่อไปนี้

1. มีใครที่อาศัยอยู่ภายในบริเวณพื้นที่โครงการหรือไม่ (ในกรณีที่เป็นส่วนต่อขยาย มีใครใช้ชีวิตในบริเวณพื้นที่โครงการเดิมหรือไม่) ☑ ไม่มี ☐ มี ☐ ☐ ☐ ☐ ☐
2. มีผลประผลประโยชน์ทับซ้อนใดๆ ที่ส่งผลเชิงลบต่อผู้ที่มีสิทธิประโยชน์ในที่ดินผืนนั้นหรือไม่(ในกรณีที่เป็นส่วนต่อขยายมีผลประโยชน์ทับซ้อนในที่ตั้งของสถานประกอบการ) ☑ ไม่มี ☐ มี ☐ ☐ ☐ ☐ ☐
3. ผู้ที่อาศัยอยู่บนที่ดินผืนนั้นมีความจำเป็นจะต้องย้ายออกในการก่อสร้างสถานประกอบการหรือไม่ (ในกรณีที่เป็นส่วนต่อขยายตอนที่ก่อสร้างสถานประกอบการเดิม ผู้ที่อยู่อาศัยตั้งเดิมต้องย้ายออกหรือไม่) ☑ ไม่มี ☐ มี ☐ ☐ ☐ ☐
4. ผู้ที่มีวิถีชีวิตแบบเร่ร่อน มีสิทธิ์ในการสัญจรผ่านที่ดินของบริษัท หรือเข้าถึงที่ดินเพื่อเก็บเกี่ยวทรัพยากรหรือไม่ ☑ ไม่มี ☐ มี ☐ ☐ ☐ ☐

คุณภาพ ความพอเพียงและการเข้าถึงแหล่งน้ำและทรัพยากรธรรมชาติ

5. การก่อสร้างสถานประกอบการ หรือการปฏิบัติของสถานประกอบการเดิมมีแนวโน้มที่จะส่งผลกระทบเชิงลบต่อการเข้าถึง คุณภาพ หรือปริมาณแหล่งน้ำในชุมชนท้องถิ่นหรือไม่ ☑ ไม่มี ☐ มี ☐ ☐
6. การก่อสร้างสถานประกอบการหรือปฏิบัติการของสถานประกอบการมีแนวโน้มที่จะส่งผลกระทบเชิงลบต่อการเข้าถึง คุณภาพหรือปริมาณทรัพยากรในชุมชนท้องถิ่นหรือไม่ ☑ ไม่มี ☐ มี ☐ ☐

ผลกระทบด้านวัฒนธรรม

7. ที่ดินผืนนั้นมีความสำคัญทางวัฒนธรรมสำหรับชุมชนท้องถิ่นหรือไม่ (เช่น มีความสำคัญทางศาสนา ศิลปะ ประวัติศาสตร์ สถาปัตยกรรม หรือสิ่งแวดล้อม) ☑ ไม่มี ☐ มี ☐ ☐ ☐

การจัดการความปลอดภัย : ก่อนที่จะตอบคำถามต่อไปนี้บริษัทควรตรวจสอบประวัติของบริษัทรักษาความปลอดภัยที่จะจ้างมาดูแลพื้นที่ก่อสร้าง

8. เจ้าหน้าที่ของบริษัทรักษาความปลอดภัยผ่านการฝึกอบรมเรื่องขอบเขตอำนาจหน้าที่ การเคารพสิทธิมนุษยชน รวมถึงการใช้กำลังหรือไม่ ☑ ผ่าน ☐ ไม่ผ่าน ☐ ☐ ☐

สภาพแวดล้อม

9. การใช้ทรัพยากรธรรมชาติในท้องถิ่นเพื่อดำเนินกิจการบริษัทนั้น มีแนวโน้มที่จะส่งผลกระทบเชิงลบต่อการเข้าถึงหรือการใช้ประโยชน์จากทรัพยากรนั้น ๆ ของชุมชนหรือไม่ ☑ ไม่มี ☐ มี ☐ ☐
10. กิจกรรมของบริษัทจะรบกวนการทำการเกษตรในบริเวณใกล้เคียง รบกวนสัตว์ป่าหรือแหล่งประมงหรือไม่ มีแนวโน้มที่จะส่งผลกระทบต่อสิ่งแวดล้อมในท้องถิ่น ผ่านการปล่อยมลพิษหรือสารพิษใหม่ ๆ หรือที่มากกว่าเดิมหรือไม่ ☑ ไม่มี ☐ มี ☐ ☐ ☐ ☐

การมีส่วนละเมิดสิทธิ

11.การจัดการของรัฐบาลท้องถิ่น หรือรัฐบาลกลางที่เกี่ยวข้องกับการก่อสร้างบริษัท ส่งผลเชิงลบต่อประเด็นต่าง ๆ ที่ยกปัญหาข้างต้น หรือสิทธิมนุษยชนอื่น ๆ หรือไม่ ☑ ไม่มี ☐ มี ☐ ☐

พื้นที่ที่ทำการตรวจสอบ ..... ผู้ที่ทำการตรวจสอบ ..... วันที่ .....

