chapter

# 4

# Safeguarding Green Environment

4.1 Climate Change Risk and Countermeasures

4.2 Greenhouse Gas Emissions and Energy Management

## 4.1 Climate Change Risk and Countermeasures

Global climate change is intensifying, which has affected the living space and habitat of all species. According to the list of “most likely” global risks published by the World Economic Forum in the Global Risks Report 2021, “extreme weather” ranked first for the fifth consecutive year, and “climate change” ranked second for the third consecutive year. Climate change has certainly had a significant impact on the global environment, including global warming, increasing frequency of extreme weather, typhoon disasters, and soaring global agricultural prices, all of which have seriously affected the operation of various industries, thereby causing significant fluctuations in the global economy.

FocalTech sees climate change as a major issue for its sustainable management and has been implementing low-carbon management and environmental protection actions in recent years. Therefore, in addition to a friendly work environment, FocalTech has been actively responding to the environmental impact by adopting the goal of a green workplace realizing energy conservation and carbon reduction. Furthermore, FocalTech has started to explore the financial aspects of climate related issues in accordance with the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) issued by the Financial Stability Board (FSB).

- Governance

  The Sustainable Development Team is responsible for promoting specific climate change projects, which are reported to the Board of Directors by the Chairman Office.

- Climate Change Risk Response and Countermeasures

| Major Risks of Climate Change | | Potential Operational and Financial Impacts | FocalTech Future Strategic Directions in Response to the Risk |
|---|---|---|---|
| Technical risk | Customers require process improvement and have the carbon reduction target set. Failures to meet customers' requirements will affect the Company's operational performance. | • Increased operational cost<br>• Increased R&D expenses | Devote in green process R&D and choose suppliers that meet the concept of sustainability to accelerate the Company's progress toward green manufacturing. |
| Market risk | Consumers' awareness of environmental protection is on the rise and the pursuit of green products requires additional product R&D costs and production costs. | • The changing market demand | Proactively pay attention to market trends, conduct market research, and continue to develop products with smaller size and low power consumption features to meet the concept of sustainability. |
| Policy and legal risks | National policy gradually restricts greenhouse gas emissions, and regulations require major power plants to use a certain percentage of renewable energy. | • Increased operational cost | 1. Actively cooperate with government policies and set greenhouse gas emission reduction target each year.<br>2. Understand the current renewable energy plan in Taiwan, formulate an energy transformation plan, and look for green energy solutions to gradually increase the use of green energy. |
| Extreme weather disasters | 1. The Company will fail to operate normally in case of electricity shortage, which will affect the production and increase operational costs.<br>2. Typhoons, rainstorms, flooding, and other disasters caused by climate change will affect the delivery of raw materials or cause damage to the Company, resulting in the Company's failure to operate normally and an increase in operational costs. | • Reduced operational performance<br>• Increased operational cost<br>• Decrease in customer satisfaction<br>• Employee safety issue | 1. Decentralize sources of raw material to reduce risk.<br>2. Establish disaster prevention and control management measures as preventive measures.<br>3. Strengthen environmental safety and health education and training. |

- Climate Change Opportunity Response and Countermeasures

| Major Opportunities of Climate Change | | Challenges and Opportunities | FocalTech Strategic Directions in Response to the Opportunity |
|---|---|---|---|
| Market change opportunities | Customers have a high demand for products with low energy consumption and low environmental impact features. As a result, the Company will develop low carbon products to meet the market demand. | • Increased revenue<br>• Product innovation | Active investment in R&D for low-carbon products. |
| Policy and legal changes | The government promotes the use of alternative energy sources with incentive measures. | • Reduced operational costs<br>• Product innovation | Participate in government green energy policy incentive programs. |
| Resource efficiency | Replace old equipment to improve resource efficiency and reduce environmental impact. | • Reduced product cost<br>• Corporate image building | 1. Monitor and control equipment energy consumption and develop a replacement plan<br>2. Develop/execute power saving plan |

- Risk management procedure


**Initiate climate related risk and opportunity identification process**

Task Force on Climate-Related Financial Disclosures (TCFD) is an internationally credible indicator for climate change risks reporting. The Company regularly refers to the data published in the Disclosures as an indicator to identify climate related risks and in order to formulate corresponding action plans to be followed by various departments.

**Identify and measure climate related risk and opportunity**

Evaluate the likelihood and impact/impact level of climate-related risks and opportunities through data simulation, and identify climate-related risks and opportunities that should be addressed in the course of business operations and business activities.

**Identify climate related risks and opportunities and formulate countermeasures**

Develop countermeasures or control mechanisms based on the above identification results to address such risks and opportunities related to climate change.

**Disclose climate related risks and opportunities and countermeasures**

Disclose the identified climate change risks/opportunities and countermeasures or control mechanisms in the Company's ESG Report.

