

低碳轉型 永續與泥同行

Low-carbon transformation

Sustainability goes hand in hand with cement industry



亞洲水泥花蓮製造廠
首席副廠長 陳志賢

Asia Cement Corporation Hualien Plant
Walker Chen, Chief Deputy Plant Manager

2024/10/7

主題：低碳轉型 永續與泥同行

- 大綱：
- 一、亞洲水泥公司簡介
 - 二、水泥產業碳排及5C淨零路徑
 - 三、亞泥減碳努力之現況及未來
 - 四、結語：產業淨零路徑面臨的環境及挑戰

一、亞洲水泥公司簡介



Concrete is more
than a material.
It's about life.

混凝土 是世界用量最大人造材料

Concrete is the most widely used man-made material in the world.

水泥 是混凝土最重要成分

Cement is the most important ingredient of concrete.



預拌混凝土車



水泥散裝車

遠東集團企業



1973年亞洲水泥公司在花蓮縣新城鄉設立水泥製造廠，1975年開始生產水泥。

1974-1979年政府推行**十大建設**，旨在促進國家的**經濟發展**和**基礎設施建設**。



亞泥多角化經營 穩健發展

Asia Cement's diversified operations and steady development

核心事業

core business

垂直整合

Vertical integration

水泥

Cement

預拌混凝土

Ready mixed concrete

預鑄混凝土

Precast concrete



轉投資 Reinvestment

金融資產 Financial assets

不動產 Real estate

其他事業

other business

多元布局

Multiple layouts

電力

Electric power

鋼鐵

Steel

運輸

transportation

二、水泥產業碳排及5C淨零路徑



全球

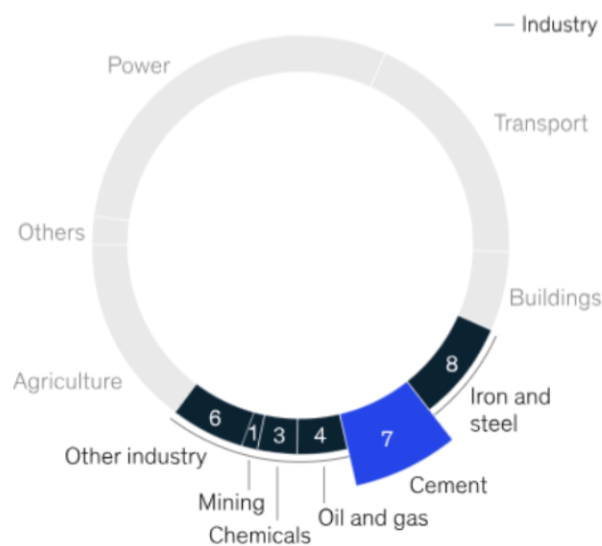
Global

水泥產業佔CO₂排放量的7%

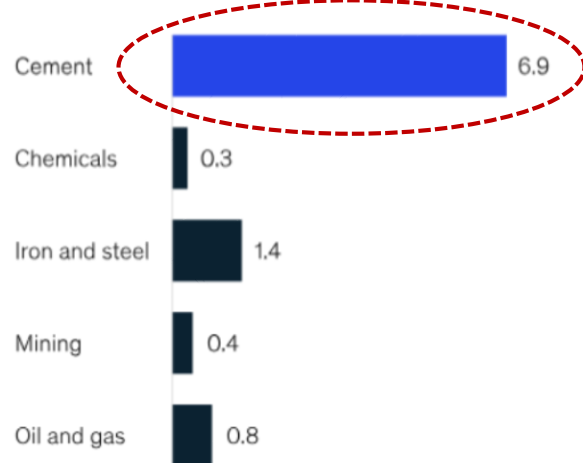
Cement industry accounts for 7% of CO₂ emissions, emitting around 3.5 billion tons of CO₂ every year.

Cement production is a major source of global CO₂ emissions and also generates the most emissions per revenue dollar.

Share of global CO₂ emissions, % in 2017



kg of CO₂ per \$



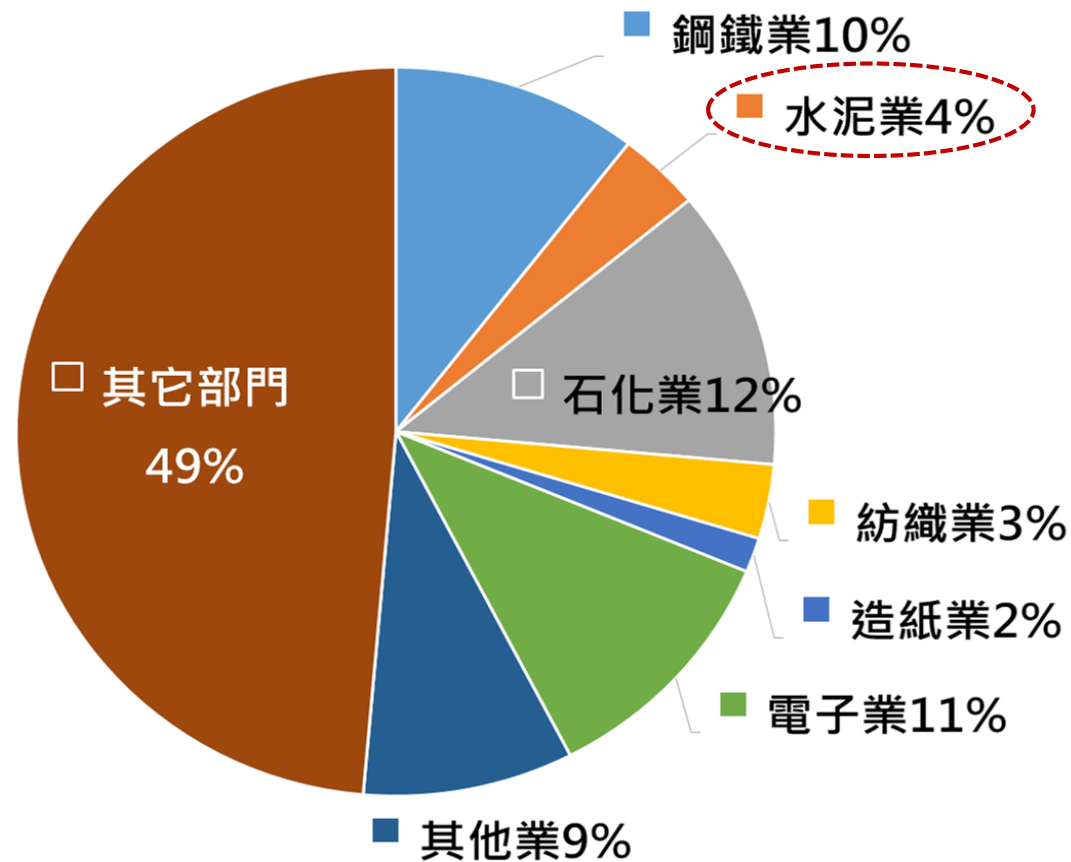
McKinsey
& Company

台灣

Taiwan

水泥產業佔CO₂排放量的4%

Cement industry accounts for 4% of CO₂ emissions, emitting around 10 million tons of CO₂ every year.



