



Outline of 2023 Report

2023

Sustainability Report

2023



亞洲水泥
ASIA CEMENT CORPORATION



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About the Report

Dear Readers

Asia Cement Corporation (abbreviated as ACC) has been publishing the Corporate Social Responsibility Report since 2013 and changed the name of the report to the Sustainability Report in 2022. This is the 11th report of the Company. This report is based on the integration of ACC's business and the implementation of reporting principles. The content covers economic governance, social and environmental practices, and sustainability performance data, and presents the synergistic effects of the value chain in an integrated manner. The publication date of this report is June 2024, and follows an annual reporting cycle. The next report is scheduled to be published in June 2025.

Preparation of the Report

This report is prepared in accordance with the 2021 version of the Global Reporting Initiative (GRI) Sustainability Reporting Standards and has been verified by SGS Taiwan Ltd. The external assurance process complies with AA1000 AS Standard Type II, providing moderate third-party assurance. This report follows the FSC's Corporate Governance 3.0 - Sustainable Development Blueprint, implementing the Task Force on Climate-related Financial Disclosures (TCFD) and the Sustainability Accounting Standards Board (SASB) framework to enhance sustainability reporting disclosures.

The Report also complies with relevant international guidelines and standards, including the Global Cement and Concrete Association (GCCA) Sustainable Development Charter, United Nations Sustainable Development Goals (SDGs), ISO 26000 Social Responsibility Guidelines and S&P's Corporate Sustainability Assessment (CSA), to provide readers with reliable and publicly accessible information.

Scope of Report

This report covers the period from January 1, 2023, to December 31, 2023, and provides information on the corporate sustainability management and performance of Asia Cement's key operational locations. The scope of information disclosure is detailed in the table below. The financial performance in this report has been audited by Deloitte Touche Tohmatsu LLC. Some statistical data are referenced from the annual report, government agencies, and relevant publicly available websites, presented in commonly used textual and numerical descriptions. Exceptions, if any, are noted within the text of the report. For third-party verification information on environmental, social, and governance aspects, please refer to the appendix.

Cement Business (Taiwan) ▶ Asia Cement Nanhwa Cement Ya Tung Ready-Mixed Concrete Ya Li Precast Prestressed

Energy Business ▶ ChiaHui Power

Steel Business ▶ Yuan Long Stainless Steel

Transportation Business ▶ Fu Ming(Da) Transport

Cement Business (Mainland China) ▶ Asia Cement (China)

NOTE 1: There are no significant changes in the Taiwan region value chain disclosed in this report.

2: Public welfare expenditures disclosed include subsidiaries in the consolidated financial statements.

3: The "ESG Key Data" appendix discloses sustainability performance for the China region.

Contact us ▼

Please contact us for any comments or suggestions

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Guide of reviewing the report ▼

For the convenient, quick and precise reading, a quick link mode is provided to readers:

The content and index have quick links to the respective chapter and section.

Further details can be accessed through QR code by mobile phone scanning or clicking on e-file.

Corporate website

Corporate Sustainability Website



The Concept Of Cover Page Design ▼



Using a minimalist design approach, a large "0" is employed to express the determination for net-zero, with the circle symbolizing the cycle. Bright and clean colors represent a hopeful future.





Words from the Chairman



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ASIA CEMENT CORPORATION

Chairman

徐加東

Are you ready to face the challenges ?

Since the end of 2023, I have been reminding colleagues repeatedly and continuously asking myself about this statement.

According to the “Disruption Index” released by the international consulting firm AlixPartners in early 2024, 68% of CEOs are confident that new developments such as AI will lead to huge changes in the coming year. However, 63% of CEOs admit that their companies are not keeping pace with technological developments. Almost all CEOs understand that they need to reshape their business operations in the next year. The survey also indicates that climate change and energy transformation have become the most important issues, with significant pressure coming from government and regulatory agencies (68%), investors and Board of Directors (64%), customers (58%), and employees and teams (57%).

The survey confirms that in this era of coexistence of technological developments and climate change, we are facing an unprecedented transformation challenges. The rapid rise of AI has opened doors for innovation and opportunities. The goal of net-zero carbon emissions requires us to ensure that economic growth no longer harms the planet. Coupled with aging population, rising debts, and the growing wealth gap, these three major forces interact in complex ways, shaping the development of the world and businesses. I deeply understand that every decision we make affects our future, and we need steadfast belief and a clear vision to move forward together. Therefore, I would like to quote a phrase from the former CEO of GE, Jack Welch, in response to my initial question, "Change before you have to!" In other words, we should be actively seeking change rather than being forced to change!





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The AI Revolution is Reshaping the Industry, Ushering in a New Era of Cement

In the era of rapid advancement in global AI technology, ACC has already recognized its immense potential. This is a demonstration of its courage and determination to break through traditions in the industry, not only improving production efficiency and quality but also showing its commitment to achieving environmental protection and sustainable development goals.

First, AI plays a key role in smart batching, which not only optimizes the composition of mine limestone but also improves the blending of raw materials. In terms of alternative raw materials and fuels, ACC has established preheaters, expanded warehouses, and constructed feeding and meeting systems for smart adjustments. To achieve the goal of low-carbon cement, ACC has deeply strengthened its smart control technology to precisely manage various parameters, reduce carbon emissions, and achieve a more environmentally friendly production process.

For quality control, we have installed the AutoML automated machine learning platform to predict clicker strength and optimize the efficiency of the cooling machines, ensuring stable production. AI technology has also been integrated into the cement grinding and delivery system to enhance the flexibility of the system, ensuring products are delivered to customers promptly and accurately.

In the face of the new economy wave, ACC firmly believes that embracing AI can not only improve production efficiency but also bring technological innovation to the industry, reshaping the future of the industrial landscape.

Net-zero Emissions, Green Production, and Determination to Move Towards a Sustainable Future

The cement industry has long been considered to be an important battlefield for carbon reduction. In the face of Taiwan's annual GHG emissions of about 290 million tons, of which 3.5% comes from the cement production process, ACC is not only facing this challenge head-on but also began comprehensive carbon reduction strategies over a decade ago.

ACC was the first company in Taiwan to complete the installation of waste heat recovery and power generation equipment in cement kilns. We are also the first enterprise to comprehensively consider lifecycle carbon footprint and have achieved ISO 50001 certification for our energy management system to enhance energy efficiency. Internally, a carbon pricing mechanism has been established with a price of NTD216 per ton of GHG equivalent, serving as a management tool for emission reduction.

In recent years, ACC has made significant breakthroughs in circular economy technology. Leveraging the high-temperature characteristics of cement kilns, we have converted scrapped turbine blades into alternative raw materials and fuels needed for the cement production process, providing solutions for Taiwan's renewable energy industry. Additionally, we have developed the first set of cement kiln-specific refrigerant feeding equipment in Taiwan. Since 2022, this equipment has assisted the government in disposing of a large amount of smuggled refrigerants. As a result of these numerous actions to promote

the implementation of circular economy in cement rotary kilns, ACC was awarded the "Outstanding Voluntary Reduction Vendor" by the Industrial Development Administration 9 times. This effort has resulted in a cumulative reduction of over 350,000 tons of carbon emissions, equivalent to the carbon sequestration capacity of 889 Da'an Forest Parks in one year.

In terms of products, ACC has taken the lead in revising the CNS 15286 national standard for hydraulic mixed cement, providing assistance for Taiwan's low-carbon cement products to align with international standards. Currently, we are collaborating with domestic and foreign institutions to conduct in-depth research on Carbon Capture and Utilization (CCU) technologies, hoping to solve the dual challenges of carbon emissions and waste disposal through these innovative means, paving the way for achieving the net zero emissions target

Positive, Diverse and Inclusive Working Environment

Every employee of ACC is key to embracing the future, promoting innovation, and fulfilling our commitment to sustainability. It is the duty and responsibility of corporate leaders to create a safe, healthy and happy working environment for everyone.

ACC offers generous remuneration and benefits, as well as a bonus system for different projects based on employee performance, overall profitability, and encouragement of energy conservation and emission reduction. We also fully consider the needs of our colleagues by offering group insurance for life, accidents, and illness, as well as childbirth gifts and educational scholarships. Additionally, we have implemented an employee stock ownership system for 26 years. Furthermore, we offer employee assistance programs, interest-free loans for emergencies, paid volunteer leaves, travel subsidies, club subsidies, and other diversified benefits.

Since 2023, ACC has extended its care beyond the workplace to the family. In response to the issue of aging, we have launched the "ESG Benefit Project for Senior Citizens" for the parents of active employees and employees who are about to retire or have already retired. This program aims to create a rich and fulfilling life for the elderly, ensuring that all employees deeply feel the Company's strong support, providing solid backing for all colleagues.

Throughout last year, ACC received a total of 28 sustainability-related awards. The Company achieved outstanding achievements in Environmental (E), Social (S), and Governance (G) areas, earning recognition from professional assessment organizations both domestically and internationally. Our founding spirit is based on sincerity, diligence, simplicity, prudence, and innovation, and we adopt agility, flexibility, and endurance as our key capabilities for coping with global changes. I would like to thank every colleague who has fought alongside us on this path, and I hope all team members will continue to strive tirelessly, maintain an open mind, and be brave through innovation and learning. With these efforts, ACC will continue to lead the industry forward, realizing the vision of sustainable development.

I firmly believe that this is not only a corporate social responsibility but a commitment to future generations.





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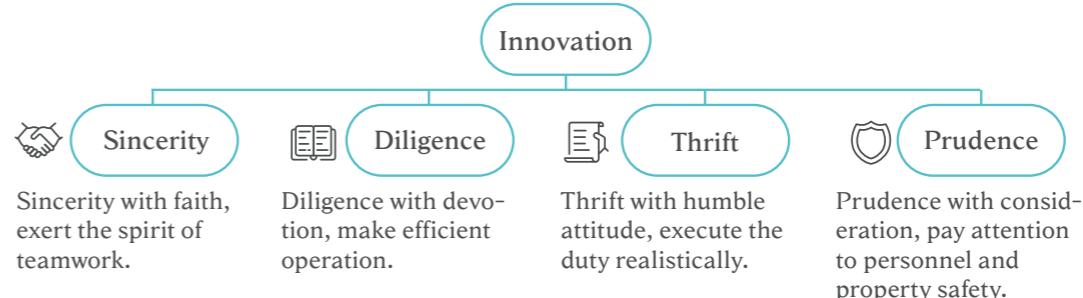


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Sustainable vision strategy

The Founding Spirit of Asia Cement

For years Asia Cement has been pursuing a core management principle of high quality, high efficiency, high environmental standards and low cost. It has steadily become the benchmark for the cement industry. In today's fast changing global environment, we will keep ourselves flexible and agile, continue to make the adjustment, advancement and innovation with the spirit of sustainability in mining mountain restoration, smart manufacturing, circular economy, social care and environmental education, and become an important green partner for building.



Mission, Vision, Strategies and Sustainable Goals

Mission and Vision of Asia Cement

Mission

The first choice partner for building sustainable green home.

Vision

Continue to pursue high quality, high efficiency, high environmental protection, low cost and innovative products to become the role model of the cement industry.

Sustainable Strategy

Governance Economy

Integrate the resource comprehensive performance, sustainably innovate products, create cost effectiveness, create the highest

Environment

Fulfill energy saving and carbon reduction, build green homeland, enhance ecological education, achieve the environmental sustainability.

Society

Create happy workplace, support the disadvantaged groups, cultivate the cultural heritage, create a harmonious society.

Sustainable goals and action items

The target of net zero carbon emission by 2050

2023 Sustainable ESG Action

For years Asia Cement has been pursuing a core management principle of high quality, high efficiency, high environmental standards and low cost. It has steadily become the benchmark for the cement industry. In today's fast changing global environment, we will keep ourselves flexible and agile, continue to make the adjustment, advancement and innovation with the spirit of sustainability in mining mountain restoration, smart manufacturing, circular economy, social care and environmental education, and become an important green partner for building.



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Asia Cement ESG Highlights in 2023



Environmental Sustainability



For four consecutive years, we have achieved the SBTi science-based reduction targets

Reducing carbon intensity by 6% to the baseline year. In 2023, the GHG plan achieved a reduction of 23,905 tons of CO₂.



Committed to achieving net-zero emissions by 2030

The headquarters is committed to achieving net-zero emissions by 2030, with 20% of office energy consumption coming from renewable energy sources. By 2023, emissions had decreased by 46.9% compared to 2021.



Value Chain Carbon Reduction Plan

Through leadership-driven initiatives, ACC is collaborating with 15 companies (spanning concrete manufacturing industries) to participate in energy-saving and carbon reduction efforts.



Released the first Task Force on Climate-related Financial Disclosures (TCFD) report

Marking a significant step towards low-carbon transformation in the industry.



Completed the construction of a new solar photovoltaic project

Generated or transferred 726,000 kWh of renewable energy.



Invested research into CCUS technology for waste

Aiming to capture and reuse 18,000 tons of carbon emissions by 2030.



Pioneered the production and sales of Portland limestone cements in the domestic cement industry

With sales reaching 58,672 tons in 2023, resulting in an annual reduction of 3,378 tons of carbon emissions.



Actively promoted low-carbon masonry cement

with sales reaching 28,979 tons in 2023, resulting in an annual reduction of 3,699 tons of carbon emissions.



The amount of alternative raw materials recycled and reused reached 408,000 tons

resulting in a further reduction of 17,117 tons of CO₂e compared to 2022.



Pioneered "cement kiln co-processing scrapped turbine blades technology"

which treated a total of 32.84 tons in 2023.



ACC assisted the government in disposing of 15 tons of smuggled refrigerants

reducing carbon emissions by 38,000 tons due to refrigerant leakages.



Continuous Improvement of Environmental Performance

Expand ISO 14001 coverage to 86%, achieved 100% air pollution reduction, and reached waste recycling rate of 98%.



Reforestation of mining areas has reached a total of 71.9 hectares

covering 80.88% of the mined areas, with the world's lowest non-inductive blasting vibration value.



Honor and Recognition



Named as the 2023 Asia-Pacific Climate Leader by the Financial Times of UK and the international research institution Statista, being the only cement company selected from Taiwan



Awarded the "Taiwan Circular Economy Award" by the Chung-Hua Institution For Economic Research for two consecutive years

and received the ESG Contribution Award - Annual Exemplary Award in 2023.



The Hualien Plant has been awarded the Voluntary Energy Conservation and Carbon Reduction Outstanding Manufacturers Selection for the 9th time

making it the plant with highest number of awards nationwide.



Received Global Vision ESG Corporate Sustainability Award -

Model Award in the Environmental Friendliness category



Won 2 GCSA Global Corporate Sustainability Awards



Won 4 Taiwan Corporate Sustainability Awards



Won 3 TSAA Taiwan Sustainability Action Awards



Won the "Green Leadership Category" at the AREA Asia Responsible Enterprise Awards



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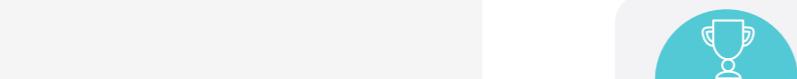
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Honor and Recognition

TANZE "Net Zero Label" certification from TANZE, the Taiwan Alliance for Net Zero Emission

ACC and its subsidiary, Ya Tung Ready-Mixed Concrete, have obtained **Awarded the 2023 PwC's Sustainability Impact Award, and was selected into the "Corporate Sustainability Category"** for the project of "Guardians of Homes and Land on the Road to Sustainable Development".

Awarded the "Asia's Best Companies to Work for" by HR Asia for three consecutive years, with additional awards in 2023 for "Diversity and Inclusion", "Digital Transformation", and "Best Welfare".

Received the "Health Promotion Mark" from the Health Promotion Administration, Ministry of Health and Welfare.



TQS

Awarded the Bronze Medal in the TTQS (Talent Quality-management System) Enterprise Edition.

Hualien Plant received the "Work-Life Balance Award" from the Hualien County Government in recognition of the Company's efforts in creating a friendly workplace that supports employees in balancing work and family life.

Selected in the Top 10% of Companies by the Occupational Safety and Health Administration

Ministry of Labor's "Occupational Safety and Health Indicators Proactive Rating for Corporate Sustainability Report Disclosure".

Won the Gold Award in the "Manufacturing Industry" category in the 2023 Happy Enterprise Awards from 1111 Job Bank.



Corporate Governance

The only one in the cement industry to be selected in the S&P's Global Sustainability Yearbook 2024.



Carbon Disclosure (CDP) Project

received grade A-, water security survey received grade B, and Supply Chain Engagement Rating (SER) received grade A-.



6 to 20% in the 10th Corporate Governance Evaluation.



2023 Taiwan Sustainability Rating: AAA



SinoPac+ Corporate Sustainability Rating: A



Continuously included in the "FTSE4Good TIP Taiwan ESG Index" by FTSE Russell.



Dividend payout rate of 76%, with cash dividend yield of 5%.



Introduce the ISO 37001 anti-bribery management system and obtain third-party verification.



Customer satisfaction reached 97.3%.



Supply chain sustainability management

Supplier sustainability risk assessments all indicate low risk.



Social Inclusion



Happy workplace: ACC achieves 100% gender equality voluntary turnover rate of 3% and, employee satisfaction (engagement) rate of 73.1%.



Promoting the OSH management system with a coverage rate of 100%, and there were no major occupational accidents in 2023.



Social welfare and construction projects for ACC and its subsidiaries A total of NTD102.7 million .



"10+11" items after tribal consultation and approval A total of NTD12.57 million was spent on implementing the benefit-sharing agreements for the "10+11" items after tribal consultation and approval.



2023 Outstanding Award for Agencies and Companies Exceeding Employment Quotas for Indigenous Peoples Asia Cement Corporation received recognition from the Council of Indigenous Peoples.



Providing ecological and environmental education services Attracting 10,285 participants, totaling 16,160 hours of learning time.



Park ecological database Providing live ecological videos and explanations, the ecological education website has accumulated over 2.2 million views.



Continuously assisting in the construction of butterfly habitats or providing technical guidance, at a total of 34 sites across Taipei, Hsinchu, Tainan, Kaohsiung, Hualien, and Taitung, forming butterfly corridors across Taiwan.



Promoting local revitalization, bringing together local shops and performance groups from Alang Bsngan Tribes in Hualien to host the Taroko Mountain Fair in Taipei.



Continuing to assist in providing tutoring for indigenous elementary and junior high school students and collaborating with National Taiwan University on coding education programs.





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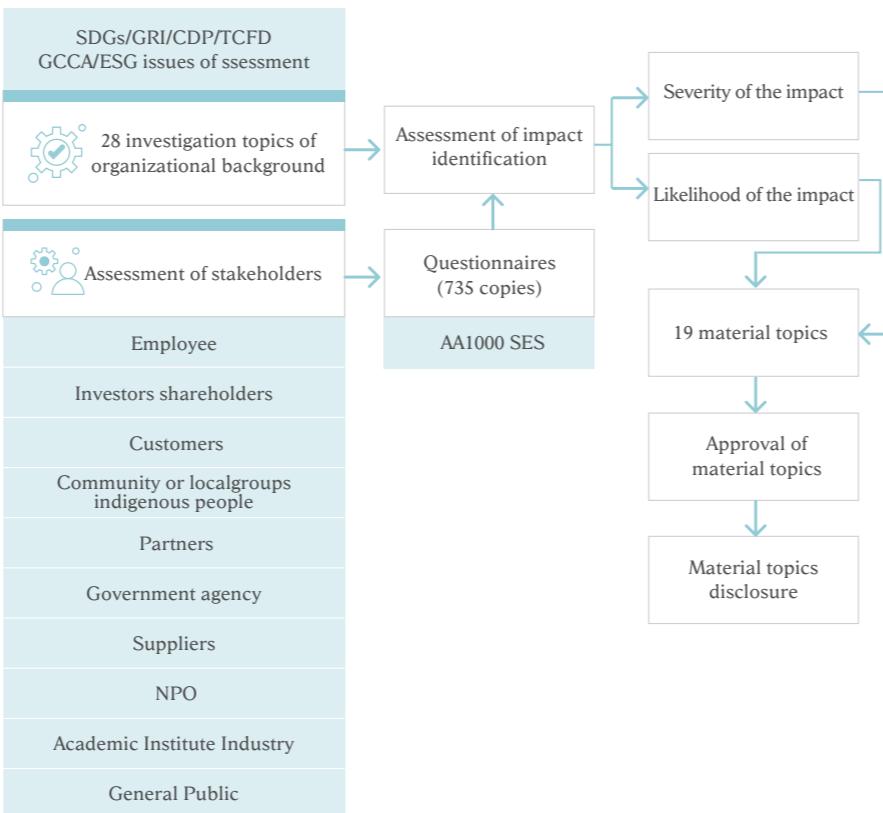


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Material Topics and Stakeholders

Asia Cement manages its material sustainability topics in a cycle of continuous improvement. To ensure that Asia Cement meets global standards and sustains its performance, we employ the Dow Jones Sustainability Index (DJSI) when developing sustainability initiatives. To further take into account the characteristics of the cement industry, we referenced the five pillars of the Global Cement and Concrete Association (GCCA) Sustainability Charter and included newly added issues in stakeholders questionnaires and during sustainability impact assessment.

Flow of Material Topics and Stakeholders



Understand the organization's context

The identification of Asia Cement Sustainable issues includes both internal and external issues. The external issues are SDGs, ISO 26000, GRI Standards, GRI Guidelines on Mining and Metal Sector, SASB Building Material Industry Disclosure Standards, Cement Sustainability Initiative (CSI) Index, Communication Process and Opinions Feedback from Stakeholders, Topics Legally Regulated by Financial Authority, Guidelines on local and foreign ESG Awards, CDP Projects, Dow Jones Sustainability Indices (DJSI) and sustainable issues of Global Cement and Concrete Association (GCCA). The internal issues are The Funding Spirit of Asia Cement, Sustainable Development Policies of Asia Cement, Sustainable Development Strategy of Asia Cement, Key Performance Indexes of Asia Cement (KPIs), Regulations and Systems of Asia Cement.

The Sustainable Development Charter of Global Cement and Concrete Association (GCCA) governs the five pillars and the related guidelines, which are required to be implemented by the participated members and the results shall be reported and independently audited. These sustainable issues are considered to be significant which are identified and evaluated by the Company.

Evaluating And Identifying Stakeholders

Referring to the five-aspects specified in AA 1000 Stakeholder Engagement Standard 2015, Corporate Sustainability Implementation Committee evaluates stakeholders to confirm the materiality of the stakeholders to Asia Cement, including dependency, responsibility, tension, influence and diverse perspectives. The top 5 categories of stakeholders are identified after the weighted evaluation: employees, investors shareholders, customers, Community or local groups indigenous people and partners.

Stakeholders Questionnaires

We conducted a survey and retrieved 735 questionnaires, of which 627 were valid; we calculated the extent of stakeholders' behavior and concern by factoring in the weight assigned to each type of stakeholder. When conducting the questionnaire survey and doing analysis, we directed special attention to the opinions of local indigenous groups and environmental NPOs, by which we created consolidated strategy and communication plan.





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Double Materiality Assessment and Confirmation of Material Topics

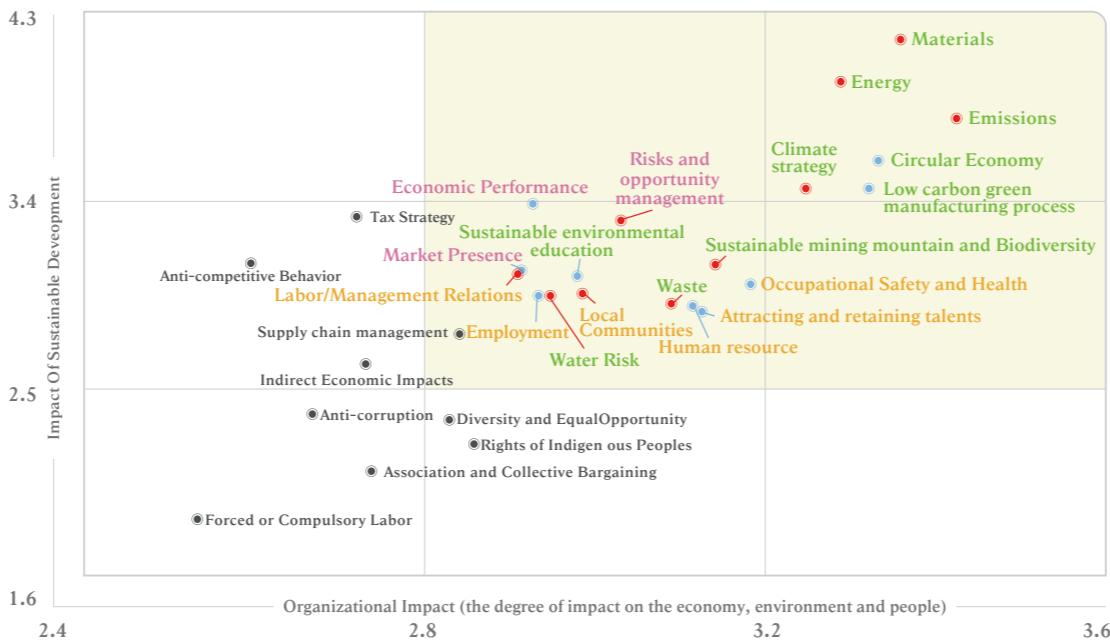
According to the Draft European Sustainability Reporting Standards (ESRS) and the principle of dual materiality, impact assessments are conducted considering both organizational impacts (external aspect; the organization's activities' impact on the world) and sustainability impacts (internal aspect; financial impacts of sustainability topics on the organization). In the assessment of "organizational impacts", each topic is evaluated based on its impact on the economy (revenue), the environment and communities (human rights), and stakeholders. In the assessment of "sustainability impacts", each topic is evaluated based on its direct financial impact on the organization. Material topics are defined as those where both organizational and sustainability impacts are rated 2.9 or higher.

ACC's ESG Material Topics and their rankings are as follows. In 2023, there are a total of 9 positive and 10 negative topics, making a total of 19 material topics.

Compared with the previous year, in 2023, a new material topic "Market Position" was added, and "Reducing Indirect Economic Impacts" and "Indigenous Rights" were removed. In addition, as this report complies with the GRI 2 Universal Standards, corporate governance (Board of Directors) has been listed as a required disclosure item, and this topic has been removed as a material assessment item.

NOTE: The GRI 14 Mining Sector Standard will be released in 2024. Relevant mining information will be disclosed once it is complete.

ACC Material Topics Matrix



Prioritize	Positive material topics	ESG
1	Circular Economy	E
2	Low carbon green manufacturing process	E
3	Economic Performance	G
4	Occupational Safety and Health	S
5	Sustainable environmental education	E
6	Human resource	S
7	Attracting and retaining talents	S
8	Market Presence	G
9	Employment	S

E Environmental S Social G Governance economy

Prioritize	Negative material topics	ESG
1	Materials	E
2	Energy	E
3	Emissions	E
4	Climate strategy	E
5	Risks and opportunity management	G
6	Sustainable mining mountain and Biodiversity	E
7	Waste	E
8	Local Communities	S
9	Labor/Management Relations	S
10	Water Risk	E



Legal Compliance

In 2023, there were two major violation incidents at the ACC subsidiary (fines amounted to NTD1.485 million for environmental regulations and NTD30 million for fair trade). Other violations resulting in fines involved 1 case for ACC and 6 for its subsidiaries. For more information on compliance with environmental protection, fair trade, and labor-related regulations, please refer to the explanation on p.34, p.76, and p.111.

NOTE: 1: A major violation is defined as an incident with a fine of NTD1 million or more.
2: In 2022, a subsidiary was fined for a violation, with a fine of NTD 6,000.



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Confirming And Reviewing The Completeness Of Material Topics

Corporate Sustainability Implementation Committee collected and compiled the assessment process and the results of the relevant significant issues and submitted to the committee chairman for review and approval in order to ensure that all material topics were covered.

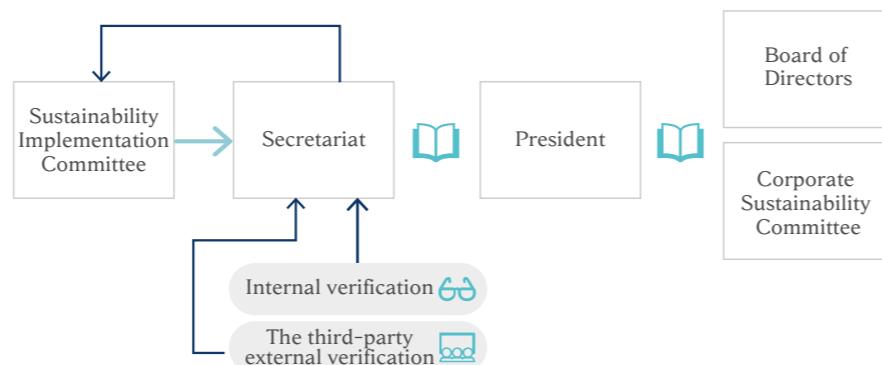
Material Topics confirming and report compiling

Through the compiling of sustainability report, Asia Cement reports to the internal and external stakeholders on the achievement of sustainability in the past year. The information was collected by the Secretariat and then analyzed, integrated and internally audited, it was also assured by an external third-party institute of its reliability. The internal audit was undertaken on April 15, 2024, and the SGS external verification was undertaken on April 29-30 and May 15. For the External Assurance Statement, see the appendices.

Submitted to the board of Directors and the Responses

Corporate Sustainability Committee, supervised by the Board of Directors, is Asia Cement's decision making center for promoting sustainable governance. General Manager acts as the Chairman of Corporate Sustainability Implementation Committee who is responsible for the approval of ESG annual plans and the supervision of ESG implementation results. He reports to Corporate Sustainability Committee and Board of Directors every six months. Through the routine team meetings and reports, all task forces in the Promotion Committee review and report the influences of various issues to the Company and the corresponding methods in order to promote and reach the vision of the Company's sustainable goals. The report will be issued after external assurance and review by the Board of Directors.

→ Submit information → Confirm information → Submit report



Summary of the stakeholders' opinions

	Indigenous person	<ul style="list-style-type: none"> Opportunities should be provided for local indigenous tribe members to be promoted to manager positions. More job opportunities should be given to young people from local indigenous tribes in the future.
	NPO	<ul style="list-style-type: none"> Plans and activities such as creating butterfly habitats and training on Phasmatodea are expected to continue. Private visits should be allowed at appropriate times, provided they do not affect plant operations and safety.
	Investors shareholders	<ul style="list-style-type: none"> Increase local job opportunities to minimizing environmental damage as much as possible. Circular economy.
	Customers	<ul style="list-style-type: none"> ACC complies with corporate standards and is trustworthy. Highly professional and admirable team.
	Partners	<ul style="list-style-type: none"> Hope to pay more attention to the impact of industries on the environment, both in terms of damage and contribution, thank you. The survey design is very objective and comprehensive, and it is worthy of reference.
	Suppliers	<ul style="list-style-type: none"> ACC is a responsible enterprise, and has a continuous commitment and responsibility for the environment, society, and corporate governance. As a downstream supplier, we hope to create a win-win situation in the future.
	Industry	<ul style="list-style-type: none"> We hope ACC can continue its operations and create more job opportunities continuously. Clear announcements on the website of ACC's efforts regarding various issues were recommended.
	Government agency	<ul style="list-style-type: none"> Continue to enhance environmental protection and greening practices around the mining area. Actively listen to concerns and ensure transparency in information disclosure.
	Academic Institute	<ul style="list-style-type: none"> Acknowledging ACC's continuous implementation of ESG-related strategies, suggesting that ACC's planning of GHG emissions may have climate change impacts. As part of the Company's overall business transformation strategy, it is advisable to establish climate risk assessment mechanisms early on, ensuring through organizational assessments to meet the urgent need for a transformation to net-zero by 2050. The Company can further promote sustainability issues and sustainable products to meet the public's needs while taking into account the environment and ecology.
	General public	<ul style="list-style-type: none"> As a corporate leader, ACC aspires to lead SMEs towards achieving a low-carbon and inclusive society. Hope that the Company can become a benchmark enterprise in carbon reduction.
	Employee	<ul style="list-style-type: none"> Has a sound salary adjustment system, which better improves employee morale and loyalty. Maintain people-oriented corporate governance and continue to pay attention to environmental-related issues.





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The engagement mechanism for the status of communicating with stakeholders

Stakeholders	Topics concerned	The meaning of stakeholders to Asia Cement	Status of implementation in 2023 ▼	Frequency and platform of communication	Paragraph of Response
	<ul style="list-style-type: none"> ● Employment ● Occupational Safety and Health ● Circular Economy ● Low carbon green manufacturing process ● Human resource development 	Employees are the irreplaceable assets of the Company. The safe and customer-trusted products can only be produced by healthy employees working in a safe work environment. Retaining good talents and assisting employees to strengthen the competency, building Asia Cement as a happy workplace with high salary in Taiwan.	<ul style="list-style-type: none"> ① Each union held its union meeting. ② 29 hours of annual average training for various types of employees. ③ Provided comprehensive employee welfare and bonus. ④ Reaching the status of not any significant occupational disasters in the whole year. ⑤ Implementing circular economy of alternative raw material and fuel. 	<input type="checkbox"/> Union meetings <input type="checkbox"/> Non-routine interview of new employees and online announcement <input type="checkbox"/> Non-routine update employee work guidelines <input type="checkbox"/> Yearly supervisor interview and performance meeting <input type="checkbox"/> Yearly labor-manager meeting <input type="checkbox"/> Monthly occupational injury online reporting <input type="checkbox"/> Occupational Safety and Health Committee <input type="checkbox"/> Employee plans and non-routine education and training <input type="checkbox"/> E-bulletin board Group "Far Eastern Magazine"	   
	<ul style="list-style-type: none"> ● Occupational Safety and Health ● Human resource development ● Forced or Compulsory Labor ● Employment ● Diversity and Equal Opportunity 	Disclosing the Company's operational performance in a transparent manner, meanwhile, collecting the feedbacks momentarily through the communication with the investors, and maintaining to the greatest extent the consistency of the information accessed by both the investors and the people in the management level.	<ul style="list-style-type: none"> ① The annual shareholders' meeting held on June 27, 2023. ② 4 institutional investors' conferences. Participated 5 ESG engagement meetings. ③ 29 meetings with the participants invited by the Company, a total of 270 participants. ④ To strengthen corporate governance and ESG communication, in 2023, the management responded to questionnaires from domestic and foreign institutions, conducted 5 ESG joint meetings, and participated in ESG-themed forums to understand and address the concerns of stakeholders. 	<input type="checkbox"/> Annual shareholders' meeting and investors meeting <input type="checkbox"/> Company website investor zone Public observatory post system <input type="checkbox"/> Telephone or email communication feedback <input type="checkbox"/> Irregularly publishing information at enterprise sustainability zone at the Company website <input type="checkbox"/> LINE, FB and open web for mining site information	 
	<ul style="list-style-type: none"> ● Anti-corruption ● Materials ● Supply chain management ● Low carbon green manufacturing process ● Occupational Safety and Health 	Customers are the basis of corporate sustainable development. Asia Cement has always been adhering to the corporate spirit of high quality, high environmental protection and high level of service to create high added value and long-term reliable customer relations. In order to fulfill the sustainability for environment, Asia Cement aggressively promotes the manufacturing process and products that are better protecting environment. It continuously communicates with customers and increases customer satisfaction, hence, both the corporate and the environment can exist and prosper together.	<ul style="list-style-type: none"> ① Customer satisfaction 97.3% . ② Aggressively negotiated and interacted with customers to promote environmental-friendly cement (Portland-limestone cement), not only reduced the cost for customers, but also increased customers' recognition to environmental protection. In 2023, a total of 88,000 tons of PLC were sold. ③ Aggressively promoted low carbon produced Masonry cement, Participated "Kaohsiung International Building Materials Exhibition" and "Taipie International Construction Material and Products Show" in 2023, traveled around counties and cities in Taiwan promoting products to customers for a total of 71 sessions. The purpose was to do presentations to construction contractors/companies, and skilled cement workers about the superior features, quality and green purchasing trend of the cement products. In 2023, a total of 27,979 tons of Masonry cement were sold, a growth of 3.5 times comparing to the year before. ④ Realized zero significant occupational disasters for the entire year. Implementing circular economy of alternative raw material and fuel. 	<input type="checkbox"/> Annual customer satisfaction survey <input type="checkbox"/> Quality certification <input type="checkbox"/> Opinions responses on Website and download test report <input type="checkbox"/> Routine and non-routine visiting customers <input type="checkbox"/> Telephone or email communication and feedback <input type="checkbox"/> Routine project meetings <input type="checkbox"/> Opening the mining mountain for visiting <input type="checkbox"/> Irregularly publishing information at enterprise sustainability zone at the Company website <input type="checkbox"/> LINE, FB and open web for mining site information	   
	<ul style="list-style-type: none"> ● Local Communities ● Rights of Indigenous Peoples ● Waste ● Indirect Economic Impacts ● Emission 	Deeply relating to corporate operation, Asia Cement grows together with communities, co-existing and co-prospering.	<ul style="list-style-type: none"> ① The main plant community engagement program includes a total of 599 projects, achieving a 100% coverage rate. ② Fulfilled the agreed benefit sharing of "10+11" items through counseling and paid out a total of NTS12,570,000; a total of NTS102,700,000 paid out by Asia Cement and its subsidiaries for social caring and community development. ③ Mining mountain visits and safety briefings 25 sessions with 535 people. ④ Asia Cement service center served up to thousands cases for residents. ⑤ Continued the operation by adopting ESG sustainable model including low carbon, energy saving, intelligentization, recycling resources, happy workplace, co-existing and co-prosper with local communities. 	<input type="checkbox"/> Visiting local groups <input type="checkbox"/> Asia Cement service center <input type="checkbox"/> Non-routinely holding or attending local activities <input type="checkbox"/> Opening the mining mountain for visiting <input type="checkbox"/> Irregularly publishing information at enterprise sustainability zone at the Company website, LINE, FB and open web for mining site information.	   
	<ul style="list-style-type: none"> ● Sustainable mining mountain and Biodiversity ● Emission ● Sustainable environmental education ● Circular Economy ● Employment 	Asia Cement working with partners on all aspects of ESG and dedicating to the vision of corporate sustainability.	<ul style="list-style-type: none"> ① Realized zero significant occupational disasters for the entire year. ② Implementing circular economy of alternative raw material and fuel. ③ Environmental education reached 10,285 participants through face-to-face communication and interaction. 	<input type="checkbox"/> Irregularly publishing information at enterprise sustainability zone at the Company website, LINE, FB and open web for mining site information.	   





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Stakeholders	Topics concerned	The meaning of stakeholders to Asia Cement	Status of implementation in 2023 ▼	Frequency and platform of communication	Paragraph of Response
Government agency	<ul style="list-style-type: none"> ● Sustainable environmental education ● Emission ● Circular Economy ● Occupational Safety and Health ● Waste 	Supervising and caring the outcome of legal compliance in Asia Cement, becoming the entity formulating and implementing national policy, affecting the operational principles of the industry.	<ul style="list-style-type: none"> ① Announced significant news in Chinese and English by law ② Implementing circular economy of alternative raw material and fuel. ③ Environmental education reached 10,285 participants through face-to-face communication and interaction. ④ Mining mountain visits and safety briefings 25 sessions with 535 people. ⑤ Fulfilled the agreed benefit sharing of "10+11" items through counseling and paid out a total of NT\$12,570,000;a total of NT\$102,700,000 paid out by Asia Cement and its subsidiaries for social caring and community development. ⑥ Regularly report environmental protection and occupational safety and health-related data. ⑦ Communicate the reduction of the excise tax on low-carbon cement, which will be reduced starting in 2024. ⑧ Realized zero significant occupational disasters for the entire year. 	<input type="checkbox"/> Public observatory post system and company website <input type="checkbox"/> Official documents <input type="checkbox"/> Regulation briefing, seminar or discussion meeting Information filing <input type="checkbox"/> Eco-park and interactions on the official website <input type="checkbox"/> Opening the mining mountain for visiting. <input type="checkbox"/> Irregularly publishing information at enterprise sustainability zone at the Company website, LINE, FB and open web for mining site information.	
Suppliers	<ul style="list-style-type: none"> ● Circular Economy ● Occupational Safety and Health ● Low carbon green manufacturing process ● Sustainable mining mountain and Biodiversity ● Waste 	An important partner for forming the sustainable development.	<ul style="list-style-type: none"> ① Supplier social responsibility commitment letter. ② Implementing circular economy of alternative raw material and fuel. ③ Complying with the guidelines of ethics and honesty, anti-corruption. ④ Continued the operation by adopting ESG sustainable model including low carbon, energy saving, intelligentization, recycling resources, happy workplace, co-existing and co-prosper with local communities. ⑤ Realized zero significant occupational disasters for the entire year. 	<input type="checkbox"/> Suppliers assessment <input type="checkbox"/> Supplier on-site audit or visit <input type="checkbox"/> Telephone or email communication and feedback <input type="checkbox"/> Ecome supplier management platform <input type="checkbox"/> Supplier opinions survey <input type="checkbox"/> Irregularly publishing information at enterprise sustainability zone at the Company website, LINE, FB and open web for mining site information	
NPO	<ul style="list-style-type: none"> ● Local Communities ● Sustainable mining mountain and Biodiversity ● Circular Economy ● Occupational Safety and Health ● Sustainable environmental education 	Urge Asia Cement for its sustainable development.	<ul style="list-style-type: none"> ① Fulfilled the agreed benefit sharing of "10+11" items through counseling and paid out a total of NT\$12,570,000;a total of NT\$102,700,000 paid out by Asia Cement and its subsidiaries for social caring and community development. ② Implementing circular economy of alternative raw material and fuel. ③ Continued the operation by adopting ESG sustainable model including low carbon, energy saving, intelligentization, recycling resources, happy workplace, co-existing and co-prosper with local communities. ④ Realized zero significant occupational disasters for the entire year. ⑤ Environmental education reached 10,285 participants through face-to-face communication and interaction. 	<input type="checkbox"/> Opening the mining mountain for visiting. <input type="checkbox"/> Irregularly publishing information at enterprise sustainability zone at the Company website, LINE, FB and open web for mining site information. <input type="checkbox"/> Attending CDP	
Academic Institute /Industry	<ul style="list-style-type: none"> ● Water Risk ● Circular Economy ● Waste ● Supply chain management ● Sustainable mining mountain and Biodiversity 	Through the corporation mechanism between industry and academic sector to continue upgrade industrial technology and seek for innovative research and development.	<ul style="list-style-type: none"> ① Cement industry chain realized industry-academic cooperation. ② Cooperate with academic institutes and cross industry, jointly study and planning the application of newly emerged technology in order to steadily realize low carbon transformation and move toward net zero carbon emission. ③ 10,285people received environmental education, face-to-face communication. ④ Conducted 25 sessions of mining site visit and safety briefings with a total of 535 people. ⑤ Continued the operation by adopting ESG sustainable model including low carbon, energy saving, intelligentization, recycling resources, happy workplace, co-existing and co-prosper with local communities. ⑥ Implementing circular economy of alternative raw material and fuel. 	<input type="checkbox"/> Seminar <input type="checkbox"/> Industry-academic cooperation project <input type="checkbox"/> Routine interchange Scholarships <input type="checkbox"/> Opening the mining mountain for visiting. <input type="checkbox"/> Eco-park and the interaction with its website. <input type="checkbox"/> Irregularly publishing information at enterprise sustainability zone at the Company website, LINE, FB and open web for mining site information.	
General Public	<ul style="list-style-type: none"> ● Waste ● Sustainable mining mountain and Biodiversity ● Circular Economy ● Occupational Safety and Health ● Sustainable environmental education 	Caring about the sustainable development of Asia Cement.	<ul style="list-style-type: none"> ① Continued the operation by adopting ESG sustainable model including low carbon, energy saving, intelligentization, recycling resources, happy workplace, co-existing and co-prosper with local communities. ② Realized zero significant occupational disasters for the entire year. ③ Implementing circular economy of alternative raw material and fuel. ④ 10,285people received environmental education, face-to-face communication. 	<input type="checkbox"/> Company website, LINE, FB and open web for mining site information.	

NOTE List the top 5 material topics based on the degree of concern by stakeholders (the ones with the same weight of concern degree are ranked by the significance of the impact to sustainability).





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1 Environmental Sustainability/Asia Cement's Contributions to SDGs

Value chain and the status of moving toward short-mid-long term goals

Material Topics Value chain	The meaning to Asia Cement	Sustainable strategies and action plans	Goal of 2023	Actual Results in 2023	Short-term			Mid-term		Long-term		SDGs
					Goal of 2025	Goal of 2030	Goal of 2035	Goal of 2025	Goal of 2030	Goal of 2035	Goal of 2025	
Sustainable mining mountain and Biodiversity		Asia Cement Hsinchengsheng mining site endeavors to drive plant greenery restoration and biodiversity for reaching sustainable development.	9 KPIs of the sustainable mining mountain and biodiversity.	Biodiversity indicator targets	8 KPIs and goals of the sustainable mining mountain and biodiversity were 100% reached			9 KPIs and goals of the sustainable mining mountain and biodiversity were 100% reached.				By 2030, ensure the conservation of mountain ecosystems, including their biodiversity
Climate strategy		Comply with the SBTi annual emission pathway for cementitious materials emission intensity (Scope 1 + Scope 2 tons CO ₂ e/ton of cementitious materials).	0.830	► 0.826	0.807	0.646 (1.5°C scenario)	0.477 (1.5°C scenario)	13 CLIMATE ACTION	Integrate climate change measures into national policies, strategies and planning.			
Energy		Reduce energy consumption intensity by 1% annually (base year 2019, 1.05 MWh/ton of cementitious materials).	1.01	► 0.98	0.99	0.93	0.88	By 2030, double the global rate of improvement in energy efficiency.				
Water risk		The percentage of the power generated from waste heat was over 20% of the total power used by Hualien Plant.	Over 20%	► 17%				Exceeding 20%				
		Reduce energy use, carbon emission and pollution discharge; increase water recycle and waste recycle and reuse in order to improve ecological efficiency of the business operations and to form the vision of driving the sustainability of green environment for Asia Cement.	The percentage of water recycled over 85%.	85%	► 84%			Exceeding 85%				
		Reduce water intake per unit of cementitious materials by 1.5% annually (base year 2017) (tons of water intake/ton of cementitious materials).	0.649	► 0.815	0.628 (-12%)	0.574 (-20%)	0.521 (-27%)	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity.				
		Absolute volume of net fresh water consumption reduced by 1%. (Baseline year 2017) KM ³	2,198	► 2,636	2,151 (-8%)	2,035 (-13%)	1,918 (-18%)					
		The target of reducing effluent discharge by 3% per annum was met (with 2017 being the base year) KM ³	190	► 128	176 (-24%)	142 (-39%)	107 (-54%)					

All Site Asia Cement Yuan Long Stainless Steel Nanwa Cement Ya Tung Ready-Mixed Ya Li Precast Prestressed Fu Ming(Da) Transport ChiaHui Power Client Supply Shain Community





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Material Topics Value chain	The meaning to Asia Cement	Sustainable strategies and action plans	Goal of 2023	Actual Results in 2023	Short-term			Mid-term		Long-term	
					Goal of 2025	Goal of 2030	Goal of 2035	Goal of 2030	Goal of 2035	Goal of 2035	
		Reduce particulate emission intensity by 3% annually (base year 2021) (g/ton of cementitious materials).	323	► 279 Target was reached	302	268 (-22%)	251 (-27%)				
		Reduce SOx emission intensity by 2% annually (base year 2021) (g/ton of cementitious materials).	130	► 111 Target was reached	125	118 (-13%)	111 (-18%)				
		Reduce NOx emission intensity by 6% annually (base year 2021) (g/ton of cementitious materials).	1,166	► 1,063 Target was reached	1,007	808 (-39%)	742 (-44%)				
		Reduce energy use, carbon emission and pollution discharge; increase water recycle and waste recycle and reuse in order to improve ecological efficiency of the business operations and to form the vision of driving the sustainability of green environment for Asia Cement.	0.043	► 0.032 Target was reached	0.042	0.040	0.038				
		Reduce mercury emissions by 1% annually (base year 2021) (tons).									
		Recycle and reuse over 90% of wastes.	90%	► 98% Target was reached				Exceeding 90%			
		Absolute reduction in off-site waste disposal of general waste by 2.5% per annum (with 2021 being the base year) (tons).	59.65	► 45.9 Target was reached	56.51	48.66	40.82				
		No generation of hazardous waste. (tons)	0	► 0 Target was reached				0			
		Increase the proportion of alternative raw materials (kilograms/ton of cementitious materials).	112	► 109 Target was non reached	159	173	185				
		Percentage of biomass alternative fuel for heating.	3.3%	► 2.6% Target was non reached	5.1%	8.1%	11.1%				
		Percentage of non-biomass alternative fuel for heating.	3.8%	► 1.8% Target was non reached	6.7%	14.2%	23.8%				
		Reduction in clinker-to-cement ratio (sustainable innovative product).	90.7%	► 92.02% Target was non reached	86.2%	79.4%	58.1%				

NOTE ALL All Site A Asia Cement S Yuan Long Stainless Steel N Nanhwa Cement Y Ya Tung Ready-Mixed P Ya Li Precast Prestressed F Fu Ming(Da) Transport J ChiaHui Power C Client SC Supply Shain CM Community



By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.



Before 2030, realizing the sustainable management and the efficient use of natural resources.





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Management of Material Topics

Material Topics

In all mining and manufacturing process Asia Cement firmly maintains a sustainable driving force of "the born DNA of Asia Cement is environmental protection". It continuously advances and adjusts itself in the operation and sustainable development to show the determination and effectiveness of realizing corporate social responsibility and passing down to all subsidiaries.

Low carbon green manufacturing process, Climate strategy, Energy, Materials, Water Risk, Emission, Waste, Circular Economy



Environmental Policy



Energy Policy



Water Risk Policy

Impacts

The business operations of Asia Cement and its subsidiaries mainly include production of products and transport business. They may cause actual or potential negative impacts to environment and stakeholders during the operation. For the purpose of avoiding conflicts between economic development and environmental protection, based on the items, the Company regulatory and ir-regularly reviews the status of implementation on the significant issues concerned by stakeholders, and endeavors to protect environment and continues to evaluate the feasibility of improving and advancing, in order to minimize the potential impact caused by operations.

Asia Cement's circular economy had formed a complete circular economy system through "artery industry" and "vein industry". It converted the original way of processing wastes which was "from cradle to grave" to the way of endlessly recycling resources which was "from grave to cradle". Asia Cement continues to invest into low carbon green manufacturing process and cement 4.0, and by way of recycling and reusing wastes and resourcezation of products, it is capable of gaining the sustainable benefit of Environment (E), Society (S) and Governance economy (G) including reducing the consumption of natural resources, lowering the emission of GHG and creating job opportunities.

Commitment

- Promoting Asia Cement Hualien Plant as the role model of smart manufacturing base.
- Asia Cement committed itself to implement CDP (Carbon Disclosure Project) and SBT (Science Based Targets) carbon reduction, fulfilled TCFD, established internal carbon pricing management mechanism and promoted 2050 net-zero carbon emission of cement. Concrete and Implementing water safety management. The Company continues to drive circular economy to assist government and industry to resolve the difficulties of waste treatment.



Taking Actions

Asia Cement and its subsidiaries are continuous carrying out the relevant management systems to manage the topics of all aspects. We take the practical actions and initiatives to prevent and mitigate the negative impacts. In the event that actual negative impact is occurred, it will be immediately and aggressively corrected, and taking the actions of correcting operation procedure, improving equipment or enhancing employee training to prevent from happening in the future.

Resource efficiency is the core of Asia Cement's operational strategy. We took the responsibility to effectively drive sustainable and renewable raw material and fuel for reuse, continues to drive circular economy and converted them into effective resources in the process of cement production which created new value for cement industry.

Practical actions and initiatives

- ① Carry out Science Based Targets (SBTi) for carbon reduction.
- ② Carry out the program of cement 4.0 in three phases.
- ③ Continue to carry out GHG voluntary reduction.
- ④ Continue to develop sustainable and innovative products to gain dual benefits for economy and environment.
- ⑤ Strive for circular economy to reduce the consumption of resources and the emission of GHG, and to create new value for cement industry



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Management Systems

- ① ISO 14001 Environmental Management System conducts annual internal and external audits to systematically control environmental impacts. ISO 14001 Environmental Management System is implemented at each operational site, gradually expanding system coverage.
- ② Continue to carry out ISO 14064 GHG verification and ISO 14067 product carbon footprint standard, inspect hotspots to reduce carbon emission.
- ③ We are steadfast in our efforts to put the ISO 14046, standards for product water footprint, into practice; we also evaluate water risk and improve water reclamation rate to decrease water resource consumption. We have introduced ISO 46001 Water Efficiency Management System, and expect to pass the certification by the end of 2024.
- ④ Continue to carry out ISO 50001 energy management system to improve energy performance.
- ⑤ Continue to carry out ISO 9001 quality management system to satisfy customer needs.
- ⑥ Laboratory continues to obtain TAF certificate (ISO 17025) to ensure product quality and to advance research and development.
- ⑦ Installing monitoring and test equipment and the method of estimate to inspect the emission concentration and volume in the plant, to control the emission status in real-time fashion in order to correct the abnormal situation.
- ⑧ Monitor the heat consumption of each production system to control fuel usage.
- ⑨ The concentration or volume of all emissions at the borderline of the operation shall comply with the legal standards.
- ⑩ Checking the compliance to environmental protection laws and regulations through routine and non-routine site inspection, implementing improvement measures in case of non-compliance.



Asia Cement traces the effectiveness of taking actions by way of data analysis and monitoring, management system, performing internal and external auditing, feedback of the stakeholders. It also regularly reviews the status of reaching the targets.

Method of evaluation

- ① Through BS 8001:2017 to verify the highest maturity level of circular economy operational mode.
- ② Data analysis and application: Building various data models, improving the efficiency of data analysis and the reuse, strengthening the quality of decision making.
- ③ Conducting a routine review meeting to check the implementation status and to report the progress of working towards the goal.
- ④ Preparing management plans and establishing important performance indicators for the management.
- ⑤ Routinely conducting management level review meeting to make the adjustment.
- ⑥ Routinely reviewing and improving nonqualified items and implementing improvement measures.
- ⑦ Continue to trace the status of implementation and the reach of targets through Corporate Sustainability Implementation Committee and its implementation teams.

Engagement of Stakeholders

Regularly or irregularly carry out communications and interactions in accordance with stakeholders engagement mechanism and disclose the information in the Sustainability Report, relevant platforms or website.





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1.1 Low Carbon Green Leadership

Promoting Low-Carbon Transformation of the Cement Industry

Environmental consciousness runs through the DNA of ACC employees, consistently promoting energy conservation, carbon reduction, and low-carbon processes from the beginning to the end. In order to effectively save energy and reduce emissions, ACC actively promotes a circular economy, controls energy and resource consumption, adopts the latest energy-saving equipment and technologies, and has achieved fruitful results in carbon reduction over the years.

Since 2016 till present time, General Plant Manager of Asia Cement, T.P. Chang , acts as the convener of cement industry low carbon manufacturing process in response to GHG reduction method to assist Taiwan cement industry promoting and improving low carbon manufacturing process. Starting in 2021, Asia Cement Corporation, in collaboration with the Industrial Development Administration (formerly the Industrial Development Bureau) of the Ministry of Economic Affairs, the Taiwan Cement Manufacturers' Association, and key domestic cement companies, formed the "Cement Industry Net-Zero Emission Task Force." Asia Cement's President, Kun-Yen Lee, served as a member of the Ministry of Economic Affairs' "Industry and Energy Efficiency Work Circle," working together with the government to develop strategies and pathways for the cement industry's net-zero emissions, in response to the global trend of net-zero carbon emissions.

Since 2011, ACC has been at the forefront of promoting the sales of low-carbon products such as masonry cement. In response to the net-zero trend, in 2022, ACC developed and sold low-carbon cement product "Portland limestone cement", setting a leading example in promoting low-carbon transformation in the cement industry. Since 2019, ACC has been actively promoting the implementation of circular economy in cement rotary kilns, taking advantage of the characteristics of cement manufacturing processes to replace raw materials and fuels. Through collaboration with the government and other industries, it aims to reduce external environmental costs, and implement energy conservation, carbon reduction, and waste resource reuse practices . In 2021, the Company expanded the implementation of material and fuel substitution, and in 2023, it was awarded the "Outstanding Voluntary Reduction Vendor" by the Industrial Development Administration for the 9th time, and it has cumulatively reduced over 350,000 tons of carbon emissions, equivalent to the carbon absorbed by 889 Da'an Forest Parks in one year.



which was granted by Industrial Development Administration for nine years the award of
"Excellent company of voluntarily reducing GHG emission"

NOTE The year that Asia Cement Hualien Plant received the award (The rating of reduction performance was based on the results of the previous year)

Year	Achievement	Description
2016 till present	The only one in the cement industry	Executed cement plant smart manufacturing cement 4.0.
2016	The only one in the cement industry	Developed low carbon Masonry cement and reduced 366 tons of CO ₂ e emission annually.
2019		Promoting the implementation of circular economy in cement rotary kilns, and expanding the utilization rate of alternative raw materials and fuels year by year.
2020	The first cement company worldwide received 3 certificates at the same time.	Portland cement produced in 2019 passed the certifications of ISO 14067:2018 product carbon footprint standard, ISO 14046:2014 product water footprint standard, circular economy commercial model BS 8001 : 2017 the "optimizing class" for the maturity.
2021		Committed to "2050 Climate Ambition" together with all member companies of Global Cement and Concrete Association (GCCA) " to reach the goal of cement and concrete net zero emission by 2050.
2022	The first and the only one in the cement industry	Passed the SBTi target setting, and achieved the target for the cementing materials emission intensity for four consecutive years from 2020 to 2023.
2023	The first and the only one in the cement industry	Completed shore power supplied to all cement ships and lowered oil consumption by ships, reduced 5,329 Tons of CO ₂ e emission.
	Number one in the cement industry	Successfully developed and sold Portland limestone cement, a low-carbon cement product, and promoted the sales of low-carbon masonry cement.
	Number one in the cement industry	Continuously participating in the TANZE and joining the Net Zero X 2030/2050 initiative. The Company's and subsidiary Ya Tung's Ready-mixed Concrete has been awarded the "Net Zero Label - Green Class" certification.
	Number one in the cement industry	Since 2015, we have continued to respond to the CDP questionnaire. We obtained A- (leadership level) in the climate change questionnaire in 2022 and 2023, B (leadership level) in the water safety questionnaire, and A- (leadership level) in the Supplier Engagement Rating (SER).
		Industrial Development Administration organized a "carbon neutrality policy and increasing the power of the industrial chain" demonstration and visit to ACC's Hualien Plant as a model for carbon neutrality pathways.
		Released the first TCFD report, marking a significant step towards low-carbon transformation in the industry.
	The first and the only one in the cement industry	Recognized as the 2023 Asia-Pacific Climate Leaders by the Financial Times and international research firm Statista, and was commended as the only cement industry representative from Taiwan for significant carbon emissions reduction from 2016 to 2021.
	Number one in the cement industry	Won the ESG Contribution Award - Annual Exemplary Award of the 4th Taiwan Circular Economy Awards by the Center of Green Economy of the Chung-Hua Institution for Economic Research. This is the second consecutive year of winning this award.
		Joined the GCCA international project GNR (Getting the Numbers Right) to provide professional data support and continuously follow up on the emission reduction progress of the global cement and concrete industry.
		Completed the construction of new solar photovoltaic systems of Hsinchu and Hualien Plants, with an installed capacity of 3.7MW. Additionally, renewable energy accounts for up to 20% of the energy consumption in office areas. These energy-saving measures have achieved another significant milestone.



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1.1.1 Net Zero Practice and Strategy Blueprint

Promoting Net Zero Emissions From Cement and Concrete

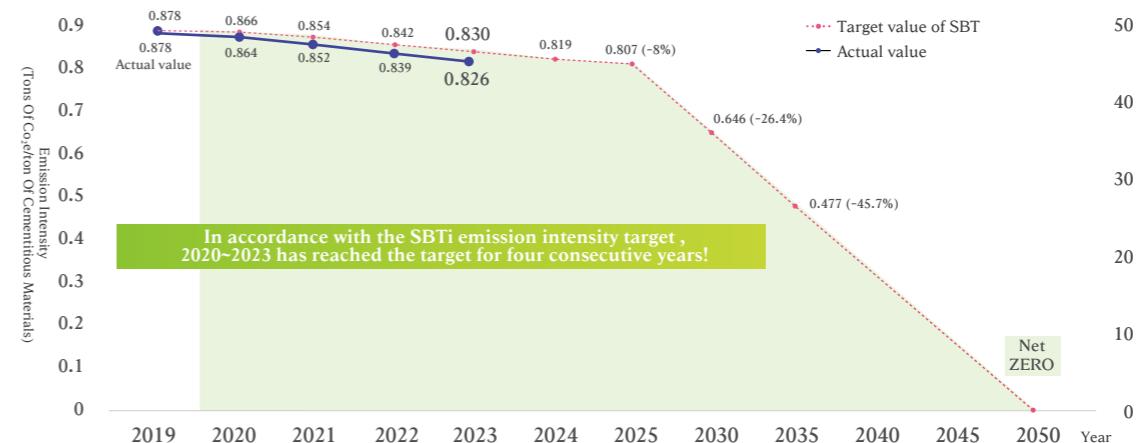
According to the World Economic Forum's "The Global Risks Report 2024," "extreme weather events" are ranked as the primary global risk in the next decade. The top four risks are all related to environmental risks, including extreme weather events, Critical changes to Earth's systems, biodiversity loss and ecosystem collapse, and natural resource shortages, etc. It is obvious that responding to climate risks and improving business operations have become the core issues of modern enterprises.

As a global leading manufacturer of cement and concrete, ACC is also a member of the Global Cement and Concrete Association (GCCA), a global initiative organization. In 2020, ACC, along with all member companies, committed to the "2050 Climate Vision", transitioning from net zero practices to achieving complete net zero. Commit to reducing the carbon footprint of operations and production processes, and achieving net zero emissions from cement and concrete by 2050 in line with the global climate goals of the "Paris Agreement".

ACC's SBTi Science-Based Targets Initiatives

Since 2021, ACC has set science-based targets of carbon reduction with 2019 as the base year, and committed to reducing cementing materials emission intensity in Scope 1+2, including Taiwan Cement Corporation, by 8% by 2025. This achievement makes ACC the fourth cement company globally to complete carbon reduction target setting and actively respond to keeping the global temperature rise well-below 2°C. Furthermore, with reference to the SBTi net zero standard tool and the goal of 1.5°C global warming scenario, the emission intensity reduction by 26.4% in 2030 and 45.7% by 2035 was set to achieve net zero emissions by 2050.

Asia Cement SBT carbon reduction path (scopes 1+2 emission intensity) (Tons of CO₂e/ton of cementitious)

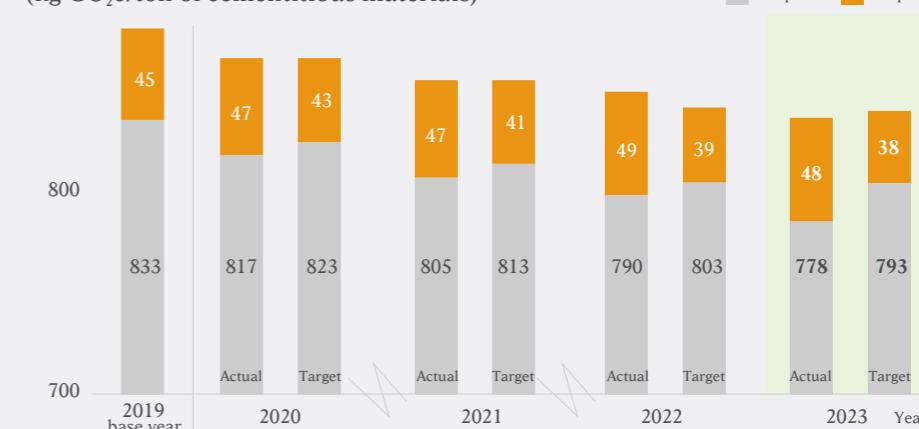


SBT Carbon Reduction Targets Achieved

In 2023, Taiwan Cement Corporation's actual Scopes 1+2 emission intensity was 0.826, which achieved the SBTi target value of being below 0.830. The scope 1 emission intensity was 0.778, and the scope 2 emission intensity was 0.048. Compared to the base year, the carbon reduction amounted to 410,000 tons CO₂e.

Asia Cement actively promotes low-carbon cement products (e.g.,Portland cement and Portland-limestone cement with lower clinker-water ratio). To relieve customers from the trouble of having to adjust the ratio when using products, we have produced cement with a specific surface area larger than before, resulting in an increase in electricity consumption for cement grinding, thus a slight increase in scope 2 emission intensity. However, overall, the emission intensity of Scope 1 + 2 continues to decrease year by year.

Asia Cement's emission intensity by scope (kg CO₂e/ton of cementitious materials)





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Net Zero Strategy and Target Roadmap

Cement production requires the consumption of limestone, thermal energy, and electricity. The GHG emissions from cement and concrete manufacturing account for about 7% of the global total. ACC, referring the documents of the Global Cement and Concrete Association (GCCA) and the Science-Based Targets initiative (SBTi), has set its net-zero strategy and target roadmap based on its ambitious carbon reduction targets.

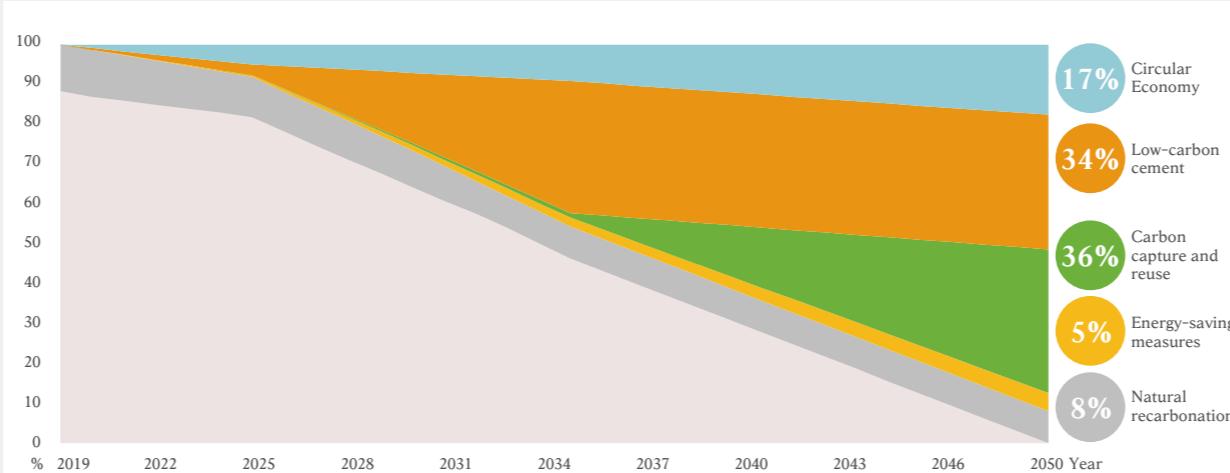


Fig. ACC's Net Zero Roadmap

Introduced Circular Economy

1.

The circular economy has made a considerable contribution to the reduction of direct clinker emissions. The following two usage modes can respectively reduce process and fuel emissions during clinker production

(1) Use of alternative raw materials

By incorporating non-carbonate calcium-containing industrial waste, such as BOF slags and reducing slags, to replace natural limestone, the carbon dioxide emissions generated from carbonate decomposition during clinker calcination process are reduced.

(2) Use of alternative fuels

Using biomass or low-carbon emission coefficient fuels, such as pulp and paper sludge, wood chips, oil sludge, solid recycled fuels, waste plastic chips, etc., to replace traditional fossil fuels, reduces fuel emissions during the high-temperature clinker production process.

Improve Production Energy Consumption

3.

