TCC

GROUP HOLDINGS

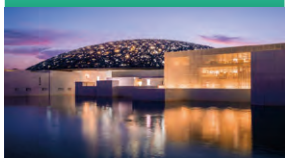
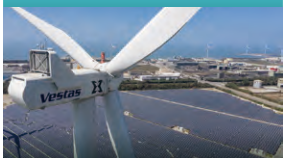
ESG INSIGHT REPORT

2024 TCC GROUP HOLDINGS ESG INSIGHT REPORT

Environmental

Mobilis In Mobili - Change within Change

TCC pursues a balance between development and sustainability, a respect for life and the environment – not just the accumulation of cold numbers. Fulfilling our Total Climate and Total Care commitments, TCC propels three core businesses: low-carbon construction materials, green energy, and resource recycling.

Low-carbon Construction Materials	Resource Recycling	GREEN ENERGY Renewable Energy	GREEN ENERGY Energy Storage	GREEN ENERGY Battery
				
Carbon Reduction Impact & Targets				
2023 **-1.09 Million** 2024 **-962,000** 2030 TARGETS **-1.69 Million**	2023 **-38,000** 2024 **-92,000** 2030 TARGETS **NA**	2023 **-60,000** 2024 **-65,000** 2030 TARGETS **-530,000**	2023 **-75,000** 2024 **-149,000** 2030 TARGETS **-160,000**	2023 **-2,300** 2024 **-3,399** 2030 TARGETS **-320,000**

Unit: metric tons of CO_2e

Key Environmental Goals and Achievement Rates

◆ Climate-related management indicators and targets ■ weighted average

GHG Management ◆	PERFORMANCE IN 2024	TARGETS 2025	TARGETS 2030	TARGETS 2050
Taiwan & Mainland China ■	0.673	0.645	0.552	Committed to Net Zero
CIMPOR	0.649	-	0.538	0.033
OYAK Cement	0.657	-	0.610	0.033

Base year 2016 | Unit: metric tons of CO_2e/metric ton of cementitious materials

SBT Carbon Reduction Targets

In January 2025, TCC's Taiwan and Mainland China sites, along with its European subsidiaries CIMPOR and OYAK CEMENT, all achieved the SBT 1.5°C validation and committed to setting 2050 net-zero plans.

	TARGET BASE YEAR	TARGETS 2024	TARGETS 2030	TARGETS 2050
TCC (Scope 1)	724	642	-23.9%	Committed to Net Zero
TCC (Scope 2)	30	25	-64.4%	
OYAK Cement (Scope 1)	740	705	-20.59%	-95.8% (Net Zero)
OYAK Cement (Scope 2)	49	42	-56.3%	
CIMPOR (Scope1)	659	659	-19.5%	-95.2% (Net Zero)
CIMPOR (Scope2)	28	3	-55.7%	

Target base years TCC: 2016, OYAK: 2021, CIMPOR: 2022 | Unit: kg CO_2e/t Cementitious Materials

Scope 3 Targets Established for Cements Plants in Taiwan & Mainland China

After identifying industry characteristics, emission scale, and reduction opportunities, Scope 3 carbon reduction targets focus on four categories to establish short-term reduction targets for 2030. The overall long-term Scope 3 reduction target for 2050 is set based on the SBT 1.5°C methodology.

	PERFORMANCE IN 2024 (tCO_2e)	TARGETS 2030	TARGETS 2050
C4 Upstream Transportation and Distribution	664,210	-3.0%	All Scope 3 C ategories **-90%**
C9 Downstream Transportation and Distribution	480,331	-3.0%	
C1 Purchased Goods and Services	1,220,508	-0.5%	
C3 Fuel-and-energy-related-activities	1,149,386		

Base year 2024 | The target covers 73% of Scope 3 emissions generated by the cement plants in Taiwan and Mainland China.

◆ Climate-related management indicators and targets ■ weighted average

Air Pollution Management

Taiwan & Mainland China

	PERFORMANCE IN 2024	TARGETS 2025	2030	2050
NOx	309	380 ✓	370	BACT Minimum Note 1
SOx	37	40 ✓	39	
TSP	22	21	20	

Unit: grams emissions /metric ton of clinker | Note1: Best Available Control Technology

Mercury (Co-processing)	0.22	0.192	0.187	BACT Minimum

Unit: metric ton

CIMPOR

NOx	996	< 1000 ✓	< 500	-
SOx	291	< 250	< 200	
TSP	10.8	< 5	< 5	

Unit: grams emissions /metric ton of clinker

Mercury	0.004	< 0.01 ✓	< 0.005	-

Unit: grams emissions /metric ton of clinker

Water Management–Fresh Water Withdrawal Intensity

Taiwan & Mainland China ■	0.000377	-	0.000248	-
CIMPOR	0.0002	0.0002 ✓	0.0002	

Unit: megaliter/metric ton of cementitious materials

Energy Efficiency

Taiwan & Mainland China ■	2.7	2.460	2.306	1.998
CIMPOR	3.6	-	3.3	-

Taiwan & Mainland China Formula: total petrochemical energy consumption / cementitious materials production volume | Unit: GJ/t

Renewable Energy

Group (MW)	203	235	400	750

On-site Waste Management-Proportion of Waste Converted into Renewable Resources and Energy

Cement Plants in Taiwan & Mainland China	100%	100%	100%	100%

Carbon Capture (Taiwan & Mainland China)

R&D Budget	188 million	1.3 billion	-	-

Since 2011 / Unit: NT$

Carbon Capture	Prioritize oxygen-enriched combustion for immediate emission reductions	100,000	1.6 million

Unit: metric ton/year

Thermal Substitution Rate (TSR) of Alternative Fuels ◆

Taiwan & Mainland China ■	15.4%	25%	35%	50%
CIMPOR	33.8%	60%	70%	-
OYAK CEMENT (Grey Cement)	24.5%	30.5%	58%	-

Ratio of Alternative Raw Materials ◆

Taiwan & Mainland China ■	17.4%	21%	22%	25%
CIMPOR	3.6%	4%	5%	-
OYAK CEMENT	1.86%	2.09%	5%	-

Clinker Ratio

Taiwan & Mainland China ■	0.789	0.796	0.78	0.57
CIMPOR	0.8	0.67	0.625	-
OYAK CEMENT	0.8	0.79	0.73	-

Biodiversity	PERFORMANCE IN 2024	TARGETS 2025	2030	2050
Conservation of Plant Species	34,671	≥ 35,000	≥ 40,000	≥ 45,000
Scope: Worldwide | Endangered Plants Included | Since 2007 | Unit: taxa				
BMPNote 2 **Proportion of Native Species Maintenance in Quarry** (Taiwan)	88.23%	-	90%	

Note 2: Biodiversity Management Plan

TCC Community Engagement (Taiwan & Mainland China)				
Community Engagement Management (CEM)	933 million	800 million ✓	1.8 billion	5.8 billion
Since 2022 | Unit: NT$ | Cumulative Investment				

Education Investment				
Taiwan	30.02 million	33.5 million	73.5 million	230 million
Since 2022 | Unit: NT$ | Cumulative Investment				

Sustainability Questionnaire Collection Ratio				
Significant Tier-1 Suppliers (by procurement amount)	78.65%	-	80%	-

Environmental Metrics

GHG Emissions Unit: tCO_2e	2021	2022	2023	2024
SCOPE 1				
Taiwan	4,798,945	4,314,312	3,463,663	3,311,817
Mainland China	25,867,678	20,715,305	17,418,591	20,300,454
CIMPOR & OYAK Cement	-	-	-	9,183,229
Total Carbon Emissions	**30,666,623**	**25,029,617**	**20,882,254**	**32,795,500**
SCOPE 2 (Location-based method)				
Taiwan	220,392	218,480	195,702	208,671
Mainland China	1,094,397	846,574	656,627	698,270
CIMPOR & OYAK Cement	-	-	-	482,671
Total Carbon Emissions	**1,314,789**	**1,065,054**	**852,329**	**1,389,612**
SCOPE 2 (Market-based method)				
Taiwan	220,392	218,480	195,702	208,631
Mainland China	1,094,397	846,574	656,627	682,879
CIMPOR & OYAK Cement	-	-	-	537,745
Total Carbon Emissions	**1,314,789**	**1,065,054**	**852,329**	**1,429,255**
SCOPE 1+SCOPE 2 (market-based method) **TOTAL**				
Taiwan	5,019,337	4,532,792	3,659,365	3,520,448
Mainland China	26,962,075	21,561,879	18,075,218	20,983,333
CIMPOR & OYAK Cement	-	-	-	9,720,974
Total Carbon Emissions	**31,981,412**	**26,094,671**	**21,734,583**	**34,224,755**
SCOPE 3				
Taiwan	28,761	17,428	6,277,977	6,473,285
Mainland China	-	-	-	963,241
CIMPOR & OYAK Cement	-	-	-	1,867,000
Total Carbon Emissions	**28,761**	**17,428**	**6,277,977**	**9,303,526**

Note 1: The newly disclosed scope in 2024 includes Longshan, Huaihua, and Liaoning cement plants; Fuzhou and Liuzhou grinding plants; Feng Sheng Enterprise Company, 123 Environmental Protection Technology Co., Ltd., Beijing TCC Environmental Technology Co., Ltd., TCC (Guangdong) Renewable Resources Technology Company Limited, CIMPOR, OYAK CEMENT, and the European Operations Headquarters.

Note 2: CIMPOR and OYAK CEMENT were officially included in the Company's consolidated financial statements starting from March 2024. Therefore, the GHG emissions presented above only account for the period from March to December 2024.

Note 3: The GHG emissions were inventoried in terms of operational control. The formula used is emissions = activity data × emissions factor (EF) × global warming potential (GWP).

Note 4: The scope 3 emissions cover all 15 categories defined by the GHG Protocol.

Worldwide Cement and Concrete Business Units Carbon Emissions Achieved 4% Reduction in 2024 compared to 2023.

GHG Emissions – Parent Company and Subsidiaries in Consolidated Financial Statement

Unit: tCO_2e	2021	2022	2023	2024
Total direct GHG emissions (Scope 1)	48,768,016	42,198,412	38,590,747	39,787,537
Scope 2 (Market-based)	1,931,726	1,598,619	1,393,777	1,486,220
Scope 2 (Location-based)	1,952,700	1,642,595	1,465,557	1,446,577
Scope 1 + 2 Intensity (tCO2e/USD million revenue)	-	-	-	8,124.8
Scope 3	-	-	-	2,523,624.7

Note 1: TCC Group Holdings underwent significant operational changes in 2024, notably through the acquisitions of Cimpor in Portugal and OYAK Cement in Turkey. To ensure data comparability and provide a comprehensive view of our environmental performance, we have proactively disclosed historical data for 2021-2023 that includes the operations of Cimpor and OYAK Cement. This expanded scope of disclosure aligns with our 2024 consolidated financial reports and reflects our commitment to transparency.

