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# **Formosa Taffeta Co., Ltd. TCFD Report**

(This English translation is prepared in compliance with the Chinese version and is for reference purposes only. If there are any inconsistency between the Chinese original and this translation, the Chinese version shall prevail.)

**Publication Date: November, 2020**

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## **Introduction**

The global economy has suffered from the global warming arised from the greenhouse gas emissions which also affect several enterprises. However, investors still do not know which companies are vulnerable to the risks arised from the climate change and which ones have made preparation, and which ones are taking actions. Therefore, Financial Stability Board (FSB) formed a task group, Force on Climate-related Financial Disclosures (TCFD), to consult with many leaders from the business and finance industries over 18 months. “TCFD recommendations report” was released in June 2017. It outlined a comprehensive framework for enterprises and investors to report the financial information resulted from climate-related risks and opportunities.

In line with the international trend, Formosa Taffeta Co.,Ltd (FTC) discloses the risks and opportunities resulted from climate change based on the TCFD recommendations report to show our responsibilities and strategies as a member of FPG, and further, allocate the capital in a reasonable and effective way to meet the transformation towards a low-carbon economy transformation.

# **Chapter 1 Governance**

## **1.1 Company Profile**

To diversify its operations, FTC not only manufactures many products, such as polyester or polyamide fabric with special finishing cotton fabrics, interwoven fabrics, spun or filament fabric, tyre cord, plastic bags, safe and life fabrics, carbon products, etc., In addition, FTC also operates 106 gas stations. FTC is the main fabrics supplier in the world and specializes in sports and outdoor textile. The Company is devoted in developing newest fashion trend with famous enterprises and participates in worldwide exhibitions every year to grow up with customers and have earned the great reputation.

## **1.2 Organization and Responsibility**

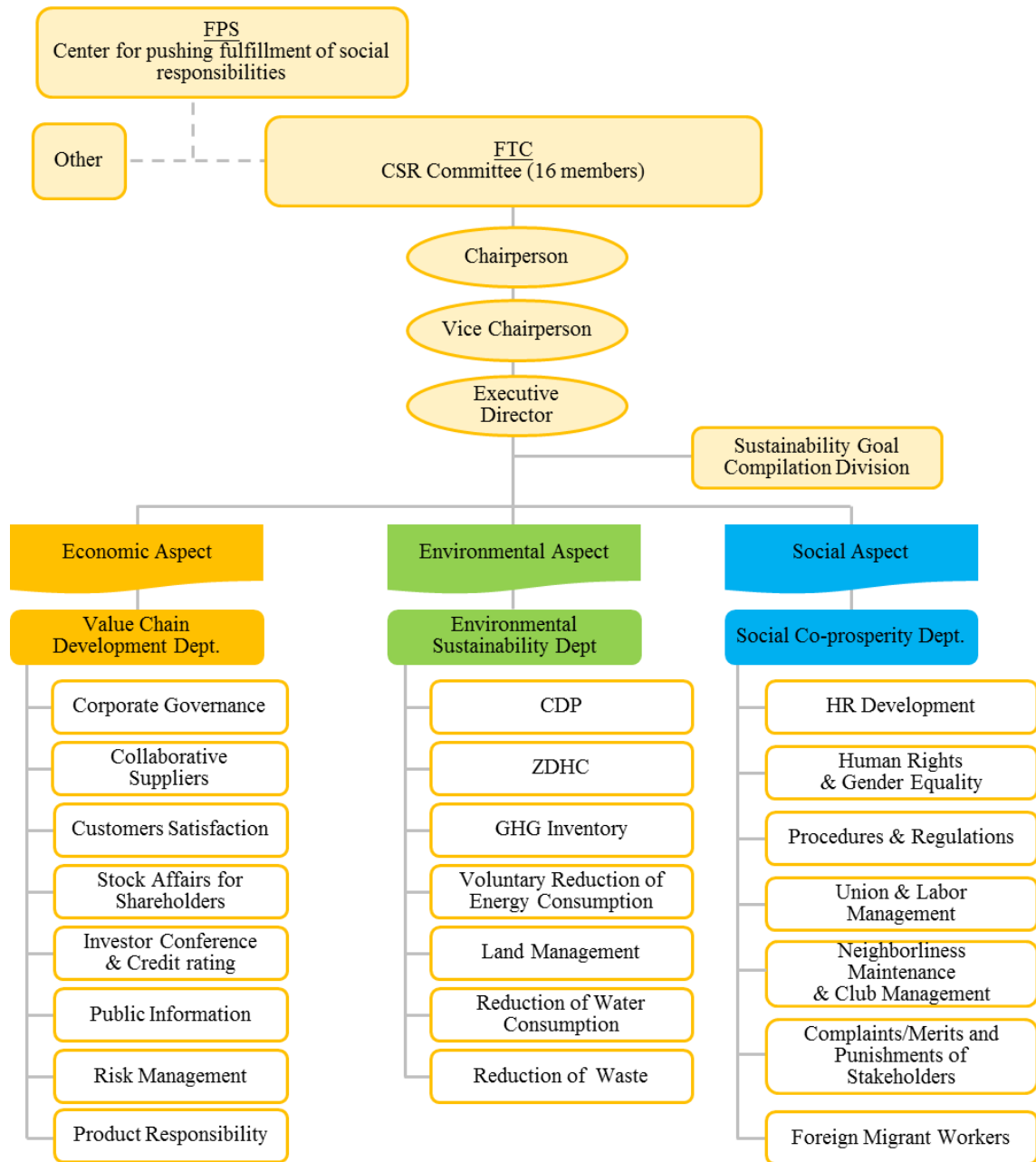
To effectively manage and respond to those climate-related risks, FTC sets up the CSR Committee. Possible risks and opportunities are reported to the CSR committee for discussion and management. Environmental Sustainability Department governed by the CSR committee is responsible for launching relevant processes and identifying the risks and opportunities.