Improving the thermal and electrical efficiency of the process is a direct and effective approach. By improving the manufacturing process and equipment to reduce clinker heat consumption per unit, we could decrease fuel usage and emissions. Optimizing equipment electricity efficiency and using renewable energy could also reduce indirect emissions.

Carbon Capture and Utilization

4.

After expanding and perfecting the implementation of all the best available carbon reduction technologies, the capture and utilization of the remaining carbon dioxide is the final step of the cement industry's road to net zero emissions. ACC is actively developing the "Industrial by-products or waste recarbonation technologies". By combining industrial by-products or waste with carbon dioxide, the resulting material can be used as carbon-negative aggregates for ready-mixed concrete plants. This approach addresses carbon emissions, waste treatment, and resource shortage issues, linking the cement industry, concrete industry, and construction industry to reduce carbon emissions together.

Production of Low-carbon Cement

2.

The production of "clinker" is the step with the highest carbon emissions in cement production processes. The proportion of clinker in cement will significantly affect the emissions from cement. At present, the widely used Portland cement in Taiwan has a clinker content of about 93%. If low-carbon cements with lower clinker content, such as "Portland limestone cement", "masonry cement", and "ternary blended cement", can be produced with similar or better performance compared to Portland cement, it will effectively reduce the emissions per unit of cement.

Natural Recarbonation

5.

Finally, the naturally occurring recarbonation reaction also continued its carbon reduction contribution. According to the data of IVL Swedish Environmental Research Institute, under normal circumstances, the carbon reduction amount of concrete recarbonation can reach 23% of the annual carbon reduction of cement production process. This is equivalent to 8% of total cement emissions.



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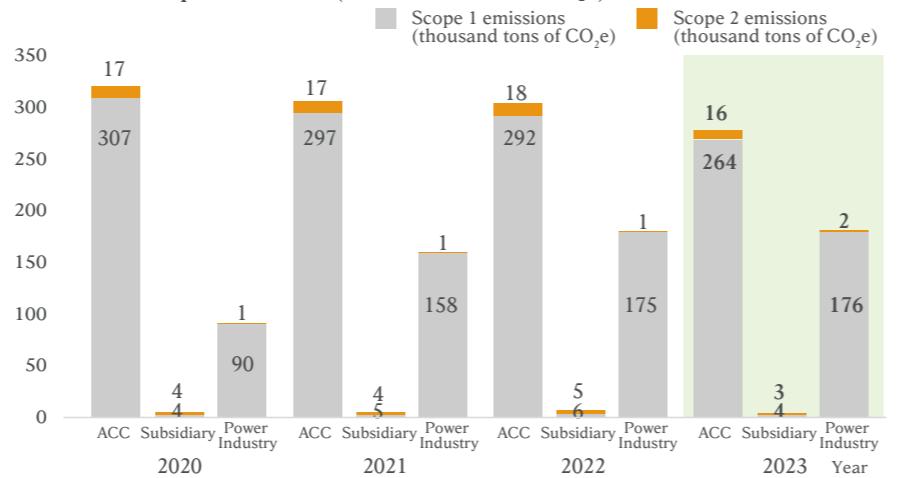
GHG Inventory

ACC conducts annual GHG inventory verification and registration in accordance with the relevant inventory guidelines and regulations announced by the Ministry of Environment. In 2023, the GHG emissions of the cement business were 2,639,026 tons CO₂e for Scope 1 and 164,387 tons CO₂e for Scope 2 (market-based).

In accordance with the FSC's sustainability roadmap audit requirements for TWSE/TPEs listed companies, starting in 2022, the cement business added the GHG inventory for 7 operating sites and storage/transportation stations. In 2023, the emissions amounted to 2,913 tons of CO₂e (accounting for 0.10% of ACC's total emissions), with parent-only financial report emissions totaling 2,806,326 tons of CO₂e. The GHG emissions of the 5 subsidiaries were 36,981 tons CO₂e for Scope 1 and 29,973 tons CO₂e for Scope 2.

The emission of the electricity business (ChiaHui Power) was 1,757,668 tons CO₂e for Scope 1 and 18,218 tons CO₂e for Scope 2. As ChiaHui Power is an Independent Power Producer (IPP), all generated electricity is provided to Taipower's power grid for distribution. ChiaHui Power operates as a power supplier, and the carbon emissions caused by electricity consumption are borne by the consumers, not by the power supplier.

GHG emission performance (thousand tons of CO₂e)

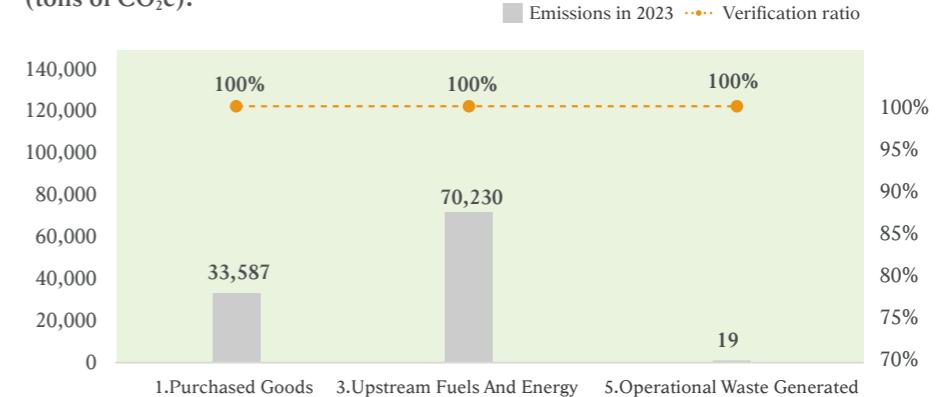


- NOTE**
1. Asia Cement Hualien Plant (annually) verified by third party/Asia Cement Hsinchu Plant has not operated cement kilns since 2019 and is exempt from Ministry of Environment verification from 2022, voluntary verification from 2022/Headquarters voluntary verification from 2021; Subsidiary ChiaHui Power (annually), Yuan Long Stainless Steel (from 2021), and Ya Tung Ready-Mixed (from 2020) verified by third party, the other 3 subsidiaries self-inspected (power, fuel greenhouse gas emissions). Data for 2023 is expected to be verified by the end of May for Asia Cement and between June and August for subsidiaries.
 2. The Hualien Plant applied for SBTi with a base year of 2019. ChiaHui Power aligned with the operation of Phase 2 units for power generation from 2022 as the base year. Other locations use the year of their first verification as the base year. ChiaHui Power's Scope 1 emissions increased compared to previous years starting from July 2021 due to the operation of additional Phase 2 units for power generation.
 3. Subsidiaries: Values adjusted to third-party verification in 2022. Main coefficients sourced from greenhouse gas emission coefficients announced by the Ministry of Environment and the 2023 electricity emission coefficients announced by the Energy Administration Ministry of Economic Affairs (11th year).
 4. Asia Cement and its subsidiaries: The electricity coefficients are updated based on the self-inspection years (0.502 in 2020, 0.509 in 2021, 0.495 in 2022, and 0.494 kg CO₂e/kWh in 2023).
 5. This diagram includes emissions boundaries for Asia Cement's headquarters, Hualien Plant, and Hsinchu Plant. Plant Scope 2 was market-based (2023 location-based was 164,444 tons CO₂e). This diagram includes emissions boundaries for Asia Cement's headquarters, Hualien Plant, and Hsinchu Plant.
 6. Emissions quantification follows the guidelines of ISO 14064-1:2018 for organizational-level greenhouse gas emissions and removals reporting. Asia Cement and its subsidiaries Yuan Long Stainless Steel use GWP references from IPCC Sixth Assessment Report, while ChiaHui Power and Ya Tung Ready-Mixed use references from IPCC Fifth Assessment Report.

Significant Scope 3 Emission Criteria

Our company references ISO 14064-1:2018 to establish a procedure for identifying significant indirect greenhouse gas emissions. After evaluating factors such as anticipated use, emission proportion, impact, and data quality, we have identified significant indirect emissions as purchased goods, upstream fuels and energy, and operational waste generated during operations. In 2023, emissions for each category under Scope 3 are as follows, with a verification coverage rate of 100%.

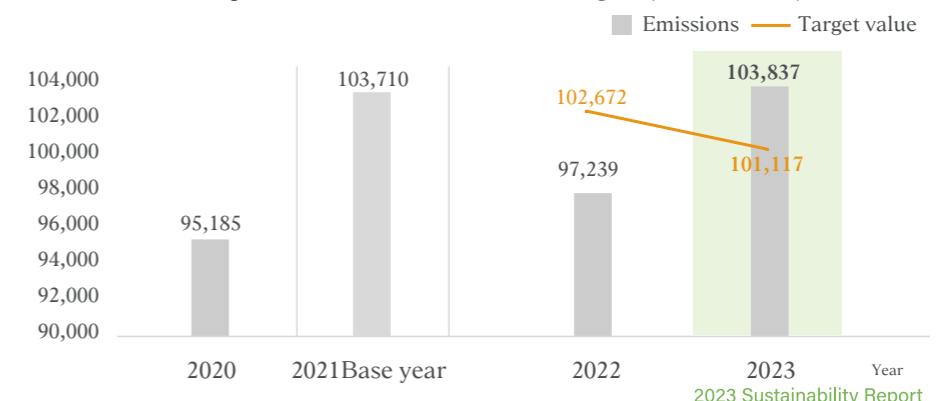
Asia Cement's 2023 emissions and verification volumes for each Scope 3 category (tons of CO₂e).



Scope 3 Emission and Reduction

When setting its SBTs in 2020, Asia Cement already completely inventoried its scope 3 emissions. However, since such scope 3 emissions did not reach 40% of Asia Cement's total emissions, we did not set SBTs for such emissions. Nonetheless, to promote carbon reduction throughout the value chain, Asia Cement has voluntarily set the goal of carbon reduction by 5% for the period from 2021 (the base year) to 2025 (approximately 1.25% every year). In 2023, due to inventory management and adjustments in procurement strategies, there was an increase in upstream emissions from purchased goods, fuels, and energy, which did not meet our self-set reduction targets.

Asia Cement's Scope 3 emissions and reduction targets (tons of CO₂e)



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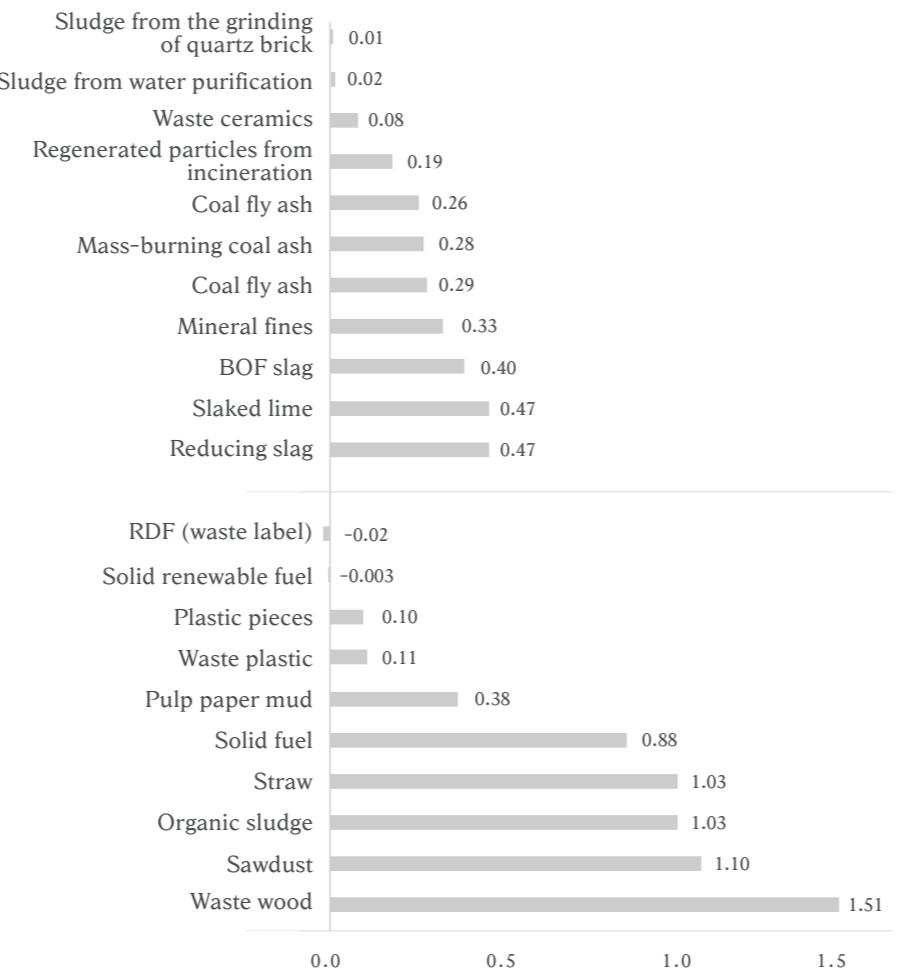


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Practical carbon reduction through circular economy

Asia Cement is primarily promoting reduction through circular economy measures. Form the practical experiences of operation, domestic calcium oxide alternative material, a non-carbonate type, is mostly from steel mills, although some items have high content of calcium oxide, but the content of iron oxide is higher as well. In order to maintain normal cement chemical composition, Asia Cement carefully analyzed material composition and allocated the ratio of various alternative material, continued to provide high quality products to customers and meanwhile maintaining the practices of carbon reduction.

Benefit of emission reduction from circular economy (Tons CO₂e/Ton of alternative fuel)



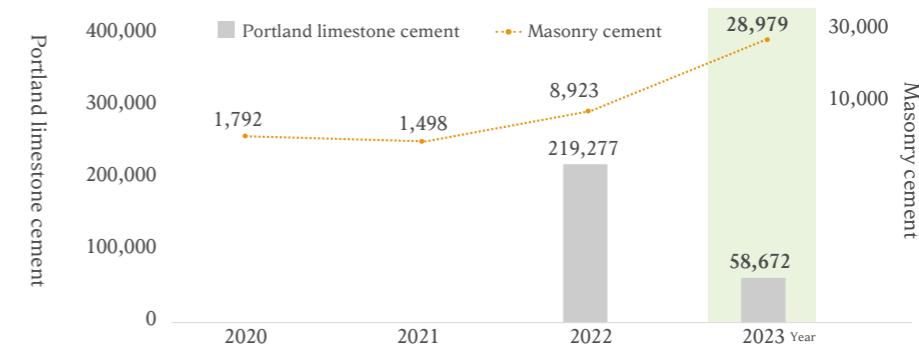
NOTE Actual substitution benefits updated for the year 2023

R&D and Promotion of Low-Carbon Cement Products

Cement is an indispensable material in modern construction due to its various compositions and strengths, leading to a wide range of types serving different purposes. Portland cement is the most widely used in the industry. In response to the global net zero carbon trend, producing low-carbon cement is identified as a feasible and beneficial carbon reduction strategy within Taiwan's cement industry's net zero pathway. Asia Cement has taken the lead by introducing low-carbon products: "Portland limestone cement" for bulk cement used in concrete and "masonry cement" for bagged cement used in mortar, marking the beginning of a new era for low-carbon products in Taiwan's cement industry. Asia Cement also continues to develop other low carbon products such as ternary blended cement, the application of it is similar to that of Portland-limestone cement with better strength, lower permeability, stronger anti-corruption and better results on carbon reduction.

Cement excise tax in Taiwan has been imposed since 1946, ranging from NTD 160 to NTD 440 per ton (actual tax amount after halving). Low-carbon products such as "Portland limestone cement" and "masonry cement" are taxed at NTD 440 per ton, which is NTD 280 more per ton compared to Portland type I cement, making it less favorable for market promotion. Through long-term communication and suggestions from ACC and the industry, the competent authorities, in line with Taiwan's 2050 net-zero emissions policy, continue to promote carbon reduction. Starting January 1, 2024, the excise tax for hydraulic mixed cement and masonry cement meeting carbon reduction standards will be reduced from NTD 440 per ton to either NTD 260 or NTD 220 per ton, depending on the additive ratio (a reduction of approximately 40% to 50%). This adjustment aims to create a market environment favorable to low-carbon cement in the future.

Production volume of low-carbon cement (tons)



NOTE Portland limestone cement was exported throughout 2022 and will be promoted for domestic construction industry use starting from 2023.

Asia Cement created a "Skyscraper brand Masonry cement" official website to promote and describe the advantages, range of applications and features of the products. It is expected to provide more diversified low carbon sustainable products to customers in the future and to generate higher benefit by driving cement industry moving to the production of low carbon products.





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LOW-CARBON CEMENT SPECIAL REPORT



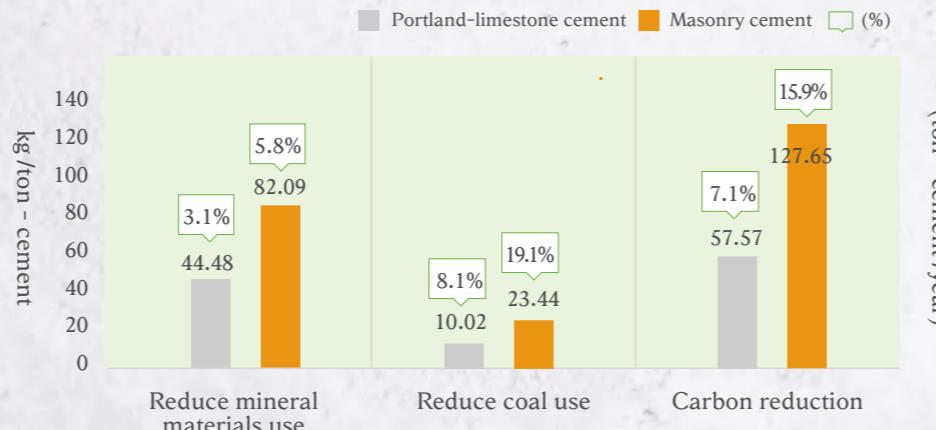
Portland-limestone cement (PLC)

May replace the use of Portland Type I cement structure.

Through the comprehensive experiment and planning, from front end presentation of "cement quality" to the back end demonstration of "concrete characteristics", Asia Cement spent two years time to complete the entire test and evaluation and actively communicate with customers to allow them understand the advantage of providing low carbon cement that was produced by the method more friendly to environment and the same quality as Portland cement. In the domestic application, Asia Cement initiated the amendment of CNS 15286 blended hydraulic cement national standard and increased the types of Portland limestone cement and ternary blended cement to link with international domain. The standard was officially announced in August of 2022. The amendment of regulations of cement products inspection was passed in January of 2023.



Starting from 2023, Asia Cement, in collaboration with its subsidiary Ya Tung Ready-mixed Concrete, will promote the use of low-carbon products in the domestic construction industry. To promote low carbon products and the amendment of use constraints in the Public Construction Outlines and Specifications regarding the use of low carbon blended cement to create an industrial environment that is in favor of the promotion of low carbon cement, hence, Portland-limestone cement can not only be used by foreign customers, but also used in Taiwan, to accelerate the cement industry in Taiwan to move toward the goal of net-zero emission by 2050.



NOTE

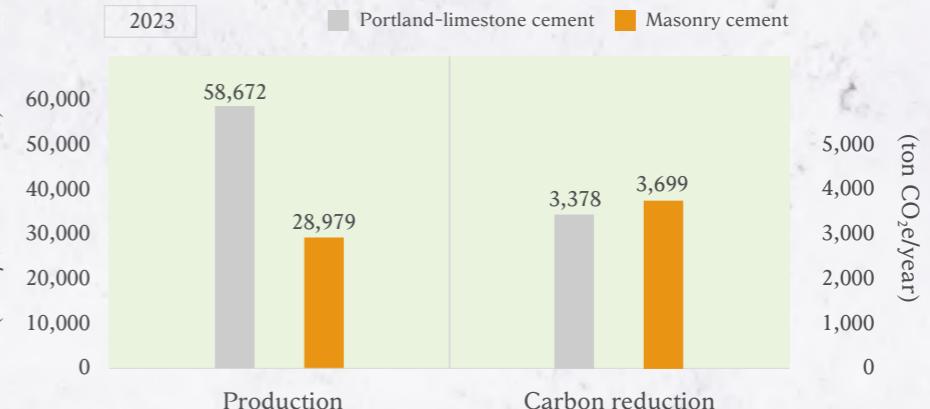
- The reduction performance is measured in relation to the production of Portland Type I cement in 2023. By substituting alternative raw materials and fuels under the circular economy model, Asia Cement decreases the use of minerals and coals for production of Portland Type I cement year on year. Therefore, the difference between the carbon reduction amount of low-carbon cement and that of Portland Type I cement narrows down year on year.
- The actual performance of the reduction in carbon emissions varies in each year, depending on the energy composition of the year and the ratio of the blending of raw materials required by the customer.

Masonry cement

The cement is suitable for cement primer and finish on wall, brick laying, pebble treatment, pebble dashing, etc.



Asia Cement led the industry since 2011 to promote the sales of low carbon Masonry cement. The cement is suitable for cement primer and finish on wall, brick laying, pebble treatment, pebble dashing, etc. plus superior constructability and anti-crack feature. Since it was difficult to ask cement workers to change their habit, it was not easy to promote the product. In order to have the good quality low carbon product accepted by them, Asia Cement circled around many counties and cities in Taiwan in 2023 to hold a total of 71 sessions of presentation to introduce the quality of Masonry cement and green purchase trend to construction contractors and companies, and to interact with cement workers at each session describing the superior features of using it in the construction work. The actual practices at each session were arranged to allow customers experiencing the low carbon cement that offers good features, good quality and not easy to crack. In addition, in order to break people's stereotype of impression that cement walls may often crack and expand, plus transmit the sustainable concept of low carbon products, Asia Cement participated "2023 Kaohsiung International Building Materials Expo" and "Taipei International Construction Material and Products Show" to promote Masonry cement in the hope of contributing to net-zero emission through its high quality and the feature of carbon reduction for environmental protection. In 2023, a total of 27,979 tons of low carbon Masonry cement was sold by Asia Cement under its aggressive promotion, a growth of 3.5 times more than that of last year.





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Energy Saving and Carbon Reduction Performance

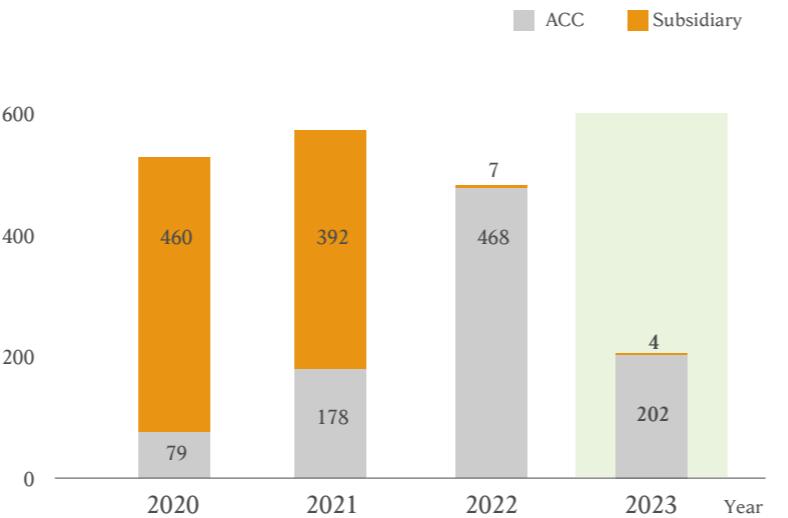
In 2023, Asia Cement the subsidiaries strived for implementing energy saving project and reached excellent outcome. A total of 20 action plans were implemented and saved 206 TJ of heat value, among which the electricity was saved approximately 8,830,000 kWh enough for the consumption of 2,090 households. A total of NT\$150 million is saved each year from action plans, the amount of investment was NT\$600 millions and the average period of return on investment is 4.0 years.

The GHG reduction from the energy saving project summed up to 23,905 ton CO₂e, in which the reduction of scope 1 was 19,544 ton CO₂e, 4,361 ton CO₂e for scope 2. Carbon reduced was equivalent to the volume of carbon removed from 61 Daan Forest Parks. Compared to 2022, through further optimization of management and operations, ACC's Hualien Plant has reduced unit clinker heat consumption and significantly decreased coal usage. The estimated reduction in carbon emission intensity amounts to approximately 42,000 tons of CO₂ annually, exceeding the planned action and yielding an additional quantifiable reduction of around 22,000 tons.

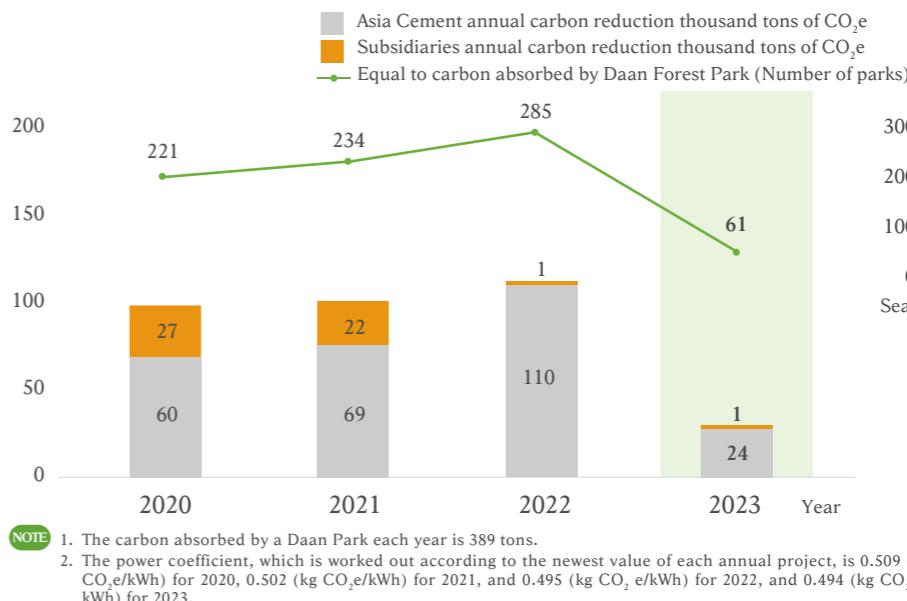
- NOTE**
1. The circular economy program of ACC has been ongoing since 2019, continuously promoting energy conservation and carbon reduction. The reduction in carbon emissions from fuel substitution includes process emissions comparison to the previous year.
 2. Energy saving and carbon reduction benefits are estimated based on the difference in energy or material consumption before and after the improvement plan (compared to 2022).

		Asia Cement	Hualien Plant alternative material (raw material)	Action Plan	
Performance	Estimated to reduce 330,930 tons of limestone usage. Carbon reduction of 12,950 tons of CO ₂ e.			Performance	Yuan Long Stainless Steel
		Yuan Long Stainless Steel	Yuan Long's solar power is used for self-generation and self-use	Action Plan	
Performance	Self-generated 360,000 kWh of electricity, saved 1.3 TJ of heat value, and reduced carbon emissions by 178 tons of CO ₂ e			Performance	Nanhwa Cement
		Nanhwa Cement	Replaced mercury lamps with led lamps	Action Plan	
Performance	It is estimated to save 66,000 kWh of electricity usage, reduce 0.2 TJ in heat value, and reduce carbon emissions by 32 tons of CO ₂ e			Performance	Ya Tung Ready-mixed Concrete
		Ya Tung Ready-mixed Concrete	Taichung Plant high-voltage substation equipment efficiency improvement project	Action Plan	
Performance	Provided 790,000 kWh of electricity, saving 2.8 TJ of heat value, and reducing carbon emissions by 359 tons of CO ₂ e			Performance	
Performance	It is estimated to save 26,000 kWh of electricity usage, reduce 0.1 TJ in heat value, and reduce carbon emissions by 13 tons of CO ₂ e			Performance	

The result of energy saving and carbon reduction (TJ)



Carbon Reduction Performance and Targets





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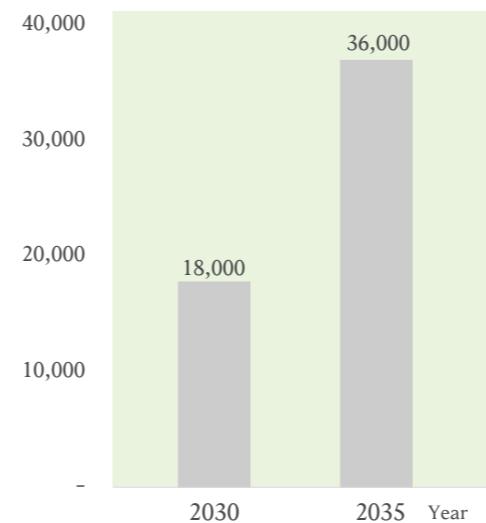
Carbon capture, use and store (CCUS)

Since the carbon capture and storage technology is considered as an important solution for climate changes by many people, which is still in development, Asia Cement has adopted robust and feasible carbon reduction strategies to optimize current best feasible technologies in cement industry, and simultaneously invest into the research of carbon capture technology.

Asia Cement cooperated with domestic and international academic and research institutes to develop a negative carbon technology, a technology different from the ordinary concept of carbon capture by combining wastes and carbon dioxide to become negative material and providing to ready-mixed concrete plants to solve three problems including carbon emission reduction, waste treatment and resource shortage. Asia Cement will join with Ya Tung Ready-mixed Concrete and the related down stream industrial chain to study and evaluate the separation and reuse of waste concrete, plus invest into industrial by-products or waste recarbonation technologies to produce negative carbon recycled aggregates or supplementary cementitious materials (SCM) and used by down stream industrial chain, to realize the integration of low carbon value industrial chain. Not only does it give innovative value to wastes, but it can also further produce concrete products with lower carbon emissions, achieving the “collaborate carbon reduction” effect across the cement-related industry chain, creating new sustainable business opportunities.

Asia Cement adopted the approach that is most beneficial to environment by properly recycling wastes into resources for reuse and producing into negative carbon material. This superior technology is a powerful driving force for completing the last mile of net-zero emission.

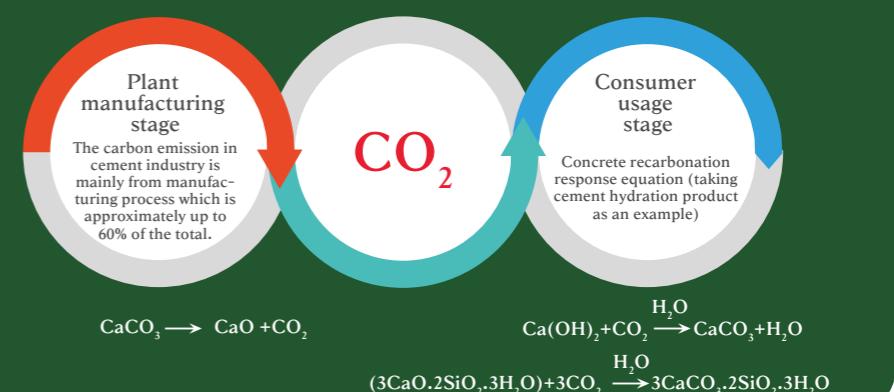
Asia Cement CCU Planning
(Tons CO₂e/year)



Resources	Planning the way of application	Benefit
By-products or wastes with rich content of calcium oxide or magnesium oxide	<ul style="list-style-type: none"> ① Used as alternative material (raw material) ② Used as the medium of to absorb and reuse CO₂ (If the composition is unfavorable to be used by cement rotary kiln) 	<ul style="list-style-type: none"> ▶ Reducing the extraction and use of limestone ▶ Carbon reduction in manufacturing process ▶ Absorbing CO₂ ▶ Becoming negative recycled aggregates or SCM
Cement paste	<ul style="list-style-type: none"> ① Rich content of calcium oxide which can be used as the medium to absorb and reuse CO₂ ② The bonding strength is still maintained after processing a portion of hydraulic hardness activity which can replace cement. 	<ul style="list-style-type: none"> ▶ Absorbing CO₂ ▶ Becoming negative recycled aggregates or SCM ▶ Replacing a portion of cement
Waste concrete		
Stones and sand	Recycling stones and sand for the reuse by concrete	<ul style="list-style-type: none"> ▶ Reducing the extraction and use of natural aggregates and sand stones

Cement knowledge

“Concrete re-carbonation” is a natural reaction. In theory, CO₂ released in the process of calcinating cement can be 100% absorbed through recarbonation. However, in reality only about 25% of it can be absorbed by the cement in ordinary concrete buildings due to the factors of humidity, temperature and bonding materials. Currently, the research performed by Asia Cement adopts an advanced separation technique to individually separate large and small stones, sand and cement pastes from the concrete resulted from the dismantled buildings and converting them into resources for reuse. The separated cement pastes can still maximize its ability of absorbing the residual CO₂. The material full of absorbed CO₂ can be converted into negative carbon renewable aggregates which can be used in construction work again. Furthermore, the calcium carbonate generated from absorbing CO₂ offers stable structure, it releases CO₂ through reverse reaction only above 800°C, a very stable and safe negative carbon material.”





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Continuing to invest in the research of technologies and moving toward net-zero carbon emission

Asia Cement continues to invest in the analysis of net-zero emission strategies and related technical research for cement industry. The execution content of the Net-Zero Emission Working Group of the Corporate Sustainability Promotion Committee in 2023 includes:

- ① The paper "Research and Analysis of the Cement Industry's 2050 Net Zero Emissions Roadmap Calculation Methodology" was presented at the Green Technology and Engineering Practice Seminar of the Industrial Development Administration, Ministry of Economic Affairs. The paper delved into how the cement industry can establish goals and plan carbon reduction strategies through scientific methods. The paper referenced various carbon reduction measures from the Global Cement and Concrete Association (GCCA) Net-zero Roadmap and conducted research based on practical experience in the domestic cement industry. This paper is not only a commitment from ACC to the future, but also a key guideline for the development direction of the entire industry.
- ② Chief Vice Plant Manager of Asia Cement Hualien Plant, Tse-sheng Chen, formed a "Cement and Concrete Net Zero Technology Committee" in 2021 at Taiwan Concrete Institute (TCI) and taking the position of chairman. The members of the Committee are composed of people from domestic cement manufacturing, concrete production, design and construction areas, a cooperation between industry and academic sector. The Committee is actively following the carbon reduction policy of the nation and the trend of net zero goal to study and plan the applications of newly emerged technologies in order to steadily realize the transformation to low carbon.

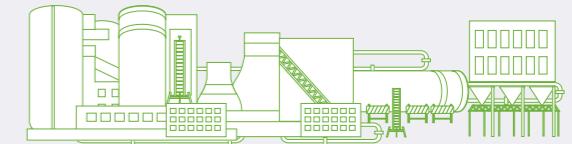
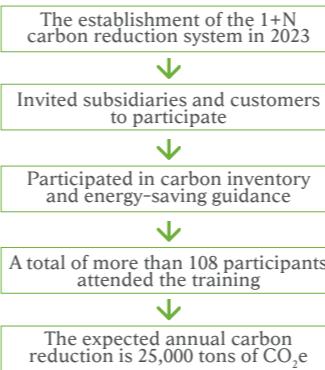


Revision of the Product Category Rules for the Carbon Footprint of Cement

Since 2022, ACC has been promoting the revision of Portland Cement CFP-PCR and applied for expanding the scope of product application to all cement products. After several amendments and motions in 2023, the new version of the "Cement" Carbon Footprint Product Category Rules was approved by the Ministry of Environment in April 2024. This ensures comprehensive coverage of carbon labeling for cement products, aligning with the implementation of Taiwan's strategy for achieving net-zero emissions in the cement industry.

Low Carbon Sustainable Industrial Chain

In 2023, ACC established the 1+N carbon reduction system to promote the green transformation across the industrial chain. The carbon reduction initiative invited subsidiaries and customers to participate, with 15 companies spanning concrete manufacturing, cement products, sand and gravel manufacturing, and other fields joining in. Together, they participated in carbon inventory and energy-saving guidance to identify emission hotspots and collaborate on carbon reduction efforts. A total of more than 108 participants attended the session and gained carbon management capabilities. It is expected that the improvement plan will achieve an annual carbon reduction of 25,000 tons of CO₂e. Each plan will assess and implement the execution schedule according to their operational plans in the future.



CDP Carbon Disclosure Project

ACC continues to participate in the CDP Carbon Disclosure Project. In 2023

Climate Change Questionnaire

A- rating (leadership level)

CDP Supplier Engagement Rating

Supplier Engagement Rating (SER)

A- rating

Internal Carbon Pricing

ACC sets the internal carbon pricing (Shadow price) in accordance with the SBTi carbon reduction goal, and integrates carbon risk into investment, climate risk, management, and long-term strategy assessments. Key evaluation projects include: driving low-carbon investments and driving energy efficiency initiatives to facilitate achieving SBT carbon reduction goals. ACC has implemented a phased approach to internal carbon pricing.

2021 to 2025 NTD **216** per ton of CO₂e for the period





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Experience sharing on corporate sustainability

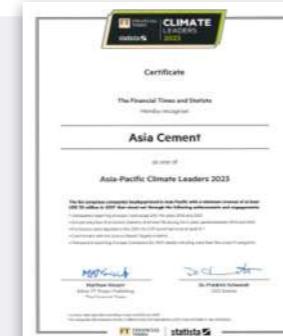
In 2023, ACC continued to participate in multiple seminars and panel discussions organized by industry, government, and academic institutions on topics related to net-zero roadmaps and sustainable circular practices. ACC shared its sustainability practices during these events.

- Low-carbon Cement Lecture at the Exchange Conference on Low-carbon Development Trend
- Lecturer on Low-carbon Cement at Concrete Application Seminar organized by Taiwan Construction Research Institute
- 2023 Industrial GHG Reduction and Green Technology Guidance Results and Practice Seminar
- Net-zero Transformation Cement Sector Advancement Project Seminar
- Seminar on ESG Development Blueprint for Carbon Reduction in the Construction Industry
- Countermeasures for chloride ion in cement and concrete under the trends of carbon reduction and circular economy
- Keynote speech at the Innovation Forum - Circular Economy, Ecological Sustainability
- Seminars on the Transformation Strategy of Industrial Resource Recycling to Zero Waste - Implementing circular economy, transforming waste into valuable resources, and moving towards sustainable resource management
- Sustain Net-zero Together - SMEs ESG Carbon Management" Summit Forum
- Cathay Sustainable Finance and Climate Change Summit
- Workforce Development Agency's Manufacturing Transformation Strategy for Net-zero Emissions and Talent Training Survey Program Spotlight Panel
- In-depth Interviews on Net-zero Emissions Manufacturing Transformation Strategy and Talent Training Survey Plan

Net Zero 2030/2050

Asia Cement jointly established Taiwan Alliance for Net Zero Emission. It also joined Net Zero X 2030/2050 initiative and committed to the short, mid and long term goals, plus the ultimate goal of net zero carbon emission by 2050. The Company is moving forward together with all businesses and industries on the road of carbon reduction with the biggest determination to strengthen sustainable development, to complete the big challenge of net zero emission.

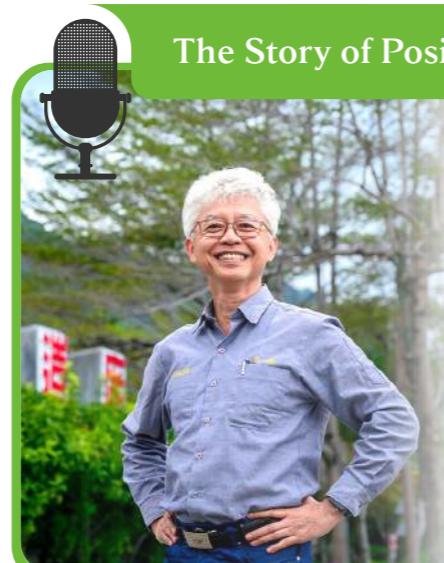
Asia Cement has committed to the headquarters achieving net-zero emissions by 2030. Starting in 2023, the Company significantly increased its use of green electricity, resulting in a 46.9% reduction in carbon emissions compared to 2021. Emissions are expected to decrease further in 2024.



Climate Leaders Asia-Pacific 2023

ACC was recognized as the 2023 Climate Leaders Asia-Pacific by the Financial Times and international research firm Statista, and was commended as the only cement industry representative from Taiwan for significant carbon emissions reduction from 2016 to 2021. ACC will continue to promote carbon reduction measures and call on subsidiaries and important customers to participate in the joint effort to reduce carbon emissions.

The Story of Positive Transformation - Exclusive Interview Chief Deputy Plant Manager Chen Chih-Hsien



In recent years, following a pragmatic approach, ACC has been actively promoting various equipment improvements, introducing circular economy into its processes, substituting fuels to reduce the use of natural minerals and coal. Additionally, it allocates hundreds of millions in its budget annually to purchase pollution control equipment. Not only does this meet national air quality standards, but emissions concentration and intensity also continue to decrease every year. ACC has also set a world record in the cement industry by restoring the limestone mining area to its original forest ecology. In recent years, it has been actively involved in environmental education initiatives. In addition to highly acclaimed eco-education programs in ecological parks and assisting in the establishment of butterfly corridors in six counties/cities across Taiwan, ACC is conveying the concepts of mine reclamation, revegetation, and low-carbon cement production for sustainable development to the public.

Sustainable development is a highly emphasized core value in Taiwan. Every two years, the Ministry of Environment holds a public commendation to reward individuals who have made significant contributions to environmental protection efforts. In 2023, Chen Chih-Hsien, the Chief Deputy Plant Manager of ACC's Hualien Plant, was awarded the Third Prize in the Practical Category for his significant contributions to implementing corporate environmental protection and pollution control measures. Also, Chief Chen actively promoted the concepts of circular economy and green business practices, implemented technological innovations for low-carbon cement products, and facilitated the sustainable development of both industry and environment.

In 2023, Chief Chen participated in more than 20 conferences, forums, and seminars where he engaged with representatives from industry, government, academia, and research, to discuss the upgrading and transformation of the cement industry. As a pioneer in low-carbon cement manufacturing in the country, ACC will continue to communicate with various stakeholders. They will actively advocate for discussions on low-carbon cement technology research and industry transformation towards net-zero emissions, aiming to achieve the vision of a sustainable and green homeland.



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1.1.2 Energy Resource Management

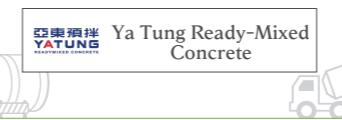
ACC's Energy Resources Usage Status



Names of Input Raw Materials (Ton)			
LimeStone	5,400,114		
Natural Gypsum	102,483		
Grinding Aids	134		
Clay Material	35		
Cement Paper Bag	1,971		
Lubricating Oil/Grease	1,410		
Refractory Brick	569		
Circular Economy Input (Ton)			
Alternative Raw Materials	370,932		
Alternative Fuels	36,657		
Energy Input (Calorific Value) (TJ) (%) (MWh)			
Electricity	1,198	10.02	332,856
Coal	10,207	85.35	
Diesel	36	0.30	
Gasoline	0.7	0.01	2,988,760
Heavy Oil	40	0.33	
Alternative Fuels (Biomass)	280	2.34	
Alternative Fuels (Non-Biomass)	197	1.65	
Total Non-Renewable Energy	11,958	99.99	3,321,616
Renewable Energy (Solar)	1.3	0.01	365
Total	11,959	100.00	3,321,981

Subsidiaries' Material and Energy Resource Usage

Ready-Mix Concrete Process



Energy (TJ)	
Electricity	32
Diesel	59
Gasoline	5
Total	96
Raw Materials (Ton)	
Sand and Gravel	5,986,115
Cement Clinker	666,470
Slag	441,413
Fly Ash	240,503
Additives	15,722
Lubricating Oil/Grease	26
Products (M ³)	
Ready-Mix Concrete	3,372,229
Emissions (Ton)	
CO ₂ e Emissions	10,741
NOx Emissions	0
SOx Emissions	0
Particulate Matter Emissions	21
Energy Intensity (GJ/M ³)	
CO ₂ e Emissions Intensity	0.0032 TonCO ₂ e/M ³

Stainless Steel Process



Energy (TJ)	
Electricity	100
Natural Gas	54
Gasoline/Diesel	0
Total Non-Renewable Energy	154
Renewable Energy (Solar)	1.3
Total	155
Raw Materials (Ton)	
Stainless Steel Coil	58,353
Liner Paper	1,061
Lubricating Oil/Grease	57
Products (Ton)	
Stainless Steel Coil	58,030
Stainless Steel By-products	1,595
Emissions (Ton)	
CO ₂ e Emissions	16,757
NOx Emissions	2.4
SOx Emissions	0
Particulate Matter Emissions	0.1
Energy Intensity (GJ/Ton)	
CO ₂ e Emissions Intensity	0.29 TonCO ₂ e/Ton

NOTE 1. The raw materials for producing clinker include limestone, clay and alternative raw materials, and the raw materials for producing cement include clinker, gypsum, and the cement grinding mineral additives (limestone). Cementing materials include clinker, gypsum, and a cement grinding mineral additives (limestone).
 2. The renewable energy (solar energy) of ACC was generated for self-consumption at the Hsinchu and Hualien Plant, while green energy was purchased externally for headquarters' use.
 3. The heat value of electricity is calculated based on the physical heat value of the electricity used at the consumer end, which was 860kcal/kWh. The heat value of coal and alternative fuels were calculated based on the actual measurements, and the rest of the items were calculated based on the unit heat value table of energy products announced by the Energy Administration.



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Precast Concrete Process



Energy (TJ)	Products (M³)
Electricity	2
LPG/Diesel	6
Total	8
Emissions (Ton)	
CO ₂ e Emissions	478
NOx Emissions	0.4
SOx Emissions	0.03
Particulate Matter Emissions	0
Energy Intensity	0.54 GJ/M³
Lubricating Oil/Grease	1 CO ₂ e Emissions Intensity 0.034 TonCO ₂ e/M³

Power Generation Process



Energy (TJ)	Emissions (Ton)
Natural Gas	34,903 CO ₂ e Emissions 1,775,887
Electricity	129 NOx Emissions 419
Total	35,032 SOx Emissions 8
Raw Materials (Ton)	
Lubricating Oil/Grease	2 Particulate Matter Emissions 18
Products MWH	Energy Intensity 7.14 GJ/MWH
Electricity (from Natural Gas)	4,903,660 CO ₂ e Emissions Intensity 0.36 TonCO ₂ e/MWH
Electricity (from Solar Power)	113

Furnace Slag Process



Energy (TJ)	Products (Ton)
Electricity	84 Ground Granulated Blast Furnace Slag Powder 430,898
Heavy/Diesel Oil	72 Limestone Powder 114,437
Total	156
Emissions (Ton)	
CO ₂ e Emissions	14,258
NOx Emissions	1.4
SOx Emissions	2.2
Particulate Matter Emissions	8
Energy Intensity	0.29 GJ/Ton
CO ₂ e Emissions Intensity	0.026 TonCO ₂ e/Ton

Transportation Services



Energy (TJ)	Emissions (Ton)
Diesel	327 CO ₂ e Emissions 24,721
Total	327 NOx Emissions 2.5
Raw Materials (Ton)	
Lubricating Oil/Grease	33 SOx Emissions 0
Transportation Services (Ton)	Particulate Matter Emissions 0.2
Cargo Transportation	Energy Intensity 0.050 GJ/Ton
Cargo Transportation	CO ₂ e Emissions Intensity 0.0038 TonCO ₂ e/Ton

NOTE 1. The heat value of electricity was calculated based on the physical heat value of electricity used by the consumer at 860kcal/kWh. The heat value of the natural gas or LPG used by Yuan Long Stainless Steel Co., Ltd., ChiaHui Power, and Ya Li Precast Prestressed Concrete Industries Corp., was calculated based on actual measurements. Other items of each company were calculated based on the heat value table of energy products announced by the Energy Administration.

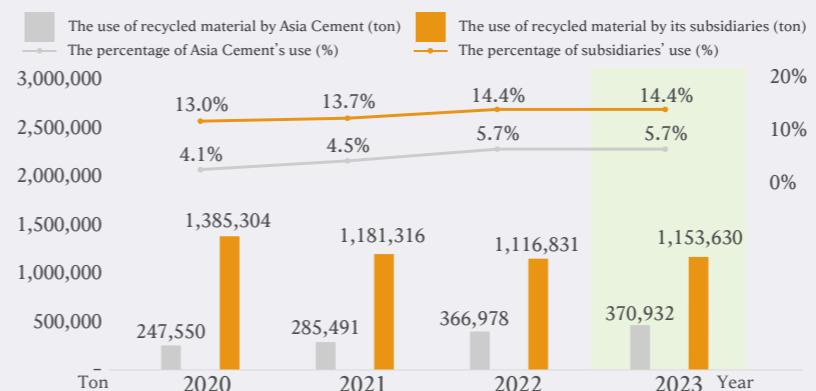
2. Currently, the electricity generated by ChiaHui Power's renewable energy sources (solar energy) is for sale purposes only and is not included in the calculation of energy consumption.

Using Recyclable and Regenerated Material

Asia Cement aggressively promotes circular economy, its operation locations of using recyclable material include Hsinchu Plant, Hualien Plant, Nanhwa Cement Corp. and Ya Tung Ready-Mixed Concrete Corp. Hualien Plant uses external recycled raw material and in-plant waste (refractory brick, etc.) as the alternative raw material of cement. Other plants are using desulfurization gypsum, blast furnace slag and fly ash as the alternative raw material; Nanhwa Cement used the recyclable material of water quench blast furnace slag 100% in the grinding process of slag powder. In 2023, Asia Cement used 370,932 tons of recycled material, 5.7% of the total material; its subsidiaries used 1,153,630 tons of recycled material, 14.4% of the total material; the use of recycled material is increased every year.

Due to the characteristics of the industry, the proportion of renewable materials of ACC and its subsidiaries in packaging was very small, at approximately 3,032 tons, while the weight of non-renewable materials was 12,957,970 tons (excluding recycled materials).

The Use of Recycled Material and its Percentage



NOTE Starting from 2023, additional statistics for auxiliary materials: Asia Cement's paper cement bags are estimated based on the number of bags produced and the average breakage rate; the usage of refractory bricks and lubricating oil/grease at the Hualien Plant is estimated based on the annual reuse quantity from the plant.

Recycled products and their packaging material

Due to the nature of the industry's products, currently only Yuan Long Stainless Steel among Asia Cement and its subsidiaries' operations uses liner paper for protection. Through actively promoting the recycling and reuse of liner paper, a total of 1,008 tons of liner paper was recycled in 2023, accounting for 95% of total liner paper usage. The weight of recycled liner paper accounted for 1.69% of the total stainless steel products.





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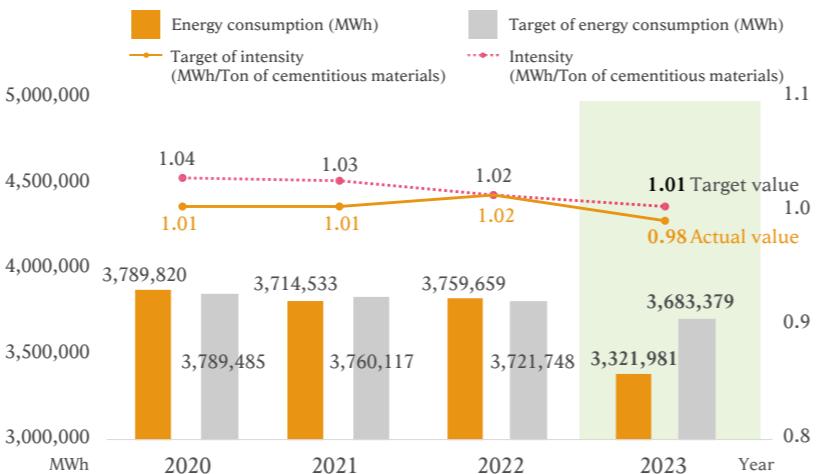


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Target of Energy Consumption

ACC's total energy consumption in 2023 was 11,959 TJ (equivalent to 3,321,981 MWh). ACC has established an energy consumption target of reducing energy consumption and intensity by 1% every year, with 2019 as the base year. In 2023, both energy consumption and intensity reduction targets were achieved.

Performance of Energy Consumption (cement company main business)



NOTE 1. The performance of energy consumption represents all energy used by Asia Cement (including power, coal, alternative fuel).
2. 1 TJ=277,778 MWh。

Use of Clean Energy: Renewable energy generation or transfer

In line with the government's green energy policies, ACC and its subsidiaries have been installing solar power generation equipment. The installation of solar power equipment was completed in Q4 of 2023, with an installed capacity of over 3.7MWp. The renewable energy generated or transferred amounted to a total of 726 MWh. ChiaHui Power is expected to complete the installation of 178 KW solar power generation equipment in 2024.

	Base	Device capacity	2023 power generation (MWh)
ACC	Headquarters	None (transferred)	214
	Hualien Plant	3.7 MW	151
Subsidiary	Yuan Long Stainless Steel Co., Ltd.	766 KW	361

ChiaHui Power Plant Helping the Stability of Power Supply in Taiwan

Asia Cement subsidiary ChiaHui Power Plant is a combined cycle gas power plant. Its power generation can supply approximately 3.2% of the total power usage in Taiwan, the biggest private gas power plant in Taiwan that generates power to supply approximately 1 million households in Taiwan. ChiaHui Power Plant adopts the power generation technology of using low carbon natural gas to generate power which features low pollution, high-efficiency, high quality and high safety. It continues to supply stable power in Taiwan by using gas to replace coal in short mid and long term to help Taiwan accelerating the reduction of CO₂ emission in order to reach the goal of net-zero carbon emission by 2050.

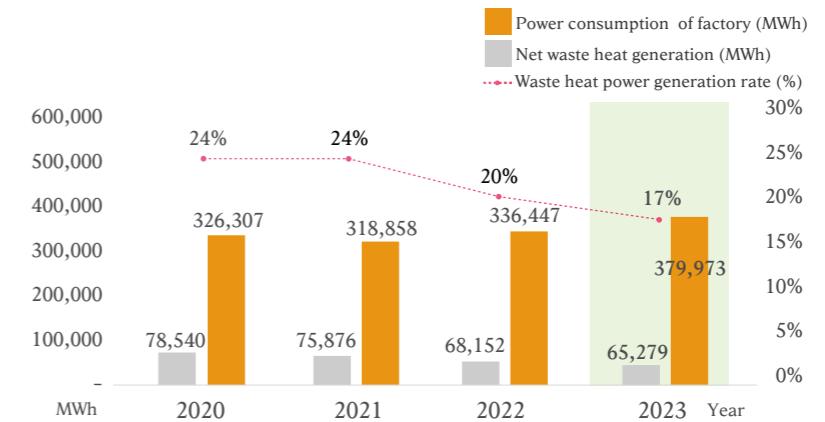
Waste Heat Power Generation

In 2023, the net power generated from waste heat recovery was 65,279 MWh, sufficient to supply approximately 15,000 households. In 2023, the Hualien Plant purchased 379,973 MWh of power. Due to the improvement of the #2 waste heat power generation boiler tube cluster, the net power generation capacity of the waste heat recovery accounted for 17.2% of the whole plant's purchased electricity, which was slightly lower than the previous year.

The waste heat power system at ACC's Hualien Plant has consistently maintained a unit clinker power generation rate of over 20 kWh/tons of clinker over the years, with the plant's average in 2023 being 21.0 kWh/tons of clinker. In light of the decreasing power generation efficiency due to gradual blockage of the boiler tubes in the waste heat power generation system, ACC's energy team planned improvements for the three rotary kiln power generation systems at the Hualien Plant. These improvements are scheduled to take place from 2022 to 2024. Upon completion, the average power generation per ton of clinker for the entire plant is expected to reach over 29 kWh.

- NOTE**
- According to the statistics of Taipower, the average annual power consumption of residential houses in 2021 was 352 kWh.
 - The kWh of waste heat power generation is the net power generated (deducting power used by equipment).

The KWh and percentage of waste heat-generated power in Hualien



The first in Taiwan – the mining area passed the energy management system

In 2016, ISO 50001 energy management systems were installed in Hualien Plant, Hsinchu Plant and Ya Tung Ready-Mixed Concrete Mei Luing Plant. In addition, Asia Cement Hualien Plant mining mountain was the first mining mountain granted the certification of energy management system in Taiwan. (Satellite plant: Both Hsinchu Plant and Ya Tung Ready-mixed Concrete Mei Luing Plant were only installed the system). In 2019, Asia Cement Hualien Plant and its mining mountain passed the certification of converting into ISO 50001: 2018.

Asia Cement continuously realizes energy management in all operation locations. In 2017, two subsidiaries, Yuan Long Stainless Steel and ChiaHui Power installed ISO 50001 energy management system and passed the certification. In 2023, they continued the energy management. Ya Tung Ready-mixed's headquarters and Xizhi Plant passed the certification in 2022, while the Kaohsiung Plant passed the certification in December 2023.





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1.1.3 Pollution Control and Waste Reduction

Environmental Policy and Management System

ACC has established comprehensive environmental policies to effectively manage environmental issues, reduce environmental impact, and protect ecosystems and natural resources. These policies apply to all operational sites of ACC. ACC's operations involve mainly the following environmental impacts: Air pollution, landscape disturbances, and energy consumption. Additionally, ACC is committed to addressing environmental sustainability issues, including sustainable resource use, alternative materials for circular economy, climate change mitigation and adaptation, biodiversity, and ecosystem protection. Scope of application includes: Production and operations, products and services, distribution and logistics, waste resource management, suppliers, and contractors. Environmental due diligence was conducted when merging or acquiring business units.

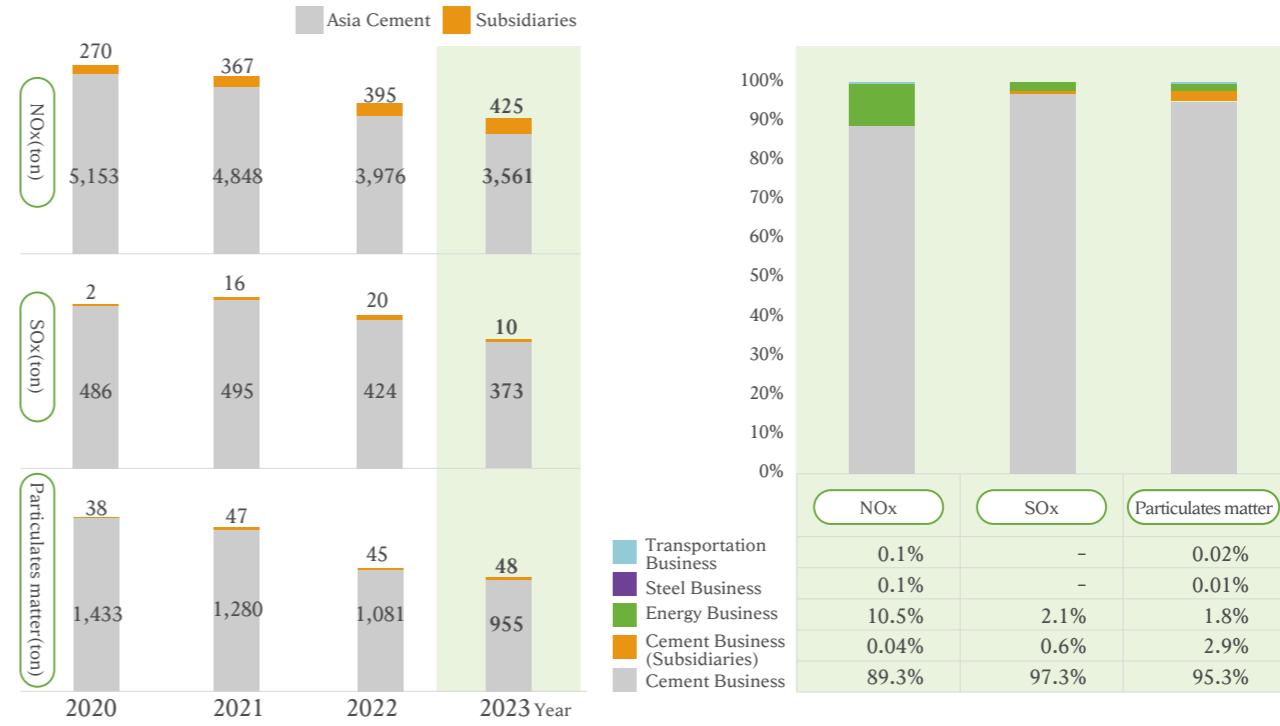
ACC continues to implement an environmental management system to ensure compliance with laws and regulations. Following the principles of the management system "Plan-Do-Check-Act", systematic internal and external audits are conducted annually to continuously improve environmental performance. Established an effective supervisory mechanism. In 2023, the ISO 14001 environmental management system coverage rate of ACC and its subsidiaries' production plants reached 86%, and the system will gradually expand the coverage rate in the future. To ensure that our environmental commitments will be realized and continuous improvements achieved.



Executive compensation linked to environmental management performance

Asia Cement links toxic emissions and waste management performance to executives' variable compensation. If environmental performance declines, there will be a 6% reduction in executives' individual bonuses to ensure the comprehensive implementation and execution of toxic emissions and waste management.

Emission from stationary pollution sources
(metric tons /year)



Air Pollution Emissions

In the manufacturing process, cement inevitably generates air pollutants. The main air pollutants include particulate matter, nitrogen oxides (NOx), and sulfur oxides (SOx). ACC has introduced high-efficiency dust collection equipment in its cement manufacturing to implement emission control. Quality raw materials (such as high-quality limestone and low-sulfur coal) were selected to reduce air pollution from the source. To continuously monitor air pollutant emissions, ACC conducts regular monitoring of various pollutants each year. The data was submitted to government regulatory authorities for review. Continuous Emission Monitoring Systems (CEMS) were installed to control emission concentration of nitrogen oxides (NOx) in real time. Over the years, the emissions of nitrogen oxides, sulfur oxides, particulate matter, and other pollutants from ACC have remained below regulatory standards.



- NOTE**
- ChiaHui Power phase 2 officially started commercial operation in July, 2021.
 - The emission amount of stationary pollution source is the data of air pollution fee and emission amount submitted to Ministry of Environment routinely.
 - The data were approved by the Ministry of Environment at the end of May 2023.





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Air Pollution Emission Management

ACC has a pollution control team under the “Corporate Sustainability Implementation Committee” responsible for monitoring pollution emissions and waste issues. The team reviews emission compliance, including particulate matter (PM), sulfur oxides (SOx), and nitrogen oxides (NOx). This team tracks environmental improvement plans quarterly, sets reduction targets, and reports to the Corporate Sustainability Committee every six months. Pollutants such as PM, NOx, and SOx have intensity targets based on emissions per unit of cementing material. Mercury emissions were measured based on the total annual emission quantity. In accordance with current air pollution regulations and equipment efficiency, ACC plans air pollution improvement measures. Feasible reduction targets were set to maintain air pollution emissions at low level and minimize environmental impact. In 2023, all air pollution reduction targets were achieved by 100%.

Cement Business Air Pollution Reduction Target

Item	Base year (2021)	2023 target achievement status	Short-term goals (2025)	Mid-term goals (2030)	Long-term goals (2035)
Particulate matter	The emissions per unit of cementing material were 344 g/ton of cementing material.	The emissions per unit of cementing material were reduced to 279 g/ton of cementing material, a reduction of 19% . Target Reached	The emissions per unit of cementing material decreased by 3% annually, achieving a reduction of 12% by 2025.	The emissions per unit of cementing material were targeted to decrease by 22% by 2030.	The emissions per unit of cementing material were targeted to decrease by 27% by 2035.
NOx	The emissions per unit of cementing material were 1,325 g/ton of cementing material.	The emissions per unit of cementing material were reduced to 1,063 g/ton of cementing material, a reduction of 20% . Target Reached	The emissions per unit of cementing material decreased by 6% annually, achieving a reduction of 24% by 2025.	The emissions per unit of cementing material were targeted to decrease by 39% by 2030.	The emissions per unit of cementing material were targeted to decrease by 44% by 2035.
SOx	The emissions per unit of cementing material were 135 g/ton of cementing material.	The emissions per unit of cementing material were reduced to 111 g/ton of cementing material, a reduction of 18% . Target Reached	The emissions per unit of cementing material decreased by 2% annually, achieving a reduction of 8% by 2025.	The emissions per unit of cementing material were targeted to decrease by 13% by 2030.	The emissions per unit of cementing material were targeted to decrease by 18% by 2035.
Mercury	Emissions of 0.044 (tons/year)	Emissions of 0.032 (tons/year), a reduction of 27% . Target Reached	The emissions were targeted to decrease by 1% annually, with a reduction of 4% by 2025.	The emissions per unit of cementing material were targeted to decrease by 9% by 2030.	The emissions were targeted to decrease by 14% by 2035.

Achievement Status of Emission Targets in the Cement Business

Item	2021	2022	2023	Short-term goals (2025)	Mid-term goals (2030)	Long-term goals (2035)
Particulate matter	Emission volume (ton/year)	Regulatory limit ≤ 1,528	≤ 1,483	≤ 1483	-	-
	Target	≤ 1,350	≤ 1,225(-3%)	≤ 1,192(-5%)	≤ 1,114(-11%)	≤ 987(-22%)
	Actual	1,258(100%)	1,061(-16%)	934(-26%)	-	-
NOx	Emission intensity (g/ton-cementitious materials)	Target 369	≤ 333(-3%)	≤ 323(-6%)	≤ 302(-12%)	≤ 268(-22%)
	Actual	344(100%)	289(-16%)	279(-19%)	-	-
	Emission volume (ton/year)	Regulatory limit ≤ 5,813	≤ 4,650	≤ 4650	-	-
SOx	Target	≤ 4,850	≤ 4,578(-6%)	≤ 4,302(-11%)	≤ 3,707(-24%)	≤ 2,974(-39%)
	Actual	4,848(100%)	3,976(-18%)	3,561(-27%)	-	≤ 2,732(-44%)
	Emission intensity (g/ton-cementitious materials)	Target ≤ 1,325	≤ 1,245(-6%)	≤ 1,166(-12%)	≤ 1,007(-24%)	≤ 808(-39%)
Mercury	Regulatory limit ≤ 715	≤ 572	≤ 572	-	-	-
	Emission volume (ton/year)	Target ≤ 480	≤ 488(-1%)	≤ 480(-3%)	≤ 458(-7%)	≤ 434(-12%)
	Actual	495(100%)	424(-14%)	373(-25%)	-	≤ 409(-17%)
	Emission intensity (g/ton-cementitious materials)	Target ≤ 131	≤ 133(-1%)	≤ 130(-4%)	≤ 125(-7%)	≤ 118(-13%)
	Actual	135(100%)	115(-15%)	111(-18%)	-	≤ 111(-18%)
	Regulatory limit ≤ 1.98	≤ 1.98	≤ 1.98	-	-	-
	Target	≤ 0.058	≤ 0.044(100%)	≤ 0.043(-2%)	≤ 0.042(-5%)	≤ 0.040(-9%)
	Actual	0.044(100%)	0.037(-16%)	0.032(-27%)	-	Less than 9% of the baseline year

- NOTE**
1. The upper limit of emission volume by law is calculated in accordance with the emission concentration of each pollutant and the annual clinker production volume. Furthermore, the actual emission of each pollutant shall not exceed the emission volume approved in the stationary.
 2. Heavy metal matters are not the regular inspection items required by laws and regulations. The calculation of emission volume was updated according to the mercury coefficient 550.4 mg/T clinker stipulated by Ministry of Environment, Executive Yuan.
 3. Mercury emissions are required by MSCI indicators and are not a significant emission source for ACC.
 4. (-XX%) indicates the reduction percentage compared to the base year.





