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THE FUTURE IS WORTH IT

—

2020 TCC ESG REPORT



永续发展



CHAIRMAN'S ADDRESS

TCC is a green environmental engineering company dedicated to handling the complex relationship between human civilization and Nature.

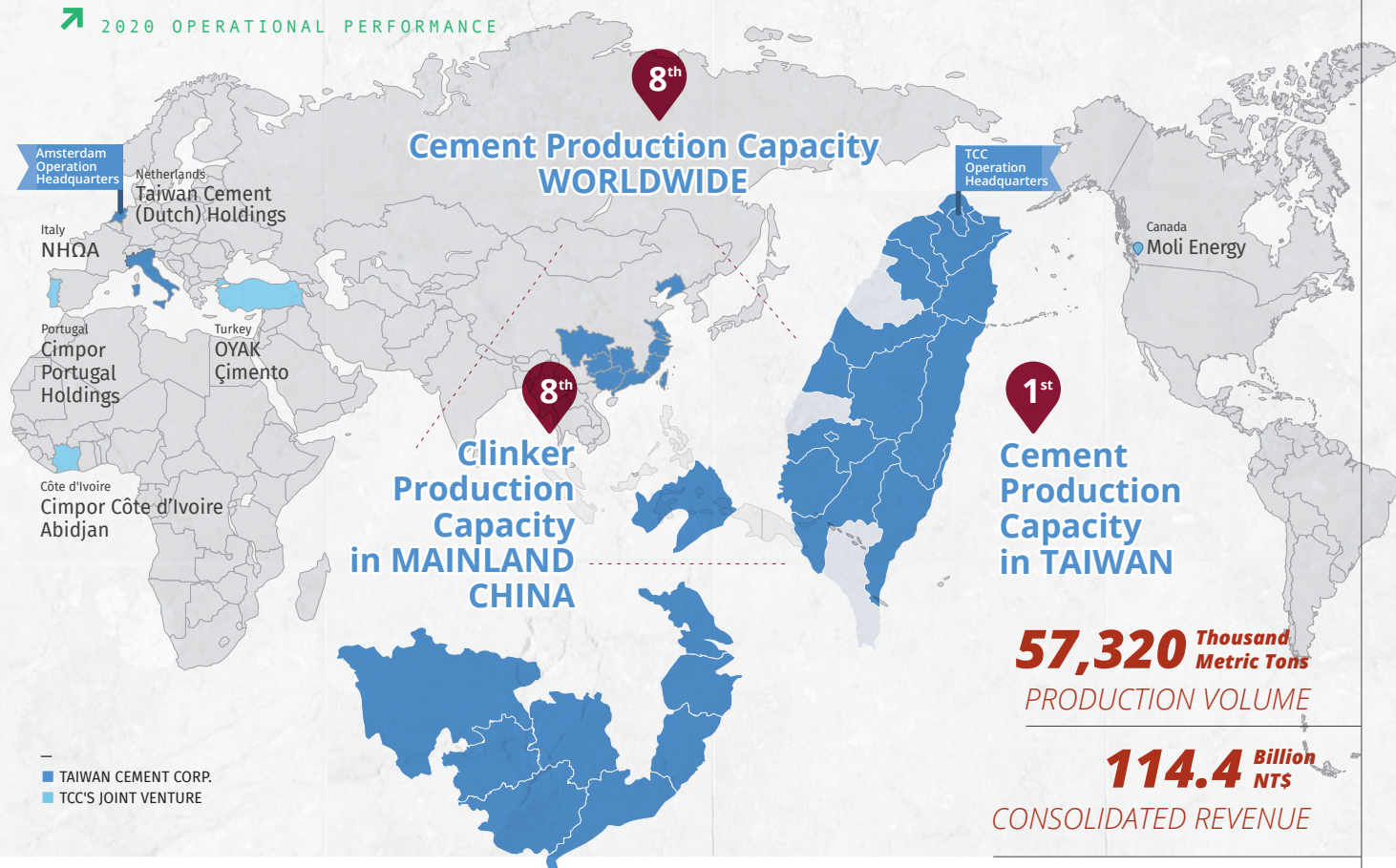
We work tirelessly to find
"the Sine Qua Non
where mankind and Nature coexist".

Action is our only answer.