รายการตรวจสอบที่ 2-1 ความเสี่ยงสำคัญด้านสิทธิมนุษยชนต่อลูกจ้างประจำ

สัญลักษณ์ : ความเสี่ยงต่ำ | ปฏิบัติตามนี้ | ติดต่อผู้เชี่ยวชาญ | ขอความยินยอมที่สมัครใจ | ความเสี่ยงสูง | หาข้อมูลเพิ่มเติมก่อน | ให้ชุมชนมีส่วนร่วม | ประเมินความเสี่ยงทั่วทั้งองค์กร

การจ้างงาน

1. ลูกจ้างเข้าใจข้อมูลเกี่ยวกับค่าจ้าง และค่าตอบแทนในการทำงานที่ได้รับทั้งหมดในแต่ละงวดหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐
2. มีสัญญาจ้างงานเป็นลายลักษณ์อักษร และลูกจ้างรับรู้กฎระเบียบและเงื่อนไขในสัญญาหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐
3. บริษัทฯ มีการจ่ายค่าจ้าง และค่าตอบแทนการทำงานนอกหรือเกินเวลาทำงานปกติให้แก่ลูกจ้าง ในอัตราที่ไม่น้อยกว่ากฎหมายกำหนดหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐
4. บริษัทฯ จัดให้มีสภาพแวดล้อมการทำงานที่ปลอดภัย เพื่อป้องกันอันตรายและลดปัจจัยเสี่ยง ที่อาจจะเกิดขึ้นในกระบวนการทำงานหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐

สภาพการทำงานที่ปลอดภัยและถูกสุขลักษณะ

5. ลูกจ้างผ่านการอบรมที่จำเป็นด้านความปลอดภัยและได้รับอุปกรณ์รักษาความปลอดภัยส่วนตัวหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐
6. ลูกจ้างสามารถเข้าถึงสถานที่ต่าง ๆ เช่นห้องน้ำ ห้องพยาบาล และโรงอาหารที่ถูกสุขอนามัยได้โดยไม่มีข้อจำกัดหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐

การเลือกปฏิบัติ

7. บริษัทฯ มีนโยบายที่เป็นลายลักษณ์อักษรว่าจะไม่มีการเลือกปฏิบัติในการจ้างงานทุกด้าน จากเหตุความแตกต่างในเรื่องเชื้อชาติ ภาษา เพศ สถานภาพสมรส ความพิการ การรับถือศาสนา การแสดงความคิดเห็นส่วนบุคคลหรือไม่ ☐ มี ☐ ไม่มี ☐ ☐ ☐ ☐
8. บริษัทฯ มีการให้โอกาสที่เท่าเทียมกัน ไม่เลือกปฏิบัติ โดยครอบคลุมถึงกลุ่มสตรี ผู้พิการ หรือกลุ่มผู้ด้อยโอกาสอื่นๆ ☐ มี ☐ ไม่มี ☐ ☐ ☐ ☐
9. บริษัทฯ มีการจ้างผู้พิการอย่างน้อย 1 คน ต่อลูกจ้างผู้ไม่ใช่คนพิการ 100 คน หรือส่งเงินเข้ากองทุนส่งเสริมและพัฒนาคุณภาพชีวิตคนพิการเป็นรายปี ☐ มี ☐ ไม่มี ☐ ☐ ☐ ☐
10. บริษัทฯ มีการให้โอกาสลูกจ้างได้รับการฝึกอบรมและพัฒนาศักยภาพอย่างเหมาะสม ☐ มี ☐ ไม่มี ☐ ☐ ☐ ☐

เสรีภาพในการสมาคมและการร่วมเจรจาต่อรอง

11.บริษัทฯได้ส่งเสริมหรืออนุญาตให้มีการจัดตั้งกลุ่มของลูกจ้างในรูปแบบต่าง ๆ เช่น สหภาพแรงงาน หรือกลุ่มไม่เป็นทางการ เพื่อให้ลูกจ้างได้รวมตัวกันอย่างอิสระ แลกเปลี่ยนความคิดเห็นเกี่ยวกับการทำงานหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐
12. บริษัทฯ มีมาตรการป้องกันการคุกคามสมาชิกสหภาพแรงงานและตัวแทนของสหภาพหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐

ความเป็นส่วนตัวของลูกจ้าง

13. ข้อมูลส่วนบุคคลของลูกจ้างที่เกี่ยวกับงานซึ่งนายจ้างรวบรวมไว้จะถูกใช้เพื่อเหตุผลทางธุรกิจที่จำเป็นเท่านั้นใช่หรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐
14. ข้อมูลส่วนบุคคลเกี่ยวกับลูกจ้าง รวมทั้งข้อมูลด้านสุขภาพจะไม่ถูกใช้เพื่อการเลือกปฏิบัติในการทำงานใช่หรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐ ☐

วินัยและการลงโทษ

15. บริษัทฯ ไม่กระทำหรือสนับสนุนให้ใช้วิธีลงโทษทางจิตใจ และร่างกายหรือการใช้กำลังบังคับหรือทำร้ายลูกจ้างใช่หรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐
16. บริษัทฯ มีมาตรการป้องกันและแก้ไขปัญหา ความรุนแรง การคุกคามทางเพศ หรือการเลือกปฏิบัติแบบต่าง ๆ ในสถานที่ทำงาน เพื่อมิให้ลูกจ้างถูกคุกคามหรือได้รับความเดือดร้อนรำคาญทางเพศ โดยการแสดงออกด้วยคำพูด ท่าทาง สัมผัส หรือด้วยวิธีการอื่นใดหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐
17. บริษัทมีกลไกรับเรื่องร้องเรียนที่ปลอดภัยและชัดเจนเกี่ยวกับ ปัญหาจากการถูกคุกคาม และการเลือกปฏิบัติระหว่างการทำงานหรือไม่ ☐ ใช่ ☐ ไม่ใช่ ☐ ☐ ☐

การคุ้มครองแรงงาน

18. บริษัทฯ ไม่มีการจ้างแรงงานเด็กอายุต่ำกว่าสิบห้าปี ☐ ไม่มี ☐ มี ☐ ☐ ☐ ☐
19. บริษัทฯ ไม่มีการจ้างแรงงานหญิงในการทำงานเสี่ยงหรืองานอื่นตามที่กำหนดในกฎกระทรวง ☐ ไม่มี ☐ มี ☐ ☐ ☐ ☐
20. บริษัทฯ ไม่ใช้หรือไม่ได้รับประโยชน์จากการบังคับใช้แรงงานด้วยรูปแบบใดๆที่เป็นการกักขัง การคุกคามข่มขู่ การลงโทษเฉพาะ การค้ามนุษย์ หรือการใช้ความรุนแรง ☐ ไม่ใช่ ☐ ใช่ ☐ ☐ ☐ ☐

หน่วยงาน/องค์กรที่รับการตรวจสอบ ..... ผู้ที่ทำการตรวจสอบ ..... วันที่ .....

Results of Comprehensive Human Rights Due Diligence (HRDD)

In 2023, the Company conducted comprehensive HRDD in 100% of the supply chain as follows:

1. Checklist 1: Major Risks in Factory Construction/Operating Areas/Business Expansion/Mergers
   - In 2024, the Company had a project to expand the production capacity of Rayong Factory, purchase more land, and level the ground to raise it. 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 2022-2023, and the Company announced new regulations and welfare to comprehensively cover the human rights in terms of gender diversity for employees. No HRDD was conducted in 2024 as there were no changes.
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 2024, no HRDD was conducted in the area of the Bangkok Office as there were still two ongoing construction sites by third parties in the area surrounding the office that may cause errors in the rights inspection. This will be conducted within 2025.
7. Checklist 4: Significant Human Rights Risks to Other Organizations with Business Relationships
   - In 2023, the Company continued to audit 100% of key suppliers from 2023 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	41	41	100%	0
Distributors of Raw Materials that Impact Quality	51	51	100%	0
Construction Contractors	7	7	100%	0
Delivery Service Providers	14	14	100%	0
Security Officers, Janitors	2	2	100%	0
Other Important Groups	27	27	100%	0
Total	**142**	**142**	**100%**	**0**

Based on the HRDD conducted on QTC's 91 key suppliers in 2024 who remained uninspected from 2023, 100% of the operation was conducted according to target. Two suppliers were found to have human rights risks. The Company provided preliminary recommendations and suspended their inclusion in the AVL.