Note 2: As only the 2024 revenue fully reflects the inclusion of overseas cement business units, the Scope 1 and Scope 2 intensity metrics are reported exclusively for the year 2024.

Note 3: Since TCC completed its Group-wide Scope 3 inventory in 2024, Scope 3 data are disclosed for 2024 only.

GHG Intensity Trend

Note 1:The data in this table is based on the Environmental Protection Administration's inventory guidelines (AR5), and therefore may slightly differ from the ISO 14064 database (AR6)

Note 2: The 2016-2023 disclosure scope covers the emission data of cement plants in Taiwan and Mainland China. The 2024 disclosure scope covers the emission data of cement plants in Taiwan, Mainland China, and CIMPOR & OYAK CEMENT.

Various GHG Total Emissions (Scope 1, Taiwan & Mainland China)

Unit: tCO_2e	2021	2022	2023	2024
CO_2	-	-	26,238,464.97	23,627,754.45
CH_4	-	-	2,286.10	2,640.21
N_2O	-	-	6,683.96	6,932.97
HFCs	-	-	7,787.14	2,052.28
PFCs	-	-	-	-
SF_6	-	-	395.14	314.99
NF_3	-	-	-	-

Note: The newly disclosed scope in 2024 includes Longshan, Huaihua, and Liaoning cement plants; Fuzhou and Liuzhou grinding plants; Feng Sheng Enterprise Company, 123 Environmental Protection Technology Co., Ltd., Beijing TCC Environmental Technology Co., Ltd., TCC (Guangdong) Renewable Resources Technology Company Limited.

Energy Management (Taiwan & Mainland China)

Unit:GJ	2021	2022	2023	2024
Renewable Energy	982	4,310	60,600	919,439
Coal	119,989,265	93,922,278	76,556,061	64,368,380
Diesel	647,933	527,966	478,730	1,533,023
Gasoline	16,212	14,594	14,703	71,050
Natural Gas	139	58	58	320
Purchased Electricity	9,819,998	7,365,600	6,390,020	15,470,030
Power Generation by Waste Heat Recovery	4,221,277	3,308,400	2,794,580	3,676,071
Alternative Fuel	1,141,467	6,336,276	9,862,413	25,280,094
Total	**135,240,811**	**111,018,277**	**95,790,788**	**23,491,377,117**

Note 1: 2024 metrics scope expanded to include CIMPOR & OYAK CEMENT, resulting in a marked increase.

Note 2: The newly disclosed scope in 2024 includes Longshan, Huaihua, and Liaoning cement plants; Fuzhou and Liuzhou grinding plants; Feng Sheng Enterprise Company, 123 Environmental Protection Technology Co., Ltd., Beijing TCC Environmental Technology Co., Ltd., TCC (Guangdong) Renewable Resources Technology Company Limited, CIMPOR (not yet included the cement plant in Cameroon) and OYAK CEMENT.

Note 3: The coal calorific values for cement plants in Taiwan are converted based on each plant's specific settings. The conversion factors are as follows: Su'ao Plant – 5,532.69 kcal/kg; Hoping Plant – 5,570.14 kcal/kg; other cement plants in Taiwan – 5,512.66 kcal/kg. Conversion factors for other fuels are: diesel – 8,400 kcal/l, gasoline – 7,800 kcal/l, electricity – 3,600 GJ per million kWh, and natural gas – 8,000 kcal/m^3. For Mainland China, CIMPOR, and OYAK Cement, calorific values are calculated in accordance with local practices and regulations.

Note 4: Energy consumption data is based on reports submitted to the Energy Administration.

Air Pollutant Emissions	2021	2022	2023	2024
NOx (metric ton)	16,381	13,634	9,976	27,170
SOx (metric ton)	1,110	1,161	1,059	4,469
Particulate Matter (metric ton)	783	475	570	1,818
VOC/THC (metric ton)	0.0042	0.0043	0.0042	0.0157
PCDD/F (g I-TEQ)	-	0.7576	0.0299	0.0505
Mercury Emissions (Hg) (metric ton)	0.2788	0.2264	0.1669	0.3897

Note1: 2024 metrics scope expanded to include CIMPOR & OYAK CEMENT, resulting in a marked increase.

Note2: Emissions are calculated either through direct measurement or based on specific on-site data. The emission factors are sourced from the "Emission Factors, Control Efficiencies, and Other Measurement Regulations for Particulate Pollutants, Lead, Cadmium, Mercury, Arsenic, Hexavalent Chromium, and Dioxins from Stationary Pollution Sources in Public and Private Premises." These include Appendix 1: Emission Factors for Particulate Pollutants from Industrial Processes, and Appendix 3: Emission Factors for Lead, Cadmium, Mercury, Arsenic, Hexavalent Chromium, and Dioxins from Industrial Processes, as well as emission factors, control efficiencies, and other measurement regulations for volatile organic compounds (VOCs), process units (including equipment components), as specified for the declaration of air pollution control fees for stationary pollution sources.

Note3: The nature of operations at product plants involves cement product mixing and transportation; therefore, no air pollutant emissions are generated.

Note4: Emissions of mercury, dioxins, and furans (PCDD/Fs) from Mainland China are disclosed starting from 2024.

Note5: In 2024, additional heavy metal emissions were recorded. For Heavy Metals 1 (HM1, including thallium, cadmium, lead, arsenic, and their compounds), emissions totaled 0.7424 metric tons in Taiwan and Mainland China, and 0.0630 metric tons in CIMPOR and OYAK CEMENT. For Heavy Metals 2 (HM2, including beryllium, chromium, tin, antimony, copper, cobalt, manganese, nickel, vanadium, and their compounds), emissions totaled 1.3715 metric tons in Taiwan and Mainland China, and 1.4050 metric tons in CIMPOR and OYAK CEMENT.

Note6: In 2024, the newly added disclosure scope included 22.17 metric tons of fluorides, 33.51 metric tons of hydrogen chloride, 3.63 metric tons of hydrogen fluoride, 115.93 metric tons of ammonia, and 16.75 metric tons of total organic carbon.

Note7: The newly disclosed scope in 2024 includes Longshan, Huaihua, and Liaoning cement plants; Fuzhou and Liuzhou grinding plants; Feng Sheng Enterprise Company, 123 Environmental Protection Technology Co., Ltd., Beijing TCC Environmental Technology Co., Ltd., TCC (Guangdong) Renewable Resources Technology Company Limited, CIMPOR (not yet included the cement plant in Cameroon) and OYAK CEMENT.

Note8: VOC/THC and PCDD/F disclosure scope only covers Taiwan and Mainland China.

Waste Treatment Unit: metric ton		2021	2022	2023	2024
Non-Hazardous Waste		1,385.45	4,260.46	799.88	2,262.02
Hazardous Waste		-	-	-	-
Total		**1,385.45**	**4,260.46**	**799.88**	**2,262.02**
In-House Waste Reuse Amount		-	-	-	-
Outsourced Waste Disposal Amount	Landfilling	286.60	311.82	40.32	-
	Off-site Incineration (with energy recovery)	-	-	34.58	116.19
	Off-site Incineration (without energy recovery)	-	-	-	-
	Off-site Recycling and Reuse	1,098.85	3,948.64	724.98	2,145.83
Total		**1,385.45**	**4,260.46**	**799.88**	**2,262.02**

Water Resource Use

Water Withdrawal Intensity	2021	2022	2023	2024
Taiwan	0.000300	0.000293	0.000307	0.000377
Mainland China	0.000324	0.000308	0.000353	0.000377
CIMPOR	-	-	-	0.000200

Unit: megaliter/metric ton of cementitious materials

Water Withdrawal Unit: million liters

	2021	2022	2023	2024
Third-Party Water (Municipal Water)	727	682	812	1,057
Third-Party Water (Industrial Water)	1,555	1,275	1,504	2,391
Surface Water (Rivers)	12,318	8,325	8,177	11,149
Surface Water (Mines)	-	-	33	94
Surface Water (Lakes)	348	135	99	142
Surface Water (Rainwater/Spring Water)	-	6	1,142	1,028
Groundwater	1,622	1,523	1,123	9,230
Seawater	-	-	-	19,929
Discharged Reclaimed Water	102	113	73	98
Total	**16,675**	**12,059**	**12,962**	**45,118**

Water Discharge Unit: million liters	2021	2022	2023	2024
Surface Water	-	-	-	5,772
Groundwater	-	-	-	77
Seawater	-	-	-	19,929
Third-Party Water	-	-	-	244
Total	-	-	-	26,022

Water Consumption Unit: million liters				
Total Water Consumption	16,675	12,059	12,962	19,096

Recycled Water Unit: million liters				
Process Recycled Water	102,991	98,004	72,264	8,543
Other Recycled Water	-	-	54	467

Note1: 2024 metrics scope expanded to include CIMPOR & OYAK CEMENT, resulting in a marked increase.

Note2: In Mainland China, water discharged to third parties refers to water provided for use by other organizations.

Note3: At TCC's Hoping Plant in Taiwan, rainwater intake in 2023 was estimated based on projected runoff from rainfall, while in 2024, rainwater meters were installed to record the actual volume of rainwater collected. As a result, differences in water intake between the two years are due to differences in calculation methods.

Note4: The water discharge has been disclosed starting from 2024.

Note5: The newly disclosed scope in 2024 includes Longshan, Huaihua, and Liaoning cement plants; Fuzhou and Liuzhou grinding plants; Feng Sheng Enterprise Company, 123 Environmental Protection Technology Co., Ltd., Beijing TCC Environmental Technology Co., Ltd., TCC (Guangdong) Renewable Resources Technology Company Limited, CIMPOR (not yet included the aggregate plant in Cabo Verde) and OYAK CEMENT.