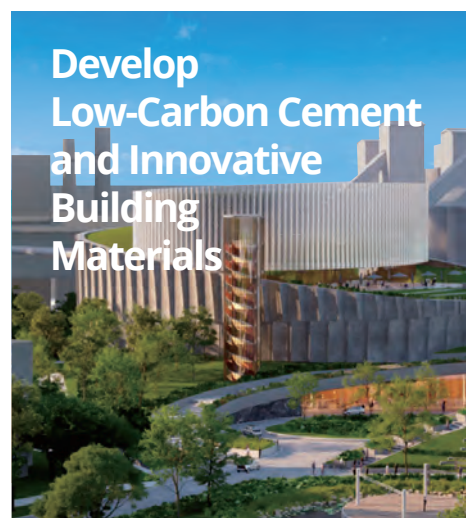
Nelson An-Ping Chang

"Sine Qua Non," the Latin for "the Prerequisite for Accomplishing Things."

2020 OPERATIONAL PERFORMANCE



THREE CORE DEVELOPMENT STRATEGIES



100%

Retirees Enjoy
Three
Insurance
Schemes



Medical, Accident, Life

+38%

Disabled
Employees
Hired

**+46%**

Maternity
Allowance
Apply
Rate



Employees'
Turnover
Rate

**-30.17%****0**

Occupational
Deaths
of Employees
in 2020

**NEAR 200%**

Company
Contribution
Ratio in Employee
Stock Trust for
Employees
Aged
over 60



TCC DAKA
Social Return
on Investment

SROI
x **3.54**



Renewable
Energy
Installed
Capacity

**79.88MW**

Accumulated until 2021

**ISO 27001**

Information Security
Management System

ISO 37001

Anti-Bribery
Management
System

-4.2%**TAIWAN**

CO₂ Emissions
Intensity of
Cementitious Materials

*Revised accordingly in June 2022
based on the SBT base year value

**-3%****MAINLAND CHINA**

CO₂ Emissions
Intensity of Clinker

Base Year 2016

+60.64%

Waste Heat
Recovery
Efficiency

Compared to 2018

**100%**

Plants with
Procurement
Portal
Introduced

**-16%****TAIWAN****-45%****MAINLAND CHINA**

NO_x Emissions
of Cement Plants



Water Use Intensity
of Cement Plants

-25%**TAIWAN****-6%****MAINLAND CHINA**

Compared to 2016



Reused
Cement
(Alternative
Materials Used)

23.05%

Per Metric Ton

**100%**

High Risk
Suppliers
Blocked by the
Procurement Portal

**-5%****TAIWAN****-53%****MAINLAND CHINA**

SO_x Emissions
of Cement Plants

-43%**TAIWAN****-57 %****MAINLAND CHINA**

TSP Emissions
of Cement Plants

Base Year 2016

**86%**

Indigenous Plant
Species at Mining
Areas
(Hoping and Suao)

**8.812 Million**

Metric Tons
Waste
Treatment
Volume

**X 7**

Efficiency
Increase
with Intelligent
Warehouse

2020 TCC
ESG HIGHLIGHTS

60%

Independent Directors are **FEMALE**Increase **from 25% to 60%**

2021 NEW BOARD OF DIRECTORS

1/3

Board Seats are **INDEPENDENT DIRECTORS**Increase **from 21% to 33%**

Diverse Backgrounds

M&A, Risk Management, Legal, and Accounting



-21%



Board Seats

Reduce to 15 from 19

INDUSTRY EXPERIENCE

OPERATIONAL MANAGEMENT INTERNATIONAL MARKET

ENERGY ENVIRONMENTAL PROTECTION CEMENT

M&A AND INVESTMENT INFORMATION TECHNOLOGY

RISK MANAGEMENT LEGAL AND ACCOUNTING

TITLE | BOARD MEMBER GENDER

Chairman

| | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|
| An-Ping Chang | M | V | V | V | V | V | V | V | V |
|---------------|---|---|---|---|---|---|---|---|---|

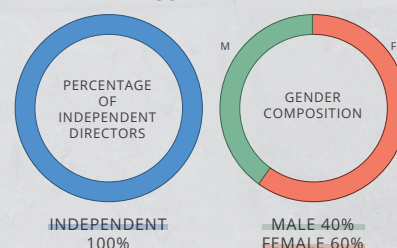
Director

| | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|
| Jong-Peir Li | M | V | V | V | V | V | V | V | V |
| Jason Kang-Lung Chang | M | V | V | | V | V | V | V | V |
| Kenneth C.M. Lo | M | V | V | | V | V | | V | |
| Por-Yuan Wang | M | V | V | | V | V | V | V | |
| Kung-Yi Koo | M | V | V | V | V | V | | V | |
| Chi-Chia Hsieh | M | V | V | | V | V | V | V | V |
| Chi-Te Chen | M | V | V | | V | V | | V | |
| Chien Wen | M | V | | | V | V | | | |
| Chun-Ying Liu | F | | V | | V | V | | V | V |