8. Checklist 5: Significant Human Rights Risks to Customers
   - 100% of the HRDD was conducted in 2023. No HRDD was conducted in 2024.

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.

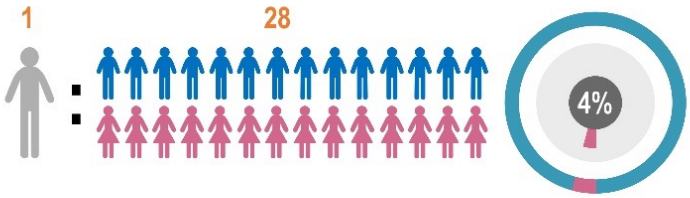
Human Rights in the Organization: Benefits Committee

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	5. Mr. Somchai	Saing	Customer Service Dept.	Chairman
2. Mr. Samran	Khankaeo	Production Dept.	Director	6. Mr. Itsaret	Serikittikun	Transformer Sales Dept.	Director
3. Ms. Wilaiwan	Nakhun	Production Dept.	Director	7. Ms. Wanchanok	Amonsaksophon	Accounting & Finance Dept.	Director
4. Ms. Arisa	Balap	QA Dept.	Director	8. Ms. Wenika	Thitkrathok	Factory Administration	Director

Ratio of Benefits Committee to

All Employees Including Every Subsidiary



No Joint Negotiation Agreements in 2024

In 2024, 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 to prepare new mothers and fathers

Table of Employees Who Took Maternity and Carer's Leave for QTC Energy Co., Ltd.

Report Topic		Unit	2022		2023		2024	
			Male	Female	Male	Female	Male	Female
Maternity and Carer's Leave	No. of Employees Entitled to Take Carer's Leave	person(s)	179	85	181	88	181	86
	No. of Employees Taking Carer's Leave	person(s)					5	3
	No. of Employees Taking Maternity Leave	person(s)	-	3	-	3	-	3
	No. of Employees Returning to Work During the Reporting Period After Their Maternity and Carer's Leave Ended	person(s)	-	3	-	3	5	3
	No. of Employees Who Returned to Work After Maternity and Carer's Leave and Continued to Work 12 Months After Returning	person(s)	-	3	-	3	5	3
	Rate of Employees Returning to Work After Maternity and Carer's Leave	%	100.00		100.00		100.00	

Table showing the number of employees taking maternity and childcare leave at all subsidiaries QTC GP, Q Solar 1, QTC RE, QTC EV.

Report Topic		Unit	2022		2023		2024	
			Male	Female	Male	Female	Male	Female
Maternity and Carer's Leave	No. of Employees Entitled to Take Carer's Leave	person(s)	11	8	11	7	18	19
	No. of Employees Taking Carer's Leave	person(s)					1	-
	No. of Employees Taking Maternity Leave	person(s)	-	2	-	1	-	2
	No. of Employees Returning to Work During the Reporting Period After Their Maternity and Carer's Leave Ended	person(s)	-	2	-	1	1	2
	No. of Employees Who Returned to Work After Maternity and Carer's Leave and Continued to Work 12 Months After Returning	person(s)	-	2	-	1	1	2
	Rate of Employees Returning to Work After Maternity and Carer's Leave	%	100.00		100.00		100.00	

"Breastfeeding corner"

Image of a consultation for preparing for birth, increasing milk supply, and correct breastfeeding methods.

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 2024, two employees brought their children 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 2024, the Benefits Committee considered 50 scholarship applications for employees' children according to specified conditions. Scholarships are divided into the following three levels:

1	Preschool:	9 Scholarships	@ 1,000 baht	9,000 baht
2	Primary Education:	27 Scholarships	@ 1,500 baht	40,500 baht
3	Secondary Education:	14 Scholarships	@ 2,000 baht	28,000 baht
			Total:	**77,500 baht**

Goal:	Verified Human Rights Violations in the Organization
0	Verified Human Rights Violations in the Value Chain
In All Cases	Verified Forced Labor or Non-compliance with Labor Laws

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, Bangkapi, Bangkok, 10240	Email: sustainability@qtc-energy.com
Email: audit@qtc-energy.com	Telephone: 038-891-411-4, Ext. 111
	Company Website: www.qtc-energy.com

Outstanding Human Rights Model Organization Award

The Company accepted the “Outstanding Human Rights Model Organization Award” in the large-scale business organization category at the honorary level from Police Colonel Tawee Sodsong, Minister of Justice. The event was organized by Rights and Liberty Protection Department, Ministry of Justice. This reflected QTC’s continuous prioritization of human rights in its business operations. The award was accepted on 2 December 2024.