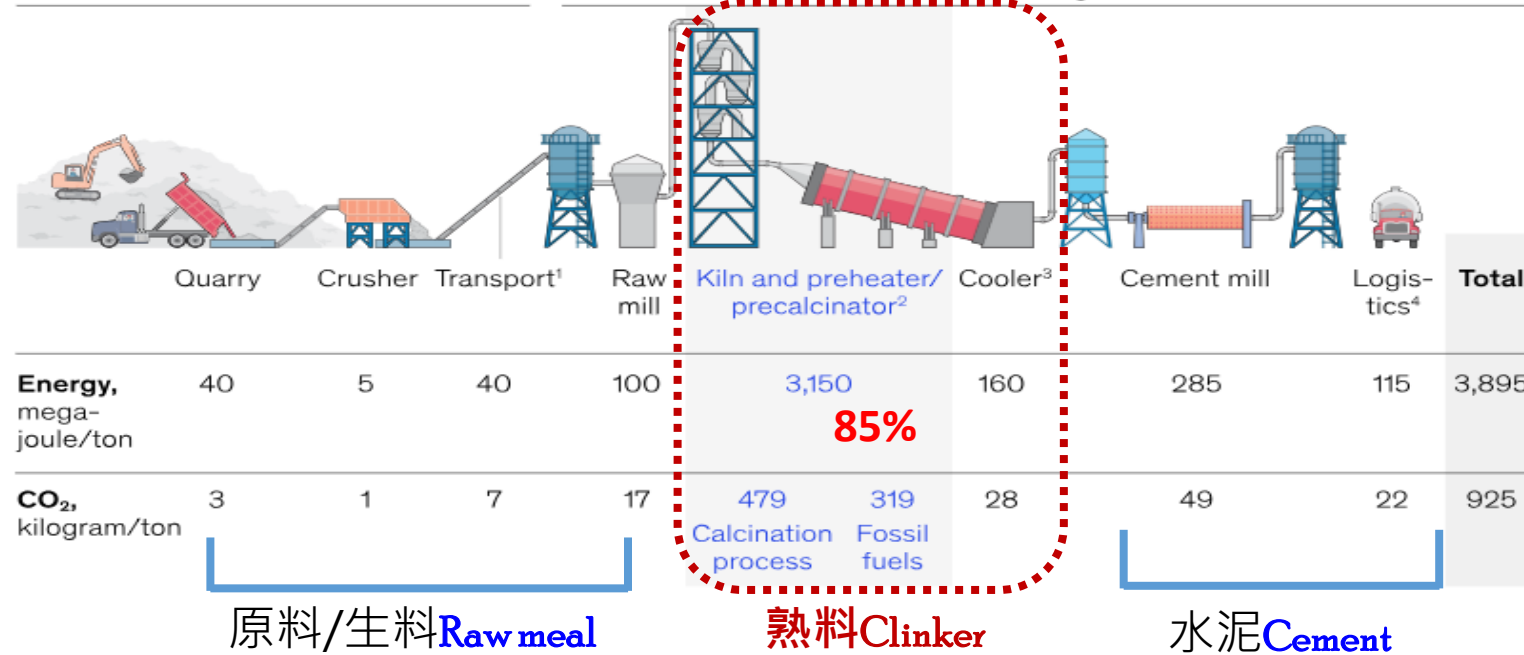
水泥生產製程

Cement production process

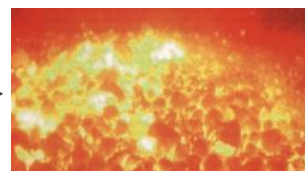
Cement manufacturing is a highly complex process.

Raw materials, energy, and resources

Clinker and cement manufacturing



生料(無活性)
Raw meal (Inactive)



燒成1450°C
Sintering



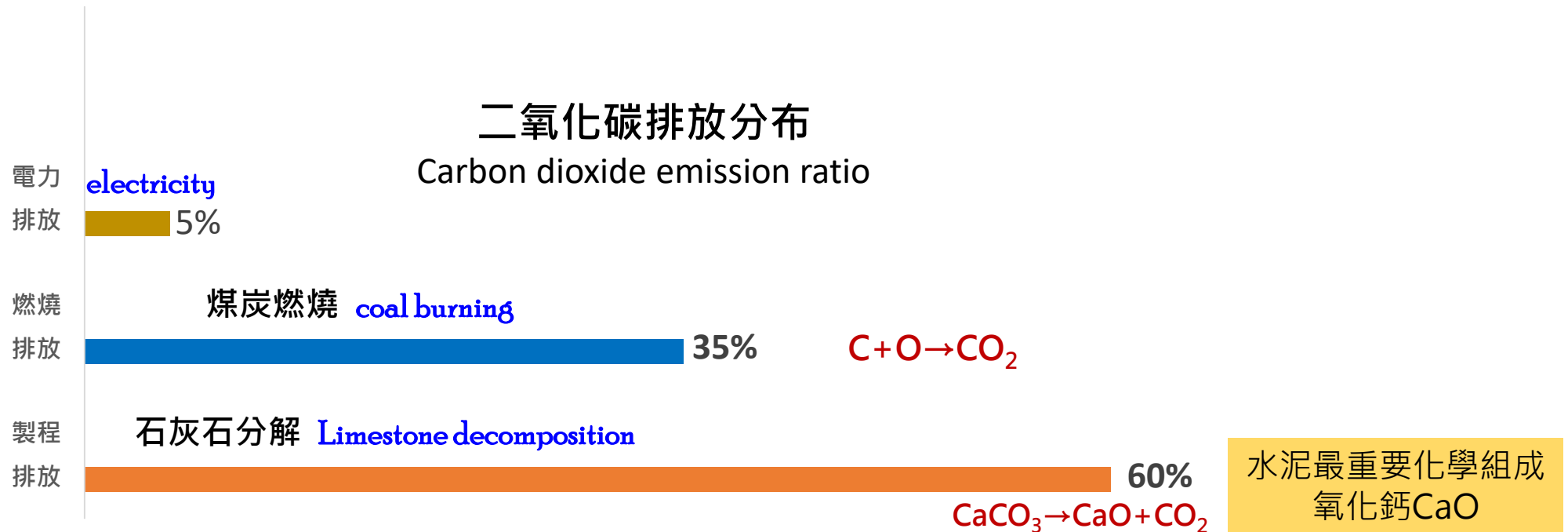
熟料(水硬性)
Clinker (Hydraulic)



水泥
Cement

Limestone mining → Raw material grinding → Clinker sintering → Cement grinding

Main carbon emissions from the clinker calcining process



The most important measures to reduce the carbon emissions of the clinker burning process are:

1. use **alternative raw materials** that can reduce the amount of limestone,
2. use **alternative fuels** that can reduce the amount of coal.

國際公認「水泥」是減碳最困難的產業

Cement is generally recognized as the most difficult industry to reduce carbon emissions.

過渡期CBAM管制範圍：鋼鐵及鋼鐵中下游產品(螺絲、螺栓)、**水泥**、肥料、鋁及鋁中下游產品、電力與氫氣之六大產業。

*During the transition period, the scope of CBAM control is: the six major industries of steel and steel midstream and downstream products (screws, bolts, etc.), **cement**, fertilizers, aluminum and aluminum midstream and downstream products, electricity and hydrogen.*



行業別指定削減率

參酌科學基礎減量目標(SBT)，基準年為2021年，訂定目標年鋼鐵、水泥業及其他行業削減率

行業別	定義	目標年削減率
鋼鐵業	一貫煉鋼鋼胚生產、電弧爐碳鋼鋼胚及不銹鋼鋼胚生產之行業	25.2%
水泥業	從事水泥熟料製造之行業	22.3%
其他行業別		42 %

水泥混凝土產業淨零策略：5C 加 1C

Net-zero strategy for cement and concrete industry value chain: 5C plus 1C

5C+1C

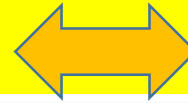
Clinker 熟料 **C**ement 水泥 **C**oncrete 混凝土