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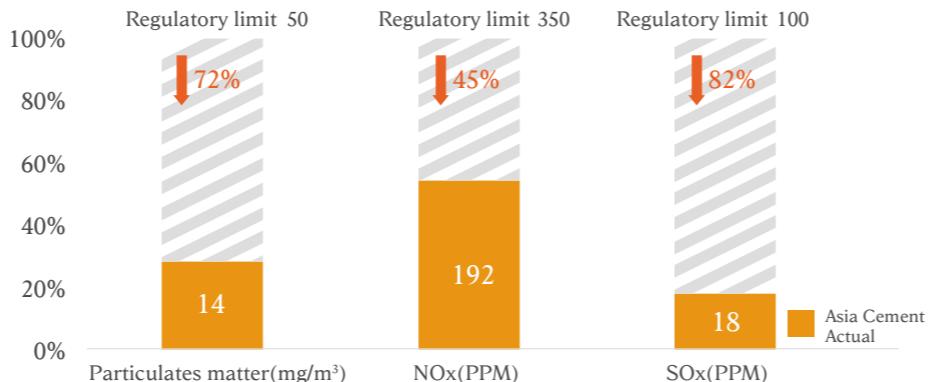
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Air Pollution Concentration and Regulation Differences of ACC in 2023

In 2023, the concentrations of NOx, SOx, and PM emissions from ACC were all below regulatory standards:



Air Pollution Emission Management Measures

ACC has actively managed air pollution emissions and completed three projects in 2023 as part of the air pollution emission reduction plan. The total investment cost was NTD204 million. Improvement projects included: Monitoring particulate removal data, reducing NOx emissions concentration, and reducing PM emissions concentration. Additionally, in 2024, ACC plans to improve the dust collector for the #1 kiln process, aiming to further reduce PM emissions concentration.

Item	Planning Schedule	Benefit	Investment expenses (NTD thousands)
Continuous automatic monitoring system of dust (OP)	Completed in 2023	► Monitoring dust data	4,950
NOx emission improvement project for the calcination system	Completed in 2023	► Reducing NOx emissions concentration to 220ppm	37,500
Improvement of dust collector in kiln #3	Completed in 2023	► Reducing PM emissions concentration to 9 mg/Nm³	162,000
Improvement of dust collector in kiln #1	Scheduled for completion in 2024	► Reducing PM emissions concentration to 8 mg/Nm³	154,360

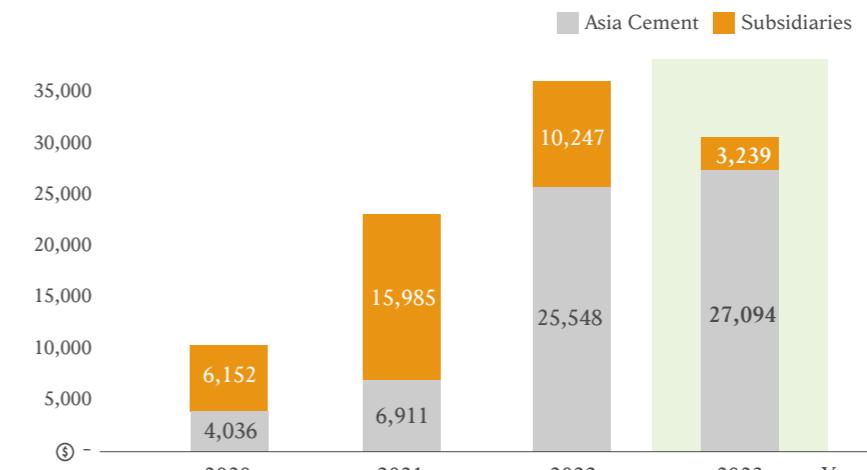
The Emission of Ozone Depleting Substances(ODS)

Most Feon use R-134a and environmental friendly Freon R-410a. Currently, only Hualien Plant and ChiaHui Power uses a small volume of ODS R-22 (Ozone Depletion Potential 0.055) in water cooler and air conditioning of buildings. The environmental friendly Freon has been successively used to replace the old one during the repairing of the machines. In 2023, the emission of R-22 was calculated to be equivalent to 0.001ton kg of CFC-11 (based on the Freon leakage emission factor 8.5% listed in GHG emission coefficients management table).

Expenses for sustainable green environment

The expenses paid by Asia Cement for sustainable green environment include: expenses for handling and inspecting the protection of environment, expenses for maintaining or replacing equipment, and costs for prevention and environmental management. In 2023, the total expenses were NT\$303,330,000.

Annual Expenditures on Sustainable Green Environment (Ten thousand)



NOTE Since 2022, ACC's Hualien Plant has been making significant investments in equipment upgrades.

The Story of Positive Transformation - Exclusive Interview

Shen Chih-Wei, Subdivision Chief of Environmental Protection



Excellent environmental protection personnel can enhance operational effectiveness and implement environmental protection within their organizations. Shen Chih-Wei, the Subdivision Chief of Environmental Protection of ACC's Hualien Plant, was recommended as an exemplary environmental protection specialist and technician by Hualien County in 2022. He was the first recommended environmental personnel in Hualien County. In 2023, the Hualien County Environmental Protection Bureau held a conference regarding fixed permit regulations. During the conference, Shen Chih-Wei, the Subdivision Chief of Environmental Protection of ACC's Hualien Plant, was invited to share his experiences, aiming to inspire outstanding environmental professionals in the county to participate.





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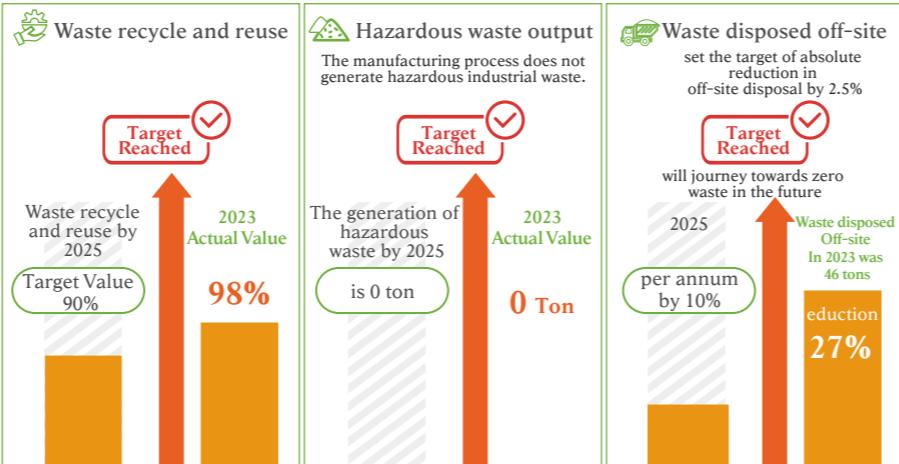
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Target of wastes recycle and reuse

Asia Cement strives for wastes reduction, recycle and reuse, the manufacturing processes of the Company and its subsidiaries do not generate hazardous business wastes. Furthermore, they all follow environmental protection laws, regulations and local county or city government's regulations to reuse, dispose wastes and implement the necessary filing operation. The outsourced final disposal method is planned and implemented in accordance with the suitable situation in the local county and city where the plant is located. Regarding the details of implementing the circular economy of alternative raw material and fuel by Asia Cement and its subsidiary Ya Tung Ready-mixed Concrete please refer to Chapter 1.3 Circular Economy. The impact analysis shows that the sources of the wastes of Asia Cement and its subsidiaries are mainly the wastes generated from operational activities, such as the maintenance and replacement of the manufacturing process or pollution prevention equipment, the consumable material for maintenance or the replacement of auxiliary material. Most of the generated wastes can be recycled and reused.

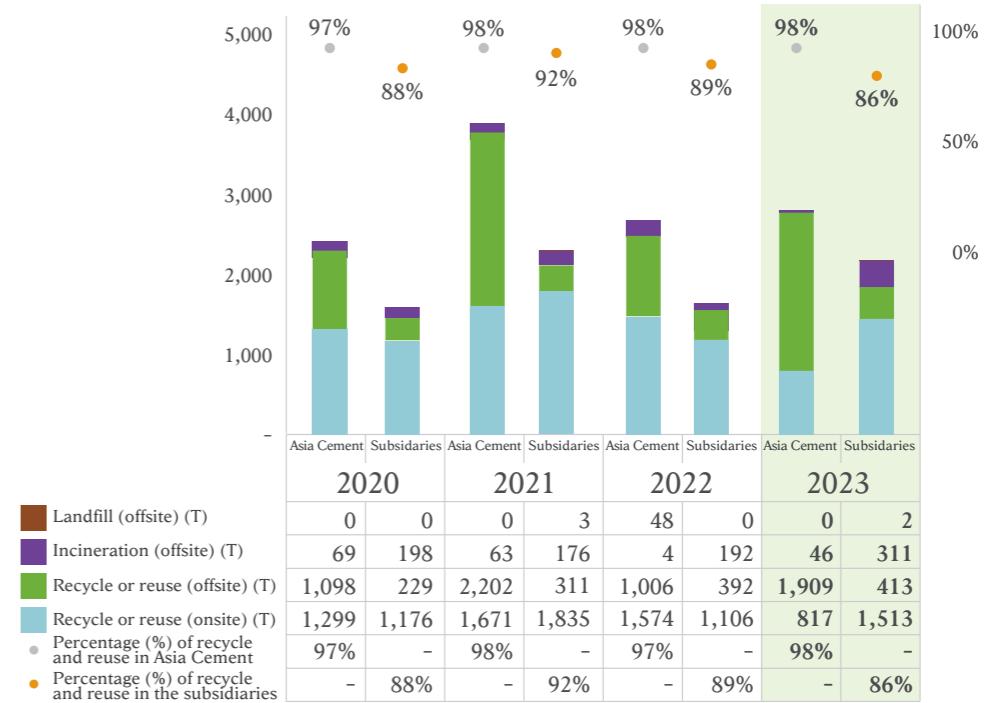
In 2023, the total weight of the wastes generated by Asia Cement was 2,772 metric tons, among which the total reused weight by the cement kiln in the Plant was 817 metric tons, the outsourced amount of recycling process through the published recycle channels was totaled 1,909 metric tons. Of the other waste unable to be recycled or reused, 46 tons were incinerated and 0 tons landfilled. The percentage of wastes recycle and reuse was 98%. In terms of the self-processed recycle and reuse of wastes in the Plant, Hualien Plant processes the wastes from cement kilns in the Plant by itself, the major item is the waste firebricks in the kiln. The wastes processed outside of the Plant are mainly the recycled waste rubbers and metal pieces. The annual amount processed depends on the replacement works.

Taking the year of 2021 as the baseline year, Asia Cement has set the target of waste recycle, reuse and reduction. Currently, Hualien Plant has added crusher to process circular economy alternative material, it plans to launch a program of reuse domestic wastes in the Plant and filing an application to local Environmental Bureau to move toward zero waste in the future.



The items outsourced by the subsidiaries for disposal (incineration, landfill) included the consumables and wastes relating to the manufacturing process or pollution prevention equipment. The subsidiaries, including Ya Tung Ready-mixed Concrete, Ya Li Precast and Nanhwa Cement, self-processed and recycled wastes from car wash platform and manufacturing washing process into material for reuse. The outsourcing processed wastes for reuse were mainly waste tires and oil from operational activities of Fu Ming (Da) Transport. Other irregularly generated wastes from the operational activities of other subsidiaries were recycled and reused by legal waste recycle companies.

The generation, recycle and reuse of general wastes



NOTE: The office waste generation and recycling rates for three companies (ACC headquarters, Fumin Transport, and Ya Tung Readymixed Concrete) were estimated based on the average per capita daily generation of general waste and recycling rates.



Punishment Cases Relating to Environmental Protection

Unit	Description of violations in 2023	Amount of fine	Corrective action
亞東預拌 YATUNG READYMADE CONCRETE	On January 13, 2023, the wastewater storage tank at the Tanzi Plant of Ya Tung Ready-Mixed Concrete malfunctioned, leading to wastewater discharge through the runoff wastewater outlet. The Tanzi Plant holds a wastewater transfer permit issued by the Taichung City Environmental Protection Bureau. After testing, it was found that the discharged wastewater did not meet the effluent standards, violating the Water Pollution Control Act.	NTD1,485 million	► The plant immediately replaced the ball valve to prevent wastewater from overflowing. A surveillance system has been installed which is 24-hour connected with the Taichung City Environmental Protection Bureau. This is aimed to monitor and control runoff water in real-time to prevent wastewater overflow and discharge in the future.
亞東預拌 YATUNG READYMADE CONCRETE	The bag filter pressure drop of the dust collector at the Renwu Plant exceeded the permitted range specified in the fixed pollution source operation permit, violating the Air Pollution Control Act, dust scattering occurred, violating the Waste Disposal Act.	NTD100,000	► The plant replaced all differential pressure cells and dust collector filter bags for the mixer. Enhanced dust removal at entrances and exits and washing of internal and external roads have been implemented. A surveillance system has been installed at the entrance, with 24-connection with the Kaohsiung City Environmental Protection Bureau. This allows real-time monitoring of dust levels to prevent dust scattering incidents.
YLSB	Failure to report waste clearance and recycling online in a timely manner violated the Waste Disposal Act.	NTD 6,000	► Following the reporting oversight, training procedures have been reinforced to prevent future occurrences.
YLSB	Failure to take the initiative to remove breeding grounds for vectors at the peak of dengue fever is a violation of the Communicable Disease Control Act.	NTD 6,000	► Vector mosquito control in the plant area has been fully implemented, with regular supervision by the responsible occupational safety department.

NOTE: Ya Tung Ready-Mixed Concrete was fined NTD6,000 for the violation of environmental protection in 2022.



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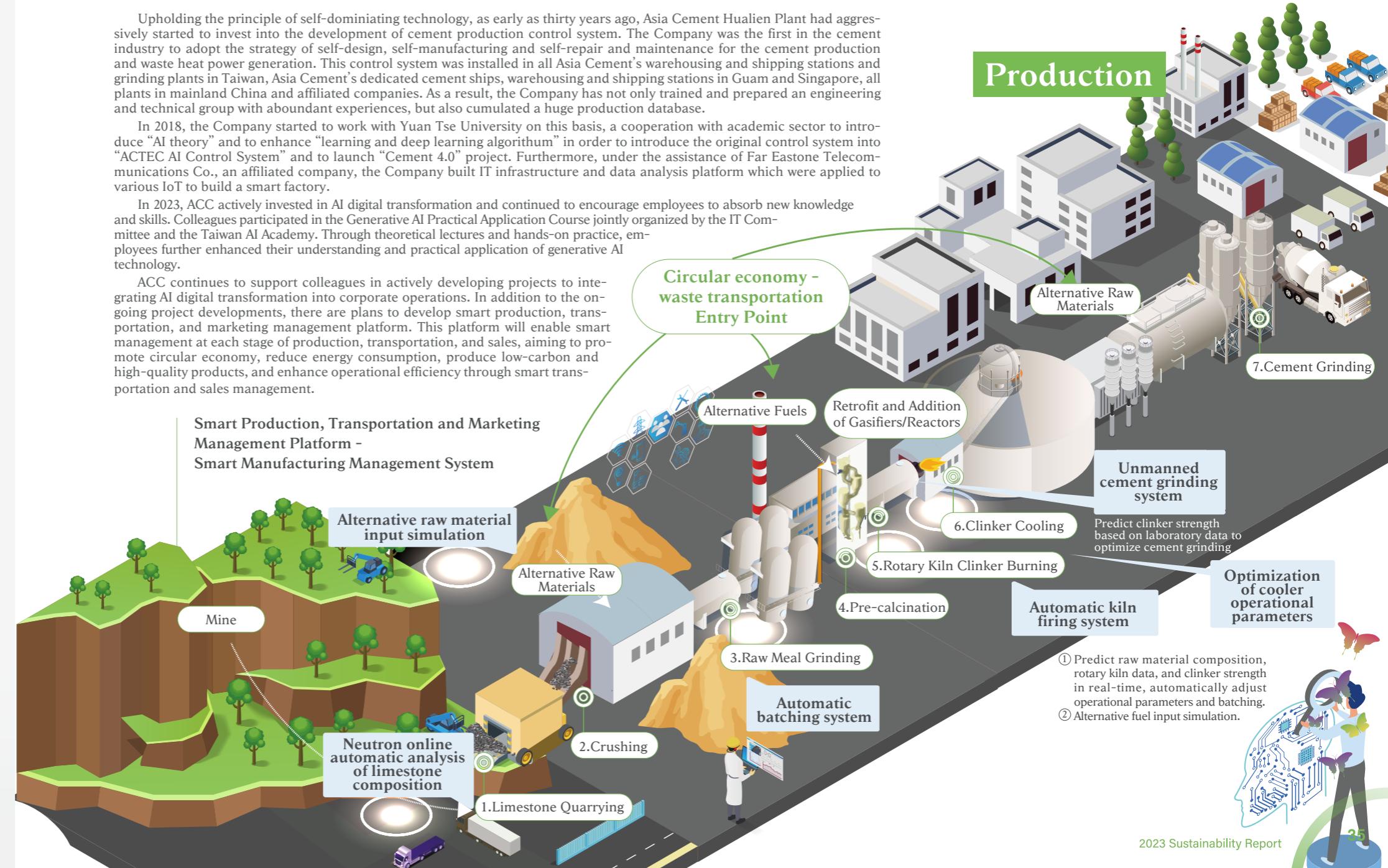
1.1.4 AI Digital Transformation of Smart Manufacturing Cement

Upholding the principle of self-dominating technology, as early as thirty years ago, Asia Cement Hualien Plant had aggressively started to invest into the development of cement production control system. The Company was the first in the cement industry to adopt the strategy of self-design, self-manufacturing and self-repair and maintenance for the cement production and waste heat power generation. This control system was installed in all Asia Cement's warehousing and shipping stations and grinding plants in Taiwan, Asia Cement's dedicated cement ships, warehousing and shipping stations in Guam and Singapore, all plants in mainland China and affiliated companies. As a result, the Company has not only trained and prepared an engineering and technical group with abundant experiences, but also cumulated a huge production database.

In 2018, the Company started to work with Yuan Tse University on this basis, a cooperation with academic sector to introduce "AI theory" and to enhance "learning and deep learning algorithm" in order to introduce the original control system into "ACTEC AI Control System" and to launch "Cement 4.0" project. Furthermore, under the assistance of Far Eastone Telecommunications Co., an affiliated company, the Company built IT infrastructure and data analysis platform which were applied to various IoT to build a smart factory.

In 2023, ACC actively invested in AI digital transformation and continued to encourage employees to absorb new knowledge and skills. Colleagues participated in the Generative AI Practical Application Course jointly organized by the IT Committee and the Taiwan AI Academy. Through theoretical lectures and hands-on practice, employees further enhanced their understanding and practical application of generative AI technology.

ACC continues to support colleagues in actively developing projects to integrating AI digital transformation into corporate operations. In addition to the ongoing project developments, there are plans to develop smart production, transportation, and marketing management platform. This platform will enable smart management at each stage of production, transportation, and sales, aiming to promote circular economy, reduce energy consumption, produce low-carbon and high-quality products, and enhance operational efficiency through smart transportation and sales management.



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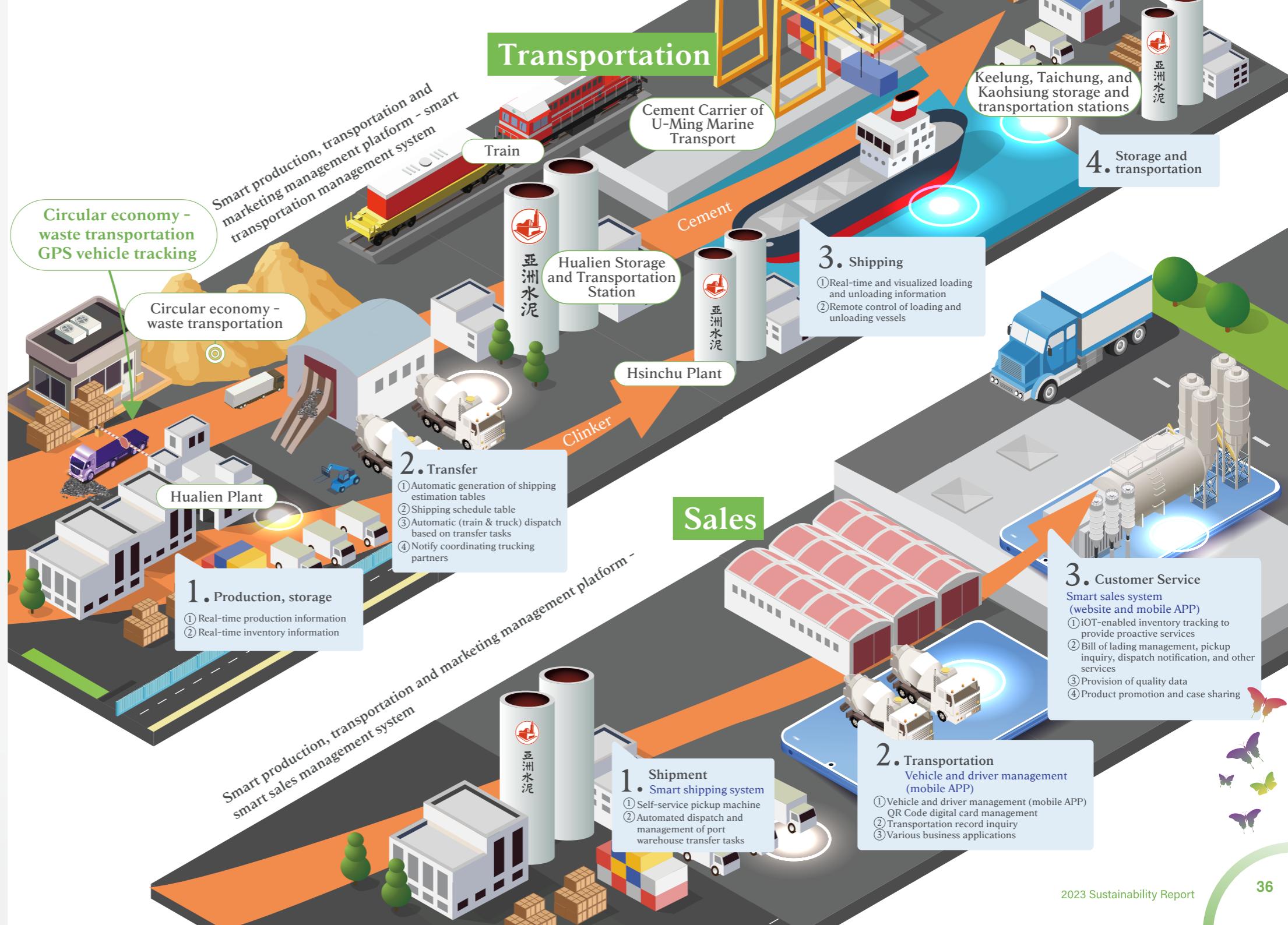
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Creation of a Knowledge Assistant for Process Equipment Maintenance With Generative AI

Real-time knowledge support is required for the maintenance of process equipment to prevent production interruptions and high maintenance costs. Utilizing generative AI technology to develop a knowledge assistant for process equipment maintenance can provide engineers with real-time support and knowledge sharing, enhancing efficiency and reducing the risks of failures.

The project was launched in 2023 to address common problems, provide maintenance recommendations, and troubleshooting, allowing engineers to solve problems faster and increase productivity. The project is expected to be completed by 2024 after training, fine-tuning, testing, and deployment.

Improve the efficiency of process equipment record search

- ① Quick access to engineering record-related data and resources
- ② Quick response and decision-making for emergency maintenance
- ③ Improve maintenance efficiency

Enhance sharing of mechanical equipment engineering knowledge and experience

- ① Improve the efficiency of new employee education and training
- ② Improve knowledge sharing within the unit.

Utilize Generative AI to Assist in Document Processing Tasks

Quickly complete high-quality official documents, meeting minutes, news and public opinion analysis to reduce the workload of manual writing, improve work efficiency, and enhance the professionalism and accuracy of documents.

Each project was launched in 2023 and continued model selection, training, and integration. Testing, optimization, and system deployment were completed in 2023 and 2024, respectively. Continuous improvement and maintenance will be carried out throughout 2024.

Improve work efficiency

Reduce the workload of manual recording and free up time for other work.

Improve document quality

Ensure document consistency to support better decision-making and analysis.

Enhanced knowledge management

knowledge base for easy reference and knowledge sharing in the future.

AI Prediction of Clinker Strength

Clinker is the main raw material for cement grinding, which has a huge impact on quality. Both excessively high and low strengths can impact customer formulations. Moreover, clinker strength testing has a 28-day delay. Early and accurate prediction of strength can provide early warnings, avoiding unnecessary adjustments in cement fineness for strength compensation, thus reducing additional energy consumption in cement grinding.

Using quality test data of raw materials and clinker components, along with real-time data from the rotary kiln, to predict clinker strength for various periods (3, 7, 28 days) can provide early warnings and precise adjustments. This ensures product quality and reduces additional energy consumption in cement grinding. The project completed small-scale conceptual experiments in 2023 to verify feasibility. The plan was to advance to production line validation in 2024 and 2025 and invest in establishing an online automatic kiln firing system. In the future, this system will not only predict clinker strength but also expand the use of alternative raw materials and fuels for circular economy, reducing carbon emissions in cement manufacturing.



Smart Industrial Safety

Utilize LINE@ & LINE-Bot platforms combined with the RWD technology to convert internal safety notes into web-based forms, enhancing real-time smart safety management. ACC continues to optimize smart industrial safety functions to improve plant operating efficiency. In 2023, new features including the "Security Patrol System" and "LINE Violation Reporting System" were added as real-time communication control tools. This function can reduce the operation process and improve the communication efficiency.

Smart Industrial Safety





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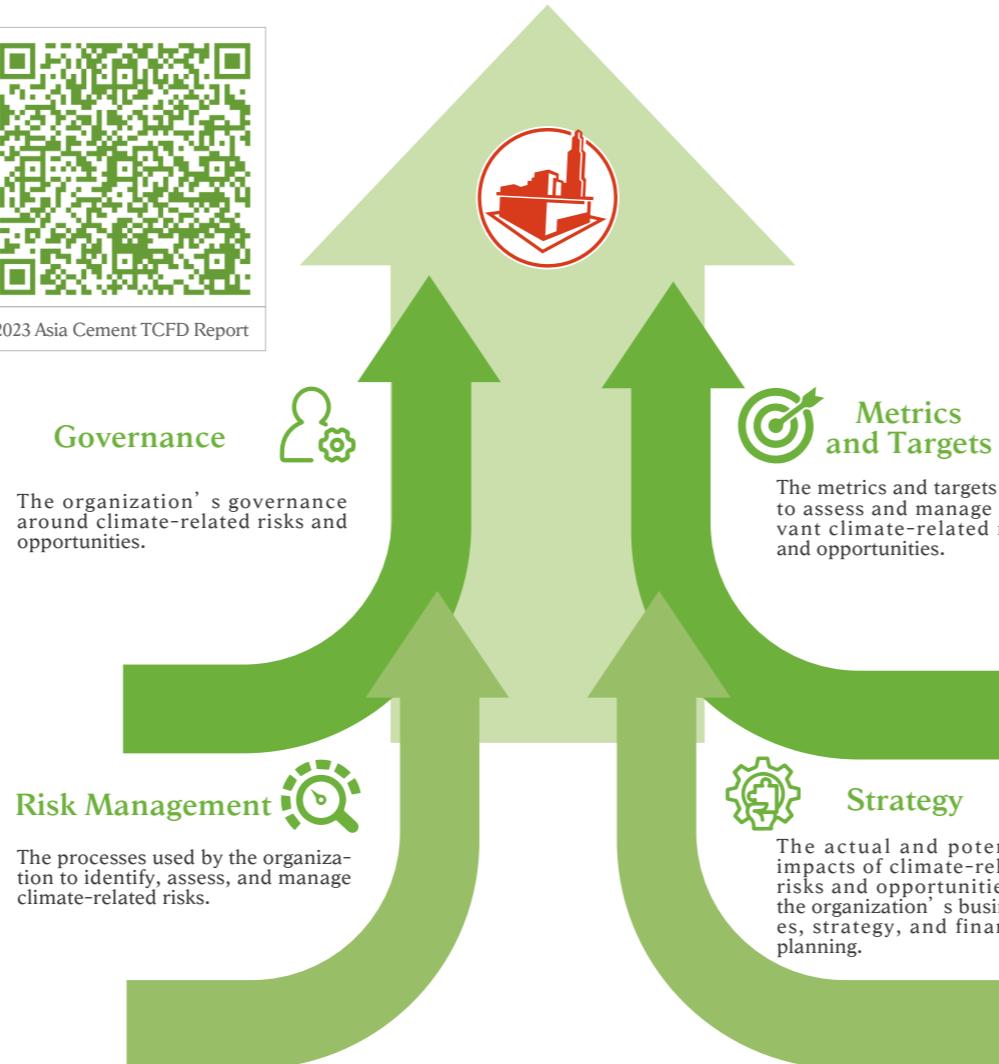
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The Task Force on Climate-Related Financial Disclosures (TCFD)

For the purpose of transparently disclosing the information of risks and opportunities relating to climate, Asia Cement set up the climate change management and information disclosure based on the management framework recommended by the initiative of The Task Force on Climate-Related Financial Disclosures (TCFD).

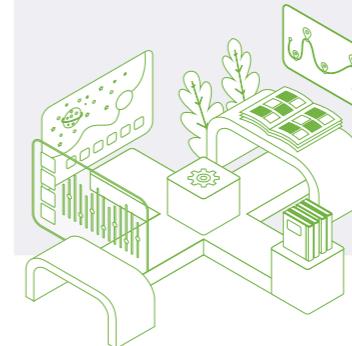


2023 Asia Cement TCFD Report



The Guide for Building Material Sector

Asia Cement disclosed the critical items considered by a specific industry including climate change strategy, indicators and targets, based on the Guide for Building Material Sector issued by TCFD for specific industries.



- Historical trend and forward-looking predictions are considered by all related indicators.
- Organization must consider providing the critical indicators relating to the investments to GHG emission, the use of energy, water and land, and climate adaption and mitigation in order to solve the potential financial problems including the needs, expenditures, assets assessment and the variation of financing costs.

Climate related risks and opportunities were considered during Asia Cement's decision making and strategy setting, including:

- Research and development and adopting new technologies.
- Existing and committed future activities low carbon transformation program.
- Climate scenarios using different assumptions, considering the trend of macro economy, energy path and technology.
- Qualitative or quantitative financial impacts of climate related projects.





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1.2.1 Governance on Climate Change

The governance of Board of Directors on climate change

A Corporate Sustainability Committee was founded under Asia Cement's Board of Directors and a Corporate Sustainability Implementation Committee was founded under President, the ESG promotion team was formed by the members from all departments to promote and implement ESG issues. ESG promotion team is required to report to Corporate Sustainability Implementation Committee quarterly and Corporate Sustainability Implementation Committee reports to Corporate Sustainability Committee the results of ESG every six months.

Corporate Sustainability Committee is required to consider climate related issues when reviewing and supervising strategies, important action plans, risk management policies, annual budget and commercial plans, and setting the operational targets of the organization, monitoring the status of implementation and supervising important capital expenditures. It also checks the status of reaching the target of Asia Cement's net zero emission in the Board Meetings every six months.

Management level for climate change

The president, a board director, is directly in charge of the management of Corporate Sustainability Implementation Committee and requests all production units and sales units to evaluate risks and opportunities relating to climate change, specifically the long-term impact to business operations by climate change, including the assets of the Plant, manufacturing process, transport of raw materials, even the laws, regulations and the change of consumers' preferences.

Corporate Sustainability Implementation Committee is created within Corporate Sustainability Committee and in charge of the entire risk management matters including integrating and coordinating cross-departmental common risk management issues, promoting and communicating significant risk management events, executing and tracing all resolution items of risk management assigned by the board of directors or Corporate Sustainability Committee, and submitting risk management reports.



Incentive measures for climate change

Stipulate incentive measures and KPIs for climate change, fulfill the SBT target of carbon reduction.

Party	Incentive Measures	Incentive Indicators KPIs
Top management	Supervise circular economy to reach the target of GHG reduction, listed as the annual performance item.	Reach the pre-determined SBT target of the annual GHG reduction.
Management level and all employees	This criterion is built into the annual performance evaluation to determine if an employee can receive the 6% annual bonus.	The annual GHG reduction amount met the set SBTs.
	10% of conservation performance bonus (including circular economy benefits).	We deployed the circular economy model to reduce GHGs, successfully meeting the annual target set for alternative/raw materials and fuels.

NOTE The highest management level is the President.





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1.2.2 Strategy for Climate Change

Impact of climate change strategy

The aspects included in Asia Cement's climate change strategy are: products, supply chain, low carbon investment and operational activities.

Aspect affected by the strategy	Description of implementing Asia Cement's strategy
Products	Research and develop low carbon products including Masonry cement and limestone cement.
Supply chain	Low carbon decision on circular economy alternative raw material and fuel.
Low Carbon Investment	Investing into net-zero project research and development based on carbon reduction target.
Operational Activities Investment	Prepare a plan in response to the impact to operations by the physical risks due to climate change.

Planning for financial impact by climate change

Asia Cement's climate change strategy of financial aspect affected includes the possibility of increasing operational expenses, increasing capital expenses for low carbon technology, and rising of raw material costs.

Identify and quantify the impact of major risks in accordance with the "Risk Management Policies and Procedures" of ACC. These standards define the financial risk impact as five levels of "very low, low, medium, high, and very high." "High" and "very high" impact are considered to have a substantial impact on ACC. The definitions are as follows:

Very Low Low Medium

High Impact

Affecting EBITDA by 4% to 5%

"Very High" Impact

Affecting EBITDA by more than 5%



Analysis of climate change scenarios

IEA B2DS scenario – assess transition risks

Asia Cement undertook the assessment of transit risk based on the "Beyond 2°C Scenario, B2DS" proposed by International Energy Agency (IEA). The result of analyzing IEA B2DS was as follows: Asia Cement joined the initiative of Science-Based Targets for carbon reduction and set the carbon reduction target scenario by department based on IEA B2DS scenario. The first phase is by 2025, comparing to 2019, the scope 1 plus scope 2 GHG emission intensity per ton of cementitious materials will be reduced by 8%.

The influences of IEA B2DS scenario to target and strategy: On the basis of analyzing IEA B2DS scenario, Asia Cement set the target of emission reduction year-by-year. The boundary of reduction covered cementitious materials production sites (Hsinchu and Hualien Plants) and the headquarter. Asia Cement aimed at reaching the target of emission reduction as the low carbon transformation strategy. The strategy was mainly driving the circular economy of the alternative raw material and fuel, the increase of energy efficiency and the installation of renewable energy.

IEA NZE 2050 Scenario – Transformation Risk Assessment

The IEA NZE 2050 scenario assumes that enterprises will achieve net zero emissions by 2050 and sets an emissions pathway to limit the global temperature rise to less than 1.5°C with a 50% probability of success. ACC is committed to achieving net-zero emissions. In the second stage, using IEA NZE 2050 scenario, we have set a near-term net-zero emissions target to reduce the intensity of Scope 1 and 2 GHG emissions per ton of cementing materials by 26.4% by 2030 compared to 2019 levels. Furthermore, our target for 2035 is to reduce net-zero emissions by 45.7%.

SSP5-8.5 - Physical Risk Scenario Assessment – Physical Risk Assessment

ACC used the "Shared Socioeconomic Pathways" (SSPs) scenarios to simulate SSP5-8.5. ACC adopts the SSP5-8.5 scenario to multiply the hazard factor by the vulnerability factor to identify the risk matrix for regulatory response. The main identified risk items in the risk matrix include: Slope disasters and threats of strong winds. The major impacted items include the transportation system for secondary raw materials (clay), the raw material grinding system, and the rotary kiln system.

The SSP5-8.5 scenario analysis has implications for the goals and strategies of ACC. Based on the RCP 8.5 scenario, ACC will establish and implement disaster emergency response plans and sustainably monitor relevant climate risks.





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1.2.3 Climate Change Risk Management

Climate change risk management process

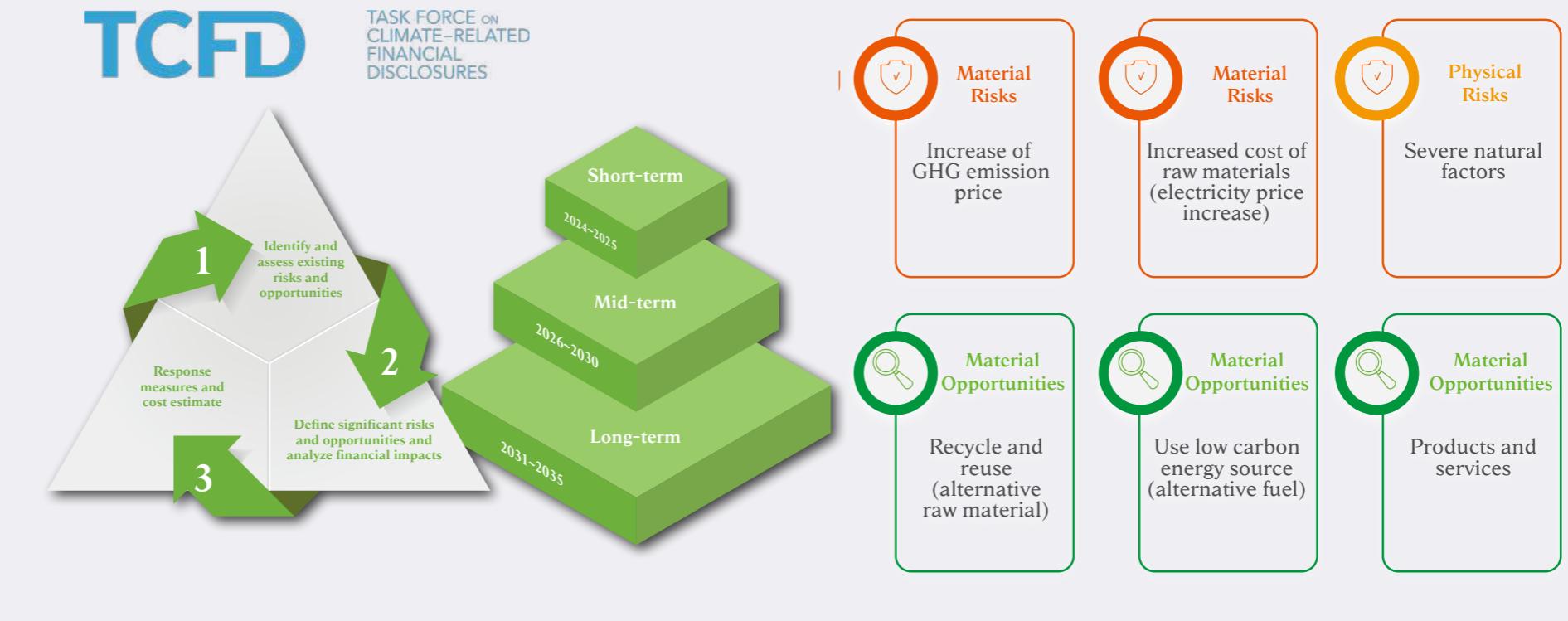
Asia Cement's climate change risk management flow is composed of three steps: identify and assess existing risks and opportunities, define material risks and opportunities and analyze financial impacts, and response measures to material risks and opportunities and cost estimate.



Step1 Identify and assess existing risks and opportunities

Each year the Company gives scores to the correlation, impact and occurrence period of the risk and opportunity items in accordance with the items of TCFD transition risk, physical risk and opportunity to establish a risk and opportunity assessment matrix.

The short-mid-long term occurrence periods of risk and opportunity are assessed with the definition of 2024–2025 as the short-term, 2026–2030 as the mid-term, and 2031–2035 as the long term.





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Step2 Define material risks and opportunities and analyze financial impacts

Description of the assessment to the potential financial impacts from 3 material risks and the measures of risk management.



Step3 Response measures and cost estimate

Item of risks	Increase of GHG emission price -material risk		Increased cost of raw materials (electricity price increase)-material risk		Severe natural factors	
	Type of risk	Transition risks	Current regulation	Transition risks	Market	Physical risk
Description of risk	According to the "Climate Change Response Act," a carbon tax is expected to be levied in 2025. ACC's Hualien Plant and the emissions in Scope 1 and 2 of Chiahui Power will be charged a carbon tax of NTD300 per ton. This will have an impact on the operations of ACC. <small>NOTE</small>	Currently, the electricity price cannot restrain the power consumption and reach the target of carbon reduction in Taiwan.	Operational aspect	Strong typhoons and heavy rainfall may cause raw materials dampness and coal collapse, resulting in a decrease in subsequent production capacity and damage to the plant facilities.		
Value chain occurred stage	Direct operation	Upstream supply chain	Supply chain aspect	Strong typhoons may disrupt the import of raw materials (low-alkali silica sand), affecting the inventory levels at the plant.		
Risk driven factor	Carbon pricing mechanisms	Increase of raw material cost (electricity price increase)	Operations and supply chain	Typhoons with strong winds and heavy rainfall may cause the Suhua Highway to be blocked, affecting the transportation of raw materials and products.		
Potential financial impact	Increase of operational cost	Increase of electricity cost	Decreased productivity and operational losses	Reduced revenue and increased operating costs		
Occurrence period	Short-term	Mid-term	Long-term	Short-term	Short-term	Short-term
Potential financial Impact figure	Short-term (2024-2025) NT\$1.8 billion Mid-term (2026-2030) NT\$3.87 billion	Short-term (2024-2025) NT\$0.32 billion Mid-term (2026-2030) NT\$1.98 billion	Short-term (2024 to 2025) NT\$27 million			
Measures of responding to risks	Implement net zero programs such as circular economy, renewable energy and energy efficiency improvement.	Adopting ISO 50001 energy management system can increase energy efficiency each year.	Outdoor storage for raw coal and outdoor warehouses #2 and #3 converted to indoor storage	Increase raw material safety stock		
Estimate of cost for responding risks	Short-term (2024-2025) NT\$0.98 billion Mid-term (2026-2030) NT\$0.55 billion	Short-term (2024-2025) NT\$0.0001 billion Mid-term (2026-2030) NT\$0.35 billion	Short-term (2024 to 2025) NTD1.324 billion			



NOTE As the carbon fee regulations are not yet clear within the publication period of the report, the estimation of carbon fees does not consider the high-carbon leakage risk coefficient and preferential rates.



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Description of the assessment to the potential financial impacts from 3 material opportunities and the measures of risk management.

Item of opportunity	Recycle and reuse (alternative raw material)			Use low carbon energy source (alternative fuel)			Products and services		
	Type of opportunity	Material opportunities	Resource efficiency	Material opportunities	Source of energy	Material opportunities	Develop and/or add low-carbon products and services		
Description of opportunity	Implement circular economy of recycling and reusing industrial wastes (upstream) to replace cement raw material.			Implement circular economy of recycling and reusing industrial wastes (upstream) to replace fuel.			Increased sales of low-carbon cement.		
Value chain occurred stage	Direct operation			Direct operation			Operations and downstream customers		
Opportunity driven factor	Circular economy of recycle and reuse			Use low carbon energy			Development and expansion of low-emission products		
Potential financial impact	Increase the income of handling charge			Increase the income of handling charge and reduce coal			Increase revenue		
Occurrence period	Short-term	Mid-term	Long-term	Short-term	Mid-term	Long-term	Short-term	Mid-term	Long-term
Potential financial Impact figure	Short-term (2024~2025) NT\$0.24 billion Mid-term (2026~2030) NT\$0.93 billion Long-term (2031~2035) NT\$1.12 billion			Short-term (2024~2025) NT\$0.5 billion Mid-term (2026~2030) NT\$2.41 billion Long-term (2031~2035) NT\$3.72billion			Short-term (2024~2025): NT\$0.93 billion Mid-term (2026~2030): NT\$3.97 billion Long-term (2031~2035): NT\$4.50 billion		
Measures of responding to opportunities	<ul style="list-style-type: none"> The work of adding alternative material storage room Smart raw material ingredients analysis system 			<ul style="list-style-type: none"> The work of adding alternative fuel crushing process equipment The work of improving rising air duct of preheater Adding alternative fuel storage room The work of improving preheater alternative fuel feeding system and firing time Smart alternative fuel analysis system The work of adding alternative fuel storage and transport system 			R&D and marketing of Skyscraper Brand masonry cement, Portland limestone cement, and ternary blended cement.		
Estimate of cost for responding opportunities	The cumulated short-mid term fixed and variable costs of the equipment for alternative raw material is NT\$0.4 billion.			The cumulated short-mid and long term fixed and variable costs of the equipment for alternative raw material is NT\$0.68 billion.			The estimated cost for the research and promotion of low-carbon cement in the short-, mid-, and long-term was NT\$160 million.		





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1.2.4 Climate Change Indicators and Targets

The KPIs stipulated by Asia Cement for climate change included: water, energy, wastes management and GHG emission. The KPIs and targets were formulated by referring to TCFD Guide for Building Material Sector. Please refer to the details in each chapter for explanation on why the targets were not met.

Type	Indicator	Unit	Target	2023 Actual	2023 Target Achievement Status	Compared to base year
Energy	Total energy consumption	MWh	The year of 2019 as the baseline year, the energy consumption and intensity reduced by 1% each year.	3,321,981 MWh		Reduced by 13.4%
		MWh/Ton of cementitious material		0.98 MWh/ton of cementitious material		Reduced by 6.6%
GHG	Emission intensity of cementitious materials	Ton CO ₂ e / Ton of cementitious material	The year of 2019 as the baseline year, committed that by 2025, including Taipei headquarter, Hsinchu Plant and Hualien Plant, the emission intensity of cementitious material (scopes 1 and 2) will be reduced by 8%. (The target of SBT)	0.826 ton of CO ₂ e/ton of cementing material		Reduced by 6.0%
Percentage of alternative raw material and fuel	Percentage of replacing raw material and fuel	kg / Ton of cementitious materials %	183 kg/ton-cementitious materials of replaced raw material before 2030, 10.2% of heat generated from biomass alternative fuel, 19.3% of heat generated from non-biomass alternative fuel.	109 kg/ton - cementing material Biomass 2.6% Non-biomass 1.8%		
Rate of recycling water	Reused volume of manufacturing process back water /pumped water volume	%	The percentage of manufacturing process water recycled and reused reaches above 85% each year.	84%		
Efficency of water	Water intake / Cementitious materials	Ton of water / Ton of cementitious materials	The water intake of unit cementitious materials reduced by 1.5% each year (baseline year 2017).	0.815 ton-water/ton-cement material		Increased by 14.2%
Water	Fresh water consumption	Thousand Ton (ML)	Taking 2018 as the baseline, the fresh water consumption reduced by 1% each year.	2,636 thousand tons (ML)		Increased by 12.7%
Wastes	Percentage of wastes recycled	%	The percentage of recycled wastes reached above 90% each year.	98.3%		
Waste heat power generation	Percentage of the power generated from waste heat of the total power used by the Plant	%	The percentage of the power generated from waste heat is above 20% of the total power used by Hualien Plant.	17.2%		



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1.3 Circular Economy

The cement industry, due to its high-temperature rotary kiln process, can recycle waste and resource-based products, turning them into alternative raw materials and fuels, thereby reducing the use of natural resources and fuels. This leads to environmental (E), social (S), and governance (G) sustainable benefits such as reducing GHG emissions and creating job opportunities, making it a key driver of the circular economy.

1.3.1 A Model of Circular Economy



In compliance with UN's goals of sustainable development SDGs12, Asia Cement strives to ensure sustainable consumption and production method. It focuses on implementing sustainable management and efficient use of natural resources, and largely reducing the generation of wastes by way of prevention, volume reduction, recycle and reuse.

ACC has been widely recognized both domestically and internationally over the years, and is eager to share its experience in reusing and recycling. Collaborating with cement industry peers to expand waste processing capacity, ACC actively promotes the transformation of waste into resources, helping Taiwan move towards a sustainable and green home for future generations.



"Taiwan Circular Economy Awards: ESG Contribution Award - Annual Exemplary Award in 2023" granted by Chung Hua Institution for Economic Research.



Taiwan Circular Economy Awards granted by Chung Hua Institution for Economic Research.

⑤ Investment of circular economy critical resources

In 2023, the total fixed cost of key resource investment amounted to **568.6 million**.

Asia Cement generated critical resources relating to alternative raw material and fuel, and focused on product quality and emission monitoring. Hence, it was able to completely reuse wastes and resource-recoverable products.

Items alternative	Key resource investment plan	Investment amount (NTD10,000)
Alternative fuel	Installation project for alternative fuel crushing equipment	2,000
	Installation project for alternative fuel storage warehouse	18,000
Alternative raw materia	Installation project for blending equipment of alternative raw materials in the limestone warehouse	4,660
	Improvement project for the updraft duct of #3 preheater	32,200
Total		56,860

Year

2019

The first cement company worldwide received 3 certificates at the same time.

In 2019, "Portland cement" production passed the certifications of ISO 14067:2018 product carbon footprint standard, ISO 14046 : 2014 product water footprint standard and circular economy BS 8001: 2017 highest maturity level mode.

2020

- Received "Circular Economy Leadership Award" of "Asia Responsible Enterprise Award (AREA)" granted by Enterprise Asia.
- Received "Circular Economy Leadership Award" of "Taiwan Corporate Sustainability Award (TCSA)".
- Received Global Corporate Sustainability Award (GCSA) of "Great Practice" by Circular Economy Project.

2021

The pioneer of driving circular economy, received the highest recognition of "Resource Recycle Best Enterprise 2-Star" from Ministry of Environment.

2022

Cement Company Awarded for the First Time

Received "Product Award" - "Outstanding Award" of Taiwan Circular Economy Awards granted by Chung Hua Institution for Economic Research.

2023

Awarded for 2 consecutive years

Awarded the "Taiwan Circular Economy Award" by the Chung-Hua Institution For Economic Research, and received highest honor, the ESG Contribution Award - Annual Exemplary Award

Awarded the 2ndtime

Won the TCSA Circular Economy Leadership Award at the Taiwan Corporate Sustainability Awards





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1.3.2 Sustainable cycling and co-processing of resources in cement production process

Cement manufacturing process is featured with superior 3T properties (temperature, time, turbulence): high temperature, long staying time and strong turbulence, it can thoroughly dissolve waste and hazardous substance which causes heavy pollution. Hence, circular economy is the most important direction to be considered when cement plants adopt strategies. The reuse items for circular economy driven by Asia Cement include wastes and resource-recoverable products derived from wastes, which can help public sector and various industries in Taiwan to clear their wastes and to effectively reuse resources!

Before using any alternative material, Asia Cement always carries out a prudent risk assessment. Asia Cement not only comprehensively analyzes and assesses multiple factors, including ecology, environment, transportation, occupational safety and health, and staff's perception (such as discomfort caused by peculiar smell), but also continues to adjust sources of raw materials and optimize operation. The Hualien Plant has additionally installed a fine crusher and is planning to design a combustion furnace to increase the acceptable size of alternative materials and increase combustion efficiency. Going forward, we will devise an in-factory domestic waste processing project, heading towards resource recycling (i.e., zero waste).

When promoting circular economy by co-processing waste, Asia Cement applies for reuse and operates according to the laws and regulations of our country and further complies with the Global Cement and Concrete Association (GCCA) Guidelines. Since some waste possesses chemicals, material characteristics, or potential hazards that might jeopardize the safety or operation of cement plants or is likely to cause collateral material environmental impact when used in a cement plant, Asia Cement pledges not to co-process the following waste in cement kilns.



- | | |
|--|---|
| ☒ Radioactive wastes from nuclear industry | ☒ Bio medical wastes |
| ☒ Whole piece of battery | ☒ Wastes without knowing the compositions or not predictable, including residential wastes not being sorted |
| ☒ Explosive and ammunition | ☒ Appliances and electronic |
| | ☒ Corrosive wastes including inorganic acid |
| | ☒ Wastes containing asbestos |
| | ☒ Chemical or bioweapons scheduled to be destroyed |
| | ☒ Wastes not or only having slight mineral value to clinkers |



Model	Name of resource	Major alternative energy and resources	Source of resources
	Basic oxygen furnace slag fine aggregates	Limestone Lorn sand	Basic oxygen furnace slag, a by-product, is treated by crushing, grinding into powder and magnetic deironing.
	Mineral fine aggregates	Steel industry	By-product is treated to recover resources by desulfurization, crushing, grinding into powder and magnetic deironing.
	Reducing slag	Limestone	By-product from the manufacturing process of reducing scrap steel by electric arc furnace
	Slaked lime	Gas manufacturers	Waste calcium carbide residue from waste water treatment in the manufacturing process of using calcium carbide to produce ethyne
Alternative raw material	Stone powder	Stone material processing industry	Stone mud waste is treated to recover resources by sorting and drying.
	Calcium carbonate from water purification	City water treatment plant	Calcium carbonate crystal produced from eliminating the hardness of water in the softening process
	Sludge from water purification		Sludge generated from the purification of water
	Coal bottom ash	Various industries	Waste generated from the fuel which is derived from the burning of less than 5% business waste mixture.
	Coal fly ash	Clay	
	Regenerated particles from incineration	Trash incinerator	The bottom ash generated from the incineration of residential waste which is treated by crushing, magnetic deironing and sorting.
	Mixed burning coal ash	Various Industries	Wastes generated from business mixed burning less than 50% of the fuel derived from wastes.
	Solid fuel	Waste treatment industry	Wastes of non-hazardous oil mud and waste wood are treated by magnetic deironing, mixture and sorting.
	Plastic plates RDF	Opto-electronic industry	The waste polarizing film produced by polarizers is treated by crushing and sorting
	Waste plastic	Various industries	Waste plastic generated
	Sludge from pulp paper	Paper industry	Sludge from waste water treatment
Alternative fuel	Sluge in sewer system	Water resource center	Organic sludge from domestic sewage after bio-treatment
	Waste wood / wood chips	Waste treatment industry Agriculture and Forestry Industry	Wood or waste wood from various industries or construction work/wood chips generated from recycling into resources by crushing or magnetic separation.
	Straw	Agriculture	Straw from rice harvest
	Scrapped turbine blades	Renewable Energy Industry	Scrapped turbine blades retired from wind farm projects
Co-Processing	Coolant	None	Seized by Customs
			Smuggled coolant seized by customs.





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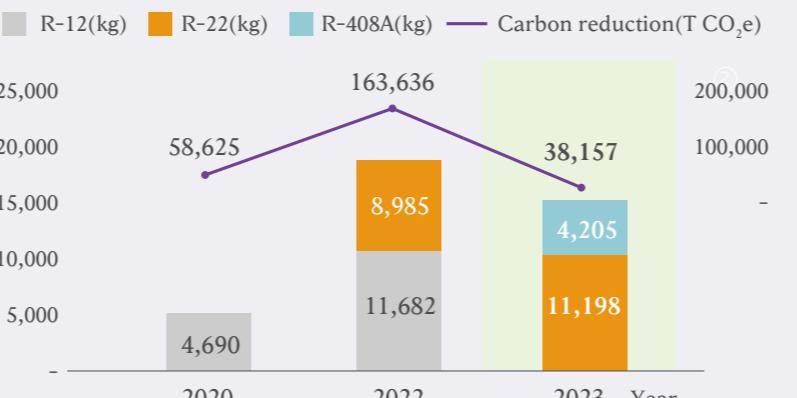


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Helping the Government to Reduce the Impact to Environment

Asia Cement assisted the government to destroy smuggled coolants R-12, R-22 and R-408A, these coolants will severely damage o-zone and cause global warming at high potential. Although the use of these coolants was banned by the government, somehow, they were still smuggled in by some unscrupulous businessman. Asia Cement, together with ITRI, developed the first technology of destroying coolants in cement kiln in Taiwan. In 2020 and 2023, the Company helped the government to destroy approximately 41 tons of smuggled coolant seized by customs. The global warming potential GWP value of coolant is high, in which R12 is 12,500 times than that of CO₂, R22 is 1,960 times, R408A is 3,855 times. In 2020 and 2023, Asia Cement helped to prevent a total of 260,000 tons of CO₂e from GHG emission caused by the diffusion of coolant and avoided the severe damage to o-zone.

Asia Cement partners with refrigerants



Circular Economy Management Optimization

ACC's Hualien Plant has established an alternative fuel storage yard in compliance with regulations. The stored materials include wood chips, solid fuels, solid recovered fuels, straw, RDF (label waste), RDF (pulp sludge), and RDF derived fuel (plastic flakes). A fire broke out at the storage yard on March 14, 2024. According to the investigation by the Hualien County Fire Department, the cause of fire was the accumulation of moisture in the densely stacked wood chips due to consecutive rainy days, leading to internal biodegradation and fermentation heat. The internal heat buildup caused spontaneous combustion. The fire was controlled and extinguished approximately half an hour after it started. ACC will continue to implement management improvements to prevent similar accidents from happening again in the future.

- ① Priority will be given to clearing the on-site storage of alternative fuels. Once the supply of alternative fuels resumes, the quantity entering the plant and stored in inventory will be controlled. The handling sequence will follow a FIFO approach, and additional space will be allocated to improve ventilation and reduce the risk of spontaneous combustion caused by long-term and dense stacking due to moisture-induced biodegradation fermentation heat.
- ② Cameras have been installed at the alternative fuel storage yard to cover the entire storage yard and surrounding roads, and inquire about fire detection products based on video surveillance.
- ③ The on-duty personnel use thermal imaging cameras daily to detect any abnormal heat signatures at the alternative fuel storage yard and report and record their findings.
- ④ Sheds and firefighting facilities were installed at the alternative fuel storage yard to ensure safe storage. Subsequently, there are plans to set up smart storage facilities for alternative fuels.
- ⑤ In addition to the existing fire hydrants, 3 additional fire hydrants will be installed at the storage site to increase fire protection density.

A Pioneering Circular Economy Initiative, the Regeneration Value of Scrapped Turbine Blades

As the threat of global warming intensifies, Taiwan has been actively developing various renewable energy sources, among which wind power has attracted the most attention. A wind turbine blade has a lifespan of about twenty years, and the turbine blades are made of glass fiber-reinforced plastic composite material (FRP) for durability against strong winds and corrosion. The disposal of decommissioned blades has been a major challenge, often resolved through burial in many foreign countries. Based on this, ACC, in collaboration with the Resource Circulation Administration of the Ministry of Environment and ITRI, has developed the "cement kiln co-processing scrapped turbine blades technology". The FRP material of scrapped turbine blades consists of 60% non-combustible components, mainly silicon oxide, calcium oxide, and aluminum oxide, which can replace the limestone and clay in cement production. The resin component with calorific value accounts for 40%, which can substitute for coal. ACC's innovative technology not only effectively processes waste but also reduces the consumption of natural minerals. In 2023, it successfully processed approximately 20.96 metric tons of scrapped turbine blades from onshore wind turbines, providing a sustainable solution for the continued development of Taiwan's renewable energy industry.





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1.3.3 Risks, Opportunities and Creativity

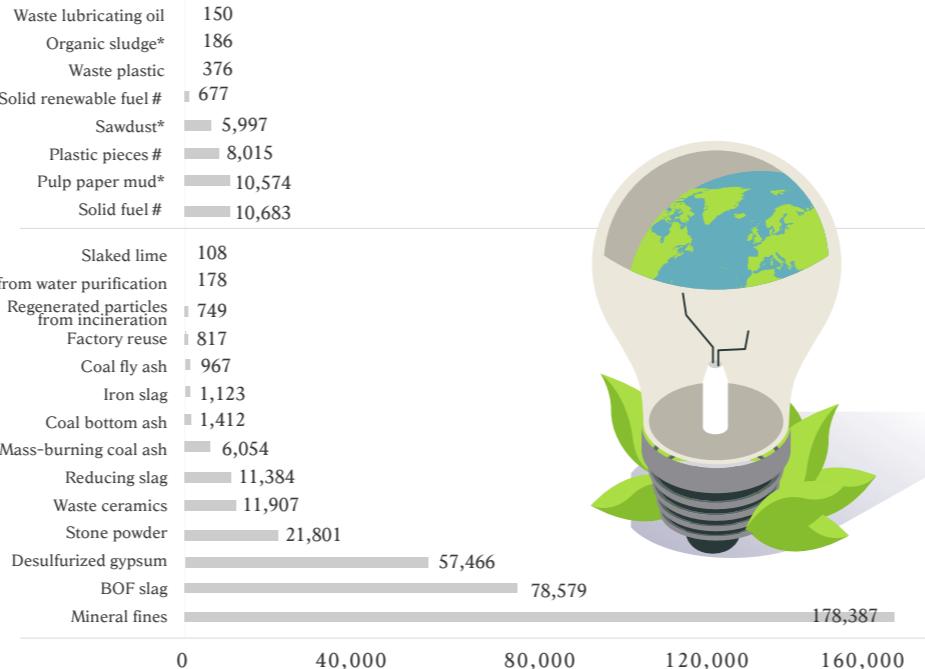
Circular economy risk and opportunities and management measures

ACC will standardize the operational control of the circular economy by establishing the “Regulations for Acquisition and Reuse of Circular Economy-promoting Raw Materials and Fuels” and the “Operating Procedures for Circular Economy-promoting Management” as the basis for implementing the circular economy. Furthermore, ACC's Hualien Plant has been verified according to BS 8001: 2017 and has obtained recognition for the highest maturity level of the circular economy model (Optimizing). This achievement was attained by following the six principles of BS 8001 to pursue the path of the circular economy. ACC's circular economy promotion team adopts systemic risk assessment methods to assess risks and opportunities in the economic, environmental and social aspects, as well as corresponding management measures.

Innovation of Asia Cement circular economy

The innovative models include fuel substitution types and public sector cooperation models, among which the use of BOF slags is a pioneering initiative in the domestic cement industry. Additionally, ACC's circular economy substitution potential targets various markets across Taiwan, including cities/counties such as Taipei, Kaohsiung, Tainan, Taichung, Taoyuan, Miaoli, New Taipei, and Yilan, etc. Hualien County, where ACC is located, is particularly active in promoting circular economy initiatives.

Asia Cement 2023 Circular Economy Alternative Fuels and Raw Materials Quantities(ton)



NOTE * indicates biomass alternative fuels. # indicates partially biomass alternative fuels, based on the test results of biomass carbon content (ASTM D6866).



ESG	Item of Risks	Corresponding Management Measures
Environment E	Air pollution discharged from production violate laws and regulations.	<ul style="list-style-type: none"> ▶ Test and measure air pollution items to ensure the compliance with the legal standard.
Society S	Increase hazards of occupational safety and health.	<ul style="list-style-type: none"> ▶ Fulfill occupational safety and health system management.
Governance G	Product quality influenced by alternative raw material and cause shipment delay by inferior.	<ul style="list-style-type: none"> ▶ By way of quality inspection and control to inspect the compliance to quality standard for each batch of alternative material.
ESG	Item of Opportunities	Corresponding Measures
Environment E	<ul style="list-style-type: none"> Reduce the needs of excavating natural resources. Reduce CO₂ emission. Reduce impact to water resource. Complete recycle and reuse wastes, no issue of secondary pollution. 	<ul style="list-style-type: none"> ▶ Establish management KPIs, undertake monitoring and controlling. ▶ Establish ISO 14067 product carbon Footprint. ▶ Establish ISO 14046 product water Footprint. ▶ Establish a complete monitoring and controlling system
Society S	<ul style="list-style-type: none"> Improve customer relations. Increase job opportunities. Provide waste treatment service to Society. 	<ul style="list-style-type: none"> ▶ Customer satisfaction survey and disclosure. ▶ Personnel hiring measures ▶ Establish a circular model of grave to cradle.
Governance G	Reduce the costs of fuel and raw material, Fulfill circular economy model.	<ul style="list-style-type: none"> ▶ Statistics of internal economic performance. ▶ Establish BS 8001 circular economy standard.





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1.3.4 ESG Performance and Indicators /Targets

Circular economy ESG performance of sustainability

ACC's main goal in promoting circular economy is to integrate the industry dynamically and statically, promoting integrated circular models, reduce resource consumption, turning waste into resources, and creating a triple-win situation for the economy, environment, and society, thus achieving a resource-circulating society.

Through ACC's active implementation of the circular economy, tens of thousands of tons of natural raw materials were saved from mining each year, along with their associated energy consumption. The hope is that through the active and sustainable circular production model of ACC, misplaced resources will be redirected to areas that are more beneficial for the planet.

Circular economy indicators and targets

Asia Cement has set short, mid and long-term goals for its circular economy, and using the replacement ratios of raw material and fuel as the key performance indexes for the control benchmark.

Index and Goal	2023 Target	Results of 2023	(2025)	(2030)	(2035)
			Short-term Target	Mid-term Target	Long-term Target
Alternative raw materials	Percentage of alternative (kg/ton-cementitious materials)	112	109	159	173
	Volume alternative (Ton)	416,100	370,932	534,100	583,700
Alternative fuel	Percentage of heat supplied by biomass alternative fuel (%)	3.3%	2.6%	5.1%	8.1%
	Percentage of heat supplied by nonbiomass alternative fuel (%)	3.8%	1.8%	6.7%	14.2%
	Volume alternative (Ton)	56,761	36,642	78,680	144,920
Clinker to cement ratio	Clinker / cement	90.7%	92.02%	86.2%	79.4%
					58.1%

NOTE: Use of alternative raw materials reduces the consumption of natural raw materials (limestone, iron ore, clay); update is based on the loss on ignition (LOI) of elements (SiO_2 , Al_2O_3 , Fe_2O_3 , CaO)

Explanation of Target Shortfalls

Originally, ACC added alternative fuels directly to the preheater, but due to the limitations of the residence time, the alternative fuels added were limited, and amount added was thereby extremely small. In 2022, active research was conducted to optimize the application of alternative fuels. However, due to space limitations at the three rotary kiln sites, it was planned to install a step-type furnace to expand the use of alternative fuels. By the end of 2023, ACC had completed the construction of 5 small step-type furnaces. However, at this stage, the combustion efficiency did not meet the expected level due to the lower oxygen content in the hot gas, resulting in the alternative fuel usage not reaching the set target. Subsequently, additional ducts will be installed to improve combustion efficiency and increase the usage of alternative fuels. After the optimization and adjustment of the step-type furnace, not only can the residence time of the

ESG	Item	Results of sustainable benefit in 2023
Environment E	Reducing the needs of mining natural raw material and fuel	Reducing the mining and use of 378,000 tons of natural raw materials and fuels, including ▶ 357,000 tons of limestone, iron ore, and clay, 21,000 tons of coals, and 57,000 tons of plaster.
	Providing waste service to the society	▶ Reduced 371,000 tons of waste landfill and incineration.
	Controlling the emission of CO_2 to reduce the consumption of fuel	Reduced the GHG emission of 120,431 tons of CO_2 during the manufacturing process by using alternative raw material and fuel.
Society S	Increasing job opportunities.	▶ Created job opportunities.
	Improving customer relationship	Implemented circular economy to respond ▶ the expectations of the customers and investors, increased
Governance Economy G	Reducing the costs of fuel and raw material to gain the benefit of processing.	Economic benefit gained by using alternative material and fuel.
	Installing a sustainable circular economy model	Completed the verification of BS 8001:2017 circular economy model and obtained the certificate of the highest Optimizing level.
	Reducing the risk of relying on resources and strengthening the organizational resilience.	Natural resources replaced by waste, lowered ▶ the risk of relying on natural resources and increased the economic resilience of Asia Cement.

alternative fuels be increased and their input amount raised, but also the size of the fuel input will be less restricted. The increase in usage of alternative fuels and the accelerated implementation of carbon reduction plans are well expected.

Due to the lower-than-expected sales volume of low-carbon cement in 2023, the proportion of clinker cement fell short of the target. ACC, together with its subsidiaries, has been actively promoting low-carbon cement. Starting January 1, 2024, the excise tax on hydraulic-mixed cement and masonry cement that meet carbon reduction standards will be reduced. This is expected to create a more favorable market for low-carbon cement in the future.

The goals of the circular economy have changed based on the planning of additional or modified processing facilities, in conjunction with the current and potential future supply capacities of existing and potential partners, for short-, mid-, and long-term goals.





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1.4 Mining Mountain and Biodiversity

Material Topics

Sustainable mining mountain and Biodiversity

Management of Material Topics

Following the Taskforce on Nature-related Financial Disclosures (TNFD), ACC has established a natural governance framework for biodiversity. The Board of Directors formed the Corporate Sustainability Implementation Committee to oversee biodiversity development. Under the CEO, the Corporate Sustainability Implementation Committee was established to assess biodiversity risks and opportunities, plan and execute biodiversity-related initiatives, and report regularly to the Corporate Sustainability Committee on implementation results.