President, also the member of the board of directors, serves as the chair of the CSR committee in charge of CSR relevant affairs such as climate changes, significant risks, and business opportunities and so on.

Environmental Sustainability Department consists of seven groups, namely, CDP, ZDHC, GHG Inventory, Voluntary Reduction of Energy

Consumption, Land Management, Reduction of Water Consumption, and Reduction of Waste. These groups take charge of relevant environmental issues such as climate-related and water-related issues, analyze risks and opportunities, identify its significance and propose the countermeasures to those identified significant risks and opportunities. All actions for significant risks and opportunities are proposed to the monthly management meeting for monitor and reported to the President by the minutes.

Performances for environmental issues, inclusive of climate change and water resources, are presented in the annual CSR report which shall be compiled by the end of June every year. A CSR report must be a report item of the agenda in the meeting of the Board of Directors and reviewed by them prior to disclosure.



Picture 1- Framework of CSR Committee

### 1.3 Boundary

| Name                                      | Address                               |
|---|---------------------------------------|
| Main Plant of Formosa Taffeta CO., LTD.   | 317, Shuliou RD., Touliou 640, Taiwan |
| Second Plant of Formosa Taffeta CO., LTD. | 319, Henan St., Touliou 640, Taiwan   |

## **Chapter 2 Strategy**

### **2.1 Sustainable Development Strategy**

FTC's strategy is to intergrate the professionalism and environmentalism, create green process and products, launch lean production to improve the resources effectiveness, use eco-friendly materials and equipment, supply products which is accordance with the ecological safety and continue growing to meet stakeholders' expectation.

Therefore, the Company has stipulated the "seven green" strategy, namely green building-green energy-green procurement-green process-green emission-green products-green supply chain.

### **2.2 Short-Term Risks/Opportunities, Strategies and Financial Impact (within 3 years)**

#### **1. Opportunity from transforming the uses of fossil fuels**

Turning pyrolysis low sulfur fuel oil (PFO) into the natural gas of low discharge coefficient is able to effectively reduce the carbon emissions and the air pollution fee. FTC made a 3-year retrofit programme, scheduled to be completed in 2020 to cut down 50% of carbon emissions while yielding the same amount of heat. The programme is estimated to cost NT\$ 150 million, estimated to be returned from 6 to 8 years.