Construction 營建 **Re-C**arbonation 再碳酸化



CCUS
碳捕捉
再利用儲存

Decarbonization 降低碳排



Dematerialization 少用材料

Construction

Construction **less** concrete
營建少用混凝土

Concrete

Concrete **less** cement
混凝土少用水泥

Cement

Cement **less** clinker
水泥少用熟料

Clinker

Clinker **less** limestone & coal
熟料少用石灰石及煤炭

Re-**C**arbonation
再碳酸化



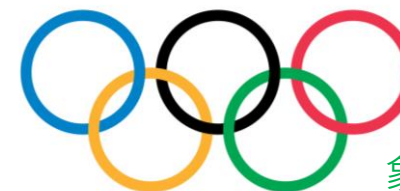
CCUS
碳捕捉
再利用儲存

PCA 美國水泥協會 淨零排放路徑圖

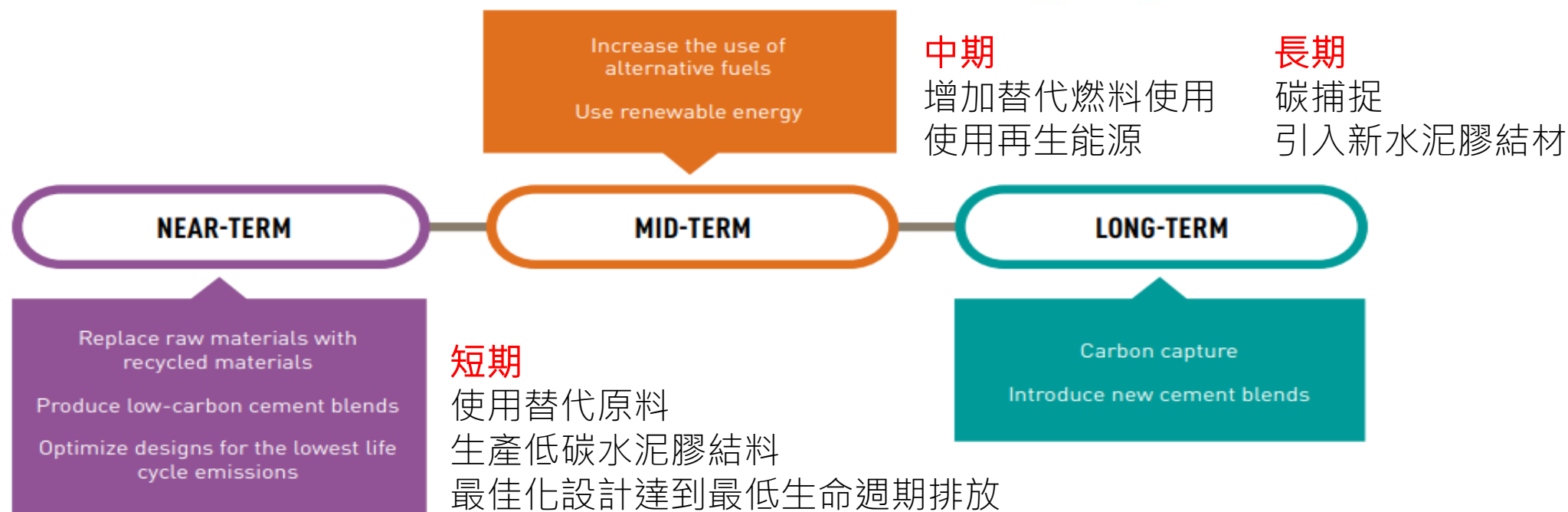
The value chain



Near- and long-term solutions



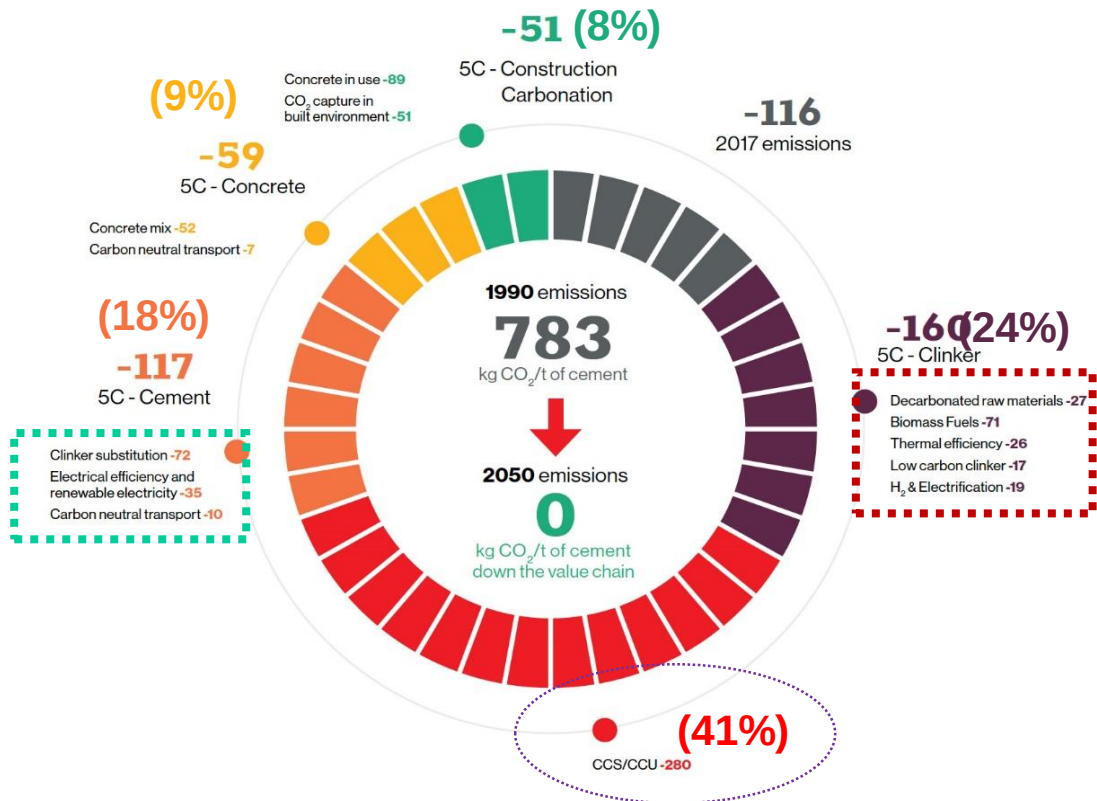
奧林匹克五環
象徵五大洲的團結



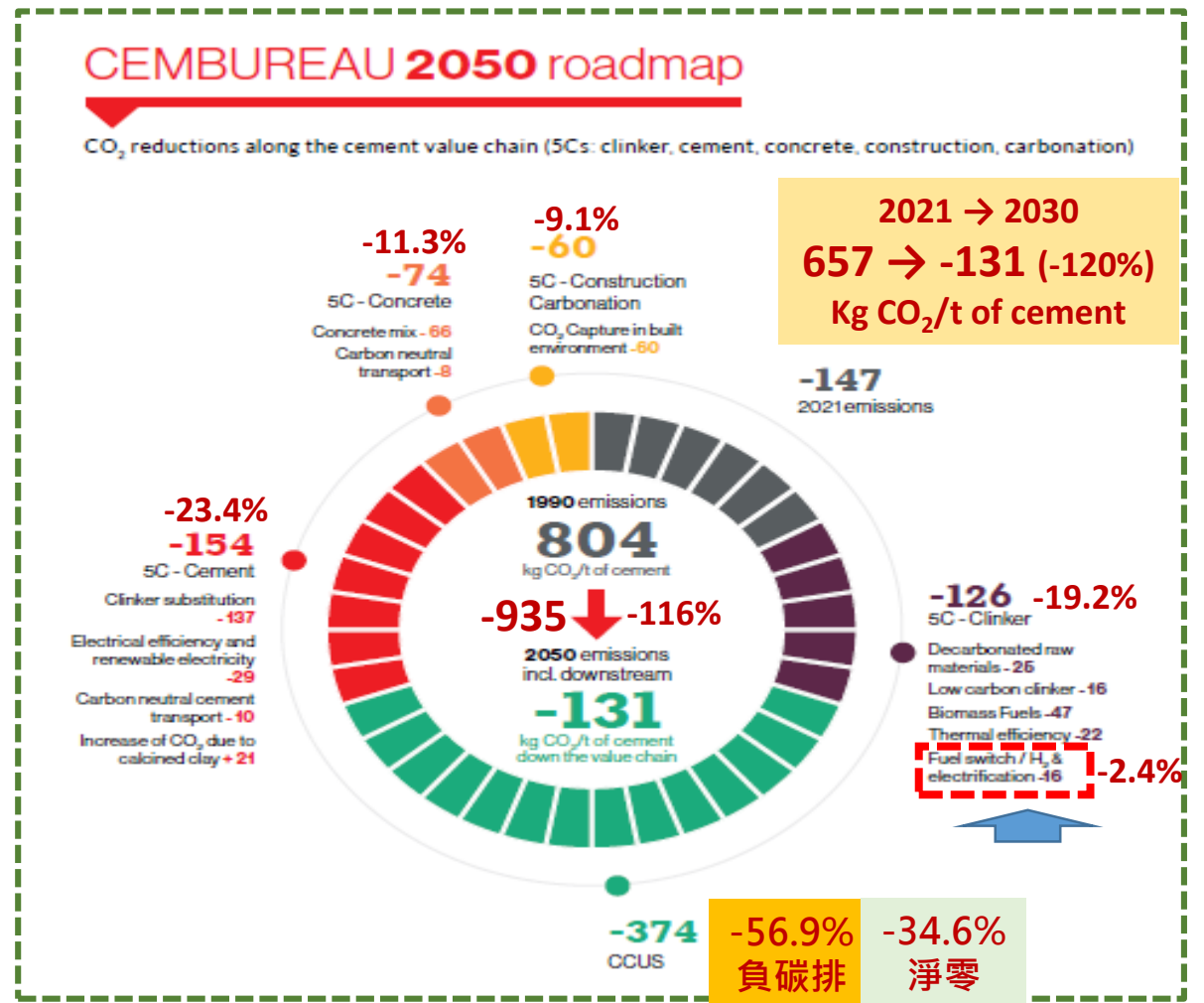
Cembureau歐洲水泥協會淨零排放路徑圖

水泥價值鏈中的CO₂減排量 (5C：熟料、水泥、混凝土、建築、碳化)

CEM BUREAU 2050 路線圖



2017基準為667kg CO₂/t cement，括號百分比為2017至2030、2050單位碳排減碳比例



三、亞泥減碳努力之現況及未來



循環經濟→

水泥產業達成2050淨零路線基礎

Circular economy is the foundation for the cement industry to achieve the net-zero goal by 2050.

協同處置

Co-Processing



廢棄物在旋窯內熱處理過程，同時進行材料再利用和能量回收，廢棄物與水泥原料轉化成熟料礦物，無須二次處理不可燃之灰渣。

- During the heat treatment process of waste in the rotary kiln, material recycle and energy recovery are performed at the same time.
- The waste and cement raw materials are converted into clinker minerals, eliminating the need for secondary treatment of non-combustible ash.

- 水泥旋窯在廢棄物處理發揮關鍵作用。

Cement kiln plays a crucial role in waste treatment.