Biodiversity Policy

ACC's Biodiversity Policy

The goal of ACC's biodiversity policy aims to achieve a Net Positive Impact on biodiversity. Within the scope of corporate efforts, we implement practices such as "avoid," "reduce," "restore," and "off-site compensation", and "monitoring". By collaborating with value chain partners, ACC commits to the following principles and guidelines.

Commitments and Guidelines

- ① Conduct Environmental and Social Impact Assessments (ESIA) before establishing new extraction sites.
- ② Develop quarry environmental maintenance plans and closure plans for all limestone extraction sites. Implement reclamation, rehabilitation and disaster prevention measures on mined land after its use, in accordance with the relevant regulations.
- ③ Undertake biodiversity risk assessments following the Taskforce on Nature-related Financial Disclosures (TNFD) guidelines.
- ④ Establish a Biodiversity Management Plan (BMP) for extraction sites with high biodiversity value. Simultaneously conduct ecological restoration during extraction activities, enhancing biodiversity value through nature-based solutions. Annually disclose rehabilitation areas and other biodiversity information in accordance with relevant guidelines provided by Global Cement and Concrete Association (GCCA).
- ⑤ Commit to no deforestation, strictly adhere to local regulations, limit extraction to permissible areas and ensure 100% no logging outside regulated areas to prevent damage to pristine forests.
- ⑥ Introduce circular economy principles in the cement production process, utilizing practices such as alternative fuels, raw materials, waste heat power generation, green energy development and carbon capture technologies to reduce natural resource consumption and minimize negative impacts on environmental ecology and biodiversity.

Biodiversity Mitigation





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Impacts

The extraction of minerals for the use of cement raw material is more or less causing bare areas on the surface of earth. In order to reduce the impacts of the vibration from the explosion during mining to the nearby residents and the environment, Asia Cement continues to strictly implement the monitoring of mining site safety and the ecological restoration of environment. The Company adopted an explosion control technique with the lowest vibration value worldwide, environmental friendly smart mining technology and the vegetation restoration technology which had been highly recognized by domestic and foreign institutes for years. All efforts are for the purpose of minimizing the impacts from the operation.

In the future, in the event that Asia Cement will plan mining operations in other new locations, it will perform the evaluations of biodiversity and environmental impacts before exploring new locations.

Indexes and Targets

► Complying with SDGs and the goal of Taiwan Sustainability Development



SDGs15.1 is to ensure the protection, maintenance and enhancement of the sustainable use of terrestrial and inland freshwater ecosystems.

⌚ The corresponding index of SDGs 15.1.1: rate of forest coverage.

The area of mining site being extracted has been 100% completed with vegetation restoration. It has been decided that the vegetation restoration each year must be at least 0.85 hectare in order to build forest ecological system to form animal habitat which is beneficial to biodiversity development.

⌚ The corresponding index of SDGs 15.1.3: The percentage of performing biodiversity maintenance and management and monitoring.

Asia Cement set the impacted areas to conduct 100% biodiversity maintenance and management and monitoring.



SDGs15.2 is to promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forest.

⌚ The corresponding index of SDGs 15.2.1: The progress of realizing the management of sustainable forest.



Conforming to Guiding Principle of Mining Site Restoration and Biodiversity Management drafted by Global Cement and Concrete Association (GCCA).

⌚ Corresponding to the goal of 9 sustainable mining site and biodiversity KPIs.



The goal of ex situ biodiversity strengthening measure index.

⌚ Native botanical garden, widely planting diversified tree species.

⌚ Butterfly Park, building the butterfly corridor in Taiwan, diversified butterfly species.

⌚ Stick Insects Park, Restoration of native stick insects.

Evaluation methods

- ① Continue to monitor and analyze the relevant data of the mining mountain, confirm the current status and the report of reaching the targets.
- ② Routinely submit information to the relevant agencies to confirm the status of current implementation.
- ③ Continue to trace the status of implementation and the level of reaching the targets through Corporate Sustainability Implementation Committee and its work forces.

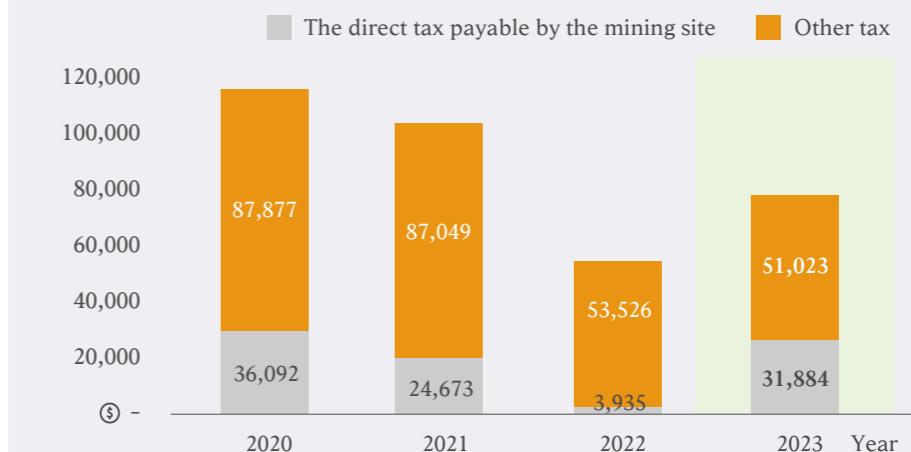
Engagement of the stakeholders

Asia Cement Service Center regularly and irregularly communicates and interacts with the stakeholders based on the stakeholder engagement mechanism and discloses the information in the Service Center, the Sustainability Report, the relevant platform or the website.

\$ The costs invested into the sustainable mining mountain in 2023

- ① Asia Cement Hualien plant had paid taxes with the amount of NT\$0.83 billion in which the direct taxes (land tax, special tax for mining, mining asset royalty and the fee of mining business right) were summed up to NT\$318,840,000.
- ② A budget of NT\$1,960,000 for the routine monitoring of explosion vibration and slope stability.
- ③ A total of NT\$8,210,000 was invested into vegetation.

Hualien Plant Tax Payments (Ten Thousand NT\$)



NOTE Special mineral mining tax levied by Tax Bureau was increased from NT\$10/ton to NT\$70/ton on July 1, 2016. This special tax was not levied in July of 2020. The levied period stipulated in Self-government Ordinances on Special Tax Imposed by Hualien County on Ore Extraction and Landscape Maintenance is from August of 2020 to July of 2021, and re-levied again since July of 2023.





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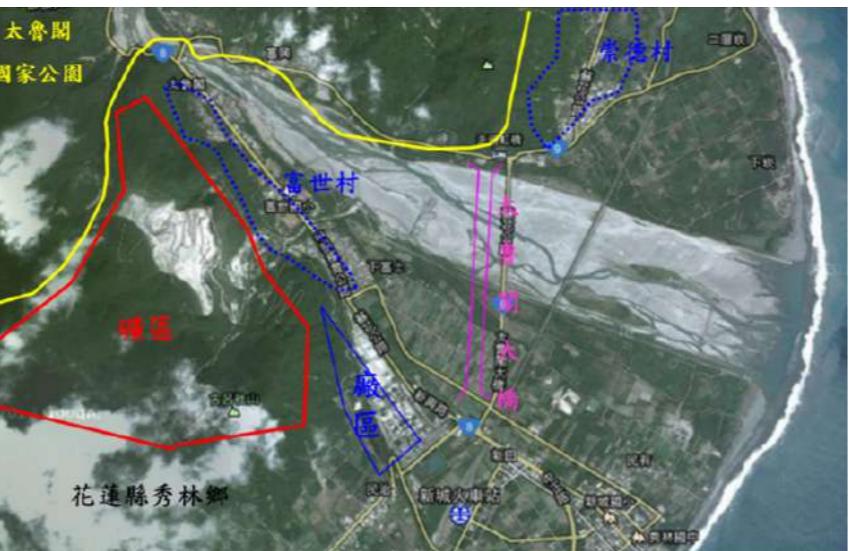
1.4.1 Biodiversity Management Plan

ACC formulates a Biodiversity Management Plan (BMP) to protect and enhance biodiversity value and ecosystem services during and after mining operations. This plan includes biodiversity baseline data, field surveys to establish baselines, setting target indicators, action and implementation plans (such as sustainable mining, nature-based reforestation, habitat restoration, and land reclamation), monitoring and measurement, and executing the budget.

The biodiversity management plan in 2023 covers the Asia Cement Xincheng mountain Quarry and the surrounding Hualien Plant, as well as the Asia Cement Ecological Park, ensuring 100% coverage of operational impact points.

The background information of Asia Cement's Mining Site

Currently, Asia Cement's only site of operation is Xincheng mountain Quarry. The altitude at the top of Xincheng mountain which is located at the mouth of Taroko Gorge is SL1,440 meters, the starting point of stepping down mining operation at Xincheng mountain Quarry site is at the altitude of SL780 meters. The site is not within the boundary of Taroko National Park.



On-site investigation for the establishment of baseline

Since 1980, ACC has been actively engaged in vegetation restoration efforts in its mining areas, animal and plant biological investigation was conducted in the mining area, it was found that the trees were able to grow up to 4 to 8 meters height five years after planted, tree crowns were well-connected to each other, ground-cover plants, shrubs and bushes were all well-bedded, a forest was formed which created the effect of shading. The trees will grow up to 10 meters height after ten years and capable of covering the exposed residual walls caused by excavation. The entire slopes in the area, after going through numerous ordeals from typhoons and earthquakes in the past years, are still very steady, the appearance of forests still very complete. It has been proved that the plant vegetation produced by this method of forestation is capable of enduring the impact from strong wind and stabilizing slopes, and providing the effect of disaster prevention. In the animal investigation, it was found that wild animal defecations could be found in the mined area where the plant vegetation had been restored for more than five years. It was also found by ultra-red cameras that Formosan serows, muntjacs and wild boars returned back to habitats searching for food; monkeys, flying squirrels, bamboo partridges, birds and snakes moved around forest; crested serpent eagles irregularly patrolled around mountain tops.

Starting in April 2021, ACC began conducting biodiversity surveys in the restored areas of Xincheng mountain Quarry. These surveys were conducted monthly to accumulate data and monitor changes in species populations, allowing for the implementation of appropriate measures. If the number of species is stable or continues to grow, it indicates that the habitat environment is good. If the number of species has decreased after long-term observation, it is time to examine whether we have appropriate corresponding policies on environmental habitats. In 2023, twelve ecological surveys were conducted. The results showed a rich diversity of bird and butterfly species and numbers, indicating a stable state of species and numbers over the past three years. Additionally, the survey results for amphibians and mammals further strengthen the evidence that the re-vegetation efforts at the Xincheng mountain Quarry have a positive impact on species diversity and environmental diversity. From this, it can be concluded that ACC's ecological reforestation method, which created forests with plant diversity, has successfully attracted animals and insects back to their habitats, thereby initially forming a biological chain.

In addition, ACC obtained government permission in 2020 to conduct surveys, collection, documentation, and relocation conservation of the Phasmatodea in Hualien County. Every month, surveys for Phasmatodea are conducted in eastern Taiwan, recording valuable ecological information in the area. ACC will continue to conduct surveys and conservation efforts for butterflies and Phasmatodea, investing resources to gradually establish a database of native species in eastern Taiwan. Furthermore, efforts will be made to enrich local ecological education initiatives.





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Actions and management plan implementation

Asia Cement biodiversity actions and management plan implementation include mining mountain sustainable extraction, mimic natural forestation, habitat and disturbed land reclamation, mineral enclosed transport, mining mountain sustainable planning.

The sustainable cycling of mining and the restoration in the mining mountain

The mining of cement raw material may more or less cause the temporary exposure of the ground surface. In order to quickly restore the exposed ground surface after extraction, the Company introduces a lot of manpower and resources to fully collect the native top soil and then store them for fertilization. The native trees are transplanted to different locations for preservation. Furthermore, tree seedlings are cultivated through cutting propagation or seeds collection. Planting slots are digged on the platform once the extraction work is toward the final stage and the fertilized soil will be refilled, the cultivated strong seedlings are planted back by mixing various species to build diversified types of trees to create a good ecological habitat. On the slope, the plant soil bag technique is used for quick vegetation and green coverage.

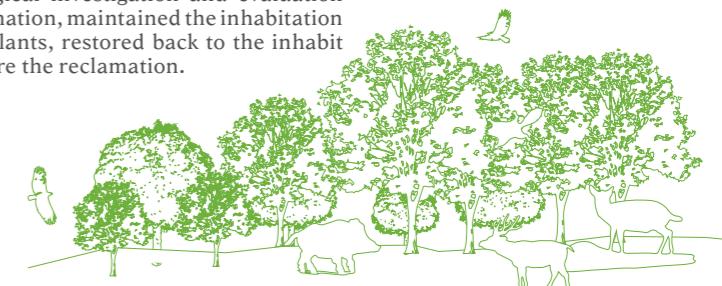
Asia Cement mimic natural forestation method

Asia Cement highly values the vegetation restoration of the mining mountain, it adopts the advanced and leading vegetation greenery technique and method. Since 1980, it started to hire experts and scholars studying various vegetation restoration techniques, selecting the native tree species for vegetation greenery, nursing and hardening seedlings, and improving soil dressing, later planting, fertilizing, caring and irrigating. The goal was to improve the environment for plant growing, moving toward the climax succession, inducing the plants to speed the building of a favorable and stable vegetation community, so the mining mountain was able to recover its natural ecology as soon as possible. The forming process of the natural plant ecology is mostly composed of three succession phases including pioneering phase, construction phase and stability dominant phase, so that the vegetation greenery of the mining area was applying the mimic natural plant ecological succession concept to shorten the time of succession. Asia Cement has been implementing this roadmap up to forty years now, the results of its mining mountain vegetation restoration have received high recognition from Australia, Japana dn Korea.

Reclaiming habitat, disturbed land

ACC promotes the reclamation of habitat and disturbed land to mitigate ecological impacts and restore habitat environments through the following measures.

- ① Adopted inward mining method to minimize the area of impacts.
- ② Reduced the influence to biodiversity during the mining, controlled the vibration from explosion, the value of vibration was controlled under 1.5cm/sec.
- ③ Completed the mining site water and soil conservation plan to ensure the safety of water drainage in the mining site during the mining.
- ④ Conducted ecological investigation and evaluation during land reclamation, maintained the inhabitation for animals and plants, restored back to the inhabit environment before the reclamation.



Status of mining and vegetation restoration

ACC's Xincheng mountain Quarry adopts the advanced and environmentally friendly "internal descent mining method", utilizing concave terrain to provide safety buffer zones and reduce visual impact on the surrounding landscape. In 2023 , the mining volume was 4.14 million tons, and reclamation and greening were achieved immediately after mining to the final wall. The greening area was adjusted according to the mining progress. About 3,094 native trees were planted in 2023, totaling 71.9 hectares of greening by the end of 2023, accounting for 80.9%.

Status of mining and vegetation restoration





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The lowest vibration value of feelingless explosion in the world

ACC pursues non-inductive blasting and collaborates with the Geo-Resources Research Center of National Cheng Kung University to develop a blasting vibration model for the Xincheng mountain Quarry. Using the principle of wave superposition, blast vibration values were simulated in advance to effectively control vibrations, achieving the lowest vibration value globally. ACC also commissioned National Cheng Kung University to conduct blast vibration monitoring. Quarterly reports were provided to the mining authority for review and shared with stakeholders such as residents, demonstrating ACC's commitment to vibration control.

Currently there is not any law in Taiwan to regulate the vibration value from explosion. Asia Cement had adopted a standard twenty years ago which was 10 times more stringent than the US standard (1.9cm/sec) to conduct a self-management. It installed vibration measurement instruments at the residential houses nearby the mining area for 24-hour realtime monitoring and set the self-regulated vibration value control level under 0.15 cm/sec. The explosion parameters were adjusted timely by the realtime measured value, and the methods of using non-electric millisecond delay detonator, segmented explosion and reducing the volume of explosives were adopted for the operation, which ensured that the explosion work did not cause any impact to the living of the tribe, reaching the goal that the residents did not feel any vibration.



Mineral enclosed transport

Since 1978, ACC's Hualien Plant has collaborated with the Japanese company Onoda Co., Ltd., to complete the first set of vertical shaft conveyor system in Taiwan's mining history. In 1989, they constructed the second set of vertical shaft conveyor systems. As the mining elevation decreased, the vertical shafts were discontinued in 2015. Instead, a closed downhill conveyor system was installed, utilizing the elevation difference for transporting ores based on the principle of energy conversion for power generation. The conveyor system's rollers are equipped with automatic lubrication and noise reduction features, effectively reducing noise during transportation and preventing dust dispersion. This approach achieved environmental protection, energy conservation, and effectively preserved the natural ecological landscape.



Transported through closed conveyor



Real-time explosion monitoring is installed in the mining area and residential houses, the parameters of explosion design are adjusted to a level where the vibration is not sensed by people.

The value measured by the vibration measurement instrument can be transmitted via network

3 Sustainable Mine Planning

The sustainable mining and land reuse plan will transform the final terrain of the mining site to create 20 hectares of flat land for secondary land use. Asia Cement commits to collaborating with the government and local communities to propose a mine transformation and land reuse plan four years before the end of mining activities. This plan aims to ensure the safety and well-being of residents living near the mining area.





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Biodiversity Impacts and Dependencies

ACC identifies nature-related impacts and dependencies according to the Taskforce on Nature-related Financial Disclosures (TNFD) framework, including:

Category of Impact-driving Factors	Specific and Measurable Impact Driving-factors	Impact Time	Impact Size
Water	Groundwater and surface water consumption	Long-term	Medium
Terrestrial Ecosystem Application	Open-pit mine area	Mid-term	Medium
Use of other resources	Mineral extraction volume	Mid-term	High
GHG emissions	GHG emissions	Long-term	High
Non-GHG air pollutants	Air pollutant emissions	Long-term	Medium
Water pollutants	Nutrient discharged into water bodies	Long-term	Low
Solid waste	Volume of wastes by type	Long-term	Low
Interference	The decibel level and duration of noise	Long-term	Medium
Dependency Category	Specific Dependency Items	Dependency Time	Dependency Size
Energy	Solar energy, biomass fuels, and fossil fuels	Long-term	High
Water	Groundwater, surface water and third-party water	Long-term	Medium
Raw materials	Mineral raw materials	Long-term	High
Experience	Nature-based leisure and tourism	Long-term	Low
Health and Spirit	Employee satisfaction and stress relief	Long-term	Low

Biodiversity Risk Assessment

In accordance with Integrated Biodiversity Assessment Tool (IBAT), Asia Cement's scope of biodiversity risk assessment covers the business operation and nearby areas. The procedure of biodiversity risk management includes risks and opportunities identification and evaluation, financial impact analysis and significant risks and opportunities, the corresponding measures and cost estimate. Asia Cement evaluated the critical risk to be physical risk mainly the negative impact to natural ecological system, the key biodiversity opportunity was the protection, restoration and regeneration of eco-system.

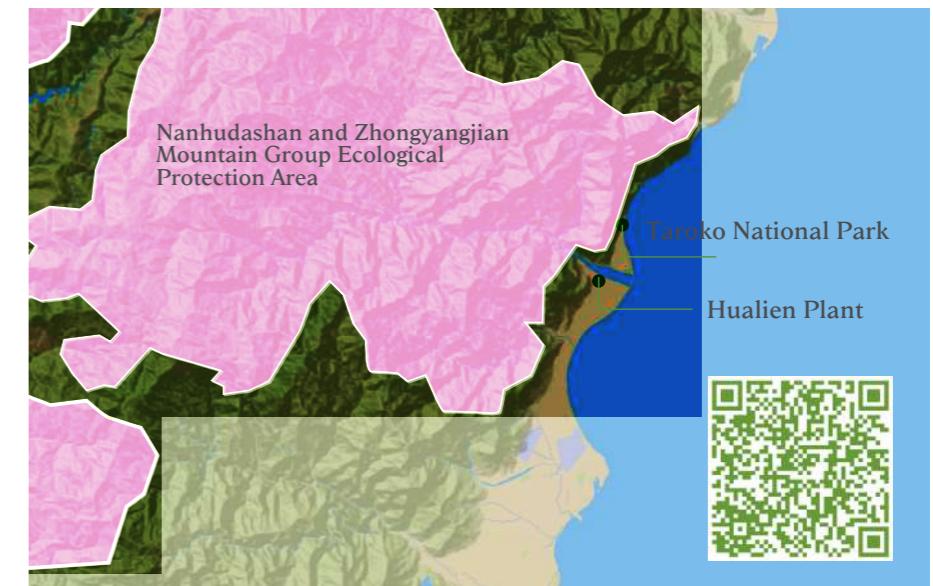
Asia Cement Biodiversity Exposure & Assessment

Operation Sites	Area (Hectare)	KBAs <small>NOTE 1</small>	Distance (KM)	BMP <small>NOTE 2</small>
Headquarters	0.35	Taipei Waterbird Sanctuary	8.732	non
Hsinchu Plant Complex	10.73	Shimen Reservoir	15.487	non
Hualien Plant Complex	30.28			✓
Hualien Plant Mining Site	399.49	Taroko National Park	2.95	✓
Hualien Plant Ecological Park	5.38			✓
Total	446.23		-	

NOTE 1. Key Biodiversity Areas , KBAs.

2. Biodiversity Management Plan, BMP.

Important Bird and Biodiversity Areas



NOTE ● Important Bird and Biodiversity Areas.





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Monitoring and Measuring of Biodiversity

ACC's Xincheng mountain Quarry places great emphasis on mine safety and meeting the needs of local residents by actively implementing strict slope stability measures through engineering methods. Professional third-party entities such as certified engineers, academic institutions, and environmental agencies are commissioned to conduct various monitoring, investigations, and assessments to ensure the safety of the mine. This is to protect the lives and properties of mine workers, contractors, and the residents of Fushih Villagem Hsiulin Township, Hualien County, located below the mine.

ACC is committed to greening the mining area and soil and water conservation by strictly adhering to soil and water conservation technical specifications and relevant mining regulations. Since the commencement of mining in 1978, despite several strong earthquakes and typhoons, there has never been any collapses or debris flows in the mining area. After the earthquake or when there is heavy rainfall, ACC will also conduct a mine survey together with the local residents to alleviate their concerns. After the implementation of our soil and water conservation plan, the potential debris flow within the Xinchengshan Mine, identified as Hualien County DF004, have been reshaped, eliminating the gully terrain. The risk level was assessed and downgraded from "Medium" to "Low" in 2019. Additionally, for the potential debris flow numbered Hualien County DF003, our water conservation team conducted a drainage inventory and review plan for the mining area and its surroundings in 2018. Debris flow assessments were carried out for DF003, and remedial measures and improvement projects were proposed. After the regulatory authority conducted remediation work in 2018, the risk level was reduced from "High" to "Medium". ACC employs engineering methods, scientific data, transparent information sharing, and two-way communication with local residents to clarify issues and propose improvement measures, thus alleviating their concerns.

For details, please refer to the
Debris Flow and Large-scale
Landslide Disaster Prevention
Information Website:



2024 Earthquake Status and Tribal Engagement

On April 3, 2024, a magnitude 7.2 earthquake struck Hualien, causing severe damage across the region. After the earthquake, ACC invited Village Chief Chang from Fushih Village, Chairman of Alang Bsngan Tribe Council, representative Pai from the Hsiulin Township Office, and residents from beneath the Zhonghushih Mine to visit the Xincheng mountain Quarry for on-site inspection of the mining area, slopes, debris flow detention ponds, and external drainage systems. During the inspection, it was found that the rock walls stabilized after revegetation following mining activities were not affected by the earthquake. However, there was slope instability and vegetation damage at the boundary between the mined and unmined areas. ACC promptly used drones to inspect the slope and implemented disaster prevention measures below the slope. Due to the use of the inward mining method, the mine had wide platforms and ample buffering space, resulting in no damage to personnel or machinery. Operations resumed quickly after the earthquake. Through communication and addressing questions during the inspection, residents gained a better understanding of the safety measures in place at the mine, once again demonstrating the resilience of the mind slopes.



The situation of tribe members inspecting the mine and communications after the 0403 earthquake

Mining Mountain Investigation Report

Items of Investigation and Assessment	Category	Offices of Implementation	Type of information
Mining site detail geological survey and environment geological safety evaluation	Geological survey and safety evaluation	Yic Geological Office, Fong Hua Engineering Corp. and Hsin Yang Engineering Corp.	
LiDAR detection in the mining area	Detection of topographical variation	Chung Hsing Surveying Company	Performed by 3 parties including experts from the government
Making an inventory of water drainage system nearby the mining site and safety review.	Mining site and nearby community	Fong Hua Engineering Corp.	
Geological sensitive area survey	Geological detail survey	Yic Geological Office	
	Ground resistance measurement		
Periodical mining area aerial photography inspection	Air camera	Conducted by Asia Cement	
Monitoring of environmental quality of mining area and residential houses	Noise, vibration, water quality, air quality, meteorology, traffic flow	Solaris Environmental Engineering Co. Ltd. (Certified by EPA)	Periodical monitoring
Monitoring of the displacement in the excavated /non-excavated slopes	Inclinometer casing monitoring	Department of Civil and Environment Resources, Dahan Institute of Technology	Periodical monitoring (Available on the platform)
Monitoring of the ground water level in the excavated /non-excavated	Ground water well monitoring		
Monitoring of explosion vibration	ETNA Seismograph	GeoResources Research Center, National Cheng Kung University	Periodical monitoring (Available on the platform)
Monitoring of the results of vegetation restoration	Satellite images	Extracted from Mining Journal	—

NOTE Please refer to the "Asia Cement Xincheng mountain Quarry Information Public Website" for the reports relating to the investigation of the mining mountain. For the IP right related contents, please view the paper copies of the reports available in Asia Cement Service Center, the staffs in the service center will be happy to offer the touring.





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1.4.2 Assessment and Engagement of Biodiversity and Impact to Community

Assessment of biodiversity in newly development location

In terms of the level of engaging biodiversity and the assessment on the potential influence to the biodiversity, currently, Asia Cement's only operational site is Xincheng mountain Quarry, its total size is 399.4946 hectares. If there is any new development base in the future, we will start developing it only after conducting and passing an environmental and social impact assessment (ESIA).

Asia Cement Service Center providing timely face-to-face communication

For the purpose of resolving the worries of local community to the safety of Asia Cement mining mountain and fulfilling the care to local residents, Asia Cement officially established a service center near the mining mountain in June of 2018. Hence, residents are not required to go through other people for any doubts or needs, they can directly contact with Asia Cement, timely and conveniently ask any questions relating to the safety of mining mountain. The Center can provide job opportunities, emergency relief, house repairs, subsidies to weddings, funerals, festival activities and electrical bills. The specialists of Asia Cement also make arrangements to visit households, so that the residents who can not conveniently access the service center can timely communicate with and receive services from it for any needs.

Engaging and communicating with the local community nearby the mining mountain

Asia Cement always values the rights and interests of indigenous tribes and proactively communicating and engaging with local communities to strengthening the relationship with them. It has gained a lot of positive responses from the villagers:

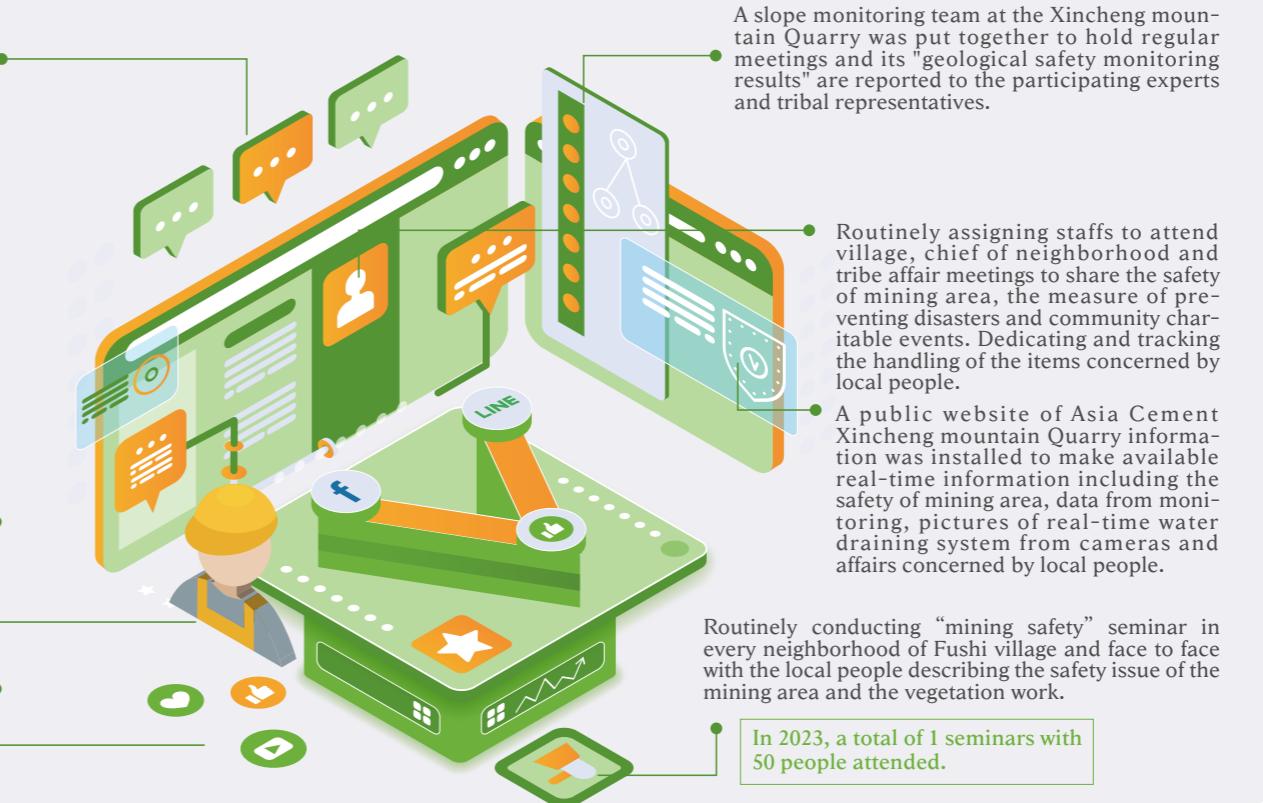
Opening the mining area for visiting to enhance the communication with outside. Periodically inviting local people and others to visit the mining mountain in order to build the mutual trust, to report water/soil preservation work, vegetation greenery and safety measures taken by the mining area. The doubts are eliminated through site visiting and asking questions.

In 2023, a total of 25 times and 510 people visited the mining mountain.

Categories of Participation in Mine Visits and Briefings	Times	People
General Public	11	133
Environmental Education Learners	13	327
Tribal Community Members	1	50
Total	25	510

The ACC Service Center in Fushi Village has been established to provide real-time information on the mine, implement 21 benefit-sharing mechanisms including electricity subsidies, housing repairs, emergency assistance, and community services, while engaging in direct two-way communication with villagers.

The Company's official Facebook and LINE groups (310 people joined) were created to timely provide information relating to the mining mountain and to clarify false information, in order to ensure the delivery of correct information of Asia Cement Hsinchengsheng mining site to the mass audiences.





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Improvement of the drainage outside the mining area completed by cross-unit collaboration

Mining drainage is a matter of great concern to local residents. Although it is not within ACC's responsibility, adhering to the principle of good neighborliness, ACC has asked water conservation experts to calculate the surface runoff heavy rainfall adjacent to the mining area based on the lands of the three major tribes. In June 2019, ACC provided a review report on the drainage system of the communities adjacent to the mining area, and proposed a total of 28 improvement measures. After review and approval by the team of drainage experts, the 28 improvement measures were submitted to the Geological Survey and Mining Management Agency, MOEA for coordination. Among them, five fell under the responsibility of ACC, while the rest were the responsibility of the Agency of Rural Development and Soil and Water Conservation, the Township Office, or the Directorate General of Highway. All units worked together to complete the drainage improvement measures in the tribal areas. After the heavy rainfall (84mm/hr) in 2022, all design standards have met their efficacy, and the last measure was completed in April 2023.

ACC has scientifically identified the causes of problems and has been actively assisting the government and residents in solving difficulties. We look forward to continuing to serve local areas with our professional services in the future, while cooperating with competent authorities to promote coexistence and balance between tribal autonomy and industrial development.

Mineral exploration right extension and environmental impact assessment

On September 16, 2021, the case involving the extension of mineral exploration rights of ACC's Xincheng mountain Quarry was revoked by the Supreme Administrative Court as the Ministry of Economic Affairs did not request ACC to comply with the indigenous people's consultation consent procedures of the Yuan Foundation Act. However, as early as June 22, 2020, ACC took the initiative to announce its willingness to conduct tribal consultation and consent in accordance with Article 21 of the "Indigenous Peoples Basic Law", despite the COVID-19 pandemic and other factors during the period.

The alang Bsngan Tribal Meeting was successfully held on February 12, 2022. There were a total of 353 participating households, with a turnout rate of 64%. The number of votes in favor was 294 with 45 against; the number of invalid votes was 14, and 83% of tribal households supported the Company's continuation of local mining.

In accordance with Article 29 of the Mining Act, respective authorities in environmentally sensitive areas have been contacted for the ACC's Hillside Mineral Rights Display. Inquiries regarding the items have been made, and the on-site mineral exploration rights meeting was held by the Geological Survey and Mining Management Agency on March 1, 2024. After the relevant opinions are clarified, the mineral exploration rights of five years will be approved.

According to Article 76 of the Mining Act, ACC's Xincheng mountain Quarry must conduct an environmental impact assessment in accordance with Article 5 of the Environmental Impact Assessment Act and other related regulations before June 23, 2026. An environmental impact assessment firm was commissioned to perform the work, which included an environmental survey, analysis, and simulation and preparation of an impact statement in early 2024.

Detailed geological survey and environmental geological safety assessment for the mine

At the 9th negotiation meeting of the working group for the Xincheng mountain Quarry Project held on June 27, 2023, the detailed geological survey and the environmental geological safety assessment of ACC's Xincheng mountain Quarry was completed. Conclusions reached at

- ① For the long-term monitoring plan for slopes, experts in geology and geodetic engineering and tribal representatives were invited to form a "slope monitoring team".
- ② The six-dimensional map of the potential factors, scope of impact, and countermeasures of the geologic safety assessment has been announced in ACC Service Center. By doing this, the plan was explained in a detailed manner to the tribe, giving residents peace of mind.

In December 2023, the Company formed a slope monitoring team at the Xincheng mountain Quarry and invited experts and tribal representatives to hold meetings. ACC compiles, and analyzes the monitoring data, and reports to the slope monitoring team on a regular basis.



On June 17, 2023, the 9th negotiation meeting of the working group and advisory group of the Xincheng mountain Quarry Project concluded successfully





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1.4.3 Global Model of Sustainable Mining Mountain

Domestic professional technology lineage

Asia Cement Xincheng mountain Quarry has the best explosion technique in Taiwan. For many years the Company has provided lecturers every year to Geological Survey and Mining Management Agency, MOEA, to train the explosive material control people and explosion specialists in the use, storage, delivery and safety management of explosive material, plus the professional knowledge of explosion construction design and vibration control. The Company also opened Xincheng mountain Quarry as the training site to demonstrate the safety and technique of explosion operation for the reference of the companies in the industry and the explosion specialists.

The explosion technique and the vegetation work done by Asia Cement Xincheng mountain Quarry have been highly recognized by domestic and overseas institutes. For many years it has been a mining area to demonstrate the green vegetation and safety, and being invited many times to share the professional experiences of vegetation and water/soil preservation as the reference for government agencies and companies in the industry.



Hualien County Environmental Protection Bureau organized the Soil and Water Environmental Little Soldiers Training



Visit by the Chinese Association of Engineering Consultants



Blasting Professionals Training by the Geological Survey Center



Recognition by the Global Views ESG Corporate Sustainability Award - Model Award for

Award Recognition

Carrying the mission of "building a green homeland", Asia Cement was actively driving the Sustainable Mining Mountain Program and received the recognitions from domestic and international groups by its effort for many years. It consecutively received domestic and international honors of a demonstrative mining mountain from mining mountain greenery vegetation and water/soil conservation.

In 2023, ACC received the Global Views ESG Corporate Sustainability Award - Model Award in the Environmental Friendliness category for its project "Return to Homeland and Retrieve the Smells of Mountains and Forests". ACC has always valued the greening and ecological conservation of our mines to reduce and mitigate the impact of mining on the environment. At the same time, we also practice biodiversity in our mines, factories, and ecological parks, so that animals in their native habitat can not only return to their homes, but also reproduce. At ACC, we will continue to work hard to implement the ESG spirit and make every effort to contribute to environmental sustainability.

Sustainable Mining Mountain Of Model Cases At Domestic And Foreign Over The Years

Year
Annual

2023

2022

2021

2020

Geological Survey and Mining Management Agency, MOEA

Explosive controlling staff, trainer of explosion professional staffs. The mining area is available for the on-site training.

National Cheng Kung University

Assisted the mining lecturer in Resource Engineering Department to offer the course of "Blast Work" since 2021.

Global Views Magazine

Received Global Views ESG Corporate Sustainability Award - Model Award in the Environmental Friendliness category

International Cement Review

Published the third version of "Cement Plant Environmental Handbook" in which Asia Cement Hualien Plant Xincheng mountain Quarry was listed as the best model of practices in cement industry on mining site operation and eco-system.

Mining Journal

Installed blast vibration 24-hour auto-monitoring and measuring instrument in the mining site since 2015 to timely adjust blast parameters through the feedback analysis of vibration value, a special blast design to maintain and control the annual average vibration value below 0.5 mm/sec to satisfy the demand of nearby residents to blast vibration. The result was published on Mining Journal "Constructing the table of vibration grades which is applicable to mining blast", Mining and Metallurgical, Issue 2, Volume 66.

Taiwan Mining Industry Journal

Set the optimized electric detonator short delay blasting to conduct blast - taking Hsinchensheng Mining Site as an example, Taiwan Mining Industry, Issue 1, Vol. 74.

Hualien County government

Driving multifaceted environmental education including the topics of vegetation restoration greenery of mining mountain, water and soil conservation, net-zero carbon emission in the plant facility, circular economy, environmental products, the plants in the park, butterflies, stick insects for biodiversity and received the recognition of the Excellence Award of Hualien County Private Business Sector, the 8th National Environmental Education Award.

Geological Survey and Mining Management Agency, MOEA

The Geological Survey and Mining Management Agency invited ACC Hualien Plant to sign the Memorandum of Understanding on Establishing Environmental Education Partnership.

Mining Association of Taiwan, ROC

Keynote speech "Introduction of Asia Cement Xincheng mountain Green Mining Mountain" Asia Cement Xincheng mountain Green Mining Mountain, Taiwan Mining Industry, Vol. 72, 3rd Issue, P. 3-15.

NOTE M.Burbidge,T.P.Chang,J.Q.Li(2022) Quarry rehabilitation at Asia Cement's Haulien plant: harnessing nature-based solutions for biodiversity and landscape regeneration. International Cement Review, third edition,Cement Plant Environmental Handbook.



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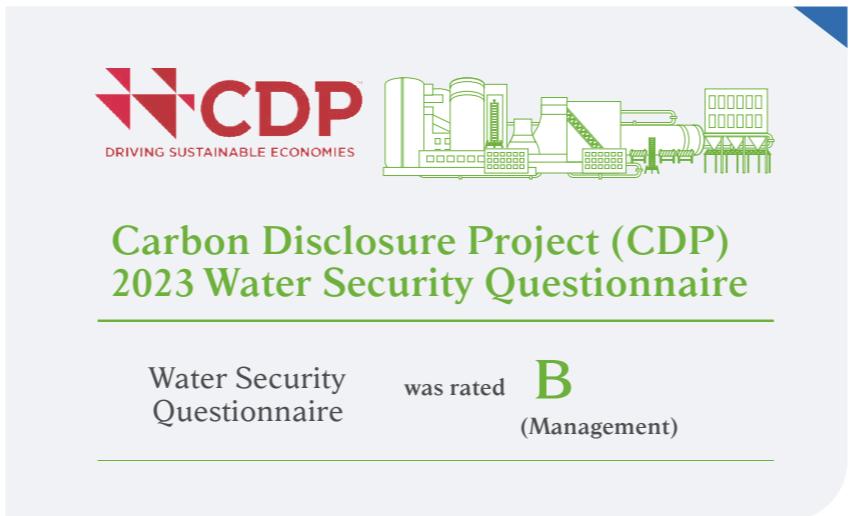
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1.5 Water Resource Management

Hydrological variation and compound disaster risk in all regions were increased due to the impact of climate change, the water resource management is more important than ever. Asia Cement adopted water risk management policy to evaluate the risk of water resources to identify the relevant impacts and to commit the recycle and reuse of water. It also defined the key performance indicator of water resource management in order to control water risks and to implement the adaptive strategy.



1.5.1 Water Resource Risk Assessment

Water Resource Risk Assessment

Based on the World Resources Institute's Aqueduct Water Risk Atlas analysis, the risk of 2023 water stress at all of ACC's operations in Taiwan is assessed to be "low-moderate" (10-20%). The risk of water stress at all operations in 2030 is assessed to be "low-moderate" (10-20%) based on a pessimistic scenario, and the risk of water stress at all operations in 2050 is assessed to be "low-moderate" (10-20%). All of our operations are not located in water-stressed regions.

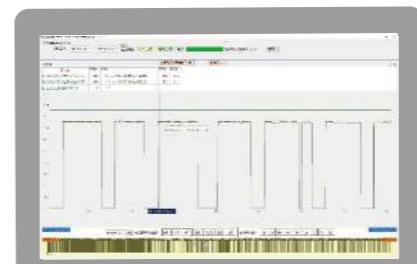
Water resource management and monitoring

The water used during the manufacturing process in Hualein Plant was mainly from the pumping of deep well water and the recycling of water from the manufacturing process. The water levels of two deep wells were monitored and recorded in realtime fashion to observe the variation of the ground water level during pumping. The data of ground water level and the pumped water volume are routinely reported to the Hydraulic Section of Construction Department, Hualien County Government. In 2023, the water pumped was 99.97% of the total approved right of ground water drawing. The monitored water levels of two wells did not show obvious change before and after the pumping.

Estimate of water resource variation and impact to operation

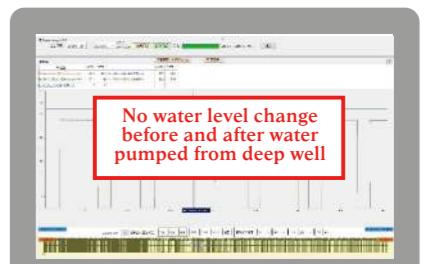
On the basis of Taiwan Climate Change Scientific Report- Physical Phenomenon and Mechanism published by Ministry of Science and Technology in 2017. Taiwan area average rate of precipitation change between 2016 to 2100 was estimated based on the model of RCP8.5 scenario and found that it did not show a configuration of obvious systematic change. The medians of model ensemble variable quantity are all in between -5% to +5% which do not present a trend of obvious increase or decrease. Asia Cement Hualien Plant is located at Hualien Area, the rate of precipitation change is estimated between 1 to 2% during the period of 2016 to 2100, not much variation on water resource. Thus, it will not cause negative impact to future operation.

Water level of deep well before pumping



2023.01.04 #3 Deep Water Well 42.6 m

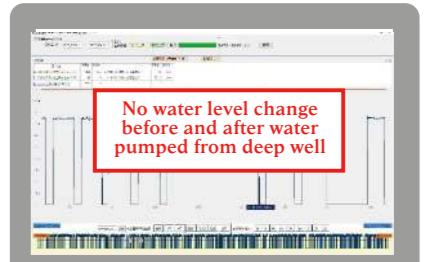
Water level of deep well after pumping



2023.01.04 #3 Deep Water Well 42.6 m



2023.01.04 #1 Deep Water Well 49.9 m



2023.01.04 #1 Deep Water Well 49.9 m



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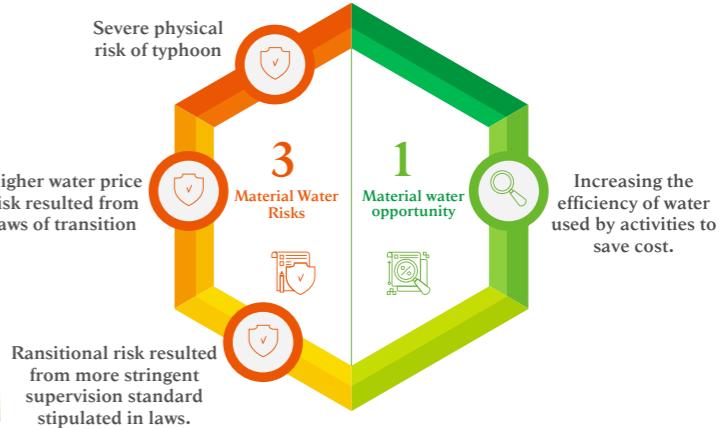
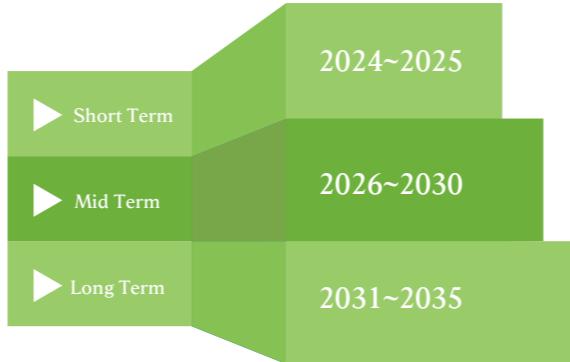
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Water Risk Management Procedure

The procedure of Asia Cement water resources risks management includes risks and opportunities identification and evaluation, definitions of the significant risks and opportunities, financial impact analysis and significant risks and opportunities, the corresponding measures and cost estimate steps. In terms of the Asia Cement's financial aspect impacted by water resources strategy includes possibly increasing operational expenses and reducing revenue, and defining the practical financial impacts as the dollar amount impacted by risk items greater than NT\$10 million.

The evaluation periods of occurrence of risks and opportunities included



Description of the evaluation of potential financial impacts caused by practical risks and opportunities as well as risk management measures

Type of risk and opportunity		Severe physical risk	Laws of transitional risk	Laws of transitional risk		Opportunity: efficiency
Description of risk and opportunity		Heavy rain from typhoon or front rain snapped Suhua Highway causing the interruption of raw material supply and shutting down the production.	Starting to collect water consumption fee from large water users.	Waste water discharge conforming to laws and regulations.		Increasing water use efficiency.
Stage of generating value chain		Direct operation	Direct operation	Direct operation		Direct operation
Driving factor	Typhoon		Higher water price	More stringent supervision standard		Driving water saving program
Potential financial impact	Reducing revenue		Increasing cost	Increasing cost		Reducing cost
Period of occurrence						Short-term
Amount of financial impact	NT\$149 million	NT\$6 million	NT\$6 million	NT\$600,000		
Response measure	A plan of increasing the preparation of material for production	Adopting water saving, reusing water resources program and install ISO 46001 water resource efficiency management system.	Inspecting and testing waste water treatment facility.	Driving water saving program.		
Response cost estimate	NT\$ 72 million	NT\$4 million	NT\$4 million	NT\$2.8 million		





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1.5.2 Change of Water Laws and Regulations and Pricing

Regulations and pricing status

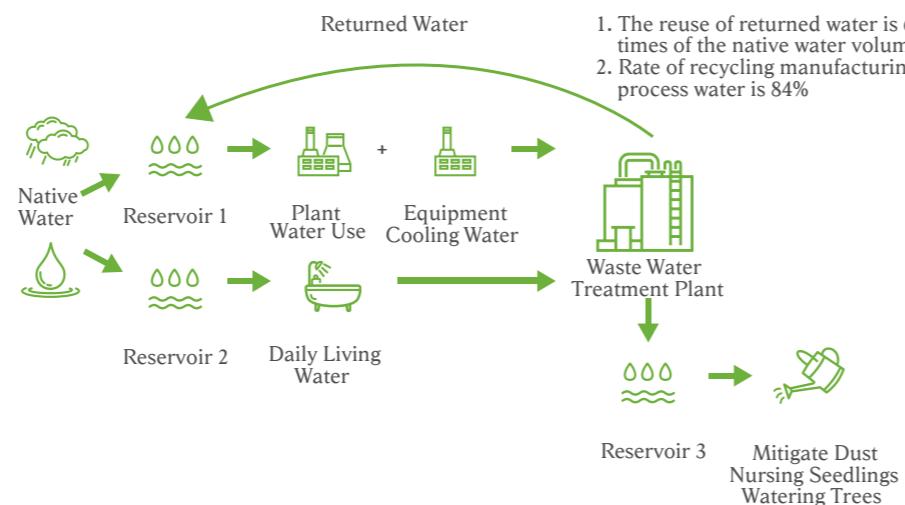
In Asia Cement, water resources will cause impacts mainly to ChiaHui Power and Hualien Plant. ChiaHui Power uses tap water and Hualien Plant pumps ground water. The price of water per ton used by ChiaHui Power was NT\$11.5, whereas, the ground water pumped by Hualien Plant was approved by the County Government, thus, no water price imposed.

In accordance with the draft of Regulations on the Water Conservation Charge prepared on the basis of Water Act, the object of collection is the one whose total water used in a single month during the six months of the drought period is over 9,000 cubic meters, and individual rate of charge is imposed on the basis of the water intake source. The fee collected from ChiaHui Power and Hsinchu Plant is NT\$3 per cubic meter and NT\$3 per cubic meter from Hualien Plant for the exceeded portion of the water use. It is estimated that the increased operational cost from the collection of the water conservation charge is NT\$1,000,000 for ChiaHui Power, NT\$90,000 for Hsinchu Plant and NT\$950,000 for Hualien Plant.

Undertake risk management measures for potential change of laws and regulations relating to water resource management

■ Asia Cement Hualien Plant has fully utilized water resources in recent years. Water resources are used for equipment and material cooling, a portion of water is lost after use through evaporation, others are collected and recycled after the treatment of water quality, or drained to Liwu stream after the treatment to the discharge standard, and then flowing to Pacific Ocean, complying to all laws and regulations in past years. Asia Cement Hualien Plant has been maintaining a high recycle rate for the water used in its manufacturing process. In 2023, the recycle rate of the water used in the manufacturing process was 84%. The volume of back water is 5 times of the pumped water, the water resources are fully used.

■ The water used by ChiaHui Power is 4% of the annual supply capacity of its water source Zen Yi Tang Reservoir, hence, local water resource is not influenced by the water pump. Its water quality is treated to the standard and the commitment to the environmental assessment before draining to Yamuliao ditches. Water resources are mainly used for cooling and boilers. For the purpose of reducing the impact caused by water resources, two management measures were undertaken including manufacturing process improvement and waste/rain water recycling and reusing. In the second phase of power generation program, high efficient power generators and air cooling system will be installed and the mid load average daily water use will be reduced from 6,190CMD from 6,190CMD to 310CMD, largely reducing the water used for generating per unit power. In addition, the Company will comply with water rationing policy of the government by undertaking the measures of continuing escalating the recycle of water from manufacturing process, planning to initiate RO system and converting retention basin to storage reservoir in order to cope with special conditions in the future.



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1.5.3 Target and index of water use

Asia Cement's target and index of water use

To achieve more effective water risk management, ACC has set four water consumption indicators and targets, with one of the targets achieved in 2023. Explore the reason why the target was not achieved - Part of the air-cooled equipment in Hualien Plant has been replaced by water-cooled equipment, leading to an increase in water consumption. In addition, in response to future environmental protection laws and regulations becoming stricter about stationary pollution sources and fugitive particulate pollutants, control equipment has been installed in the plant. The amount of water spraying has also been increased to suppress excess dust. The particulate matter emission intensity has dropped by 19% compared to that in 2021, achieving the 2025 target ahead of schedule. However, this resulted in an increase in water consumption in the plant. In addition, as most of the water pipelines are buried underground, water leaks caused by frequent earthquakes in recent years as well as old pipelines that have been damaged in many places cannot be detected immediately.

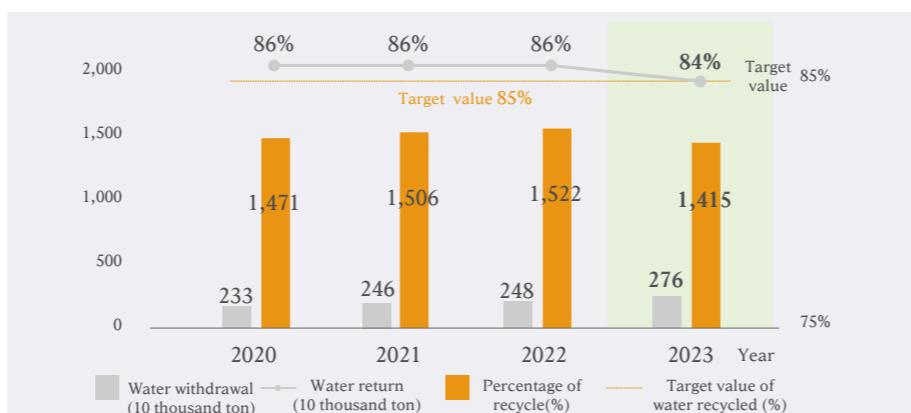
The ISO 46001:2019 Water Efficiency Management System was implemented at ACC Hualien Plant in 2023, and the certification is expected to be obtained in 2024. Water meters have been installed in various water consumption units in the plant to monitor the water consumption status. Moreover, old pipelines have been gradually replaced with open conduits, making an effort to effectively implement water resources management and achieve the targets.

1. Water recycling and reuse

Results of Asia Cement's water intake, water return and percentage of recycle

The water recycling target set for 2025 is 85%, which was early achieved given the water recycling rate of 84% in 2022.

Non reached target

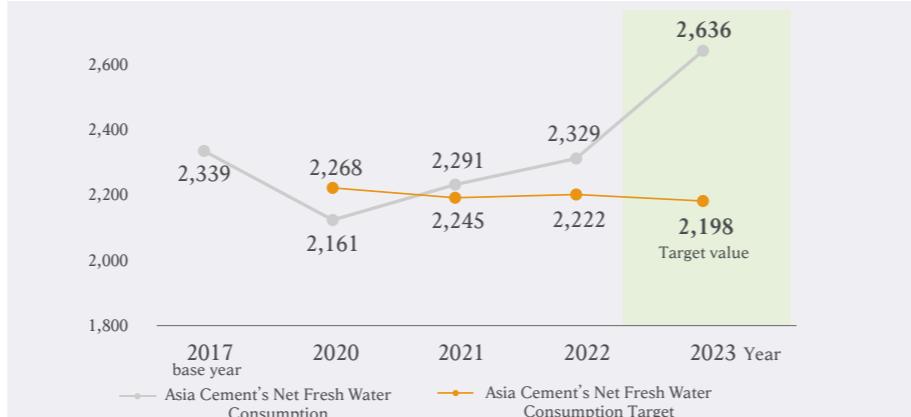


3. Net freshwater consumption

Asia Cement's Net Fresh Water Consumption (1,000 tons, ML)

Net freshwater consumption reduced by 1% absolute volume each year (baseline year 2017), the target by 2025 is to reduce 8%, the actual water consumption in 2023 was 26,36 thousand tons, 6%.

Non reached target



2. Water consumption efficiency improvement (i.e., decreasing intensity)

Asia Cement's Intensity of Water Use (tons of water intake/tons of cementitious materials)

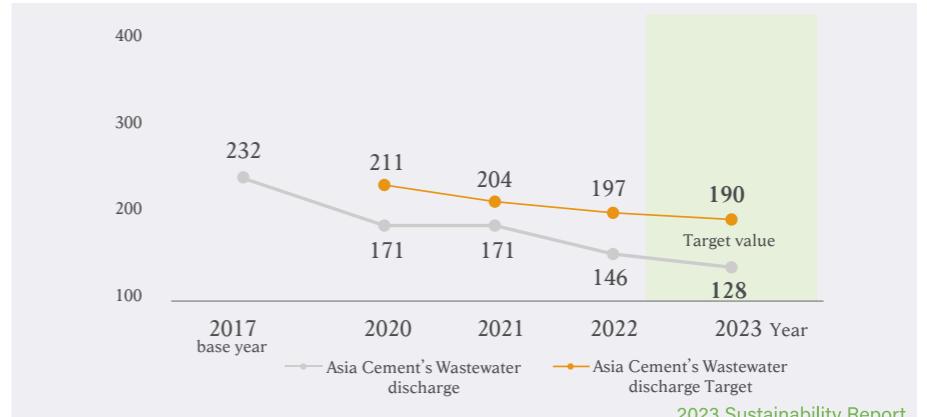
Water withdrawn for per unit of cementing material decreases by 1.5% annually (with 2017 being the base year), and the intensity is intended to be reduced by 12% by 2025. The actual water withdrawal per ton of cementitious materials in 2023 was 0.815 tons, missing the target of 9% reduction.

4. Target of wastewater discharge

Asia Cement's Wastewater discharge (1,000 tons, ML)

The baseline year is 2017, the total wastewater discharge is reduced by 3%, the target by 2025 is to reduce 24%, the actual discharge in 2023 was 128 thousand tons, a reduction of 45%.

Target reached before the schedule





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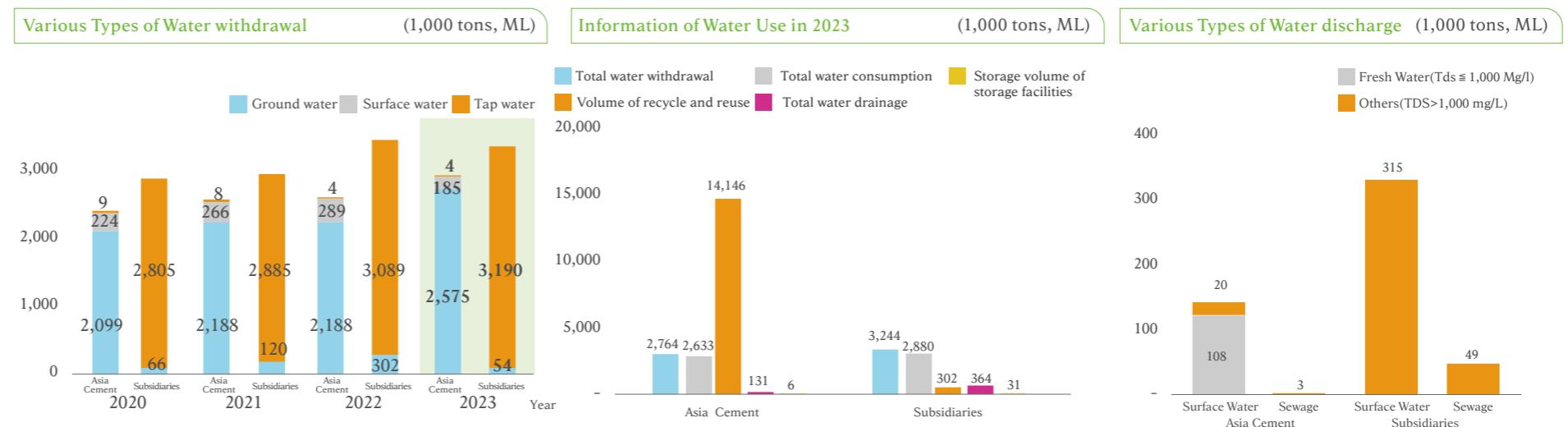
Asia Cement's information of water use

Ground water is the main source of water intake for Asia Cement among all types of sources and tap water for subsidiaries, all are fresh water ($TDS \leq 1,000 \text{ mg/L}$). They are mainly used for cooling and consumption of mechanical equipment.

Wastewater Discharge Management

Wastewater discharged by ACC and its subsidiaries do not cause irreversible damage to water bodies, ecology, or human bodies at all operating locations. Wastewater management is subject to required wastewater discharge standard limit. In 2023, the ball valve of the wastewater storage tank at the Tanzi Plant of Ya Tung Ready-Mixed Concrete malfunctioned, causing wastewater to overflow into the surface water body through the runoff wastewater outlet (the Tanzi Plan has a wastewater [sewage] storage permit issued by the Environmental Protection Bureau of Taichung City). After testing, the Tanzi Plant did not meet the Effluent Standards, violating the Water Pollution Control Act. After the discovery, the ball valve was replaced immediately to prevent wastewater from overflowing. A surveillance system has been installed which is 24-hour connected with the Taichung City Environmental Protection Bureau. This is aimed to monitor and control runoff water in real-time to prevent wastewater overflow and discharge in the future.

Operation site	Sources of water withdrawal	Main information of water use	Drained water body	Effluent Standar
Asia Cement headquarter	Tap Water	Domestic water	Sewage	None (domestic sewage)
Asia Cement Hualien Plant	Ground water	Cooling	Wild streams under the jurisdiction of Hualien County government (Converge to Liwu River)	Effluents quality items and limits for enterprises (Cement enterprises) under Article 2 of the Effluents Standards
Asia Cement Hsinchu Plant	Surface Water	Cooling	Wild streams under the jurisdiction of Hsinchu County government (Converge to Toucian River)	Effluents quality items and limits for enterprises (Cement enterprises) under Article 2 of the Effluents Standards
ChiaHui Power	City water	Cooling, Furnace used water	Puzi River	Effluents quality items and limits for enterprises (power plants) under Article 2 of the Effluents Standards
Ya Tung Ready-mixed	City water, Surface Water	Blended into products	Non discharg/Sewage	Taichung Industrial Park control standards (only the Taichung plant has effluent discharge)
Yuan Long Stainless Steel	City water	Cooling water tower Production process	Sewage	Water quality standards for wastewater discharged into the sewage system in Kaohsiung Linhai Industrial Park
Ya Li Precast	City water	Products washing / Production	Sewage	Effluents quality items and limits for enterprises (Cement enterprises) under Article 2 of the Effluents Standards
Nanhwa Cement	City water	Cooling	Non discharg	Non discharg
Fu Min (Da) Transport	City water	Washing, Domestic water	Sewage	None (domestic sewage)



NOTE

- The headquarter of Asia Cement is located at a commercial building and not installed an independent meter, the annual water consumption was estimated by applying the daily living water consumption of 335.93 liters per person per day in Taipei City in 2022 and employees' total work hours.
- Since July of 2021, ChiaHui Power added phase 2 power generator for power generation, hence, the water use of subsidiaries is slightly increased from the previous years.

NOTE

- Total water consumption = Total water withdrawal - total water discharge, including evaporation.
- The sewage generated by Asia Cement headquarter and Fu Ming (Da) Transport is drained directly into sewer system without the installation of measurement meter. The drained volume is estimated by using 80% of water intake (source of coefficient: Estimate of domestic sewage and pollution amount in Taiwan, Construction and Planning Agency).

NOTE

The drained water from Asia Cement Hualien Plant is fresh water ($TDS \leq 1,000 \text{ mg/L}$), its volume of drainage is 87 (1,000 tons, ML); and from ChiaHui Power, other water ($TDS > 1,000 \text{ mg/L}$), its volume of drainage is 355 (1,000 tons, ML). Other Plants are not measured and categorized as other water.





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2 Corporate Governance /Asia Cement's Contributions to SDGs

Value chain and the status of moving toward short-mid-long term goals

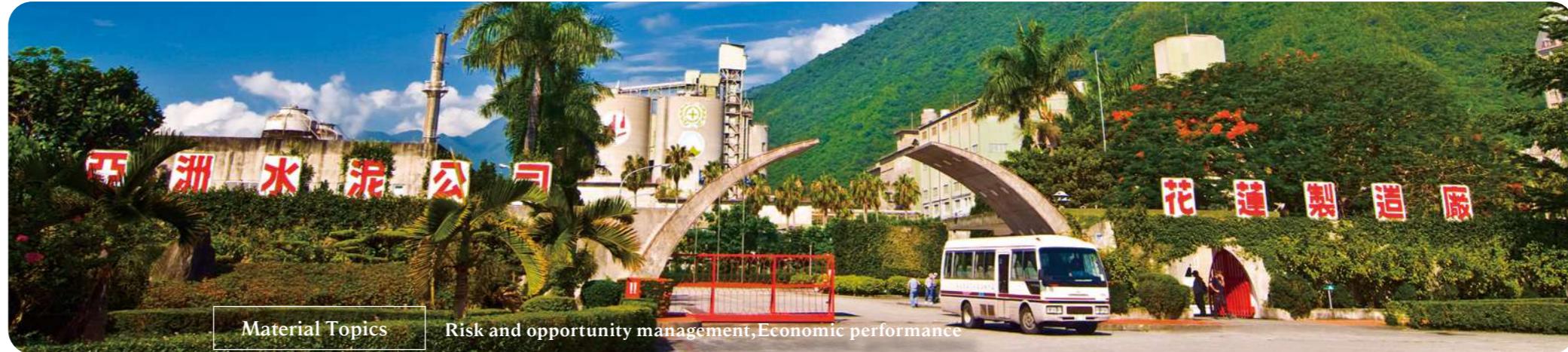
Material Topics Value chain	The meaning to Asia Cement	Sustainable strategies and action plans	Goal of 2023	Actual Results in 2023	Short-term	Mid-term	Long-term	SDGs
					Goal of 2023	Goal of 2025	Goal of 2030	
Risk and opportunity management	Risk and opportunity management helps ACC remain flexible and competitive in this constantly changing environment. Through effective risk management, we can reduce losses and protect assets; through opportunity management, we can discover and capitalize on favorable opportunities to achieve long-term growth and success.	Risk Management Policy and Procedures	Each year, we implement risk opportunity management identification and countermeasures in accordance with ACC's Risk Management Policy and Procedures.	Implementation of risk control Target was reached	Each year, we implement risk opportunity management identification and countermeasures in accordance with ACC's Risk Management Policy and Procedures.	Each year, we implement risk opportunity management identification and countermeasures in accordance with ACC's Risk Management Policy and Procedures.	Each year, we implement risk opportunity management identification and countermeasures in accordance with ACC's Risk Management Policy and Procedures.	13 CLIMATE ACTION Improving education, elevating awareness and enhancing the capabilities of people and institutes on the risk mitigation, adaptation, influence reduction and early pre-warning of climate change.
Economic performance	In order to establish the sustainable development for Asia Cement, the necessary condition is to continuously make profit, and to maintain high yield of dividend payout based on the concept of profit-sharing, to practically appropriate earnings to take care of the general investors.	High customer satisfaction	Over 95%	97.3% Target was reached	Over 95%	Over 95%	Over 95%	8 DECENT WORK AND ECONOMIC GROWTH Increasing the production capacity of economic body by way of diversification, technology upgrade and innovation including concentrating on high-valued added and labor intensive industries.
	All Site	A Asia Cement	S Yuan Long Stainless Steel	N Nanhwa Cement	Y Ya Tung Ready-Mixed	P Ya Li Precast Prestressed	F Fu Ming(Da) Transport	J ChiaHui Power
Client	Supply Chain	CM Community						





Management of Material Topics

In fulfilling corporate sustainability and promoting the advancement of an governance economy, social and biological environment and sustainable development, Asia Cement has formulated this policy by referring to “Corporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies”.



Material Topics

Risk and opportunity management, Economic performance



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Corporation
Sustainability Policy

Scope of Material Topics

Asia Cement has put in place a top-notch corporate governance framework and a meticulous risk management system to lessen the negative effects of the issue. Asia Cement establishes a comprehensive low-carbon sustainable operations model; promotes low-carbon manufacturing process and circular economy; continues to generate positive economic benefits; and maintains a high dividend payout ratio based on the idea of profitsharing in order to distribute earnings among the multitude of investors.

Commitments



- ① Asia Cement implements corporate governance; with its prime and innovative products, it also continues to profit and share such profits on the condition of fulfillment of environmental sustainability and social inclusiveness, thus creating sustainable commercial value.
- ② Execute Climate Change Adaptation and Mitigation Program each year, participate Carbon Disclosure Project (CDP).
- ③ Participate Science Based Targets initiative (SBTi) for carbon reduction and drive the reduction scientifically.
- ④ Drive net-zero carbon emission from cement and concrete by 2050.
- ⑤ Implement TCFD.
- ⑥ Establish internal carbon pricing management mechanism.
- ⑦ Participate in ESG rating including DJSI and MSCI, fulfill ESG sustainable development.