- The climate change risks increase operational costs or R&D expenses:

1. Electricity costs for business operation: As the situations of earth's environment and climate warming intensify, the unpredictable bad weather also affects people living in this land from time to time. Climate change has put Taiwan in a constant state of power stress. In order to fulfill its responsibility, FocalTech has formulated a long-term plan to increase the proportion of green energy use. If the Company does not properly and gradually switch to green energy, it is estimated that the electricity cost for business operation will increase by 30% in case of continuous power shortage in the future.

2. Increase in wafer material cost/production cost: The European Union (EU) will impose a "carbon border tax" from 2023 onwards, taking full effect in 2026, which will be followed by other countries. The cost pass-through may also occur for products sold worldwide by FocalTech and its supply chain partners, leading to an increase in overall production costs or wafer material costs. The semiconductor manufacturing industry is an industry that consumes high amounts of electricity and water, if the green energy provided by the Company's suppliers is insufficient or indirect materials used are not green products, FocalTech will have to absorb the increased production costs. With reference to the estimates [Note 1] of other enterprises in the industry, the production cost of FocalTech will be impacted by approximately 3%.

3. In view of the possible increase in electricity costs for the Company's operations, FocalTech has been tracking the supply of green energy in the market. Currently, the supply of green energy is considered extremely low. However, FocalTech is prepared to switch to green energy as soon as it is available.

4. FocalTech will continue to monitor the possible increase in production costs and work with suppliers on energy conservation.

[Note 1] The semiconductor-related industry revealed its risk assessment, quantifying the top three risks, including net zero emissions trend, drought and reputation, and estimating the impact of these top three risk factors on annual revenue to be within 5.4%.

- Target and Goal

With the goal of achieving net zero emissions by 2050, FocalTech expects to complete the 14064-1 GHG inventory and verification in 2024 proactively.

# 4.2 Greenhouse Gas Emissions and Energy Management

| Management Policy | |
|---|---|
| Major issue | Greenhouse gas emissions and energy management |
| Policy direction | To become a green enterprise through energy control by improving environmental policy and purchasing energy-saving equipment. |
| Core goals | Review the operational performance each year to reduce the Company' s operational costs and environmental burden to achieve the goal of sustainable development |
| Achievements | 1. LED lamps: Replacement of lighting saved a total of NT$5,224 on electricity a year.<br>2. Replacement of energy-saving air-conditioning system reduced the total electricity consumption by 15.64% between July and December 2021. |
| Action plans | 1. Purchase of equipment such as multifunctional printers, printing supplies, and electrical appliances with low-carbon emissions.<br>2. Replacement of LED lamps and energy-saving air-conditioning-related equipment. |

| How to manage | |
|---|---|
| Devoting resources | 33,240,000 |
| Feedback mechanism | Reduce energy consumption each year |
| Evaluation mechanism | Produce annual statistics on related energy efficiency performance |

| Future plans | |
|---|---|
| Goals for 2022 | 1. The Company expects to adopt the ISO 14064-1: 2018 Greenhouse Gas Inventory in 2023, with an aim to identify energy saving possibilities and improvement directions.<br>2. Gradually replace office lighting and air compressor equipment, improve the efficiency of company vehicles, and update information equipment. |

To ensure the effectiveness of environmental management, FocalTech introduces an environmental management system, sets environmental policies and guidelines, and reviews operational performance each year, with an aim to reduce its operational costs and environmental burdens. In addition, FocalTech also improves the environmental awareness and law-abiding behavior of its employees to realize the concept of sustainable management. Upholding the belief of "placing the green environment on top of everything" and the spirit of "protecting the health of employees", FocalTech comprehensively considers the impact on the environment and safety in the production and operation of its products. With the idea of prevention and continuous improvement, FocalTech implements the following environmental policies and guidelines:

- Environmental Policy

1. Adopt new technologies:
   Employ environmentally friendly materials and adopt new production processes to reduce the environmental impact and the risks of hazards generated during the production process.

2. Implement hazard prevention:
   Regularly identify environmental factors and major hazards, thereby formulating management plans to monitor their implementation.

3. Comply with laws and regulations:
   Comply with national, local and industry related laws and regulations, and be a law-abiding enterprise.

4. Commitment to continuous improvement:
   Continuously improve the situation of environmental pollution and health hazards to enhance environmental and health and safety performance.

5. Implement environmental safety training:
   Implement environmental safety education and training and safety management to improve environmental protection and health and safety awareness.

