



2024 PRESENTED BY CLEANAWAY

# Cleanaway TW.8422

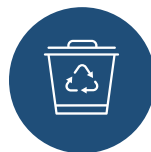
可寧衛股份有限公司



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# Industry Overview | 產業簡介



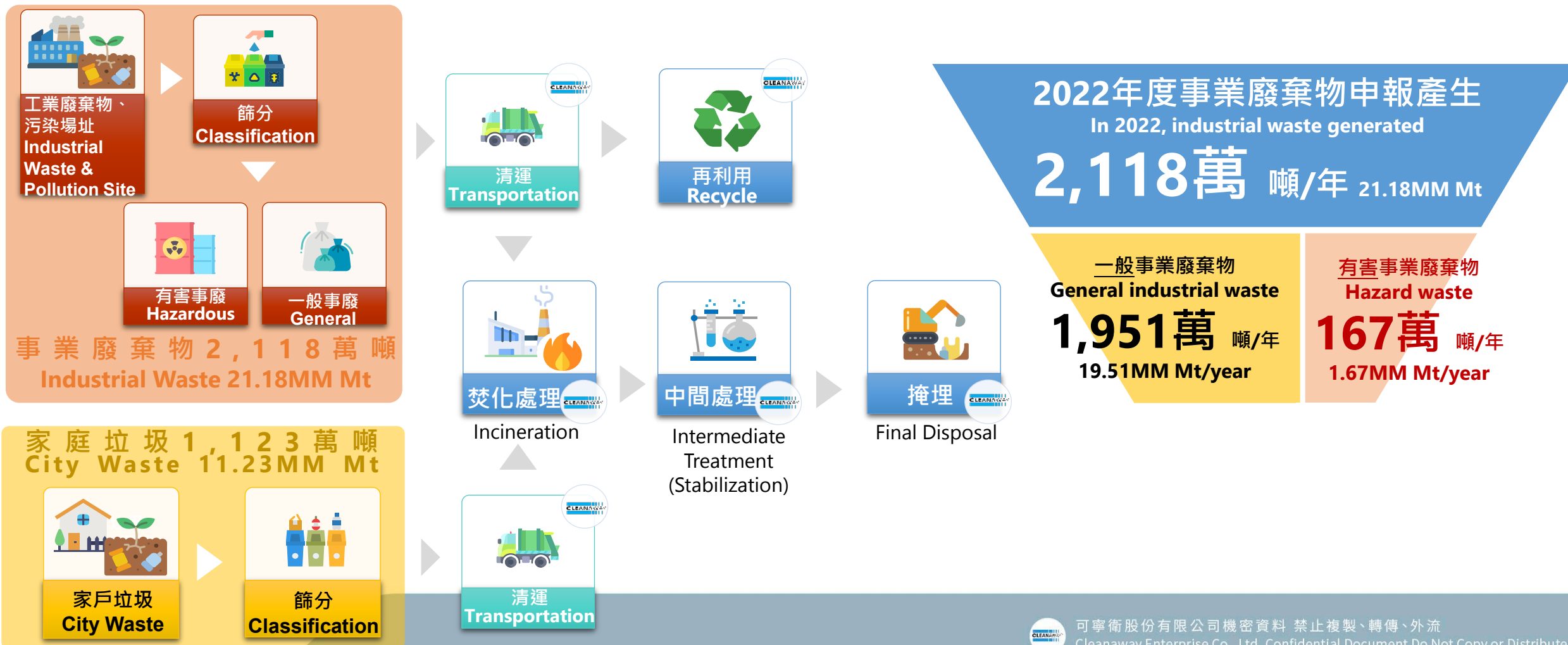
Group Vision | 集團願景



Corporate Sustainable Operation & ESG |  
企業永續經營 & ESG

Cleanaway group's business scope covers clearance, treatment and final disposal of both hazardous & non-hazardous industrial waste.

可寧衛集團之業務範疇為有害及一般(無害)之事業廢棄物清運、處理與最終處置。



## Industry | 產業

## Logistics | 清運

## Treatment | 處理

Steel	鋼鐵業
Electronics	電子工業
Technology	科技業
Waste Water	污水廠
Petro	石化業
Incineration	焚化爐
Contamination	污染場址
Remediation	土壤整治
⋮	