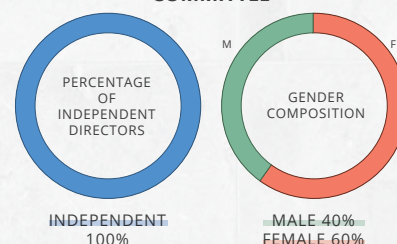
Independent Director

| | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|
| Yu-Cheng Chiao | M | V | V | V | V | V | V | V | V |
| Victor Wang | M | V | | | V | V | V | V | V |
| Lynette Ling-Tai Chou | F | V | | | V | V | V | V | V |
| Mei-Hwa Lin | F | V | V | | V | | | | V |
| Shiou-Ling Lin | F | V | V | | | V | | V | V |

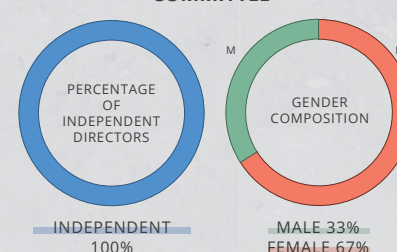
AUDIT COMMITTEE



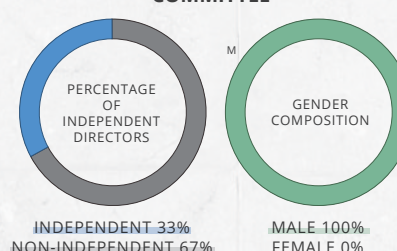
REMUNERATION COMMITTEE



RISK MANAGEMENT EXECUTIVE COMMITTEE



CORPORATE SUSTAINABLE DEVELOPMENT COMMITTEE



ESG TARGETS AND STRATEGIES

ENVIRONMENTAL



ISO14001

ISO14046

ISO14064

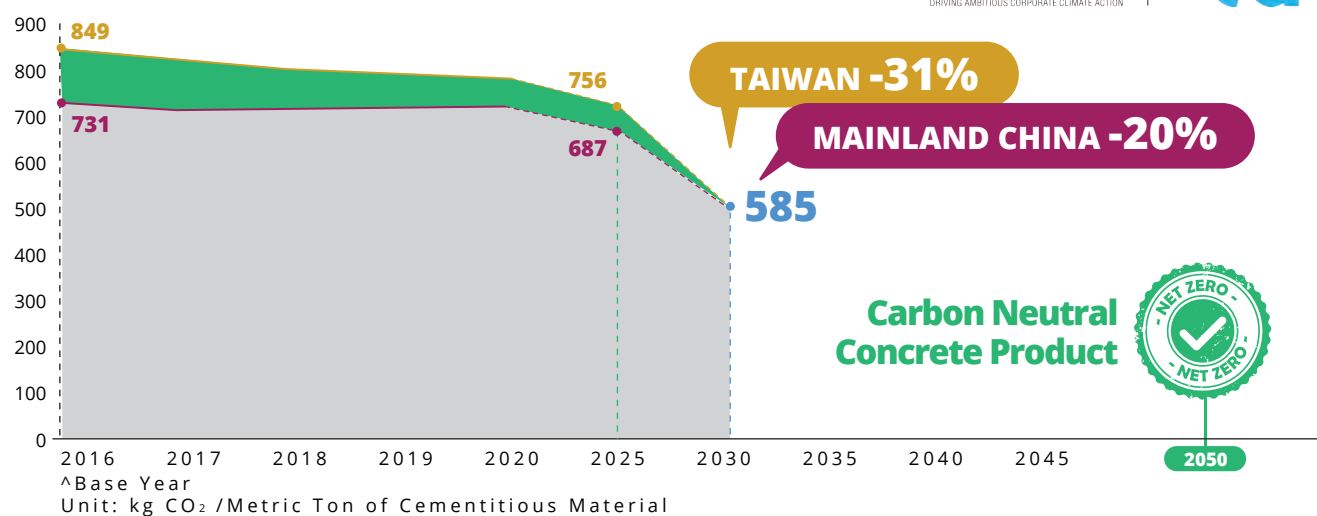
ISO50001

BS8001

GHG MANAGEMENT

Carbon Neutrality by 2050

TCC Group's Carbon Reduction Roadmap



2025

TAIWAN SBT

-11% Scope 1 Intensity | -32% Scope 2 Intensity

2030

TAIWAN

-31% Carbon Emission Intensity*

MAINLAND CHINA

-20% Carbon Emission Intensity*

2050

TCC GROUP

Carbon Neutral Concrete Products

100% Cement Plants Covered with Internal Carbon Pricing (ICP)

- 100% of production equipments at cement plants adopt a carbon price to evaluate the emission reduction performances
- Internal carbon pricing is a main KPI in determining performance and bonuses

* The reduction will be implemented according to regulatory permissions and market demands

7 Strategies to Reduce Carbon Emissions



Utilization of Alternative Materials

10 MILLION Metric Tons of Waste Treatment in 2025



Alternative Materials

- Desulfurization Gypsum
- Steel Slag
- Coal Gangue
- Coal Ash
- Carbide Slag
- Nickel Slag etc.