Method of evaluation

Continue to trace the status of implementation and the reach of targets through Corporate Sustainability Promotion Committee and its implementation teams.

Engagement of stakeholders

Regularly or irregularly carry out communications and interactions in accordance with stakeholders' engagement mechanism and disclose the information in the Sustainability Report, relevant platforms or website.

Taking Actions

① Excellent economic performance is achieved with sound corporate governance and robust risk and opportunity management, as well as the implementation of a circular economy and the promotion of low-carbon sustainable products.

② We are dedicated to the improvement of resource efficiency as the core of the business strategy. By effectively promoting the sustainable and renewable raw material and fuel reuse, we transform the plight of government and industrial waste disposal into effective resources for the cement production process, and create new value for the cement industry.

Practical actions and initiatives

- ① Continue to develop sustainable and innovative products to gain dual benefits for economy and environment.
- ② Integrate upstream and downstream value chains to bring about the comprehensive performance of organizational economy.
- ③ Strive for circular economy to reduce the consumption of resources and the emission of GHG.

S&P Global

Featured in S&P Global
Sustainability Yearbook 2024

ACC was selected as a member of S&P Global Sustainability Yearbook 2024. Not only was ACC the only company in Taiwan's cement industry to be included in the S&P Global Sustainability Yearbook 2024, the Company's score jumped significantly, the highest in the building materials category in Taiwan.





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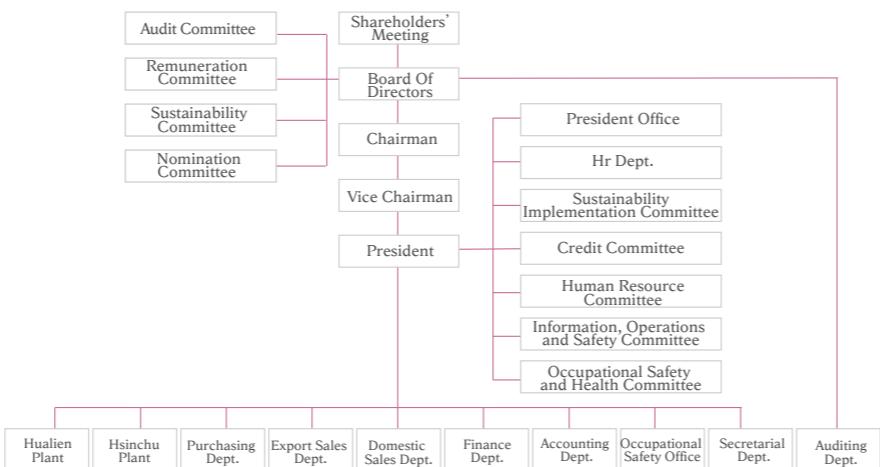
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The Board of Directors is the highest governance body and the center of major business decisions at Asia Cement. According to the "Election Rules for Directors and Supervisors," the company adopts a cumulative voting system to protect shareholder rights. The Board of Directors faithfully executes business and fulfills the duty of care of a good manager, exercising its powers with a high degree of self-discipline and prudence. It guides the company's strategy, supervises the management, and is accountable to the company and its shareholders. The company's governance system and arrangements ensure that the Board of Directors exercises its powers in accordance with laws, the company's articles of association, and shareholder meeting resolutions.

The management organizational structure of Asia Cement



Composition and Operation of the Board of Directors

Held board meetings: 5 times

Board member attendance rate : 94.52%

The Board of Directors meets at least once every quarter, typically convened by the Chairman. Unless otherwise stipulated by law, resolutions of the Board require the presence of more than half of the directors, with a majority of those present agreeing to pass the resolution. In 2023, the Board met five times with an attendance rate of 94.52%.

The main responsibilities of the Board of Directors include reviewing the Company's business plans, annual and semi-annual financial reports, preparing budgets and final accounts, appointing and dismissing managers, and approving important credit applications and business transactions. The Company's Articles of Incorporation stipulate that the cumulative voting system and the candidate nomination system shall be adopted for the election of directors. In accordance with the regulations, the Board of Directors will review the eligibility requirements of shareholders or candidates nominated by the board in advance. The review results will be provided to shareholders for reference, in order to elect suitable directors. The term of the current Board of Directors is from June 23, 2023 to June 22, 2026. The Board of Directors consists of 10 directors and 5 independent directors, of whom 2 are female directors and are over fifty years old. Regarding directors' education and experience, ESG-related continuous education and training, and their professional qualifications, as well as the independence of independent directors, please refer to "Information on Directors" and "Directors' Continuing Education" in the Company's Annual Report.



Asia Cement
Annual Report

Company basic information

Types of Information	Related Information of 2022
Company name	Asia Cement Corporation
Employees	The employees in the main physical operation entities in Taiwan: 1,712(472 employees in Asia Cement, 1,240 employees in subsidiaries).
Paid-in Capital	T\$ 35,465,628,810
Founding Date/IPO Date	March 21, 1957/1962 (Stock code 1102)
Main Products and Services	Various types of "Skyscraper" cement products and clinker
Chairman /President	Douglas Tong Hsu/ Kun-Yen Lee
Headquarter	30-31F, No. 207, Dunhua S. Rd. Sec. 2, Da An District, Taipei City
Main Operation Sites	Asia Cement (China) Holdings Corporation, Hsinchu Plant, Hualien Plant, Ya Tung Ready-Mixed Concrete Corp, Ya Li Precast and Prestressed Concrete Industries Corp, Fu Ming (Da) Transportation Co., Ltd., Yuan Long Stainless Steel Corp, Nanhwa Cement Corp, ChiaHui Power Corporation.
Production Lines and Capacity	In Hsinchu Plant, the annual output: 1 million tons of clinker and 1.05 million tons of cement In Hualien Plant, the annual output: 4.02 million tons of clinker and 4.35 million tons of cement. Asia Cement (China) has an annual output: 25 million tons of clinker and 35.1 million tons of cement.
Net Sales	Sales of self-produced cement and clinker: ACC Global 29,595 thousand tons; ACC Taiwan 3,383 thousand tons. Sales of self-produced cement and clinker: ACC Global NTD 39,440 million; ACC Taiwan NTD 9,668 million; carbon intensity of ACC as an entity 7.7 (kgCO ₂ e/revenue USD).
Markets Served	Various types of cement and clinker are sold domestically in Taiwan, Taiwan, Penghu, Kinmen and Matsu and other surrounding niche markets.
Warehousing depots	Four warehousing depots in Taiwan: Keelung, Taichung, Kaohsiung, Hualien
Sales Network	Four sale offices in Taiwan: Taipei, Taichung, Kaohsiung, Hualien Dealers in Taiwan: 75
Entities disclosed in the Consolidated Financial Report	Refer to Paragraph 8 – Information of the Affiliated Companies – Asia Cement Annual Report for all consolidated entities. Asia Cement China issues its own ESG report. Please visit
Countries and Regions	Taiwan, China, Singapore, Hong Kong, India, Vietnam., Guam,Indonesia.





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Systemize Remuneration to Directors and Sustainable Performance

Actual allocation rate : 1.006%

The remuneration of ACC's directors and supervisors is specified in the Company's Articles of Incorporation, which takes into account their participation in the Company's operations as well as performance evaluations. The remuneration of directors and managers is linked to the Company's sustainability performance. For the relevant remuneration policy, please refer to the Company's annual report. Where the Company has an annual profit, not more than 2.5% of the annual profit is allocated as director remuneration. The actual allocation rate in 2023 was 1.006%.



External Evaluation of the Performance of the Board of Directors

Assessment scores: 4.32 to 4.89, all rated as excellent to outstanding

We are committed to enhancing the functions of the Board of Directors, establishing performance targets, and enhancing operational efficiency. At ACC, we have established the "Procedures for Board Performance", which stipulate that the Board of Directors shall conduct internal performance evaluations every year. An evaluation shall be carried out every three years by external professional independent institutions or teams of experts and scholars as appointed. The Taiwan Institute of Ethical Business (TIEB) was commissioned to perform the evaluation of the performance of ACC Corporation's Board of Directors for 2022. The evaluation scope and indicators included the Board of Directors' professional competency, its decision-making effectiveness, the extent of its valuation and supervision of internal control, and its attitude towards sustainable operations. The evaluation results are based on relevant regulations and records and assessment questionnaires. Performance was graded on a scale of 1 to 5 points (with 5 points being the best). The evaluation results indicated 4.76 points for professional competency, 4.72 for decision-making effectiveness, 4.73 points for internal control, and 4.73 points for sustainable development. The next evaluation period is 2025.

The internal performance evaluation of the Board of Directors in 2023 included the performance evaluation of the Board of Directors as a whole, individual directors, and functional committees. The evaluation results were all excellent.

Functional Committees

ACC has established four functional committees under the Board of Directors, namely, the Audit Committee, Remuneration Committee, Nomination Committee, and Corporate Sustainability Committee. Members are appointed by the directors (except for the Audit Committee who are all independent directors in accordance with the law). Members of the committees appoint the convener to meet on a regular basis. The term of the current functional committees is from 2023 to 2026. The implementation status in 2023 is as follows.

Audit Committee

4 meetings (held quarterly) **Attendance rate 100%**

5 seats (all independent directors)
Convener: Independent Director Yun-Peng Chu

Supervise the fair presentation of the Company's financial statements; the election (dismissal), independence, and performance of the Company's CPAs; the effective implementation of the Company's internal controls; the Company's compliance with applicable laws and regulations; and the management and control of existing or potential risks to the Company.



Remuneration Committee

Twice (every six months) **Attendance rate 100%**

3 seats
Convener: Independent Director Chi Schive

Responsible for implementing performance evaluations and salary policies, and formulating and reviewing the policies, systems, standards, and structures for the performance evaluation and remuneration of directors and managers.



Nomination Committee

Once (every six months) **Attendance rate 100%**
Once in the first year as it was newly established

3 seats
Convener: Independent Director Chi Schive

Review the structure, scale and composition of the Board; identify suitable candidates to become members of the Board; assess the independence of independent directors; make recommendations to the Board on the appointment or reappointment of directors and the succession plan of directors.



Corporate Sustainability Committee

Twice (every six months) **Attendance rate 100%**

5 seats
Convener: Independent Director Gordon S. Chen

The decision-making center for promoting sustainable governance is responsible for supervising the implementation of the Company's sustainability policies, systems or related management guidelines, and reporting the implementation status to the Board of Directors every six months.





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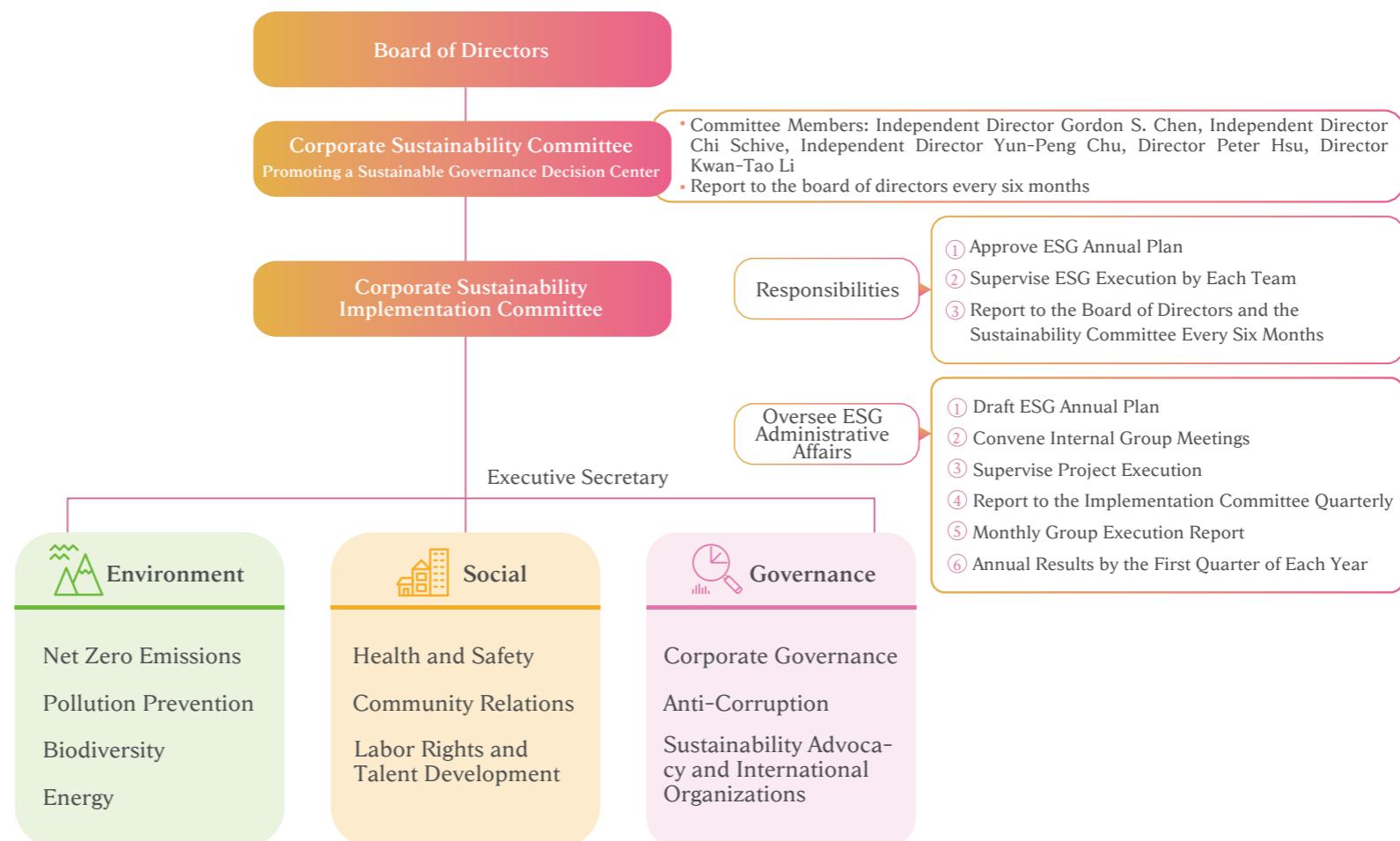


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Sustainability Organizational Structure

The company has been publishing a CSR report since 2013. In addition to establishing the Corporate Sustainability Committee in 2021, we have also formed the "Corporate Sustainability Implementation Committee" within the Company as the dedicated unit for corporate sustainability. The President serves as the chairperson of the Committee, responsible for promoting the sustainable development of the Company, including subsidiaries in Taiwan and China. The Corporate Sustainability Implementation Committee is structured around three dimensions, including Environmental (E), Social (S), and Governance (G), of which comprises 10 major working groups, namely Net-Zero, Pollution Prevention, Biodiversity, Energy, Health and Safety, Community Relations, Labor rights and Talent Development, Corporate Governance, Anti-Corruption, Sustainability Advocacy, and International Organizations.

The ESG Working Group is responsible for planning and implementing corporate sustainability projects and submitting work reports to the Corporate Sustainability Committee every quarter. The executive secretary of the Corporate Sustainability Committee collects the results of corporate sustainability operations and their implementation results, and reports to the Board of Directors and the Corporate Sustainability Committee. This enables the directors and committee members to fully grasp the operation of relevant issues.





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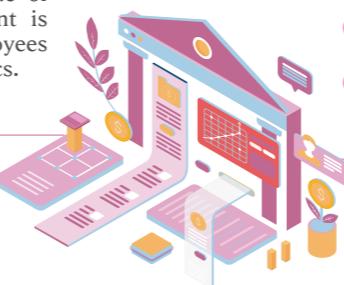


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2.1.2 Code of Conduct for Ethical Management

Ethical Corporate Management and Anti-corruption Management System

Item	Content
Corporate vision	"Ethics" as the highest guiding principle for business development.
Scope of application	All employees of the Company, suppliers, and contractors. We have a zero-tolerance approach to corruption and strictly prohibit practices including bribery, facilitation, fraud, extortion, blackmail, collusion, and money laundering. We prohibit the offering or acceptance of gifts, loans, fees, incentives, or other benefits. We do not tolerate corruption, influence-peddling, abuse of authority, unlawful enrichment, concealment, and obstruction of justice.
Management system	<ul style="list-style-type: none"> ① The Board of Directors has approved the "Anti-Corruption Policy" as the basis for ethical corporate management and anti-corruption management measures. The Company has also implemented the ISO 37001 anti-bribery management system and adopted the "planning and establishment, implementation and operation, supervision and audit, maintenance and improvement", ensuring its effective operation and continuous improvement and that a zero-tolerance attitude is adopted. ② "Principles for Ethical Management of Asia Cement Corporation" stipulate that the Company's personnel shall not directly or indirectly offer, promise, request or accept any undue or improper advantages in the course of conducting business. ③ "Codes of Ethical Conduct of Asia Cement Corporation" regulates the recusal of employees and the prevention of conflicts of interest when performing duties. ④ The "Procedures for Ethical Management and Guidelines for Conduct" stipulate the prohibition of offering or accepting undue or improper advantages, recusal due to conflicts of interest, organization and responsibility for confidentiality, prohibition of unfair competition, prohibition of insider trading, and obligation of confidentiality. ⑤ The "Employee Work Rules" outlines the employee code of conduct. The supervisor of the responsible department is responsible for educating, advising and leading the employees so that they fully understand the code of conduct and ethics.
Regular Audits of Ethical Standards	In accordance with the ISO 37001 management system requirements, we have established the "Anti-corruption Internal Audit Procedures," mandating an annual internal audit of all business areas.
Anti-corruption Risk and Due Diligence	<ul style="list-style-type: none"> ① Each year, we convene units to conduct risk evaluation operations, identifying risks based on various business processes and characteristics. ② The company has established the "Anti-corruption Risk Assessment and Due Diligence Procedures," which are executed regularly based on risk assessment results: high-risk areas are assessed annually, medium-risk areas every two years, and low-risk areas every three years.
Communication and training on ethical corporate management and anti-corruption	<ul style="list-style-type: none"> ① At least two ethical standard education and training sessions are held every year. Employees must receive a minimum of two hours of education and training while internal auditors of bribery prevention must receive a minimum of three hours of education and training. ② New suppliers and contractors must fill out a risk assessment form and receive anti-corruption promotion or education and training before engaging in transactions. ③ The Company provides education and training to all new employees on the "Codes of Ethical Conduct", "Principles for Ethical Management", and "Anti-Corruption Policy". ④ In support of the Bribery Prevention Management Policy, all directors and employees of ACC as well as employees of ACC's subsidiaries have signed the "Corruption Prevention Policy Compliance Statement".
Corruption prevention management objectives	<ul style="list-style-type: none"> ① Anti-Corruption culture established: Two education and training sessions on bribery prevention are held every year, with a target completion rate of 98%. ② Zero occurrence of bribery: 0 incidents of offering or receiving bribes. ③ Implementation of whistleblower protection: 0 retaliation for reported incidents. ④ Severe punishment for unethical conduct: Punishment is subject to the Procedures for Rewards and Punishments according to the authorization of duties.





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Dedicated Unit for Oversight of Ethical Issues

Audit plan items : 44 items completed

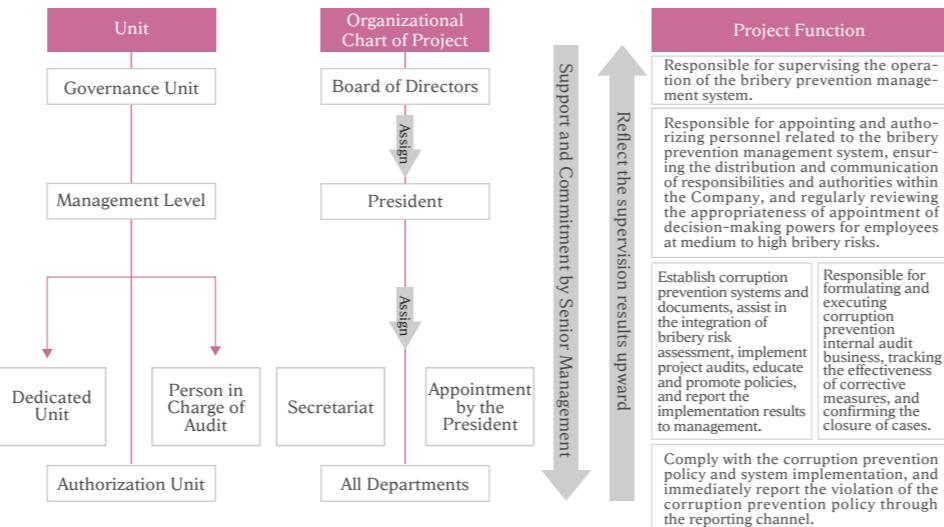
The Company has established an internal audit unit that is subordinate to the Board of Directors. The audit unit is responsible for assisting in the formulation of the internal control system and reasonably ensuring the achievement of the three major objectives of internal control. In addition, an electronic database of the internal control system has been established for all employees to query and follow. This ensures the continued effectiveness of the internal control system. The potential risks of the items are assessed under the responsibility of each unit. This ensures the implementation and formulation risk management-oriented annual audit plans.

The audit items cover four major aspects: corporate governance, legal compliance, operations management, and subsidiary supervision and management. The 44 audit items covered by the audit plan that were submitted to and approved by the Board of Directors in 2023 have all been completed.

Ethical Corporate Management and Anti-corruption Management

To implement the bribery prevention policy, all employees of the Company are strictly prohibited from entering into transactions or offering, accepting, promising or requesting, directly or indirectly, any undue or improper advantages for themselves or others in the course of performing duties. Through education and training, the Company strengthens colleagues' anti-corruption and anti-bribery awareness, so as to build an ethical foundation to avoid business risks, unleash corporate positive values, and achieve the goal of sustainable operations.

Corruption prevention organization and personnel structure



Regular Audits of Ethical Standards

To ensure the effectiveness of anti-corruption management, our company has established the "Anti-Corruption Internal Audit Procedures" in accordance with the ISO 37001 management system requirements, mandating an annual internal audit of all business areas. Following the PDCA management system principles ("Plan-Do-Check-Act"), we continuously maintain and improve the system's effectiveness. Asia Cement passed the ISO 37001 anti-corruption management system certification in 2023, with the next certification due in 2026.

Anti-corruption risk assessment and due diligence

100% improvement completion

To effectively identify bribery risk scenarios and risks faced by the Company in the course of operations, each unit performs a risk assessment. The process involves identifying risks along the lines of their respective business processes and characteristics, taking into consideration the authorization of practitioners, decision-making authority, location and department, business activities and complexity, business model, and business partners, etc. We have identified 174 risk patterns, 28 internal and external material issues, and evaluated them based on likelihood, degree of impact, and the effectiveness of the control measures. In 2023, the Company completed 100% of all bribery risk assessments and the results were all low risk, at an acceptable level, with 100% of the improvement measures were completed.

Our company has established the "Anti-corruption Assessment and Due Diligence Procedures," which cover all business areas and partners, including employees, suppliers, customers, and special types of transactions. The results are reported to the Anti-corruption Management Review Committee, the Corporate Sustainability Committee, and the Board of Directors. Considering that the integrity status of business partners may change over time, our company regularly re-evaluates risks with frequencies of annually for high-risk, every two years for medium-risk, and every three years for low-risk areas.

Anti-corruption Risks and Due Diligence Investigation Findings

Subject	Assessment Process	Risk Identification Results	Improvement Measures
Practitioners	Assessment was conducted on 157 practitioners, of whom 23 had approval authority.	Low risk	Maintained the management system, with incremental improvements made
Suppliers	Risk assessment and due diligence were conducted on 230 suppliers with a transaction amount of more than NTD 1 million.	Low risk	Maintained the management system, with incremental improvements made
Customers	The assessment results showed 2 companies at Medium-risk and 145 Low risk	Low risk	Low risk: Maintained the management system with incremental improvements made Medium risk: Education and training conducted, with improvements made.
Special types of transactions	2 items	Low risk	Maintained the management system, with incremental improvements made





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Ethical Corporate Management and Anti-corruption Implementation Results

- ① In 2023, there were no incidents of corruption or bribery, and no violations involving conflicts of interest, money laundering, or insider trading. The bribery prevention management target was achieved with a **100% completion rate**.
- ② A total of 2 whistleblowing cases were received in 2023. One case: no circumstances described by the whistleblower were found after investigation; while the other case was rejected due to incomplete information. Both cases, handled according to the Company's "Measures for Reporting of and Investigating Unethical Conduct", were submitted to the Audit Committee for review.
- ③ All the directors and employees of ACC in Taiwan have signed the "[Corruption Prevention Policy Compliance Statement](#)".
- ④ All employees at each base completed 965 hours of education and training on bribery prevention promotion, with a completion rate of 100% and a pass rate of 100%.
- ⑤ **100% of new employees completed ethical corporate management and corruption prevention promotion.**
- ⑥ **100% of new suppliers and contractors received anti-corruption promotion before conducting transactions, and 100% of key risk suppliers/contractors completed anti-corruption education and training.**
- ⑦ The scope of application of anti-corruption and bribery prevention measures were expanded. Except for ACC as an entity, subsidiaries in Taiwan are being assessed to be included in the bribery prevention management system.

Communication and Training on Ethical Corporate Management and Anti-corruption

Twice a year, we organize anti-corruption education and training. Each employee is subject to receiving at least 2 hours of training; while internal auditors of corruption prevention must receive a minimum of 3 hours of education and training to enhance the Company's anti-corruption awareness. Board members and all employees, suppliers, and contractors are provided with the training. The training content includes the Company's Code of Ethical Conduct, Principles for Ethical Management, whistleblowing channels and disciplinary measures, and covers all aspects of anti-bribery, breach of integrity, violation of law or breach of fiduciary duty and other unethical conducts. The "Code of Ethical Conduct", "Principles for Ethical Management", and "Anti-Corruption Policy" are explained to newcomers so that they understand their contents and personal obligations, while conveying corporate ethics.

Board's Oversight of Unethical Conduct

The Company encourages employees and external personnel to report on the basis of good faith any possible or actual illegal or immoral behavior, and any alleged breach of trust, bribery, or when having reasonable suspicion of violations and exploitation of the weaknesses in the bribery prevention management system. The Company has formulated the "Measures for Reporting of and Investigating Unethical Conduct". The head of the Audit Committee and Audit Office are responsible for investigating reported cases. The Audit Division is subordinate to the Board of Directors and is responsible for overseeing the "reporting of and investigating unethical conduct" process, ensuring that investigations are conducted with independence and objectivity.

The Company accepts anonymous reporting and confidential reporting, promises to keep the identity of the whistleblower and the reported content confidential, and ensures that the whistleblower will not be subject to improper treatment due to whistleblowing. In addition, the Company has also made available options for whistleblowing, including an e-mail box, a hotline, and a form on its website and internal website.



Reporting Channels

Reporting Website


Reporting email : speak-up@acc.com.tw
 Reporting hotline : 02-2733-8000#8195





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Risk Management Policy

To strengthen corporate governance and promote sound operations and sustainable development of the Company, we have established a sound risk management mechanism to control potential risks within tolerable limits. In addition to approving the "Internal Control System", the "Risk Management Policy and Procedures" have also been adopted by the Board of Directors, implemented by the Board of Directors, the Corporate Sustainability Committee, and all responsible units.



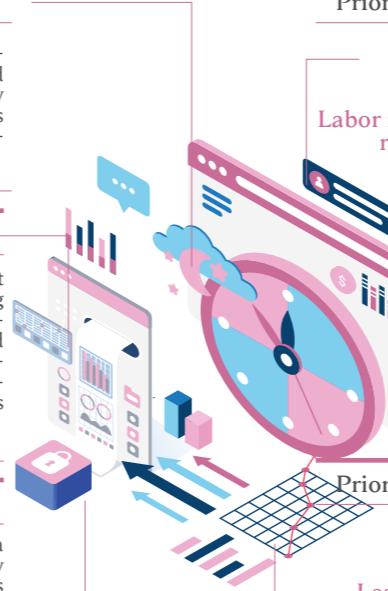
Risk Management Policy

Risk Identification and Countermeasures

The risk management process includes risk identification, risk measurement, risk response, risk monitoring, and risk reporting. Risk types include operational risk, financial risk, hazard risk, information security risk, legal compliance risk, climate, and nature risk. We conduct risk reviews on a regular basis every year. In 2023, the results of all risk identification and measurement were coordinated, and priority risk issues were selected for the review of the Sustainability Implementation Committee, as follows.

Priority Risk	Risk Description	Mitigation Measures
Climate risk	The government levies a carbon fee, resulting in an increase in direct operating costs.	The Corporate Sustainability Implementation Committee has assembled a net-zero emissions team to regularly report on carbon reduction measures and their results to ensure the Company's carbon reduction performance.
Interest rate risk	Changes in market interest rates will lower the efficiency of capital utilization.	Continue to monitor market interest rate changes. In addition to making good use of various financing instruments, long-term liabilities are issued at an appropriate time to lock in favorable fixed interest rates, while minimizing the impact of interest expenses and interest rate fluctuations.
Information Security Risk	Cyber threats causing harm to the information security of external service systems.	We use the Security Scorecard, a third-party information security assessment management platform, as a reference to score and analyze network threat intelligence signals to rate the cybersecurity patterns of enterprises. The latest scores are better than the industry standard.

Priority Risk	Risk Description	Mitigation Measures
Labor relations risk	May create the impression of employment discrimination and affect the Company's credibility.	The educational series of 5 videos, "Preventing Employment Discrimination", produced by the Ministry of Labor were broadcast. The courses were attended by about 470 people and lasted an average of 2 hours. By doing so, we aimed to enhance the awareness and understanding on labor rights and obligations among the Company's executives and colleagues.
Legal compliance risk	Securities, tax laws and International Accounting Standards endorsed by the Financial Supervisory Commission.	Complete quarterly financial report preparation, announcement and filing, taxation operations, filing, and other regulatory compliance targets as scheduled to reduce operational risks.





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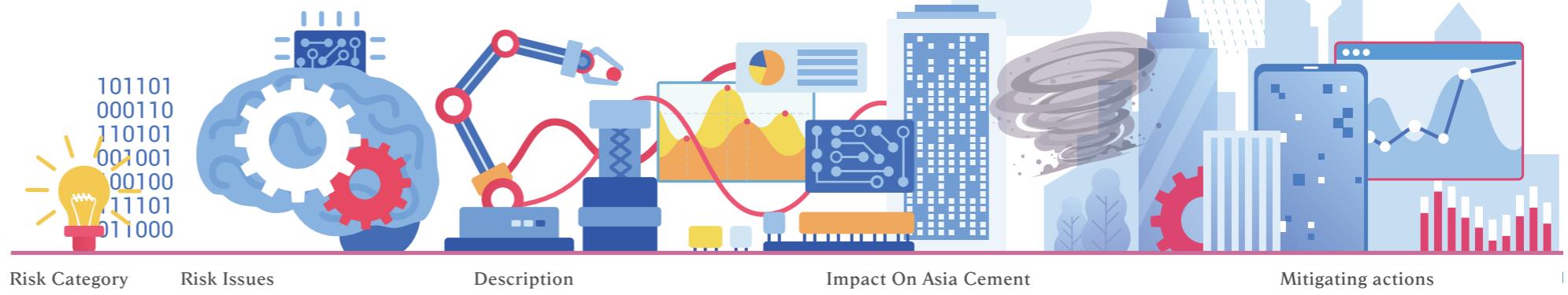


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Significant Emerging Risks





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Participating Associations

In addition to producing cement products as the core business, Asia Cement participates in all types of organizations with different ways in order to connect with all walks of the society for the sustainable development. The associations which the Company engages the actual operations include.

Association	Identity	In 2023, ACC paid a total of NTD 11.94 million in annual fees and a sponsorship fee of NTD 990,000. (NTD 10,000)			
 Asia Cement		Donations and other expenses	2020	2021	2022
Global Cement and Concrete Association	Member	Lobbying interest representative	0	0	0
World Cement Association	Member	Fees to political party candidates	0	0	0
Chinese National Association of Industry and Commerce	General Director, Member	Industry association fees	1,015	1,019	1,249
Association of Industry for Environmental Protection	General Director, Director, Member	Other fees	58	114	105
Chinese National Federation of Industries	Highest Consultant, Director, Member				99
Taiwan Cement Manufacturers Association	General Director, Director, Supervisor, Member				
Taiwan Cement Union Association	Director, Member				
Taiwan Marble and Stone Mining Association	General Director, Member				
Taiwan Concrete Institute	Chairman, Member				
International Chamber of Commerce Chinese Taipei	General Director				
Center for corporate sustainability	Director				
Taiwan Society for Circular Economy	Director				
Chinese Institute of Engineers Hualien Branch	Chairman, General Director, Member				
In 2023, ACC's largest donations and expenditures to the association were in response to the climate strategy and net zero.					
		Associations	Corresponding Topic	2023 donations and expenses	
		Global Cement and Concrete Association (GCCA)	Climate strategy	NTD 6.13 million	
		Taiwan Cement Manufacturers Association	Climate strategy	NTD 3.05 million	
		World Cement Association	Net zero emissions	NTD 1.19 million	
 Ya Tung Ready -Mixed Concrete		 Yuan Long Stainless Steel		 ChiaHui Power	
Taiwan Ready-Mixed Concrete Industry Association	General Director/ Supervisor / Member	Taiwan Steel and Iron Industries Association	Supervisor	Taiwan Cogeneration Association	Director
The Real Estate Alliance of the Republic of China, Taiwan	Consultant			Taiwan Electric Power Association	Director

Trade Associations-Climate Alignment

ACC's commitment to participating in climate change trade associations is aligned with the goal of limiting global temperature rise to 1.5°C. This commitment applies to all subsidiaries, business fields and operating regions. The ACC Corporate Sustainability Implementation Committee is responsible for implementing the policies and practices of the industry associations that are aligned with the global goal of 1.5°C climate change. The Committee is responsible for overseeing the participation of climate change industry associations and ensuring the achievement of the target. [GCCA 2050 Cement and Concrete Industry Roadmap for Net Zero Concrete](#) demonstrates our climate policy stance and activities.



Anti-competitive behaviors and the status of processing

In 2023, Asia Cement's impact boundary of anti-competitive issues was ChiaHui Power and Ya Tung Ready-mixed Concrete. The legal department is in charge of the rules of management which is based on laws and regulations.

Base	Anti-competitive behavior and handling
 ChiaHui Power	In 2013, the Fair Trade Commission found that 9 privately-owned power plants, including ChiaHui Power, had violated the Fair Trade Act. After a lawsuit and administrative litigation, the Supreme Administrative Court on June 21, 2022 dismissed the case and ChiaHui Power lost the case. Regarding the amount of fine in the case, the Taipei High Administrative Court held an Administrative Litigation Procedure Division on November 14, 2023, and the judge ordered the case to be transferred for mediation.
 Ya Tung Ready-Mixed Concrete	In April 2019, the Fair Trade Commission found that 5 ready-mix concrete suppliers, including Ya Tung Ready-Mixed Concrete, had violated the Fair Trade Act, resulting in Ya Tung Ready-Mixed Concrete being fined NTD 11 million. However, Ya Tung Ready-Mixed Concrete rejected the ruling and filed an administrative lawsuit, which received a judgment from the Taipei High Administrative Court. The case, which did not constitute a joint act, was appealed by the Fair Trade Commission to the Supreme Administrative Court, and is currently under review by the Taipei High Administrative Court.
	In February 2023, the Fair Trade Commission found that 18 ready-mix concrete suppliers, including Ya Tung Ready-Mixed Concrete, had violated the Fair Trade Act, resulting in Ya Tung Ready-Mixed Concrete being fined NTD 30 million. Ya Tung Ready-Mixed Concrete has always upheld the spirit of decent management and did not participate in the so-called joint acts alleged by the Fair Trade Commission. Ya Tung Ready-Mixed Concrete has already filed an administrative lawsuit, which is currently under review by the Taipei High Administrative Court.





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2.2 Products and Economic Performance

2.2.1 Economic Performance

Main Brand

Asia Cement adopts the operation principle of "high quality, high efficiency, high environmental protection and low cost", it has shaped the brand of "Skyscraper Cement" as the image of best cement. The "Skyscraper" cement produced by Asia Cement carries the trademark of excellent products to be trusted. The products are very welcomed and used in many fields including public transportation construction, green buildings, residential houses and commercial buildings.

Product Innovation and Services

Asia Cement's products are mainly the production and shipping of cement and clinker (87%), followed by blast furnace slag powder (13%). The cement packages are available in both bulk and bagged, they can be shipped either by ocean freight or land transport.

Asia Cement integrates the industry's value chain towards a low-carbon transition. Not only does it produce the industry's first low-carbon cement, but its subsidiary, Asia Eastern Ready-Mix, also develops various high-performance and low-carbon concretes. These efforts provide strong support for the nation's infrastructure development, including projects such as social housing, public works, bridges, and airport transit systems.

In 2024, Ya Tung Ready-Mixed Concrete's high-performance concrete was adopted for the landmark building "Taipei Twin Towers." Its superior characteristics include a compressive strength of 12,000 psi. This high-performance concrete features high strength, excellent workability, high density, and temperature control, which can extend the lifespan of buildings and reduce embodied carbon emissions, supporting Taiwan's journey towards net-zero sustainability.



TPKA R&D Office Building



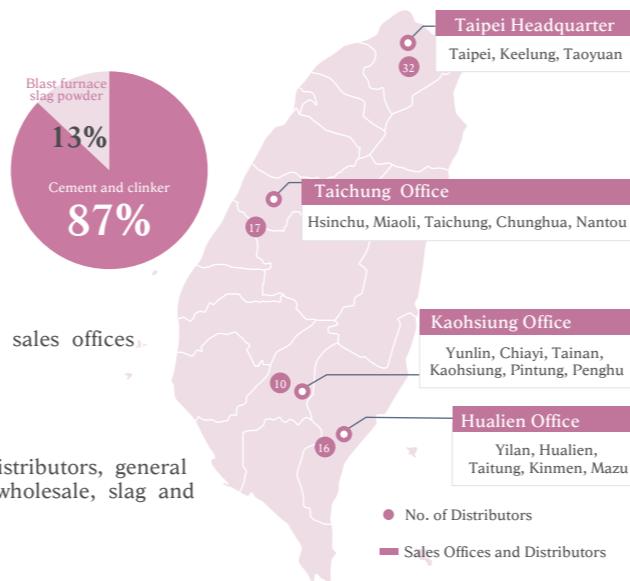
ECO PARK

Sales Offices and

There are four Asia Cement's sales offices covering the entire Taiwan area.

Types of customers

The types of customers are distributors, general customers, affiliated enterprises, wholesale, slag and clinker customers.



Consolidated financial report(2020~2023)

Unit: NT\$1 million

Type	Item	2020	2021	2022	2023
Financial Performance	Operating revenue	78,241	89,655	90,341	80,183
	Operational gross profit	23,330	21,181	11,755	10,437
	Operational net profit	19,670	17,686	8,571	7,460
	Non-operational income and expenses	4,474	4,248	6,626	6,476
	Earnings before tax	24,144	21,934	15,197	13,936
	Net earning in the period	18,774	17,528	12,597	11,084
	Earning per share	4.70	4.70	3.63	3.28
	Total assets	297,087	317,056	324,243	336,727
	Total liability	127,200	136,783	140,010	144,863
	Total equity	169,887	180,273	184,233	191,864
Allocated economic value	Cost of operation	54,911	68,474	78,585	69,746
	Dividend	10,085	11,933	12,055	8,156
	Income tax	5,370	4,406	2,600	2,852
	Employee salary and welfare	4,783	5,172	5,052	4,977



Government Financial Subsidies

In 2023, the subsidy income received from the government was NTD 20 million, and that of the subsidiaries was NTD 4 million.



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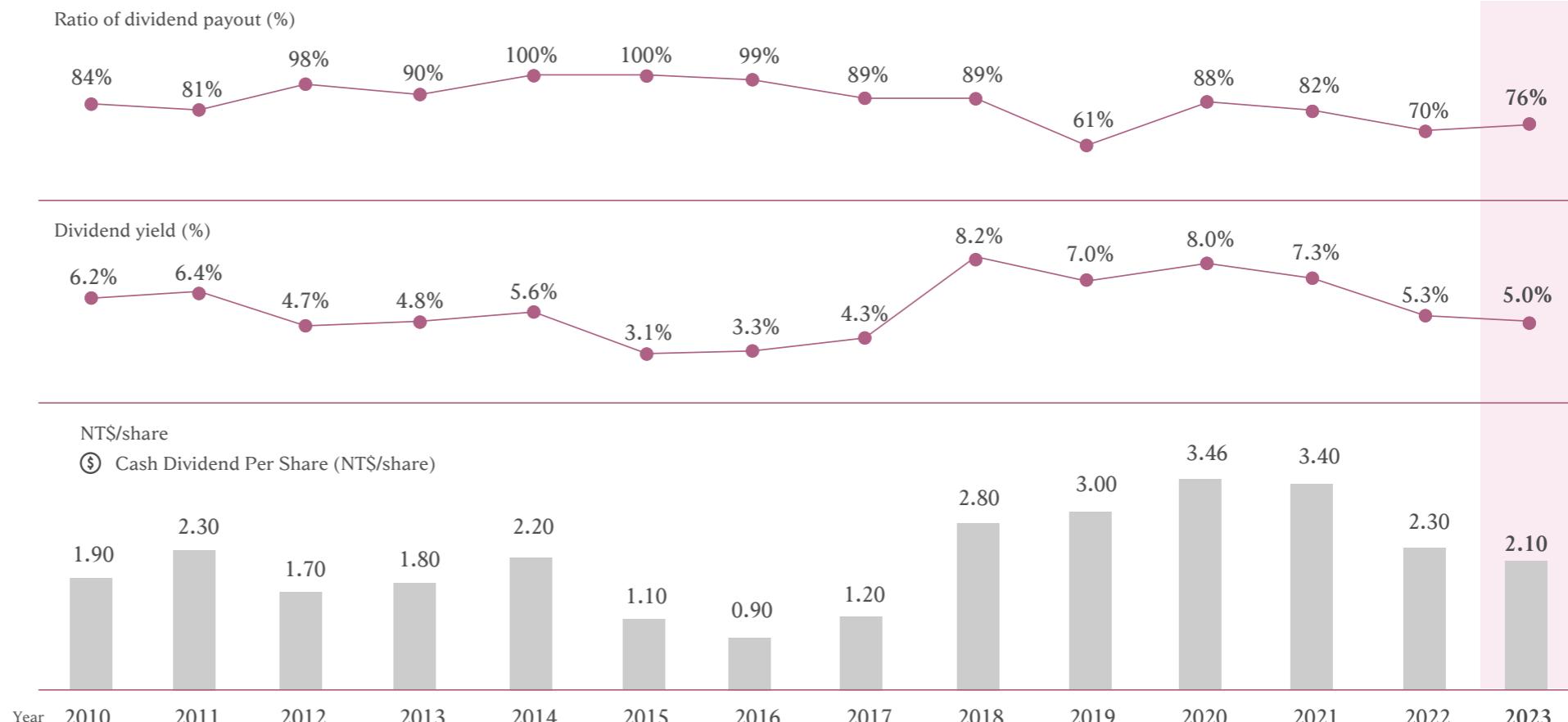
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Financial performance (on the basis of consolidated financial report)

In 2023, ACC's consolidated net profit after tax attributable to the parent company decreased by 9% on an annual basis. Affected by weak cement demand of ACC (China), its overall industry profit declined. However, the cement business in Taiwan has benefited from the construction of public works and the expansion of the manufacturing industry's capacity, resulting in steady profit growth; the reinvestment in Far Eastern New Century and U-Ming Marine Transport continued to make steady profit contributions to the Company. Looking ahead, China's loosening of real estate sales policies, relaxation of financing for real estate companies, as well as the accelerated issuance of special bonds and active promotion of fiscal policies are expected to support cement demand, and the fundamentals of all businesses of ACC are stable.

Dividend payout policy

In 2023, Asia Cement's board of directors passed a resolution to pay out cash dividend of NT\$2.1 per share, the cash dividend yield is 5.0% based on the averaged stock price of 2023. Asia Cement's yield has been maintained between 3% to 8% for a long time. By adopting high dividend payout policy, the Company continues to create values for investors.



NOTE

1. Dividend payout ratio is calculated based on the distributable annual earning, deducting the influence of the appraised earnings from the invested properties.
2. Cash dividend yield = cash dividend / the average share price of the accounting year.





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Asia Cement Tax policy

All of ACC's operating locations follow local tax laws. Transactions between affiliates are subject to arm's length transfer pricing , in accordance with the transfer pricing principle. The tax information of the financial reports has been disclosed in accordance with the relevant regulations and standards, thereby increasing the transparency of tax information.



Asia Cement Tax policy

List of Asia Cement's taxes and rate of tax

Unit: NT\$1 million

Item	Region(Country)	2020	2021	2022	2023
Operational income	Mainland China(Country)	46,474	51,153	42,476	32,820
	Taiwan (Country)	28,340	35,337	44,459	44,498
	Other regions (country)	3,427	3,165	3,406	2,865
Operational net profit	Mainland China(Country)	15,321	12,124	2,506	1,569
	Taiwan (Country)	4,432	4,912	5,311	5,189
	Other regions (country)	(83)	650	754	702
Income tax accrued	Mainland China(Country)	3,997	3,228	1,168	1,612
	Taiwan (Country)	1,319	1,154	1,407	1,206
	Other regions (country)	54	24	25	34
Income tax paid	Mainland China(Country)	4,498	3,996	2,554	1,150
	Taiwan (Country)	983	1,062	1,164	1,398
	Other regions (country)	2	1	1	1
Profit (Loss) before tax		24,144	21,934	15,197	13,936
Income tax from consolidated effective tax rate(Tax expenses /Earning before tax)		22.24%	20.09%	17.11%	20.46%
Consolidated cash payment tax rate (Tax payable/Earning before tax)		22.71%	23.06%	24.47%	18.29%

NOTE Other regions (country) are mainly Singapore.

Guidelines for Identifying Sustainable Economic Activities

Asia Cement Corporation produces cement under a circular economy model in line with the "Guidelines for Identifying Sustainable Economic Activities". In this regard, Asia Cement's production of cement is qualified as two types of sustainable economic activities, namely, "General Economic Activity" and "Foreseeing Economic Activity". In the light of a global green wave of net zero emissions of carbon, Asia Cement will continue to create a complete circular economy model and the technology required to stay ahead of industry peers. We hope the industry, government, and academia will work together to create a sustainable home with low carbon emissions, thereby achieving the sustainability goal of harmonious coexistence of the economy and the environment. ACC Corporation has continued to invest in energy efficiency improvement, which reduced the electricity consumption per product by 1.03% compared to 2022.

Asia Cement Sustainable economic activities Aligned in 2023.

Standalone Financial Statement	Asia Cement as a whole - NT\$ thousand	Cement Department - NT\$ thousand	Aligned %
Revenue	11,140,246	9,668,204	86.79%
Capital expenditure	1,108,193	1,082,953	97.72%
Operating expenditure	2,642,526	2,496,749	94.48%
Applicable category		General Economic Activity	Forward-looking Economic Activity
		Manufacturing - Cement Production	Application of other low-carbon and circular-economy technologies

Evaluation results: Economic activities were carried out in line with the Guidelines



① Criteria for selecting the technology that "substantively contributes to mitigate climate change"

① Emission intensity of cementing materials: 0.826 metric tons of CO₂ e/metric ton cementing material. (≤ 0.90 metric tons of CO₂ e/metric ton).

① Asia Cement has obtained BS 8001 certification, a third party certification affirming the optimization level of circular economy business models.

② Power consumption per unit product: 98.22 kWh/metric ton of cementing materials .

② Asia Cement has won the "Excellence Award" under the 3rd "Taiwan Circular Economy Awards" held by the Center for Green Economy of Chung-Hua Institution for Economic Research for its three products, namely, Portland-limestone cement Clinker, Portland Cement, and Masonry cement.

③ By reducing carbon emissions via a circular economic model, Asia Cement has been hailed by the Industrial Development Bureau of MOEA as a merit manufacturer voluntarily opting



② No serious detriment to the other five environmental goals



③ Little to no damage done to social safety net



NOTE The boundaries for calculation of product electricity consumption and emission intensity are ACC, Hualien Plant, and Hsinchu Plant. Electricity sources include renewable energy generation for self-use and sub-supply. Unit product electricity consumption is calculated by dividing ACC's total electricity consumption by the annual cement produc-



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2.3 Supply chain management

Suppliers' code of conduct

Far Eastern Group observes the founding spirit of “sincerity, diligence, thrift, prudence and innovation” as the highest guideline of operation and development. It is the foundation of the operation, management, production, environmental protection and social care. The principles of working on everything are to be solid, no hiding, no false, instant correction, and continuously improving, in order to fulfill the corporate social responsibility. We expect that suppliers keep the same spirit as ours, respect the social and ethical standards during the services, understand and observe laws, actively respond to the environmental protection and the social issues, bravely bear the responsibility and consistently improve and advance.

Asia Cement's code of conduct for suppliers includes: environmental standards, child labor, human rights, work conditions (work-hour), remuneration, occupational health and safety, business ethics and sustainable purchase.



Labor and Human Right

- ① Voluntary hiring
- ② Forbidding to hire child labor
- ③ Wage and welfare
- ④ Work hour and break time
- ⑤ Freedom association and negotiation between employer and employee
- ⑥ Harassment, abuse and punishment
- ⑦ Respect and no discrimination
- ⑧ Protecting female employees



Ethic Guideline

- ① Sincere business operation
- ② Transparent and opened information, cooperation
- ③ IP right and information confidentiality
- ④ Identity protected petition channel
- ⑤ Privacy
- ⑥ Transferring contract without consent
- ⑦ Complying with import and export laws and regulations
- ⑧ Avoiding conflict of interest



Environment

- ① Permit and report
- ② Preventing pollution and saving resources
- ③ Hazardous substances
- ④ Waste water, non-hazardous solid waste and noise
- ⑤ Waste gas emission
- ⑥ Product and service limitations
- ⑦ Energy, resource consumption and GHG emission



Health and Safety

- ① Occupation safety
- ② Work injury and occupational diseases
- ③ Emergency response measures
- ④ Medical service and first-aid
- ⑤ Industrial sanitation
- ⑥ Physical labor work
- ⑦ Machine protection
- ⑧ Public sanitation and food/lodging
- ⑨ Health and safety information

Supplier Management and Screening

Total Number of Companies: 392

Asia Cement ensures that suppliers align with sustainable development principles across environmental, social, and economic dimensions, taking corporate social responsibility and continual improvement seriously. Based on local regulations and operational requirements at each site, the company has established a Supplier Management Policy. Since November 2016, Asia Cement has implemented the Supplier Corporate Social Responsibility Commitment Statement, which suppliers are required to sign. Compliance with the SSRC forms part of the supplier selection criteria, focusing on environmental (E) and social (S) indicators. As of 2023, a total of 392 suppliers have signed the commitment: 368 domestic and 24 international suppliers.



“Suppliers' Undertaking of Corporate Social Responsibilities”



Identifying significant suppliers

Asia Cement's significant suppliers is defined as the one who supply critical and irreplaceable. They were classified as Tier-1 and non Tier-1 according to “direct supply” or “trading company”. Identify as follows.

2023 Type of Supplier		
Tier-1 suppliers	Significant suppliers in Tier-1	Significant suppliers in non Tier-1
Total number 251	34	23

Total number of significant suppliers
(Tier-1 and non Tier-1)
57

% of total spend on significant suppliers in Tier-1
64%



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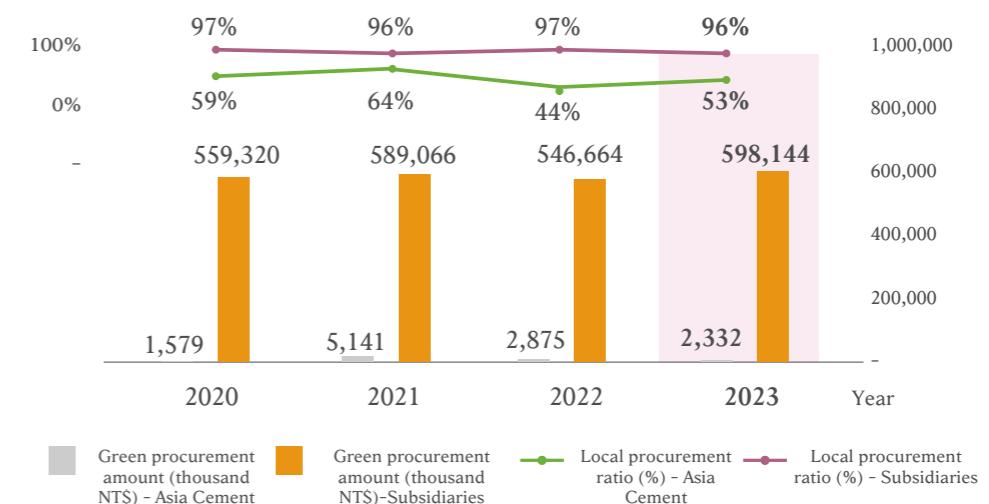


Local procurement policy

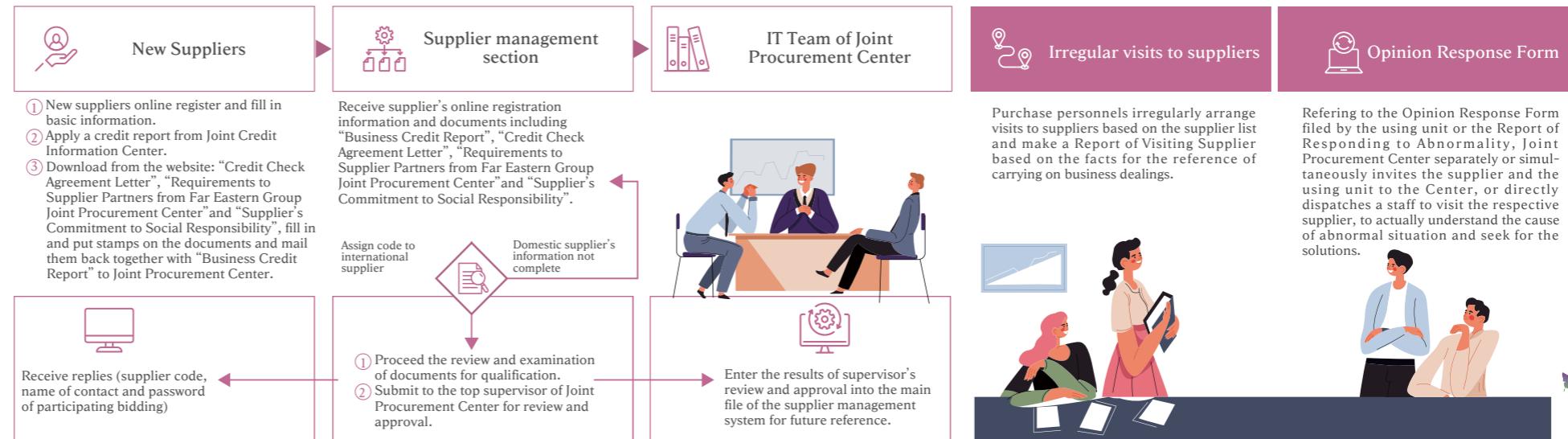
Asia Cement has established procurement guidelines to support local suppliers and communities, aiming to bolster local development. Despite the nature of its industry, where process equipment and primary raw materials are sourced predominantly from overseas, in recent years the Company strives for developing these items in Taiwan as the alternative equipment or parts, and utilizing circular economy wastes generated from various industrial companies in Taiwan as the alternative raw material and fuel, such as gypsum from power plants, coal ash from power plants or industrial furnaces, mineral silica material and slime from steel mills, renewable particles from incinerators as alternative raw material, and waste lubricating oil, RDF solid fuel as alternative fuel. By doing so, the Company can not only purchase items locally, but also provide some contributions to environmental protection.

Since 2021, 100% of cement silicon raw materials have been purchased locally in Taiwan.

Asia Cement's local and green procurement



Management flow for qualified suppliers





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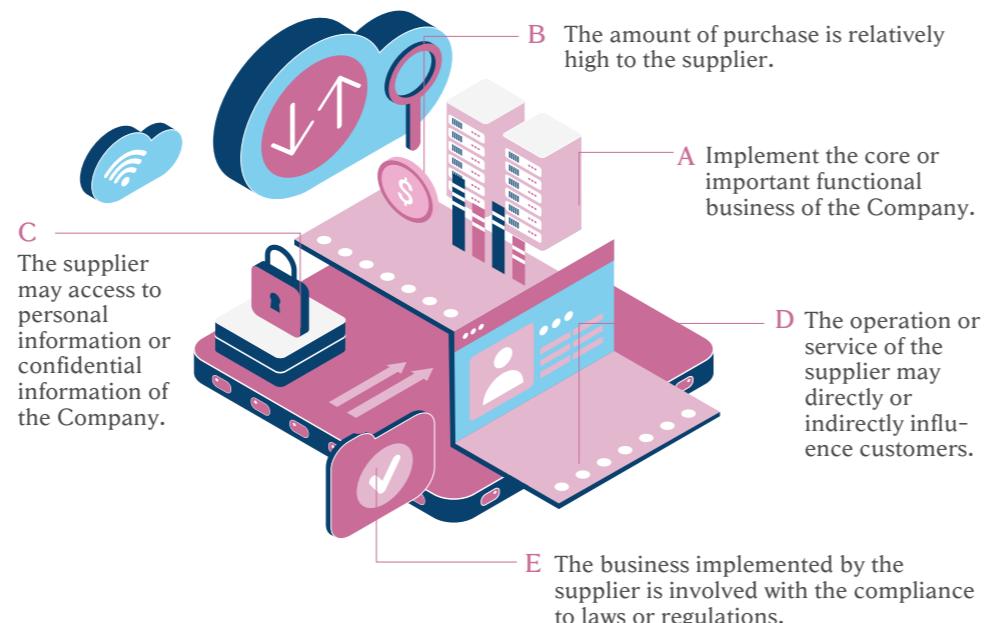
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Supplier risk assessment

Asia Cement stipulated a "Supplier Selection Principles and Management Measures". A purchase is listed as a critical purchase case if it meets the following conditions, and while selecting a supplier the risk assessment shall be performed and supported by Supplier Assessment Record to prove the appropriateness of the selected supplier:



Supplier assessment form

Low Risk

The supplier evaluation of ACC is conducted annually, and evaluation is conducted based on three major aspects as the basis for whether to continue business dealings. An important supplier must score at least 4 points. The supplier risk level in 2023 is all low risk.

Quality Control-Price-Laws

- | | |
|--|---|
| <ul style="list-style-type: none"> ① Consistent in Quality/QC ② Consistent in delivery time/progress/frequency of service ③ Provide reasonable prices (Total Cost) ④ Design capability | <ul style="list-style-type: none"> ⑤ Control of additional expenses ⑥ Cost of shipping ⑦ Green environmental protection/social responsibility ⑧ Labor conditions and environment in compliance with regulations |
|--|---|

Manufacturing Process (capability)-Capacity-Relation

- | | |
|---|---|
| <ul style="list-style-type: none"> ① Manufacturing process/Ability to construct ② Quality policy, work guidelines ③ Develop long-term relations ④ Increase or decrease production capacity /speed of service capacity | <ul style="list-style-type: none"> ⑤ Willingness of communication and sincerity ⑥ Ability to continuously improve |
|---|---|

Degree of cooperation-After Sale-Business Image

- | | |
|---|--|
| <ul style="list-style-type: none"> ① Rapid response, defects improvement ② Temporary mission/ degree of cooperation ③ After-sale service ④ Reputation and appraisal in the industry | <ul style="list-style-type: none"> ⑤ Financial status and turnover capability |
|---|--|

The score of a
critical supplier be
Over 4

The coverage and progress of the Key Supplier Assessment Plan in 2023

Supplier assessment

Total number of important suppliers that passed the document review/on-site visit

2023

57

Percentage of important suppliers assessed

100

Number of suppliers assessed to have significant negative impacts

0

Negotiated corrective action for suppliers with significant negative impacts Percentage (%) of implementation/improvement plans

0

Number of terminated suppliers with significant negative impact

0



Supplier Assessment and Development

At ACC, we conduct key supplier assessments and development through a strict supplier code of conduct, on-site visits, and document reviews to ensure that we work with key supplier partners to achieve the best environmental, social, and corporate governance practices, meeting the requirements of our supply chain management objectives.





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2.4 Customer Service and Information Security

High quality customer service

Asia Cement has built a professional service team, The diversified services:



Customer Satisfaction

Asia Cement conducted a survey of customer satisfaction in 2023. The numbers of participants and respondents of the survey were both 80, the rate of response was 100%. The result showed that the customer satisfaction was scored at 97.3, exceeding the targeted score of 95. The Company will consistently improve the products and services to further increase the customer satisfaction.

Asia Cement customer satisfaction survey



Information Security Risk Management

In 2023, there was no infringement on the privacy data of customers.

According to the FSC's announcement for amendments to the "Regulations Governing Establishment of Internal Control Systems by Public Companies", ACC established a Chief Information Security Officer and a responsible information security officer in 2023, meeting the Comply with the "Cybersecurity Control Guidelines for TWSE/TPEX Listed Companies" issued by TWSE. In response to the issue of information security and risk, Asia Cement established an Information Operation and Review Committee which was submitted to Board of Directors by General Manager. On the quarterly basis, this Committee will be responsible for reviewing internal information application system, office automation, network security and information security protection measures. It will also provide tools for operation, management and decision-making in order to reduce the risks of information security and performance management.

ACC implemented the ISO 27001 information security management system and formulated the information security policy: The "Computerized Information System Processing Operations" regulate the management system for the output, use, and storage of various IT data and information. The "IT Equipment and Information Software Guidelines for Employees" have been adopted to regulate the information security behaviors that employees need to follow in the course of performing duties.

Specific management plan, total of 20 inspections and audits in 2023 including two "information security audits" each by external and internal audit units, two "information system internal control self-assessment", once per quarter "SAP sensitive authorization and check of abnormal conflict occupational function" and once a month "SAP super user sensitive transaction check".

The cybersecurity equipment is integrated into the Far East Group's network architecture to align with the Group's hardware and software protection strategies, including WAF, IDP, firewall, mail protection, endpoint protection, etc. The "Disaster Emergency Response Plan" drill is performed twice a year to ensure the resilience of important systems. We also applied to join the TWCERT/CC to obtain the latest information security threat trends and protection information in real time, and to take immediate actions to defend against information security attacks and counteract information security risks, effectively protecting the security of its information systems and data.

At the same time, general information security education and training are provided to all employees to raise their awareness of information security, promote the rules of computer equipment, email, network use, and mobile device use. In doing this, we aim to achieve the goal of reinforcing colleagues' awareness of information security.

In accordance with Articles 8 & 9 of the guidelines for establishing internal control system in a public-listed company, Asia Cement stipulated "Asia Cement Corporation personal data protection and management rules" and "Asia Cement Corporation computerized information system process operation", it also included "the audit of information and communication security inspection operation" in the audit plan of 2023. The above had been reviewed and approved by Board of Directors. Through information security risk framework and information security policy, Asia Cement is able to maintain the faith from customers.

All ACC's main manufacturing plants have been certified with the **ISO 27001:2013 information security management system** have continued to maintain the system in good working order.

In 2022, the Xizhi Plant of the subsidiary a Tung Ready-Mixed Concrete implemented an **information security system and passed the certification in 2023**.



Information security policy
for ACC Hualien Plant



Information Security
Risk Management





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3 Social Inclusion /Asia Cement's Contributions to SDGs

Value chain and the status of moving toward short-mid-long term goals

Material Topics Value chain	The meaning to Asia Cement	Sustainable strategies and action plans	Goal of 2023	Actual Results in 2023	Short-term			Mid-term		Long-term					
					Goal of 2025	Goal of 2030	Goal of 2035	Goal of 2025	Goal of 2030	Goal of 2035	SDGs				
		Asia Cement promoted environmental education as the cornerstone of fulfilling environment sustainable development by the cement plant.	Provide the explanation of Eco-Park and website platform for education free of charge, spreading and sowing of sustainability seeds.	<ul style="list-style-type: none"> ▶ Environmental education visitors totaled 191,000. ▶ Over 2.2 million people visited the official website of ACC Ecological Park ▶ 325 videos of ACC and ACC Ecological Park on the YouTube had 98,000 views ▶ ACC had 134 posts on Facebook, with 2.62 million times of exposure, reaching 2.08 million people. 	We continue to encourage biodiversity and environmental education in many different ways and to spread it across all ages and different populations.		4.7	By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development.							
		On the basis of sustainable development strategy in the social aspect of "building a happy workplace, facilitating disadvantaged groups, deepening culture legacy, creating an inclusive society", Asia Cement co-exists and co-prosper with the tribes. It takes care of indigenous people by taking the actions of directly hiring local indigenous residents and cultivating talents.	Annual social expenditure of at least NTD 45 million	NTD 45 million ▶ NTD 102.7 million Target was reached	Annual social expenditure of at least NTD 45 million.		6.b	Support and enhance the participation to local community to improve the management of water and health.		11.1	Before 2030, ensure that everyone can attain proper, safe and affordable house and basic services.				
		Asia Cement's employees are our most important assets, thus, we periodically increase salaries to retain talents and to fulfill corporate social responsibility. Asia Cement has created a happy and high-pay workplace in Taiwan.	Proportion of residents in Hualien, %	Over 90% ▶ 96% Target was reached	Over 90%		8.5	By 2030, achieve full and productive employment and decent work for all women and men.		SC	Continuously increasing employee satisfaction.	70% ▶ 73.1% Target was reached	All items of satisfaction level over 70%.		Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.
			Practicing human right policy. Ban the use of child labor and forced labor.	Human rights due diligence No child labor, no forced labor	Completed company internal human rights investigation. Not any child labor hired, not any forced labor.			Completing 100% evaluation of suppliers or subsidiaries. Ban the use of child labor and forced labor.		C	Client		Supply Shain		Community

NOTE

A Asia Cement

S Yuan Long Stainless Steel

N Nanhwa Cement

Y Ya Tung Ready-Mixed

P Ya Li Precast Prestressed

F Fu Ming(Da) Transport

J ChiaHui Power

C Client

SC Supply Shain

CM Community



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Material Topics Value chain	The meaning to Asia Cement	Sustainable strategies and action plans	Goal of 2023	Actual Results in 2023	Short-term	Mid-term	Long-term	SDGs
					Goal of 2025	Goal of 2030	Goal of 2035	
Human resource development	Urging employees to gain the knowledge, attitude and skills needed for the group and individuals, advancing employees' production efficiency and work quality, increasing business profit and assisting employees to strengthen their ability.	Systematically cultivating employees.	Employee Development Plan	Sustainability Rooted in Training Project Inheriting and Accelerating the Growth of the Next Generation Training Project	Adopting a dual-track promotion system including professional position or management position. Continuously providing systematic long-term career development training.			8.2 Increase production capacity of economic body by way of diversity, technology upgrade and innovation, including focusing on high valued added and labor-intensive industries.
Occupational Health and Safety	Employees are the irreplaceable treasures of the Company, Asia Cement always keeps the concept that only healthy employees working at a safe and worry-free work environment can produce the products that are safe and trusted by customers.	Implementing ISO 45001: 2018 Disabling injury frequency rate (FR) per million work hours Disabling injury severity rate (SR) per million work hours Accident frequency-severity index (FSI) 0 fatalities 0 occupational hazards	ISO 45001:2018 100% coverage 0.62 for employees 1.15 for contractors 80 for employees 14 for contractors 0.22 for employees 0.12 for contractors 0 fatalities 0 occupational accidents	► ISO 45001:2018 100% coverage ► 1.09 for employees ► 0 for contractors ► 2 for employees ► 0 for contractors ► 0.04 for employees ► 0 for contractors ► 0 fatality rate ► 1 occupational accident	Implementing ISO 45001: 2018 Reduction of 20% by 2025 with the average of 2019 - 2021 as the base 0 fatality rate 0 occupational accidents			8.2 Increase production capacity of economic body by way of diversity, technology upgrade and innovation, including focusing on high valued added and labor-intensive industries.
Market position	ACC's commitment to workers' rights and equal opportunities. This helps to maintain the Company's image and reputation, build a positive image for the Company in the eyes of stakeholders, and inspire the trust of customers and investors.	Proportion of senior management hired from the local community	100%	► 100%	100%			8.2 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

(NOTE) All Site Asia Cement Yuan Long Stainless Steel Nanhwa Cement Ya Tung Ready-Mixed Ya Li Precast Prestressed Fu Ming(Da) Transport Chiahui Power Client Supply Shain Community



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2023 Best Companies to Work for In Asia



ACC was recognized by HR Asia, a professional human resources publication in Asia. In addition to winning the "Asia's Best Companies to Work for" award for three consecutive years, ACC has also won the "Diversity equity & Inclusin Award", "Digital Transformation Award", and "Most Caring Company Award". Winning the award for three consecutive years is not only a proud mark for all of our colleagues, but also an affirmation of our corporate culture. In the future, we will continue to create a positive, flexible and friendly workplace. This will enable our colleagues to develop their potential, create value, and meet the challenges and opportunities of the new era together.