#### **2. Risks from the sustainable supply chain of brand customers**

Passing the certificate such as SAC and Bluesign can not only meet the brand customers' expectations and demand but also increase the competitiveness. FTC has set up the "Sustainable Development Group" of the first business segment to understand brand customers' requirements and report our performances. The fee involved in the personnel and certification is about NT\$ 0.7 million per year.

### 3. Risks of Regulations

Renewable Energy Development Act stipulated by the government has regulated that the companies with contracted capacity to the certain amount must install renewable energy equipment to an certain ratio. The company unable to meet the requirements must alternatively purchase T-REC or pay subsidy. FTC is subjected to be listed the companies that consume a large amount of energy and to be monitored. In order to deal with it, the first phase plans to meet the regulation of 10% capacity, in other words, is to install 2,600 KW solar power ,totally consumed by the company. The investment cost is estimated NT\$ 150 million, scheduled to be completed in June 2023.

### 4. Improvement of the Opportunity to Right the First Time (RFT)

Dyeing process is a key factor for RFT; as a result, improving the dyeing process is crucial to boost the competitiveness of the Company. Big data along with Artificial Intelligence(AI) are used to build a forecast model to predict the best recommended the curve of dyeing process to improve the RFT. Not only does it help FTC to reduce expenditures (the reduction of raw material uses, electricity and the waste disposal) but also cut down the uses of carbon in line with our sustainable philosophy. We estimate that the amount from reduing the raw material cost, energy cost, water resources cost is NT\$ 22.65 million;furthermore, it can reduce 2,630 ton CO<sub>2</sub> of carbon emission per year. We invest NT\$ two million in testing AI dyeing processs in collaboration with the IT company.

## **2.3 Midterm Risks/Opportunities, Strategies and Financial Impact (3 - 10 years)**

### 1. Risk of INDC

Under the situation of INDC, the midterm goal is set to reduce 20% of greenhouse gas emissions in 2030 compared with that of 2005; that is, the amount of emissions returns to 214 million tons. According to the energy



policy, it is impossible to use nuclear power in 2030 and TPC has not announced its prediction or plan of the electricity price in 2030. Due to this, the Company has made possible predictions on financial impacts. We predicted that the purchased electricity cost increased 50%, nearly NT\$ 250 million, but its occurrence rate is less than 50%. Our first phase plan is to meet the regulation of 10% capacity, in other words, is to install 2,600 KW solar power and totally consumed by the company. The investment cost is estimated NT\$ 150 million. We continue to keep an eye on the renewable energy market and the regulations in order to make a better decision.

## 2. Opportunities from eco-friendly and low-carbon products

Brand customers focus on the eco-friendly product materials, the changes in climate patterns, and the variances of periodical changing of extreme weather. We are aware of the business opportunities brought from the environmental and functional products so that we develop two pillars for medium and long-term:

- A. Development of environmental and low-carbon products such as recycled nylon fiber, recycled yarn, and eco-friendly textile
- B. Development of functional textile such as A+ Smart Thermal Technology