Clinker Replacement

- Steel Slag Powder
- Coal Ash
- Nickel Slag Powder etc.



Utilization of Alternative Fuels **10%** of Biomass Fuel by 2025



Full Biomass

- Wood Chips
- Rice Straws
- Other Agricultural Waste
- Tree Barks
- Husks

Part Biomass

- Waste Tires
- Waste Rubber
- SRF/RDF
- Sludge etc.



Renewable Energy

under Management

1GW by 2050



Power Generation by Waste Heat Recovery

to Reduce Procured Electricity

By **33~35%**



Equipment & Process Enhancements

- Rotary Kilns
- Cement Mills
- Aiming for EP100 Commitment in 2021



Carbon Capture

100,000

Metric Tons/Year in 2030



Reforestation

500,000

Trees

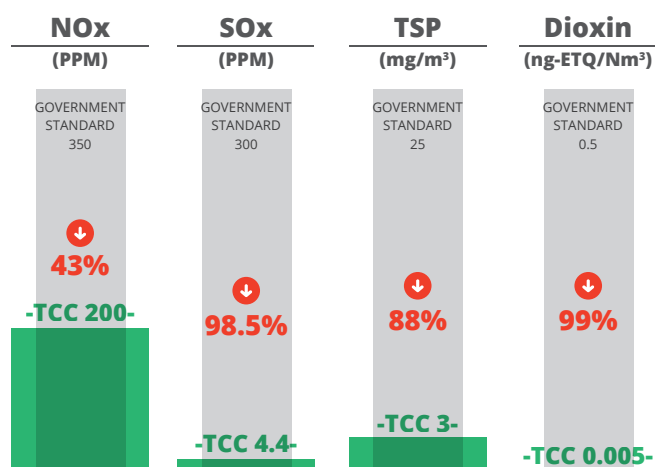


AI Carbon Dioxide Emission Management System



AIR POLLUTION CONTROL

Air Emissions Way Below Regulation Standards



Targets and Progress on Air Pollution Control (compared to the 2016 level)

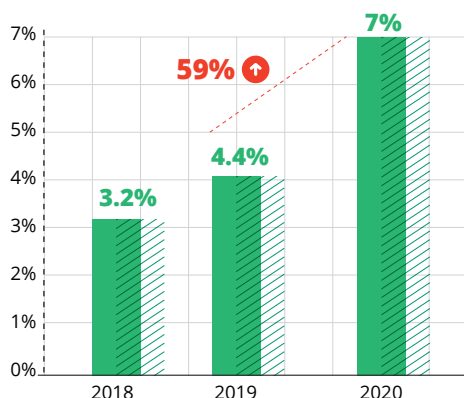
| TAIWAN | | | |
|------------------------|------|--------------|--------------|
| | NOx | SOx | TSP |
| 2020 Progress on Track | ✓ | ✓ | ✓ |
| 2025 Target | -50% | -30% | -50% |
| 2030 Target | -70% | BACT Minimum | BACT Minimum |
| MAINLAND CHINA | | | |
| | NOx | SOx | TSP |
| 2020 Progress on Track | ✓ | ✓ | ✓ |
| 2025 Target | -50% | -60% | -60% |
| 2030 Target | -70% | -70% | BACT Minimum |

GREEN PRODUCTS AND SUSTAINABLE BUILDINGS



碳標籤字第2002523001號
每袋卜特蘭水泥I型 (50kg)

Revenue share of green building RMC among total RMC revenue



- 2020: TCC established Taiwan's Product Category Rules (PCR) for cement products and acquired Carbon Footprint Label
- 2021: TCC expects to acquire Carbon Footprint Reduction Label