Alternative Materials & Fuels	Unit	2021	2022	2023	2024
Proportion of alternative materials Note					
Taiwan & Mainland China	%	18.2	19.6	18.7	17.4
CIMPOR	%	-	-	-	3.6
OYAK	%	-	-	-	1.86
Proportion of alternative fuels: the ratio of alternative fuels used in kilns (percentage in the thermal energy consumption, Taiwan & Mainland China)	%	1.2	7.65	12.6	15.4
Proportion of biofuels: the ratio of biofuels used in kilns (percentage in the thermal energy consumption, Group-wide)	%	0.54	1.86	2.49	8.14
Taiwan & Mainland China	%	0.54	1.86	2.49	1.66
CIMPOR & OYAK CEMENT	%	-	-	-	20.78
Clinker-to-cement ratio: Weighted average calculated in accordance with the GCCA's Cement CO_2 and Energy Protocol (Taiwan & Mainland China)	Ratio (clinker to cement)	0.823	0.816	0.799	0.789

Note: % alternative raw materials contained in concrete: 44% in 2024 - TCC has no other building materials such as asphalt (excluding natural raw materials e.g. gypsum, pozzolan)

Environmental Certifications

Certification	CEMENT PLANTS (Taiwan, Mainland China, OYAK, CIMPOR) TW	MC	OY	CI	RMC Plants	Operation HQ
ISO 14001 - Environmental Management Systems	✓	✓	✓	✓	✓	✓
ISO 14046 - Water Footprint Verification	✓	✓			✓	
ISO 14064 - Greenhouse Gases	✓	✓			✓	
ISO 14067 - Carbon footprint of products	✓				✓	
ISO 46001 - Water Efficiency Management System	✓				✓	
ISO 50001 - Energy Management System	✓	✓	✓	■	✓	✓
BS8001 - Circular Economy	✓				✓	
Alliance For Water Stewardship – Platinum Level	✓					
Clean Production System of Green Factory Certification	✓				✓	

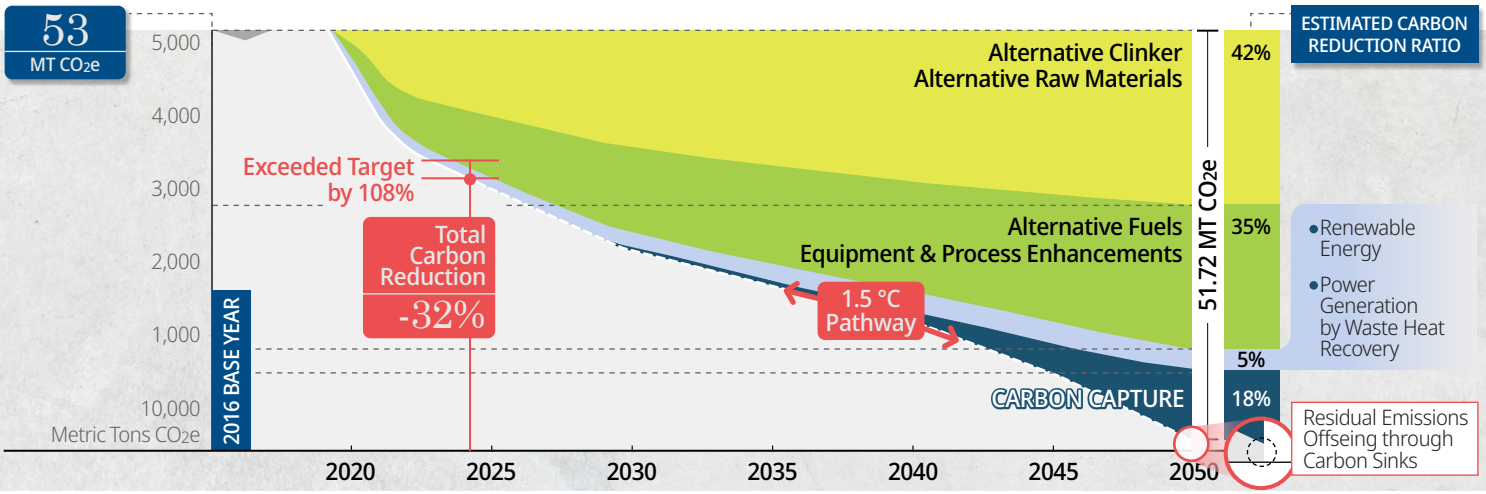
■ In Progress

Environmental Protection Policy

Carbon Reduction Strategy

Cement and Concrete Business Units Worldwide Net Zero Pathway

The 2050 net-zero pathway is based on the SBT 1.5°C methodology, ISO IWA 42 net-zero guidelines, and the IEA's Net Zero Pathway and 2024 Energy Outlook reports. Key carbon reduction solutions include Alternative Clinker, Alternative Raw Materials, Alternative Fuels, Power Generation by Waste Heat Recovery, Equipment & Process Enhancements, Renewable Energy, and Carbon Capture. To develop carbon sinks, forest and soil surveys began in 2023 to identify feasible net-zero carbon removal solutions.



Note: The net-zero pathway scope covers all operational sites in Taiwan, Mainland China, CIMPOR, and OYAK CEMENT.

2024 Carbon Reduction Performance	Carbon Reduction Amount (tCO_2e)	Carbon Reduction Contribution
Alternative Raw Materials/Alternative Clinker	9.51 million	56%
Alternative Fuels/ Equipment & Process Enhancements	6.73 million	39%
Renewable Energy/ Power Generation by Waste Heat Recovery/ Power-saving Measures	0.86 million	5%
Total	17.10 million	100%

Low Carbon Construction Materials

TCC's Sustainability-related Businesses Contributes to 57% of Total Revenue.

TCC is the only Company to be Listed in Both Global Cement and Concrete Low-Carbon Ratings. In April 2025, the GCCA released the world's first Low Carbon Rating (LCR) standards for cement and concrete. The 2024 Emissions Gap Report states that using low-carbon cement with clinker alternatives like limestone could cut global CO_2e emissions by 400 million tons by 2035.

GCCA LCR Compliance

- **Taiwan** Note
- **Mainland China**
- **Türkiye**
- **Portugal**
- **West Africa**

Note: Taiwan's sole construction materials manufacturer whose cement and concrete products meet these GCCA low-carbon standards.

Global Cement and Concrete Association LCR standards

	AA	Near Zero
	A	
	B	
OYAK CEMENT CEM III 32,5N **OYAK CEMENT** CEM VI 32,5N	C	**Taiwan** Portland Limestone (IL) Cement Concrete 3000-6000psi
OYAK CEMENT CEM II 32,5N **OYAK CEMENT** CEM V 32,5N	D	**Taiwan** Portland Type I Cement Concrete 3000-6000psi
OYAK CEMENT CEM II 42,5R **OYAK CEMENT** CEM V 32,5R **CIMPOR** CEM II 32,5N	E	
Suao & Hoping Plant – Portland Limestone (IL) Cement **Yingde & Jurong Plant –** PO 42.5R	F	

TCC Low-carbon Cement Products — TCC Low-carbon Concrete Products

TCC

TCC will exclusively produce and sell low-carbon cement and concrete

CIMPOR

Sales proportion in the Portuguese market will increase to 90%, with export share reaching 30%

By 2030, CIMPOR will reduce the clinker ratio in cement production to below 65%

OYAK CEMENT

- The proportion of CEM-I in gray cement sales will decrease from 23.4% to 12.2%
- The clinker ratio in cement production will decrease to 73%

Portland Limestone Type IL Cement Concrete

- Launched in 2024.
- Emissions 53% lower than government standards (Taiwan's lowest).
- 2,566 projects adoption (as of May 2025).
- Exclusive supplier to ASML's Linkou plant.

UHPC Construction Material

- Lifecycle can reach 100 years.
- Less material consumption than traditional concrete.
- Compared to ordinary reinforced concrete: reduces component thickness, material quantity, weight, and carbon emissions.

Low-Carbon Production Management

TCC Listed on EP100 Surpass Map

Since joining EP100 in 2022, TCC has met its targets for two consecutive years and was listed on the annual Surpass Map. This demonstrates TCC's energy efficiency surpasses international benchmarks, affirming the effectiveness of its sustained investment in energy conservation and governance.

Cement Plants in Taiwan & Mainland China aim to increase energy productivity by 50% by 2040 (2016 baseline). Operational Headquarters aim to achieve 1% annual electricity saving.

Environmental Product Declaration (EPD) Certification

EPD certification measures environmental impact across a product's life cycle, offering consumers clear comparison data.

- **Portland Limestone (IL) Cement & Concrete:** Expected to obtain EPD certification by the end of 2025.
- **EnergyArk Energy Storage Cabinet:** Expected to initiate EPD certification in the first half of 2026.
- **CIMPOR's grey cement products,** including CEM I 52,5 R, CEM I 42,5 R, CEM II/A-L 42,5 R, CEM II/B-L 32,5 N, CEM IV/B (V) 32,5 N – SR, and CEMIV/A(V)42,5R-SR: All obtained EPD certification in 2023 in accordance with ISO14025, EN15804:2012+A2:2019, and EN15942.
- **OYAK CEMENT's cement products,** including CEM I 52.5R, CEM II/A - LL 52.5 R, CEM II/B-LL 42.5 R, CEM I 52.5R, and CEM III/A (S) 42.5 N: All obtained EPD certification in 2025 in accordance with ISO14025, EN15804:2012+A2:2019 / AC:2021, EN 16908, and PCR 2019:14.
- **Molicel batteries:** STSP Plant's P22S is expected to obtain certification by the end of 2025. Xiaogang Plant plans to simultaneously pursue EPD certification for two main battery products, P45B and P50B, in 2025.
- **NHOA Energy Standard System Design:** Integrates proprietary power electronics technology with LFP battery cabinets. Certified under EN ISO 14025 EPD in 2024, the system's modular design enables a replicable evaluation method for other products.

EPD Certification

Product Attributes & Safety

Energy Consumption Management and Operational Efficiency

TCC actively optimizes energy efficiency and autonomous power management, improving energy use through process conservation, energy storage systems, and both self-generated and purchased renewable energy. Furthermore, the installation of waste heat recovery systems and the introduction of flash evaporation technology have enhanced heat and power generation efficiency, reducing external manufacturing power purchases by 20-30%.

Following a successful grid connection in February 2025, Suao plant's power generation per ton of clinker surged from 14.89 to 32.33 kWh (117%). Control parameters are continuously optimized to minimize purchased electricity.

Waste Heat Recovery

	Taiwan	Mainland China
Power Generation by Waste Heat Recovery (million kWh)	79	858
Equivalent to Purchased Electricity for Manufacturing Process (%)	18%	44%

AI Innovation & Electrification for Operational Efficiency

TCC is advancing a new industrial revolution through full AI integration. In low-carbon construction materials, AI supports smart quarrying, process optimization, quality control, and monitoring of equipment and green energy.

To ensure the safe and responsible use of AI across the Group, TCC has developed an internal AI governance policy based on multiple international frameworks.

