



All rivers are clean and no water is polluted.



6641

# GSD Technologies Co.,Ltd.

2023.03.30

GREEN · SAFE · DEVELOPMENT





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Operating  
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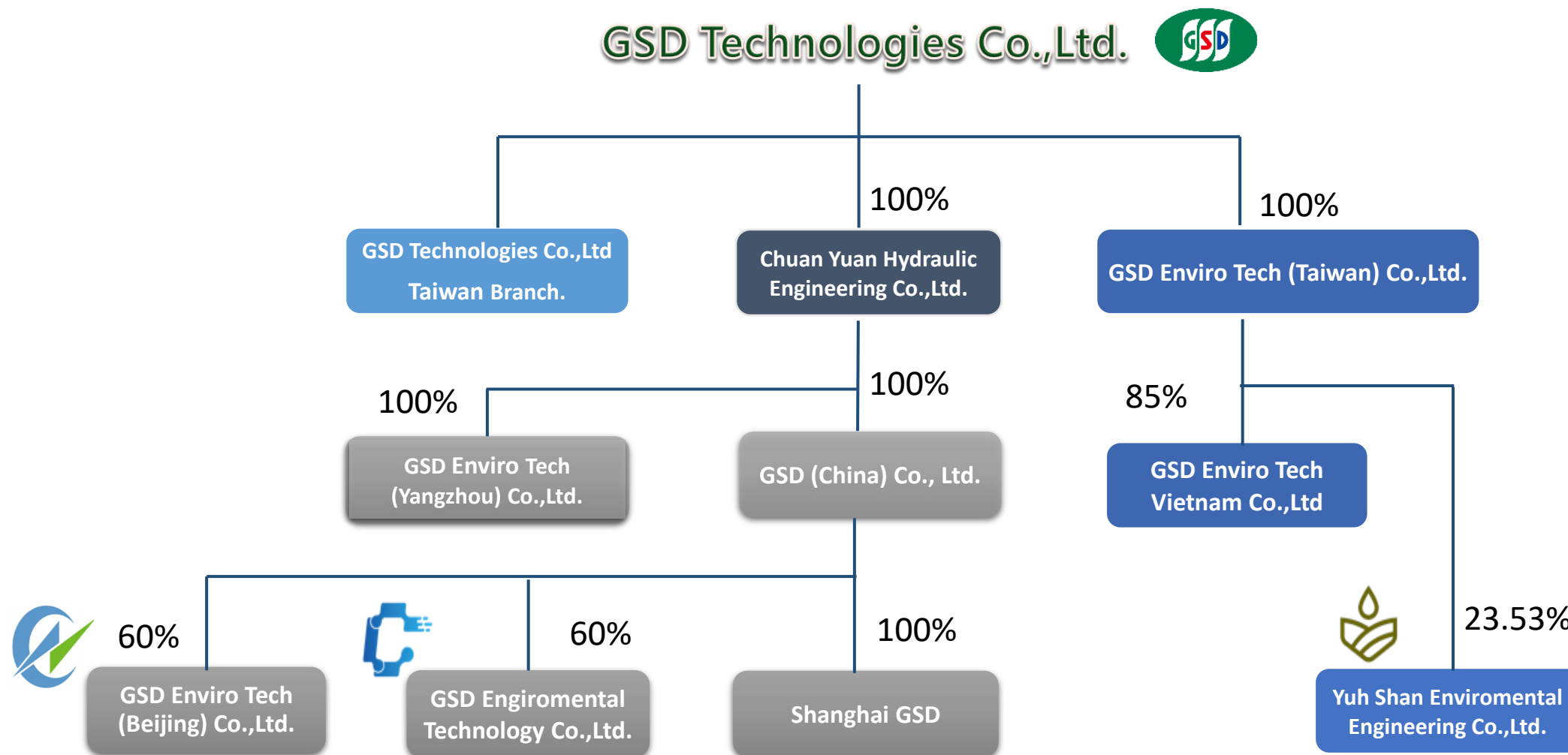
Company

Profile

01

Company	◆ GSD Technologies Co., Ltd.
Stock Code	◆ 6641
Established	◆ Oct.2013
Chairman	◆ Hung-June, Hsieh
Paid in capital	◆ NTD 370 Millions
Major business	◆ Environmental equipment manufacturing, sales and technical services.
Brand	◆ GSD
2 Plants	◆ Pinghu in Zhejiang & Yangzhou in Jiangsu
Staffs	◆ 589 employees (2022.Dec.31)

# Company Structure



**G**REEN

Friendly commitment to the earth's environment and ecology.



