Strengthen Climate Resilience

Introduction of TCFD Framework

By introducing Task Force Climate-Related Disclosure (TCFD) framework and taking the physical and transformational risks and relevant responsibilities into account, CTCI will be able to evaluate the climate change risks that value chain partners, suppliers and CTCI itself may encounter. It would accelerate the promotion of CTCI's climate-related financial disclosures and facilitate communication with stakeholders.

To demonstrate that CTCI is willing to take on the responsibility to jointly mitigate climate change with the world, we have included the Climate Change Risk Management Regulations in the Company's standardized documents, and put greenhouse gases and climate change on top of the agenda of the sustainability promotion team, "ESG Task Force." ESG Task Force is responsible for green-engineering promotion, climate change risks and opportunities assessment, energy-saving and carbon reduction projects, as well as the development of other contingency strategies. The ESG office, led by the Chief Sustainability Officier (CSO), is established to advocate the ESG issues through the task force with relevant units, supervised by the ESG Committee under the Board of Directors. The chief supervisor of the team (the President) reports directly to the Board of Directors on the effectiveness of greenhouse gas management and the outcomes of our climate change responses measures, which also serves as reference for long-term strategy development on climate-change risks. CTCI's net-zero targets are to acheive net zero emissions from the office areas by 2030, and net-zero emission from the offices, service, and production sites by 2050. CTCI has committed in 2022 to set near- and long-term company-wide emission reductions target in line with science-based net-zero with the SBTi.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION
BUSINESS AMBITION FOR 1.5°C

Levels	CTCI's practices
Governance	● CTCI is committed to setting near- and long-term company-wide emission reduction target in line with science-based targets initiatives (SBTi), and advocates the ESG issues by the ESG office, led by CSO, through the ESG Task force with the relevant units, supervised by the ESG Committee under the Board of Directors. ● The ESG Task Force regularly reviews the performance and reports to the Board of Directors via the President, who assumes the role of ESG Task Force chief supervisor, and reports directly to the Board of Directors on the climate change coping strategies and responses measures.
Strategies	● The identified significant climate change risks according to the Climate Change Risk Management Regulations are: Near-term: regulations and standards about product identification; mid-term: extreme rain fall or drought; long-term: regulation of renewable energy. The identified significant climate change related opportunitiess are: Near-term: low carbon products or services; mid-term: producing process; long-term: public construction participation. ● Regarding the transition risks, the business of the refinery and petrochemical construction has been reduced drastically, and the business mode will be transitted to low carbon, green engineering prevailingly under the trend of ESG and net-zero. Governments around the world are gradually formulating regulations restricting greenhouse gas emissions, and international agreements have expressly pointed out global reduction targets. Besides, Taiwan Government published the 2050 net-zero roadmap, highlighting the global trend of ESG & net-zero. CTCI established the Advanced Technology Facility Business Operation to engage in business transition and enhance technological capabilitis to pursue business opportunities in the hi-tech industry. To adapt to the tension of the low carbon economy, CTCI invested heavily in R&D and joined forces with the academia, including the ITRI, for the master of the development and the know-how of the key technologies in sectors of net-zero emission, renewable energies such as hydrogen for the finalization of the roadmap to carbon neutralization/net-zero target. Besides, IEPBO also strived for renewable energy related projects. In response to the climate change regulations, CTCI moved ahead to join volunteer initiatives to complete the planning of the roadmap to net-zero, and joined forces with the supply chain for the commitment of ESG and net-zero, actions for the carbon reduction, promotion of the GHG incentory, setting of the reduction targets for the formation of the low carbon supply chain. ● By introducing Task Force Climate-Related Disclosure (TCFD) framework and taking the regulational, physical, and transformational risks and relevant responsibilities into account, analyzing the 2°C (or lower) scenario and parametric hypothesis, CTCI will be able to evaluate the operational and financial impacts that our suppliers (upsteam), clients (downstream) and CTCI itself may encounter. It would accelerate the promotion of CTCI's climate-related financial disclosures and facilitate communication with stakeholders.
Risk management	● In 2021, CTCI incorporated the risk of the climate change into the Risk Management Regulations, and formulated the "Climate Change Risk Management Regulations" to identify the various potential operation risks and opportunities with TCFD framework analysis. The ESG office regularly convenes meetings and invites climate change risk-management representatives from all units to participate in the climate-change risk and opportunity identification meeting. The climate change risk-management representative will identify climate-change risks for the next 10 years or beyond based on climate-change risk and opportunity identification table via the the method of consequence/probability matrix with the impact level and probability of occurrence to prioritize the significant risks/opportunities in accordance of the Risk/ Opportunity Rating. ● The countermeasures will be drawn up once the identification results have been reviewed and appproved by the unit supervisor. The climate change risk-management representative then draws up response measures based on the identified climate change risk files, and submits them to the head of business operation unit for review before submitting to the Risk Management Executive Committee. ● After the response measures in response to the identified climate change risk files were approved by the Risk Management Executive Committee, they will be implemented and managed in accordance with the Risk Management Regulations.
Indicators and targets	● Acting in response to the even more serious climate changes, operations of CTCI will transfer to the low carbon mode. Key issues regarding the climate change and net-zero effectiveness will focus on saving of energy consumption to reduce the company operation cost through measures of energy saving and the application of the renewable energy; below are the specific indicators: ① To achieve net-zero emission from the headquarters and the office areas globally by 2030 ② To achieve net-zero emission from the offices areas, service, and production sites by 2050. ● In 2021, scope 1 and scope 2 emissions for the headquarters building are 159 and 2,445 tons CO_2e, respectively, while total emissions of scope 1 and scope 2 of all construction sites worldwide are 4,318 and 2,677 tons of CO_2e, respectively. The total scope 3 emissions are 205 tons CO_2e. In respond to the risks and opportunities of the climets changes, CTCI will join force with the upstream/downstream parterners by encouraging them to gradually disclose their emission record, making contribution to the mitigation and reduction of GHG emission through the procedures of identification, analysis, and reduction. ● The targets of CTCI in managing climate- related risks and opportunities: ① Greenhouse gas reduction targets ② Energy resources utilization reduction targets ③ Waste reduction targets ④ Green engineering technical indicators ● Perfoemance for realization of the 2021 targets: ① Greenhouse gas reduction targets: Though the scope 1 emissioins of the headquarters failed to meet the 2021 target, the scope 2 emission reduction target of the headquarters and the scope 1 + 2 targets of the construction sites were all met. The cause of the failure was the spoied oil from the broken oil pipe of the emergency transformers leaking into the underground oil storage tank along with the rain, leading to the emulsion of the diesel inside the tank, which became useless. The management countermeasures were the recycling, treatment of the spoiled oil and the replacment of new oill taken care of by the professional vendors, and the regular inspection and maintenance of the oil system to ensure normal operation. ② Energy resources utilization reduction targets: the 2021 energy resources utilization reduction targets in the headquarters and the constructions sites were all met. ③ Waste reduction targets: the 2021 waste reduction targets in the head quarter and the constructions were all met. ④ Green engineering technical indicators: Regarding the application of the eco-enviroment technologies, there are three new indicators added in 2022: the percentage of the projects applying at least one of the green technologies, the percentage of low carbon green engineering projects, and the percentage of projects submitting at least one value engineering proposal related to energy saving/carbon reduction.