TCC AI Policy

Smart Quarrying - Resilient, Low-carbon, and High-efficiency Operations

Annual Performance	Operating Cost Savings (NT$)	Carbon emissions reduction (metric ton CO_2e)
Jurong Plant	$27.21 million	1,542
Yingde Plant	$41.35 million	3,344
Guigang Plant	$11.03 million	1,017
Longshan Plant	$7.91 million	737

First Unmanned Smart Quarry Transportation System in Mainland China

By applying optimal route algorithms, TCC's AI system adapts to real-time road conditions and optimizes charging schedules to enhance electric vehicle performance and energy efficiency. This technology's rollout began with the Jurong Plant's full adoption of electric quarry trucks in 2022. In 2024, the Yingde Plant added 10 unmanned electric mining trucks, planning a full transition by 2025, while the Guigang Plant introduced an electric forklift, with three more electric quarry trucks scheduled for 2025.

Concurrently, the Longshan Plant added three electric quarry trucks in 2024 and is actively promoting full fleet automation. The Hoping Plant plans to introduce electric quarry trucks and a dedicated 5G private network in 2025, with its unmanned driving technology scheduled for commissioning in the second half of the year.


Emergency Control Station

Process Optimization - 5G IoT Smart Factory Demonstration Site

In 2024, CIMPOR collaborated with Vodafone, Ericsson and SAP to deploy a 5G Standalone Mobile Private Network at its Alhandra plant. This setup integrates smart sensors, indoor and outdoor drones, digital twin models, and AI smart glasses. The system enables intelligent inspections and environmental monitoring across the plant. It allows for early warnings of occupational safety risks and environmental anomalies, enhancing both operational efficiency and workplace safety.


Innovative inspection with Drones Fast, accurate and safe with 5G

Quality Control - AI and AutoML Supported Operational Control of Cement Process

CIMPOR has adopted the Alcemy intelligent system at its cement and concrete plants, integrating machine learning with sensor data. Now applied at Alhandra and Betão Liz sites in Portugal, the system predicts clinker quality, NOx emissions, free lime, kiln stability, and compressive strength (accuracy over 95%). It also improves heat efficiency, alternative fuel use, and grinding fineness for better product quality and energy efficiency.

Clinker and Cement 28-Day Strength Prediction: 49.06 (Normal), falling within the first 59.65% of the historical data range

Monitoring of Equipment and Green Energy – Aerial Patrol, AI Cloud Platform with Built-in Thermal Imaging Sensors

The Yingde Plant has implemented an AI drone inspection system that autonomously flies along preset routes, coordinated by a centralized cloud platform. Each drone is equipped with dual-sensor cameras that simultaneously display thermal and visible light images, significantly improving the accuracy of inspection assessments. With an integrated AI recognition system, the drones can instantly detect issues such as equipment overheating, insulation damage, and hazardous heat sources. The system also performs photovoltaic field inspections, safety and environmental patrols, plant perimeter monitoring, 3D modeling and measurement, and inventory checks-replacing high-risk manual tasks and greatly enhancing inspection efficiency and plant safety resilience. Hoping Plant in Hualien is also scheduled to adopt the system in 2025.


Thermal and Real-time Images

Managing multiple drones in one cloud platform

Green Logistics Management

Using 2023 as the base year, TCC aims to cut Scope 3 upstream and downstream transportation emissions by 3% each by 2030.

TCC and its subsidiary, Taiwan Transport & Storage, began using electric tractors for cement delivery in April 2024, expecting a 32% carbon reduction. A patented electric compressor truck was developed and licensed in 2024, which uses an independent permanent magnet synchronous motor (PMSM) to power its compressor. It now transports SRF (Solid Recovered Fuel) for the Hoping Plant and external clients.

TCC continues to expand its green fleet, currently operating 2 electric tractors, 2 electric heavy-duty trucks, and 1 patented electric compressor truck, with plans to add 10 more electric tractors and 4 electric trucks by 2025.


Baisha Port, Guangxi

Scope	Green Logistics Management Achievement and Goals
Ready-mix Concrete Plants	• Replaced diesel mixers with eco-friendly models reaching 92% adoption (end 2024)
Subsidiary Feng Sheng	• Replaced diesel mixers with eco-friendly models reaching 57% adoption (end 2024)
Guigang Terminal	• Fully adopt electric tractors by 2025
Ta-Ho Maritime	• Targets 40% Carbon Reduction by 2030 through green logistics initiatives • The upcoming TAHO COMPLIANCE eco-vessel (2025) is estimated to achieve a 23.7% carbon reduction below EEDI Phase I • The bulk carrier fleet surpasses IMO's EEXI and CII standards, with 86% achieving A-grade

Ta-Ho Maritime

- Carbon reduction for cement vessels exceeded 2,300 metric tons.
- Installing Propeller Boss Cap Fins (PBCF), optimizing hull design, and route planning achieved over 2% fuel savings.
- Retrofitting 2 bulk carriers with high-power LED lighting saved over 208,000 kWh of electricity.
- During dry-dock maintenance, 6 vessels were fully coated with 11,304 liters of new AFS-compliant, energy-saving paint. Free of organotin, the paint prevents marine bio-adhesion, reducing navigation resistance for a 3% fuel saving.

Supplier Environmental Policy

TCC has established the Supplier Management Policy Statement. In addition, suppliers must adhere to relevant occupational safety and health regulations and sign the Safety and Health Responsibility Commitment.

ISO 20400

Obtained ISO 20400 Sustainable Procurement Certification

Supplier Management Policy Statement

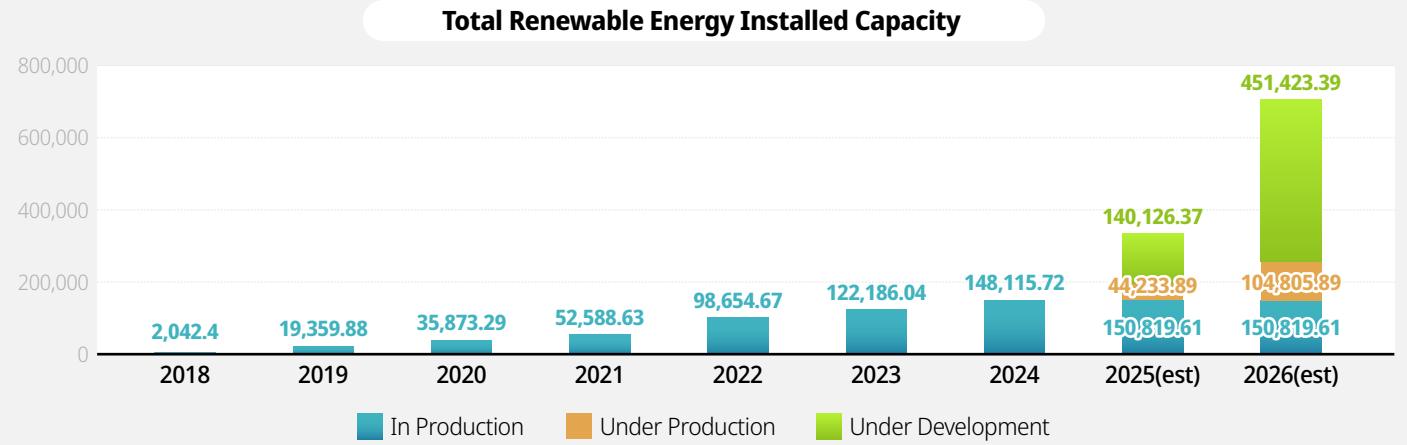
Supplier Code of Conduct

TCC Procurement Portal

Sustainable Supply Chain Management Goals Setting - 7 Targets	2024	2024 Target	
Locally-procured non-raw materials	96.71%	95%	✓
New suppliers & existing significant Tier-1 suppliers signed the Supplier Code of Conduct	100%	100%	✓
Contractors signed the Safety and Health Responsibility Commitment	100%	100%	✓
High-risk significant suppliers supported by improvement plans	100%	100%	✓
Reviews conducted to significant tier-1 suppliers (desk/ on-site assessment)	93.63%	100%	
Sustainability Questionnaire collection ratio of significant tier-1 suppliers (by procurement amount, Taiwan and Mainland China)	78.65%	2030: 80%	On Track
Supplier Carbon Footprint Inventory	In Progress	2025: 35 2030: 40	In Progress

Green Energy – Use of Cleaner Sources of Energy

Through its subsidiary TCC Green Energy Corporation, TCC is actively developing a diverse range of green energy sources (solar power, onshore wind power, geothermal energy, aquavoltaics, and ocean thermal energy conversion, etc.), and installing solar panels at operating sites across Taiwan and Mainland China to achieve self-generated and self-consumed renewable energy.



Green Power Procurement Targets of Additional 100,000 and 10 million kWh Annually for Taiwan and Mainland China Respectively.

On-Site Solar Generation (100% for Self-use)

Taiwan 5,736,025 kWh | **Mainland China** 20,517,710 kWh

Changbin Wind and Solar Power

Phase II wind energy was connected to the grid and began operation in 2024. TCC is also committed to biodiversity, promoting solar grazing alongside solar energy development.

Chiayi Aquavoltaics Power

The full-area grid connection is expected to be completed in 2025.
TCC not only engaging in commercial farming but also exploring refined aquaculture practices through its aquaculture team.

Vakangan Geothermal Power

2024 local hiring rate
Employees: **86%**
Contractors: **100%**
Expected to complete grid connection for all units by 2025.

Integrated Energy Solutions – Storage & Transmission

TCC is actively deploying energy storage systems to support on-site power demands and participate in the electricity trading market by regulating peak and off-peak power. In parallel, cement plants in Mainland China and CIMPOR's operations in Portugal are prioritizing a "solar + storage" integration strategy.

By the end of 2025, the total installed TCC on-site energy storage capacity is projected to reach 335.04 MWh across TCC's cement plants in Taiwan and Mainland China, its RMC plants in Taiwan, and the operations of CIMPOR. This includes commissioning behind-the-meter systems at the Hoping (28 MWh) and Suao (11 MWh) plants.