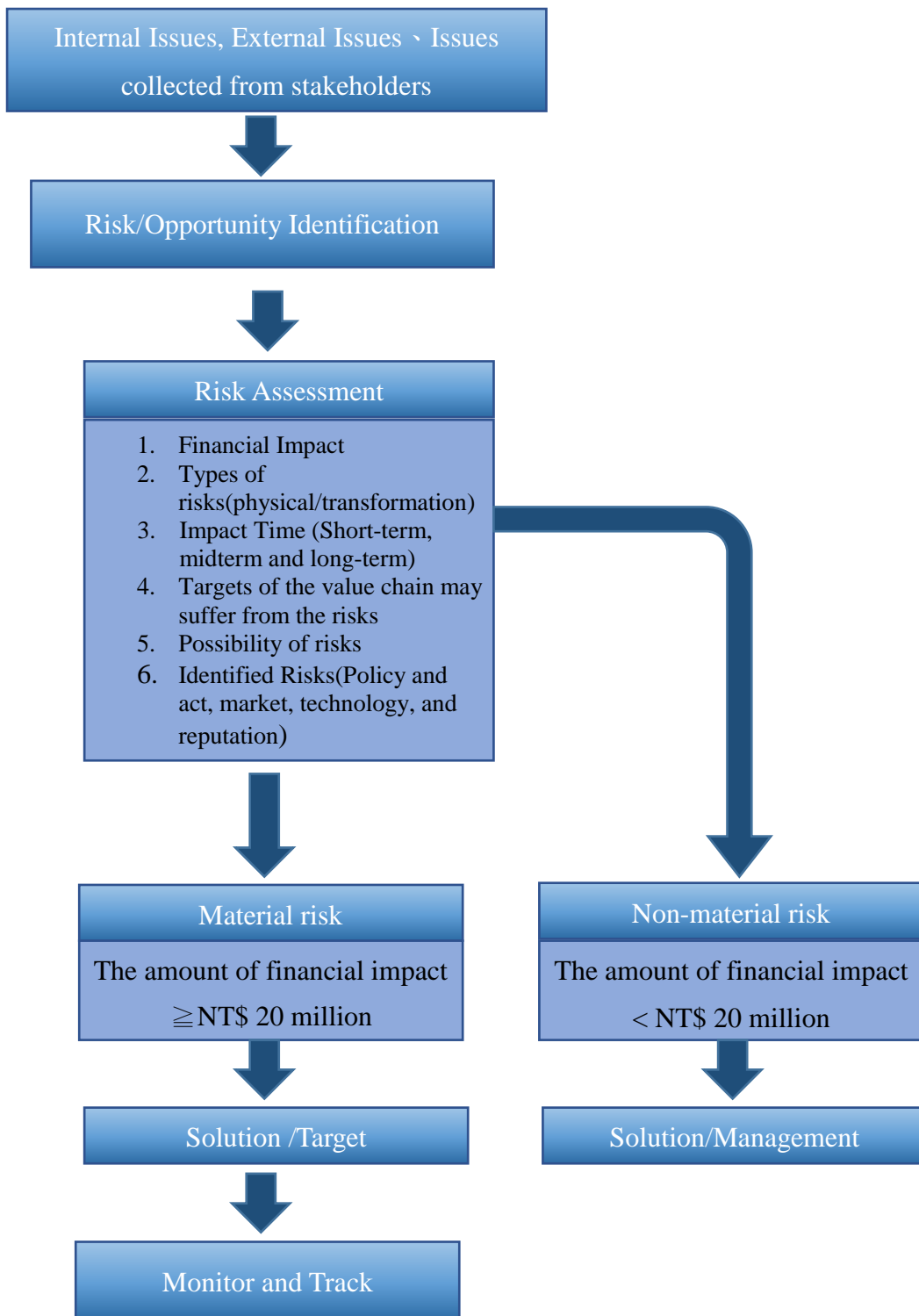
In 2019, the Company has acquired the relevant patents of A+ Smart Thermal Technology and Smart Textile. In the future, we will cooperate with other companies to create the products such as Intelligent temperature control clothing or those products with LED light security warning, GPS positioning, immediate image transmission etc. to apply these products in the activities such as mountain-climbing, skiing, or rescue which may face some extreme weather.

## **Chapter 3 Climate-Related Risks Management**

### **3.1 Identifications for Climate-related risks**

The Company has integrated the process of identifying climate-related risks and opportunities with ISO 14001 to form an effective management system. Evaluation processes for internal and external environmental issues is annually conducted and is mainly made by R&D department, energy management department, safety and hygiene department and sustainable development department. All topics and the relevance of operation risks and its significance are examined through cross-departmental perspectives.

Method of evaluation are in reference to Recommendations of the Task Force on Climate-related Financial Disclosures, June 2017. Transformation risks (Policy and Act/Market/Technology/Reputation) and physical risks are taken into consideration under the scenario planning. If the amount of financial impact is over NT\$ 20 million, the risk will be listed company-level risk, substantial financial impact.



### **3.2 Material Risks Management**

Countermeasures taken to events identified as significant risks must be proposed in order to reduce the loss resulted from risks. We analyze all possible solutions, set up indicators which can be divided into risk elimination, risk reduction, and risk diversification, and make the final solutions through meetings. These solutions shall be regularly monitored and integrated it with ISO 14001 in order to propose it to the risk management of the Company.