- 最有效的廢物去化方式，比填埋或焚燒更有效的解決方案。

The most effective method of waste removal, a more effective solution than landfilling or incineration.

落實循環經濟 降低天然原燃料耗用

Implement circular economy and reduce consumption of natural raw materials and fuels



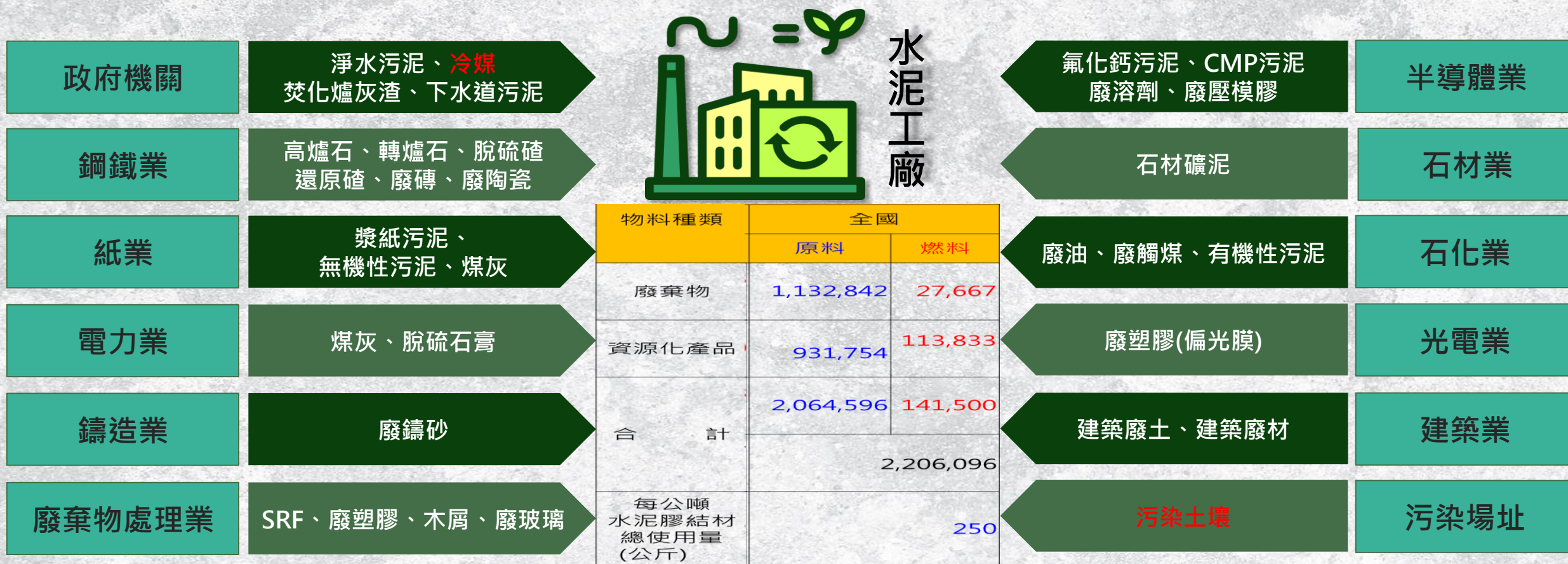
Advantages of using cement kilns to remove waste.

- Cement rotary kiln has 3T advantages (Time, Temp, Turb.)
- No need for secondary treatment of ash
- Large processing capacity
- Different types of wastes can be handled
- Safe and reliable

利用水泥窯去化廢棄物優勢

- ★ 旋窯燃燒具優越3T (高溫T/長時間T/高紊流T)
- ★ 無需二次處理燃燒灰渣
- ★ 可處理量大
- ★ 可處理種類多
- ★ 安全可靠

目前我國水泥業再利用廢棄物主要來源



1. CMP污泥:半導體化學機械研磨(Chemical-Mechanical Polishing)製程所產出的無機性污泥。
2. SRF: 固體再生燃料 (Solid recovered fuel, SRF)是將固體可燃性廢棄物轉製處理而成的燃料。

再利用花蓮縣、台東縣及台北市自來水淨水污泥

- 自來水的原水含有土、砂等固體懸浮物，水處理過程會產生「淨水污泥」。
- 「淨水污泥」主要用途為磚窯廠的黏土替代原料，產製紅磚。
- 國內107~109年營建業不景氣，紅磚用量少，磚窯廠無意願收受「淨水污泥」，造成自來水淨水場囤積大量「淨水污泥」無法去化，影響正常運作。
- 亞泥花蓮廠於108及109年全數將台北市及花蓮縣自來水場產生的「淨水污泥」約5.3萬噸作為黏土的替代原料，解決自來水場的廢棄物處理困境。

物料名稱	燒失量	燒失基成分				
	LOI	CaO	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	小計
黏土料	5.4	3.6	74.5	11.1	4.4	93.6
淨水污泥	14.4	1.5	59.6	25.4	6.9	93.4



再利用量達7萬公噸

再利用花蓮縣政府垃圾焚化殘渣(焚化再生粒料)

- 花蓮縣沒有焚化爐，生活垃圾送到宜蘭利澤焚化爐焚燒。
- 焚燒後，生活垃圾中土、砂、陶瓷、玻璃及金屬等不可燃物及可燃物的灰份會從爐底排出，成為「底渣」。
- 「底渣」經破碎、篩分及磁選後成為「焚化再生粒料」。
- 「焚化再生粒料」送到亞泥花蓮廠，作為黏土及石灰石的替代原料。