### 4.2.1 Energy Management

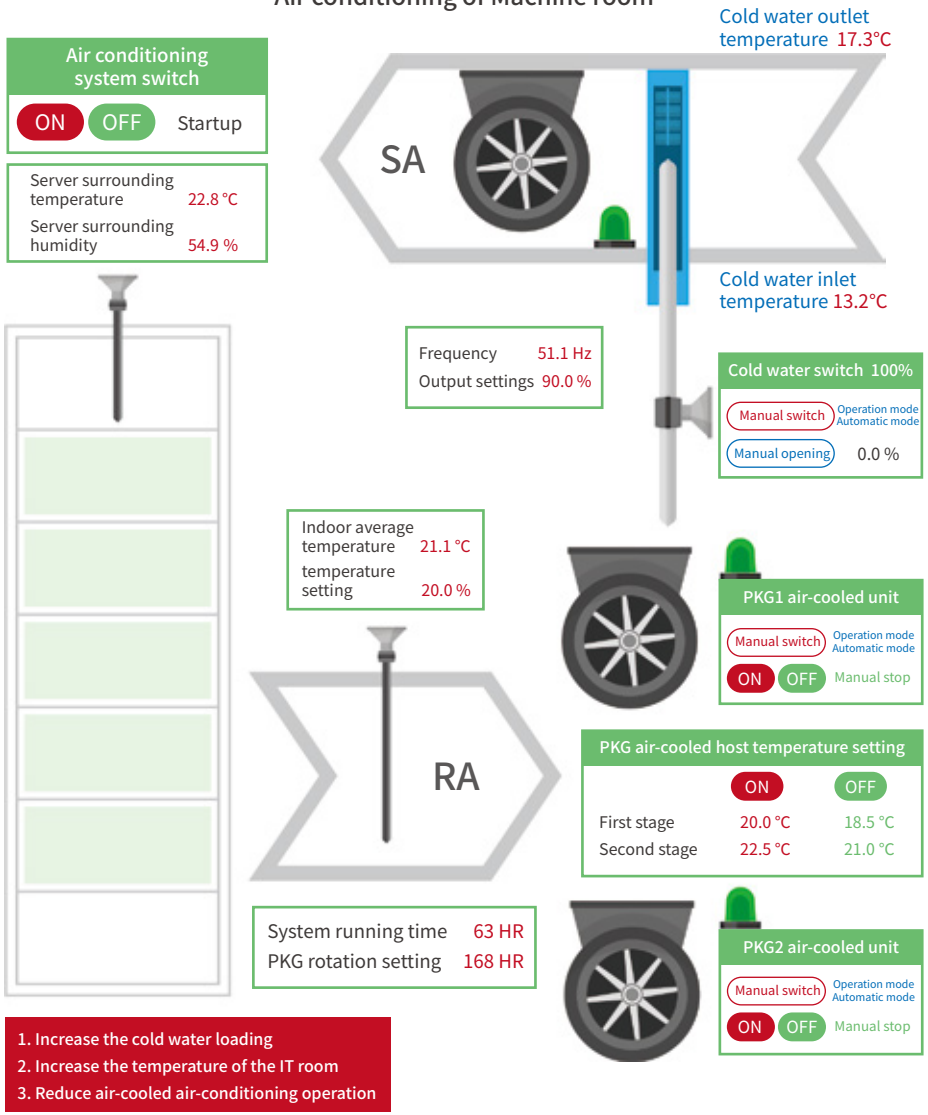
- Management performance

| 1. Energy conservation and carbon reduction (electricity) |
|---|
| Plan name<br>Replacement of LED Lamps |
| Description of measures<br>Implementation status explanation: The list of activities is carried out as scheduled.<br>1. The damaged lamp and abnormal ballast are directly replaced with LED fixtures whenever found.<br>2. Office illumination is also further improved. |
| Devoting resources<br>• In 2019, NT$50,000 was spent on purchasing LED lamps. |
| Energy conservation performance<br>After replacement:<br>• LED: 18W x 36pcs=1,296*14H*240 days=2,177KW, total cost saving: NT$5,224 a year |

| 2. Energy conservation and carbon reduction (electricity) – Air-conditioning system |
|---|
| Plan name<br>Monthly energy saving of 10% in the headquarter office |
| Description of measures<br>Increase the temperature of the IT server room on the 4th floor of the headquarter office (18°C→ 20°C ). The adjustments are as follows:<br>1. Increase the load of chilled water for server in headquarter office (20 → 15.6°C )<br>2. Increase the temperature of the IT server room (18 → 20°C )<br>3. Reduce the operation of air-cooled air conditioning |
| Devoting resources<br>No cost incurred |
| Energy conservation performance<br>• Replacement of energy-saving air-conditioning system reduced the total electricity consumption between July and December 2021 (by 15.64%, from 241,645 to 203,841 kWh) |