Happy Enterprise Award



In 2023, we won Gold Award for the "Manufacturing Industry" of the Happy Enterprise Award organized by 1111 Job Bank; ACC Hualien Plant was recognized by the Hualien County Government as an excellent business entity and won the Work-Life Balance Award at the 1st "Hualien County's Happy and Friendly Workplace" category. Based on passion and professionalism, ACC will continue to create a happy and fulfilling working environment for employees, and actively contribute to corporate development and social progress. Together with our colleagues, we will move forward and create a better future.

Impacts

Employees are the most treasured possessions of a company! To avoid potential negative impact, Asia Cement puts in place a competitive remuneration system that is at or above the par with legal requirements. Asia Cement continuously strives to build a workplace conducive to diverse development, assist staff in advancing the skills requisite for their jobs, construct a friendly workplace, and create a communicative organizational culture, hoping employees would give full play to their potential on the quality work stage and grow together with Asia Cement. This is also the most unwavering basis for Asia Cement's journey to sustainable development.

In the event of substantial changes to operations that could affect the rights of employees, Asia Cement will inform the employees and their representatives within the minimum allowed number of weeks in advance in accordance with legal requirements.

Policy commitment and management system

- ① Establish a competitive salary system and a complete employee welfare and pension system.
- ② Establish a talent development quality management system.
- ③ Establish a complete performance management and job position promotion system.
- ④ Provide employees with a complete training system for growing.
- ⑤ 100% gender equality in Asia Cement.

Method of evaluation

Continues to trace the status of implementation and the level of reaching goals through Corporate Sustainability Implementation Committee and its workforce.

Long-term and comprehensive talent training program is the key for employees to continuously maintain competitive advantages in the market. Focusing on the needs of different type of work position, each year Asia Cement conducts systematic educational trainings. In addition, aiming at various professional and management competencies, it conducts forums and seminars to train employees responding to the variation of environment and developing innovative thoughts.

Asia Cement also created a comprehensive welfare system which was better than regulations to provide free health check, employee assistance program, employee stock ownership trust and Employees Welfare Committee. Furthermore, it provides educational scholarship for dependent children, sponsors to organize diversified employees' social activities to allow Asia Cement's employees gaining balance between work and daily life, and to build team cohesiveness in a healthy workplace.

Taking Actions

- ① Training for sales talents and successor management level.
- ② The program of employee development to accelerate cultivate new generation talents.

Engagement of stakeholders

- ① Regularly or irregularly carry out communications and interactions through stakeholders' engagement mechanism and disclose the information in the Sustainability Report, relevant platforms or website.
- ② The Company operates well and does not have any layoff plans in the following year.
- ③ The Company has very smooth communications between employer and employees, a harmonious relationship without any problem of strikes.





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3.1.1 Attracting and retaining talents

In order to aggressively retain excellent talents who are highly dedicating to the work, so that they can have the chance to present the best performances and to develop the potential, and their achievements can be recognized and respected, Asia Cement has integrated communication channels, adopted diversify and creative ways to continue request and guide all employees keep insisting on the core value. It continuously communicates with supervisors and employees about the vision, core value and operation concept of the company through multiple channels, such as meetings, speeches, internal press, to strengthen corporate culture and mutual commitments between the company and the employees. Hence, each employee is able to sense his/her importance in the company and every job is very important, ultimately to escalate the sense of happiness and well-being.

The structure of employees: The local employment rate exceeds 95%.

Due to the nature of the industry, most of the employees at ACC are male. 100% of the employees of ACC and 95.3% of the employees of the subsidiaries were hired locally. Plant administration personnel account for the majority of employees, with excellent loyalty and we offer generous benefits. Therefore, except for retirees, the turnover rate is relatively low. There was no significant fluctuation in the number of employees during the reporting period (2023) and between the reporting periods (2022 and 2023). Age group of employees of ACC and its subsidiaries: 121 employees under 30 years old, accounting for 8% of all employees; 932 employees over 30 but under 50 years old, accounting for 54% of all employees; and 659 employees over 50 years old, accounting for 38% of all employees.

Site	Category	Male		Female		Total	
		Number of people	Percentage of the total types (%)	Number of people	Percentage of the total types (%)		
Asia Cement	Supervisor	52	80%	13	20%	65	14%
	Administration	15	42%	21	58%	36	8%
	Sales	60	98%	1	2%	61	13%
	Plant affairs	285	92%	25	8%	310	66%
	Total	412	87%	60	13%	472	100%
Subsidiaries	Supervisor	88	85%	16	15%	104	8%
	Administration	83	54%	71	46%	154	12%
	Sales	51	74%	18	26%	69	6%
	Plant affairs	858	94%	55	6%	913	74%
	Total	1,080	87%	160	13%	1,240	100%

NOTE: Supervisors are the ones above grade 12.

Site	Employ the disadvantaged		Employ indigenous people		Employ foreigners	
	Number of people	Ratio	Number of people	Ratio	Number of people	Ratio
Asia Cement	2	0.4%	110	23.3%	0	0.0%
Subsidiaries	14	1.1%	59	4.8%	58	4.7%

NOTE: 1. Employees with disabilities leaving their jobs resulted in Asian Cement Corporation and its subsidiary Fumin Transport not hiring enough employees. As a result, the difference in subsidies was paid into the employment fund for people with disabilities (according to the People with Disabilities Rights Protection Act, one of the employees who left their job had severe disabilities, hence this was counted as two persons).
2. The nationalities of the foreign employees hired by subsidiaries are Vietnam, Thailand and Philippines.

Number of employees

Site	Total number of employees			Classified By Gender And Employment Contract					
	All employees			Permanent			Temporary		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
HQ of Asia Cement	108	34	142	108	34	142	0	0	0
Hsinchu Plant	28	1	29	28	1	29	0	0	0
Hualien Plant	276	25	301	276	25	301	0	0	0
YATUNG YATUNG	389	73	462	385	73	458	4	0	4
Yuan Long Stainless Steel	187	25	212	211	0	211	1	0	1
Ya Li Precast	43	8	51	43	8	51	0	0	0
Nanhwa Cement	18	2	20	18	2	20	0	0	0
ChiaHui Power	79	11	90	79	11	90	0	0	0
Fu Ming (Da) Transport	364	41	405	364	41	405	0	0	0
Total	1,492	220	1,712	1,512	195	1,707	5	0	5
									1,712

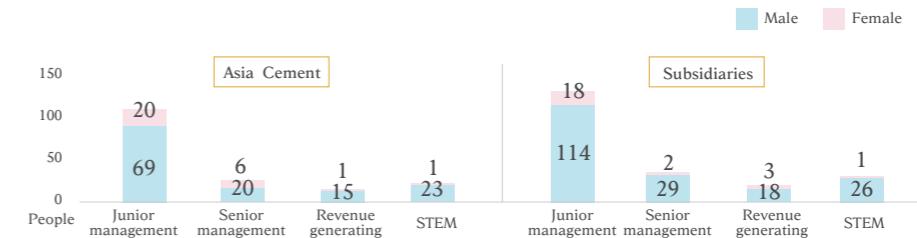
NOTE: 1. The number of persons at the end of year is the number of in-service staff on the last day of the reporting year, excluding the number of staff on leave without pay.

2. In 2023, all employees hired by ACC or its subsidiaries are employees with guaranteed working hours, while one male employee of Yuan Long Stainless Steel Co., Ltd. was held on a part-time basis.

3. Employees dispatched by Ya Tung Ready-mixed Concrete to the shipping plant are not included in the calculation of the number of employees, new recruitment rate, turnover rate, childcare leave, salary variation, average training, or occupational hazards.

Among ACC, women account for 22% of entry-level management positions, 23% of senior management positions, 6% of revenue-generating functions (business units), and 4% of STEM positions.

Management Positions at Asia Cement (Number of Personnel)



NOTE: 1. Senior management refers to managers at or above the managerial level.

2. STEM jobs refer to supervisors in the fields of science, technology, engineering, and mathematics.





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New employee hires and employee turnover

It costs NTD 1,227 for ACC to recruit a new employee. In 2023, the voluntary turnover rate at ACC was 3%, and that of the subsidiaries has dropped slightly to 14%. In 2023, the internal promotion rate of ACC was 92%. ACC has established an internal transfer mechanism to assist employees in adjusting their work plans to enhance work efficiency and talent utilization.

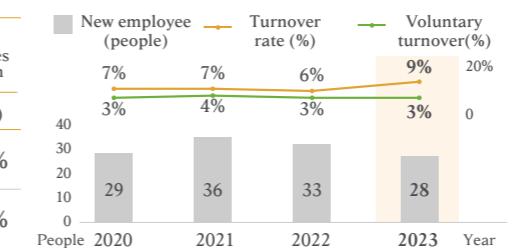
NOTE: Internal promotion ratio = Number of internal employees promoted / (Number of personnel promoted in the year + all new employees in the year)

Site	New employees	Male		Female		Total New employees		All employees		
		People	New rate(%)	People	New rate(%)	People	New rate(%)	Male	Famale	Total
Asia Cement	Below 30	14	37%	5	42%	19	38%	38	12	50
	30~50	5	2%	2	8%	7	3%	215	26	241
	Above 50	1	1%	1	5%	2	1%	159	22	181
Total		20	5%	8	13%	28	6%	412	60	472
Subsidiaries	Below 30	25	40%	5	56%	30	42%	62	9	71
	30~50	97	16%	18	18%	115	17%	589	102	691
	Above 50	29	7%	1	2%	30	6%	429	49	478
Total		151	14%	24	15%	175	14%	1,080	160	1,240

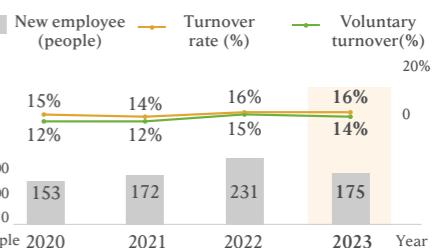
- NOTE:**
1. 30~50 not including the original number.
 2. The turnover rate is the number of employees who left the Company divided by the total number of employees in the category; new hires are the number of new employees divided by the total number of employees in the category ; the total number of employees in this category is the total number of employees in each category at the end of the year.

Site	Employees turnover	Male		Female		All employees turnover	
		People	Turnover rate(%)	People	Turnover rate(%)	People	Turnover rate(%)
Asia Cement	Below 30	2	5%	4	33%	6	12%
	30~50	4	2%	4	15%	8	3%
	Above 50	25	16%	2	9%	27	15%
Total		31	8%	10	17%	41	9%
Subsidiaries	Below 30	24	39%	3	33%	27	38%
	30~50	105	18%	18	18%	123	18%
	Above 50	50	12%	2	4%	52	11%
Total		179	17%	23	14%	202	16%

Asia Cement's New employee hires and employee turnover in the past years



Subsidiaries's New employee hires and employee turnover in the past years



Non-employee workers

According to ACC's statistics on the number of non-employees, the most common types are non-term contractors, such as those involved with annual repairs, equipment replacement, maintenance, or renovation works. A small number of contractors perform regular contracts such as maintenance and cleaning work. For subsidiaries, drivers and shipping personnel at the plant are also included. In 2023, it is estimated that there were approximately 556 employees/year at ACC and 697 employees/year in subsidiaries. The work contents of non-employees are planned and executed according to different projects. Therefore, the number of non-employees fluctuated significantly within the reporting period (2023) and between the reporting periods (2022 and 2023).

NOTE: The number of non-employees is calculated based on the man-years of the total hours worked (248 working days and 8 hours per day in 2023), while the number of drivers at the plant is estimated in terms of transportation capacity (700 m³ per driver per month on average).





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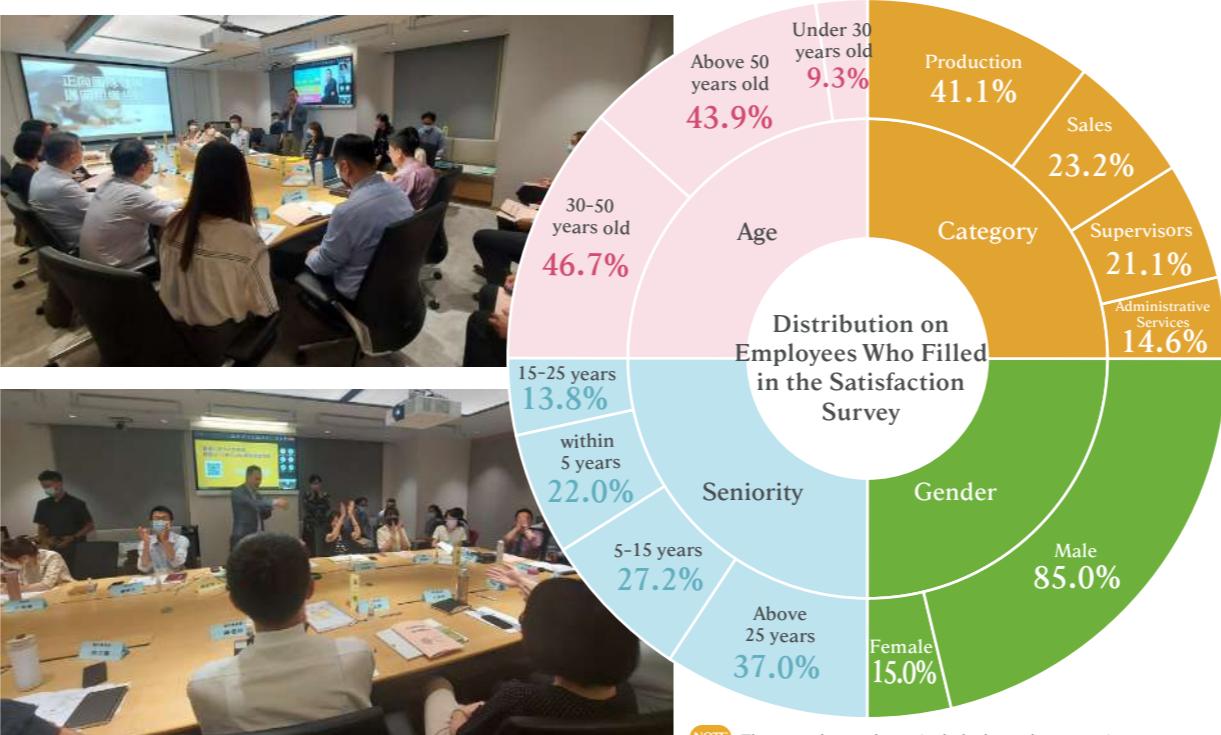
Employee Satisfaction Survey Coverage Rate of 100%

Employee satisfaction is a comprehensive indicator showing employees' loyalty, cohesiveness and sense of belonging. Since 2018, Asia Cement started to conduct a survey of employee opinions to the core value every two years, and from 2023 it will be conducted once a year in order to learn the satisfaction level of employees to corporate governance.

At the beginning of each year, Asia Cement conducts a satisfaction survey of all employees for the previous year. The survey covers the headquarters, Hualien Plant, and Hsinchu Plant. A total of 468 surveys were sent out and all 468 employees responded, achieving a 100% coverage rate. Compared with 2022, the number of employees filling in the survey increased from 51% to 100%. Employees of all genders, seniority, age groups, and job categories were included. The results of the employee satisfaction survey were discussed, analyzed and reviewed in the supervisors' meeting, and the analysis results were reported to the general manager.

The target value for employee satisfaction is that more than 70% of employees are satisfied. Overall, 73% of employees were satisfied with the Company. In terms of item-by-item comparison, "teamwork" and "work environment and safety" were ranked first and second; while there was a slight gap between the target value of 70% for "sense of job value" (referring to the satisfaction and accomplishment from work) and "company management".

After analysis, it was found that the two indicators, "sense of job value" and "company management", were linked. In response to the findings, the Company will arrange education and training to strengthen the ability of supervisors to motivate, lead and communicate with subordinates, while also reviewing existing rewards, punishments, and promotions. The two-way communication between supervisors and employees and appropriate human resource management measures have been improved, elevating employees' recognition of their work and sense of value.



Asia Cement Employee Satisfaction(%)



- NOTE**
1. "satisfied" and above (including very satisfied).
 2. The satisfaction survey on the results of pandemic prevention was only conducted in 2020, it was not conducted in the beginning of 2022 due to the slowdown of the pandemic.





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Institutionalization of remuneration, sharing profits with employees

Regarding the employee remuneration system, Asia Cement has stipulated in its company charter that if there are earnings in the year, 0.1% - 4.0% of the net earning before tax shall be appropriated as the employee remuneration. The percentage of appropriation in the subsidiaries shall be 1%-5% of the net earning before tax. All employees of Asia Cement are able to commonly enjoy the results of the operation. In 2023, Asia Cement appropriated 1.28% of the earnings before tax as the remuneration for employees.

Unit: NT\$1 million

Employee welfare	2020	2021	2022	2023
Short-term Employee Welfare				
Salary	584	580	576	561
Remuneration of directors	167	163	132	132
Labor and health insurance	43	44	45	45
Others	15	22	21	27
(\\$) Subtotal	809	809	774	765
After Retired Welfare				
Defined contribution plans	14	14	15	15
Defined benefit plans	(19)	(13)	(13)	(35)
(\\$) Subtotal	(5)	1	2	(20)
Total employee benefits expense	804	810	776	745

NOTE Extracted from Asia Cement Individual entity financial information.

Employee Stock Plan - Employee Shareholding Trust Extent of Eligibility 73%

In order to attract and retain employees as well as protect employees' retirement welfare, Asia Cement launched an "Employee Stock Ownership Trust" program since 1998 till present time for employees to purchase company stocks every month. On the basis of the hierarchy of management and the rank of job position, the program stipulated the appropriated amount for each rank respectively and a contribution of 30% by the Company, for employees to regularly purchase the company's stocks for long-term holding and share the accomplishment of the company's operation. As of December 2023, 346 employees were qualified for participation, with an applicability rate of 73%; the actual number of registered employees participated was 281, accounting for 59.4% of ACC employees.

NOTE The statistics on the number of holders of long-term employee incentive shares put in trust did not include 5 members of the top management.

100% 100% of Employees Are Entitled to Variable Remuneration and Long-Term Employee Incentives

The remuneration system was designed to motivate employees by linking to company's operational earnings (financial index), coal consumption of the production department (energy index) and individual performance.

Year-end special bonus
On the basis of the main business operational net earnings (financial index) to sign the agreement with the corporate labor union to allocate bonus according to the ratio set out in the agreement. The earnings are shared by both employer and employees.

Bonuses for three main festivals
They are linked with departmental production performance index and paid out before each festival.

Bonus for energy saving performance
It is calculated according to the goals of sustainability including reduced coal consumption during the production, electrical power and oil saved (energy index) and the items encouraging circular economy in order to reach sustainable operation.

Remunerations for employees
Employees' remuneration was set out in the Article of Incorporation of Asia Cement, the idea is to share the earnings. The way of allocation is 70% of the amount based on work and group performances, 30% based on individual performance evaluation, for example: target of carbon reduction, target of quality improvement, plus index of behavior competency, enforced from January 1, 2011 till present time.

100% Performance Management Cycle: 100% of employees undergo performance evaluation.

Asia Cement established an overall performance management system in which the organizational functions, management flow and measurement indicators were unfolded and converted into the performance targets of departments and job positions. Supervisors correctly set performance targets, supervise the work of subordinates in the daily management, trace and assess the performance results by way of on-going cycling process of "planning- examination and recognition-review and appraisal", in order to reach the overall performance targets of the Company and individual growth of employees.

Every December, Asia Cement conducts a performance evaluation for all employees, with a 100% participation rate. The assessment reviews work performance goals and competencies, with individual KPI performance indicators accounting for 50% and competency behavior functions accounting for the other 50%. Based on the evaluation results, adjustments are made to salaries, bonuses, and promotions. This process encourages employees to actively engage in their work, aiming for a win-win outcome of personal compensation growth and enhanced company operational performance.



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Pay Linked to Sustainability

To strengthen its sustainability performance management, ACC has linked the remuneration of its senior managers with the ESG performance indicators, which has been reflected in the salary adjustment and variable remuneration (30%). Quantitative results account for 50% of the indicators, and ESG performance results account for 50%. ACC has appointed C.Y Wang, AVP of the Secretariat to serve as the Head of Corporate Governance to promote corporate governance and corporate sustainable development, and to serve as the Secretary to the Board of Directors.

Aspect	ESG Indicators for Senior Managers		
 E Environmental aspect	Carbon emissions reduction Moving towards net zero, we continuously reduce the carbon dioxide emissions per ton of cement production to meet the SBTi targets.	Energy efficiency improvement We continue to improve the energy efficiency of the production process.	Circular economy Promote circular economy and increase the quantity of raw materials and fuels.
 S Social aspect	Safety and health We implement the zero-accident workplace policy to ensure workplace safety and invest in employee health protection.	Employee training and development We implement the talent sustainability strategy and continue to invest in employee training, rotation development and job satisfaction.	Communication and maintenance of community relations We continue to communicate with stakeholders and fulfill our corporate social responsibilities.
 G Governance aspect	Corporate governance structure We continuously evaluate the transparency and effectiveness of the corporate governance structure in order to meet international standards.	Compliance with laws and codes of ethics We uphold "integrity" as the highest guiding principle for business development, and have zero tolerance for bribery and corruption.	Risk management Control the Company's effectiveness in terms of risk management, corporate ethics, and compliance implementation.

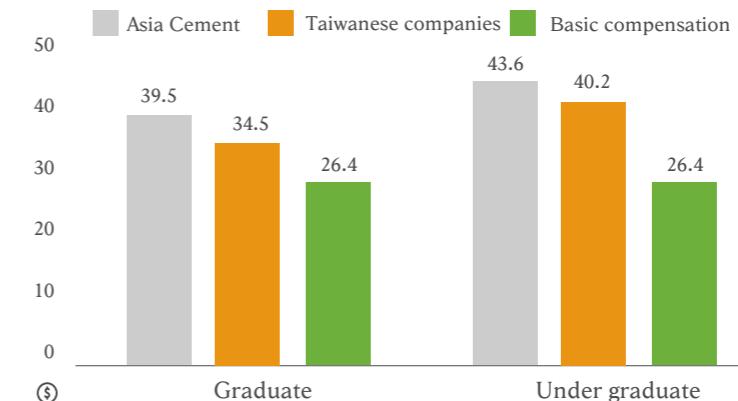
In 2023, ACC's senior executives included: President, Executive Vice President, and 3 Vice President; their remuneration and shareholdings are as follows.

					
Number of senior executives	Fixed remuneration (in thousands)	Variable remuneration (in thousands)	Total remuneration (in thousands)	As a percentage of post-tax	Shareholding percentage
5	14,949	15,869	30,818	0.283	0.1035

Salary levels

Asia Cement devises its Work Rules by adhering to the Labor Standards Act. Aside from putting in place a competitive remuneration system by referencing that of industry peers, Asia Cement also provides some offers and benefits comparable to or pricer than those stipulated in the Labor Standards Act. As for bonuses, we have three-festival bonus to encourage increasing production of clinkers, attendance bonus to encourage attendance, cost conservation bonus to encourage conservation, and mid-year bonus linked to operating profits. In addition, where earnings are available, we also distribute dividends to employees. All the said benefits are stipulated in the Articles of Incorporation and collective bargaining arrangements, that is, put in official documents.

Asia Cement Competitive salary(Unit: NT\$1,000)



- NOTE**
- The salary of ACC is the average fixed monthly salary of new employees (under 27 years old) of various educational backgrounds in 2023. However, as there were no new employees graduating from the institute in 2023, the data for 2022 is adopted for the value.
 - The source of the starting salary of Taiwanese companies is the 2023 Salary Survey Report of GeT Management Consultants.

Gender equality

The salary structure of the top management of Asia Cement is the same as the one of all employees. The salary scale is based on the market prevalent rate, company financial status and organizational structure. There is not any difference of salary scale in terms of gender or ethnic groups, the ratio of the basic salaries between the newly hired male and female employees with the same job position and grade is 1:1.100% of senior management of ACC are local residents.

NOTE "Local" is defined as Taiwan. Senior managers are defined as employees at level 11 and above.

The ratios of the basic wage and remuneration between female and the corresponding male in all types of employees



NOTE The total number of employees cited in this indicator was the employees who had been with the company in the entire period of 2022 (cement main business).





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Salary for full-time employees who are not in supervisory positions

The new version of Corporate Governance Roadmap issued by Taiwan Stock Exchange stipulated that the public-listed companies in Taiwan shall disclose the number of full-time non-supervisor employees, their average salary and the median value of the salary.

In 2023, there were 444 full-time non-supervisor employees in Asia Cement, the average salary was NT\$1,083,000 and the median salary was NT\$941,000. The above statistic was based on the guidelines of Taiwan Stock Exchange and then deducting supervisors (managers) and employees qualified for exemption, the employees whose duration of service is not up to one year were weighted in the calculation according to the number of days on the job, and the salaries were calculated according to the corresponding basis.

Year	2020	2021	2022	2023	2022~2023 Difference
People	459	449	457	444	-13
Average Value	1,116,833	1,110,000	1,056,000	1,083,000	27,000
Median	1,005,703	1,003,000	930,000	941,000	11,000

Percentage of Annual Total Remuneration

The median ratio between the highest annual salary in Asia Cement and its subsidiaries, and the annual salary of other employees (the one with the highest salary not included) falls in the range of 2.34~14.51 : 1. In 2023, the median ratio between the increase percentage of the highest annual salary and the the average increase percentage of other employees (the one with the highest salary not included) falls in the range of 0.12~3.94 : 1. The ownership value (stock market value) of Asia Cement's highest-paid individual is 14.51 times their income.

Site	Annual total compensation ratio	Percentage increase in annual total compensation ratio
Asia Cement	14.51 : 1	0.98 : 1
YATUNG	7.07 : 1	1.35 : 1
YLSL	5.56 : 1	NA
Ya Li Precast	3.86 : 1	3.94 : 1
Nanhwa Cement	2.34 : 1	NA
ChiaHui Power	4.46 : 1	NA
Fu Ming (Da) Transport	8.69 : 1	0.12 : 1

NOTE 1. NA refers to not increased

2. The ratio of salary change =A/B

A : (The highest salary of the year - The highest salary of the previous year)/ The highest salary of the previous year
B : (Median salary of the year-Median salary of the previous year)/Median salary of the previous year

3. The multiple of management ownership stock market value to income = (Company's closing stock price on December 31, 2023 × Number of shares held by the CEO) / CEO's income.

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Normal Labor Union Operations, Regular Collective agreements Signing, 100% Applicable to All Employees

All the employees of ACC's Hsinchu Plant and Hualien Plant joined the employee union and signed group agreements, accounting for 69.9% of the total number of employees at ACC. The headquarters have established the "Labor-Management Conference" in accordance with government regulations. As we do not have a trade union organization, no collective agreement has been signed. Items in the agreement: 30 days of paid sick leave for all employees and a profit-based contribution plan that is better than the standards required in the Labor Standards Act, as well as special year-end bonuses based on profitability, so that profits are shared between labor and management. Items in the agreement signed between the labor union and the Company are 100% applicable to all employees. The union regularly holds meetings of management and supervisors, interim meetings of directors and supervisors, and a member representative meeting. Aside from holding a labor and management meeting once every three months, we also organize various activities to promote the physical and mental health of workers.

The Company signed a special bonus agreement (enforced from 1989 till now) with Hualien Plant Corporate Labor Union, the agreement has been taken effect for many years and is renewed every three years. The agreement of this time is ended in October, 2025. It will be renewed with the same terms and conditions. Labor union was not organized in the subsidiaries of Asia Cement, hence, the group agreement was not entered.



Retirement and welfare system applies to 100% of all employees.

For guaranteeing all employee welfare, Asia Cement and its subsidiaries established the systems to ensure the completeness of the welfare, which include: "Labor Retirement Reservation Supervision Committee", "Labor Pension Supervision Committee", "Employee Shareholding Board" and "Employee Welfare Committee".



Labor Pension
Supervision
Committee

Periodically conducting meetings to review the appropriation and utilization of the pension to fully protect the pension rights after retirement of employees. Asia Cement adopts both the new and old pension systems for employees, it withdraws 6% pension preparation fund from the wage based on the monthly wage classification table by law and deposits it into the individual employee account in the Labor Insurance Bureau to maintain the rights of employees; it also appropriates a monthly labor pension preparation fund (8%) to maintain the rights of the employees who select the old pension system.



Employee
Welfare
Committee

Appropriating welfare fund by law to conduct various activities. Other welfares also include the subsidy for employee health check, group comprehensive insurance, children education, employee touring and social club activities. Asia Cement has also set up basketball courts, tennis courts, badminton courts, table tennis rooms, and swimming pools in its plants that are at the disposal of employees for leisure.



The employees of the subsidiary Yuan Long Stainless Steel are all subject to the new pension scheme, so it did not set up The Supervisory Committees of Workers' Retirement Reserve Funds.



Other Non-compensation benefits Are 100% Applicable to All Employees

Item	The measures taken by Asia Cement which are superior to the legal standards.	Benefits provided by subsidiaries beyond legal requirements
Paid Sick Leave	Employees entitled to have 30 days paid sick leave.	Employees of 5 subsidiaries are entitled to 30 days of paid sick leave.
Health Examination	The Company provides a health examination every two years which is superior to legal standards. The checked items include resting electrocardiogram, abdominal ultrasound, cancer screening. In addition, an advanced health examination project is provided to the employees above certain job grade.	Twice a year, all subsidiaries provide a health check-up that is beyond legal requirements; health check-up items include static electrocardiogram, abdominal ultrasound, and cancer screening.
Group Insurance	The Company provides to employees the company paid term life insurance, casualty insurance, hospitalization medical insurance and cancer insurance.	All subsidiaries provide term life insurance, accident insurance, and hospitalization insurance at their own expense to employees.
Business Trip Insurance	The Company provides overseas business trip insurance.	4 subsidiaries provide overseas business travel insurance.
Other Welfare	The Company provides subsidy to traveling, gift certificates for birthdays, 3 festivals and labor day, cash gift for wedding and giving birth, consolation money for funerals.	All subsidiaries provide travel subsidies, money gifts for birthdays, and money or coupons for the three major Chinese festivals. In addition, subsidiaries provide other benefits, different from those provided by one another.

Family-friendly workplace

Asia Cement supports employees' family care needs. The childcare support program includes providing birth incentives and partnering with childcare centers to accommodate employees' childcare needs. Additionally, the company fosters a friendly workplace by setting up breastfeeding (and milk collection) rooms. In response to the pandemic, employees can flexibly adjust their work hours daily and stagger their arrival and departure times. The company also offers the option to apply for remote work arrangements. Furthermore, to meet the schooling needs of employees' children in urban areas, shuttle services are provided for

Annual leave system

Asia Cement provides annual leave days according to Labor Standards Act. The employees responsible for manufacturing and warehousing are working on three shifts, if there are needs in the production and the annual leave days cannot be totally taken, the remaining annual leaves not being taken can be converted into wages.





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Paid Volunteer Leave: 3 days per year for all employees

At ACC, we encourage and support employees' participation in social welfare activities. Employees have the opportunity to participate in volunteer services or charitable activities during their work hours. We have adopted the "Procedures for Colleagues to Participate in Volunteer Work" to help employees make contributions to volunteer services if they wish to do so, striking a balance between work and life. Whether participating in company-sponsored charitable activities or government-endorsed social welfare charitable activities, employees are entitled to 3 days of paid volunteer leave per year. We hope that this special leave form will help create a warmer society with employees and spread love to every corner of Taiwan.



Diversity, Equality, and Inclusion (DEI)

ACC values diversity, equity and inclusion (DEI). We insist on not leaving out any of our employees, and regard the families of employees as part of our big ACC family. We have teamed up with Kindred Plus Philanthropic Foundation of Taipei in the "ESG Benefit Project for Senior Citizens". The Project aims to enrich the lives of parents of the employees and employees who are about to retire or have already retired. The Project includes regular visits by dedicated personnel. Senior life planners with a background in counseling are invited to provide counseling services related to health, diet to asset planning. At the same time, appropriate agencies are matched to ensure that every elderly person enjoys the most attentive care. Besides extending its care from the workplace to the family, ACC also provides comprehensive care for elderly relatives and employees who are about to retire or have already retired through a series of initiatives. This is a fulfillment of corporate social responsibility and a journey full of humanity and thoughtfulness.



Retirees Hired as Consultants to Pass on Their Experience

At ACC, retirees are regarded as an important asset. Therefore, we voluntarily recruit senior employees who have retired, hoping to transform professionalism into the Company's core competitiveness by passing on their knowledge, technology, and experience. Through cross-generational work and interaction, we have formed a model of collaboration between the young and the old to promote the diversity and inclusion of employees and create a friendly workplace. A total of 2 employees were rehired in 2023.

Guaranteed Parental Leave

For the need of baby nursing, the employee can apply for retaining the position without pay before the child is three years old, the longest period can be up to two years. At the end of the period, the Company provides the related training courses to ensure that the employee is able to understand current work status in order to smoothly return back to the position.

Site	Year	2023		Total
		Item	Male	
Asia Cement	Number of employees eligible for maternity or paternity leave in 2023	26	4	30
	Number of employees apply for maternity or paternity leave in 2023	2	1	3
	Number of employees can apply for returning to work in 2023	3	1	4
	Number of employees apply for returning to work in 2023	2	1	3
	Returning rate%	67%	1	75%
	Number of employees apply for maternity or paternity leave in 2022	4	1	5
	Number of employees serve for one year after applying for returning to work in 2022	2	0	2
	Maternity or paternity leave retention rate%	50%	0	40%

Site	Year	2023		Total
		Item	Male	
Subsidiaries	Number of employees eligible for maternity or paternity leave in 2023	25	5	30
	Number of employees apply for maternity or paternity leave in 2023	3	2	5
	Number of employees can apply for returning to work in 2023	0	2	2
	Number of employees apply for returning to work in 2023	0	1	1
	Returning rate%	-	50%	50%
	Number of employees apply for maternity or paternity leave in 2022	2	1	3
	Number of employees serve for one year after applying for returning to work in 2022	0	0	0
	Maternity or paternity leave retention rate%	-	-	-

- NOTE**
- Calculation of the number of employees eligible for parental leave: The number of employees who applied for maternity leave and paternity leave from 2021 to 2023 and were still employed at the end of 2023.
 - Returning rate calculation: 2023 actual returning employees after maternity or paternity leave/2023employees shall return to work after maternity or paternity leave x 100%.
 - Retention rate calculation: 2022 employees still at work after 12 months after returning to work from maternity or paternity leave/ 2021 returning employees after maternity or paternity leave x 100%**2023 Sustainability Report**





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Enhancing and managing employee health

Worker health check and management

The Company provided free regular health check which is superior to the legal standards and hired workplace health management licensed doctor and registered professional nurse to provide services on-site. It also provided a first aid training course and group health and casualty insurances to safeguard the health of employees. According to the Occupational Safety and Health Act and Labor Health Protection Rule, new workers are required to submit health check report for making the selection of work type. Full time workers are usually required to do routine health checks and special health checks for the work specifically harmful to the health. The results of the health check are used to classify the control and adjustment of the work type based on the condition of health.

Employee Health Promotion Activities

All business units provide health improvement activities including healthy weight control (weight reduction) training class, forum of health, sports club activities, mental health forum, employee care program, mental consultation, etc. Hence, workers can work in a safe environment to maintain both physical and mental health.

From June to August 2023, we organized weight management courses and provided health promotion courses. The courses included six lectures and ten exercise classes, in which 20 employees participated with a total of 39.2 kg (2.98%) lost. A total of 270 (57.94%) employees participated in the step counting activity at the Hualien Plant.



Health enhancement and management for non-employee workers

The health enhancement and management for Asia Cement's non-employee workers(Contractor) included a program for prevention of ergonomic hazard, a program for prevention of unlawful infringement in the performance of duties, a program for prevention of hazards from excessive work load.



Maternal Health Protection for Female laborers

The “Operational procedure of maternal health protection for female laborers” was formulated in accordance with Occupational Safety and Health Act and a chart of “the evaluation of the hazards to maternal health and the arrangement of adaptive work” was provided to the laborers of this category to fill. The chart was sent to the medical personnel for evaluating and arranging suitable work in order to protect female and maternal laborers.

Protection of abnormal workhour, humanfactors engineering and workplace violence

Occupational Safety and Health Act stipulated “the procedure of preventing the diseases caused by workload” and “the procedure of preventing musculoskeletal diseases”, risk evaluation and survey of needs were conducted via scale measurements, database was installed for making comparisons and the laborers risky at work were handled properly. In addition, the seminars relating to the prevention of workplace violence were held to avoid illegal infringements in workplaces.



Creating a healthy workplace and obtaining the national

Asia Cement was recognized by the Health Promotion Administration with the "Badge of Accredited Healthy Workplace", signifying that Asia Cement's long-term commitment to promoting a smoke-free environment and create a healthy workplace has yielded excellent results!



Badge of Accredited Healthy Workplace

In addition to providing a regular health checkup, Asia Cement also provides clubs with subsidies for the hiring of professional coaches, so that employees can maintain the good habit of weekly exercise under guidance. When it comes to meals for our employees, we put emphasis on the importance of balanced nutrition and a wide array of dishes; we also try to use a lesser amount of oil and salt so that everybody can have a healthy diet without any risks to their health. Furthermore, we organize lectures on first aid knowledge, so that colleagues can understand the importance of protecting themselves and aiding others through hands-on practice.

Although the pandemic management has been incorporated into routine management, ACC transformed its existing platform into a health information and education platform for ongoing education and promotion on a variety of health information; it is now a communication mechanism for the sustainable development of workers' health. Also, by combining the on-site health services, we can now provide workers with consultation and counseling, enabling them to stay healthy.



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3.1.2 Human resource development

Asia Cement firmly believes that employees are the most important assets of the company. In addition to hiring superior talents through the market competitive remuneration system, it also created a happy workplace environment and planned a comprehensive cultivation program to allow employees developing and shining in the workplace.

Focusing on the job functions required in different departments and ranks of job positions each year, Asia Cement provides sufficient opportunities of learning and training to supervisors and employees by way of referring to the company's development strategy and offering various courses. The Company can not only reach the goal of employment after training, but also link with employees' career development. The series training courses include trainings of new employees, common core job-functions, the professionally/job-functions, the operation and management, digital transformation and ESG sustainable development.

Talent development quality management system

In order to strengthen talent development, Asia Cement attended the evaluation of TTQS Talent Training Quality System (Enterprise Category) conducted by Workforce Development Agency, Ministry of Labor and received bronze medal for excellent results. The period of validity is up to October 18, 2024. In the future the quality management system will be continuously implemented to advance the quality.

Sustainable Asia Cement's Talent Training Framework

Types of Training

Training Targets

Junior Executives

Heads of Middle Management

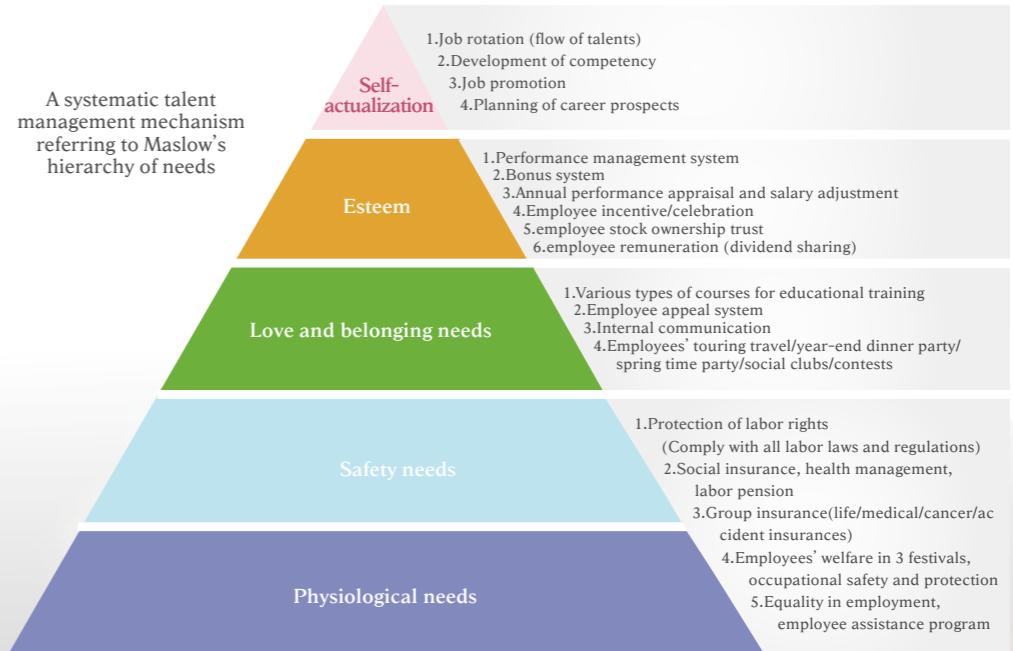
Executives

Various Categories Colleagues

New-comers



Asia Cement overall human resource program





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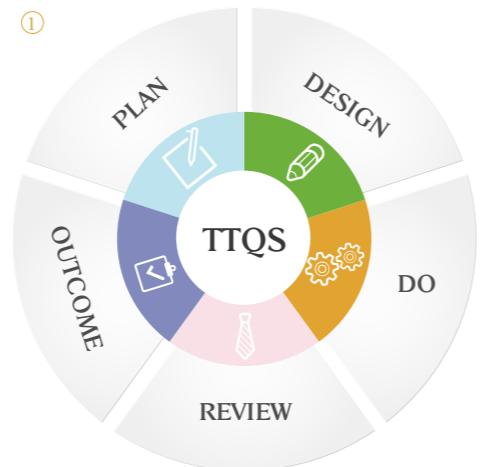
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Training policy and hours

①



Utilizing TTQS as the benchmark for the quality of the training, combining the strategies of company vision and goal and adopting the concept of talents being the foundation of an enterprise to create a training system for diversified development.

②

Improving the required knowledge, attitude and skill of the employees for reaching the collective and individual goals of work in order to fulfill the needs of enterprise development and organizational manpower planning, and to enhance the production efficiency and quality, hence, to increase the profitability and brand image, to satisfy the needs of customers and to fulfill CSR, ultimately, to reach the goal of sustainable operation.

③

In responding to environmental variation, providing enriched and diversified learning resources in line with the trend of industrial development, forming the culture of continuous learning in the workplace.

Chairman had repeatedly stated the importance of talent development and the direction of critical developments for the organization in various public assemblies. In order to fully convey the training development commitment and information from the top management, all of the talks from Chairman were disclosed in Far Eastern Magazine for the inquiry of all employees.

The trainings in Asia Cement are mainly held by the Company itself, some of the employees are arranged to attend the open-training class held in the Group, or to attend the professional courses held by external training institutes. The multiple self-inspired training resources are also provided such as study group, learning clubs or online learning platform, to offer employees the chance of autonomous learning.



The annual average hours of training

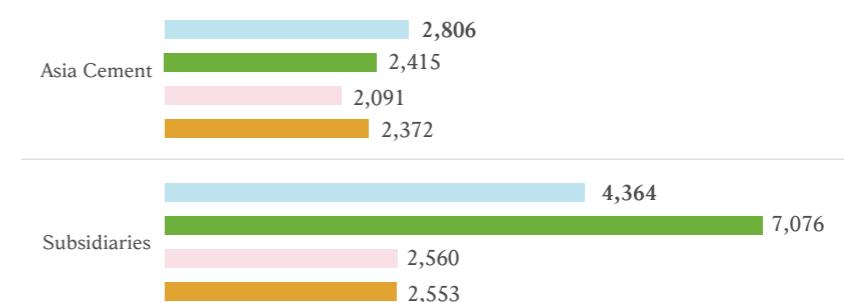
In 2023, all categories of employees in Asia Cement had received 29 hours of training on the average for the whole year. The averaged expenses of training and development for each employee was NT\$ 5,946.

Site/average hours of training	Supervisor		Administration		Sales		Plant affairs		average hours
	Male	Female	Male	Female	Male	Female	Male	Female	
Asia Cement	40	37	37	38	20	36	34	25	29
Subsidiaries	67	7	15	10	12	1	80	6	14

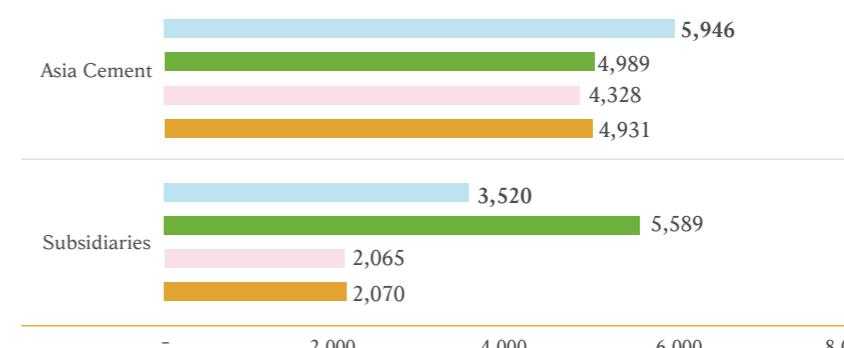
NOTE Formula of calculation: Total hours of training of the category/Number of employees of the category.

Asia Cement's employee training budget

Total training budget(thousand NT\$)



Average training cost per employee(NT\$)





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Number of People Trained on Important Issues

Operating entity/ number of trainees	Anti-corruption	Human rights	Information security	Risk management
Asia Cement	965	1,888	715	3,568
Subsidiaries	545	116	439	62

Degree/Credit Courses and Professional License Acquisition and Refresher Training

In order to cultivate talent for the Company's future development, all employees of the Company can apply for a degree program and credit programs for the master's program from the Far Eastern Corporate University jointly organized by the Far Eastern Group and Yuan Ze University. The credit programs include leadership, data analysis, politics, economy and culture. In 2023, a total of 209 people obtained professional licenses and received refresher training, mainly on-site operation, professional skills, or OSH-related qualifications.

Employee Assistance Programs (EAPs) to Enhance Work-Life Balance

ACC has joined hands with the "Lifeline Hsinchu - Employee Assistance Service Center", where professional social workers and psychiatrists provide employees with a full range of professional consultation services on career and work, family, interpersonal relationships, and so on. Furthermore, in the event of a disaster or major incident, we take the initiative to provide peace-of-mind or information to employees. In addition, various mental health education and brochures are posted on the Company's electronic bulletin board, and mental health lectures are held from time to time to promote employees' knowledge on mental health.

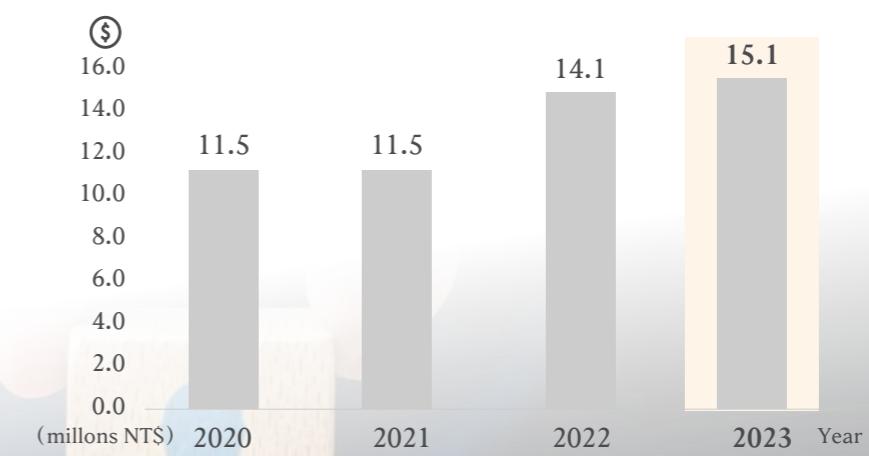
Industry-Academia Collaboration Program and Scholarships

To cultivate future talent and enhance students' practical experience in the industry, Asia Cement collaborates with Yuan Ze University and Asia Eastern University of Science and Technology. Each year, they design practical and specific semester and summer internship programs for students to apply for. The company diligently nurtures and evaluates the interns, thereby implementing the educational principles of industry-academia collaboration. Additionally, Asia Cement provides internship scholarships to the participating students. Graduating students are also given priority when applying for related positions within the company.

Human Capital Return on Investment(HCROI)

With respect to Asia Cement's human capital return on investment (HCROI) in the past years, it was NT\$15,100,000 in 2023, the competitiveness was maintained.

Asia Cement's return on investment in human capital (millions NT\$)



NOTE

- a. Total income (NT\$1 million)
- b. Total operational expenses (NT\$1 million)
- c. Total expenses relating to employees (salary and welfare) (NT\$1 million) HCROI=((a - (b-c)) / c)(NT\$1 million)





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Employee Development Plan ▶

Sustainability Rooted in Training Project

Number of Participants: 42

Percentage of Total Employees: 8.9%

Average Score: Increased by 0.92 points (on a 5-point scale)

We are committed to leading ESG seed personnel to better understand international sustainability issues and the risks and opportunities brought about by them. This way, we are able to enhance the Company's competitiveness in facing future trends. Through ESG simulation experience activities, these personnel understand the cases and implementation of ESG in various industries, as well as the spirit of cross-field cooperation and long-term planning that is required for sustainability projects. Lastly, by combining the workshop with practical work from the Company's own industry, colleagues are able to understand the connection between the Company, their own lives, and sustainability, in order to facilitate the Company's sustainable actions in the future.

The Sustainability Rooted in Training Project has cultivated employees' knowledge and skills on sustainability issues. The results of the pre and post assessments show that the trainees made significant progress on "how to design a sustainability project", "understanding ESG indicators and evaluation standards", and "how to quantify the impact of a sustainability project". The participants generated project topics to demonstrate their learning outcomes, including six major sustainability topics: health and safety - smart work environment to reduce high dust levels; local culture - corporate tribe coexistence and co-prosperity; healthcare - ACC's Community Care Network; happy workplace - childcare project for employees' children; carbon reduction action - triple win situation for industrial chain discussion; ecological environment - production of artificial reefs for fish and other marine species.



This project will not only help the Company enhance brand value and sustainable development, but also enable the Company to better cope with future trends and risks. The interaction among the trainees during the training also enabled them to innovate and collaborate based on the common goals and visions, thereby enhancing their solidarity and dedication to the Company, indirectly reducing employee turnover. This training project was attended by 42 people, accounting for 8.9% of all employees. Participants took the pre-test and post-test to improve their ESG skills and their average score increased by 0.92 points (on a scale of 5).



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Employee Development Plan ► Inheriting and Accelerating the Growth of the Next Generation Training Project

Number of Participants: 83

Percentage of Total Employees: 18%

Course Satisfaction: Above 4.5 (on a 5-point scale)

More than half of the instructors and coaches are in-house supervisors. Through case sharing and practical exercises, the transmission of internal experience and the power for the rapid development of the new generation of potential talent are accelerated. Through the preparation and presentation, the new generation of colleagues have a better understanding and recognition of the Company. For junior sales employees, senior employees design customer visit scenarios and conduct simulation exercises while the supervisor observes and participates in the process. Specific feedback and one-on-one coaching are provided at the end of the session. Through dialogue and exchanges between supervisors and colleagues, team consensus and cohesion on future goals are reached. The courses include: Confident, Briefing, Charismatic Expression - Workplace Necessary Soft Skills Upgrade; VIP Customer Service Skills - Business Skills - Upgrade Training; and Workplace Communication Training.



The Inheriting and Accelerating the Growth of the Next Generation Training Project is helpful for the Company, including: improving employee effectiveness and performance; accelerating the learning and growth of next-generation employees; enhancing teamwork and consensus-building; and promoting collaboration and building consensus and cohesion; enhancing customer satisfaction and brand value, enhancing customer service standards, strengthening the Company's brand value, and attracting more customers; improving employee identification and loyalty, increasing employee identification, reducing employee turnover, and increasing employee retention rates. There were 83 participants, accounting for 18% of all employees, and the participants' satisfaction with the courses was above 4.5 (out of 5).





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3.1.3 Human right

Asia Cement human right policy

To protect and maintain the basic human rights of employees and create a decent work environment, the Company abides by local laws and regulations in all countries and regions we operate, supports and adheres to international bill of human rights, the UN Universal Declaration of Human Rights (UDHR), the United Nations Global Compact, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, and the UN Guiding Principles on Business and Human Rights (UNGPs). The Company formulates and executes its human rights policy following the aforementioned guidelines.



Asia Cement
human right policy

Scope of Application

This human rights policy is applicable to all employees of the Company and its subsidiaries, plus its customers, suppliers, contractors and local communities where we operate, within a reasonably executable scope.

Monitoring Human Rights Issues

This human rights policy is monitored and governed by the Corporate Sustainability Committee and management to ensure compliance with human rights principles, investigating any violations. The Company identifies and prevents human rights risks that may occur in its business and people in the value chain by conducting due diligence. It also regularly communicates, promotes and inspects the status of carrying out human rights topics in the management system of the Company in order to elevate and enhance the awareness of human rights. With regards to our commitment to human rights and our management approaches, please see the Asia Cement Human Rights Policy.

Human Rights Due Diligence

In 2022, Asia Cement initiated a process of human rights due diligence, making it a cornerstone of their strategy for sustainable management. The scope of investigation includes Asia Cement's own operations (including subsidiaries), suppliers, community residents, and customers.

The human rights due diligence regularly reviews the status of human rights management by following the principles set forth in international human rights and laws and regulations. Due diligence is conducted at least once every three years to discover major human rights issues, review management performance on human rights issues, formulate improvement plans and remedial and preventive measures, and publicly disclose due diligence reports.

Asia Cement conducts due diligence in accordance with the procedures specified in "OECD Due Diligence Guidelines for Responsible Business Conduct".



Human Rights Due
Diligence





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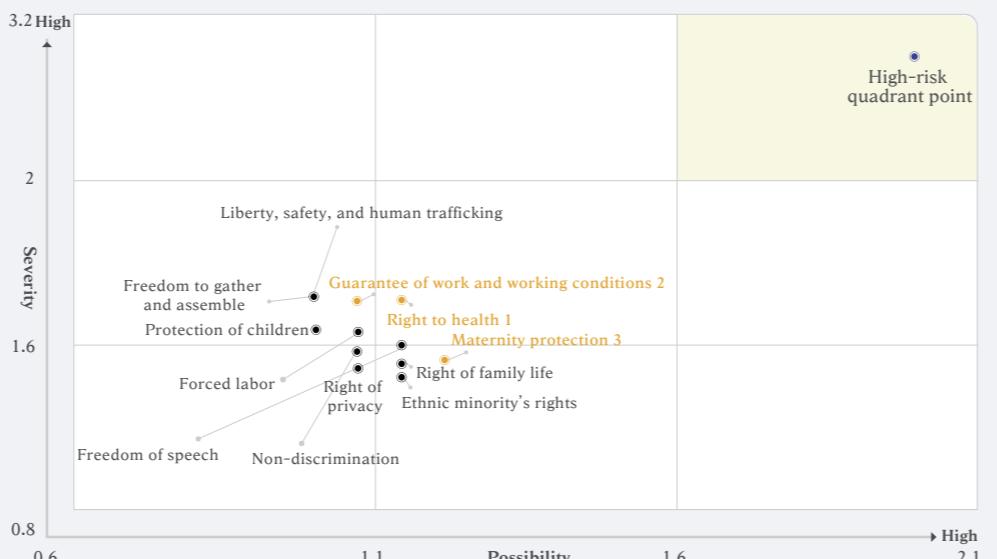


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Human Rights Due Diligence

Asia Cement devises questionnaire questions for each stakeholder category, and conducts risk identification of various related issues. The stakeholder categories include: employees, suppliers, contractors, communities, and customers. We evaluate the high-risk issues for each stakeholder based on the possibility of human rights issues and the severity of the issues. The investigation results indicate that none of the stakeholders have any high-risk issues. The leading three risk issues are:

 Employees	 Contractors and Supplier	 Communities and customers
<ul style="list-style-type: none"> ▪ Right to health work. ▪ Labor conditions. ▪ Maternity protection. 	<ul style="list-style-type: none"> ▪ Liberty, safety, and human trafficking. ▪ Freedom of speech. ▪ Freedom to gather and assemble. 	<ul style="list-style-type: none"> ▪ Self-determination rights. ▪ Basic living standards. ▪ Freedom of speech and expression.



NOTE The possibility of occurrence of high risk is 2 points and the severity of high risk is 3 points or more.

Mitigation and preventive management measures Employees

Employees

Risk Scenario Description

Management mitigation and preventive measures

Establishment of Mitigation Plan for the Number of Operating Locations

- ① We put in place an occupational safety and health management plan, as well as the goal of zero workplace accidents and various management performance indicators.
- ② We put in place plans to prevent abnormal working hours and workload, work causing musculoskeletal hazards, and illegal workplace infringement.
- ③ We put in place a health management plan.
- ④ New recruits receive general education training and professional training suitable for their roles as required by law before reporting for duty. During their service years, they are also given on-the-job occupational health and safety education and training at prescribed regular intervals.

- ① By adhering to the Occupational Safety and Health Act, Occupational Safety and Health Equipment and Measure, and other applicable laws and regulations, we put in place a good occupational health and safety management mechanism and provide employees with safe and legally compliant machinery and equipment to ensure their health and safety.
- ② We manage working hours in accordance with the law, and do not allow force labor or overtime work.
- ③ We put in place a salary scale, by which all employees get equal pay for equal work.

- ① We have devised the Operational Procedures for Protecting Maternal Health of Female Workers, by which occupational safety personnel and medical staff assess the workplaces and working environments for any hazard, put in place control measures, and implement improvement plans. Interviews and health guidance are given by registered nurses to specific employees of concern and appropriate work and follow-up measures are arranged for them.
- ② We foster a pleasant work environment and establish breastfeeding rooms.

 All Site  Asia Cement  Yuan Long Stainless Steel  Nanhwa Cement  Ya Tung Ready-Mixed  Ya Li Precast  Fu Ming(Da) Transport  ChiaHui Power

ALL





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Contractors and Supplier		
Risk Scenario Description	Management mitigation and preventive measures	Establishment of Mitigation Plan for the Number of Operating Locations
Personal freedom and safety and human trafficking: Threats, physical attacks, harassment (such as sexual harassment) or any form of illegal treatment (such as human trafficking), once occurring, will lead to adverse physical and mental effects on the workers of suppliers.	We require suppliers and contractors to sign and implement social responsibility policies: Employment must be voluntary, and employees must be assured that they will not be subject to coerced labor, including, but not restricted to, involuntary overtime work and imprisonment.	ALL
Freedom of speech and expression: Suppliers have not been provided with a secure and efficient way to express their opinions, or all parties' voices are stifled through coercion, such as threatening to do harm to the personal safety, work, or life of those expressing opinions, by means of litigation, intimidation, and threats.	We require suppliers and contractors to sign and implement social responsibility policies: Unless otherwise prohibited by law, procedures must be in place to protect whistleblowers and allow them to express concerns without fear of reprisal.	ALL
Freedom of assembly and association: Supplier personnel are prohibited from signing up to trade unions and there are no available means for them to get involved in collective bargaining. Union representatives, participating employees, and workers engaged in legal strike are treated unfairly and unjustly.	We require suppliers and contractors to sign and implement social responsibility policies: When it comes to freedom of association and labor-management negotiations, employees' rights to choose, form, join or refuse to join trade unions or other types of employee organizations and their rights to participate in related activities must be respected.	ALL

All Site A Asia Cement S Yuan Long Stainless Steel N Nanhwa Cement Y Ya Tung Ready-Mixed P Ya Li Precast Prestressed F Fu Ming(Da) Transport J ChiaHui Power

Communities and customers		
Risk Scenario Description	Management mitigation and preventive measures	Establishment of Mitigation Plan for the Number of Operating Locations
Self-determination right: the impact of land expropriation, construction, operations on the autonomy of local residents.	<ul style="list-style-type: none"> ① "10+11" benefit-sharing mechanism for local tribes. ② We complete consultation and obtain consent according to FPIC principals. 	ALL
Basic standard of living: Improper development and construction, excessive resource consumption, and toxic/pollutant leakage from factories affect residents' access to clean natural resources (such as water, air, and land), leading to a detrimental impact on quality of life or livelihoods.	<ul style="list-style-type: none"> ① Our plants' emissions comply with laws and regulations. ② Establish ISO 14001 environmental management system. 	ALL
Freedom of speech and expression: Communities have not been provided with a secure and efficient way to express their opinions, or all parties' voices are stifled through coercion, such as threatening to do harm to the personal safety, work, or life of those expressing opinions, by means of litigation, intimidation, and threats.	<ul style="list-style-type: none"> ① Establish customer complaint management process. ② Establish community communication channels. 	ALL





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Monitoring and tracking effectiveness

There were **no cases** of discrimination or harassment in 2023.

To ensure effective implementation of due diligence, Asia Cement's Corporate Sustainability Implementation Committee has established a structured monitoring process. The committee annually reviews and evaluates the effectiveness of mitigation and preventive management measures, setting targets and reporting progress against these targets to the Corporate Sustainability Committee.

Human rights training

In 2023, ACC held education and training courses on human rights-related issues. The videos were produced by experts and scholars invited by the Ministry of Labor to promote "labor human rights" and "gender equality at work". The course contents were posted on the Company's internal electronic bulletin board and the teaching materials were made available for all employees. A total of 1,884 employees of both the Hsinchu Plant and Hualien Plant participated in the online promotion of the courses.

Training on Gender Equality in Employment

Divided into 5 chapters including "prohibition of gender discrimination", "prevention of sexual harassment", "complaints and remedies procedures", "measures for promoting equality in employment".

Training on Labor Rights

Divided into 4 chapters including "what is labor rights", "development and introduction of labor rights", "the guideline for the protection of important labor rights in Taiwan", "Everything about labor rights".



Channels for communication and lodging grievances

In order to safeguard the rights of employees and partners in the value chain from human rights abuses or negative impacts, Asia Cement establishes a complete set of channels for communication and lodging grievances to ensure that they have the right to appeal, report or complain about possible human rights violations. In addition, Asia Cement remedies any human rights violation or negative impact, and adopts the necessary remedial measures on the fronts of company policy and internal procedures. Subject to the preservation of personal privacy, Asia Cement will routinely publish the quantity, details and outcomes of appeals, reports or grievances. The channels for submitting grievances, reports or complaints to Asia Cement include the following:

ACC Human Rights Goals

The actual pass rate is 100%

Since 2023, ACC has set human rights targets and organizes courses on human rights issues.

Goal 1

The completion rate for education and training on human rights is 95%

and the actual completion rate is **100%**.



Goal 2

The pass rate for education and training on human rights is 100%

and the actual pass rate is **100%**.



Security Practices

In 2023, a total of 30 people participated in the human rights training for security guards, for a total of 45 hours, and the participation rate of our security personnel was 100%.

Total : 30 people

Total : 45 hours

Participation rate : 100%

Complaint Path▶

Employee grievance mailbox : hr@acc.com.tw

Sexual harassment mailbox : hr@acc.com.tw

Community communication channels :

<http://quarry.accl.com.tw/ContactUS>

Supplier hotline (02)27338000#6029,8594

Supplier mailbox : ecome@feg.com.tw

Unethical conduct reporting mailbox : speak-up@acc.com.tw

Unethical conduct reporting hotlin : 02-2733-8000#8195





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3.2 Occupational Safety and Health | Management of Material Topics

Material Topics

Occupational Safety and Health



Selected as a Top 10% Company by the Occupational safety and Health Administration's "Occupational Health and Safety Indicators Proactive Rating for Corporate Sustainability Report Disclosure"

ACC was selected as a Top 10% Company by the Occupational safety and Health Administration, Ministry of Labor's "Occupational Health and Safety Indicators Proactive Rating for Corporate Sustainability Report Disclosure". At ACC, we actively implement and promote the OSH management system by strengthening inspections and organizing education and training. We always insist that the health and safety of our colleagues are the first priority, which is also the most solid foundation for the sustainability of the Company. ACC promises to continuously promote a happy and healthy work environment and zero-incident workplace for employees, integrate the upstream and downstream business units of the industrial chain, safeguard the basic human rights of labor, and bolster its overall competitive edge.

Impacts

Asia Cement has always believed that only healthy employees working in a safe environment can produce safe products that are trusted by customers. The Company treats safety and health of workers as the top indicator when evaluating the performance in the hope of providing safe and healthy work environment with high quality.



Occupational Safety and Health policy

Scope of application

Including 100% of ACC employees and contractors.

OSH Management Level

The Corporate Sustainability Committee manages occupational safety and sustainability issues. The Corporate Sustainability Implementation Committee has been formed under the Corporate Sustainability Committee, with the President serving as the chairperson. We have also set up an ESG and OSH Team to centrally manage the occupational health, safety and health performance of ACC and its subsidiaries.

Method of evaluating effectiveness

- ① Each year implementing management and performance assessment, confirming the results of moving toward the targets.
- ② Through the Corporate Sustainability Implementation Committee and its promotion team, the implementation status and target achievement level are continuously tracked, and OSH performance is listed as a factor in the remuneration for the executives.

Asia Cement endeavours to manage and enhance the health of employees by complying with laws and regulations, introducing comprehensive management system, performing overall risk assessment, and establishing management system and criterion. It aggressively demands for essential safety and endlessly improving work environment and mechanical facility in order to ensure a safe and worry-free condition. For the purpose of reaching zero disaster and zero occupational disease, so the employees are healthy and able to happily work, Asia Cement has adopted the vision of creating an organizational culture of safety and health, the goal of building a zero-disaster work environment and protecting the safety and health of workers.

Taking Actions

- ① The project of enhancing safety awareness and the training of occupational health and safety.
- ② Conducting ordinary routine health check and the health check for the workers involving in hazardous work that jeopardizes the health.
- ③ Conducting a training by combining knowledge and skills based on the occupational competency, learning and preventing hazards.

Integrating business units in the industrial chain, obtaining ISO certification.

Employees are the Company's most important asset. As a result, we ensure a zero-accident workplace environment where our colleagues work healthily and happily. In 2023, the Company will give full play to the function of leading the smaller companies and set standards higher than those prescribed by law. We are committed to assisting all plants and subsidiaries in fully implementing the OSH management system, and regularly organize tours for on-the-job education and training. We help subsidiaries and contractors improve safety awareness so as to reduce the incidence of occupational accidents, prevent and mitigate disasters, establishing a corporate safety culture. The OSH Management System coverage rate of ACC and the Taiwan subsidiaries has reached 100%.





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Occupational Health & Safety Governance and Strategy

- ① Governance body: Board of Directors (Corporate Sustainability Committee)

The Board-level Corporate Sustainability Committee is responsible for establishing the medium- and long-term development strategies for health and safety practices.

- ② Centralized Management of Occupational Health & Safety

Health and Safety Unit: Corporate Sustainability Implementation Committee (composed of executives).

Health & Safety strategy and performance is managed by the President.