物料名稱	燒失量	燒失基成分				
	LOI	CaO	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	小計
高鋁石灰石	14.8	16.6	50.0	13.7	9.9	90.3
黏土料	5.4	3.6	74.5	11.1	4.4	93.6
焚化再生粒料	11.1	26.1	44.8	9.1	6.9	86.9



再利用量達 18,000噸

再利用花蓮縣污水下水道污泥

- 花蓮縣水資源回收中心處理生活污水，會產生下水道污泥(有機性污泥)。
- 下水道污泥過去送到南部的處理廠，運輸距離遠且處理費高。
- 亞泥花蓮廠與花蓮縣水資源中心合作申請個案再利用，並自111年開始再利用下水道污泥作為水泥窯的輔助燃料，減少運輸的排碳，並節省公帑支出。

燃料種類	熱值 (cal/g)	燒失基					
		灰份	CaO	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	小計
煤炭	6,500	20.0	0.4	73.2	18.4	4.5	96.6
下水道污泥	5,590	23.8	63.5	20.5	4.6	3.3	91.9



再利用量540噸

協助環境部處理走私冷媒

Asia Cement assists the Ministry of Environment in dealing with smuggled refrigerants

會造成臭氧層破壞的特定冷媒，已被政府禁用，但仍有不肖業者走私進口。

Specific refrigerants that can cause ozone layer damage have been banned by the government, but unscrupulous companies are still smuggling them into imports.

亞泥與工研院開發台灣首創水泥窯銷毀冷媒技術

Asia Cement and ITRI has developed the country's first refrigerant destruction technology by cement kiln.

亞泥已經協助政府銷毀40噸冷媒

Asia Cement has assisted the government in destroying 40 tons of refrigerant.



CO₂的GWP為 1
R-12的GWP為 1,760
R-22的GWP為 10,200

GWP(Global Warming Potential)
= 相對於CO₂的全球暖化潛勢

冷媒的GWP值很高，銷毀43公噸冷媒相當於避免20萬公噸CO₂排放。

The GWP value of refrigerant is very high, destroying 40 metric tons of refrigerant is equivalent to avoiding 200,000 tons of CO₂ emissions.

亞泥成功處理台電廢風機葉片

Asia Cement has successfully processed Taipower waste fan blades.

配合政府推動再生能源政策，亞泥積極進行再生能源產業即將陸續產出巨量廢棄物之處理技術。

In line with the government's promotion of renewable energy policies, Asia Cement is actively developing treatment technologies for the huge amounts of waste that will be produced by the renewable energy industry.



已成功處理21公噸台電廢風機葉片

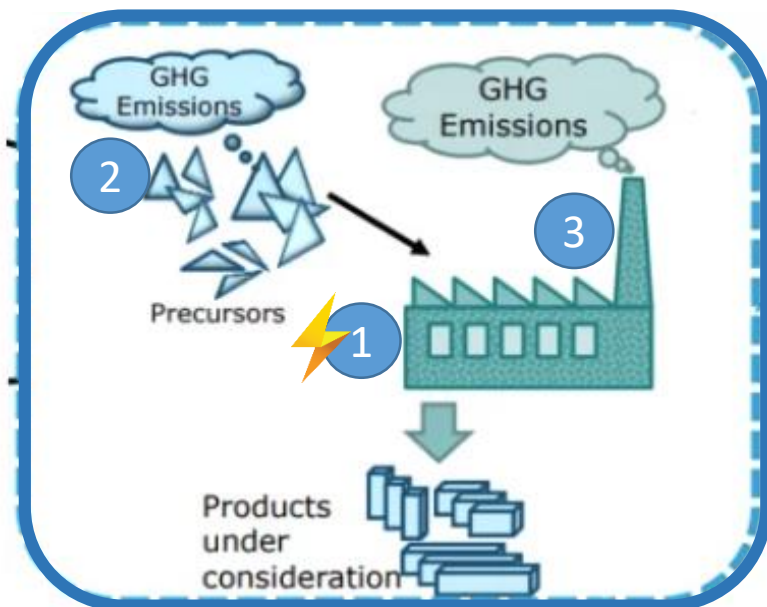
Asia Cement has successfully processed about 21 metric tons of Taipower waste fan blades.

Precursor

熟料Clinker



鋼鐵Steel



Complex goods

水泥Cement



螺絲Screw



CBAM

Emission of CBAM complex goods

For “Complex goods”, emissions to report include:

- (1) the indirect emissions linked to the electricity used in the production process,
- (2) the emissions for the production of precursors, and
- (3) the direct emissions for the production of goods.

Report unit is different.

Take cement for example

Association/Agency	Report unit
CBAM	☐ Emission per ton of clinker 熟料排放強度 ☐ Emission per ton of cement 水泥排放強度
SBTi / GCCA / WBCSD	☐ Emission per ton of cementitious material 膠結材排放強度
MOENV (TW)	☐ Total emission of cement factory

亞泥積極 生產銷售 低碳水泥

Asia Cement actively produces and sells low-carbon cement

The second C-cement to achieve net zero is to reduce the carbon emission intensity of cement by reducing the proportion of clinker in cement.

塼砌水泥

Masonry Cement

泥作裝修用

2011 ~

The low-carbon cement produced by Asia Cement includes bagged masonry cement that has been produced and sold since 2011. It is mainly used for decoration purposes. The proportion of clinker in cement is about 74%, compared to Portland Cement, masonry cement can reduce carbon emissions by 20%.

卜特蘭石灰石水泥

Portland Limestone Cement

營建結構用

2022 ~

In addition, the low-carbon Portland limestone cement produced by Asia Cement has been sold to the United States since 2022, with more than 200,000 tons. The proportion of clinker in cement is about 82%, the carbon emissions is about 11% lower than Portland cement.

開發更低碳水泥!!

Ternary Blended Hydraulic Cements

三元混合水泥

In the future, Asia Cement will continue to launch lower-carbon ternary blended hydraulic cement. The proportion of clinker in cement is only about 50%, which can reduce carbon emissions by about 45% compared with Portland cement.



亞泥全岸電 ~ 打造綠色低碳海港

Full shore power supply for ACC cement ships ~ Creating a green and low-carbon seaport