AIOT  
Platform  
智慧平台

Transportation  
運輸

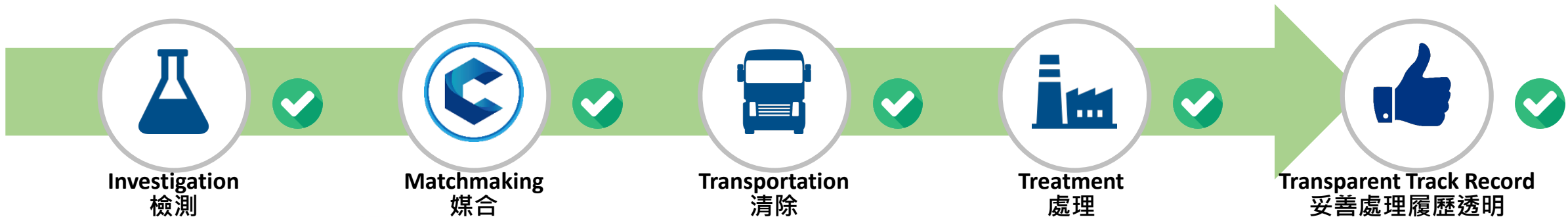
Recycling 回收

Solidification  
固化

Incineration /PCT  
焚化/物理化學  
處理

Reuse  
再利用

Final Disposal  
最終處置





Industry Overview | 產業簡介



**Group Vision | 集團願景**



Corporate Sustainable Operation & ESG |  
企業永續經營 & ESG



大云永續科技  
WaaS / ESMS



焚化及物化  
INCINERATION / PCT



廢光源、電子廢棄物 回收再利用  
及焚化 / 醫廢處理  
LIGHTING WASTE, E-WASTE RECYCLE  
AND INCINERATION/BIOHAZARD

固化處理  
SOLIDIFICATION

最終處置  
FINAL DISPOSAL

污染土壤整治  
REMEDIATION OF  
CONTAMINATED SITES

環境總體顧問服務  
COMPREHENSIVE CONSULTANTS



循環經濟  
CIRCULAR ECONOMY

大承  
再生粒料

吉鼎  
CLSM

再生能源  
RENEWABLE ENERGY

大創綠能  
漁電共生

可寧衛能源  
SRF再生能源

上評再生造紙事業  
RECYCLED PAPER

清運車隊  
LOGISTICS

實驗中心  
LABORATORY

Cleanaway Introduction : [https://youtu.be/chlh9\\_zo\\_5E](https://youtu.be/chlh9_zo_5E)



We use AIoT technology to collect real-time operational information from group entities:

可寧衛集團各據點 營運大數據以智能物聯網平台串聯，及時掌握運作動態







## Chase Environmental Technology

大云永續科技股份有限公司

CHASE launched the first waste management platform, providing businesses with an all-in-one digital management solution, including WaaS (Waste as a Service) for real-time waste management solutions and ESMS (Environmental Sustainability Management Solutions). 大云推出第一家事業廢棄物管理平台，提供企業一站式數位管理解決方案，提WaaS「廢棄物即時服務解決方案」及 ESMS「智慧永續解決方案」





**Cowin Environmental Resources Limited**

**可威環境資源股份有限公司**

(前名稱:可寧衛蘇伊士環境資源股份有限公司)

The facility is certified to treat over 400 types of waste including general waste, general industrial waste and **hazardous industrial waste** to achieve harmless, stable, reduced and resourced waste.

本廠核准處理項目超過400種，可處理一般廢棄物、一般事業廢棄物及**有害事業廢棄物**，提供全面性的廢棄物處理服務。

### Capability:可處理量

- Hazardous industrial incinerator : 2,800 tons/Month, Design heat value : 3,500 kcal/kg  
有害事業廢棄物焚化爐：2,800噸/每月，總熱值3,500kcal/kg
- Physical - chemical treatment plant : 5,340 tons/month 物理化學處理廠每月處理5,340噸
- Distillation treatment : 690 tons/month 熱蒸餾處理每月690噸
- Building for the 2nd line, total capacity: 3,000 ton/month 第二條焚化爐建廠中，預計核可量達3,000公噸/月**





中台資源科技  
CHUNG TAI  
RESOURCE TECH.

A leading company experienced in recycles and reuses waste lighting and electrical waste.

汞廢棄物處理及廢照明光源資源回收再利用事業及綠色產業事業。



廢印刷電路板  
Waste PCBs



廢印刷電路板邊框  
Waste PCB Frames



廢電子零組件  
Waste Electronic Components



廢電話交換機  
及通信器材  
Waste Telephone Exchange &  
Communication Equipment



廢印刷電路板粉料  
Waste PCB Powder



廢印刷電路板碎料  
Waste PCB Scraps



廢硬碟  
Waste Hard Discs



混合五金廢料  
Waste Mix Hardware



- Acceptable waste code 184 items  
可收受廢棄物代碼共184項
- Industrial hazardous solid and liquid waste / Biohazard waste incineration facilities 有害固體及液體事業廢棄物 / 醫療廢棄物焚化處理設施