TCC Global Energy Storage Site Installation Capacity 2,884.63 MWh.
(including under construction, as of May 2025)

NHΩA

America

Expansion of the microgrid in California for ANZA Electric Cooperative

Taiwan

Latest Energy Storage Site – TCC Hualien Plant

Europe

First European Virtual Power Plant at A.Roma Hotel in Rome, Italy

Mainland China

Yingde Plant, the Largest Energy Storage Site in Mainland China's Cement Industry

TCC Key Facts

- Test data shows that NHOA. TCC's energy storage equipment effectively reduces 90% of grid load during peak periods
- In February 2024, NHOA. TCC's Yawan station achieved 100% green electricity usage during peak hours through green electricity transfer, becoming Taiwan's first fast-charging station to achieve RE100 during peak periods
- Installation of 19 fast and ultra-fast charging facilities powered by 100% renewable energy at Turin Airport, Italy
- Established a partnership with REN, Portugal's power grid operator, utilizing Speed-E grid connection patented technology to directly connect charging stations to 9,000 kilometers of transmission network for high-power charging
- In 2024, Molicel entered the AI data center supply chain, delivering 5kW modules to a major U.S. cloud service provider
- Molicel supports breakthrough applications in high-power, lightweight, and certified EV technologies, such as the record-breaking Spéirling PURE hypercar; Stark Future's VARG electric motocross bike; FlyingBasket's European heavy-lift drone.

EU Funding Support

CIMPOR Maia warehouse's self-built solar power project received funding support from EU's Next Generation EU program and Portugal/EU Recovery and Resilience Facility (RRF). The on-site solar generation project will generate approximately 1,300 MWh annually, cutting CO_2e emissions by 450 metric tons and achieving a 40% power self-sufficiency rate for the site.

NHOA Energy and Atlante received Connecting Europe Facility (CEF) Fund.

Carbon Capture, Utilization, and Storage (CCUS) Projects

CIMPOR is advancing CCUS technology at its Alhandra and Souselas plants in Portugal in collaboration with the European Cement Research Academy and the German Cement Industry Association, and through its participation in the EU's 'Strategy CCUS' project (2019-2022). While direct CCUS implementation in Taiwan is paused due to uncertainties in storage and policy, TCC now prioritizes oxygen-enriched combustion for immediate emission reductions while monitoring storage tech progress. In parallel, TCC Sustainability R&D Center has developed advanced, low-carbon Ultra-High Performance Concrete (UHPC) materials for on-site casting and 3D printing.

In 2025, a €155 million R&D center was launched to develop low-clinker cement, carbon capture, alternative fuels, circular concrete, and 3D printing.

Resource Recycling and Alternative Materials

All waste from TCC's plants is non-hazardous - TCC's waste management is based on the ISO 14001 environmental system. In-plant treatment includes using bottom ash, waste oil, and refractory materials as alternative fuels in rotary kilns, while shredded employee domestic waste, waste plastics, rubber, and paper are also utilized as alternative fuels. Off-site, qualified contractors recycle valuable metals like scrap iron for reuse in steel plants. Based on these management regulations, TCC's global operations are setting their own waste reduction targets to enhance group-wide resource recycling efficiency.

Alternative Raw Materials, Fuels, Clinker, and Recycled Material Use

Recycled Materials Accounted for 12.08% of All Raw Material Use in 2024.
(Taiwan Cement Plants)

To address resource scarcity, TCC implements a circular economy. Materials rich in silicon, aluminum, iron, and calcium can be potential raw materials for cement production; therefore, waste from other industries can be reused. In concrete, we also substitute cement with slag and fly ash, reducing both material use and carbon emissions.

R&D Partnership

TCC's 2023 partnership with Industrial Technology Research Institute on a Cement Kiln High Calorific Value SRF Co-firing and Clean Integration System is now undergoing performance verification. Successful SRF/wood chip tests in March 2025 defined an optimal mixing ratio.

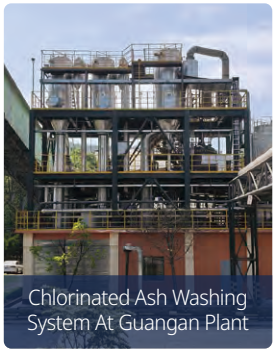
Alternative Raw Materials

Alternative Materials in 2024 Totaled 9,575,582 Metrics Tons.
(Taiwan, Mainland China, CIMPOR, OYAK; Account for 14% of Global Cement Business)

Waste Glass Fibers
Waste glass fibers from PCB manufacturing cannot be directly recycled as glass raw materials due to their irregular dimensions and surface contaminants. To address this, TCC is collaborating with PCB manufacturers to develop technology for using this waste fiber as an alternative raw material, with the goal of applying for reuse permits by year-end 2025.

Glass Powder
To mitigate potential shortages of common supplementary cementitious materials (SCMs) like fly ash and slag powder, developing new materials is crucial. Recycled and ground glass, a silico-aluminate material, can function as a pozzolanic SCM. TCC secured the related patents in 2025.

Washed Ash
In 2024, the Guangan Plant implemented a fly ash washing system to remove water-soluble chloride ions. The washed ash is reused as an alternative raw material in raw meal, while the process yields sodium and potassium chloride by-products, maximizing resource use. Since 2021, the Jurong Plant has also utilized its "Fly Ash Water-washing for Dechlorination (FWD) with Zero Liquid Discharge and Salt Separation" technology to process municipal waste incineration fly ash for local power plants.


Chlorinated Ash Washing System At Guangan Plant

Clinker Substitution

Cape Verde Plant - Local Pozzolanic Volcanic Ash
This resource enables the production of CEM II 42.5 cement, which replaces traditional clinker and its 750–800 kg/metric ton of CO_2 emissions, achieving carbon reduction without compromising strength.

Ghana Kaolinite
Clinker substitute that also improves energy efficiency, as it can be calcined at lower temperatures. The Ghana plant is scheduled to commence production by year-end 2025.

Slag Powder Storage System (Taiwan)

TCC's Taiwan plants will also assess building a slag powder storage system to ensure stable supply and utilization.

Water Management

Although the cement industry is not considered water-intensive, TCC proactively strengthens its water management. Following the Task Force on Nature-related Financial Disclosures (TNFD) framework, TCC identifies its dependencies on surface and groundwater, water flow, and water quality to comprehensively understand resource risks.

	Scope	Quarries	Plants
Dependencies Ecosystem Services	1. Surface water	HIGH	VERY HIGH
	2. Ground water	HIGH	VERY HIGH
	3. Water flow maintenance	HIGH	
	4. Water quality		LOW

VERY HIGH HIGH MODERATE LOW VERY LOW

In 2024, a priority assessment was conducted on Taiwan's quarry and cement sites. Using the WRI Aqueduct Water Risk Atlas, TCC assessed all locations in Taiwan and Mainland China, identifying three cement plants—Anshun, Guigang, and Huaying—as being in high-risk, water-stressed regions. As this assessment expands to CIMPOR and OYAK CEMENT locations in 2025, TCC will further set risk mitigation targets, implement tiered resource management at its production sites, and begin promoting low-water-impact products.

Cement Plants (Taiwan & Mainland China)	Taiwan RMC Plants	CIMPOR
Reduce water withdrawal intensity to 0.000248 million liters/metric ton of cementitious materials by 2030; 1.2% annually for plants in water-stressed areas.	Reduce freshwater withdrawal intensity for concrete by 0.5% by 2025, 1.5% by 2030, and 3.5% by 2050.	Reduce water withdrawal intensity to 0.0002 million liters/metric ton of cement by 2030.

Green Building

In 2023, the TCC DAKA RRRC (The Renewable Resource Recycling Center), resembling a nautilus shell in appearance, was completed. The basic construction materials extensively use TCC's self-produced low-carbon construction materials. With exterior walls are made with UHPC; surrounding roads are paved with permeable concrete, featuring sublayer materials made from construction waste reutilization. Combining TCC's energy business capabilities, the parking lot is equipped with NHOA.TCC charging stations and TCC's patented EnergyArk energy storage cabinets, providing stable integrated charging and storage services.

TCC Green Building Certifications

TCC DAKA RRRC

Green Building Labeling Diamond Certified & Low-carbon Building BCFd Diamond Certified

TCC Operation Headquarters

EEWH Diamond-Level Green Building

TCC C. F. Koo Building

LEED & WELL Platium Precertified

Received Diamond-level certification from both the Ministry of the Interior's Green Building program and the Low Carbon Building Alliance in 2024.

Social

TCC firmly prohibits child labor, human trafficking, and forced labor, and complies with all relevant wage and working hour regulations to ensure timely payment of fair living wages. At the same time, we foster a safe and healthy work environment, supporting employees in maintaining good physical and mental health and work-life balance.

Social Metrics

2024 Employee Composition		2023	2024	2025
Total Number of Employees		**9,984**	**13,772**	**13,872**
Average Age		41.26	41.28	41.44
Average Years of Service		8.55	8.91	8.99
Distribution of Education Levels	Doctorate	0.49%	0.32%	0.30%
	Master's Degree	4.80%	5.32%	5.45%
	College	35.46%	32.89%	32.56%
	High School	33.21%	25.88%	25.48%
	Below High School	26.04%	35.59%	36.21%

Note 1: 2024 scope onwards includes Taiwan, Mainland China, Kuan-Ho Refractories, Ta-Ho Maritime, Ho-Ping Power Plant, E-One Moli Energy Corp, TCC Green Energy, NHOA.TCC, Molie Quantum Energy Corporation, CIMPOR, and OYAK CEMENT; and does not include part-time employees.
Note 2: For the number of employees in TCC's Cement and Concrete Business Units, please refer to 2024 TCC Sustainability Report, p.227.

2024 New Hires and Departures	Taiwan	Mainland China	Subtotal	CIMPOR & OYAK	Total
New Hires					
Female	78	8	86	115	201
Male	114	18	132	816	948
Total	**192**	**26**	**218**	**931**	**1,149**
Departed Employees					
Female	45	163	208	44	252
Male	117	495	612	497	1,109
Total	**162**	**658**	**820**	**541**	**1,361**
Voluntary Departures					
Female	31	79	110	44	154
Male	83	343	426	497	923
Total	**114**	**422**	**536**	**541**	**1,077**

Employee Turnover	2021	2022	2023	2024
Total Turnover Rate	8.10%	5.90%	9.08%	11.35% Note

Note: 2024 scope expanded to include Taiwan, Mainland China, CIMPOR & OYAK. Statistics for 2021-2023 account for Taiwan only.

Internal Job Vacancy Fulfillment Rate				
Taiwan & Mainland China	48%	44%	44%	82%

Health & Safety *EMPLOYEES*				Note
Lost Time Incident Rate (LTIR)	0.55	1.00	0.80	1.94
Total Recordable Incident Rate (TRIR)	0.55	1.00	0.80	1.94
CONTRACTORS				
Lost Time Incident Rate (LTIR)	0	0.75	0.60	3.25
Total Recordable Incident Rate (TRIR)	0.35	0.75	1.15	3.66

2024 metric increases mainly due to an increase in supplier occupational safety incidents, TCC have formulated extensive supplier assessments, performance, and goals; and implemented supplier corrective plan performance and targets.