WATER MANAGEMENT

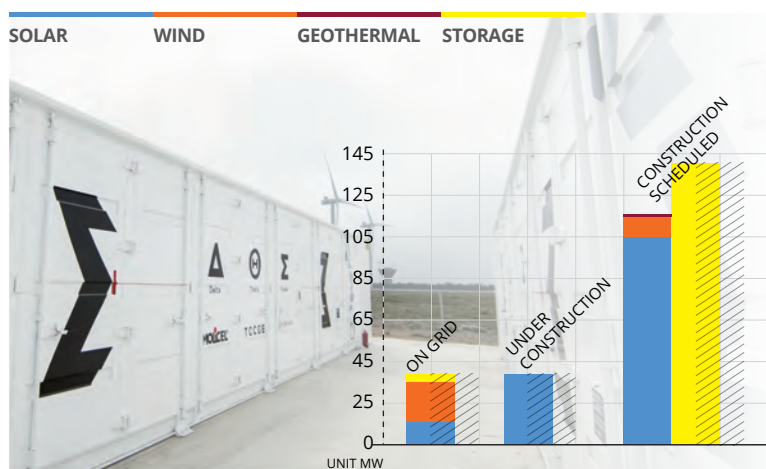
100% Cement Plants Obtained ISO 14046 Water Footprint Certification

- TCC conducts internal and external water resource risks assessment, promotes 100% water recycling, sets water usage standards and collects rainwater for reuse
- 2021 TCC plans to further introduce ISO 46001 water efficiency management system

RENEWABLE ENERGY

1GW Renewable Energy under Management by 2050

- TCC actively engages in diversified renewable energy development including solar, wind, geothermal, oceanic energy, as well as energy storage



ENERGY BUSINESS DEVELOPMENT

A New 1.8GWh Battery Gigafactory for Smart Storage and Charging Solutions

- TCC develops nickel rich lithium-ion battery cell which featuring high capacity, high power and long cycle life. New add in annual production will be 1.8GWh
- TCC operates Taiwan's first AFC Smart Storage System with 5MW of installed capacity in Changhua Coastal Industrial Park since April 2021
- TCC continues to expand energy business by collaborating with a European professional team to develop clean energy and EV charging solutions

BIODIVERSITY

100% Biodiversity Management Plan Coverage

- TCC works with Dr. Cecilia Koo Botanic Conservation Center (KBCC), which was awarded with Level 1 Certification by Arboretum Accreditation, and academics to implement biodiversity management plans and restoration

Targets by 2030

| | | |
|--|---|--|
| 40,000 taxa of PLANT DNA STORED | 16 hectares of MINING AREAS RESTORED | 25,000 SAPPLINGS CULTIVATED |
| 90% of the ratio of INDIGENOUS TREE SPECIES | 80% of average survival rate for PLANT AND TREE TAXA | |



Photo taken in Hualien
Sapling nursery of Hoping Mine

ESG TARGETS AND STRATEGIES

SOCIAL



ISO 45001

OCCUPATIONAL HEALTH AND SAFETY TARGETS

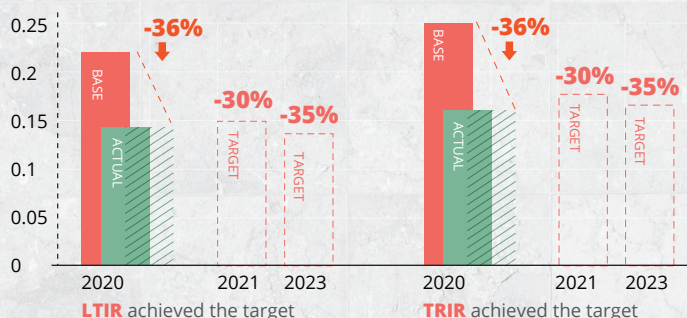
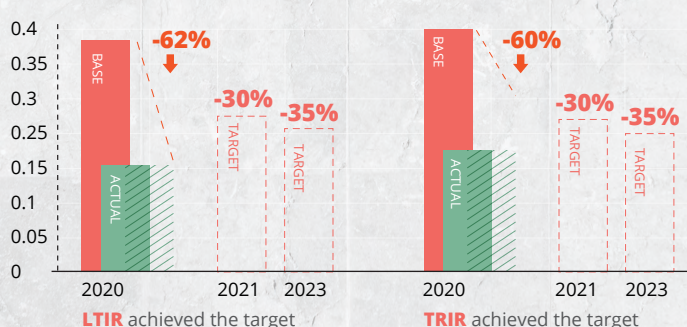
ISO 45001 Occupational Health and Safety Management System

- 100% of TCC's cement plants, RMC plants and Headquarters obtained ISO 45001 certification
- 100% coverage on employees and subcontractors of TCC Group
- 2021 TCC launched the *Occupational Safety Monthly report* mechanism