裕民航運

4艘水泥專用輪



Kaohsiung Port

高雄港

Hualien Port

花蓮港

Taichung Port

台中港

Keelung Port

基隆港

4個儲運站碼頭

9 工業/創新
基礎建設

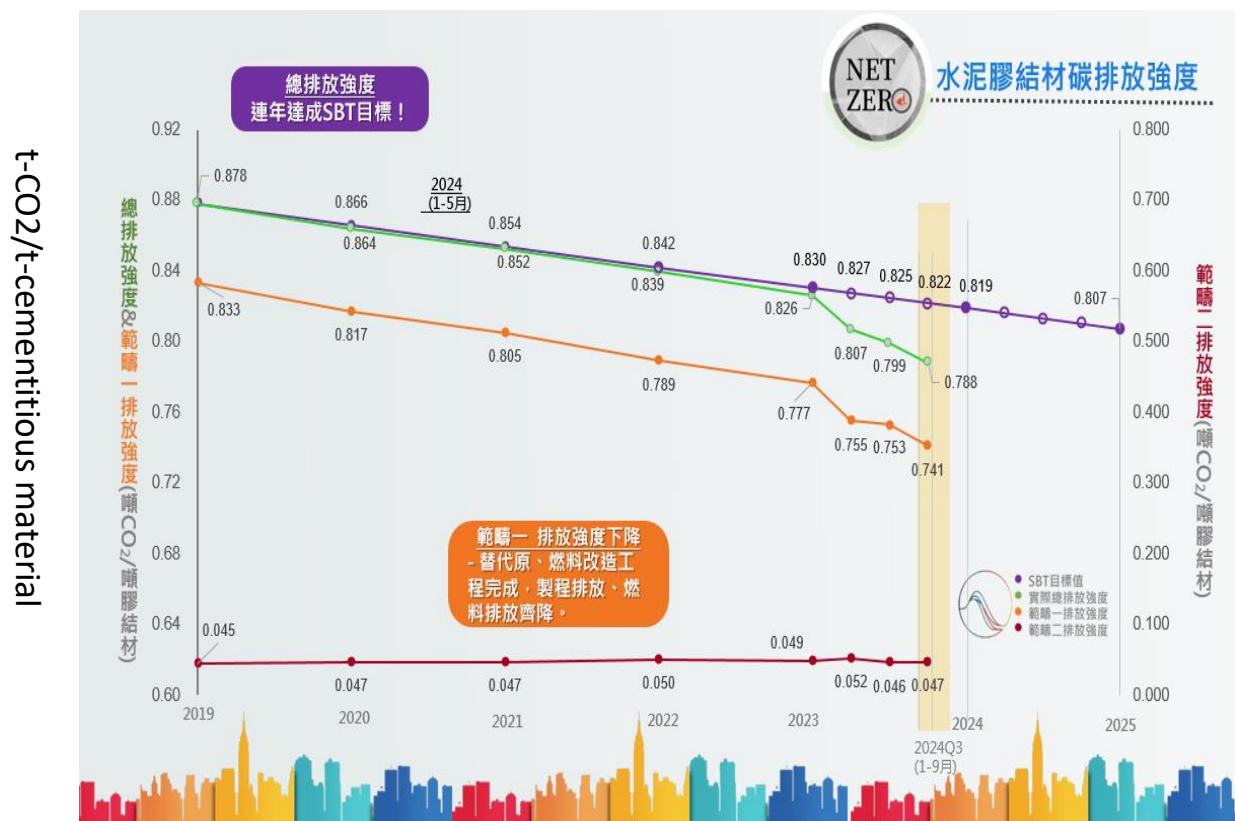


亞泥加入國際SBTi減碳倡議

Asia Cement joins the international SBTi carbon reduction initiative

亞洲水泥是**全球第四家向SBTi**承諾，在遠優於2°C情境下，達成科學**減碳目標**的水泥公司。

Asia Cement is the fourth cement company in the world to commit to SBTi to achieve scientific carbon reduction targets under a scenario that is well-below 2°C.



2019為基準年

Base Year: 2019

First stage	Well-below 2°C	~2025 ↓ 8.0%
Second stage	Below 15°C	~2030 ↓ 26.4%
Third stage	Below 15°C	~2035 ↓ 45.7%

Taking 2019 as the base year,

- ✓ the first-stage carbon reduction target of 8% in 2025
- ✓ the second-stage carbon reduction target of 26.4% in 2030
- ✓ the third-stage carbon reduction target of 45.7% in 2035

Under a higher-standard 15°C scenario

世界各國礦場樣貌

Common appearance in mining sites in various countries around the world

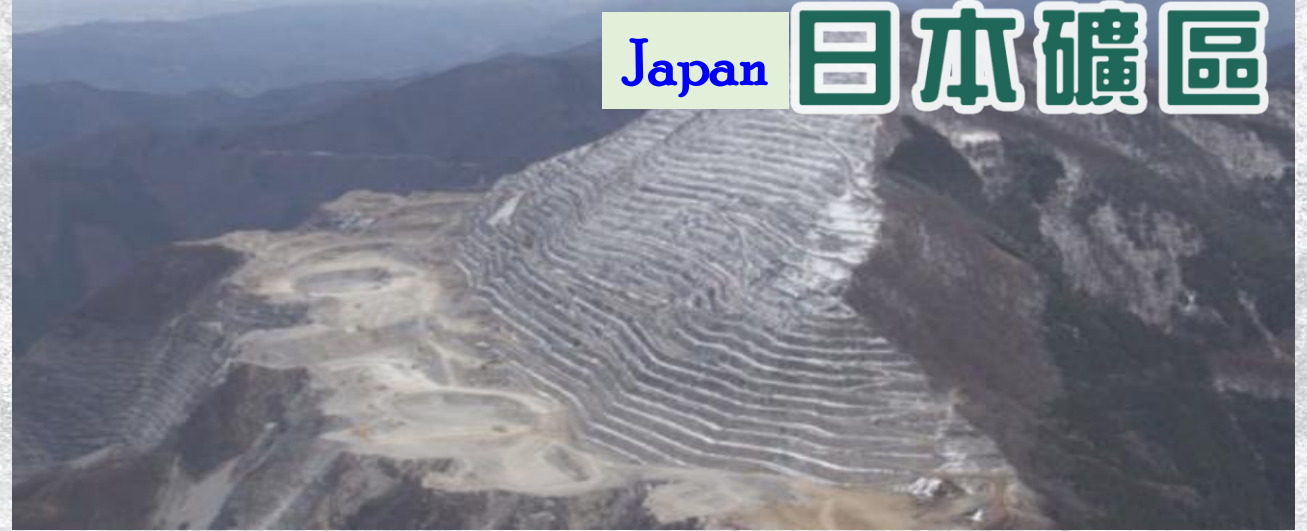
澳洲礦區

Australia



Japan

日本礦區



義大利礦區

Italy



Korea

韓國礦區





亞泥執行生物多樣性努力

Asia Cement's approach to biodiversity and its current achievements

盡力減輕對於生物多樣性的衝擊 Try its best to reduce the impact on biodiversity

採礦場現地立即復育

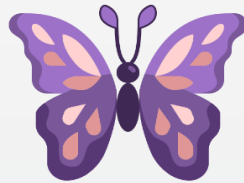
Immediately Recover and Rehabilitate Mining Sites

異地生物多樣性增強措施

Carry out Off-site biodiversity enhancement measures



◆ 採礦場
Mining site



◆ 生態園區
Ecological park



◆ 水泥工廠
Cement plant

在開發的整個生命週期間，棲息地的創建和恢復，在現場及場外同時執行。

Habitat creation and restoration are performed both on-site and off-site throughout the life cycle of the development to achieve the goal of **net positive impact** on biodiversity.

亞泥生物多樣性調適努力 Asia Cement is committed to biodiversity adaptation efforts

亞泥持續盡力恢復礦場原有的景觀，依據衛星空拍圖像，植樹約二十年後，林相恢復至接近開採前狀況。

Asia Cement continues to work hard to restore the original landscape of the mine. According to satellite aerial images, about 20 years after planting trees, the forest will return to a state close to that before mining.

亞洲水泥採礦場照片

A photo of Asia cement mining site

亞泥自1975年起於新城山礦場開採至今，一共開採約2億噸石灰石。

Asia Cement has been mining in Xinchengshan Mine since 1975 and has mined a total of approximately 200 million tons of limestone.

自1980年開始植生復育已45年，種植40種不同原生植物，合計超過九萬棵樹。

It has been nearly 45 years since planting and restoration began in 1980, 40 different species of native plants have been planted, totaling more than 90,000 trees.



林相成長茂密，野生動物返回原棲息地。
Many wild animals returning to their original habitat after the forest has grown dense.



大冠鷲

Great crested vulture

Wild goat

野山羊



食蟹獾

Crab-eating mongoose

野生動物返回棲息地

Wildlife returning to their habitats.

野山羊、大冠鷲、食蟹獾、黃喉貂、山羌、食蛇龜、藍腹鵲、獼猴、小雨蛙、樹鵲、翠翼鳩、山羊、山豬、松鼠、深山竹雞等野生動物都陸續返回原本的棲息地。



黃喉貂

Yellow-throated marten



山羌

Muntjac



食蛇龜

Snapping turtle

亞泥打造世界級典範礦場 生態復育名聲遠播全球

ACC continues to build world-class model mines, and its reputation for ecological restoration has spread around the world.



亞太經濟合作礦能專家小組參訪，將植生綠化成效與各國專家分享。

APEC/GEMEED shared the results of the rehabilitation efforts with experts from various countries.



大陸
China

大陸邀請礦山治理專題演講
China invited Asia Cement to deliver
a lecture on mine conservation.

台灣
Taiwan



- 地球科學科系教學場地
- 礦務局認定模範礦場

The teaching venue and model quarry site.



