TNFD Data Sheet

GHG Emissions in 4 year | Unit tCO_2e

Item		2020	2021	2022	2023
Cement Plants					
Scope 1	Taiwan	4,411,086	4,797,296	4,312,390	3,457,601
	Mainland China	31,255,633	25,867,678	20,715,305	17,405,089
	Subtotal	35,666,719	30,664,974	25,027,695	20,862,690
Scope 2	Taiwan	202,312	212,407	210,273	186,576
	Mainland China	1,257,882	1,094,397	846,574	642,045
	Subtotal	1,460,194	1,306,804	1,056,847	828,621
Scope 1+2 Total	Taiwan	4,613,398	5,009,703	4,522,663	3,644,176
	Mainland China	32,513,515	26,962,075	21,561,879	18,047,134
	Subtotal	37,126,913	31,971,778	26,084,542	21,691,311
Scope 3	Taiwan	22,427	28,761	16,709	511,001
	Mainland China	-	-	-	1,104,573
	Subtotal	22,427	28,761	16,709	1,655,574
RMC Plants					
Scope 1	Taiwan	2,059	1,517	1,776	1,893
Scope 2		7,101	6,866	6,571	5,905
Scope 1+2 Total		9,160	8,383	8,347	7,798
Scope 3		-	-	181,053	266,736
Distribution Stations					
Scope 1	Taiwan &	-	-	-	4
Scope 2	Mainland China	-	-	-	1,451
Scope 1+2 Total		-	-	-	1,455
Operations Offices					
Scope 1	Taiwan	140	132	146	137
	Mainland China	-	-	-	19
	Subtotal	140	132	146	156
Scope 2	Taiwan	1,199	1,119	1,636	1,544
	Mainland China	-	-	-	110
	Subtotal	1,199	1,119	1,636	1,654
Scope 1+2 Total	Taiwan	1,339	1,251	1,782	1,681
	Mainland China	-	-	-	129
	Subtotal	1,339	1,251	1,782	1,810
Scope 3	Taiwan	-	-	719	5,499,459
Ho Sheng Ming Co., Ltd. (GRI 14)					
Scope 1	Taiwan	-	-	-	3,999
Scope 2		-	-	-	297
Scope 1+2 Total		-	-	-	4,296
Scope 3		-	-	-	297.04

Air Pollution Emissions on Cement Plants in 4 Years | Unit metric ton

Item	2020	2021	2022	2023
Taiwan				
NOx	6,164	6,473	5,427	4,923
SOx	106	113	65	97
VOCs	0.00457	0.00422	0.00428	0.00424
Particulate Matters	249	214	158	168
Total	6,519	6,800	5,650	5,188
Mercury Emissions	0.27546	0.27876	0.22635	0.16686
Mainland China				
NOx	12,089	9,908	8,207	5,053
SOx	1,293	997	1,096	962
Particulate Matters	827	569	317	402
Total	14,209	11,474	9,620	6,417
Mercury Emissions	-	-	-	0.024156
Mercury Emissions (Unit: mg/m³)	<0.0001	0.005	0.005	0.013

2023 Water Withdrawal from Water-stressed Regions

Item	2022	2023
Municipal Water	170.94	214.18
Industrial Water	455.50	782.08
Surface Water (rivers)	838.08	826.94
Mining Water	6.00	32.78
Rainwater Harvesting	-	76.44
Total water withdrawal from Water-stressed Regions	**1,470.53**	**1,932.42**

2023 Operating and Restoration Area in the Mines | Unit km²

Item		2023
Taiwan		
Total Surface Area Under Management		3
Total Disturbed Area		Mining 0.57
		In preparation for restoration 0.05
Total Restored Area		0.65
Mainland China		
Total Surface Area Under Management		13.23
Total Disturbed Area		Mining 4.76
		In preparation for restoration 0.19
Total Restored Area		1.24

Waste disposal in 2023 | Unit tons

Operation Sites		General waste (domestic waste)	Industrial waste	Valuable metal recycling
Cement Plants	Taiwan	176.35	4,212.10	2,941.75
	Mainland China	1,719.96	1,703.54	4,580.02
	Subtotal	1,896.31	5,915.64	7,521.77
RMC Plants	Taiwan	178.18	1,465.15	188.75
Operations Offices	Taiwan	32.50	0	0
	Mainland China	3.17	0	0
	Subtotal	35.67	0	0
Distribution Stations	Taiwan & Mainland China	3.75	3.93	0.02
Total		**2,113.91**	**7,384.72**	**7,710.54**

