

Climate Risk	Potential Financial Impacts	Responses and Measures
Increase in greenhouse gas emission pricing	If the price of carbon increases, then operating costs will increase.	With net zero emissions as our goal, we will apply for offset projects and continue to implement energy saving programs.
Costs in transitioning to low carbon technology	Switching to low-carbon equipment, resulting in early write-off and scrapping of assets 1. Developing recycled products and purchasing additional equipment. 2. Costs produced by switching to equipment with high energy efficiency.	1. Developing polyester recycled products and adding related equipment to increase the added value of our products. 2. Implementing ISO 14067 product carbon verification to confirm the reduction in carbon for our environmentally-friendly products. 3. Continuous energy saving and carbon reduction
Tightened environmental regulations	1. Due to the tightening of air pollutant emission standards, existing coal-fired boilers need to be replaced with other equipment. 2. Consumers of large quantities of electricity are required to install renewable energy equipment to supply 10% of their contracted capacity due to regulatory requirements.	1. Switching to natural gas will increase equipment and fuel costs. 2. Usage of solar power since 2018.

6.2 Greenhouse Gas Emission Management

To implement our environmental policy concerning greenhouse gas carbon management, we have voluntarily calculated our greenhouse gas emissions and conducted regular greenhouse gas emission verification on an annual basis in accordance with the regulations of the Environmental Protection Administration and regulations stipulated in our company documents.

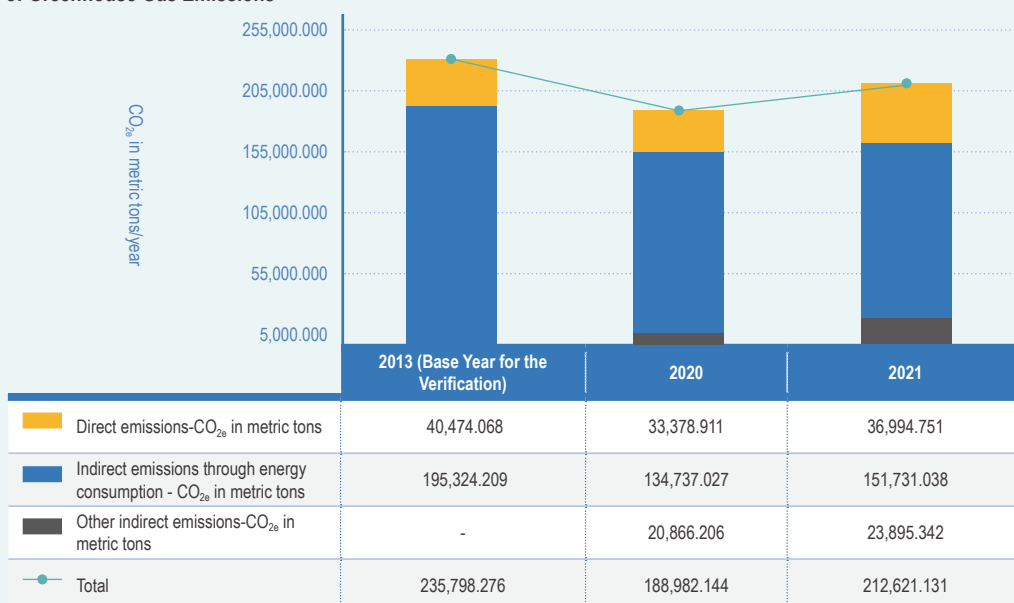
We referred to the ISO 14064-1 standards as well as the requirements and suggestions of the WBCSD/WRI greenhouse gas verification protocol to set the boundaries of our greenhouse gas emission sources, which is 100% operational control; therefore, all five of our plants are covered in the verification, including the Guishan plant, the three plants in Guanyin (including dormitories outside the plants), and the Dayuan plant.