Role in Social-Community Development

" Happy Society"

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:

Role in Social-Community Development

Risks

If the organization conducts business without any social responsibility and causes impacts to society-communities or lacks good interaction with communities, there may be a risk of protests, complaints, business disruption, or not getting support in business operations from local communities, which may put the organization at risk of having negative impacts on its reputation.

Opportunities

Care of communities helps to promote sustainable development would benefit both the organization and communities in the long term and increase smooth business expansion opportunities.

Financial materiality

- Investment in projects to jointly develop communities.
- Donation

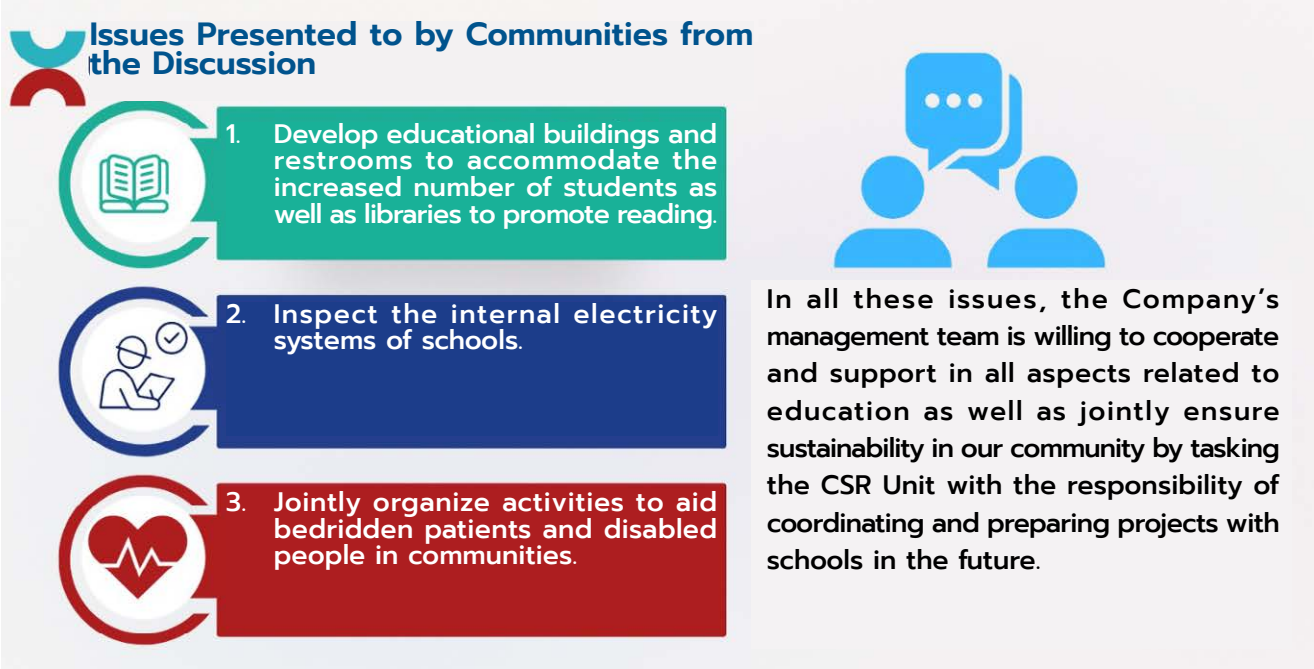
Impact materiality

- Confidence and trust from communities.
- Approval of licenses to operate.

Objective :	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.
Goal 1:	Zero complaints from communities due to impacts from business operations of the Company or subsidiaries.
Performance :	No complaints from communities about business operations. The target was achieved.
Goal 2:	At least one community development project for public benefit per year.
Performance :	There were no community development projects for public benefit. The target was not achieved.
Goal 3 :	Community engagement survey >80%.
Performance :	100% - The target was achieved.

Community Forum: Local Residents Meet with QTC

The 11th “QTC Meets Communities” was held on 19 November 2024. Mr. Poonphiphat Tantanasin, the CEO, opened meeting in person 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 their concerns. A total budget of 25,960 baht was spent.



From the discussion, community representatives praised QTC for prioritizing community development together and that there were no significant issues from the company’s business operations that negatively impacted people in the community, as reported.

Participation in Community Development

Science and Technology Camp

In 2024, the Company collaborated 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 30 August 2024 with 160 3rd-6th 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. This was an ongoing annual project and had a total budget of 72,710.50 baht.