中台綠能循環經濟  
創新研發中心

Chung Tai Green Energy & Circular Economy Innovation Center

- **Incineration: 5,400 tons/month**  
焚化處理: 5,400公噸/月

- **Hazardous waste solidification: 500 tons/month**  
固化處理: 500公噸/月

- **Chemical treatment: 2,400 tons/month**  
化學處理: 2,400公噸/月

- **Washing treatment: 500 tons/month**  
洗淨處理: 250公噸/月

- **General waste solidification: 1,500 tons/month**  
一般固化處理: 1,500公噸/月





## Cleanaway Energy Co., Ltd 可寧衛能源

- **Enter the Environmental Technology Park at Taoyuan City and kick off in 2023 Q3.**  
已進駐桃園工業科技園區，於2023年Q3開工建廠。
- 350 tons per day, combustible industrial waste to energy設計量能：每日350公噸，將廢棄物轉化為能源。
- Power efficiency over 26% 能源轉化效率超過26%。
- Combustible waste input with mechanical treatment, then combusted in SRF power plant to produce electricity, and the residue is treated with control equipment. 可燃性廢棄物經機械處理後，由汽電共生爐燃燒發電，產生之廢棄物經由各防治設備處理後排放處理。



Combustible Waste  
High Heat Value Waste Materials  
可燃性廢棄物 / 高熱值廢棄物

Mechanical Treatment  
機械分選

Solid Recovery Fuels  
(RDF-3)

SRF Power Plant  
汽電共生爐

Power Generation  
發電

Residue treatment  
廢棄物處理

代碼	名稱
D-0202	廢樹脂
D-0299	廢塑膠混合物
D-0399	廢橡膠混合物
D-0601	廢紙
D-0699	廢紙混合物
D-0701	廢木材棧板
D-0799	廢木材混合物
D-0801	廢纖維
D-0802	廢棉屑
D-0803	廢布
D-0899	廢纖維或其他棉布等混合物
D-1801	事業活動產生之一般性垃圾
R-0102	蔗渣
R-0201	廢塑膠
R-0301	廢橡膠
R-0601	廢紙
R-0701	廢木材
R-0801	廢人造纖維
R-0802	紡織殘料
R-0904	漿紙污泥
R-0906	紡織污泥





上評資源循環股份有限公司  
Top-Comment Resources Company Limited

We acquired land and PP&E in Chia Yi to expand our business scope into recycled papermaking, steam boiler system and renewable energy business. Keep our path toward to realize circular economy and transform traditional industry to Net Zero. 可寧衛於嘉義地區購置土地與廠房設備，發展造紙事業、蒸氣鍋爐與再生能源事業，朝向**循環經濟**理念邁進與傳統產業淨零轉型。  
The new line has been constructed and completed in Q3 2023, and is currently undergoing trial operation. 新汽電共生爐已於**2023 Q3**興建完工，進行試運轉中。

## Resource Circulation 物質循環化

Product made from  
100% waste paper  
廢紙回收再造工業用紙



Green  
Product  
綠色產品

## Eco-design Boiler 蒸氣鍋爐綠色製程

Steam may supply to  
neighboring manufacturers  
蒸氣鍋爐滿足附近製程



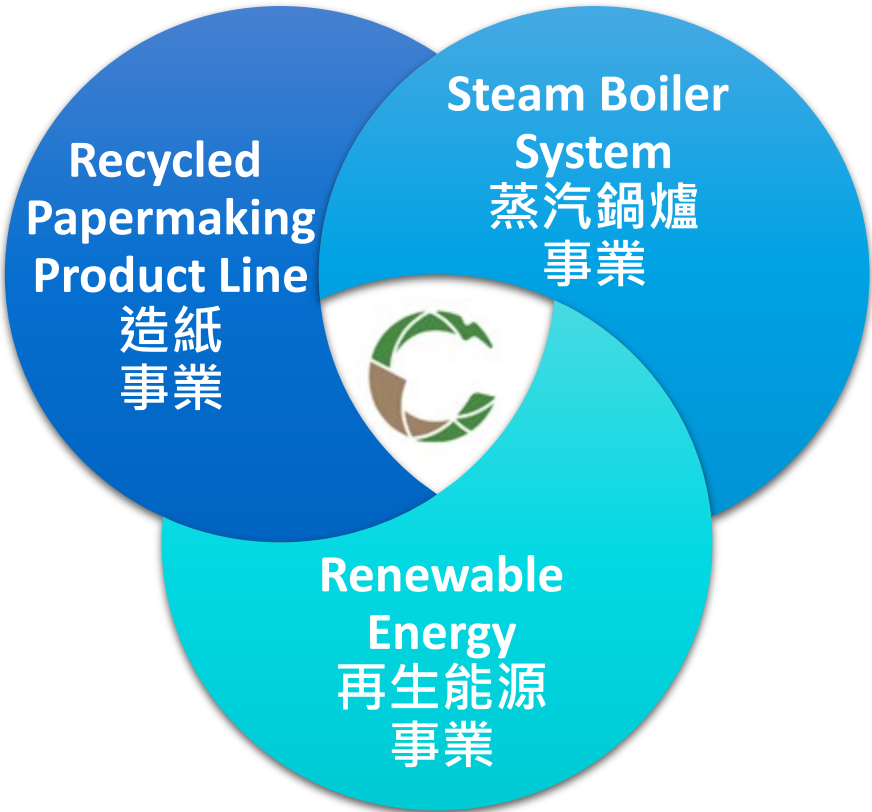
Cogeneration  
汽電共生

## Waste to Energy 廢棄物能源化

SRF as alternative fuel  
SRF取代化石燃料



Renewable  
Energy  
再生能源



Win-Win model for industrial growth and environmental sustainable operation.  
兼顧產業成長和環境永續經營。