### **3.3 Scenario Planning Strategy**

Intended Nationally Determined Contribution (INDC) and RCP scenario planning are used to analyze the possible operations and physical impacts which the Company may suffer from.

The midterm goal is set to reduce by 20% of greenhouse gas emissions in 2030 compared with that of 2005; that is the amount of emissions returns to 214 million tons under the scenario of INDC. Under the scenario, the government has different guidelines for seven sectors, energy sector, industrial sector, residential sector, service sector, transportation sector, agriculture sector, and waste sector which may have an impact on the Company.

Under the RCP scenario planning, we use TCCIP to plan the worst situations that the temperature and the amount of rain may bring.

### **3.4 Strategy for Carbon Pricing**

FTC has set up and implemented the internal carbon pricing system in 2018 in order to respond to systems for the amount of

emission stipulated by “Greenhouse Gas Reduction and Management Act.” The pricing was set NT\$1,500 per ton in reference to “Greenhouse Gas Reduction and Management Act. ”It is used in the internal evaluation on risks and opportunities resulted from greenhouse gas emission.

### 3.5 Other Climate-Related Risks

The Company has comprehensively reported the identified climate-related risks, and the lower risks of transformation and its countermeasures are shown in the following tables (3.1 transformation risks, 3-2 physical risks, and 3.3 climate-related opportunities.)

Table 3.1 Transformation Risks

| Types          | Climate-Related Issues  | Description for potential risks  | Countermeasures   |
|----------------|---|--|---|
| Policy and Act | Renewable Energy Development Act to mandatorily require to build renewable energy installation to the certain ratio         | Required investments shall be made to meet the regulations(Installation of renewable energy equipment or the fee produced from buying the renewable energy certificate.) | Continue to save energy and carbon emissions  |
|                | The first batch of regulated list for registering GHG emissions governed by the Greenhouse Gas Reduction and Management Act | Increase in the cost results from carbon inventory and registration  | In line with the regulations  |
|                | INDC and renewable energy policy regulated by Taiwan( Renewable energy shall account for 20% in 2025)                       | The higher cost for renewable energy cost and purchased electricity lead to the increase of operation cost.  | 1. Continue to increase energy efficiency<br>2. Look for the opportunity to build renewable energy installation (solar power) |
| Technology     | Replace the current skills with a low-carbon emission/ low environmental impact technology                                  | The cost of products made by waterless dyeing technology process is high. If the order does not reach a certain scale, the sales is poor.                                | Develop new customers and rebuilt the installation and produce other waterless cloth products                                 |
|                | The technology for low-carbon is not universal.   | The initial of AI technology may leads to the unstable process and its high yield rate may be low, affecting the investments in raw material and energy growth.          | Strict examination and SOP are required to improve the quality.   |

|            |   |   |   |
|------------|---|---|---|
| Market     | In compliance with the customers' demands on environmental/sustainable and low-carbon products.                       | Revenues may be decreased due to failure to meet the customers' requirements.                                 | Respond and Satisfy customers   |
|            | The implementation of carbon tax system in the production bases results in the increase in the price of raw material. | A rise in operation cost leads to the drop in the revenues.   | Stable the firm's pricing through the long-term contract and second suppliers system. |
| Reputation | Stakeholders( the Public) has negative perspectives on products made by fossil fuels.                                 | For reputation, brand customers may turn to use environmental/recycled products, leading to drop in revenues. | Continue to develop in smart technology/ environmental products annually.             |