澳洲
Australia

澳洲政府出版『礦業永續發展指引』供礦業學習，亞泥新城山列入全球18個深入報導礦場。

The Australian government published the book "Sustainable Mining", Asia Cement's Sin Chen San quarry was one of the 18 quarries that received in-depth coverage in the book.



日本
Japan

日本石灰石協會、資源素材學會，兩度前來觀摩借鏡。

The Japan Limestone Association and the Resource Material Society observe and learn twice.



韓國
Korea

韓國山林土石協會對於亞泥植生綠化、水土保持、環保投入高度肯定。

The Korean Forest and Soil Conservation Association highly commended Asia Cement for its vegetation greening, soil conservation, and environmental protection efforts.



採礦場現地復育

1980

礦場自身獨有技術復育
The mine's own unique
greening and restoration
technology



2002

移地保育
設立原生植物園區
Establishing a native
plant park

生態園區歷史沿革

為了豐富生物多樣性，亞泥建置生態園區，沿革如下：
In order to enrich biodiversity, Asia Cement built an ecological
park. The development history is as follows:

異地復育

2004

延伸昆蟲生態
設立蝴蝶園區
Extend insect ecology
Establish a butterfly park

2007

延伸昆蟲生態
再設竹節蟲園區
Extend insect ecology
Establish a stick insect park



亞泥生態園區平面配置圖

Asia Cement Ecological Park Site Location

生態園區就在工廠對面，實現工業發展與環境保育可以並行不悖理念。

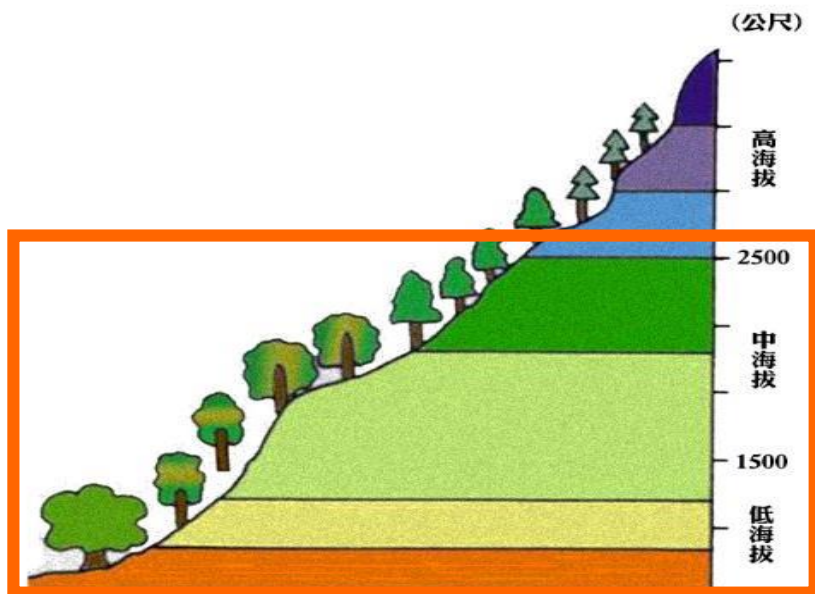
The ecological park is right opposite the plant, carry out that industrial development and environmental conservation can go hand in hand.



原生植物園區特色



特色1
礦山原生植物移地保育



廣收2500公尺
以下台灣低海
拔至中海拔原
生植物。

特色2
網羅低海拔到中海拔原生植物



特色3
蒐集台灣東西南北各地原生植物

2. 蝴蝶園區



戶外蝴蝶園區



蝴蝶網室



培育室



全台首座大型網室蝴蝶園區

Taiwan's first and largest screen-house butterfly park

- ◆ 提供蝴蝶一處不被侵害的安全環境

A safe place for butterfly.

- ◆ 建造全台灣首座最大型的網室蝴蝶園區(約600坪，高度8米)

Building Taiwan's first and largest screen-house butterfly park.

- ◆ 全台獨一無二可視情況隨時調整、抗風災電動收網設計的網室

A unique, adjustable, and wind-resistant electric retractable net design for screen-house in Taiwan

- ◆ 採用最接近戶外自然環境模式營造蝴蝶棲地

Creating butterfly habitats with the closest resemblance to outdoor natural environments.



棲地營造的永續發展

啟動全台蝴蝶 棲地營造計畫



全台35棲地形成蝴蝶廊道

- 花蓮12所學校、6個社區
- 台東1個公部門、2所學校、4個社區
- 台南1所學校、1個公部門
- 新竹5所學校
- 台北1所學校
- 台中1所學校
- 高雄1所學校

竹節蟲園區

Stick insect Park



亞泥生態園區裡的竹節蟲各個都是捉迷藏高手，你能發現他躲藏在哪裡嗎？

Each stick insect in the Asia Cement Ecological Park is a master of hide-and-seek.
Can you find where he is hiding?



跨出園區 生態學習列車全國巡迴

The ecological learning train tours across the country



連續3年受邀參加科技部
科學好好玩—臺灣科普環
島列車

Asia Cement has been invited to participate in scientific events organized by the Ministry of Science and Technology for three consecutive years.



全台巡迴13場，共325天，50
萬人搭乘學習列車快樂學習竹
節蟲生態，回響熱烈。

Asia Cement's nationwide tour covered 13 locations across Taiwan over 325 days, engaging 500,000 people in learning about the ecology of stick insects, with a strong and positive response.



連續3年應花蓮縣政府
邀請生物多樣性嘉年華
會

Asia Cement has been invited by the Hualien County Government to participate in biodiversity activities for three consecutive years.

生態影片 精彩蟲現

Ecological video Wonderful insect appearance



亞泥生態園區 **官網點閱數**

2018年10月至2023年計**230萬次**

Asia Cement Ecological Park website has reached **2.3 million** page views.



亞泥生態園區



蝴蝶產卵篇



亞泥生態園區YT頻道



- [亞泥生態園區YT頻道](#)，發表園區生物多樣性物種與成果影片。

Asia Cement Ecological Park's YouTube channel releases videos showcasing the biodiversity species and achievements of the park.

- 2023年發表**60集**影片，頻道累計264部影
- 2023年觀看次數:**5.6萬次**

In 2023, we released 60 episodes, totaling 264 videos.
Number of views in 2023: 56,000



為表揚推動永續發展績效卓越單位，鼓勵全民參與永續發展推動工作，以落實永續發展在地化及生活化目標，實現國家永續發展願景，永續會自93年起開始辦理國家永續發展獎。

亞洲水泥公司獲得2022年國家永續發展獎，為該獎項18年來唯一獲獎水泥公司。





2023台灣循環經濟獎 連續2年

ESG貢獻獎

「年度典範企業」



主辦單位：



公會

工業同業公會

纖維製造工業同業公會

台灣區絲綢印染整理工業同業公會

導體產業協會

「九」是會減碳！蟬聯全國工廠獲獎次數No.1

榮獲 經濟部產業發展署 頒發
2023年溫室氣體自願減量獎

2023 亞太氣候領袖

英國《金融時報》X 顧問公司Statista

表揚 2016~2021

碳排放顯著減少的亞太區企業



唯一入選 台灣區域 水泥業者

亞洲水泥 連續2年獲遠見ESG獎

2023

環境友善組 楷模獎

獲獎專案(礦場生物多樣性)

重返家園 尋回山林的氣味
記憶



2024

綜合績效楷模獎

(傳統產業)

環境友善組 楷模獎

獲獎專案(異地生物多樣性)