上評資源循環股份有限公司  
Top-Comment Resources Company Limited



### SRF設置後

1. 減少的排放量: 35942.691公噸CO2e/年

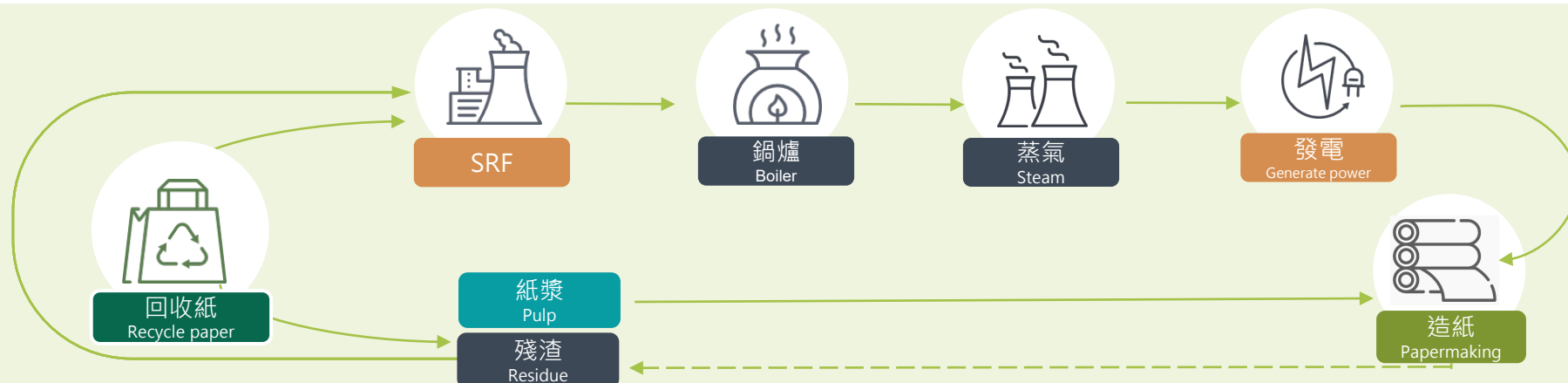
Reduced emission : 35942.691 tons CO2e/year