**S**AFE

Responsible commitment to customer / supplier / employee / stakeholder/other relative organization.

**D**EVELOPMENT

Commitment to sustainable development of the company.

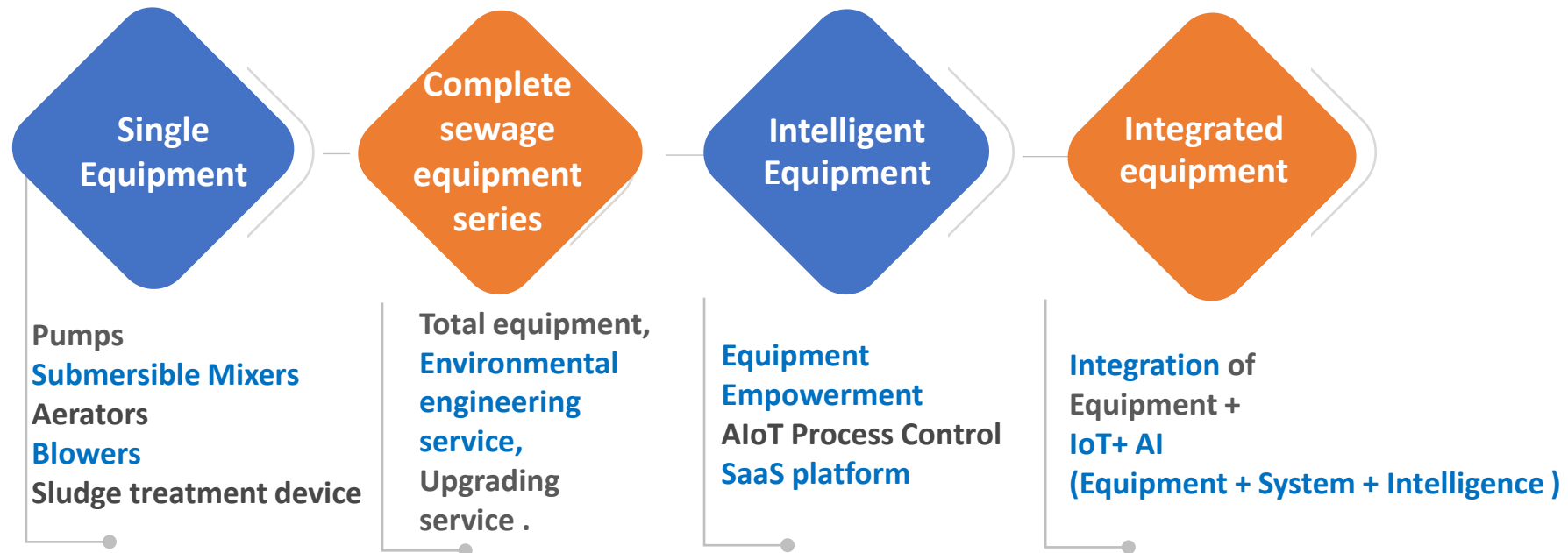
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**Mission** To optimize the ecological environment and benefit to the world.