Death Rate 0

Total Recordable Incident Rate (TRIR) 30% reduction by 2021 and 35% by 2023

Lost Time Injury Rate (LTIR) 30% reduction by 2021 and 35% by 2023

TAIWAN**MAINLAND CHINA**

Base average rate of 2016-2018

EMPLOYEES EQUITY PLAN

100% of Employees Eligible for Employee Stock Ownership Trust Program

- TCC promotes the Employee Stock Ownership Trust Program to all employees in TCC and affiliated enterprises
- Where an employee procures shares of TCC with monthly salary, TCC will disburse an equal amount to the dedicated trust account

Pioneering Two-Track Retirement Benefits System

- For employees aged 60 or above, TCC offers nearly double disbursement
- Retired employees are eligible for health checkup, as well as medical, accident, and life insurance schemes

VARIABLE COMPENSATION

100% of Employees Eligible for Quarterly and Performance Bonuses

- The performance appraisals are linked to sustainability indicators, including occupational safety, environmental protection and emissions, and energy-saving as well as carbon emissions reduction



NON-COMPENSATION BENEFITS

100% of Employees Eligible for Non-Compensation Benefits

Health and Wellbeing

- Travel Subsidies
- Study Subsidies
- Club Subsidies
- Employee Assistance Program

Medical

- Medical Subsidies (Dental and Hospitalization)
- Health Checkup Subsidies
- Childbirth Subsidies

Family Support

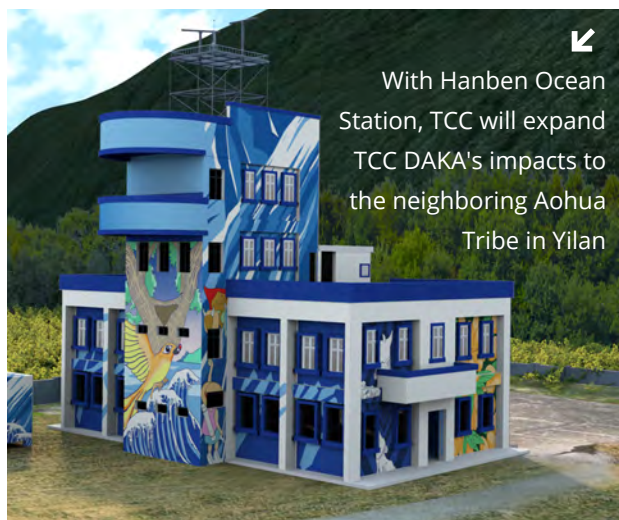
- Maternity Allowance
- Scholarships for Employees' Children
- Marriage Gifts
- Retirement Benefits
- Funeral Consolation Payments

SOCIAL IMPACT

TCC DAKA Open Eco-Factory



- TCC DAKA is Taiwan's first ecological knowledge and cultural leisure center that is connected to an operational cement plant open to the general public for visits
- **SROI:** 3.54 times social values created by TCC DAKA, evaluated with Social Return on Investment (SROI) analysis on three aspects, i.e., community rejuvenation, guided tours on circular economy, and employees of TCC



With Hanben Ocean Station, TCC will expand TCC DAKA's impacts to the neighboring Aohua Tribe in Yilan

HUMAN RIGHTS DUE DILIGENCE

- TCC conducts Human Rights Survey on a timely basis, with results analyzed according to two main categories: human rights risks occurrence frequency and impacts on the company and employees
- Coverage: 100% TCC (Taiwan), subsidiaries, and joint ventures
- Results: No material risks nor nonconformities found



Visitors

Average Daily Visits
7,000 Visitors
2.5 Million Visitors in 2020



Circular Economy

In 2020
8,500 Visitors
Participated
in Guided Tours



Community Rejuvenation

Average Monthly Income
1.29 Million NT\$

Employment Creation
+2.5% of Heping Village's Employment Rate



Charity Donation

Non-profit
100% TCC DAKA Income Contributed
to the Hualien Heping
Elementary School
Education Fund



ESG TARGETS AND STRATEGIES

GOVERNANCE



ETHICAL MANAGEMENT

ISO 37001 Anti-Bribery Management System

- 2020** 100% achievement rate for the promotion of the **Code of Ethical Conduct** to affiliated enterprises in Taiwan
- 2021** TCC has introduced ISO 37001 Anti-Bribery Management System in 2020, and expects to obtain certification by July 2021

Whistleblower Protection

- The **Reporting Mechanism for Violation of Code of Conduct** was amended to introduce investigation confidentiality and whistleblower protection