2. 一年的電力可節省21,900,000度的外購電力之使用

Save 21.9 million kWh/year purchased electricity

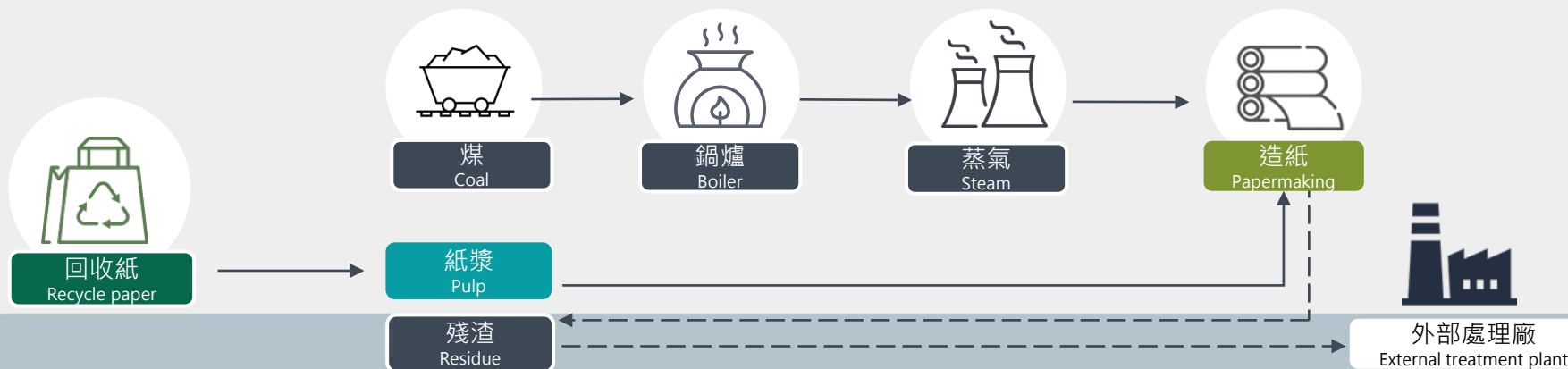
## AFTER

CO<sub>2</sub> 2.5萬 ↓



## BEFORE

CO<sub>2</sub> 2.5萬 ↑



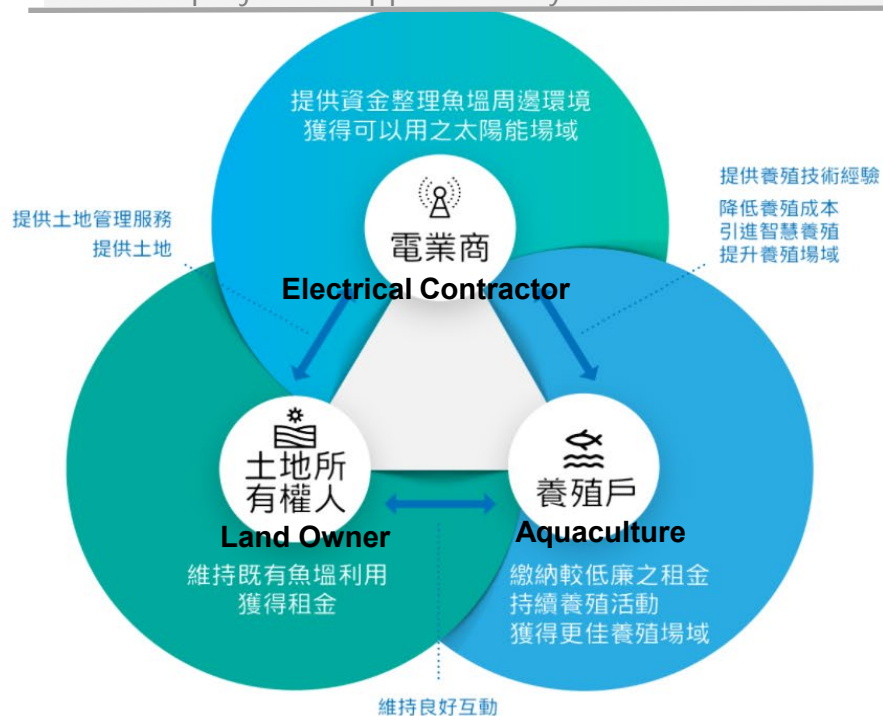


## 大創綠能

發展漁電共生及特定土地上的綠能開發，

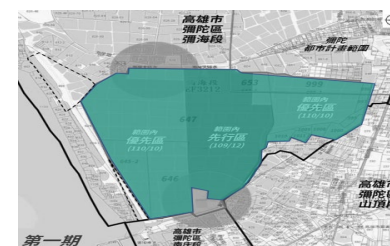
目前於高雄市彌陀區及屏東縣新埤設置漁電共生案場，規劃總建置容量約140MW。

We are currently building of fishery-electricity symbiosis and green energy projects on specific lands. We have established fishery-electricity symbiosis sites in Mituo District, Kaohsiung City, and Xinpi County, Pingtung County. The total planned installed capacity for these projects is approximately 140 MW



## Fishery and electricity symbiosis 漁電共生營運模式

- › 原來養殖戶優先承租
- › 場域設計與漁民溝通
- › 養殖物種不變
- › 地主與養殖戶皆同意才設置
- › 只用清水清洗



彌陀1期：70MW  
First project phase: 70MW



彌陀2期+屏東新埤：70MW  
Second + Pingtung Xinpi phase: 70MW

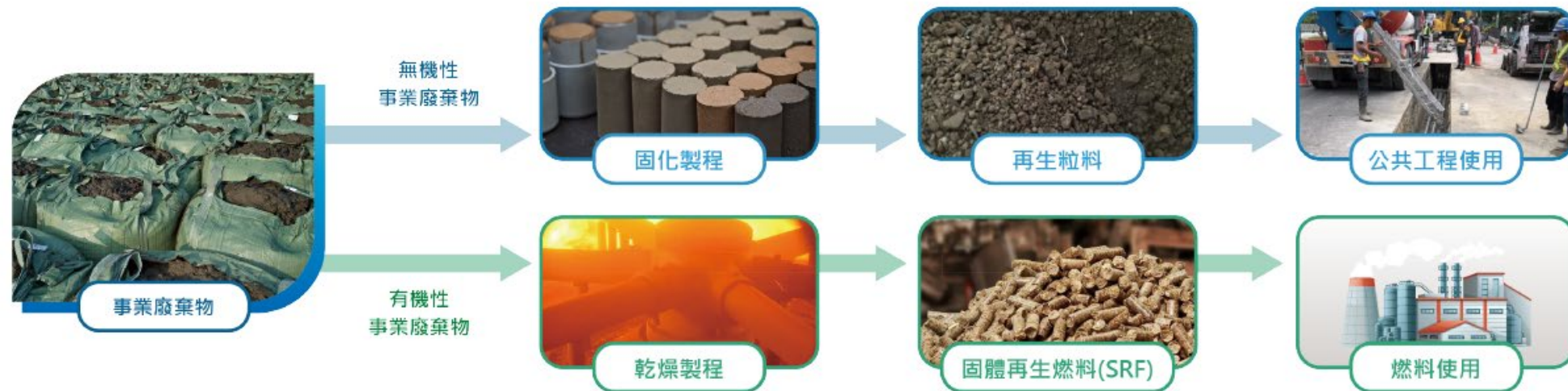




## 再生粒料廠&CLSM廠 Recycled Pellet Plant & CLSM

- **大承再生粒料廠**使用固化製程處理無機污泥、灰渣類；熱處理製程處理有機污泥、非有害油泥等料製成再生粒料。
- **吉鼎CLSM廠**收受再生粒料、焚化底渣等經過混凝土預拌製程，控制性低強度回填材料，可使用在道路基底層、低密度再生透水混凝土，將廢棄物產品化，拓展廢棄物一貫處理流程