從棲地營造到串聯全台蝴蝶
廊道：亞泥重建台灣「蝴蝶
王國」





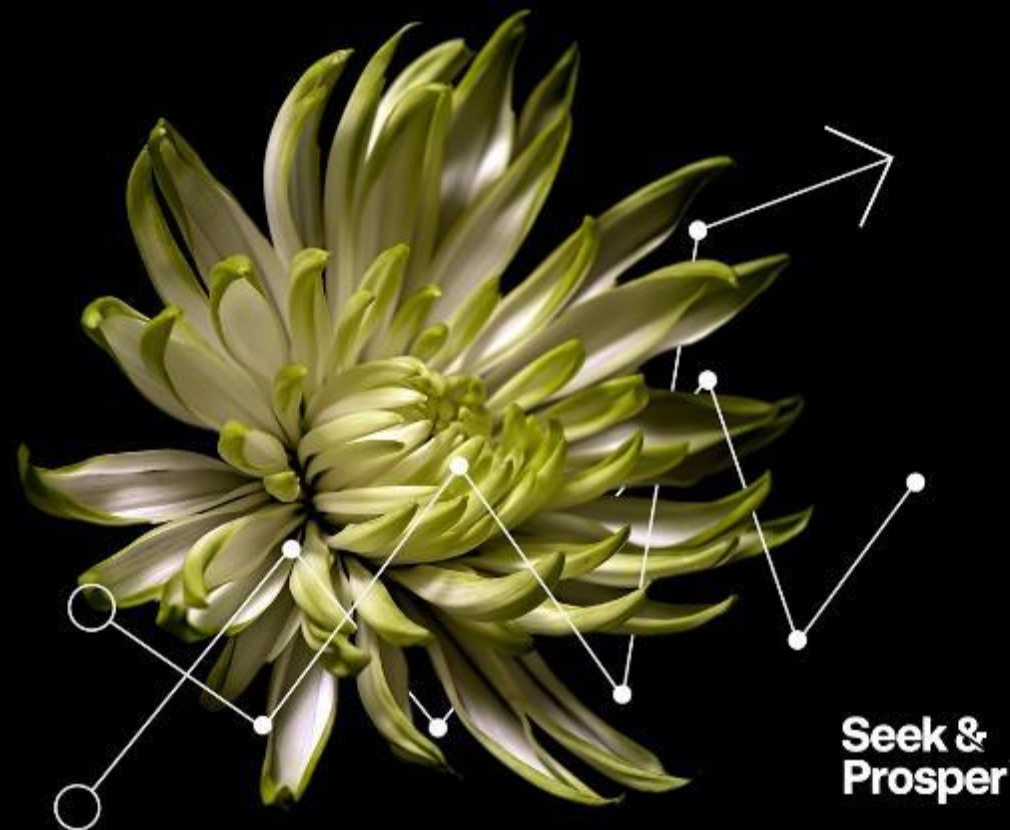
TSAA 2024 台灣永續行動獎

「低碳轉型，與泥同行」榮獲金獎

「棲地營造重現蝴蝶王國」榮獲銅獎

Sustainability Yearbook 2024

Celebrating 20 years of the Sustainability Yearbook.
Discover which companies are this year's top
performers.



獲選 S&P Global 《2024年永續年鑑》
台灣建材類最高分

四、產業淨零路徑面臨的環境及挑戰

四、產業淨零路徑面臨的環境及挑戰

1. 循環經濟之替代原料、替代燃料，未來恐將缺乏：
2. 業者未來是否能擁有足量、質優、價格合理的電力：
3. 產業是否願意並能夠獲得高額投資所需的融資：
4. 上下游產業價值鏈是否能協同合作邁向一致的淨零終極目標。
5. 政府是否能為淨零各項措施，引入簡化、有效率的許可制度。
6. 政府是否能實施無懈可擊的碳邊界調整機制：
7. 政府是否能為低碳、循環產品創造領先市場：

水泥及混凝土對於SDGs貢獻

- 在全球化及都市化的進展，一切照舊(business as usual, BAU)，2050年水泥產量將高達50億噸以上。
- 多達30億的人口可能生活在條件不佳環境。
- 建造能提供其居住空間、清潔水源、衛生及能源服務之設施，有其迫切需要。



基礎設施對實現永續發展目標SDGs影響

The influence of infrastructure on achieving sustainable development goals

聯合國專案事務廳 (UNOPS)

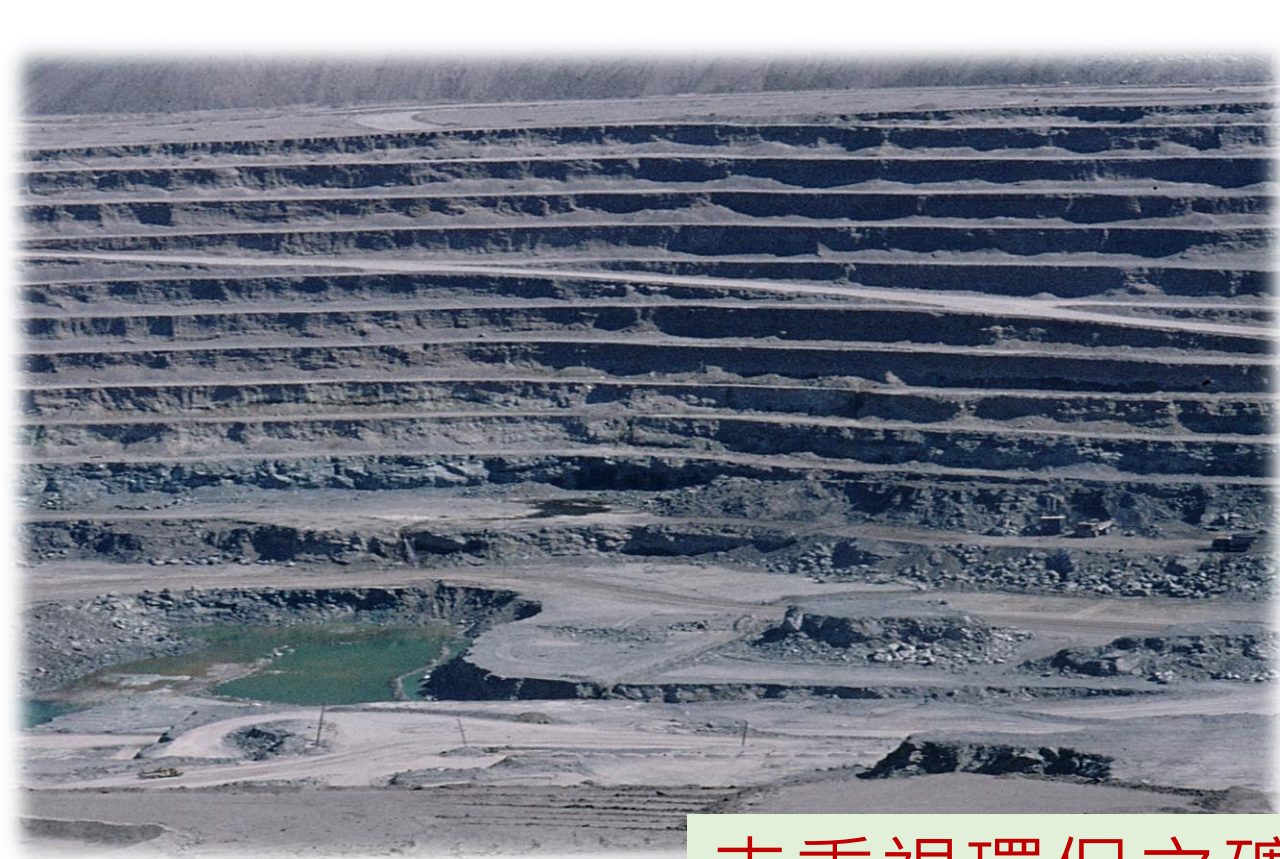
基礎設施(SDG 9)影響17項可持續發展目標中72%的目標實現進展

Infrastructure (SDG 9) influences progress towards 72% of the targets across 17 Sustainable Development Goals.

水泥是基礎設施極為關鍵材料

Cement is a critically important material for infrastructure.





未重視環保之礦場及水泥工廠





亞泥花蓮 廠區 礦區 園區



歡迎蒞臨亞泥生態園區觀蟲賞蝶
Welcome to Asia Cement Ecological Park

簡報結束 敬請指教
End of briefing

亞泥水泥 花蓮製造廠
Asia Cement Hualien Plant