Supply Chain Management

- 3 major management policies: **Supplier Management Policy**, **Supplier Code of Conduct**, and **Green Procurement Policy**
- 50% reduction of suppliers' GHG emissions by 2030
- TCC Supplier Management Targets:

| | |
|---|------|
| Non-Raw Material Goods Procured Locally | 95% |
| New Suppliers that Signed the Supplier Code of Conduct | 100% |
| Existing Key Suppliers that Signed the Supplier Code of Conduct | 60% |
| Contractors that Signed the Contractor Safety and Health Pledge | 100% |
| Critical Tier 1 Suppliers that Underwent Inspections | 100% |
| Critical Tier 1 Suppliers that Underwent an On-Site Inspection Once Every Three Years | 80% |

SUPPLY CHAIN MANAGEMENT

Procurement Portal

- The Portal introduces AI in supplier rating and selection, e-bidding, and material quality risk control

TAX RISK MANAGEMENT

TCC Group Tax Policy and Management Guidelines

- The Board of Directors as the highest decision-making and supervising body

CLIENT RELATIONSHIP AND INNOVATION

Concrete Laboratory

- The TAF-accredited laboratory aims at enhancing technical capacities of quality control and promoting further R&D



Product Traceability System

- Since 2019, TCC provides 6 types of raw material inspection reports and quality assurance certificates
- 2021: Offering upgraded quality variation analysis based on the collaboration with Taiwan Construction Research Institute (TCRI)

TCC SUSTAINABILITY PERFORMANCE

2017-2020

| ENVIRONMENTAL PERFORMANCE | | | | | | | |
|--|-------------------------------|------------|------------|-------------|-------------|--------------|--------------|
| Carbon Emissions | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| CO₂ Emissions | Metric Tons CO ₂ e | 4,405,123 | 4,501,593 | 4,519,601 | 4,646,754* | | |
| Scope 1 | | 4,146,431 | 4,230,680 | 4,268,478 | 4,413,158 | 305-1 (2016) | EM-CM-110a.1 |
| Scope 2 | | 249,819 | 255,872 | 230,040 | 211,169 | 305-2 (2016) | |
| Scope 3 (Cement Plants) | | 8,873 | 15,041 | 21,083 | 22,427 | 305-3 (2016) | |
| Energy Efficiency & Renewable Energy | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| Energy Consumption | GJ | 18,757,805 | 17,417,060 | 17,749,292 | 17,798,487 | 302-1 (2016) | EM-CM-130a.1 |
| Renewable Energy | GJ | N/A | 92.79 | 73.80 | 796.37 | 302-1 (2016) | EM-CM-130a.1 |
| Ratio of Waste Heat Recovery | % | - | 15 | 21 | 29 | | |
| Alternative Materials and Fuels | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| TAIWAN | | | | | | | |
| Alternative Fuels Used | % | 8 | 8 | 8 | 10 | | |
| Alternative Materials Used | % | 18 | 19 | 19 | 23 | | |
| Clinker Content in Cement | % | 95 | 95 | 94 | 93 | | |
| MAINLAND CHINA | | | | | | | |
| Alternative Fuels Used | % | 1 | 3 | 4 | 5 | | |
| Alternative Materials Used | % | 8 | 10 | 17 | 20 | | |
| Clinker Content in Cement | % | 79 | 81 | 81 | 81 | | |
| Toxic Emissions | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| NO_x Emissions | Metric Tons | 7,035 | 6,744 | 6,388 | 6,164 | 305-7 (2016) | EM-CM-120a.1 |
| SO_x Emissions | | 82 | 85 | 79 | 106** | 305-7 (2016) | EM-CM-120a.1 |
| TSP Emissions | | 587 | 643 | 305 | 249 | | |
| Direct Mercury Emissions | | - | - | 0.221723 | 0.27546 | | |
| VOC Emissions | | 0.00656 | 0.00636 | 0.00616 | 0.00457 | 305-7 (2016) | EM-CM-120a.1 |
| Water | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| Water Usage Intensity | | | | | | | |
| Taiwan | m ³ /Metric Ton | 0.47 | 0.43 | 0.38 | 0.36 | | |
| Mainland China | of Cementitious Materials | 0.34 | 0.34 | 0.33 | 0.33 | | |
| Environmental Investments | Million NT\$ | approx. 52 | approx. 64 | approx. 180 | approx. 210 | | |
| SOCIAL PERFORMANCE | | | | | | | |
| Diversified Workforce | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| Share of Employees with Disabilities | % | 1.7 | 1.5 | 1.1 | 1.5 | | |
| Share of Employees with Indigenous Background | % | 5.5 | 4.7 | 5.2 | 6.1 | | |
| Gender Equality | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| Share of Women in All Management Positions | % | 23.39 | 22.76 | 23.20 | 23.50 | | |
| Share of Women in Junior Management Positions | % | 24.32 | 23.50 | 23.00 | 23.35 | | |
| Share of Women in Top Management Positions | % | 15.38 | 15.38 | 25.00 | 25.00 | | |
| Share of Women in Management Positions in Revenue-Generating Functions | % | 4.03 | 4.14 | 4.52 | 3.83 | | |
| Share of Women in STEM-Related Positions | % | 32.30 | 33.33 | 33.87 | 34.41 | | |