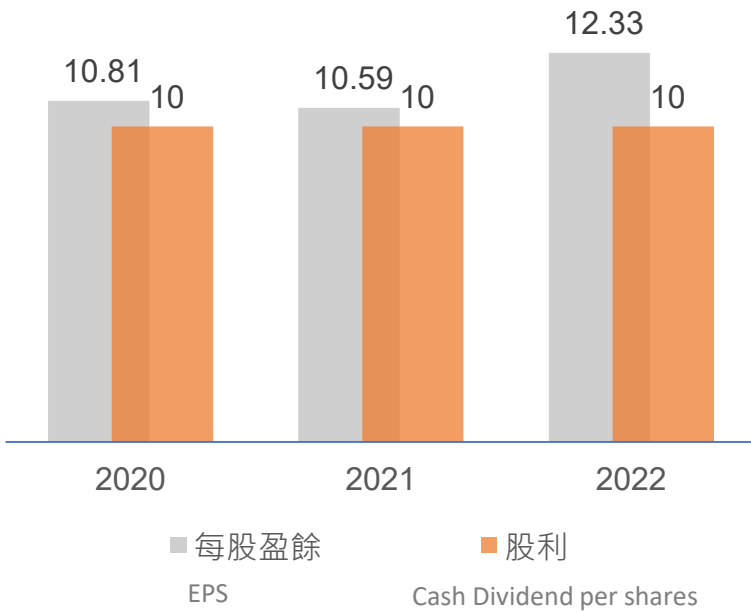
Bottom slag and sludge can be recycled to made recycled pellets and controlled low-strength backfill material (CLSM), Currently planning to build a recycled pellet plant and CLSM plant in Kaohsiung Daliao to improve our waste treatment process



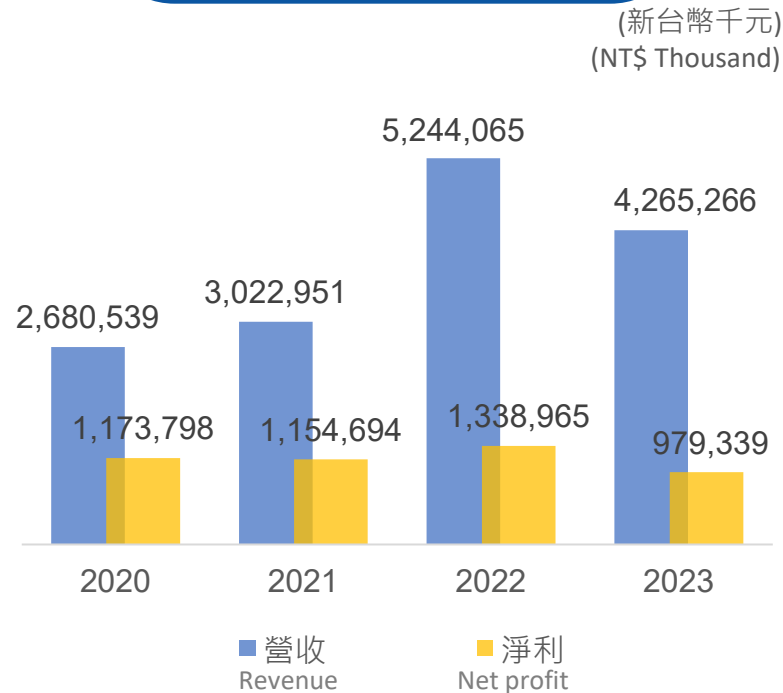
As a publicly traded company, the Cleanaway showed high level of transparency, strong financial statements and stable returns for shareholders.