GRI Standards Reference Table

GRI Standards and Disclosure Item		Corresponding Section
GRI 101-1	Policies to halt and reverse biodiversity loss	Life | The Most Important Thing
GRI 101-2	Management of biodiversity impacts	1.3 The LEAP Approach
GRI 101-3	Access and benefit-sharing	4.3 KBCC Gene Bank & Application
GRI 101-4	Identification of biodiversity impacts	1.3 The LEAP Approach
GRI 101-5	Locations with biodiversity impacts	1.3 The LEAP Approach
GRI 101-6	Direct drivers of biodiversity loss	4.1 Nature-based Solutions
GRI 101-7	Changes to the state of biodiversity	2.1 Forests
GRI 101-8	Ecosystem services	1.3 The LEAP Approach & 1.4 Stakeholders

TNFD Core Global Disclosure Indicators Reference Table

TNFD Core Global Disclosure Indicators			Corresponding Section & Description
	Climate Change	GHG Emissions	TNFD Data Sheet
C1.0	Extent of land/ freshwater/ ocean-use change	Total Spatial footprint	TNFD Data Sheet
C1.1		Extent of land/freshwater/ocean ecosystem use change, restored or conserved, and sustainably managed	2.1 Forests & 2.3 Oceans
C2.0	Pollution/ pollution removal	Pollutants released to soil split by type	2.2 Soils
C2.1		Wastewater discharged	In 2023, the total discharge volume of Taiwan cement plants was 265.95 megaliters. At the Suao Plant, surface runoff and rainwater are collected and undergo purification process before being discharged into the Baimi River. The Hoping Plant treats its discharge to meet standards before discharging into the Pacific Ocean. Cement plants in Mainland China have zero external discharge and being disposed according to local regulations.
C2.2		Waste generation and disposal	TNFD Data Sheet TCC has no hazardous waste
C2.3		Plastic pollution	There were no plastic pollution issue at TCC
C2.4		Non-GHG air pollutants	TNFD Data Sheet
C3.0	Resource use/ replenishment	Water withdrawal and consumption from areas of water scarcity	TNFD Data Sheet
C3.1		Quantity of high-risk natural commodities sourced from land/ocean/ freshwater	TCC sourced high-risk natural commodities including cement, coal, iron, natural gas, aluminum, and gasoline
C4.0	Invasive alien species and other	Placeholder indicator: Measures against unintentional introduction of invasive alien species	4.1 Nature-based Solutions
C5.0	State of nature	Placeholder indicator: Ecosystem condition	2.1 Forests
		Placeholder indicator: Species extinction risk	1.3 The LEAP Approach

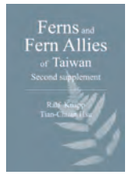
TNFD Core Global Disclosure Indicators			Corresponding Section & Description
C7.0	Risk	Value of assets, liabilities, revenue and expenses that are assessed as vulnerable to nature-related transition risks (total and proportion of total)	1.5 Nature-related Financial Impact & Ecosystem Services Value
C7.1		Value of assets, liabilities, revenue and expenses that are assessed as vulnerable to nature-related physical risks (total and proportion of total)	1.5 Nature-related Financial Impact & Ecosystem Services Value
C7.2		Description and value of significant fines/penalties received/litigation action in the year due to negative nature-related impacts	There were no related incidents in 2023
C7.3	Opportunity	Amount of capital expenditure, financing or investment deployed towards nature-related opportunities, by type of opportunity, with reference to a government or regulator green investment taxonomy or third-party industry or NGO taxonomy, where relevant	1.5 Nature-related Financial Impact & Ecosystem Services Value
C7.4		Increase and proportion of revenue from products and services producing demonstrable positive impacts on nature with a description of impacts	1.5 Nature-related Financial Impact & Ecosystem Services Value

Publications of KBCC

Asian Begonia 300 Species Portraits
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=387

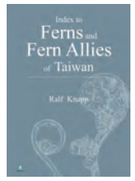
Field Guide to the Plants of Solomon Islands
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=270

Sol Amazing Lycophytes and Ferns of Solomon Islands
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=271

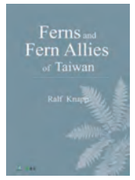


Ferns and Fern Allies of Taiwan - Second supplement
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=244

Species Begonias of the Eastern Himalayas of Arunachal, India
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=184



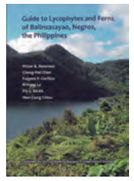
Index of Ferns and Fern Allies of Taiwan
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=85



Ferns and Fern Allies of Taiwan
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=81

Ferns and Fern Allies of Taiwan – Supplement
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=83

The Wild Orchids of TAIWAN
台灣蘭花
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=84



Guide to Lycophytes and Ferns of Balinsasayao, Negros, the Philippines
http://www.kbcc.org.tw/tw/announce_newsArticle.html?id=185

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