Table 3.2 Physical Risk

| Types   | Climate-Related Issues   | Description for potential risks   | Countermeasures   |
|---------|--|---|---|
| Acute   | Severe rain affects the drain system and causes the floods in plants or other accidents.                                       | Equipment impairment affects the production operation.  | <ol style="list-style-type: none"> <li>1. Emergency measures implemented.</li> <li>2. Increase in facilities and equipment against disasters</li> </ol>               |
|         | More and more severe typhoons lead to the increase in the incidents of calling off work and school due to the weather factors. | Production Planning and Scheduling is affected which increases the operation costs.   | <ol style="list-style-type: none"> <li>1. Strengthen the countermeasures to reduce the impacts</li> <li>2. Equipment Insurance Policy to reduce the losses</li> </ol> |
| chronic | Rise in average temperature from 2021 to 2040 (RCP8.5 in Yunlin, 1.6°C rise at most)   | The increase in heat loads of air conditioners leads to the increase in the electricity of the air conditioners which further raise OPEX and CAPEX. | Continue to do the energy-saving measures through ISO 50001 and give priority to the projects with high return on investment.   |
|         | Rise in average temperature from 2021 to 2040 (RCP8.5 in Yunlin, 1.6°C rise at most)   | Drop in orders of warmth products leads to less revenue and profits.  | Increase in revenue through investment in cool and temperature controlling products   |
|         | Sea level rise (RCP8.5, rise in 0.3M)  | It affects the drainage of final destination and causes floods in plants affecting the production operations.                                       | <ol style="list-style-type: none"> <li>1. Emergency measures implemented.</li> <li>2. Increase in facilities and equipment against disasters</li> </ol>               |

Table 3.3 Climate-Related Opportunities

| Types                   | Climate-Related Issues                        | Description for potential opportunities   | Countermeasures   |
|-------------------------|---|---|---|
| Efficiency of Resources | AI program of Plants                          | 1. RTF- Reduce the cost from the electricity, water and raw material<br>2. Decrease the uncertainties arised from the relavant regulations of carbon emission cutting.                          | Utilize Big data along with AI to improve RTF in collaboration with professional IT companies.                                |
|                         | ISO 50001 energy management solutions         | Decrease the electricity cost and uncertainties arised from the relavant regulations of carbon emission cutting.  | Execute the opportunities of ISO 50001 and attend the FCFC's energy saving meeting to monitor the performances.               |
| Market                  | Opportunities from not using the fossil fuels | Decrease the electricity cost and uncertainties arised from the relavant regulations of carbon emission cutting.  | Turn pyrolysis low sulfur fuel oil (PFO) into the natural gas of low discharge coefficient is able to cut down GHG emissions. |
| Products and Service    | Environmental and low-carbon products         | 1. In line with brand customers' market systems to increase in product sales<br>2. Cut down the carbon emissions in the product usage phases and increase the performances of green environment | Continous collaboration with foreign enterprises, use of recycled materials, and investment in functional and smart textile   |

## Chapter 4 Index and Targets

### 4.1 Carbon Emission Reduction Target

The audited carbon emissions for the Main Plant and Second Plant is disclosed in the Environment of CSR report.

FTC has commissioned System & Serviced Certification (SGS) to conduct the inventory of carbon emission to ensure its accuracy.

Location-Based has been set. Its base year is 2016; start year is 2017, and the target year is 2022. It is estimated to cut down 9.75% of carbon emission in 6 years.

Table 4.1-Comparison of carbon emissions (Location-Based)

| Year  | 2016<br>(Base<br>Year) | 2017    | 2018    | 2019    | 2020 | 2021 | 2022<br>(Target<br>Year) |
|---|------------------------|---------|---------|---------|------|------|--------------------------|
| Carbon Emissions<br>(Ton-CO <sub>2</sub> e) | 457,786                | 431,831 | 445,304 | 445,431 |      |      |                          |
| Compared with<br>the base year<br>(%)       | -                      | 5.67%   | 2.73%   | 2.70%   |      |      |                          |

Location-Based has been set, and the unit is CO<sub>2</sub>e/ millions of revenues. Its base year is 2016; start year is 2017, and the target year is 2022. The Unit emission is 15.49, and it is estimated to cut down 18% of carbon emission in 6 years.