Project to Use Disused Materials for Education

This project was created because the Company had wood scraps from packing that would cost money to dispose and, according to meetings with communities, Map Yang Phon Witthayakhom School had an industrial arts class that taught vocational skill courses to students. In the past, the students had used wood scraps to craft workpieces that were submitted in academic competitions and were able to be capitalized by selling. This was a way to maximize the use of disused materials, reduce waste, and create value for leftover materials as well as teach students vocational skills.

Mr. Sayam Choengkha
Teacher at Map Yang Phon Witthayakhom School

Reusing wood scraps is a way to use resources efficiently to maximize benefits and add value to materials that would be considered waste. These wood scraps turn into important materials for teaching carpentry skills to students. We would like to thank QTC for sponsoring the wood scraps as practice materials for the school.

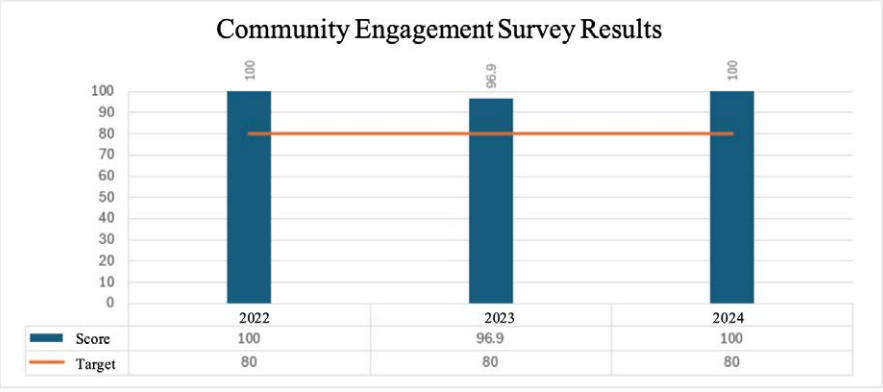
"Join Together for Hometowns" Project

The Join Together for Hometowns Project is an ongoing annual activity where employees in local communities can propose projects to the Company to request to use the CSR budget for the year to develop their hometown and create pride in the employees who are a part of QTC and who return good opportunities to their local communities. In 2024, the "Volunteers Join Together to Do Good for the Children" activity by Ms. Benchawan Sirinat, an employee in the System Development Department and owner of the project, received a budget and a team of 30 volunteers to carry out a mission to repair the lighting system and classroom fans, install bird protection nets on the library, install toilets for classrooms with small children, and repair the conference room tables at the Wat Chai Khueang Wanaram School (Som Chao Rat Bamrung) in Phanom Sarakham, Chachoengsao, on 2-3 November 2024. A total budget of 45,258 baht was spent.

Mr. Banchop Choisakhu
School Principal

We would like to express our deepest appreciation of QTC Energy Public Co., Ltd., and all members of the team who dedicated and sacrificed their time to benefit our educational institution and youths who are the nation's key strength. We appreciate QTC's support in running electrical wires and changing electrical appliances for safety and convenience in education. This support not only gave the school a standard and safer electrical system, but also helped to accommodate the faculty in teaching management as well as create an environment that is conducive to every student's learning.

Based on the participation in community development, the Company assessed the success and surveyed the engagement for each project. In 2024, the community engagement survey results were as follows:



Social Investment

Quality of Life Promotion and Development Project for Thai Disabled Persons

In 2024, QTC Energy Public Co., Ltd. supported four disabled persons in the Chiang Mai 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 eight years, with a total of 23 persons with disabilities under the project and with a total contract value of 2,637,490 baht.

On 5 December 2023, Sunthon Mitthamana, Deputy Managing Director for Administration, participated in the closing ceremony for the project to support the vocational training of disabled people and visited the chicken houses of the disabled people on 29 November 2024 in Mae Daeng Municipality, Mae Daeng, Chiang Mai. She received a warm welcome by the local community and agencies. The disabled people had income from selling an average of 65 eggs a day. (The price of two trays was 240 baht.)

Procurement Projects to Support Disabled Persons

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 2024, the Company continues to support products such as the following:

- Cleaning cloths: 2,100 kg valued at 37,800 baht.
- Sewn canvas bags from autistic children: 300 bags valued at 50,600 baht.

Ms. Araya Daengsaeng
CEO

We would like to thank QTC Energy for supporting our products, which are made by people with mobility disability, special-needs children, and caretakers, to promote occupations and create sustainable income for disabled people.