- ③ Executive compensation linked to Health & Safety performance

Asia Cement links occupational safety performance to executives' variable compensation. If occupational safety performance is declining, there will be a 6% reduction in executives' individual bonuses to ensure the comprehensive implementation and execution of occupational safety management.

Organizational Chart of Occupational Safety and Health Committee at the operation site

Business Unit	Chairman	Total number of members	Labor representatives	Ratio of labor representatives
Asia Cement Headquarter	President	12	6	50%
Hualien Plants	Plant Manager	16	8	50%
Ya Tung Ready-Mixed Concrete	President	12	5	42%
Yuan Long Stainless Steel	President	20	15	75%

NOTE

- According to Article 10 of Regulations Governing Occupational Health and Safety Management, Ministry of Labor, ChiaHui Power, business units including Ya Li Precast Prestressed Concrete Industries, Fu Ming Transport and Nanhwa Cement did not have the labors up to the number required in the Regulations to set occupational health and safety committee, hence, they did not assign members.
- Fu Ming Transport has a workforce of greater than 100, yet no single base has over 100 personnel. In view of this, it is not obligatory to set up a safety committee as prescribed by the law.
- ACC has established an OSH Committee and an OSH management unit at each operating location. Each plant and subsidiary is required to have an OSH Committee and an OSH management unit in accordance with the law. The OSH Committee, chaired by the highest management level, consists of department heads, experts, and more than one-third of the members are labor representatives. The OSH Committee holds a meeting at least once a quarter to make recommendations on safety and health policies and to review, coordinate, and advise on related matters.
- If the size of the business unit is not sufficient for the establishment of an OSH Committee, a "Labor-Management Conference" is established and labor representatives are elected according to government regulations. Communication and consultation with employees occurs in the labor-management meeting held once every three months with education and training provided on a unscheduled basis. The consultation and communication of non-employees is carried out by the contractor and through occupational safety education and training from time to time.



100% OSH Management System Coverage in the ACC Industry Chain

Asia Cement attaches great importance to occupational safety and health in that each of its operating bases is actively introducing an occupational safety and health management system. The operating bases that have passed a third-party certification include Asia Cement's Hualien Plant, Ya Tung Ready-Mixed Concrete, Yuan Long Stainless Steel, ChiaHui Power, and Fu-Ming Transport Corporation and Fu-Da Transport Corporation. Other operating bases with less than 200 staff, including Asia Cement's headquarters, Asia Cement's Hsinchu Plant, Ya Li Precast, and Nanhwa Cement Corp, independently plan to establish the ISO 45001:2018 system, and passed a third party certification in June 2023. The OSH management system has achieved 100% coverage.

Chart of Asia Cement Co. Occupational Health and Safety Management System

Location of Operation	Occupational Safety and Health Management System	Internal audits		External audits	
		Employees	Non-employees	Employees	Non-employees
Asia Cement Headquarter <small>Note 2</small>	ISO 45001:2018	142	0	142	0
Hualien Plant <small>Note 1,3</small>	ISO 45001:2018/CNS45001:2018/	301	722	301	722
Hsinchu Plant	ISO 45001:2018	29	39	29	39
Ya Tung Ready-Mixed Concrete <small>Note 1,4</small>	ISO 45001:2018	462	377	409	329
Yuan Long Stainless Steel <small>Note 1</small>	ISO 45001:2018	212	9	212	9
Ya Li Precast	ISO 45001:2018	51	43	51	43
Nanhwa Cement	ISO 45001:2018	20	16	20	16
ChiaHui Power	ISO 45001:2018	90	426	90	21
Fu Ming (Da) Transport <small>Note 1</small>	ISO 45001:2018	405	12	405	12

NOTE

- Article 12-1 of Occupational Health and Safety Management Measures: An occupational health and safety management system shall be established in the type 1 businesses with the number of labors over 200.
- Non-employees are those whose work and/or workplace is controlled by an organization, and who are not in a labor-employee relationship; they are under the direction and supervision of the person in charge of the workplace or and under contract.
- The number of non-employees is calculated as the number of personnel dispatched or joint operators. For other non-recurrent numbers, the annual average is used for calculation.
- As 2 plants among Ya Tung Ready-Mixed Concrete's 13 plants are leased without full control of the plants, no external audits were conducted.





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The terms of safety and health included in the group agreement

Articles 27-29 of Hualien and Hsinchu Plants' group agreement stipulated the guidelines of safety and health which shared 8.8% of the total 34 articles in the group agreement.

OSH Management and Implementation

Program management and performance evaluation

According to the review and risk assessment of safety and health management results, a program of occupational health and safety management is announced each year and the inspection of results is executed routinely or non-routinely in each business unit. An accreditation is implemented each quarter (including active performance and passive performance) and the performance result of each business unit is reported to the occupational health and safety committee. The evaluations of the occupational health and safety management performance in all manufacturing plants were all at safety level.

Occupational health and safety educational training

Asia Cement established a comprehensive occupational health and safety management team which periodically or by project conducted on-the-job educational training. In addition to strive to lower its own risks, Asia Cement assisted and facilitated subsidiaries and contractors by way of tour educational training. Hence, they could increase their awareness of safety and reduce the rate of occurring occupational disasters.

Site/Times	Employees	Non-employees	Total
Asia Cement	4,506	5,069	9,575
Subsidiaries	6,410	839	7,249
Total	10,916	5,908	16,824

Vertical Integration for Contractor Management - Joint Commitment to Fulfilling Safety and Health Responsibilities

"Occupational Safety and Health Commitment" signed with a 100% coverage rate.

30 contractors signed in 2023.



Since 2008, Asia Cement's Hualien Plant has established a contractor safety management system, integrating it into the company's internal management procedures. Before commencing operations, contractors are required to sign the "Occupational Safety and Health Commitment." In 2023, 30 contractors signed this commitment, achieving a 100% coverage rate.

Asia Cement has formed a collaborative organization, treating contractors as part of the company and aiming for zero incidents. Besides on-site inspections and focused guidance, Asia Cement provides relevant education and training to improve their safety and health performance. The company has implemented an occupational safety education and training testing system. New contractors must pass a mobile test after receiving education and training before they can enter the plant for work, ensuring the effective implementation of contractor safety management.

Site	Category	Examples of occupational safety and health education and training implemented
New employees		• General safety and health education and training for new employees.
Employees having obtained a license		• Safety and health education and training for operators of fixed cranes over 3 metric tons. • Occupational safety and health education and training for occupational health and safety supervisors.
OSH staff	Asia Cement	• Safety and health education and training for personnel assessing the safety of process at a hazardous work environment. • Training on awareness of job duties and performance.
Staff with stage 4 hearing loss on the monitoring list		• Education and training on hearing protection and respiratory protection.
In-service employees and contractors		• General safety and health education and training. • Education and training on entrapment. • Education and training on illegal infringement at workplace.
New employees		• Education and training for new employees.
Related staff	Subsidiaries	• Training on using safety protective equipment, and a drill. • Emergency response procedures (emergency notification, accident handling, evacuation training). • Promotional Campaigns for Road Safety.
Contractor		• General safety and health education and training.

Innovative smart occupational safety systems

In recent years, Asia Cement has actively introduced smart occupational safety systems, e.g., establishment of a biometric identification system for contractor personnel to control access, an access control system at specific work implementation areas, and an on-site inspection and checkpoint system. The platform allows different types of personnel such as contractors, occupational safety teams, Hualien plant employees, and unit supervisors to use a dedicated zone or real-time push-notification functions, improving real-time smart management of occupational safety.



ACC continues to optimize smart industrial safety functions to improve plant operating efficiency. In 2023, the "LINE Violation Reporting System" was added as a real-time communication control tool. In the event of a contractor violating the regulations, the occupational safety personnel will take a photo to establish a report. If the offender corrects himself/himself within a prescribed period, there will be no penalty imposed. After undergoing this, all the reported contractors have been actively making improvements. The APP can reduce operating procedures and improve communication efficiency.



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The Effectiveness of the Taiwan Cement Manufacturers' Association Safety Partner Program Was Appraised by OSHA and Won the Third Place



For the purpose of elevating the performance of cement industry occupational health and safety management, Occupational Health and Safety Administration provides the on-site facilitation to all cement plants and executed diagnosis on the effectiveness of implementing occupational safety management system and the status of compliance, SS management, performance recognition and safety culture. It was expected to discover the blind spots and deficiencies in the management, to urge the respective business units making improvements, to strengthen the effect of system management, and to establish business safety culture, furthermore, to prevent and minimize disasters and to reach the goal of net zero disasters.

The Safety Partner Program was launched in April 2019; the second phase will be implemented from April 2021 to March 2023, in the hope to deepen the effectiveness of safety and health management and build a corporate safety culture. The implementation period of the third stage is from April 2023 to March 2025. By implementing the sustainable development of the enterprise, we build a healthy and safe workplace.

ACC continues to implement the Safety Partner Program promoted by the cement association, giving full play to its function as an influential industry leader and as a learning benchmark, so as to enhance the efficiency of occupational safety management in the cement sector and reach the goal of zero workplace incidents. In 2023, ACC's Hualien Plant shared the effectiveness of the noise control, excess dust improvement, and occupational safety APP management projects. Ya Tung Ready-Mixed Concrete's Hualien Meilun Plant held demonstrations and shared its experience in planning pedestrian and vehicle lane separation and equipment linkage safety measures. By doing so, we hope to build a safe and healthy working environment in the cement industry.

We continue to progress towards the goal of "zero incident", and make continuous improvement to create a safe and healthy workplace.

Implement sustainable corporate development and give ESG a prevailing presence at the workplace in terms of health and safety.

We will further integrate existing achievements to form a "safety culture" for the cement industry.



ACC Hualien Plant sharing improvement results

Noise control

The exhaust port of the brake valve of the original #45-ton locomotive was located in the locomotive next to the driver's seat, but it has been improved to below the floor of the locomotive. The measured noise value of the air compressor's automatic air supply has been reduced from 94db(A) to 85db(A), and the noise when the brake was applied decreased from 111db(A) to 80db(A), which is an optimal reduction of noise reduction effectiveness by 27%.



Dust emission improvement

Dust is a part of operations that is particularly hazardous to health, and a large amount of dust is bound to be generated in the cement manufacturing process. After switching to an electric-bag-type dust collector, concentration of particulate matter has been reduced by approximately 43%.



Demonstration of Ya Tung Ready-Mixed Concrete

Risk Control/Plant Planning

1. Venue planning and separation of pedestrians from vehicles
2. Color separation of pipelines and fool-proof joints.

To ensure the traffic safety of employees, Ya Tung Ready-Mixed Concrete has clearly separated the flow of vehicles from the flow of people. In addition, the tank, equipment, and pipelines are all labeled for management. The pipeline with the inlet and outlet is further color-coded. Differentiation can be made to improve the safety management performance.



Hazard prevention/safety linkage

1. Safety interlocks of machinery and equipment
2. Open the opening and stop the operation.

To prevent injuries caused by machinery and equipment, such as pinching, Ya Tung Ready-Mixed Concrete has introduced a series of products designed for its sand and gravel belt conveyors, sand and gravel screening machines, sand-feeding and gravel belt conveyors, stone warehouse distribution carousels, and mixing machines. There are multiple safety devices such as emergency stop switches and interlocking devices, which can stop the machinery and equipment in operation immediately.



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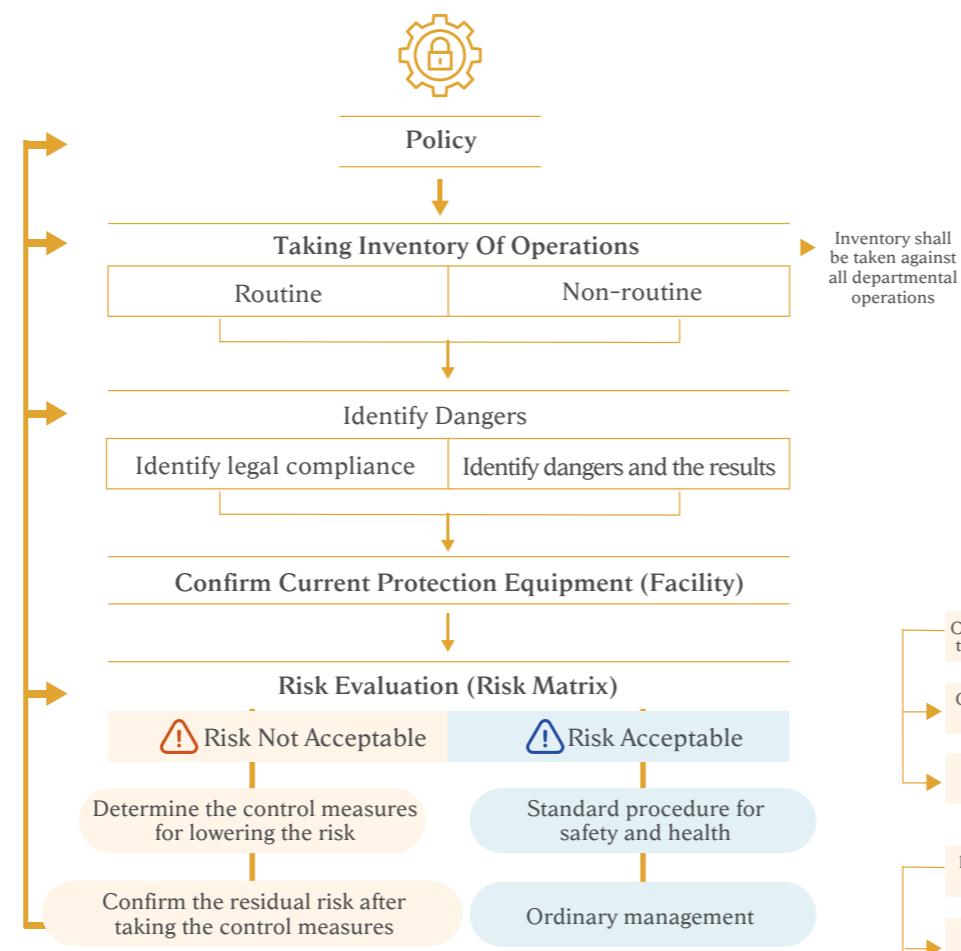
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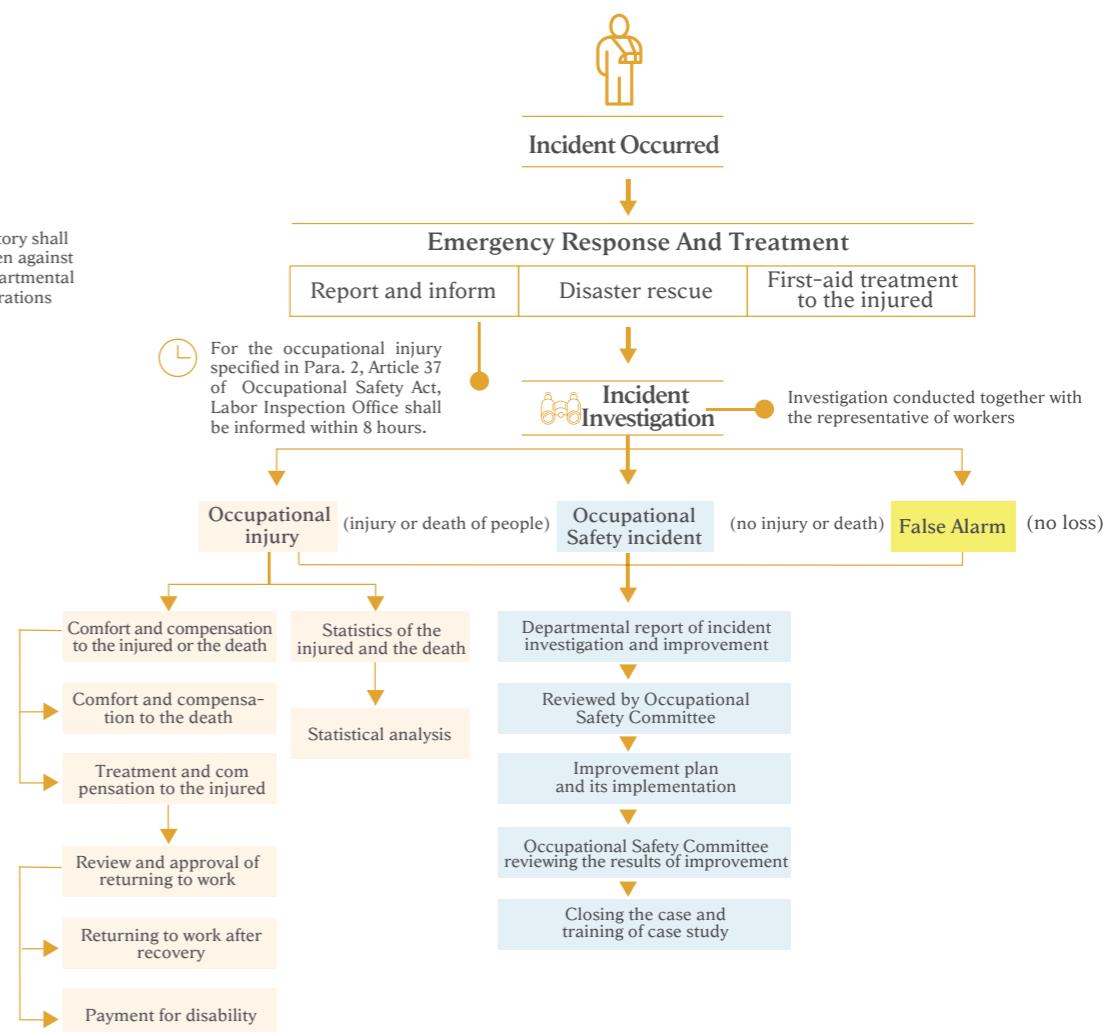
The flow of identifying hazards and evaluating risk

Through the implementation of occupational safety and health management program including setting short-mid-long term goals and executing measures, Asia Cement prevents and mitigates significant negative impacts to occupational safety and health which are directly relating to organizational operations.



False Alarm Investigation

ACC has established safety and health reward and punishment procedures. All employees and contractors can submit false alarms. If the Occupational Safety Team verifies that the hazard is true and submits it to the plant director for approval, a bonus will be given according to the severity of the potential hazard. Additionally, 30% of the bonus will be issued to the employee's subordinate unit, in order to prevent the actual occurrence of future hazards.





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Health management for the operations specifically jeopardizing health

All plants of Asia Cement implement risk assessment to the work environment specifically harmful to health including noise, powder dust and floating radiation and create the operational standards of safety and health. They all initiate an environment monitoring program according to the regulation to periodically subcontract the monitoring of environment and the health check of personnel. Professional physicians are hired to observe the work environment, to evaluate the safety and health and to provide suggestions of improvement.

The results of the special hearing health check-up in 2023 indicated a few staff suffering stage 5 hearing loss, including 19 at the Hualien Plant and 5 at Ya Li Precast. A customized individual hearing protection program was implemented based on individual exposure to noise in the operation site. With respect to the noise prevention measures in the Plant, Hualien Plant adopted the principles of managing and controlling, wearing protective gears and engineering improvement. The followings are the details:



1 Reduce the exposure time of the operators. According to 2023 Environmental Test Report, no any individual was exposed in the noise level over 90 dB, the ones who were exposed in the level of over 85dB must wear protective gears.

2 Examine the status of protective gears wearing on the monthly basis; arrange special physical check every year; conduct educational training of hearing protection each year. The operators who are identified at the level of class 3 (and above) management after the special physical checks will be arranged to track their health, interviewed and evaluated by the on-site physician. The on-site physician will prepare improvement measures based on the evaluation of the effectiveness of individual hearing protection plan by referring to the years of service and the results of hearing check in the past years.

3 Issue repair work sheets to undertake repair work when it is found that noise is generated from old and worn-out equipment, aging of the protective facility or abnormal vibration, to progressively improve the environment of the site and reduce the exposure of on-site operators to noise.

Table of Asia Cement's Health Management for the Operations Specifically Jeopardizing Health

Subsidiaries Site	Harzard Type	Classification of Health Management				Improvement	
		Class1	Class2	Class3	Class4		
Asia Cement Harzard Site	Headquarter (Terminals)	Dust	24	19	0	0	Continue education and training and require proper use of protective equipment.
		Noise	24	32	0	19	Executing personal hearing protection program. Boost the use of protective gear, and if necessary, have the occupational physician evaluate whether it is necessary to change the workplace.
		Dust	71	10	0	0	The classified control of dust sites. Executing Respirator Program.
	Hualien Plant	Ionizing Radiation	17	4	0	0	Monitor individual dose
		Mercury	3	0	0	0	Monitor individual dose
		Dust	15	7	0	0	The classified control of dust sites. Executing Respirator Program. Implement Respiratory Protection Program
Hsinchu Plant	Ionizing Radiation	5	3	0	0	Monitor individual dose	
		Dust	15	7	0	0	The classified control of dust sites. Executing Respirator Program. Implement Respiratory Protection Program
	Yuan Long Stainless Steel	Noise	35	25	0	0	Reduce the volume of noise in the workplace, and implement the use of personal protective equipment
		Ionizing Radiation	20	9	0	0	Health management
Nanhwa Cement	Dust	5	3	0	0	Health Tracking Check	
	Ya Li Precast	Noise	16	24	3	5	Implementation of noise protection plan (including personal)
		Dust	7	25	0	0	PPE is required

- NOTE**
1. Asia Cement subsidiaries include Ya Tung Ready-mixed, ChiaHui Power, Ya Li Precast Prestressed Concrete, Fu Ming (Da) Trans port do not have any specifically health hazardous operations and any health management classified personnel for specifically health hazardous operations.
 2. The operations of potassium dichromate and mercury in the lab of Hualien Plant are very minor in volume.
 3. The identification of health management classification varies in different health check institutes. Each operational location carries out employee health management and reporting according to the laws and regulations.
 4. The statistics in this table do not include non-employees. (According to Article 51 of the Occupational Safety Act, a business unit is not responsible for the physical examination and health examination for non-employees.)





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Statistics of total hours worked

Total hours worked by the employees and non-employees of Asia Cement and its subsidiaries:

Site/hours	Employees	Non-employee
Asia Cement	909,950	1,102,700
YATUNG Ya Tung Ready-mixed	907,800	89,147
YLSB Yuan Long Stainless Steel	430,800	18,124
YLP Ya Li Precast	105,576	77,904
NHC Nanhwa Cement	41,076	36,040
CHC ChiaHui Power	201,537	40,320
FMD Fu Min (Da) Transport	803,520	30,660

NOTE

1. Non-employees are those whose work and/or workplace is controlled by an organization, and who are not in a labor-employee relationship; they are under the direction and supervision of the person in charge of the workplace or and under contract.
2. Sources of the information for employees type: Employment Injury Monthly Reports of Asia Cement, Yuan Long Stainless Steel, Ya Li Precast Prestressed Concrete and ChiaHui Power; the calculation of Ya Tung Ready-mixed Concrete is based on the records of number of employees and the occupational sickness leaves; the source of Nanhwa Cement was from the record of card punch; the source of Fu Ming (Da) Transport was from the calculated number of employees. Source of the information for non-employee type: Hualien Plant, the sources was from the records of card punch in the employees' information management system of the contractors; Hsinchu Plant, the source was from the contractors' statistics reports; Yuan Long Stainless Steel and ChiaHui Power, the sources were from the number of man-hour served by the fixed outsourcing and the number of contractors' workers entering into the work sites; Nanhwa Cement and Fu Ming (Da) Transport, the sources were from the card punch records and number of man-hours; Ya Tung Ready-mixed Concrete, calculated by the number of man-hours; Ya Li Precast Prestressed Concrete, the source was from Employment Injury Monthly Report.
- For Ya Tung Ready-Mixed Concrete, it is calculated based on person-times. Since the labor of the drivers at the plant (including temporary external vehicles) during transportation was not under direction or supervision of the Company, their total hours worked and occupational accidents were not included in the statistics for non-employees.

Occupational Diseases, Prevention of Overload, and Ergonomic Hazards

In 2023, there was not any legally identified occupational diseases in Asia Cement and its subsidiaries. The silicosis prevention measures taken by Asia Cement included partition management of dust operation and respirator program.

For the purpose of maintaining the health of employees and non-employee workers and preventing the priming of injury or diseases caused by over loading and ergonomic hazards, Asia Cement set up a program for the prevention of abnormal workload and ergonomic hazard, in accordance with the guidelines of Occupational Health and Safety Administration, and carried out the promotion and examining. The investigation revealed that two staff members were suspected of being exposed to hazards; we gave them personalized health advice and guidance, and kept a close eye on the outcomes at regular intervals. The employees of the subsidiaries were examined and found that 2 employees in ChiaHui Power, 7 employees in Yuan Long Stainless Steel, 12 employees in Ya Tung Ready-mixed and 11 employees in Ya Li Precast were suspected to suffer from hazards, they were arranged to have physicians and nurses giving health counseling and instructions, and regularly tracing the results.



Statistics of occupational injury

In 2023, recordable or severe occupational injury incidents among employees of Asia Cement and its subsidiaries occurred at the Asia Cement Hualien Plant, Ya Tung Ready-mixed Concrete and Fu Ming (Da) Transport. Other sites reported no recordable occupational injuries, and there were no fatalities due to occupational injuries. Additionally, no non-employee occupational injuries or fatalities occurred at any operational sites.

Statistics for Occupational Injury in Asia Cement and its Subsidiaries

Site/Type	Recordable Occupational Injury Note3		Severe Occupational Injury Note2		Type of Occupational Injury	Corrective Prevention Measure
	Cases	% Note1	Cases	% Note1		
ACC Hualien Plant Employee	1	1.7	0	0	Particulate matter contact with eyes	<ul style="list-style-type: none"> 1. In addition to wearing face shields, protective glasses should be worn, and fogging should be prevented, and face shields with more comprehensive protection should be continuously sought after. 2. Make a rectangular feed hole shield and install it in the feed hole to prevent a large amount of dust from blowing out during material feeding.
YATUNG Ya Tung Ready-mixed Concrete Employee	4	4.4	0	0	Fracture/pinch/fall/spray	<ul style="list-style-type: none"> 1. Strengthen education and training, and conduct related industrial accident case study and promotion. 2. Equipment improvement and implementation of protective gear. 3. False alarm accident proposal is newly added to the proposal improvement system through complete notification, identification of the cause, and determination of improvement actions. This is aimed to reduce the expansion of the incident and the chance of recurrence.
Fu-Ming(Da) Transport Employee	5	6.22	1	1.24	Falling/tipping/other traffic accidents/contact with high and low temperatures	<ul style="list-style-type: none"> 1. Publish case studies of learning events for case promotion, education and training, and improve colleagues' safety awareness. 2. Promote BSV behavioral safety observation. In order to prevent accidents caused by unsafe behaviors, we promote BSV and reach a safety consensus with drivers after observation and discussion to eliminate potential causes of accidents. Correction of anomalies.

NOTE

1. Rate of Occupational Injury= number of cases ÷ total hours worked x1,000,000 (3 decimal places or less not counted).
2. In this case, the driver accidentally fell to the ground due to the fact that he did not clench his hands tightly while getting into the driver's seat of the tow truck, resulting in dislocation of the left elbow and fracture of the wrist. The recovery period was about 7 months.
3. Disabling injuries (losses of one day or more) are included in the statistics of recordable occupational injuries .

Labor Act Penalties

Base	Description of violations in 2023	Amount of fine	Corrective action
Hualien Plant	The employee's eyes were chemically burnt due to the escape of dust during the material plugging process. It was determined that the Plan violated Article 287 of the Occupational Safety and Health Facility Rules - failing to make workers wear proper protective equipment and Article 6, Paragraph 1 subparagraph 7 of the Occupational Safety Act - failing to prevent the hazards caused by dust.	NTD100,000 ►	Improvements in safety measures for material access and blockage operations. Please refer to the above table for details.
Fu-Ming(Da) Transport	Employees understand the Company's regulations for the management of fuel surplus/loss and do not sign receipts for the detailed report of fuel surplus/loss. The Company deducted the fuel spill amount from the salary of the offender for that month, who did not receive a full salary. Note 1	NTD 20,000 ►	The Company already paid the amount originally due for fuel loss, and will seek compensation through other means in the future.

NOTE

1. The Company has formulated the Procedures for Oil Surplus/Loss Management for Drivers. After the monthly settlement of the daily fuel consumption, if the actual fuel consumption is lower than the approved fuel consumption level, it is considered to be a fuel surplus; if it is greater than the approved fuel consumption level, it is considered a fuel loss. In order to encourage drivers to save fuel, a bonus is given to drivers for the portion of fuel saved, and if there is a fuel loss, the driver must pay back the Company the additional fuel used at the cost x0.98.
2. In 2022, ACC and its subsidiaries were not subject to fines arising from violations of the Occupational Safety and Health Act and the Labor Standards Act.





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Proactive Implementation of OSH Management

We are committed to building a zero-accident workplace while ensuring that our workers are working in a healthy environment. To maintain the occupational health and safety of our workers, ACC continues to invest in financial and human resources to implement OSH management and reduce the incidence of occupational accidents.

Safety Management Items	2020	2021	2022	2023
Investment in occupational health and safety (NTD 10,000)	163	216	794	920
Number of plant-to-contractor inspections (times)	596	500	772	662
Number of fines imposed by the plant on contractors for violations (cases) (Including fines, work suspension, education and training, and others)	481	437	661	392
Number of false alarms (times)	41	43	15	27

Goal of Proactively Improving Health and Safety Performance

ACC has determined its OSH indicator target, with the average value during 2019-2021 as benchmark, aiming to achieve a reduction by 20% by 2025. In 2023, the Company reached 5 safety and health indicators targets.

Asia Cement's Occupational Safety and Health (OSH) Indicator Targets	Type	2021~2023 industry average	2019~2021 Asia Cement average	2023 Asia Cement	2023 Reached Target	2025 Target
Disabling Frequency Rate of per 1 million work-hour (FR)	Employees	0.69	1.09		0.55	
	Contractor	2.79	1.27	0	✓	1.02
Disabling Severity Rate of per 1 million work-hour (SR)	Employees	89	2	✓	71	
	Contractor	832	15	0	✓	12
Frequency-Severity Indicator (FSI)	Employees	0.25	0.04	✓	0.20	
	Contractor	1.52	0.14	0	✓	0.11

Asia Cement OSH Indicators	Type	2020	2021	2022	2023
Number of fatality (persons)	Employees	0	0	0	0
	Contractor	0	0	0	0
	Third-parties	0	0	0	0
Rate of fatality per 10,000 people (%)	Employees	0	0	0	0
	Contractor	0	0	0	0
Number of days lost (day)	Employees	257	0	0	0
	Contractor	23	0	0	0
Number of lost time injury (times)	Employees	2	0	0	1
	Contractor	2	0	0	0
Number of lost Time Injury Frequency Rate (LTIFR)	Employees	2.07	0	0	1.09
	Contractor	2.57	0	0	0
Number of lost time injury (persons)	Employees	2	0	0	1
	Contractor	2	0	0	0
Disabling Frequency Rate of per 1 million work-hour (FR)	Employees	2.07	0	0	1.09
	Contractor	2.57	0	0	0
Disabling Severity Rate of per 1 million work-hour (SR)	Employees	266	0	0	2
	Contractor	29	0	0	0
Lost Time Incident Rate	Employees	0.41	0	0	0.21
	Contractor	0.51	0	0	0
Total Recordable Injury Rate	Employees	0.41	0	0	0.21
	Contractor	0.51	0	0	0

NOTE Lost Time Injury Frequency Rate (LTIFR): The number of lost time injured that occurred per 1 million man-hour worked (3 decimal places or less are not counted).

Disabling Injury Frequency Rate (FR): The ratio of actual disabling injuries per million-man hours worked (only down to three digits after decimal point).

Lost Time Incident Rate (number of people with lost time injuries x 200,000)/total number of hours worked (within three decimal places).

Total Recordable Injury Rate : Number of accidents x 200,000/total number of hours worked (within three decimal places).

Disabling Injury Severity Rate (SR): The total number of days lost per million-man hours worked due to injury (only down to decimal point).

Frequency-Severity Indicator FSI= $\sqrt{[(FR \times SR) \div 1000]}$.

The industry average is sourced from the data released by the Occupational Safety and Health Administration of the Ministry of Labor.





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Programs to support Health & Safety targets

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Asia Cement

ACC Refines Its OSH Management Plan

Short-Range Goals 2018-2020

Completion of the conversion of the Optimization Management System CNS 45001

Medium-Range Goals 2021-2023

Obtain performance recognition for the occupational safety management system of the Ministry of Labor

Long-Range Goals 2024-2026

Be awarded the Outstanding Unit in Occupational Safety Management and National Industrial Safety Award by the Ministry of Labor

2

Improve execution plans

Refine risk management strategy and execution

Strengthen OSH leadership and communication

Enhance the effectiveness of safety and health education and training.

Implement worker OSH management

Strict OSH management performance measurement

3

Specific achievements in 2023

zero major workplace accidents (including contractors)

ACC awarded Excellent Unit by the Occupational safety and Health Administration's "Occupational Health and Safety Indicators Proactive Rating for Corporate Sustainability Report Disclosure"

27% noise reduction for the locomotive of the locomotive at the Hualien Plant

ACC promoted the linkage of technology and disaster prevention on the APP to effectively strengthen OSH management.

The dust collection equipment of the Hualien Plant has been improved to enhance the dust capture rate, reducing the particulate matter concentration by about 43%.

ACC's headquarters and its subsidiaries certified by ISO 45001 OSH Management System

4

Continuous Improvement and Future Development

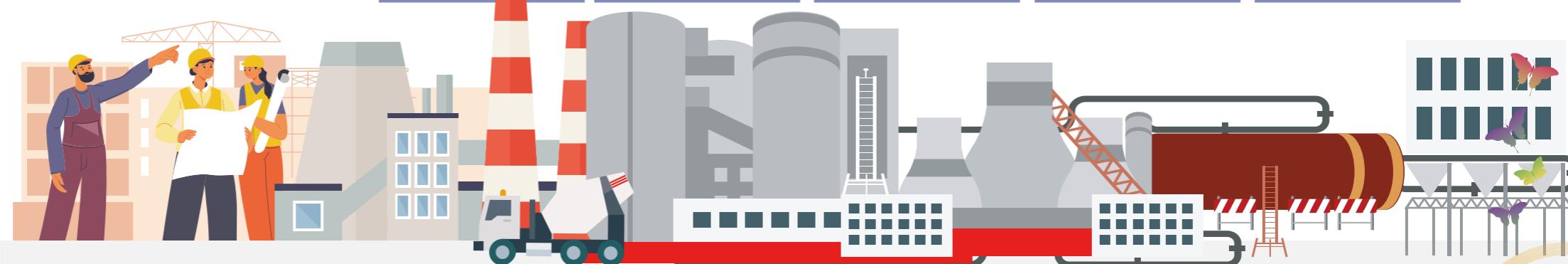
Continue to participate in the Cement Association's safety partnership to improve management efficiency.

FR, SR and FSI reduced by 20% on the three-year average of peers

Oversee contractors' voluntary occupational safety and health management performance improvement projects

Hualien plant participating in the selection of outstanding units

Participating in the event of National Workplace Safety and Health Week





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3.3 Local Community Caring

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Local Communities



Promoting the Prosperity and Sustainable Development of Local Communities

Goal

Social expenditure of at least NTD 45 million.

Actual and Potential Impacts



Economy

Our business activities may have a positive impact on the economy of local communities, such as providing employment opportunities and driving local economic growth.



Environment

Our production and operations may cause negative impacts on the local environment, such as air pollution, water use and waste disposal. We are committed to reducing our environmental footprint and protecting local ecosystems.



People
(including their human rights)

Our activities may affect the human rights of local communities, such as labor rights and the quality of life of local residents. We are committed to complying with all applicable labor regulations and human rights standards and ensuring that our activities do not pose negative impact on local communities.

Risk and Impact Management

We have established a dedicated department to be responsible for identifying and managing the environmental, social, and economic risks and negative impacts that our operations may cause on nearby communities. Once a potential risk is identified, we will actively take remedial and preventive measures.

Identified Vulnerable Groups

In communities adjacent to operating locations, we pay special attention to disadvantaged groups such as indigenous peoples, the poor, women, and children. We prioritize their basic rights and special needs and provide them with the necessary support and protection.

Relevant Policies or Commitments

We have established corresponding community engagement policies and commitments, including respecting local cultures, values, and human rights, as well as actively working with local communities to solve problems of common concern.

Taking Actions

We have implemented a series of actions to prevent or mitigate potential negative impacts, including conducting risk assessments, reviewing the supply chain and adopting environmental management measures. For negative impacts that have already occurred, we will provide remedies and work with local communities to resolve the issues. At the same time, we are also committed to promoting the positive development of local communities and supporting the focus areas of indigenous peoples education and community infrastructure development.

Tracking of Action Effectiveness

We will track the effectiveness of the actions we have taken, including establishing processes to assess our goals, targets, and indicators, and regularly review and adjust our action plans. We will learn from experience which is incorporated into our operating policies and procedures.

Engagement with Stakeholders

We will work with local communities and stakeholders to ensure that our actions meet their expectations and needs. We regularly engage in dialogue and communication with local communities and stakeholders, and explain the impact and effectiveness of our actions on the local communities.

We adopt culturally sensitive communication methods for community groups of different ethnicities, ages, or areas of residence. For example, we engage in traditional ceremonies with indigenous tribes and respect their decision-making processes. Through these efforts, we hope to build a partnership of mutual trust and inclusive partnerships.



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3.3.1 Positive Development of Local Communities

Community Impact and Risk Identification

The first step in cement production is to extract raw materials from the earth's surface, which will inevitably have an impact on the surrounding natural and social environment. As a cement company with a global presence, ACC is committed to creating a positive social impact in the communities where we operate and creating added value for the communities. Additionally, to prevent potential or actual negative impacts on local communities caused by operations, at the beginning of plant construction, ACC and its subsidiaries conduct community impact assessments in accordance with local laws and regulations.

The assessment results include

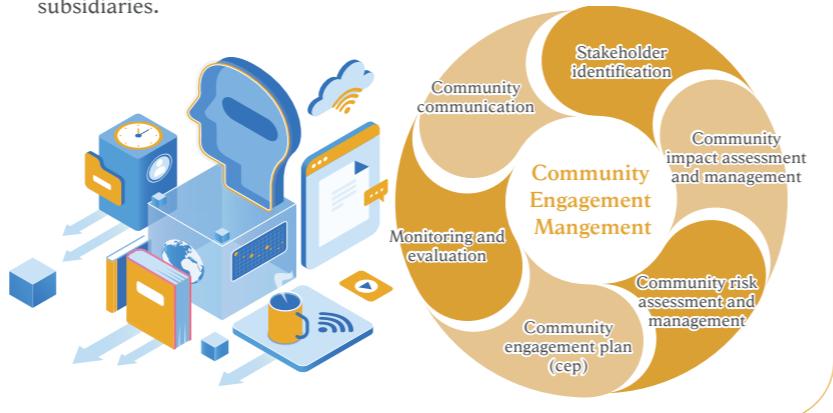
Air and water emissions

Potential traffic impacts within and outside the site

The socioeconomic impacts of creating employment opportunities throughout the supply chain.

Stakeholder Identification and Communication

ACC cares about community development and hopes to become partners with local communities and grow together. ACC is committed to maintaining good relations with stakeholders. We actively engage in dialogue with local communities to gain an in-depth understanding of important issues in community development. ACC considers local community residents and indigenous peoples affected by its operations as important stakeholders. ACC has established a comprehensive stakeholder communication mechanism, which includes stakeholder identification, community impact assessment and management, community risk assessment and management, community engagement plan (CEP), monitoring and evaluation, and community communication, to manage communication with stakeholders of ACC and its subsidiaries.



Community Communication and Grievance Channels

ACC values its community stakeholders and has established complaint mechanisms or community group communication channels for different sites. Dedicated units have been set up to manage operations in major operational sites. The main impacted operational sites of the Company are: "Hualien Xincheng mountain Quarry" and "ChiaHui Power". ACC has established an ACC Service Center at the Xincheng mountain Quarry in Hualien as a contact point for receiving applications and complaints from local communities. We investigate the opinions of local residents through questionnaires every year. Additionally, ACC's important subsidiary, ChiaHui Power, has set up the "Electricity Development Assistance Fund Management Committee" to communicate regularly with the community. The relevant departments formulate corresponding measures based on various opinions and respond to community needs.



Community Engagement Plan (CEP)

Community relations management involves the Company's cooperative partnership with community leaders and stakeholders. ACC and stakeholders jointly design and implement a community engagement plan. Plant employees play important roles in community negotiation meetings and communication sessions, jointly developing tailored Community Engagement Plans (CEPs) to meet the specific needs and expectations of stakeholders. The Community Engagement Plan (CEP) includes: Local community development planning, sponsorship from local philanthropic foundations or organizations, and local community development services. In 2023, the Community Engagement Plan (CEP) covered 100% of the main operational sites.

Operational Sites	Stakeholders	Dedicated Unit	Communication and Grievance Channels	Community Engagement Plan
Xincheng mountain Quarry	Alang Bsngan tribe, Hsiulin Township, Hualien	ACC Service Center	<ul style="list-style-type: none"> ① Indigenous Tribal Conference ② Questionnaire survey ③ Open mine visits ④ Meetings with local organizations ⑤ Sustainability section on the Company's website, LINE, Facebook, Mine Information Public Website 	<p>378 cases in total. Including: Indigenous peoples consultation and consent benefit-sharing project.</p>
ChiaHui Power	Minxiong Township, Chiayi: Community development associations, community residents, government agencies, people's organizations, schools	ChiaHui Power Co., Ltd., Project-Based Power Development Assistance Fund Management Committee	<ul style="list-style-type: none"> ① Regular community engagement meetings ② Project contact window ③ Online communication group 	221 cases in total.





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Resources Devoted to Community Development

ACC has spared no effort in giving back to the local communities where it operates, and it ranked first in terms of expenditure on community engagement activities, actively promoting community participation and caring for community development in the areas where it operates. The Company has set up contact points and community groups at key operating sites to engage with community groups responsible for community engagement and development. We also actively engage in local community services and charitable projects. In 2023, the total expenditure on community development by ACC and its subsidiaries amounted to NTD 102.7 million, accounting for 1.38% of the Company's operating profit.



NOTE

1. The resource investment in community development disclosed herein includes subsidiaries in the consolidated financial statements.
2. The eco-environmental protection included eco-park eco-environmental education, the greenery of community schools and ecological construction.
3. The volunteer services are the community services initiated by Asia Cement including cleaning and maintaining the environment of Hualien local institutes and community, cleaning beach, repairing community houses, supplying mountain spring water, etc. (personal volunteers not included), taking hourly-wage (the average salaries of the full time employee except supervisors) to estimate the monetary value.

Recognitions for Community Development and Care

"Guardians of Homes and Land on the Road to Sustainable Development"

Selected in the 2023 PwC's Sustainability Impact Award



"Light Up the Tribe with Warmth and Care"



won the Gold Award, the highest honor in the TSAA Taiwan Sustainability Action Awards.



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Providing Employment Opportunities for Indigenous Peoples

ACC regards indigenous peoples as important stakeholders and provides job opportunities to help indigenous peoples maintain stable employment. According to statistics, 96% of ACC's employees at the manufacturing plant in Hualien are residents of Hualien. In 2023, indigenous employees accounted for 35% of the total workforce in the plant (contractors accounted for 46%). Additionally, 60% of newly recruited employees are indigenous people. ACC has smooth internal promotion channels and practices ethnic equality. Currently, the highest-ranking executive with indigenous status is the Deputy Plant Manager, which is the third-highest-ranking executive in a manufacturing plant.

- NOTE**
- 1. Asia Cement created a contractors' employee data management system to manage the occupational health and safety of all personnel working in the area controlled and managed by Asia Cement. The identities of indigenous employees hired by contractors were extracted and compiled from this system. The number of collaborative manufacturers is the actual number of people entering the factory in 2022.
 - 2. The high ranking supervisors are defined as the employees above the 11th grade.

Type of Personnel	Total	Local Residents		Indigenous People	
		Number	%	Number	%
Employees	301	289	96%	105	35%
Contractors	1,269	946	75%	582	46%
Total	1,570	1,235	79%	687	44%



LIVE

0403 Earthquake Special Report

At 7:58 a.m., on April 3, 2024, a major earthquake with a magnitude of 7.2 on the Richter scale occurred in Hualien, rocking the entire island. After the earthquake, ACC Hualien Plant immediately assessed the overall damage while mobilizing manpower to assist in post-disaster relief efforts.

① Two medium-sized buses were dispatched to assist the Hsiulin Township Office and the fire department, heading to the north entrance of the Huide Tunnel on the Suhua Highway to help more than 50 stranded tourists safely evacuate.

② Daily water truck services were initiated to promptly address the continuous water shortage in Fushih Village and Hsiulin Village caused by the earthquake. Additionally, due to severe damage to household water tanks in the communities, ACC provided repair or replacement subsidies for water tanks, alleviating financial burden on the residents.

③ Employees of the ACC Service Center visited the tribe's households every day to survey the damage caused by the disaster and assisted in distributing relief supplies received from various sources.

During Qingming Festival holidays, Ya Tung Ready-Mixed Concrete Meilun Plant assisted the highway Bureau in urgently repairing the temporary route of the Qingshui Bridge. This effort enabled the Suhua Highway to resume two-way traffic on a single lane within four days.

The strong 0403 earthquake caused damage to the ACC's Hualien plant, mine, and storage and transportation stations, resulting in an estimated actual loss of approximately NTD130 million in equipment and production downtime. However, this had no significant impact on the Company's finances, business, or operations, and no personnel were injured, reaffirming ACC's commitment to "safety first".



ACC dispatched vehicles to help tourists escape.



ACC launched a mobile water truck service to address the water supply issues faced by residents following the earthquake.

ACC's General Manager Kun-Yen Lee, along with his team, visited the affected tribes to assess the damage and show concern for the residents' well-being.



ACC provided manpower and equipment to assist township offices and tribal meetings in transporting and distributing relief supplies.

For residents whose houses and water tanks were damaged after the earthquake, ACC provided repair or replacement services.



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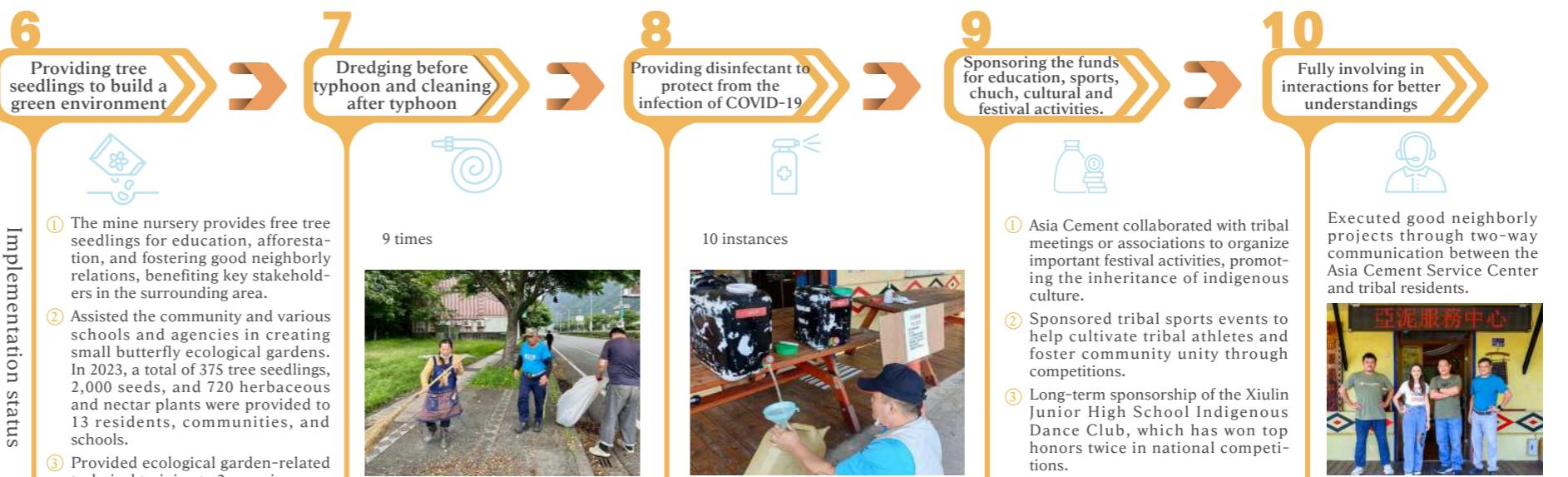
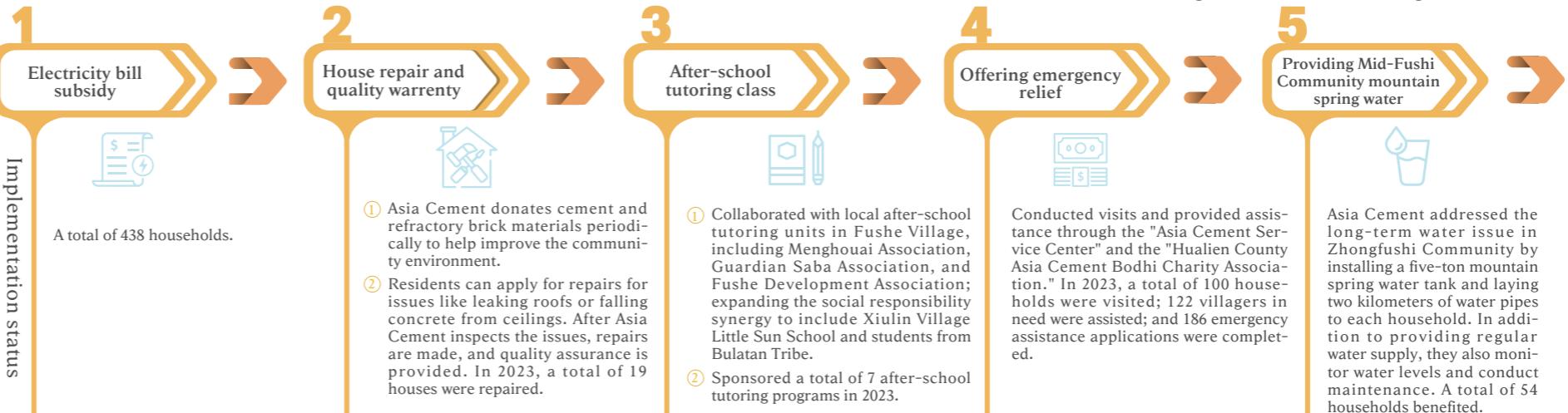
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Completion of Consultation and Consent in Accordance With the FPIC Principle

ACC conducts environmental and social impact assessments for new mining sites, involving 100% of the affected areas. The Company manages mining areas responsibly and considers the indigenous communities surrounding the mining sites as important stakeholders. Following the principles of Free, Prior, Informed Consent (FPIC), we engage in consultation processes with nearby indigenous tribes. During the period, several briefing and communication meetings were held, with a total number of nearly 2,500 participants. After fully listening to the opinions of stakeholders, we proposed the "10+11" benefit-sharing mechanism, covering support and benefits for indigenous people from birth, education, marriage, childbirth, work, to elderly care stages. In 2022, a consultation and consent voting meeting was held, and ACC received an 83% approval rate to continue its operations in the local areas. By the end of 2023, a total of approximately NTD12.57 million was invested. The related expenses were discussed with community representatives and the Company to continuously implement the benefit-sharing mechanism.

Implementation Status of the "10+11" Benefit-Sharing Mechanisms for Indigenous Peoples

Original 10 benefit sharing mechanisms





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Newly added 11 benefit sharing mechanisms

11

The same electricity bill subsidy.



(Statistics inclusive of the first item)

Implementation status

12

Birthday cash gift to elderly, cash gift for weddings and giving birth, funeral money and gift certificates for 3 Chinese festivals.



358 recipients of birthday monetary gifts for the elderly, 12 couples receiving the monetary gift for marriage, 27 recipients of the condolence money for funeral ceremonies, 22 recipients of childbirth subsidies, and 672, 688, and 666 households receiving vouchers for the three major Chinese festivals.

13

Scholarship for students



A total of 223 persons (to students at each level, from elementary school to university, received from NTD1,000 to NTD5,000 per person).

14

School shuttle bus



24 students benefited in the first half of the year and 28 students in the second half of the year.



15

Repair of iron sheet houses



Implementation status
Providing the repair of iron sheet houses for the ones complying with the building registration and building layout plan.

A total of 1 tin-sheeted houses repaired.

16

Adding yearly work attendance bonus



Implementation status
The work contracts for the administrative affairs in the Service Center, office chores and general affairs environmental work were added with the yearly work attendance bonus.

Calculated according to the Company's attendance bonus.

17

Providing internship to related fields and summer part time work



Implementation status

The works of Hualien Plant are relating to the professional areas including electrical engineering, information technology, chemical engineering, mechanical engineering, civil engineering, earth science, ecological gardening. In the future, the college students in the tribe can register for the summer part-time jobs, the ones who meet with the relevant professional areas can apply for the work through their colleges, the qualified students can be provided with job opportunity.

2 summer part-time students from related departments

Implementation status

18

Enhancing employment counseling



Implementation status

Asia Cement Service Center publicly offers the job opportunities of Hualien Plant and its subcontractors, tribal people can apply for the jobs by submitting a resume stating work experiences, certificates, professional areas and type of job applied, the qualified ones after the screening test will be provided with job opportunity.

20 persons in total (6 of them did not participate in the interview due to lack of interest, 6 of them found no suitable vacancy for themselves, and 8 were successfully employed).

19

Solving stone falling problems in neighborhood #10



Implementation status

The slope in the neighborhood #10 where stones were falling was located in the land used for mining, with current mining technique the top of the mountain within the land used for mining can be re-mined, the remediation of the slope can be handled by the method used in Central Cross-Island Highway. Asia Cement applied to the governing agency the remediation plan, the construction can be started once the application is approved.

After the strong earthquake in Hualien on April 3, 2024, the Alang Bisan Tribe Meeting issued an emergency document to the Hualien County Government, requesting the convening of a site survey meeting with relevant units to facilitate excavation, rectification, and emergency disaster prevention work. The Company will fully cooperate with the relevant authorities' regulations and respect the wishes and opinions of the local indigenous people regarding the handling of the situation.



20

Recycling tap water from Up-Fushi (neighborhood #10)



Implementation status

The project will be executed once the land used for water tower is acquired and the agreement of the routes for connecting pipelines to each household in the neighborhood #10 is obtained.

Due to the unavailability of land for water tanks, the applications have been temporarily postponed.

21

Community creation: fair, cultural skills, etc.



① In 2022, the "Taroko Mountain Market" was held in Hualien for the first time, attracting over 600 visitors.

② In 2023, the scale of the "Taroko Mountain Market" was expanded and moved to Taipei, achieving a three-day sales revenue of 350,000 NT\$.

③ Asia Cement did not charge any fees to the vendors, and all market revenue and tourism promotion benefits belonged to the tribal vendors.



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3.3.2 Support for the Education of Indigenous Peoples

Promote Tribal Education

Asia Cement highly values the education for indigenous students, since 2015, it continues supporting the establishment of after-school tutoring classes to provide a safe learning environment for students after school. The teachers of the tutoring classes help children to keep up with the progress of the study at school and offer talent and skill lectures or small scale group games to them. They also prepare some light meals to well-care students after school, hence, the burden of parents can be reduced.

In 2023, Asia Cement sponsored after-school tutoring programs for students at seven elementary and junior high schools, aiming to provide children in remote areas with a safe and comfortable environment to continue learning and growing.



After-school Tutoring for the Students in Mid Fushi Village

Asia Cement cooperated with Shuolin Township Fushi Community Development Association and Fushi Guarding Saba Association to provide after-school tutoring class in Mid Fushi since 2017, so that children could have a safe and comfortable space to continue learning after school. The teachers in the class guide and help students to finish homeworks, as a result, enhancing the willingness of studying.



Introduce Boyo Foundation for After-school Tutoring

Starting from 2018, through the introduction of Asia Cement, Boyo Social Welfare Foundation established an after-school tutoring class in Fushi Elementary School providing another learning platform to the disadvantaged students or students behind in the studies in four schools including Fushi, Hsincheng, Shuolina and Jenmei Elementary Schools. It is another learning platform to compensate the lecturing step by step for the purpose of reducing frustrations and difficulties encountered by children when studying at school and their confidence of learning can be enhanced. Hence, the path of children's learning is no longer bumpy, they can bring hope back to home so that parents can feel more at ease.



Shuolin Village "Small Sun" Learning Class

Little Sun Academy in Hsiulin Village was founded by Teacher Xu Ling, calling on volunteers to provide after-school tutoring for children from disadvantaged families.

Moved by the selfless dedication of Teacher Xu Ling, Asia Cement has been sponsoring the operation of after-school tutoring classes since 2018. They also provide logistical support, including classroom repairs and meal services, to ensure that children receive better learning and growth opportunities, thereby transforming their futures.



After-school tutoring for Pratan students

Since 2020, the Pratan English Language Culture Promotion Association started providing after-school tutoring in the Pratan Tribe of Hsiulin Township. In 2023, they also launched winter vacation tutoring classes. The tutors accompany the students to complete their homework and provide guidance as needed, helping children transition better and reducing the pressure on parents in terms of education.

Promoting indigenous language heritage, fun learning through singing and dancing



Since 2023, ACC has been offering Taroko language classes in their tutoring program. These classes, held twice a week, are taught by certified Taroko language teachers using the Taroko language exclusively. Through immersive learning experiences, children in the tribe can easily learn conversational Taroko. ACC hopes that by starting from an early age and working together with more enthusiasts, they can not only help preserve the Taroko language but also allow children to appreciate the unique cultural heritage it represents.



Inspired Life Exhibition, inspiring children to cherish their hometown

In the spring of 2023, ACC collaborated with the well-known documentary production team "Spot-link Cinema" to organize the "Inspiring Life Film Festival" at the end of each semester in five elementary schools in Xincheng and Hsiulin Township, Hualien County. The aim was to provide local children with stimulating documentary films to expand their life experiences, foster rich imagination, and cultivate values. This initiative reflects ACC's long-standing commitment to promote neighborliness and mutual prosperity within the community.

Join hands with National Taiwan University to a fundamental program course



Since 2022, Asia Cement has been cooperating with the Alumni Association of NTU School of Professional Education and Continuing Studies to introduce the "Programming Koshien" project, under which the "Scratch" programming education course developed by the MIT Media Lab was given to ten remote elementary schools in Hualien County. Through the online teaching system, children in grades 3 to 6 were allowed to "learn while playing" with programming; this helped them develop computational thinking, stimulate learning potential, and strengthen logical thinking skills. Through this, children won't be set back due to the urban-rural separation. Over the past two years, 500 schoolchildren have benefited.



Organized livestream camps to inspire children in rural areas to express their potential

To provide more opportunities for children in rural areas to express themselves and improve their communication skills, ACC and the Lang Love Foundation organized a charity livestreaming camp team. Through livestreaming platforms and with the participation of talented streamers, the program invites special guests to teach classes in Hualien. By integrating education with entertainment, this initiative helps children discover themselves, enhance their expression, learning abilities, and digital skills.





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3.3.3 Community Infrastructure Construction

Serving the Local Community for a Comprehensive Improvement

- ✓ ACC's Hualien Plant adopted the windbreak protection forest No. 2617 in Shun'an Village, Xincheng Township, Hualien. The area covers over 43 hectares and assists in cleaning up the beach on the southern bank of the Shun'an fishing ground (approximately 1 kilometer long and 20 meters wide). ACC maintained the windbreak forests 12 times and conducted 12 beach cleanups.
- ✓ ACC's Hualien Plant inspected and dredged the drainage facilities in the tribal areas based on the weather forecast from the Central Weather Administration or actual weather conditions. After the disasters, larger excavators are deployed as needed to remove fallen trees and restore smooth traffic flow.
- ✓ ACC's Hualien Plant assisted in the maintenance of the landscape along the Hualien County Avenue No. 5 in Xincheng Township, totaling approximately 1 kilometer.
- ✓ ACC's Hualien Plant received the "2022 Clean Air Quality Area Adoption - Service Model Award" from the Ministry of Environment.
- ✓ Since 2003, ACC's Hsinchu Plant has participated in the road adoption program organized by Hsinchu County Government, assisting Hengshan Township Office in maintaining the cleanliness of Provincial Highway No. 3 and contributing to the beautification of the Taiwan Romantic Route 3.
- ✓ Ya Tung Ready-mixed Concrete attaches great importance to wetland conservation and has held 6 sessions of wetland environmental protection activities.



Maintenance of windbreaks and beach cleanup at Hualien plant



Ya Tung Ready-mixed Concrete Wetland Environmental Protection



Inspection of the tribe's drainage facilities before a storm



Inspection of the tribe's drainage facilities before a storm

Industry-Academia Practice in the Cement Industry Chain

ACC and its subsidiary, Ya Tung Ready-Mixed Concrete, have been open to academic groups on a long-term basis to explain the operation of industrial processes and practical technology. They have also donated materials such as cement, coarse sand, concrete, etc., for students to use in experiments in the classroom. Through knowledge sharing, they contribute to both the campus and society.

- ✓ To help the students adjust to the workplace early and plan their careers, Ya Tung Ready-mixed Concrete occasionally arranges visits for nearby schools to visit the plant to explain the latest concrete technology. In 2023, a total of 270 students from 4 schools participated. Materials for concrete experiments were also provided to schools, and the quality of talent in the construction industry is improved through industry-academia exchanges.
- ✓ ACC's Hualien Plant and Xinchengshan Mine are open for academic institutions to apply for visits. The topics include quarry geology, natural resources and environment, materials and resources engineering, etc. According to statistics, in 2023, there were a total of 51 visits with 1,481 participants.



Visit by Department of Law & Indigenous Law Program of Dong Hwa University and University of Waikato



Internship at a self-funded mine of Department of Natural Resources and Environmental Studies College of Environmental Studies and Oceanography, National Dong Hwa University



Engineers from R.O.C Military Academy visited Ya Tung Ready-Mixed Concrete





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Assistance in Local Construction of Medical and Educational Infrastructure

Mr. Y. Z. Hsu, the founder of the Far Eastern Group and ACC, adheres to the philosophy of "taking from society, giving back to society". He has established public welfare initiatives using the resources of the Group to contribute to the education, culture, arts, healthcare, and technology fields, giving back to society. These include the Far Eastern Y. Z. Hsu Foundation, Far Eastern Memorial Foundation, Far Eastern Medical Foundation, Yuan Ze University, Asia Eastern University of Science and Technology, and Far Eastern Memorial Hospital.

Promoting Medical Development and Expanding the Influence of Social Responsibility

The Far Eastern Medical Foundation, dedicated to medical research and social services, has established Far Eastern Memorial Hospital, the first modern hospital in New Taipei City. For over forty years, Far Eastern Memorial Hospital has integrated ESG sustainability into its business strategy, focusing on hospital governance, patient needs, social contribution, employee welfare, environmental protection, and social welfare, becoming a leading medical center in New Taipei City.

Far Eastern Memorial Hospital provides support for social problems through medical expertise and social resources, mainly providing assistance for vulnerable groups, safety, and support for patients and their families. The diverse service solutions have shown significant results, dedicated to establishing a patient-centered medical culture.



Nurturing Talent. Yuan Ze University Responding to Climate Change and Cultivating Sustainable Talent

Yuan Ze University, with core principle of "cultivating the seeds of sustainability and sustaining the momentum for development", combines its advantages in professional fields to promote sustainable development and fulfill social responsibility. With "local care" and "industrial linkage" as the focus, we are committed to achieving the Sustainable Development Goals of the United Nations and Taiwan, and expanding and deepening sustainable impact in the four major dimensions of society, culture, economy, and environment.

In response to the goal of net-zero carbon emissions by 2050, Yuan Ze University hosted the "Climate Change and Sustainability Summit Forum" and invited "R20 Regions of Climate Action" to participate, bringing international perspectives and sustainability insights. Several companies under the Far Eastern Group, including ACC, joined hands to fulfill environmental responsibilities together. In 2023, Yuan Ze University was approved by the Ministry of Education to establish "Net-Zero Carbon Emissions and Sustainable Development Post-Baccalaureate Program" to help solve environmental challenges faced by the industry. We also established the "Corporate Academy" to cultivate industry talent with sustainability literacy.





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Management of Material Topics

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Sustainable environmental education

Impact

Asia Cement aggressively built a green sustainable homeland, it utilized the unique mining mountain vegetation greenery technique in Hualien Plant to carry out ex situ conservation and constructed an "Asia Cement Ecological Park", the first environmental eco-classroom in cement industry, with the intention of spreading the awareness of sustainability and the power of actions, contributing its effort to sustainable ecology on the Earth.

Commitments

Providing free ecological park and network platform environmental eco-education and presentations to allow the seeds of sustainability spreading for deep plowing and germination.

Evaluation method

- ① Review the quality of visiting and lecturing based on the numbers of visitors, interactions and feedback sheets.
- ② Plan to perform an effective evaluation based on the status of implementing the management of Eco-park.
13.97 times of benefit was generated based on the SROI evaluation (the evaluation results of 2022 as the baseline).
- ③ Continues to trace the status of implementation and the level of reaching goals through Corporate Sustainability Promotion Committee and its workforce.
- ④ Continues to trace the status of implementation and the level of reaching goals through Corporate Sustainability Promotion Committee and its workforce.

Driving multifaceted environmental education through the Plant, mining site and eco-park, aiming at different types of people to formulate teaching and management programs, providing free and rich experiencing of sustainable environment education to visitors and users of social media audio and video platforms, and carrying out the planning of management and teaching quality improvement by way of visitors' interactions and feedback.

Taking Actions

- ① Asia Cement's Eco-Park is composed of three areas including butterfly ecological park, stick insect special zone and leisure forest garden to provide a superior environment educational place which is suitable for all types and all age groups of people.
- ② Continued to implement the program of rooting eco-environmental education in campuses.
- ③ Begin to implement citizen scientist training program since 2021, the targets of training including employees, family members of employees, tribal community residents and anybody who is interested to become seeds for promoting ecological education.
- ④ Sequentially upload the films of actual ecological status and descriptions of the Park to social media audio video platform since 2021, to allow people sense the profound and fascination of the nature during the pandemic period.
- ⑤ The citizen scientist training program was launched in 2021, and continued to organize the training courses in 2023. The targets of training including employees, family members of employees, tribal community residents and anybody who is interested to become seeds for promoting ecological education.
- ⑥ Sequentially upload the films of actual ecological status and descriptions of the Park to social media audio video platform since 2021, to allow people sense the profound and fascination of the nature during the pandemic period.

Stakeholder Engagement

Regular or irregular communication and interaction based on the stakeholder engagement mechanism, and disclosure of information in the sustainability report, relevant platforms, or websites.

Effectiveness of the actions

- ① Environmental education visitors and users of social media audio and video platforms appreciated and recognized the content of Asia Cement's eco-environmental education.
- ② Considering the risk of infection during COVID-19 pandemic, Asia Cement's Eco-Park is not opened to the public during the pandemic alert period. In 2023, the official website of Eco-Park provided ecological information which was viewed by more than 700,000 viewers, more than 1 million exposures on the video of ecological status and descriptions of the Park.





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3.4.1 Deepen Cultivation of Sustainable Eco-Environmental Education

ACC actively fosters a green and sustainable home, prioritizing mine reclamation and promoting net-zero carbon emissions. The Company elevates environmental awareness to the educational level, creating a multifaceted environmental education platform that integrates production, living, and ecology across its plant, mine, and park zones. By designing and developing educational resources, ACC ensures learners can easily engage and gain a profound understanding, leading them to put knowledge into practice and demonstrate sustainable actions.

Plant

Net zero carbon emissions

Sharing net-zero pathways and carbon reduction technologies in the cement and concrete industry, we aim to achieve national net-zero goals through cooperation among industry, government, academia, and research institutions.

Circular economy

Promote the dual-mode circular economy model of substituting raw materials and fuels, so as to reclaim and reuse resources.

Low-carbon cement

Replace traditional Portland cement with Portland limestone cement (for structural purposes) and masonry cement (for mortar purposes) to reduce the carbon emissions of the construction industry.