2024 scope expanded to include Huaihua, and Liaoning cement plants; Fuzhou and Liuzhou grinding plants; 123 Environmental Protection Technology Co., Ltd., Beijing TCC Environmental Technology Co., Ltd., TCC (Guangdong) Renewable Resources Technology Company Limited, Feng Sheng Enterprise Company, E.G.C. Cement Corp., Ho Sheng Mining Co., Ltd,Wanching Mining Co., Ltd, , TCC Jiuyuan (Guangan) Environmental Technology Co., Ltd.,Hangzhou Operations Center, Guangdong-Guangxi Operations Center, TCC Yingde Mining Industrial Company Limited, TCC Guigang Mining Industrial Company Limited, TCC Jiangsu Mining Industrial Company Limited , Hong Kong Cement, CIMPOR and OYAK CEMENT.

Creating a Vibrant Workplace - Employee Care & Benefits

TCC is committed to fostering a healthy work environment. Through the Employee Support Program, we provide comprehensive care from physical and mental to family aspects, fulfilling TCC's long-term commitment to employee well-being.

Employee Support Beyond Legal Requirements

Work Autonomy and Flexibility

Flexible Hours and Agile Working

Hybrid Agility to Work /Time Difference Leave:
Employees working across time zones may apply for time difference leave the following morning.

Flexible Office Attendance:
Employees can adjust their working hours as needed, with flexible attendance periods available. In 2024, 239 employees applied.

Diverse Leave Benefits

Paid Personal and Sick Leave:
Employees are entitled to 3 days of fully paid leave to support employees through various life events.

Physical, Mental Health and Safety

Sports and Health Programs

New Assistance Programs to Promote Physical and Mental Health:
TCC will launch the Employee Assistance Program (EAP) in 2025.

- One-on-one Consultation | Once per Year
- Toll-free Employee Care Hotline
- Regular Stress Relief Seminars

Foreign Colleagues Support in Taiwan

7% International Employees

- Rental Matching
- Medical Assistance
- Transport to Energy Sites

Employee Activities

TCC actively forms teams to participate in competitions, along with self-organized events and TCC-organized events.

Sun Moon Lake Swimming Carnival
Guaranteed entry plus accommodation at 5-star hotel.

Dragon Boat Racing
TCC Dragon Boat teams that win national competitions are awarded with honorary leave.


TCC Annual Tradition – TCC Dragon Boat Championship


TCC Island Cycling Relay

Round-Island Cycling Relay
Limit-testing nine-day team challenge.

Weekend Getaway
Ecological tour, an ecological tour along Dagou Riverside, using nature to foster intergenerational connection among employees spanning six generations.


Dagou Riverside Hike

Sustainable Healthy Lifestyle Festival
Foster mutual employee motivation, with 842 TCC employees participating in health point, calorie, and walking challenges.

Retirement Benefits

Beyond amplified ESOP for employees over 60 years old (eligible for retirement), TCC offers various benefits and insurance plans for retirement care. Noting retirees' desire to stay active for fulfillment or financial reasons, TCC plans to launch the "Expert Hub" in 2025. The program will support retirees in maintaining purpose and engagement, aligned with government mid-to-senior employment initiatives through flexible strategies. For more information, and details regarding the TCC Retirement Insurance Plan, please refer to the website.

- Exclusive Retirement Insurance Plan
- Health Examination
- Group Visits
- Team Building Activities
- Retirement Dinner

TCC Retirement Lifestyle

Subsidiary Spotlight - NHOA Group

Benefits Similarly Extend Beyond Minimum Requirements

NHOA Group aims include fostering a culture of collaboration and engagement across all company operations, ensuring a safe and healthy work environment for all employees, complemented by market-competitive compensation packages. As a Group, the ambition is to make a meaningful contribution to the sustainable energy transition. NHOA Group provides employees with the following benefits:

- A comprehensive corporate welfare and organizational wellness program in collaboration with JOINTLY, offering financial support for expenses such as family education, transportation, loans, and purchases of goods and services. Welfare credits are the only benefits not extended to temporary and internship employees.
- Supplementary private health insurance covering employees (excluding internship employees) and their families.
- Subsidized childcare and support measures for nursing mothers.
- Meal vouchers provided regardless of the workplace location.
- Five additional vacation days beyond those mandated by law and collective bargaining agreements.
- In 2024 NHOA Group introduced a new Parental Leave Policy establishing that all employees (mothers/birthing parent and father/non-birthing parent), wherever they are based, can benefit from 12 weeks of company paid parental leave as a standard level of support. These measures reflect our belief that people are our greatest strength.

TCC External Recognition

Common Health Magazine | 2024	HR Asia	Business Weekly X 104 Job Bank | 2024
• Best Companies to Work for in Asia • CHR Corporate Healthy Responsibility Award	• Best Companies to Work for in Asia: three-time recipient	• Top 100 Enterprises for Senior Workers • Senior-Friendly Employer Award

Employee Diversity

Valuing Employee Diversity by Respecting & Accepting Individual Differences

TCC's construction materials business involves physically demanding roles, often attracting more male applicants. To reduce groupthink, TCC sets female representation targets, with NHOA Energy and Atlante aiming to increase female engineers tenfold.

Female Representation Performance and Targets	2022	2023	2024	2025 Targets Achieved
Total Workforce	19.65%	23.7%	25%	22% ✓
All Management Positions	26.98%	18.9%	17%	19% ✓
In Revenue-Generating Functions	4.65%	21.6%	21%	5% ✓
STEM-Related Positions	36.55%	20.6%	23%	20% ✓

TCC developed an AI resume analysis system that uses big data to match talent, reducing bias in manual reviews. Recruitment ads must use gender-neutral language to avoid stereotypes.

Employee Remuneration and Variable Performance-Based Remuneration

TCC upholds a people-oriented approach and values every effort made by its employees. Through fair remuneration and comprehensive benefits, we motivate growth, drive innovation, and shape the future together.

Fair Evaluation System with 100% Performance Appraisal

TCC has established a fair performance appraisal system, ensuring employee objectives align with company strategy. Combining quantitative individual goals and qualitative competency assessments, employee performance is closely linked to overall company profitability.

100% of employees received performance evaluations in 2024.
(excluding those within their three-month probation period.)

Type	Variable Performance-Based Remuneration Objectives and Content	Frequency
Goal-Oriented Management	Direct and second-level supervisors conduct initial and secondary evaluations for all employees. Evaluation indicators are 60% quantitative work objectives and 40% qualitative competency indicators (including Sustainable Action by All).	Annually
Agile Dialogue	Departments hold regular monthly or weekly meetings for continuous communication, with supervisors encouraged to provide proactive feedback during quarterly reviews.	At least once per quarter
Multi-Dimensional Performance Appraisal	By integrating competency metrics into the assessment mechanism, performance appraisals are aligned with company culture, core values, and sustainability goals.	Annually
Team Performance Appraisal	Evaluate the performance of cross-team or cross-business project working groups and provide appropriate recognition to encourage them.	Annually

Sustainability-linked Remuneration

Sustainable Action by All
10% of Performance Indicator

Annual performance indicators for all TCC employees (including President, Vice President, and Managers) include "Sustainable Action by All" and "Sustainable Learning Action Program" participation, accounting for 10%. This directly aligns with the Company's sustainability goals.

Indicators include emission and carbon reduction, water reuse, waste management, supply chain and partner engagement, risk mitigation, talent development, and anti-corruption and anti-bribery measures.

SBT-Linked Remuneration
Incorporated into quarterly and annual bonus KPIs.

Cement plants in Taiwan and Mainland China set individual carbon emission targets based on SBT goals, incorporated into quarterly and annual bonus KPIs. The KPI is based on carbon emission intensity per ton of cementitious materials, with achievement directly correlating to quarterly and annual bonuses.

Sound Remuneration and Initiatives

100% of TCC employees are eligible for the Employee Stock Option Program (ESOP).
Taiwan locations (including subsidiaries)

Employee Stock Option Program (ESOP)

TCC launched its ESOP in 2019, matching monthly employee contributions 1:1 into a trust. Two annual lump sums are also allowed, with a 10% company match. Employees eligible for retirement at 60 receive amplified contributions. This not only retains talent but also helps employees build wealth and plan for their retirement. Employees nearing age 60 receive enhanced support for retention and retirement planning.

Employee Savings Mutual Fund

TCC encourages employee savings with age-based deposits made in January and July. The Employee Welfare Committee adds 50%, and all funds go into a benefit trust. In 2024, 1,325 employees joined, totaling over NT$2.3 million.

Treasury Shares Program

TCC has established the Treasury Shares Program as a long-term incentive, linking performance evaluations to sustainability goals like carbon reduction.

Quarterly And Performance Bonuses

100% of Group employees receive quarterly bonuses. TCC introduced the quarterly bonus system in 2018 to share results, evaluating quarterly EPS and key indicators, plus each plant's SBT carbon emission intensity target achievement.

Based on operational and individual performance, TCC's bonus system aims to share profits. Relevant risk and sustainability indicators are integrated into evaluation criteria:

- **Environmental:** Pollution control, SBT target achievement
- **Social:** Occupational safety
- **Governance:** Quality, information security, anti-corruption, and anti-bribery

Note: Remuneration systems of European subsidiaries CIMPOR, OYAK CEMENT, and NHOA Group, are tailored and disclosed in their respective sustainability reports.

Freedom of Association

To foster a harmonious labor-management relationship, TCC has established labor unions across all its Taiwan plants and signed collective bargaining agreements.

91% of Total Cement Business in Taiwan and Mainland China, as well as Ho-Ping Power Plant Covered by Unions and Collective Bargaining Agreements in 2024.

The terms of both collective agreements and work rules apply to all Taiwan employees, who are not treated differently based on any factors, including their membership status or willingness to join a union.

TCC holds quarterly labor-management and/or union meetings for open communication and discussion on various issues. Additionally, regular Town Hall Meetings feature the chairman's keynote speech and offer live and anonymous online Q&A to address employee needs promptly.

Employee Engagement

The 2024 survey covered all employees (including Mainland China, affiliates); future surveys will include overseas subsidiaries. In 2024, a third-party organization conducted an anonymous engagement survey for all employees in Taiwan, Mainland China, and affiliated companies, with a 98% response rate. The survey found an overall average engagement of 87%.

Employee Engagement Surveys Scoring	2021	2022	2023	2024
Employee Engagement Survey Scores	96.10%	90%	92.96%	87%
Response Rate	96.71%	97.60%	95%	98%

TCC analyzes results across survey dimensions, communicating findings to unit supervisors and employees to develop improvement and optimization plans (e.g. themes such as Job Satisfaction, Purpose, Happiness, and Stress).