可寧衛為財務透明的上市公司、並提供股東穩定收益與優良財務表現。

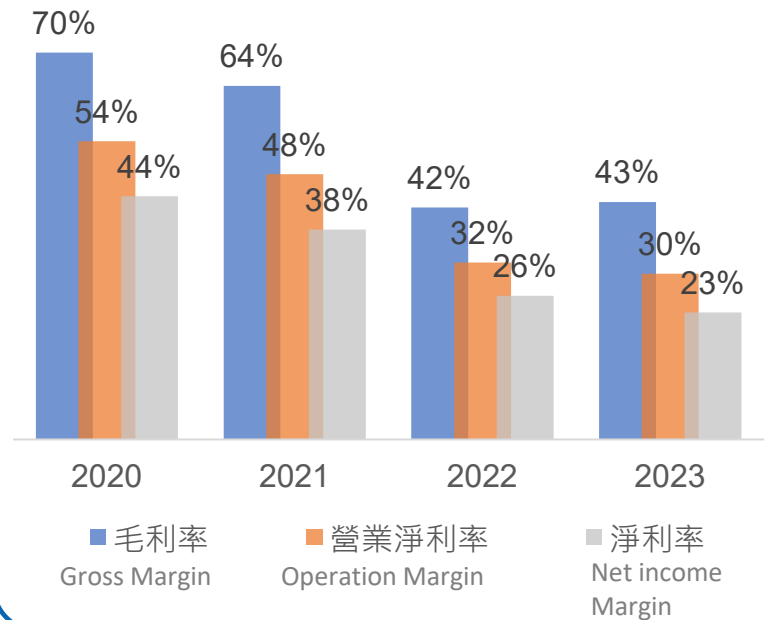
### Dividend Distribution 股利配發



### Historical Consolidated Revenue and Profit 歷年合併營收、獲利



### Earning Power 獲利能力



備註：董事會決議發放金額，實際每股現金股利將受可轉換公司債轉換情形而有所變動。 Note: The Board of Directors has determined the distribution amount. The actual cash dividend per share will vary depending on the conversion status of convertible corporate bonds.



Industry Overview | 產業簡介



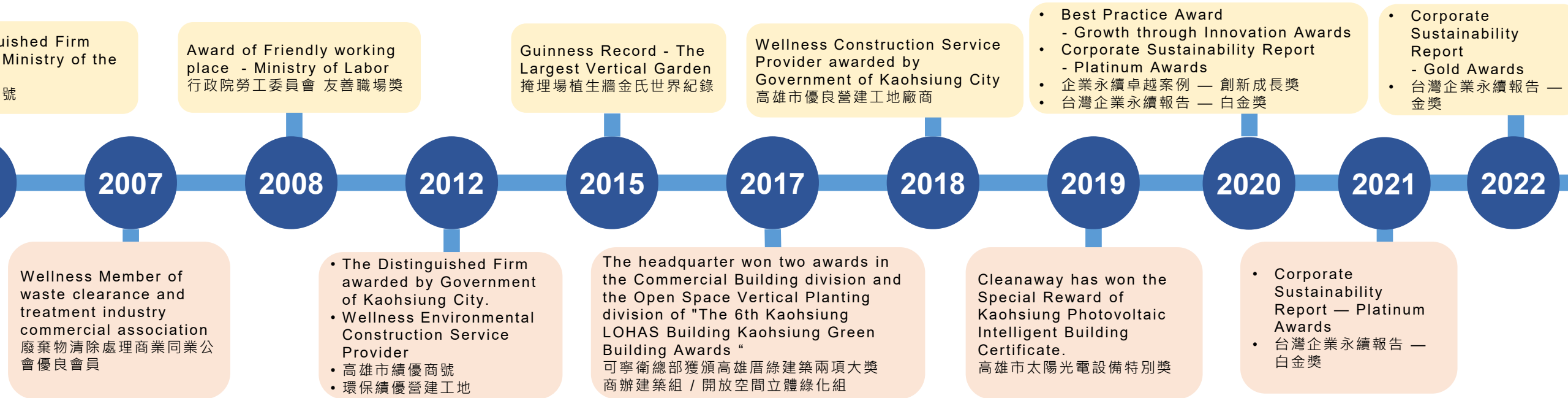
Group Vision | 集團願景



**Corporate Sustainable Operation & ESG**  
**| 企業永續經營&ESG**

Our Chief Sustainability Officer, who is required to report their performance directly to the board periodically, will lead Sustainability Development Department and a functional committee "CSR Committee" to achieve sustainability KPI.

可寧衛成立永續發展部及董事會下設功能性委員會，由永續長帶領團隊致力於達成永續指標並定期與董事會報告。



## 2020

可寧衛榮獲《2020 TCSA台灣企業永續報告》雙獎項

- ✓ 企業永續卓越案例 — 創新成長獎
- ✓ 台灣企業永續報告 — 白金獎

2020 Cleanaway has won the best CSR report from Taiwan Corporate Sustainability Awards

- ✓ Best Practice Award — Growth through Innovation Awards
- ✓ Corporate Sustainability Report — Platinum Awards



## 2021

可寧衛榮獲《2021 TCSA台灣企業永續報告》白金獎

- ✓ 台灣企業永續報告 — 白金獎

2021 Cleanaway has won the best CSR report from Taiwan Corporate Sustainability Awards

- ✓ Corporate Sustainability Report — Platinum Awards



## 2022

可寧衛榮獲《2022 TCSA台灣企業永續報告》金獎

- ✓ 台灣企業永續報告 — 金獎

2022 Cleanaway has won the best CSR report from Taiwan Corporate Sustainability Awards

- ✓ Corporate Sustainability Report — Gold Awards

## 加入EP100國際倡議 邁向潔淨經濟企業

可寧衛於2023年7月正式成為國際氣候組織 CLIMATE GROUP EP100 會員，身為台灣第一間加入EP 100的環保公司，可寧衛導入ISO 50001能源管理系統，並承諾到十年相關子公司皆實施能源管理系統 ( EnMS )，目標2035年能源生產力(EP)相較2022基準年提升25%。

officially became a member of the international climate organization CLIMATE GROUP EP100. As the first environmental protection company in Taiwan to join EP100, Kunning Wei has implemented the ISO 50001 energy management system and committed to implementing energy management systems (EnMS) in all related subsidiaries over the next decade. The company aims to achieve a 25% increase in Energy Productivity (EP) by 2035 compared to the baseline year of 2022.