**Vision**

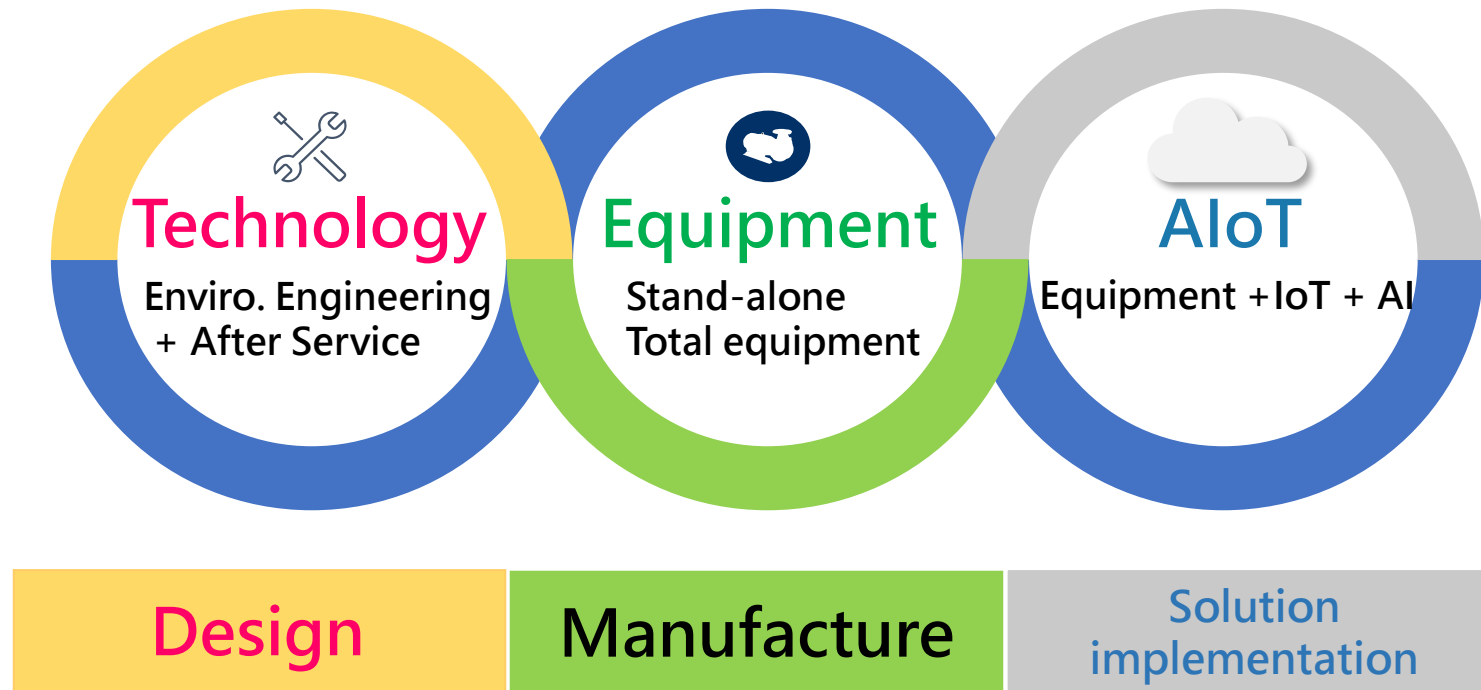
- Environment** : All rivers are clean and no water is dirty.
- Company** : Being paragon to all brands, being leader in WWTP industry.
- Colleague** : To enable our staff' s devotion in wonderful career and life.