In compliance with the ISO/CNS 14064-1 standards on information management, we have collected data since 2012. In 2012, we expanded production lines at Guanyin Plant 4 and Dayuan Plant 5, and mass production began in 2013, so the base year was set at 2013. The Taiwan Branch of British Standards Institution (BSI) Hong Kong (BSI) audited and verified the results, and the global warming potential (GWP) values of various greenhouse gases announced in the IPCC’s fifth assessment report (2013) as well as the emission coefficient method were selected to calculate our greenhouse gas emissions so that we may increase the reliability of our greenhouse gas verification data. 2021 (Jan. 1, 2021-Dec. 31, 2021) was the tenth year that we have verified our greenhouse gas emissions. The verification was conducted in accordance with ISO 14064-1:2018, and other indirect emissions (upstream electricity) was disclosed from 2020 onwards to provide our management with a reference for making operational performance decisions for continuous improvement. The 2020 figures have been recalculated, so they vary slightly from the previous version.

The types of greenhouse gases verified in 2021 are based on the seven greenhouse gases defined by the ISO 14064-1 standards; they include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. The activities, products, and services of each plant have been taken into consideration, and the survey results show that carbon dioxide emissions takes up the majority of emissions, accounting for 99.69%.

The coefficient is based on the GHG emission factor management table version 6.0.4, Taipower’s electricity coefficient of 0.502kgCO_{2e}/kWh in 2020, and the upstream electricity coefficient of 0.0923kg/CO_{2e} announced on the EPA’s product carbon footprint information website in 2021.

Volume of Greenhouse Gas Emissions



Comparison of Total Greenhouse Gas Emissions

Plant	2013 (Base Year)	2020	2021	Difference Between 2013 (Base Year) and 2021
Guishan Plant 1	20,460.421	15,754.371	20,055.886	(404.535)
Guanyin Plant 2	54,209.436	41,781.756	52,604.935	(1,604.501)
Guanyin Plant 3	82,056.345	74,572.450	86,195.336	4,138.991
Guanyin Plant 4	5,907.349	5,582.270	6,954.995	1,047.646
Dayuan Plant 5	73,164.725	51,291.298	46,809.981	(26,354.745)
Total	235,798.276	188,982.144	212,621.131	(23,177.145)

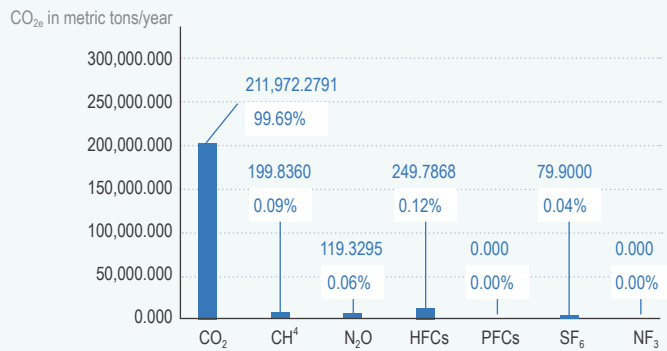
Unit: Tons of CO_{2e}

Due to the significant increase in production in 2021, the total greenhouse gas emissions increased by 23,638.987 metric tons of CO_{2e} compared to 2020. Since 2020, we have made adjustments in our source of energy, gradually switching from fuel oil to natural gas. The transition to natural gas is expected to be completed in 2022. Increases or decreases in major greenhouse gases are as follows:

Electricity increased by 22,164.205 metric tons of CO_{2e}, fuel oil increased by 5,715.307 metric tons of CO_{2e}, bituminous coal decreased by 1,264.478 metric tons of CO_{2e}, steam decreased by 6,424.020 metric tons of CO_{2e}, and natural gas decreased by 899.325 metric tons of CO_{2e}. To fulfill our corporate responsibility to protect the environment as a global citizen, our policy in 2022 remains the same to reduce greenhouse gases:

- Continued promotion of energy conservation measures
- Full participation in energy saving and carbon reduction activities
- Comply with environmental regulations, customer needs, and other relevant regulations

Types of Greenhouse Gas in the 2021 Verification



6.3 Energy Saving Management

6.3.1 Energy Saving Operations

Energy Management Operational Organization