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 2024, the activity was held on 13 January 2024 at Map Toei School, Map Yang Phon, Pluak Dang, Rayong, with a budget of 30,301.45 baht. Ten QTC employees volunteered at the activity.

Transformer Donation

Srinagarindra the Princess Mother School Rayong under the Royal Patronage of Her Royal Highness Princess Maha Chakri Sirindhorn: In 2023, the Company donated one 250-kVA transformer to Srinagarindra the Princess Mother School Rayong in Na Ta Khwan, Mueang Rayong, Rayong, which taught about 1,100 students from the seventh to twelfth grade, so that the school could use the transformer for teaching activities. Since the school was located on the slope of a mountain and the building plan was arranged along the mountain side, wires had to be run from a long distance, leading to frequent power outages. As a result, electrical appliances have been damaged on several occasions and the school's activities have been affected. The donation was made on 27 May 2024 with a total budget of 203,367.67 baht.

Mr. Montri Khonle
School Principal

We would like to thank QTC for donating the transformer, a quality product of the Company, to the school so as to stabilize the school's electrical system and preserve its electrical appliances and ITC system for efficient function and durability.

Donation of 3-wheeled Solar-powered Vehicles

The Company donated 3-wheeled solar-powered vehicles to Pluak Daeng Hospital in Pluak Daeng, Rayong, for use inside the hospital. The hospital was experiencing problems with increased infection waste due to the local population increasing annually. The donation was for the development of the management system and to create safe conditions for the staff. The event was organized on 3 October 2024 with a total budget of 75,402.25 baht.

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 and the National Blood Center, Thai Red Cross Society, under the “Thais Join Together to Donate Blood” project to continue the Company’s activities for society. This blood donation will be used to support critical patients at the National Blood Center, Thai Red Cross, on 2 May 2024.

In 2024, 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 2024 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 2024 to 31 December 2024
Report Cycle	:	Annual
Names of Companies and Subsidiaries	:	QTC Energy Public Co., Ltd. QTC Global Power Co., Ltd. Q Solar 1 Co., Ltd. QTC RE Co., Ltd. QTC EV Co., Ltd.
การรับรองคุณภาพรายงาน	:	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.ก
รายงานฉบับก่อนหน้า	:	Sustainability Report 2023, QTC Energy Public Co., Ltd: https://qtc-energy.com/wp-content/uploads/2024/06/BOOK-QTC-SD-Report-2023-ENG-Ver-Update18062024.pdf

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 2024 to 31 December 2024 .
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.9, 200		
	2-3 Reporting period, frequency and contact point	p.200		
	2-4 Restatements of information			There are no statements 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.17-19		
	2-7 Employees	p.11, p.123-124, p.160-161		
	2-8 Workers who are not employees	p.12, p.123-124		
	2-9 Governance structure and composition	p.11	P67-80	
	2-10 Nomination and selection of the highest governance body		p.81-84	
	2-11 Chair of the highest governance body		p.1,5,68	
	2-12 Role of the highest governance body in overseeing the management of impacts		p.68-69	
	2-13 Delegation of responsibility for managing impacts		p.70-75	
	2-14 Role of the highest governance body in sustainability reporting	p.15	p.72-74	
	2-15 Conflicts of interest	p.39	p.86,89-94	
	2-16 Communication of critical concerns	p.20-24, p.193		
	2-17 Collective knowledge of the highest governance body	p.34-35	p.6-12	
	2-18 Evaluation of the performance of the highest governance body	p.37-38		
	2-19 Remuneration policies		p.84-85	
	2-20 Process to determine remuneration		p.84-85	
	2-21 Annual total compensation ratio	p.62-63		
	2-22 Statement on sustainable development strategy	p.2-3		
	2-23 Policy commitments	Our policy commitments: https://qtc-energy.com/th/sustainability-policy/		
	2-24 Embedding policy commitments	p.31-32, p.55-56, p.64-65, p.76-78 p.88-90, p.96-98, p.112-113, p.127-129, p.138-139, p.143-145, p.158-159, p.182-183, p.191-192		

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.42		
	2-28 Membership associations	p.8		
	2-29 Approach to stakeholder engagement	p.17-24		
	2-30 Collective bargaining agreements	p.187		
Material topics				
GRI 3: Material Topics 2021	3-1 Process to determine material topics	p.25-26		
	3-2 List of material topics	p.26		
Economic performance				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.55-56		
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	p.62-63		
	201-2 Financial implications and other risks and opportunities due to climate change	p.47, p.96		
	201-3 Defined benefit plan obligations and other retirement plans	p.165,	p.78-79, p.150	
	201-4 Financial assistance received from government			There are no statements of information in this report
Market presence				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.158-159		
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	p.168		
	202-2 Proportion of senior management hired from the local community	p.162		
Indirect economic impacts				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.55-56		
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	p.59-61		
	203-2 Significant indirect economic impacts	P.2-3,47,59		
Procurement practices				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.140		
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	p.142		
Anti-corruption				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.31,39		
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	p.51		
	205-2 Communication and training about anti-corruption policies and procedures	p.40-41		
	205-3 Confirmed incidents of corruption and actions taken	p.43		