* In 2020, the greenhouse gas emission intensity was 0.81 metric tons CO₂ per metric ton of cementitious materials, decreased by 4.2% compared to 0.849 metric tons of the base year 2016. The increased overall greenhouse gas emissions reflected the increased yield.

Note: Revised accordingly in June 2022 based on the SBT base year value

** In 2020, TCC's source of limestone was limited due to the environmental impact comparative analysis conducted in the mining areas, which resulted in the variation of sulfur contents utilized.

| SOCIAL PERFORMANCE | | | | | | | |
|--|--------------|------------|------------|------------|------------|---------------|------|
| Employment | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| Turnover Rate | % | 16.87 | 11.03 | 9.28 | 6.48 | 401-1 (2016) | |
| Open Positions Filled by Internal Candidates | % | 11.4 | 14.4 | 18.4 | 18.85 | | |
| Employee Engagement Rate | | | | | | | |
| TAIWAN | % | N/A | N/A | 93.1 | 94.3 | | |
| MAINLAND CHINA | % | N/A | N/A | N/A | 97.5 | | |
| Training and Education | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| Average Hours of Training | Hours | 47.25 | 130.67 | 115.97 | 81.04 | 404-1 (2016) | |
| Average Amount Spent on Training | NT\$ | - | - | 27,252 | 18,997 | | |
| Philanthropic Contributions | NT\$ | 22,332,307 | 32,729,833 | 29,297,191 | 53,855,534 | 201-1 | |
| GOVERNANCE PERFORMANCE | | | | | | | |
| Board of Directors | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| Directors | Persons | 19 | 19 | 19 | 19 | 102-22 (2016) | |
| Executive Directors | Persons | 1 | 3 | 3 | 3 | 102-22 (2016) | |
| Non-Executive Directors | Persons | 18 | 16 | 16 | 16 | 102-22 (2016) | |
| Independent Directors | Persons | 4 | 4 | 4 | 4 | 102-22 (2016) | |
| Female Directors | Persons | 1 | 2 | 2 | 2 | 405-1 (2016) | |
| Non-Executive Members with Industry Experience | Persons | - | 5 | 5 | 5 | 102-27 (2016) | |
| Average Attendance Rate of Board Meetings | % | 82.50 | 83.46 | 84.21 | 87.00 | | |
| ECONOMIC PERFORMANCE | | | | | | | |
| Consolidated Financial Performance | UNIT | 2017 | 2018 | 2019 | 2020 | GRI | SASB |
| Operating Revenue | Million NT\$ | 98,311.8 | 124,594.6 | 122,783.0 | 114,367.2 | 201-1 (2016) | |
| Profit Before Tax | Million NT\$ | 13,824.7 | 30,544.4 | 32,633.4 | 35,353.3 | | |
| Income Tax Expenses | Million NT\$ | 3,501.9 | 7,900.4 | 7,178.3 | 7,361.9 | | |
| Income Tax Paid | Million NT\$ | 2,837.0 | 4,355.8 | 6,435.0 | 7,758.9 | | |
| Contributions & Other Spending | NT\$ | 5,897,552 | 7,577,545 | 6,221,351 | 11,832,811 | 102-13 (2016) | |
| Trade Associations or Tax-Exempt Groups | NT\$ | 5,897,552 | 7,577,545 | 6,221,351 | 11,832,811 | | |

2020 Sustainability Initiatives and Recognitions



Initiating member of the GCCA's 2050 Climate Ambition



First in the East Asian cement industry that completed the Science-Based Targets setting



2021 Sustainability Yearbook Member



TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

First in Taiwan's traditional industry to become a TCFD Supporter



An MSCI ACWI constituent with a MSCI ESG Rating of "BB"



ESG INDUSTRY TOP RATED



ESG Industry Top-Rated among the construction materials companies



Member with the commitment to reduce the loss of natural capital



Leadership Status A- in CDP Climate Change; and Leadership Status A in CDP Supplier Engagement Rating (SER)



SUSTAINABILITY DISCLOSURE DATABASE



Accounting for a Sustainable Future

TCC follows the standards of Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and Task Force on Climate-related Financial Disclosures (TCFD)