Human Capital Development

TCC is committed to building a learning organization by offering diverse learning pathways, including instructor teaching, workshops, online courses, external programs, mentorship, and job rotation. In 2025, TCC launched the "Digital Intelligence Navigator (DIN)" program to recruit global, cross-cultural AI talents to lead key smart projects across its operations.

Investment in Employee Education and Training Performance & Goal	PERFORMANCE IN 2024	TARGETS		
		2025	2030	2050
Taiwan	102 million	125 million	250 million	750 million
CIMPOR	9.9 million	14.7 million	17.4 million	19.1 million

Since 2020 | Unit: NT$ | Cumulative Investment

TCC Talent Development and Training System

	SUSTAINABILITY	MANAGEMENT	CROSS-DISCIPLINARY	DEVELOPMENTS
Executives Mid-level Managers Low-level Managers Talents with Potential Employees New Recruits	• New Recruit Orientation • Carbon Academy • ISO and Important Policies • Sustainable Learning Action Program	• Management Courses for Executives • Mid-level/Low-level Management Courses • Industry-Academia Seminar • Cross-Industry Forum	• Creativity Courses • Thinking Courses • Self-management Courses • Interpersonal Intelligence Courses • Agility Management Courses	**Humanity** • Internal Trainer Training **Education** • TCC Lyceum **Lifestyle** • Healthcare • Financial Management • Slasher Series **Language Proficiency** • English Study Subsidy

Transparent Promotion Channels

Key talent is promoted through a transparent system based on performance and potential. Candidates must have two years of strong evaluations and meet organizational needs. The process includes reviews, assessments, and supervisor nominations to ensure fairness and support career growth.

Health and Safety Management

Committed to a safe workplace and zero occupational injuries, TCC's "Internal Control Policies for Occupational Safety and Health Management" apply to all Group employees, outsourced workers, and contractors.

100% of contractors signed the Safety and Health Responsibility Commitment.
(Taiwan and Mainland China)

Occupational Safety and Health Policy Statement

The safety regulations include "Occupational Safety and Health Management Regulations," "Occupational Safety and Health Management Plan," and "Occupational Safety and Health Code of Practice," promoting a safety culture through behavior-based management. CIMPOR and OYAK CEMENT also prioritize employee OHS in their Integrated Management System Policy. Taiwan and Mainland China Cement Business & OYAK CEMENT is ISO 45001 certified, with planning underway for CIMPOR, E.G.C. Cement Corp and Feng Sheng Enterprise Company Limited.

Health and Safety Targets

TCC	2016-2018 **Lost Time Injury Frequency Rate (LTIFR) and Total Recordable Injury Frequency Rate (TRIFR) -35% in past 3 years** (Average baseline, including contractors)
CIMPOR & OYAK CEMEN	**Lost Time Injury Frequency Rate (LTIFR)** reduced to **below 1 by 2030**
	Lost Time Severity Rate (LTISR) reduced to **below 0.001 by 2030**

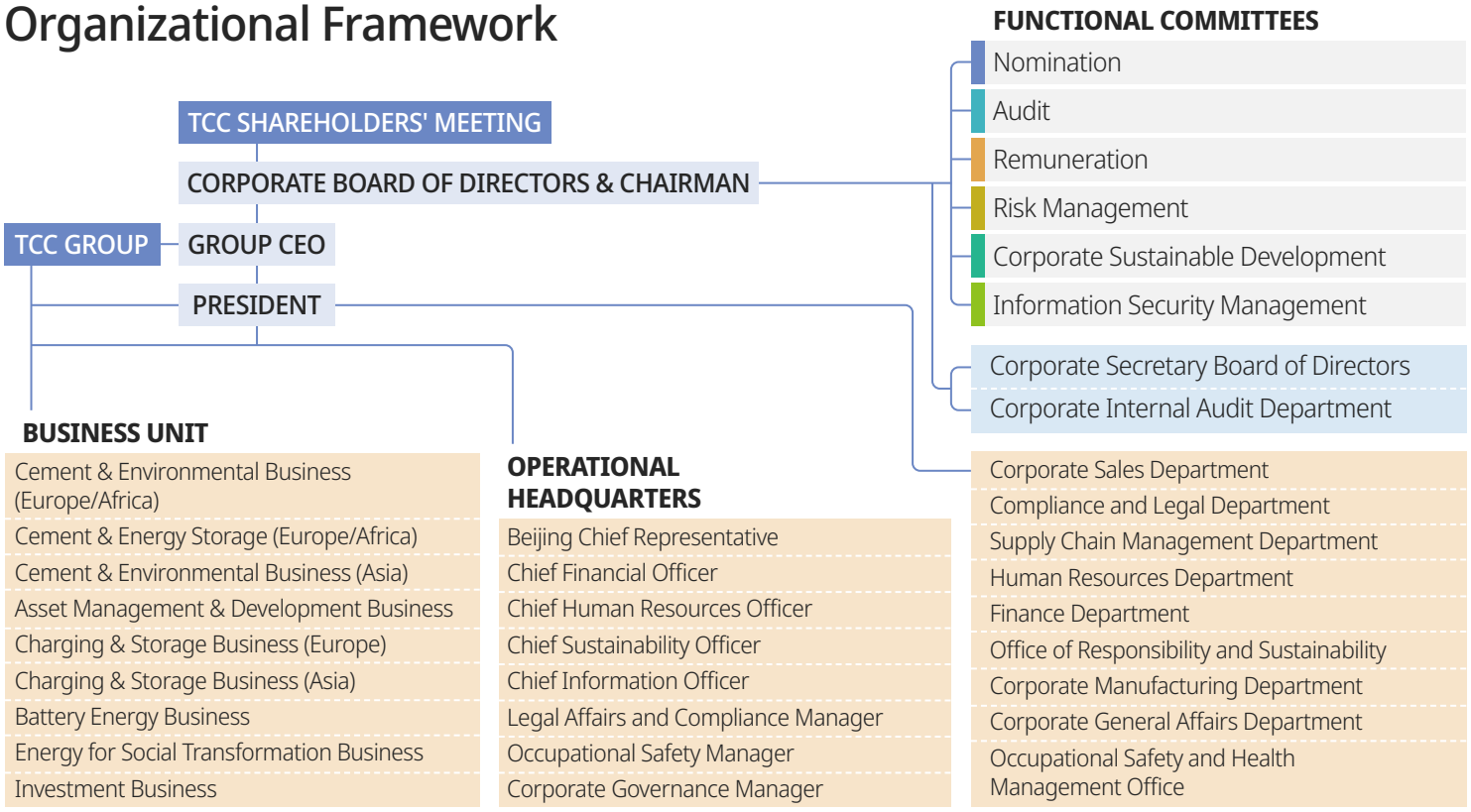
Health and Safety Linked to Rewards & Remuneration

TCC	CIMPOR	OYAK CEMENT
Management team's annual performance bonuses are adjusted based on OHS performance.	10% of employees' variable pay is directly linked to OHS performance;	Incentive program rewards employees for promoting safety awareness among partners and visitors.

Occupational Safety and Health Committee

TCC prioritizes employee workplace safety. Monthly TCC meetings, chaired by the Chairman, begin with OHS performance and improvement plans. TCC's OHS management system includes legally required Labor Safety and Health Offices at each site. Monthly "Group OHS Meetings" are held, with sites in different regions hold monthly/quarterly OHS meetings based on region. In 2025, "Safety Improvement Promotion Teams" were formed at each plant to boost OHS performance and prevent accidents.

Organizational Framework



Note 1: The various business units of the TCC Group Holdings set up different operational entities according to their respective scopes of business, including but not limited to subsidiaries, research and development centers, manufacturing plants, sales offices, and distribution hubs.

Board of Directors

The TCC Board of Directors of the Company Consists of 15 Directors (5 Independent Directors Included) with an average 90% Board Meeting Attendance.

As of May 27, 2025

Nomination Committee | Audit Committee | Remuneration Committee | Risk Management Committee | Corporate Sustainable Development Committee | Information Security Management Committee | C Convener

	Name	Gender	AGE			FUNCTIONAL COMMITTEES Note1						Board Meetings
			31-50	51-70	>71	NC	AC	RC	RMC	CSDC	ISMC	
DIRECTORS	An-Ping Chang	M			✓	100%				100%C		90%C
	(Roman) Yao-Hui Cheng	M		✓						100%		100%
	Kenneth C.M. Lo	M			✓	25%						70% Note2
	Yu-Cheng Chiao	M		✓								100%
	Sun-Te Chen	M		✓								80%
	(Jason) Kang-Lung Chang	M		✓								90%
	Por-Yuan Wang	M			✓							70%
	Kung-Yi Koo	M	✓									90%
	Chien Wen	M			✓							80%
	(Liz) Li-Hsin Wang	F		✓					100%	100%		100%
INDEPENDENT DIRECTORS	Victor Wang	M			✓	100%C	100%C	100%	100%	100%	100%	100%
	Lynette Ling-Tai Chou	F		✓		100%	89%	100%C	100%	100%		90%
	Sherry S. L. Lin	F			✓	100%	100%	100%	100%C	75%	100%	100%
	Ruu-Tian Chang	F			✓		89%	100%	100%		100%C	90%
	Man-Jung Chan Note3	F		✓		Newly Elected May 27, 2025						

Note 1: Timeframe for board and functional committee meetings: from May 28, 2024, to March 20, 2025.

Note 2: The reason for Mr. Kenneth C.M. Lo's low attendance rate was due to health involving overseas surgical treatment.

Note 3: Independent director Ms. Man-Jung Chan was elected May 27, 2025.

Note 4: Former Independent Director Mr. Nigel N. T. Li resigned on October 9, 2024, attendance rates across all functional committees and board meetings for Independent Director Mr. Nigel N. T. Li was 100%.

Governance Performance Highlights

Female Board Representation	Board Independence	Functional Committees
33.33% (Increased from 26.66%)	33.33%	6 (Information Security Management Committee Established)

Corporate Governance Evaluation	Total Hours of Integrity & Ethics Trainings	Information Security Trainings
Top 5% (only construction materials company on the list, three consecutive years)	11,937 hours (All TCC Employees) 1,220 hours (Suppliers, Taiwan and Mainland China)	3,259 hours (3,555 participants)

Functional Committees

Nominating Committee Chaired by Independent Director.

Nomination
88% Attendance

Formulating the selection criteria for directors (including independent directors) and senior managers, establishing and regularly reviewing directors' development plans, operational performance, Board member evaluations, and succession plans for senior managers.