### ▶ 可寧衛

有害事業廢棄物固化處理服務

### ▶ 吉衛

固化及穩定化合物掩埋處理服務

### ▶ 大寧

一般事業廢棄物掩埋處理服務



## 太陽能與沼氣發電Solar & Biogas Renewable Energy

利用已封場的填埋場進行土地再利用，截至2022度為止

太陽能與沼氣的總發電量為3千1百萬餘度，減碳成果共減少了1萬5千餘公噸的二氧化碳。

Capability of SunPower panel – 5.4 MW 太陽能發電容量 – 共設置5.4MW

Annual CO<sub>2</sub> reduction - reach to 1,869 tons. 每年預估可減少1,869噸二氧化碳

Biogas is produced from organic matters in landfill, and treated to generate power.

沼氣發電係利用掩埋場中有機物質分解的甲烷進行發電

掩埋場與固化廠屋頂上方的太陽能板



生質能之沼氣發電站

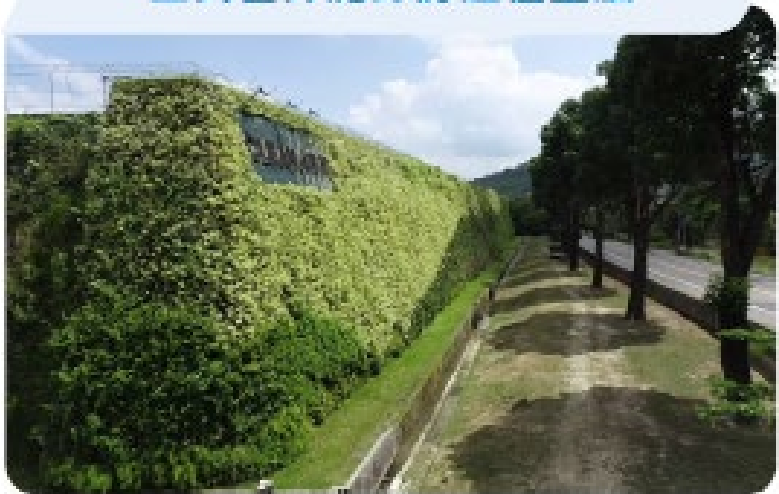




## 垂直花園(植生牆) Vertical Garden/綠美化與生態滯洪池

- 2015.06.29 金氏世界紀錄-世界最大垂直花園 Garden to harmonize landfill into community 場區內環境植被更達總面積的四分之一，每年可減少 31,813.22 公斤的二氧化碳
- 場內設有生態滯洪池將雨水加以收集用於植物澆灌與地面清洗水，不僅能作為生物休憩使用，也能達到水資源回收的目的

金氏世界紀錄認證植生牆



廠(場)區綠美化與生態滯洪池



可寧衛環境教育團隊不定期更新對於環境的思考、探索及教學點滴。2022年度共辦理5場次185人廠區參訪；14場到校環境課程服務，488位學生參與，亦前進偏鄉學校，平衡教育資源落差的窘境，期能建構一個平等優質的教育環境。

Cleanaway Environmental Education Team from time to time share their perspectives regarding our land and their exploration and story happened among our participant with the public. 



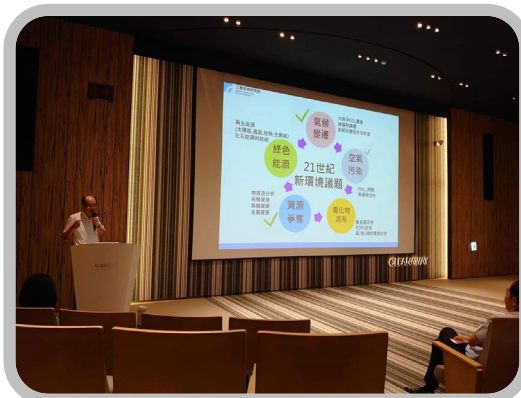
## 里民參訪

## Communities visited landfill



## 產學講座

## Cleanaway Seminar



## 環保局及學術單位參訪

## EPA &amp; University visited landfill



## 海灘清潔認養

Periodic costal cleanup



## 社會慈善贊助

Charitable donation



## 場區鄰里清潔

Community hygiene practice





CLEANAWAY

THANK YOU



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