Electricity saving structure

## Air conditioning of Machine room




- Future energy conservation and carbon reduction related action plans

| Plan | Practices |
|---|---|
| Energy conservation and carbon reduction in office | • Set the air-conditioning system in working and office areas at 26~28°C , with a dedicated person assigned for turning on and off the air conditioner.<br>• Promote environmental protection measures, such as energy-saving digitization, waste reduction, and resource recycling, and carry out training and awareness-raising campaigns related to energy conservation and carbon reduction.<br>• Conduct video/telephone teleconferencing to reduce carbon emissions generated from traveling to/from plants. |
| Lighting equipment | • Lighting switches are controlled according to zones, and the lighting in common areas is managed by time controlled switches. All lighting fixtures in the plant have been replaced with LED fixtures to reduce electricity wastage. |
| Air compressor equipment | • Conduct regularly checks for leaking tubes and repair them in time to avoid increasing the load on air compressor due to air leaks, thereby saving electricity consumption for the air compressor.<br>• Replace the old air compressor with variable frequency compressor. |
| Company vehicles use | • Optimize the amount of fuel used by company vehicles, and make advance arrangements for carpool plans. |
| Information/software and hardware equipment | • Purchase hardware equipment with the energy-saving label<br>• Service virtualization<br>• Implement energy conservation management policy on end-user-side computers |

## 4.2.2 Water Consumption Management

- Water Consumption Statistics

The main water source of FocalTech is 100% from Taiwan Water Corporation, and no other water sources such as groundwater, surface water and rainwater are used, thus not creating any negative impact on the surrounding environment and water quality. The water is only consumed for employees' domestic use (including drinking, washing, and environmental cleaning), and domestic waste water is discharged, in accordance with the laws and regulations, through the sanitary sewer. In 2021, no incident of illegal pollution occurred and there was no significant impact on environmental water sources.

| Year | Average number of people | Water | |
|---|---|---|---|
| | | Total water consumption (ml) | Sewage discharge volume (ml) |
| 2019 | 350 | 7.6 | 0.001 |
| 2020 | 395 | 8.5 | 0.002 |
| 2021 | 434 | 7.6 | 0.001 |

[Note] The water consumption statistics above only includes the Taiwan plant.

## 4.2.3 Greenhouse Gas Emissions

In response to the impact of climate change, carbon reduction and reduction of energy consumption and greenhouse gas emissions have become issues of concern for enterprises today who are in pursuit of sustainable operations. The energy of FocalTech is mainly consumed for the production and the use of office equipment in the plant areas; the energy is mainly sourced from an external company. In order to reduce greenhouse gas emissions, the Company has set up relevant carbon reduction targets to take more action in mitigating climate change. FocalTech is a professional IC design company, its manufacturing, packaging and testing of products are performed by external professional vendors. In this regard, FocalTech is an enterprise that consumes relatively low energy. The main energy source of FocalTech is from an external company (Taiwan Power Corporation), with 633.42GJ of energy consumed in 2021. Therefore, FocalTech focuses on the promotion of innovative green product design and green office, and continues to raise employees' green awareness and promote specific plans. Apart from the greenhouse gas emissions, FocalTech also takes into consideration the introduction of various energy-saving technologies, such as improvement of equipment efficiency, replacement of old equipment, and reduction of energy consumption through production management optimization. In addition, FocalTech also promotes energy conservation and carbon reduction measures in its plants and offices with education and advocacy campaigns and policies and regulations, with an intention to encourage employees to proactively start doing energy conservation and carbon reduction activities and to contribute to the global environment.

Greenhouse gas emissions in the past three years

| Year | Average number of people | Electricity | | Energy Indirect GHG Emissions (Scope 2) per capita ($tCO_2eq/yr$-person) |
|---|---|---|---|---|
| | | Total electricity consumption (KWh/yr) | Energy Indirect GHG Emissions (Scope 2) ($tCO_2eq/yr$) | |
| 2019 | 350 | 1,365,360 | 694.9682 | 1.9856 |
| 2020 | 395 | 1,747,281 | 877.1350 | 2.2206 |
| 2021 | 434 | 1,759,492 | 883.2650 | 2.0352 |

Note 1. The inventory is mainly based on the external source of energy of the FocalTech plant in Hsinchu, Taiwan (Scope 2 Energy Indirect Emissions).

Note 2. The complete 16064-1 GHG inventory is expected to be completed in 2023.

### 4.2.4 Waste Management

FocalTech actively reduces waste and production cost. To reduce waste generation, FocalTech not only improves the process and operation management, but it also develops and selects non-polluting and low-polluting design processes. Furthermore, the metal wastes generated during the production process are recycled through effective management procedures and the recycled metal wastes are sold to certified waste recyclers to reduce the waste of resources. The wastes are mainly office waste, which is declared by certified vendors as general business waste. The Company has not generated hazardous waste.

| Item | 2019 | 2020 | 2021 |
|---|---|---|---|
| Total waste volume | 1.24 metric tons | 1.53 metric tons | 1.57 metric tons |

[Note] Total waste statistics include only the data of the Taiwan plant.