Table 4.2- Comparison of carbon emissions (Location-Based)

| Year  | 2016<br>(Base<br>Year) | 2017  | 2018   | 2019   | 2020 | 2021 | 2022<br>(Target<br>Year) |
|---|------------------------|-------|--------|--------|------|------|--------------------------|
| Carbon Emissions<br>(Ton-CO <sub>2</sub> e) | 18.61                  | 16.79 | 16.14  | 16.22  |      |      |                          |
| Compared with the<br>base year<br>(%)       | -                      | 9.77% | 13.30% | 12.84% |      |      |                          |

## 4.2 Other Targets

The Company attends FCFC's annual conference on energy efficiency. The followings are the targets set for water, electricity, and steam of unit product in the meeting:

Reduce water consumption by 5% - the amount of water consumption of product unit in 2018 or the target of 2018 \*0.95 ( choose the stricter goal). The unit is Ton/ product unit.



Reduce water consumption by 1% - the amount of electricity consumption of product unit in 2018 or the target of 2018 \*0.99 (choose the stricter goal). The unit is KWh/ product unit.

Reduce steam consumption by 3% - the amount of water consumption of product unit in 2018 or the target of 2018 \*0.97 (choose the stricter goal). The unit is Ton/ product unit.

### 4.3 Other Index

Energy consumed in Taiwan Plant is disclosed in the Environment of CSR report.

Table 4.3-Statics for consumed energy items Unit : GJ

| Item \ Plant          | Taiwan Plant |           |           |
|-----------------------|--------------|-----------|-----------|
|                       | 2017         | 2018      | 2019      |
| Coal                  | 3,380,193    | 2,946,885 | 3,206,190 |
| Fuel oil              | 673,052      | 644,208   | 572,024   |
| Diesel                | 2,192        | 1,842     | 1,512     |
| Natural gas           | 42,574       | 104,367   | 111,248   |
| Purchased electricity | 812,298      | 706,026   | 663,396   |
| Purchased steam       | -            | -         | -         |
| Total Consumption     | 4,910,309    | 4,403,328 | 4,554,370 |

### 4.4 Scope 3

The inventory on relevances and the emission data of cope 3 are carried out every year and audited by the third party. In 2019, the Company did not set any relevant projects of scope 3 and targets.

Table 4.4- Information of Scope 3 Emissions

| Category  | Relevance             | Amount of emission<br>(ton CO <sub>2</sub> e) | Scope of calculation   |
|---|-----------------------|---|--|
| Purchased goods and services  | Relevant, caculated   | 625,825.257                                   | 80% of the amount of procurement of raw material   |
| Capital goods   | Relevant, uncaculated |   |  |
| Fuel- and energyrelated activities (not included in scope 1 or scope 2) | Relevant, caculated   | 80,415.881                                    | Inclusive of all fuels and energy activities, such as coal, pyrolysis low sulfur fuel oil, and natural gas |
| Upstream transportation and distribution                                | Relevant, caculated   | 18,613.99                                     | 80% of the amount of procurement of raw material   |
| Waste generated in operations   | Relevant, caculated   | 1,136.54                                      | Manage the emission generated from operation waste -100%   |
| Business travel   | Relevant, caculated   | 416.6203                                      | Emissions from taking flight   |
| Employee commuting  | Relevant, caculated   | 820.63  | Vehicle emissions from employee commuting  |
| Upstream leased assets  | Not Relevant          |   |  |
| Downstream transportation and distribution                              |                       | 13,196.37                                     | All products (100%) delivered to the gate of main customers  |
| Processing of sold products   | Not Relevant          |   |  |

| <b>Category</b>                        | <b>Relevance</b>       | <b>Amount of emission<br/>(ton CO2e)</b> | <b>Scope of caculation</b> |
|--|------------------------|--|----------------------------|
| Use of sold products                   | Not Relevant           |  |                            |
| End-of-life treatment of sold products | Not Relevant           |  |                            |
| Downstream leased assets               | Not Relevant           |  |                            |
| Franchises                             | Not Relevant           |  |                            |
| Investments                            | Relevant, uncalculated |  |                            |

## Chapter 5 About this Report

- Reporting Period: From January 1<sup>st</sup>, 2016 to December 31<sup>st</sup>,2019
- Reporting Frequency : In the event of any major changes
- The Report is in accordance with Recommendations of the Task Force on Climate-related Financial Disclosures, June 2017.
- The report is provided for the Company,customers, investment institution, and FPG.
- The Report is kept in the Safety and Hygiene office of the Company.
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