Mine

Greening

The unique mine greening technology and technique can restore 99% of the original forest level within eighteen years, setting a global benchmark for sustainable mining. This has attracted visits from industry peers both domestically and internationally.

Blasting vibration and water and soil conservation

We adhere to non-inductive blasting, achieving the lowest vibration value globally. Our mining sites are open for practical training and serve as educational classrooms for slope water and soil conservation, striking a balance between development and environmental protection.

Co-existence and co-prosperity with local communities

Established the first service center in the cement industry to complete consultation and consent of indigenous peoples, achieving coexistence and co-prosperity with local communities.

Park

Butterfly Ecological Park

The largest Butterfly Ecological Park in Taiwan. There are about 40 species of butterflies that are bred according to the carrying capacity of the environment. Create natural habitats to attract the Level 3 protected Golden Birdwing.

Phasmatodea Section

Since 2020, we have been breeding various species of Phasmatodea in netted enclosures, including native species collected and conserved, which allows visitors to gain a deeper understanding of these local masters of disguise.

Recreational Forest Park

250 species of native plants are planted, ranging from those found near sea level to those at 3,000 meters. The plants are organized by scientific botanical classification to facilitate the observation of their characteristic differences.



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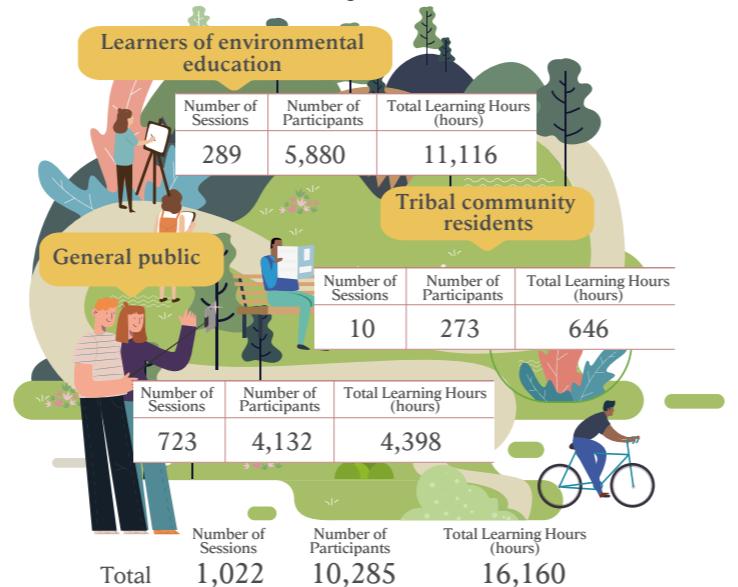
ACC's Ecological Environment Education Service

The ACC Ecological Park is open for environmental education visits and is staffed by local indigenous guides. We also invite volunteer teachers who have experience in interpretation at national parks and Forestry and Nature Conservation Agencies. Currently, there are 6 official guides, 5 volunteer guides, 10 maintenance staffs, and 3 supervisors, providing the public with comprehensive and in-depth content.

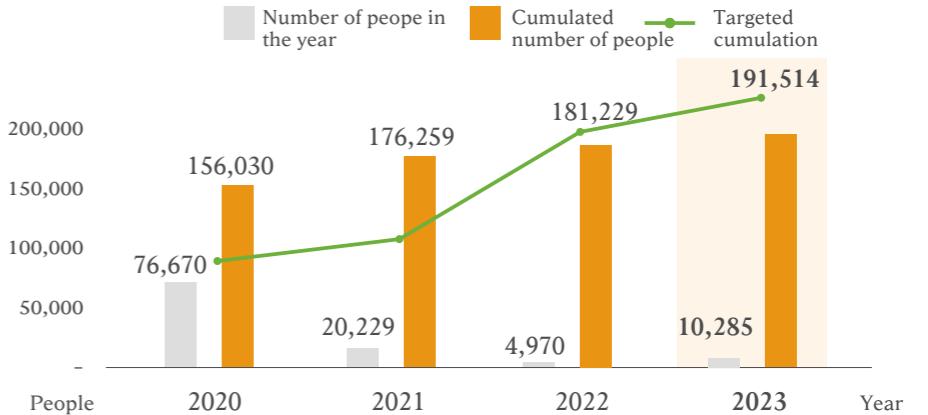
- ✓ On-site observation and explanation provided to visiting students or professional teachers
- ✓ Build an online database and video resources on the official website that allow users to access information and videos without being restricted by time or location.
- ✓ Called upon by different institutions and schools to explain and provide technical aid.
- ✓ Train citizen scientists and seed teachers to disperse educational enthusiasm.

In 2023, the total number of participants in environmental education services was 10,285 people. Participants spent approximately 1 to 4 hours on various activities, totaling 16,000 learning hours. Additionally, starting from 2023, the ecological park offered English guided tours by appointment, with a total of 10 sessions and 48 participants throughout the year. The total number of visitors, as of 2023, was 191,514 people.

2023 Environmental Education Interpretation Form



Number of people receiving the service of Asia Cement's environmental education



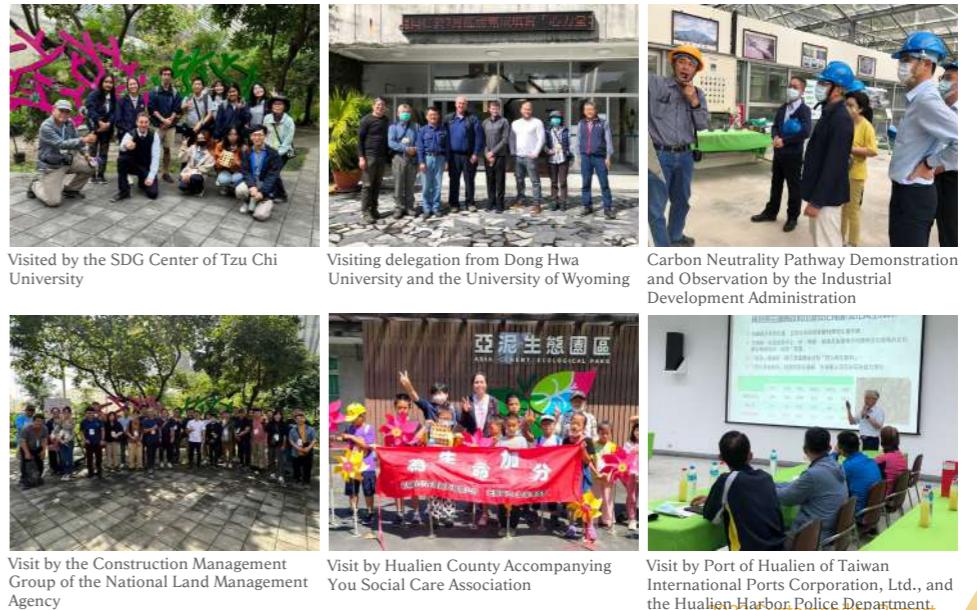
NOTE The number of visitors surged after the expanded opening of the Ecological Park in 2018. However, due to the COVID-19 pandemic from 2021 to 2023, the ACC Ecological Park was temporarily closed during the control period.

\$ 2023 Expenses

Personnel Expenses: 6.56 million NTD

Space Optimization and Adjustment Expenses : 650 thousand NTD

Total Investment in Ecological Environment Education: 7.21 million NTD





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Unlimited time and space for in-depth learning from the park ecological database and videos

The ACC Ecological Park website provides abundant information, detailing the growth process and behavior of butterflies, Phasmatodea, and other creatures through text and images. It also offers pictures of native plants, including their tree forms, flower buds, and fruits, allowing people to explore the park's ecology online in depth.

The "Latest News" section regularly shares vivid and interesting ecological stories to make ecological knowledge more accessible to the public. Although the park was temporarily closed during the COVID-19 pandemic in 2021, we continued to update ecological videos on Facebook, YouTube, and Line groups, which allowed people to learn and experience the beauty of nature from the comfort of their homes.

By the end of 2023, the YouTube channels of ACC and ACC Ecological Park had a total of 325 videos, with a total of 97,685 views. On Facebook, there were 134 posts, reaching an impressive exposure of 2,617,921 times and engaging with over 2,081,534 individuals.

Official website of
ACC Ecological Park



Facebook



YouTube



Eco-Environmental Education Endeavors Affirmed by All Walks of Life

At the end of the visit, the employees of ACC Ecological Park will provide a QR code linked to a learning feedback form for the participants to fill out, which will help us improve our tour guiding, interpretation, and park management to strive for excellence. In 2023, 988 learning feedback forms were collected. ACC Ecological Park will continue to provide high-quality ecological education, spread the seeds of sustainability with 10-times benefits, fulfilling the mission of "creating a sustainable and green homeland".



Thank you to ACC for establishing such a great ecological park and providing a detailed guided tour.



The teacher's explanation was comprehensive, better than what is in the books. It was fascinating to personally experience the life of Phasmatodea and butterflies. Thank you, ACC, for providing the venue and conservation efforts.



The facilities in the park are complete and educational. As a resident of Hualien, I am very proud of it.



The guides were attentive and interesting. They not only provided detailed information about ecology in an easy-to-understand way but also allowed us to get up close and personal with the appearance and behavior of insects.





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Train Citizen Scientists and Seed Teachers to Disperse Educational Enthusiasm.

In order to expand the educational capacity, ACC has launched seed teacher training programs such as "Citizen Scientist Training" and "Butterfly Habitat Creation Seed Teacher Promotion". In 2023, a new program "Seed Teachers for Phasmatodea Studies" was added. If governmental or organizational groups have training needs, ACC will also provide assistance.



Environmental Education Workshop of the Wild Bird Society of Hualien



Citizen Scientist Education and Training



Assisted Hsinchu Baoshan Elementary School in the creation of habitats for butterflies



Phasmatodea ecology education for Taichang Elementary School in Hualien

Provide Institutions and Schools With Technical Support

ACC established an environmental education ecology team in 2022 to provide technical assistance to groups interested in establishing butterfly gardens. This includes ecological surveys, selection of host plants and nectar plants, habitat maintenance, operational management, and explanation of possible difficulties and solutions.

If the location is found to be unsuitable for building a butterfly garden, ACC will also make recommendations to avoid wasting resources. Our goal is to promote a sustainable butterfly gardens and prevent it from becoming a one-off event. Only in this way can we achieve sustainable butterfly ecology conservation and education.



Operations Management Teaching



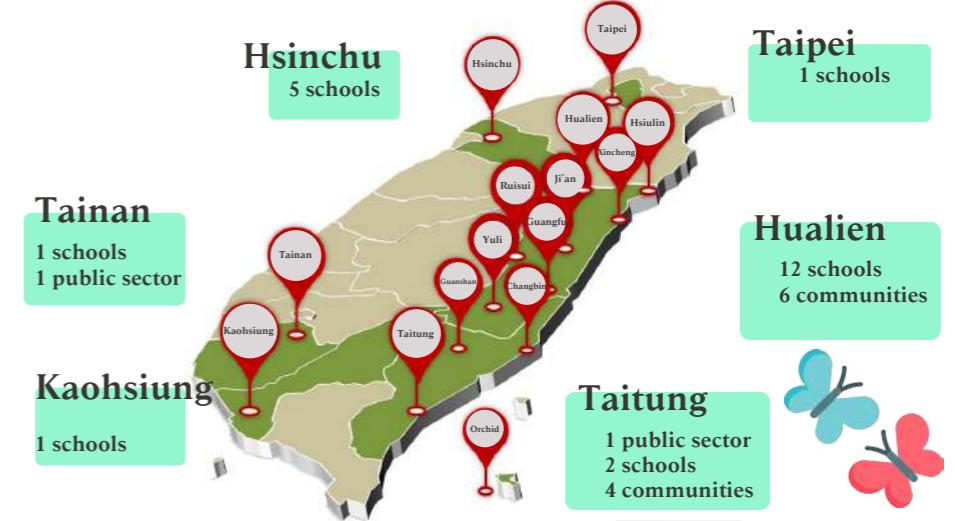
Outdoor commentary



On-site implementation

Creation of Butterfly Habitats, Forming Butterfly Corridors throughout Taiwan

ACC assists communities or schools in creating butterfly habitats. As of 2023, they have successfully built 34 small butterfly gardens located in Taipei, Hsinchu, Tainan, Kaohsiung, Hualien, and Taitung, forming a butterfly corridor around the island.



Field survey

Observation of butterflies and herbivores around the campus and community

Environmental education

Establishment of explanatory boards and ecological

Butterfly Habitat Construction SOP and Consulting Service

Encourage learners to return to the campus and community, and use the power as a group to create a butterfly habitat and home for butterflies

Discuss

Types of herbivorous and nectarine plants for planting

Consensus

Determine location and scale

Records

Herbivorous, butterfly growth record



Management and rearing

Work in shifts





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3.4.2 Promoting and Spreading Ecological Education

In addition to the ecological park, Asia Cement's ecological environmental education facilities extend their services to local institutions and schools, providing host plants or nectar plants to assist in the establishment of butterfly ecological parks. They also bring ecological environmental education into campuses, spreading the long-accumulated energy of Asia Cement's mine afforestation to schools for ongoing growth.

The Asia Cement Ecological Park offers a beautiful natural environment for local institutions, associations, and community residents to organize activities. Besides providing ecological environmental education, it also facilitates community exchange activities, helping residents to invigorate both mind and body and fostering greater cohesion. The ecological park promotes sustainable local tourism development, creates jobs, and helps preserve indigenous culture, bringing vitality and energy to the community. The collaboration and interaction between Asia Cement and the local community continue to be planned and executed.

Taiwan Butterfly Protection Project: Butterfly Restoration and Conservation of Magellan Birdwings

ACC Ecological Park adopts the concept of "habitat creation" to build butterfly gardens, successfully attracting conservation-worthy butterflies like the Golden Birdwing to inhabit the area. Since 2020, Prof. Li Wei-Chun of the Department of Education, National Taitung University has led the National Science and Technology Council's special research project "Taiwan Butterfly Protection Project", collaborating with ACC to promote butterfly conservation and the protection of the Magellan Birdwing. Together, they contribute efforts to conserve world-class butterfly species.



The Golden Birdwing Butterfly



Aristolochia, the host plant of the larvae of the Golden Birdwing Butterfly.

Popular-science Around-the-Island Train

ACC Ecological Park adopts the concept of "habitat creation" to build butterfly gardens, successfully attracting conservation-worthy butterflies like the Golden Birdwing to inhabit the area. Since 2020, Prof. Li Wei-Chun of the Department of Education, National Taitung University has led the National Science and Technology Council's special research project "Taiwan Butterfly Protection Project", collaborating with ACC to promote butterfly conservation and the protection of the Magellan Birdwing. Together, they contribute efforts to conserve world-class butterfly species.



ACC Eco PARTY, Following Phasmatodea on an Adventure

The ACC Ecological Park's Phasmatodea Exhibition in 2023 toured four counties/cities for a total of 99 days. The exhibition featured a variety of Phasmatodea with on-site guides to provide explanations. Additionally, there were hands-on workshops, allowing participants of all ages to learn about ecology while having fun, achieving the goal of education through entertainment.





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Site	Environmental Management System		Energy Management System		GHG Inventory		Carbon Footprint		Water Footprint		Circular Economy		
	ISO 14001:2015		ISO 50001:2018		ISO 14064-1:2018		ISO 14067:2018		ISO 14046:2014		BS 8001:2017		
	Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	
Asia cement	Hualien Plants and Mining Area	MIRDC/2026.7.8	Hualien Plants and Mining Area	SGS/2025.12.13	Individual financial	SGS/every year	6 Products	Verification is expected to be completed in 2024.	1 Products	Verification is expected to be completed in 2024.	Hualien Plants	SGS/2022.4.12	
Ya Tung Ready-Mixed Concrete	8 Plant Areas	BSI/2026.3.28	2 Plant Areas	BSI/2026.2.7	13 Plant Areas	BSI/every year	4 Products	BSI/2023.10.5	1 Products	BSI/2023.10.4	all	BSI/2024.3.15	
Yuan Long Stainless Steel	Plant Areas	SGS/2025.7.21	Plant Areas	SGS/2026.11.18	Plant Areas	SGS/every year	4 Products	SGS/2025.03.05	1Products	SGS/2025.12.20			
Ya Li Precast													
Nanhwa Cement													
ChiaHui Power	Plant Areas	LRQA/2023.6.9 Re-verification in 2024	Plant Areas	SGS/2023.11.8	Plant Areas	SGS/every year							
Fu Ming (Da) Transport	all	IMQ/2027.5.7											
Information Security Management System			Occupational Health and Safety Management Systems		Taiwan Occupational Health and Safety Management Systems		Quality Management		Taiwan Accreditation Foundation	Anti-bribery Management Systems		Other systems/marks	
ISO 27001:2013			ISO 45001:2018		TOSMS		ISO 9001:2015		ISO 17025:2017	ISO 37001:2016		-	
Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	Boundary of System	Certification body / Validity Period of Certificate	Certification body / Validity Period of Certificate	
Asia cement	Hualien Plants	MIRDC/2024.12.10	Individual Financial	BSI/2026.6.18 MIRDC/2025.6.27	Hualien Plants MIRDC/2025.6.27	Plant Area and Mining Area and 4 storage and transportation stations	MIRDC/2026.6.15 MIRDC/2025.4.20	Laboratory	TAF/2024.8.24	Headquarter	BSI/2026.6.11	Green Building Material Category H: 5 products Permeable: 3 products	April 2024; March 2025; February 2027
Ya Tung Ready-Mixed Concrete	1 Plant Area	BSI/2025.10.31	11 Plant Area	BSI/2025.3.3	Plant Area	SGS/2025.7.7	8 Plant Area	BSI/2024.7.22				Carbon Footprint Label 4 Products	MOENV/2027.4.22
Yuan Long Stainless Steel			Plant Area	SGS/2025.7.8			Plant Area	SGS/2027.4.25	Laboratory	TAF/2024.11.20		IATF 16949 Automotive Quality Management System	Plant Area SGS/2027.4.25
Ya Li Precast			Plant Area	BSI/2026.6.19			Plant Area	SGS/2024.5.26	Laboratory	TAF/2026.11.13			
Nanhwa Cement			Plant Area	BSI/2026.6.4			Plant Area	MIRDC/2025.4.5					
ChiaHui Power			Plant Area	LRQA/2026.6.9									
Fu Ming (Da) Transport	all	IMQ/2027.3.12			all	IMQ/2027.5.07							

NOTE 1. For verification system boundaries, please refer to the certificate content. For the certificate, please consult the ESG Resource Center.https://esg.acc.com.tw/resource_center/esg/certifications
2. AFNOR Asia Ltd., British Standards Institution (BSI), Ministry of Environment (MOENV), Lloyd's Register Quality Assurance (LRQA) Taiwan Branch, Ministry of the Interior (MOI), Metal Industries Research & Development Centre (MIRDC), SGS Taiwan Ltd.





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ESG	Material Topics	The Corresponding Standard	The boundary of impact within the organization	The boundary of impact outside of the organization (stakeholders)	Report Sections	Management Policy Page (GRI 3-3)	Execution status Page
Environmental E	Materials	GRI 301-1~3	ALL	Supplier	1.1.2 Energy Resource Management	14,16	28~29
	Energy	GRI302-1/GRI302-3/GRI302-4	ALL	Supplier	1.1.2 Energy Resource Management	14,16	28~30
	Water Risk	GRI 303-1~5	A J	Community, Government	1.5 Water Resource Management	14,16	61~65
	Emissions	GRI 305-1~7	ALL	Community, Government	1.1 Low Carbon Green Leadership	14,16	18~33
	Waste	GRI 306-1~5	A	Community, Government	1.1.3 Pollution Control and Waste Reduction	14,16	34
	Climate strategy	GRI 201-2	A J	Institutions of Evaluation	1.2 Climate strategy	14,16	38~44
	Low carbon green manufacturing process	Asia Cement Customized	ALL	Institutions of Evaluation	1.1 Low Carbon Green Leadership	14,16	18~37
	Circular economy	Asia Cement Customized	A N	Supplier, Community, Government	1.3 Circular Economy	14,16	45~49
	Sustainable mining mountain and Biodiversity	Asia Cement Customized	A	Community, Institutions of Evaluation	1.4 Mining Mountain and Biodiversity	14,51	50~60
	Sustainable environmental education	GRI203-2/GRI413-1~2/GCCA	A	All Stakeholders	3.4 Eco-environmental Education	84,123	123~128
Social S	Employment	GRI 401-1~3	ALL	Government	3.1 A Happy Workplace	84,86	87~95
	Labor/Management Relations	GRI 402-1	ALL	Government	3.1 A Happy Workplace	84,86	86
	Occupational Health and Safety	GRI 403-1~10	ALL	Government	3.2 Occupational Health and Safety	85,105	105~113
	Local Communities	GRI 413-1	ALL	Community	1.4 Mining Mountain and Biodiversity 3.3 Local Community Caring	50, 84,114	50~60,114~122
	Human resource development	GRI 201-3-1~5	ALL	Institutions of Evaluation	3.1 A Happy Workplace	84,86	86~95
	Attracting and retaining talents	Asia Cement Customized	ALL	Institutions of Evaluation	3.1 A Happy Workplace	84,86	96~100
	Economic Performance	GRI 201-1、3~4	ALL	Customer	2.2 Products and Economic Performance	66,67	77~79
Governance Economy G	Market Presence	GRI 202-2	ALL	Institutions of Evaluation	3.1 A Happy Workplace	84,86	91~92
	Risks and opportunity management	Asia Cement Customized	A	Institutions of Evaluation	2.1.3 Risk Management	66,67	74~76

ALL All Site A Asia Cement S Yuan Long Stainless Steel N Nanhwa Cement Y Ya Tung Ready-Mixed P Ya Li Precast Prestressed F Fu Ming(Da) Transport J ChiaHui Power C Client SC Supply Shain CM Community



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Environmental	Boundary <small>NOTE</small>	2020	2021	2022	2023	
GHG	Scope 1(TCO ₂ e)	Taiwan Mainland China	4,007,382 19,798,937	4,591,011 20,447,944	4,712,954 19,530,748	4,433,831 17,591,385
	Scope 2(TCO ₂ e) <small>NOTE1</small>	Taiwan Mainland China	220,287 1,000,847	225,207 1,020,902	231,450 943,968	215,336 918,879
	Coal (thousand tons)	Taiwan Mainland China	536 3,159	522 3,211	516 3,138	440 2,912
	Heavy Oil (thousand kiloliters)	Taiwan	1,613	1,548	2,565	2,777
	Diesel (thousand kiloliters)	Taiwan Mainland China	14,198 7,788	15,131 9,347	14,148 8,169	11,969 8,260
	Gasoline (thousand kiloliters)	Taiwan Mainland China	171 77	239 93	221 89	166 102
	Natural Gas (10 ³ M ³)	Taiwan Mainland China	435,482 51	767,400 57	851,321 3,845	850,481 3,381
	LPG (tons)	Taiwan Mainland China	32 23	80 23	75 38	95 40
	Electricity (million kilowatt-hours)	Taiwan Mainland China	440 1,814	441 1,803	459 1,641	429 1,556
	Renewable Energy (million kilowatt-hours)	Taiwan Mainland China	0 7	0 6	0 6	0.73 5
Energy	Waste Heat Generation (million kilowatt-hours)	Taiwan Mainland China	78 584	76 599	68 581	65 549
	Coal (GJ)	Taiwan Mainland China	12,219,947 71,605,215	11,906,120 75,735,545	11,763,000 73,008,159	10,207,196 66,499,488
	Heavy Oil (GJ)	Taiwan	64,831	62,206	104,000	111,625
	Diesel (GJ)	Taiwan Mainland China	499,316 279,546	532,143 335,479	496,514 294,787	420,991 296,942
	Gasoline (GJ)	Taiwan Mainland China	5,581 2,646	7,790 3,395	6,418 3,308	5,659 3,810
	Particulate Matter (tons)	Taiwan Mainland China	1,412 499	1,258 409	1,061 311	934 335
	Monitoring Coverage Rate (%)	Taiwan Mainland China	100%	100%	100%	100%
	Nitrogen Oxides (tons)	Taiwan Mainland China	5,153 10,136	4,848 9,509	3,976 6,626	3,561 4,583
	Monitoring Coverage Rate (%)	Taiwan Mainland China	100%	100%	100%	100%
	Sulfur Oxides (tons)	Taiwan Mainland China	486 939	495 717	424 626	373 696
Pollution Prevention (Cement Plant)	Monitoring Coverage Rate (%)	Taiwan Mainland China	100%	100%	100%	100%
	Mercury (kg)	Taiwan Mainland China	40 160	44 173	37 0	32 1

NOTE 1. The key ESG data reporting boundary includes consolidated data from Asia Cement's subsidiaries in Taiwan and Mainland China. Due to materiality considerations, air pollution management and occupational safety and health data are disclosed only for the cement plants.
2. Scope 2 indirect greenhouse gas emissions calculated on a market-based approach.





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Environmental (E)		Boundary	2020	2021	2022	2023
Water Resources (thousand tons, ML)	Water Withdrawal	Taiwan	5,193	5,467	5,866	6,008
		Mainland China	8,987	9,065	8,174	7,174
Waste	Water Discharge	Taiwan	507	569	563	495
		Mainland China	36	37	31	22
Circular Economy	Water Consumption	Taiwan	4,686	4,898	5,303	5,513
		Mainland China	8,951	8,950	8,956	8,965
Recycled Water		Taiwan	15,476	15,340	15,581	14,448
		Mainland China	242,055	243,205	235,048	210,313
Total Waste (tons)		Taiwan	4,070	6,260	4,322	5,011
		Mainland China	21,294	23,386	16,170	21,162
Hazardous Percentage (%)		Taiwan	0%	0%	0%	0%
		Mainland China <small>NOTE3</small>	0%	0%	0%	0%
Recycling Percentage (%)		Taiwan	93%	96%	94%	93%
		Mainland China	99%	99%	97%	99%
Rotary Kiln Alternative Fuel Rate (%)		Taiwan	1.2%	1.6%	3.2%	4.4%
		Mainland China	0.5%	0.5%	0.3%	0.7%
Circular Economy	Rotary Kiln Alternative Biomass Fuel Rate (%)	Taiwan	0.4%	1.1%	1.1%	2.6%
		Mainland China	0.0%	0.1%	0.0%	0.0%
Alternative Raw Material Quantity	Clinker Production Specific Heat Consumption (MJ/ton)	Taiwan	3,542	3,553	3,605	3,446
		Mainland China	2,938	3,042	2,950	2,956
Alternative Raw and Fuel Materials (tons)	Alternative Raw Material Rate (ARM) (%)	Taiwan	3.9%	4.5%	5.5%	6.4%
		Mainland China	23.6%	22.4%	23.4%	23.4%
Alternative Fuel Quantity	Clinker/Cement (Equivalent) Ratio	Taiwan	94%	93%	92%	92%
		Mainland China	74.75%	75.68%	74.20%	74.28%
Alternative Raw and Fuel Materials (tons)		Taiwan	252,450	285,491	366,978	370,932
		Mainland China	6,712,903	6,648,969	5,888,561	5,920,892
Alternative Fuel Quantity		Taiwan	13,090	19,900	27,203	36,642
		Mainland China	18,513	38,776	11,191	27,217

NOTE 3. The definition of hazardous waste in Mainland China region mainly includes waste refractory bricks, waste engine oil, waste batteries, and waste oil drums, which are considered general industrial waste according to local regulations in Taiwan.

Social (S)		Boundary	2020	2021	2022	2023
Workers	Employees (number of people)	Taiwan	1,714	1,723	1,748	1,712
		Mainland China	3,822	3,777	3,707	3,176
Employee Union	Not Employees (number of people)	Taiwan	656	953	595	1,253
		Mainland China	20	20	19	19
Turnover Rate	Union Membership (number of people)	Taiwan	326	328	328	326
		Mainland China	2,076	1,994	3,317	2,897
Parental Leave (number of people)	Union Membership (number of people)	Taiwan	19%	19%	19%	19%
		Mainland China	54%	53%	89%	91%
Turnover Rate	Turnover Rate (%)	Taiwan	12%	12%	13%	14%
		Mainland China	3.2%	2.6%	3.3%	17.6%
Parental Leave (%)	Voluntary Turnover Rate (%)	Taiwan	9%	10%	12%	11%
		Mainland China	2.2%	1.8%	2.0%	14.7%
Parental Leave (%)	Eligible for Parental Leave	Taiwan	85	80	56	60
		Mainland China	3,537	3,505	3,443	2,939
Parental Leave (%)	Applied for Parental Leave	Taiwan	3	1	8	8
		Mainland China	163	149	118	102
Parental Leave (%)	Actually Returned to Work	Taiwan	0	1	3	4
		China	161	148	116	102
Workforce Diversity (number of people)	Still Employed 12 Months After Return	Taiwan	No Employees Returned to Work	0	2	
		Mainland China	216	154	146	115
Workforce Diversity (number of people)	Return to Work Rate after Parental Leave (%)	Taiwan	0%	33%	50%	67%
		Mainland China	99%	99%	98%	100%
Workforce Diversity (number of people)	Retention Rate 12 Months after Return to Work (%)	Taiwan	No Employees Returned to Work	0%	25%	
		Mainland China <small>NOTE4</small>	-	96%	99%	99%
Workforce Diversity (number of people)	Employing disadvantaged groups	Taiwan	16	19	17	16
		Mainland China	20	20	24	27
Workforce Diversity (number of people)	hiring indigenous peoples	Taiwan	147	168	163	169
		Mainland China	2,199	2,204	2,475	2,040
Workforce Diversity (number of people)	Employing foreign nationals	Taiwan <small>NOTE5</small>	-	28	43	58
		Mainland China	53	48	46	42





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Social S	Boundary	2020	2021	2022	2023
Philanthropic Donations	Resources Invested in Community (NT\$)	Taiwan 88,419,708	48,437,458	66,935,422	79,905,858
	Resources Invested in Community (RMB)	Mainland China 8,078,462	1,429,606	9,813,109	2,590,696
	Direct Employee Fatality Rate per 10,000	Taiwan 0	0	0	0
		Mainland China 0	0	0	0
	Direct Employee Fatalities (number of people)	Taiwan 0	0	0	0
		Mainland China 0	0	0	0
Occupational Safety and Health (Cement Plant)	Contractor Fatalities (number of people)	Taiwan 0	0	0	0
		Mainland China 1	0	0	0
	Third-Party Fatalities (number of people)	Taiwan 0	0	0	0
		Mainland China 0	0	0	0
	Direct Employee Lost Time Injury Frequency Rate (LTIFR)	Taiwan 2.07	0	0	1.09
		Mainland China 1.15	2.16	1.17	0.97
	Direct Employee Lost Time Injury Frequency Rate (LTIFR)	Taiwan 2.57	0	0	0
		Mainland China 0.00	0.37	0.68	0.40
	Direct Employee Severity Rate of Disabling Injuries per Million Work Hours (SR)	Taiwan 266	0	0	2
		Mainland China 54	49	41	38
	Average Annual Training Hours - Managers	Taiwan -	33.7	27.8	53.8
		Mainland China 23	58	76	133
	Average Annual Training Hours - Administrative Staff	Taiwan -	15.3	33.0	18.7
		Mainland China 25	18	35	70
Training and Education <small>(NOTE)</small>	Average Annual Training Hours - Sales	Taiwan -	14.5	12.4	17.9
		Mainland China 34	29	19	64
	Average Annual Training Hours - Plant Personnel	Taiwan -	35.3	35.4	14.6
		Mainland China 23	6	63	94

- NOTE
- The number of foreigners employed in the Taiwan region for 2020 was not statistically calculated.
 - In the Taiwan region, subsidiaries did not statistically calculate LTIR, LTIFR, SR, etc., for 2020.
 - In the Taiwan region, subsidiaries did not statistically calculate the average training hours for 2020. The average training hours for 2021 and 2022 in the Taiwan region were calculated based on the average hours and number of employees for each category in each company.

Governance G	Boundary	2020	2021	2022	2023
	Political Candidate Expenses (Ten Thousand NT\$)	0	0	0	0
Policy Impact	Industry Association Expenses (Ten Thousand NT\$)	Taiwan 1,015	1,019	1,249	1,194
	Other Expenses (Ten Thousand NT\$)	58	114	105	99
	Industry Association Expenses (Ten Thousand RMB)	Mainland China 37	38	43	43
Supply chain management	Number of Tier 1 Suppliers	Taiwan 267	171	176	251
		Mainland China 539	561	496	441
	Number of Tier 1 significant Suppliers	Taiwan 12	37	36	34
		Mainland China 282	221	195	199
	Percentage of Spending on Tier 1 significant Suppliers	Taiwan 51%	40%	67%	64%
		Mainland China 54%	55%	62%	62%
	Number of Non-Tier 1 significant Suppliers	Taiwan 8	14	27	23
		Mainland China 2,550	2,553	2,343	2,215
	Total Number of significant Suppliers	Taiwan 20	51	63	57
		Mainland China 2,832	2,774	2,537	2,414





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Type	Key Performance Indicators		2020	2021	2022	2023	Note
	Item	Unit					
CO ₂	Total direct CO ₂ emissions (gross)	ton CO ₂ /year	3,060,818	2,960,993	2,918,106	2,638,611	Total direct CO ₂ emissions from fossil carbon (excluding on-site electricity generation). Emission quantities were updated to include only CO ₂ from direct sources.
	Total direct CO ₂ emissions (net)	ton CO ₂ /year	3,055,236	2,955,708	2,902,676	2,611,018	Total CO ₂ emissions minus CO ₂ emissions from the alternatives to fossil fuels. Emission quantities were updated to include only CO ₂ from direct sources.
	Specific direct CO ₂ emissions (gross)	KgCO ₂ /ton cementitious material	815	803	788	778	Total CO ₂ emissions per ton of cementing materials produced. Emission quantities were updated to include only CO ₂ from direct sources.
	Specific direct CO ₂ emissions (net)	KgCO ₂ /ton cementitious material	814	802	784	770	The net CO ₂ emissions per ton of cementing materials produced. Emission quantities were updated to include only CO ₂ from direct sources.
Circular economy	Alternative fuel rate (kiln fuels)	%	1.15	1.62	3.17	4.44	The proportion of calories contained in alternative fuels to the total calories contained in rotary kiln fuel.
	Biomass fuel rate (kiln fuels)	%	0.43	1.07	1.07	2.61	The proportion of calories contained in the biomass of alternative fuels to the total calories contained in rotary kiln fuel.
	Specific heat consumption for clinker production	MJ/ton	3,542	3,553	3,605	3,446	Calories of fuel consumed per ton of clinker produced.
	Alternative Raw Materials rate (ARM)	%	3.90	4.46	5.48	6.37	Consumption of alternative raw materials in clinker and cement as a percentage of total raw material used in manufacturing the clinker produced (calculated on a dry basis).
	Clinker/cement (equivalent) factor	%	93.75	92.84	92.11	92.02	Ratio of total clinker consumption to cement production.
PM	Overall coverage rate	Percentage of major pollutants continuously or continually monitored (%)	100	100	100	100	All major pollutants are measured and disclosed in accordance with the regulations of the Ministry of Environment.
	Coverage rate continuous measurement	Percentage of PM, NOx, SO ₂ continuously or continually monitored (%)	100	100	100	100	
	Emission(ton/year)	1,412	1,258	1,061	934		
Emission Monitoring	Specific emission(g/ton clinker)	404	369	314	300		
	Coverage rate continuous measurement (%)	100	100	100	100		
	Emission(ton/year)	5,153	4,848	3,976	3,561		
NOx	Specific emission n(g/ton clinker)	1,476	1,423	1,176	1,145		
	Coverage rate continuous measurement (%)	100	100	100	100		
	Emission(ton/year)	486	495	424	373	Calculation of emissions based on test results.	
SO ₂	Specific emission n(g/ton clinker)	139	145	125	120		
	Coverage rate continuous measurement (%)	100	100	100	100	The statutory testing frequency is once a year and the plant also has a continuous SO _x monitoring system (unaudited).	
	Emission(ton/year)	0.00454	0.00455	0.00448	0.00449	Emissions are calculated using the coefficients announced by the Ministry of Environment.	
VOC/THC	Coverage rate continuous measurement (%)	0.00130	0.00134	0.00132	0.00144		
	Emission(mg/year)	155	183	210	193	Air pollution fees are declared and calculated based on the dioxin emissions estimated from testing results every two years.	
	Specific emission (mg/ton clinker)	44.5	53.7	62.0	62.2	Adjustment of disclosure units.	
PCDD/F	Coverage rate continuous measurement (%)	100	100	100	100	The statutory testing frequency is once every two years.	





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Type	Key Performance Indicators		2020	2021	2022	2023	Note
	Item	Unit					
Emission Monitoring	Hg	Emission(ton/year)	39.9	44.0	37.1	31.9	Irregular testing is conducted, and emissions are calculated using the coefficients announced by the Ministry of Environment. Adjustment of disclosure units.
		Specific mission(g/ton clinker)	11.4	12.9	11.0	10.3	Adjustment of disclosure units.
	HM1 (Cd, Tl)	Emission(kg/year)	5.62	6.02	5.22	4.49	Irregular testing is conducted, and cadmium (Cd) emissions are calculated using the coefficients announced by the Ministry of Environment. Thallium (Tl) emissions are not calculated due to the absence of announced coefficients.
		Specific mission(mg/ton clinker)	1.61	1.77	1.54	1.44	
	HM2 (Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V)	Emission(kg/year)	110.78	118.69	103.00	88.48	Irregular testing is conducted, and arsenic (As), lead (Pb), and hexavalent chromium (Cr6+) emissions are calculated using the coefficients announced by the Ministry of Environment. Emissions of antimony (Sb), cobalt (Co), copper (Cu), manganese (Mn), nickel (Ni), and vanadium (V) are not calculated due to the absence of announced coefficients.
		Specific mission(mg/ton clinker)	31.74	34.84	30.46	28.44	
	Total Water withdrawal	M ³	2,323,105	2,454,240	2,471,673	2,760,224	For detailed information, please refer to Section 1.5.3: Water Usage Indicators and Targets.
	Total Water Discharge	M ³	170,902	170,515	146,247	128,010	For detailed information, please refer to Section 1.5.3: Water Usage Indicators and Targets.
Biodiversity	Total Water Consumption	M ³	2,152,203	2,283,725	2,325,426	2,632,214	
	Amount of Water Consumption per unit of product	M ³ / ton cementitious material	0.573	0.620	0.628	0.776	
	Percentage (%) of quarries with high biodiversity value where Biodiversity Management Plan(BMP) is implemented	%	100	100	100	100	The Hualien Xincheng Quarry, which has high biodiversity value, is 2.95 km away from the Key Biodiversity Areas (KBAs). For detailed information, please refer to Section 1.4.1: Biodiversity Management Plan.
	Percentage (%) of Quarries where Rehabilitation Plan(QRP) is implemented	%	100	100	100	100	For detailed information, please refer to Section 1.4.1: Biodiversity Management Plan.
	Fatality rate, directly employed	-	0	0	0	0	Reported as a ratio per 10,000 direct employees.
	Number of fatalities, directly employed	Persons	0	0	0	0	The number of work-related fatalities within one year
	Number of fatalities, contractors	Persons	0	0	0	0	The number of work-related fatalities within one year
	Number of fatalities, third-parties	Persons	0	0	0	0	The number of work-related fatalities within one year
Safety	LTI frequency rate(LTIFR), directly employed	-	2.07	0	0	1.09	The number of lost time injuries per million hours worked
	LTI frequency rate(LTIFR), contractors	-	2.57	0	0	0	The number of lost time injuries per million hours worked
	Disabling Severity Rate of per 1 million work-hour (SR), directly employed	-	266	0	0	2	The total number of lost days due to disabling injuries per million hours worked

NOTE

1. The scope of the cement business statistics includes Asia Cement's headquarters, Hsinchu Plant, and Hualien Plant.

2. Air pollution emission data is based on the approval from the Environmental Protection Agency as of the end of March 2023.

3. To enhance the quality of the data in this report, historical data for this year has been recalculated and revised due to adjustments in calculation methods and units of measurement. Consequently, there are differences compared to the information disclosed in the 2022 report. Detailed explanations of the adjustments and updates can be found in the annotations.





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Topic	Indicator code	Indicator item	2020	2021	2022	2023	Note	Report Section
		Scope 1 emissions(ton CO ₂ e)	3,067,151	2,967,231	2,924,459	2,639,026		
Greenhouse Gas Emissions	EM-CM-110a.1	Scope 1 percentage covered under emissions-limiting regulations (%)	99.998	99.998	99.998	99.998%	The Hualien Plant is among the first batch of facilities regulated by the Ministry of Environment and is subject to Taiwan's carbon fee collection.	1.1.1 Net Zero Practice and Strategy Blueprint
	EM-CM-110a.2	Scope of management -long-term and short-term strategies or programs for emission, target of reduction and performance analysis	Please refer to Section 1.1.1 of the report for detailed information.					
		NOx (N ₂ O not included) (ton)*	5,153	4,848	3,976	3,561	Annual NOx emission amount is calculated according to the successive auto-monitoring value.	
		SOx (ton)*	486	495	424	373	SOx emission amount is calculated according to the results of tests, SOx is represented by SO ₂	
		PM ₁₀ (ton)	831	742	627	554	Annual particle emission amount is calculated based on test data, coefficients defined by Ministry of Environment, efficiency of equipment prevention. PM ₁₀ is estimated based on 58% of particulate matter (the data source is changed to the 2018 Research Paper on the Characteristics of Particulate Emissions from Cement Industry and Mining Areas in Hualien Area)	
Air Quality	EM-CM-120a.1	Dioxins (ton I-TEQ)*	1.552E-07	1.829E-07	2.098E-07	1.934E-07	Calculating the earnings from the reported air pollution fee, estimating the emission of dioxin based on the test results of every two years.	
		Volatile organic compounds (VOC) (ton)*	0.00454	0.00455	0.00448	0.00449	Calculating the earnings from the reported air pollution fee, calculating VOC emission based on the coefficients defined by Ministry of Environment.	
		Polycyclic aromatic hydrocarbons (PAH) (ton)	No test	No test	No test	No test	When the rotary kiln is burned at high temperature (up to 1,500°C), PAHs will be thermally decomposed into H ₂ O, CO ₂ , etc., and it is not a regular inspection item designated by the Environmental Protection Agency, so there is no need to detect PAHs in the discharge pipe.	
		Pb (ton)*	0.0221	0.0237	0.0206	0.0177	Calculating the earnings from the reported air pollution fee, calculating Pb emission based on lead coefficient defined by Ministry of Environment (304.8 mg/ton).	
		Hg (ton)*	0.0399	0.0440	0.0371	0.0319	Calculating the earnings from the reported air pollution fee, calculating Hg emission based on lead coefficient defined by Ministry of Environment (550.4 mg/ton).	
		Cd (ton)*	0.00562	0.00602	0.00522	0.00449	Calculating the earnings from the reported air pollution fee, calculating Cd emission based on lead coefficient defined by Ministry of Environment	
		Total energy consumed (GJ)	13,643,341	13,372,308	13,534,761	11,959,122		
Energy Management	EM-CM-130a.1	Percentage grid electricity (%)	9.15	9.23	9.70	10.02	The electricity from the grid does not include externally purchased green electricity. The calorific value of externally purchased electricity as a proportion of the total energy consumption calorific value.	
		Percentage alternative (%)	1.05	1.47	2.86	3.98	The calorific value of alternative fuels as a proportion of the total energy consumption calorific value.	
		Percentage renewable (%)	0	0	0	0.01	Renewable energy includes self-generated solar power and externally purchased green electricity.	



1.1.3 Pollution Control and Waste Reduction

1.1.2 Energy Resource Management



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Topic	Indicator code	Indicator item	2020	2021	2022	2023	Note	Report Section
Water Management	EM-CM-140a.1	Total water withdrawn (10 ³ M ³)	2,332	2,462	2,476	2,764		1.5 Water Resource Management
		Total water consumed(10 ³ M ³)	2,567	2,285	2,326	2,633		
		Percentage of each in regions with High or Extremely High Baseline Water Stress (%)	0	0	0	0		
Waste Management	EM-CM-150a.1	Amount of waste generated (ton)	67	60	52	46	The quantity of waste that cannot be recycled and is ultimately disposed of through incineration or landfill.	1.1.3 Pollution Control and Waste Reduction
		Percentage hazardous (%)	0	0	0	0%		
		Percentage recycled (%)	97	98	98	98		
Biodiversity Impacts	EM-CM-160a.1	Description of environmental management policies and practices for active sites	Please refer to Section 1.4 of the report for detailed information.					1.4 Mining Mountain and Biodiversity
		The area of interfered and impacted on the land (Acre)	49.42	49.42	49.42	42.01	For mining operations area, 1 acre = 0.40469 hectares.	
		Percentage of recovered (%)	76.96	77.43	77.90	80.88	Calculated based on vegetated greening area.	
Workforce Health & Safety	EM-CM-320a.1	Total Recordable Incident Rate (TRIR) for direct employees	0.41	0	0	0.21	TRIR = (Number of lost time incidents / Total hours worked) * 200,000	3.2 Occupational Health and Safety
		Total Recordable Incident Rate (TRIR) for Contract Employees	0	0	0	0	Contract personnel are those without an employment relationship, who are directed and supervised by the person in charge of the work site.	
		Near Miss Frequency Rate (NMFR) for direct employees	8.50	9.33	3.21	5.93	NMFR = (Number of near miss incidents / Total hours worked) * 200,000	
Product Innovation	EM-CM-320a.2	Near Miss Frequency Rate (NMFR) for Contract Employees	0	0	0	0		1.1.1 Net Zero Practice and Strategy Blueprint
		Number of reported cases of silicosis	0	0	0		Preventive measures include dust operation zoning management and respiratory protection plans, among others.	
		Percentage of products that qualify for credits in sustainable building design and construction certifications(%)	None	None	None	None		
Pricing Integrity & Transparency	EM-CM-410a.1	Total addressable market and share of market for products that reduce energy, water or material impacts during usage or production	Masonry cement	Masonry cement	Masonry Cement · Portland Limestone Cement	379,714,783	The quantity difference between 2022 and 2023 is mainly due to the adjustment of the sales strategy for Portland Limestone Cement from export to domestic sales, and the domestic market is still in its early stages. The market scope for masonry cement is Taiwan, where Asia Cement is the only producer of masonry cement. All Portland Limestone Cement is exported, so market share statistics are currently unavailable.	2.1.3 Risk Management
			100	100	100	100		
		Total amount of monetary losses as a result of legal proceedings associated with cartel activities, price fixing, and anti-trust activities	0	0	0	0		
Index of activities	EM-CM-000.A	Production volume of major product Lines (ton)	3,624,000	3,635,000	3,679,000	3,358,000	Cement Production	Annual Report
			3,490,000	3,407,000	3,381,000	3,112,000	Clinker Production	
			3,753,744	3,685,762	3,701,844	3,391,910	Cementitious Material Production (including clinker, gypsum, and cement ground mineral additives)	

NOTE

1. The scope of statistics for the cement business includes the Asia Cement headquarters, Hsinchu Plant, and Hualien Plant.
2. Only the Hualien Plant is equipped with rotary kiln equipment, and the air pollution emission items it produces are marked with an asterisk (*). Additionally, the sources of PM10 are the storage, transportation, manufacturing, and packaging of cement, clinker, and other products and their raw materials. The data is approved by the Environmental Protection Bureau as of the end of March 2023.





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Usage Declaration	Asia Cement Corporation has reported in accordance with the GRI Standards. Reporting period: January 1, 2023 - December 31, 2023		
Use GRI 1	GRI 1: Foundation 2021		
Applicable GRI Sector Standards	GRI 14 for the mining industry will be released in 2024 and will apply to the reports published in 2026.		
Disclosures	Page	Section/Notes	Externally Verified
GRI 2 : General Disclosures 2021			
2-1 Organizational details	68	2.1.1 Overview of Corporate Governance	✓
2-2 Entities included in the organization's sustainability reporting	3	About the Report	✓
2-3 Reporting period, frequency and contact point	3	About the Report	✓
2-4 Restatements of information	21,136	GHG Inventory (GCCA) KPIs	✓
2-5 External assurance	3,11	About the Report Submitted to the board	✓
2-6 Activities, value chain and other business relationships	3,68,80	About the Report 2.1.1 Overview of Corporate Governance 2.3Supply chain management	✓
2-7 Employees	87	3.1.1 Attracting and retaining talents	✓
2-8 Workers who are not employees	88	Non-employee workers	✓
2-9 Governance structure and composition	68~69	2.1.1 Overview of Corporate Governance	✓
2-10 Nomination and selection of the highest governance body	69	2.1.1 Overview of Corporate Governance	✓
2-11 Chair of the highest governance body	68	2.1.1 Overview of Corporate Governance	✓
2-12 Role of the highest governance body in overseeing the management of impacts	6,11,67	Sustainable vision strategy/Material Topics and Stakeholders/Corporate Sustainability Committee	✓
2-13 Delegation of responsibility for managing impacts	11,70~74	Confirming And Reviewing The Completeness Of Material Topics/Impact Management Officer	✓
2-14 Role of the highest governance body in sustainability reporting	11	Submitted to the board	✓
2-15 Conflicts of interest	-	Annual Report Board of Directors	✓
2-16 Communication of critical concerns	11,70	Submitted to the board	✓
2-17 Collective knowledge of highest governance body	-	Annual Report Board of Directors	✓
2-18 Evaluating the highest governance body's performance	69	Board of Directors Performance Evaluation	✓
2-19 Remuneration policies	69,90	Directors' Remuneration Executive Compensation	✓
2-20 Process for determining remuneration	69	Compensation Committee	✓
2-21 Annual total compensation ratio	92	Annual total compensation ratio	✓
2-22 Statement on sustainable development strategy	4	Sustainable Strategy Blueprint Corporate Sustainability Policy	✓
2-23 Policy commitments	69, 71~73,101	2.1.2 Code of Conduct for Ethical Management 3.1.3 Human right	✓
2-24 Embedding policy commitments	71~73,102,104	2.1.2 Code of Conduct for Ethical Management 3.1.3 Human right Human Rights Training	✓
2-25 Processes to remediate negative impacts	3,12,58,59,104	Mitigation and Preventive Measures Monitoring and tracking effectiveness Positive Development of Local Communities	✓

2-26 Mechanisms for seeking advice and raising concerns	71	Anti-corruption Management Policy Whistleblowing Mechanism	✓
2-27 Compliance with laws and regulations	10	Legal Compliance	✓
2-28 Membership associations	76	Participating Associations	✓
2-29 Approach to stakeholder engagement	9,12	Evaluating And Identifying Stakeholders The engagement mechanism for the status of communicating with stakeholders	✓
2-30 Collective bargaining agreements	93	Collective agreements	✓

Disclosures	Page	Section/Notes	Externally Verified
GRI 3 : Material Topics 2021			
3-1 Process to determine material topics	9~10	Material Topics and Stakeholders	✓
3-2 List of material topics	11	List of Major Topics and Changes	✓
3-3 Management of material topics			✓
Economic Performance · Risks and opportunity management	66,67	Management of Governance Material Topics Targets for Managing Governance Material Topics	✓
Local Communities	50, 84,114	Management of Local Community Material Topics Targets for Managing Social Material Topics	✓
Materials · Energy · Water · Emission · Waste · Climate strategy · Low carbon green manufacturing process · Circular Economy	14,16	Management of Environmental Material Topics Targets for Managing Environmental Material Topics	✓
Sustainable mining mountain and biodiversity	14,51	Management of Biodiversity Material Topics Targets for Managing Biodiversity Material Topics	✓
Employment · Labor/Management Relations · Attracting and retaining talents · Human resource development · Market Presence	84,86	Management of Happy Workplace Material Topics Targets for Managing Happy Workplace Material Topics	✓
Occupational Health and Safety	85,105	Management of OSH Material Topics Targets for Managing OSH Material Topics	✓
Sustainable environmental education	84,123	Management of ECO-education Material Topics Targets for Managing OSH Material Topics	✓

Disclosures	Page	Section/Notes	Externally Verified
GRI 201 : Economic Performance 2016			
201-1 Direct economic value generated and distributed	77	Consolidated Financial Statement	✓
201-2 Financial implications and other risks and opportunities due to climate change	41~43	Financial Impact of Climate Change	✓
201-3 Defined benefit plan obligations and other retirement plans	90,93	Employee Welfare System Protection	✓
201-4 Financial assistance received from government	77	Government Financial Subsidies	✓

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GRI 202 : Market Presence 2016			
202-2 Proportion of senior management hired from the local community	91	Proportion of Local Executives Employed	✓





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GRI 301 : Materials 2016				
301-1 Materials used by weight or volume	28~29	Material Weight and Energy Input	✓	
301-2 Recycled input materials used	29	Recycled and Reused Materials	✓	
301-3 Reclaimed products and their packaging materials	29	Recycled Products and Packaging	✓	
GRI 302 : Energy 2016				
302-1 Energy consumption within the organization	28~29	Material Weight and Energy Input	✓	
302-3 Energy intensity	29,30	Energy Performance Targets Material Weight and Energy Input	✓	
302-4 Reduction of energy consumption		Energy Performance Targets	✓	
GRI 303 : Water and Effluents 2018				
303-1 Interactions with water as a shared resource	61~65	1.5 Water Resource Management	✓	
303-2 Management of water discharge-related impacts			✓	
303-3 Water withdrawal	65	1.5.3 Target and index of water use	✓	
303-4 Water discharge			✓	
303-5 Water consumption			✓	
GRI 305 : Emission 2016				
305-1 Direct (Scope 1) GHG emissions			✓	
305-2 Energy indirect (Scope 2) GHG emissions	21	Greenhouse Gas Inventory	✓	
305-3 Other indirect (Scope 3) GHG emissions			✓	
305-4 GHG emissions intensity	19,29	Cementitious Materials emission intensity Material Weight and Energy Input	✓	
305-5 Reduction of GHG emissions	24	Energy Conservation and Carbon Reduction Performance	✓	
305-6 Emissions of ozone-depleting substances (ODS)	33	Ozone Depleting Substances (ODS)	✓	
Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	31	Air Pollution Emission Management	✓	
GRI 306 : Waste 2020				
306-1 Waste generation and significant waste-related impacts	28,34	Environmental Key Topic Management Environmental Key Topic Management Goals	✓	
306-2 Management of significant waste-related impacts			✓	
306-3 Waste generated			✓	
306-4 Waste diverted from disposal	34	Waste	✓	
306-5 Waste directed to disposal			✓	
GRI 401 : Employment 2016				
401-1 New employee hires and employee turnover	88	New and Departing Employees	✓	
401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	90,93	Employee Stock Ownership Trust Employee Welfare System Protection	✓	
401-3 Parental leave	94	Parental Leave	✓	
GRI 402 : Labor/Management Relations 2016				
402-1 Minimum notice periods regarding operational changes	-	According to Legal Regulations (Labor Standards Act)	✓	
GRI 403 : Occupational Health and Safety 2018				
403-1 Occupational health and safety management system	106	Occupational Safety and Health Management System	✓	
403-2 Hazard identification, risk assessment, and incident investigation	109,110	Hazard Identification and Risk Assessment	✓	
403-3 Occupational health services	95,110	Health Promotion and Management Occupational Health Services	✓	
403-4 Worker participation, consultation, and communication on occupational health and safety	106	Occupational Safety and Health Management System Occupational Safety and Health Committee	✓	
403-5 Worker training on occupational health and safety	107	Occupational Safety and Health Training	✓	
403-6 Promotion of worker health	95	Health Promotion and Management Occupational Health Services	✓	
403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	107	Occupational Safety and Health Management and Implementation	✓	
403-8 Workers covered by an occupational health and safety management system	107	Occupational Safety and Health Management System	✓	
403-9 Work-related injuries	110,111	Occupational Injuries	✓	
403-10 Work-related ill health	111	Occupational Diseases	✓	
GRI 413 : Local Communities 2016				
413-1 Operations with local community engagement, impact assessments, and development programs	52~59, 115~122	Mines and Biodiversity Positive Development of Local Communities	✓	
413-2 Operations with significant actual and potential negative impacts on local communities	52~59,115	Mines and Biodiversity Positive Development of Local Communities	✓	





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Code	Indicator	Type of indicator	Item	2023	Note	Reference Section	Page
1	Total energy consumption, percentage of purchased electricity, and utilization rate(renewable energy/total energy)	Quantitative	Total energy consumed (GJ)	11,959,122			
			Percentage of purchased electricity (%)	10.02	Calorific value of purchased electricity to calorific value of total energy consumption	1.1.2 Energy Resource Management	28
			Percentage renewable (%)	0.01			
2	Total water withdrawn and total water consumption	Quantitative	Total water withdrawn (M ³)	2,764,014			
			Total water consumption (M ³)	2,632,972		1.5.3 Target and index of water use	64
			Amount of waste generated (ton)	46			
3	Total waste generated, percentage of hazardous waste and percentage recycled	Quantitative	Percentage hazardous (%)	0		1.1.3 Pollution Control and Waste Reduction	34
			Percentage recycled (%)	98			
			Number of employees' lost time injury(persons)	1			
4	Number of employees in and rate of occupational accidents	Quantitative	Number of contractors' lost time injury (persons)	0			
			Disabling Frequency Rate (FR) of employees per 1 million work-hour	1.09		3.2 Occupational Health and Safety	112
			Disabling Frequency Rate (FR) of contractors per 1 million work-hour	0			
			Disabling Severity Rate (SR) of employees per 1 million work-hour	2			
5	Production by product category	Quantitative	Disabling Severity Rate (SR) of contractors per 1 million work-hour	0			
			Cement (ton)	3,358,000			
			Clinker (ton)	3,112,000		SASB Building Material Industry Disclosure Standards	137
			Cementitious Materials(ton)	3,391,910			

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Item	Reference Section	Page
1. Describe the board of directors' and management's oversight and governance of climate-related risks and opportunities.	1.2.1 Climate Change Governance	39
2. Describe how the identified climate risks and opportunities affect the business, strategy, and finances of the business (short, medium, and long term).	1.2.3 Climate Change Risk	41
3. Describe the financial impact of extreme weather events and transformative actions.	1.2.3 Climate Change Risk	42
4. Describe how climate risk identification, assessment, and management processes are integrated into the overall risk management system.	2.1.3 Risk Policy and Management Procedures	74
5. If scenario analysis is used to assess resilience to climate change risks, the scenarios, parameters, assumptions, analysis factors and major financial impacts used should be described.	1.2.2 Climate Change Strategy	40
6. If there is a transition plan for managing climate-related risks, describe the content of the plan, and the indicators and targets used to identify and manage physical risks and transition risks.	1.2.4 Climate Change Indicators and Targets	44
7. If internal carbon pricing is used as a planning tool, the basis for setting the price should be stated.	1.1.1 Net Zero Practice and Strategy Blueprint	26
8. If climate-related targets have been set, the activities covered, the scope of greenhouse gas emissions, the planning horizon, and the progress achieved each year should be specified. If carbon credits or renewable energy certificates (RECs) are used to achieve relevant targets, the source and quantity of carbon credits or RECs to be offset should be specified.	1.2.4 Climate Change Indicators and Targets	44
9. Greenhouse gas inventory and assurance status (separately fill out in point 1-1 below).	-	-





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Greenhouse Gas Inventory and Assurance Status

Describe the greenhouse gas emissions for the most recent two years (tons CO₂e), the intensity (tons CO₂e/million NT\$), and the data coverage.

Disclosure of data coverage in accordance with the Sustainable Development Roadmap for Listed Companies:

1. Parent company entities should disclose assurance status starting from 2024.
2. Subsidiaries included in the consolidated financial report should disclose assurance status starting from 2027.

In accordance with the "Sustainable Development Roadmap for Listed Companies" announced by the Financial Supervisory Commission in March 2022, our company, which has a paid-in capital of over 10 billion NTD, is required to complete the greenhouse gas inventory and verification for subsidiaries included in the consolidated financial statements by 2025 and 2027, respectively. Our individual company has already completed the greenhouse gas inventory and verification in 2023. We will continue to monitor and manage the completion of the greenhouse gas inventory and verification disclosure schedule according to the reference guidelines and relevant regulations issued by the competent authorities, and we will control this on a quarterly basis. The status of greenhouse gas inventory and assurance for Asia Cement's individual company for the most recent two years is as follows:

	2022		2023	
	Emissions (tons CO ₂ e)	Intensity (tons CO ₂ e per million NT\$ of revenue)	Emissions (tons CO ₂ e)	Intensity (tons CO ₂ e per million NT\$ of revenue)
Scope1	2,924,606	272.242	2,639,182 ^{NOTE}	236.91
Scope2	184,773	17.200	167,144	15.00
Scope3	97,239	9.05	103,837	9.32
Percentage of Inventory Data Coverage		100%		100%
Assurance Institute		SGS Taiwan Ltd		SGS Taiwan Ltd
Description of Assurance Status		Unqualified Opinion		Unqualified Opinion

- NOTE**
1. In accordance with the provisions of Article 10, Paragraph 2 of these standards, if the company is unable to obtain a complete greenhouse gas assurance opinion by the annual report publication date, it should indicate that "complete assurance information will be disclosed in the sustainability report." If the company does not prepare a sustainability report, it should indicate that "complete assurance information will be disclosed on the Market Observation Post System," and complete assurance information should be disclosed in the following year's annual report.
 2. The assurance agency must comply with the relevant regulations for assurance agencies of sustainability reports set by the Taiwan Stock Exchange Corporation and the Taipei Exchange.
 3. Scope 2 indirect greenhouse gas emissions are calculated using the market-based method.

Greenhouse Gas Reduction Goals, Strategies, and Specific Action Plans

Please refer to Section "1.1.1 Net Zero Practice and Strategy Blueprint."





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ASSURANCE STATEMENT

SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE ASIA CEMENT CORPORATION'S SUSTAINABILITY REPORT FOR 2023

NATURE AND SCOPE OF THE ASSURANCE

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by ASIA CEMENT CORPORATION (hereinafter referred to as ACC) to conduct an independent assurance of the Sustainability Report for 2023. The scope of assurance is based on the SGS Sustainability Report Assurance methodology and AA1000 Assurance Standard v3 Type 2 Moderate level to assess whether the text and data in accompanying tables contained in the report and complies with the GRI Standards and AA1000 Accountability Principles (2018) during on-site assurance (2024/4/3-2024/5/15) in ACC headquarter. The boundary of this report includes ACC Taiwan operational and production sites' specific performance data included the sampled text, and data in accompanying tables, contained in the report presented. The assurance process did not include the evaluation of specific performance information outside the scope, such as climate-related financial disclosures (TCFD). SGS reserves the right to update the assurance statement from time to time depending on the level of report content discrepancy of the published version from the agreed standards requirements.

INTENDED USERS OF THIS ASSURANCE STATEMENT

This Assurance Statement is provided with the intention of informing all ACC's Stakeholders.

RESPONSIBILITIES

The information in the ACC's Sustainability Report of 2023 and its presentation are the responsibility of the directors or governing body (as applicable) and management of ACC. SGS has not been involved in the preparation of any of the material included in the Sustainability Report.

Our responsibility is to express an opinion on the report content within the scope of assurance with the intention to inform all ACC's stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognized assurance guidance and standards including the principles of reporting process contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) GRI 1: Foundation 2021 for report quality, GRI 2: General Disclosure 2021 for organisation's reporting practices and other organizational detail, GRI 3: 2021 for organisation's process of determining material topics, its list of material topics and how to manage each topic, and the guidance on levels of assurance contained within the AA1000 series of standards.

The assurance of this report has been conducted according to the following Assurance Standards:

Assurance Standard Options	Level of Assurance
A	SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)
B	AA1000ASv3 Type 2 Moderate Level (AA1000AP Evaluation plus evaluation of Specified Performance Information)

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SCOPE OF ASSURANCE AND REPORTING CRITERIA

The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:

Reporting Criteria Options

- 1 GRI Standards (in Accordance with)
- 2 AA1000 Accountability Principles (2018)
- 3 SASB (Construction Materials)

- The evaluation includes AA1000 Assurance Standard v3 Type 2 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2018).
- The evaluation of the reliability and quality of specified sustainability performance information in ACC's Sustainability Report is limited to determined material topics or those clearly marked in the report as conducted in accordance with type 2 of AA1000AS v3 sustainability assurance engagement at a moderate level of scrutiny for ACC and moderate level of scrutiny for its subsidiaries or joint ventures,
- The evaluation of the report against the requirements of GRI Standards, includes GRI 1, GRI 2, GRI 3, 200, 300 and 400 series claimed in the GRI content index as material and is conducted in accordance with the standards.
- The evaluation of the report against the SASB Disclosures and Metrics included in the Construction Materials Sustainability Accounting Standard (VERSION 2023-12) and conducted alongside an evaluation of accuracy assurance at moderate level of scrutiny.

ASSURANCE METHODOLOGY

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, Sustainability committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and/or stakeholders where relevant.

LIMITATIONS AND MITIGATION

Financial data drawn directly from independently audited financial accounts and Task Force on Climate-related Financial Disclosures (TCFD) has not been checked back to source as part of this assurance process.

STATEMENT OF INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and assurance, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from ACC, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 20121, ISO 50001, SA8000, RBA, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions.



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ASSURANCE/VERIFICATION OPINION

On the basis of the methodology described and the assurance work performed, we are satisfied that the disclosure with inclusivity, materiality, responsiveness, and impact information in the scope of assurance is reliable, has been fairly stated and has been prepared, in all material respects, in accordance with the reporting criteria. We believe that the organisation has chosen an appropriate level of assurance for this stage in their reporting.

AA1000 ACCOUNTABILITY PRINCIPLES (2018) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

Inclusivity

ACC has demonstrated a good commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, sustainability experts, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, ACC may proactively consider having more direct two-ways involvement of stakeholders during future engagement.

Materiality

ACC has established effective processes for determining issues that are material to the business. Formal review has identified stakeholders and those issues that are material to each group and the report addresses these at an appropriate level to reflect their importance and priority to these stakeholders.

Responsiveness

The report includes coverage given to stakeholder engagement and channels for stakeholder feedback.

Impact

ACC has demonstrated a process on identify and fairly represented impacts that encompass a range of environmental, social and governance topics from wide range of sources, such as activities, policies, programs, decisions and products and services, as well as any related performance. Measurement and evaluation of its impacts related to material topic were in place at target setting with combination of qualitative and quantitative measurements.

GLOBAL REPORTING INITIATIVE REPORTING STANDARDS CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

The report, ACC's Sustainability Report of 2023, is adequately in accordance with the GRI Universal Standards 2021and complies with the requirements set out in section 3 of GRI 1 Foundation 2021, where the significant impacts on the economy, environment, and people, including impacts on their human rights are assessed and disclosed following the guidance defined in GRI 3: Material Topic 2021, and the relevant 200/300/400 series Topic Standard related to Material Topic have been disclosed. The report has properly disclosed information related to ACC's contributions to sustainability development. For future reporting, it is recommended to have more descriptions on how the organization has applied due diligence as a method for the identification and the evaluation of its impacts on the economy, environment, and people, including impacts on their human rights as well as the role of the highest governance body in overseeing these processes. In addition, the scope of disclosure includes many subsidiaries and their industry categories are also diverse, encouraging the adoption of a more systematic data collection and performance disclosure process.

SASB CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

ACC has referenced with SASB's Standard, Construction Materials, VERSION 2023-12 to disclose information of material topics that are vital for enterprise value creation. The reporting boundaries of the disclosed information correspond to the financial data reported in ACC's audited individual financial statements Report of 2023. ACC used SASB accounting and activity metrics to assess and manage the topic-related risks and opportunities, where relevant quantitative information was assessed for its accuracy and completeness to support the comparability of the data reported. Process to identify, assess, and manage topic-related risks and opportunities were integrated into ACC's overall management process. It is recommended that efforts continue towards increasing the percentage of products that qualify for credits in sustainable building design and construction certifications.

Signed:

For and on behalf of SGS Taiwan Ltd.

Stephen Pao
Business Assurance Director
Taipei, Taiwan
11 June, 2024
WWW.SGS.COM

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