Committee Charter

Audit
94.74% Attendance

Establishing and amending internal control systems, procedures for handling significant financial and business activities, reviewing securities, financial reports, and matters involving directors' own interests.

Committee Charter

Remuneration
100% Attendance

Establishing and reviewing performance assessment and remuneration policies for Directors and Managers and regularly evaluating their performance to determine remuneration.

Committee Charter

Risk Management
100% Attendance

Executing risk management decisions approved by the Board of Directors, supervising the establishment of TCC's risk management mechanisms, and overseeing the implementation and coordination of overall risk management operations.

Committee Charter

Corporate Sustainable Development
100% Attendance

The decision-making and supervisory units for the Company's sustainable development work covers three key areas including corporate governance (G), environment (E), and social (S). This is to strengthen the Company's management system, promote environmental conservation, and fulfill social responsibilities, enabling the Board of Directors to effectively safeguard the rights and interests of the Company, its employees, shareholders, and stakeholders.

Committee Charter

Information Security Management
100% Attendance

Establishing and reviewing the information security management framework and policies, regularly examining the development, implementation, and execution of the Company's relevant mechanisms.

Committee Charter

Director ESG Training

Members of the TCC Board of Directors, through their experience in management and risk management, environment, climate change, and sustainability, provide insights that contribute to addressing climate change and sustainability challenges. Additionally, through annual director training, the knowledge of board members regarding sustainability and climate issues is enhanced.

Training involves a wide array of ESG topics such as: Sustainable Finance Disclosure, Taiwan's Path to Net-Zero Just Transition in Hard-to-Abate Sectors, Digital Transformation Creating a New AI Future - Sharing Generative AI Application Cases, Legal Responsibilities and Case Analysis of Corporate Control Contests. For details on individual directors' training records, please refer to section 2.2.3 of the Company's annual report.

Director Risk Management Expertise

Training Topic	Director	Name	Completed
Discussion on Enterprise Risk Management Trends and Organizational Resilience	Independent Director	Victor Wang	✓
	Independent Director	Lynette Ling-Tai Chou	✓
	Independent Director	Sherry S. L. Lin	✓
	Director	(Roman) Yao-Hui Cheng	✓
How Directors and Supervisors Can Oversee Corporate Risk Management and Crisis Handling	Independent Director	Victor Wang	✓

Management Team Remuneration Policy

Remuneration for TCC's President, Vice Presidents, and managers is determined by business strategy, corporate profitability, individual performance, and market benchmarks. The policy is reviewed by the Remuneration Committee and formally approved by the Board of Directors

Short-term Incentives
Quarterly and annual performance-based bonuses
&
Long-term Incentives
Treasury stock plans

TCC directly links 40% of senior management's remuneration to ESG performance targets. Furthermore, specific remuneration for the CFO, Chief Procurement Officer, and the Procurement Department is tied to key sustainability indicators. The CEO's entire variable compensation is paid in stock, deferred over a three-year period to a personal stock account. This aligns remuneration with the company's long-term performance to achieve sustainability objectives.

Indicator Dimensions	Indicator Content	Proportion	Corresponding Material Topic
Personal Performance Indicators (30%)	Task Performance and Goal Attainment	30%	-
	AI Innovation and Application Effectiveness		R&D Innovation
	• Legal Compliance and Risk Prevention • Assessment of Long-term Risks		Legal Compliance
	• Talent Cultivation • Enhancing Employee Capabilities and Qualities • Fostering a Global Mindset		Talent Cultivation and Development
Financial Performance Indicators (30%)	Return on Assets (ROA)	7.5%	-
	Return on Equity (ROE)	7.5%	
	Net Profit After Tax	7.5%	
	Growth Rate	7.5%	
Sustainability and Climate Indicators (40%)	SBT Carbon Reduction Target Progress	10%	Climate Action and Net-zero Emissions
	Alternative Fuel Usage	10%	Co-processing of Renewable Resources
	Green Electricity Usage	5%	Green Energy and Energy Storage
	Sustainable Supply Chain Management Practices	5%	-
	Percentage of Sales from Low-carbon Products	5%	Sustainable Products and Services
	Zero Penalties for Water Resources	5%	• Pollution Prevention Management • Water Resource Management
	Zero Penalties for Occupational Safety		Occupational Health and Safety
	Female Employee Ratio		-

Ethical Management

TCC has established an "Anti-corruption and Anti-bribery Promotion Team" led by the President, with the Compliance and Legal Department overseeing. Department supervisors monitor daily corruption and bribery risks, reporting to the Audit Committee and Board of Directors at least annually. *Zero corruption incidents occurred in 2024.*

Board-level Audit Committee responsible for overseeing ethical management system goals.

Ethical Management Policies

- Ethical Corporate Management Best Practice Principles
- Anti-corruption and Anti-bribery Policy
- Reporting Mechanism for Violation of Code of Conduct
- Code of Ethical Conduct

Management System

TCC emphasizes professional ethics, regulatory compliance, and integrity. TCC Taiwan, CIMPOR and OYAK CEMENT have both achieved ISO 37001 Anti-bribery Management System certification, with CIMPOR and OYAK CEMENT further obtaining ISO 37301 Compliance Management System certification.

TCC conducts ISO 37001-aligned annual corruption-risk assessments, across all departments and global production sites, while progressively digitizing the process.

Under its "Business Partner Corruption Risk Assessment and Due Diligence Procedures.", TCC conducts due diligence on suppliers, contractors, and customers, and stipulates countermeasures for partners that decline to cooperate.

ISO 37001

ISO 37301

Ethical Management and Risk Assessments

All new employees must complete due diligence procedures and sign the Statement of Integrity and Ethical Conduct. Employees of departments assessed as medium-high risk sign the Statement of Integrity and Ethical Conduct and Integrity Code at least once a year.

Business Partners Note 1

Execution Frequency: Irregular execution before initial cooperation | Once a year after cooperation.

Risk Assessment Process	Risk Response and Treatment
• Conduct a corruption and bribery risk assessment based on six major aspects Note 2 • Conducting corruption and bribery risk due diligence based on assessment results	• Parties that fail the assessment will be blacklisted, eliminating the possibility of future cooperation. • Anti-corruption and anti-bribery clauses are included in standard contract terms with business partners, who are also required to sign relevant codes of conduct.

Note 1: Assessment frequency is tailored to each site's size and business profile. For example, CIMPOR and OYAK CEMENT conduct assessments every three years and review high-risk partners more often. All new partners must also complete a Compliance Investigation Questionnaire.

Note 2: Business-partner evaluations cover: initial onboarding targets—(i) production suppliers whose first contract exceeds NT$5 million; (ii) non-production suppliers above NT$1 million; and (iii) all first-time domestic or overseas customers and construction-project suppliers. Annual review targets include tier-1 key production suppliers, non-production suppliers with yearly spend over NT$5 million, domestic cement customers whose prior-year purchases exceed NT$20 million, all overseas cement customers, and all suppliers engaged in construction projects during the year.

Employees

Execution Frequency: At least once a year.

• Corruption and bribery risks are assessed separately by department and by employee level within each department. • Aggregating departmental risks and position-level risks to calculate overall risk levels.	• All employees must complete due diligence procedures before being hired or assuming their roles and sign the Statement of Integrity and Ethical Conduct. • Employees of departments assessed as medium-high risk sign the Statement of Integrity and Ethical Conduct and Integrity Code at least once a year. • Linking compliance with anti-corruption and anti-bribery systems to employee performance incorporating it into annual performance evaluations.

Operating Procedures

Execution Frequency: At least once a year.

Risk Assessment Process	Risk Response and Treatment
• Identifying stakeholder needs and expectations to ensure the management system can effectively respond to them. • Identifying corruption and bribery risk scenarios within operational activities. • Assessing the level of impact based on the likelihood of risk occurrence and its potential consequences. • Evaluating the effectiveness of relevant control measures. • Determining residual risk based on the assessed impact and control levels.	• Implementing corresponding measures according to the residual risk level. *High-risk* Requires immediate development of improvement plans or enhanced control measures. *Medium-risk* Responsible unit must re-examine control mechanism completeness and appropriateness, providing a review plan. *Low-risk* Managed through standards procedures. • After the risk assessment results and response plans are reviewed by the promotion groups of each unit, they are compiled by the Compliance and Legal Office and submitted to the President for approval before being forwarded to the Audit Committee for final approval.

Ethical Management Training

All employees participate in anti-corruption and anti-bribery education and training at least once a year. The number of trainees reached 9,729, with a total of 11,937 hours. Headquarters staff prioritize participation in ISO 37001 anti-corruption management system online policy promotion and training, covering corruption detection, public sector interaction management, and hospitality and gift guidelines. Subsidiaries CIMPOR and OYAK CEMENT implement integrity and ethics education aligned with ESRS indicators adopted by CSRD.

In 2024, Ethical Management Education and Training have been extended to suppliers and contractors, with a total of 305 suppliers trained.
(Taiwan and Mainland China, totaling 1,220 hours)

Whistleblowing Mechanism and Whistleblower Protection

TCC promotes the whistleblowing mechanism through integrity management education and training courses to ensure stakeholders' familiarity with system and procedures.

TCC promotes reporting of misconduct by anyone connected to the Company through its "Reporting Mechanism for Violation of Code of Conduct", accepting reports via email, written submissions, or in person. Reports can be anonymous but must include complete information and evidence to deter malicious claims. Whistleblower identities and report details are kept confidential, and retaliation is strictly prohibited.

Reports and Grievances in 2024

In 2024, there were no corruption or bribery cases, and a total of 3 cases of Discrimination or Harassment Incidents were processed.

Reporting and Grievance Channel		Number of Cases
Whistleblowing Mailbox		241
Audit Committee Mailbox		7
Employee Grievance Mailbox		0
Online Peace of Mind Platform		0
Total		**248**
Related to:	Violations of Integrity Management	176
	Harassment (Including Sexual Harassment)	68
	Bullying (Including Discrimination)	4

Non-Voting Shares

Top 10 shareholders that refrain from voting in director elections account for at least 5.72% of TCC shareholders. These institutional shareholders such as insurance companies, and Bureau of Labor Funds are bound by policy (Insurance Act Article 146-1, and BoLF Stewardship Report) to abstain from director election voting. Chunghwa Post Co., Ltd. also abstains from a majority of director voting agendas.

Top 10 Shareholder	Shareholding Ratio
Labor Retirement Reserve Fund	1.69%
Chunghwa Post Co., Ltd.	1.38%
Taiwan Life Insurance Co., Ltd.	1.33%
BankTaiwan Life Insurance - Government Employees & School Staffs Insurance	1.32%
Total	**5.72%**