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION		OMISSION
		SD Report	56-1 One Report	
Materials				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.112-113		
GRI 301: Materials 2016	301-1 Materials used by weight or volume	p.121		
	301-2 Recycled input materials used	p.73, 121		
	301-3 Reclaimed products and their packaging materials	p.73, 121		
Energy				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.112-113		
GRI 302: Energy 2016	302-1 Energy consumption within the organization	p.73, p.115-118		
	302-2 Energy consumption outside of the organization			Not Applicable
	302-3 Energy intensity	p.73, p.115-118		
	302-4 Reduction of energy consumption	p.73, p.115-118		
	302-5 Reductions in energy requirements of products and services	p.73, p.115-118		
Water and effluents				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.112-113		
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	p.73, p.119-120		
	303-2 Management of water discharge-related impacts	p.73, p.119-120		
	303-3 Water withdrawal	p.73, p.119-120		
	303-4 Water discharge	p.73, p.119-120		
	303-5 Water consumption	p.73		
Emissions				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.96-98		
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	p.74, p.102		
	305-2 Energy indirect (Scope 2) GHG emissions	p.74, p.102		
	305-3 Other indirect (Scope 3) GHG emissions	p.74, p.102		
	305-4 GHG emissions intensity	p.74, p.108-109		
	305-5 Reduction of GHG emissions	p.74, p.103-108		
Waste				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.88-89		
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	p.75		
	306-2 Management of significant waste-related impacts	p.90-91		
	306-3 Waste generated	p.75, p.92		
	306-4 Waste diverted from disposal	p.75, p.92-95		
	306-5 Waste directed to disposal	p.75, p.92-95		

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION		OMISSION
		SD Report	56-1 One Report	
Supplier environmental assessment				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.138		
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	p.75, p.141		
	308-2 Negative environmental impacts in the supply chain and actions taken	p.75, p.141		
Employment				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.158-159		
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	p.124, p.166-167		
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	p.168		
	401-3 Parental leave	p.125		
Occupational health and safety				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.143-144		
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	p.125, p.145		
	403-2 Hazard identification, risk assessment, and incident investigation	p.146		
	403-3 Occupational health services	p.154-157		
	403-4 Worker participation, consultation, and communication on occupational health and safety	p.147-149		
	403-5 Worker training on occupational health and safety	p.148		
	403-6 Promotion of worker health	p.154-157		
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	p.150-157		
	403-8 Workers covered by an occupational health and safety management system	p.125, p.152-153		
	403-9 Work-related injuries	p.125, p.152-153		
	403-10 Work-related ill health	p.125, p.152-153		
Training and education				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.158-159		
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	p.124, 174		
	404-2 Programs for upgrading employee skills and transition assistance programs	p.125, p.171-173		
	404-3 Percentage of employees receiving regular performance and career development reviews	p.125, 173		
Diversity and equal opportunity				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.158-159		
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	p.123, 163		
	405-2 Ratio of basic salary and remuneration of women to men	p.123, p.163-164		
Forced or compulsory labor				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.138-139 p.182-183		

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION		OMISSION
		SD Report	56-1 One Report	
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	p.126, p.141, p.186		
Security practices				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.182-183		
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	p.125, 187		
Local communities				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.191-192		
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	p.194-195		
	413-2 Operations with significant actual and potential negative impacts on local communities	p.126		
Supplier social assessment				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.138		
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	p.126, p.141		
	414-2 Negative social impacts in the supply chain and actions taken	p.126, p.141		
Customer health and safety				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.127-128		
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	p.126, p.129-135		
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	p.126, p.136-137		
Marketing and labeling				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.127-128		
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	p.130-131		
	417-2 Incidents of non-compliance concerning product and service information and labeling	p.126, p.137		
	417-3 Incidents of non-compliance concerning marketing communications	p.126, p.137		
Customer privacy				
GRI 3: Material Topics 2021	3-3 Management of material topics	p.127-128		
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	p.126, p.137		

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

QTC ENERGY PCL.

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