## Comprehensive provider of environmental governance





## Comprehensive service provider of environmental governance







# Operating Performance

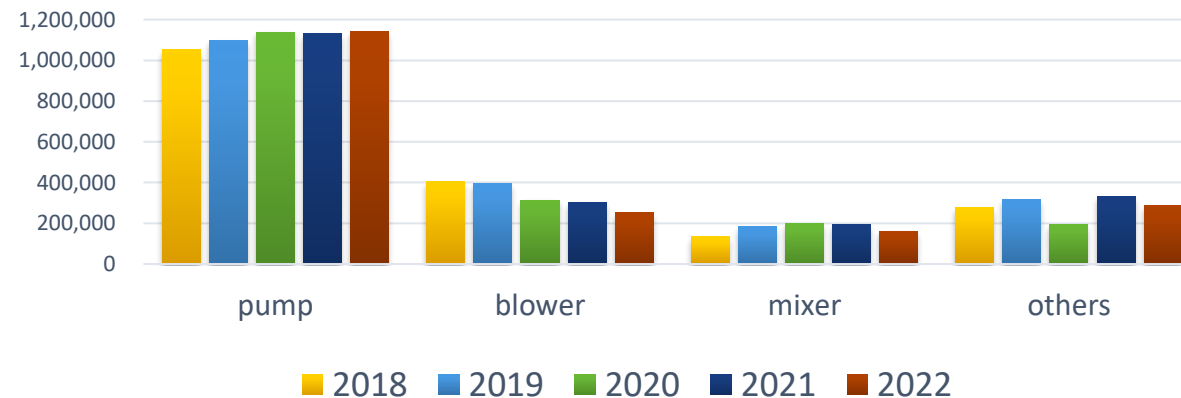
# 02

# Product Sales/ Income Statement

Items	2018	2019	2020	2021	2021
Revenue	1,867,639	1,992,051	1,846,674	1,960,518	1,840,584
Sales margin	739,292	771,093	739,951	751,949	660,284
Op. Income	263,642	240,532	262,105	203,227	115,651
EBIT	280,499	282,631	290,949	256,126	201,685
Net income	213,672	227,154	215,511	212,274	173,925
EPS	6.86	6.79	6.52	6.30	5.00

item	2018		2019		2020		2021		2022H1	
	AMT	%	AMT	%	AMT	%	AMT	%	AMT	%
pump	1,051,424	56.30	1,097,049	55.07	1,138,671	61.66	1,130,537	57.67	1,141,152	62.00
blower	406,255	21.75	395,382	19.85	313,497	16.98	302,771	15.44	251,843	13.68
mixer	133,092	7.13	182,604	9.17	199,597	10.81	195,171	9.96	161,280	8.76
others	276,868	14.82	317,016	15.91	194,909	10.55	332,039	16.94	286,309	15.56
Total	1,867,639	100.00	1,992,051	100.00	1,846,674	100.00	1,960,518	100.00	1,840,584	100.00

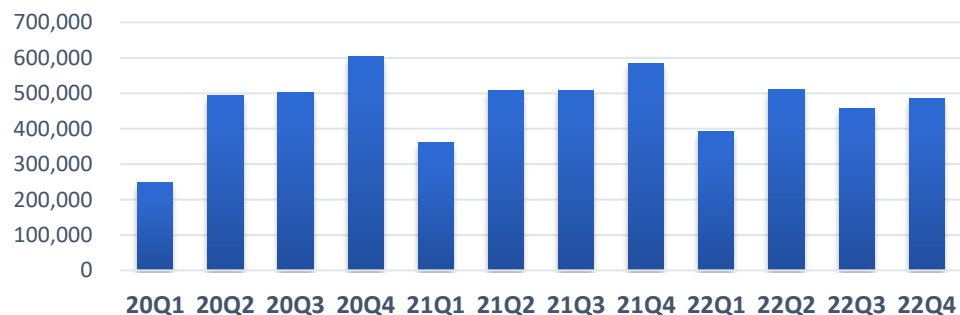
Sales by Product



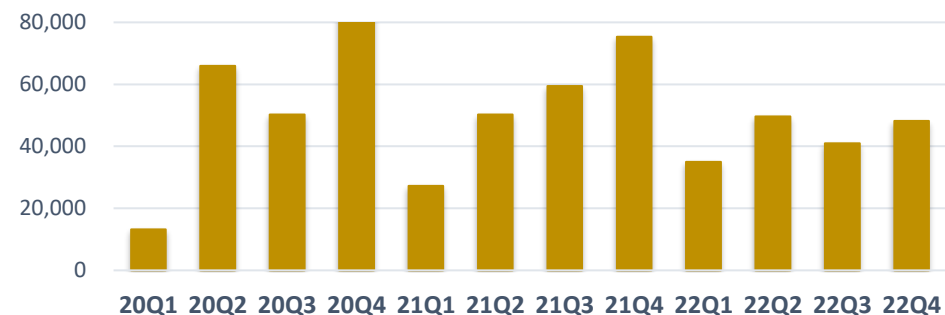
# Income statement

Items	2020Q1	2020Q2	2020Q3	2020Q4	2021Q1	2021Q2	2021Q3	2021Q4	2022Q1	2022Q2	2022Q2	2022Q2
Net Sales	248,663	493,929	501,031	603,051	361,672	506,872	507,774	584,200	391,236	509,063	455,796	484,489
Sales margin	99,188	207,187	192,320	241,256	145,642	211,623	183,314	211,370	127,867	170,944	170,179	191,294
Op. Income	9,338	83,944	65,398	103,425	24,959	67,917	43,095	67,256	13,659	30,197	30,975	40,820
EBIT	17,589	91,686	67,861	113,813	30,530	62,506	76,860	86,230	32,735	58,067	47,239	63,644
Net income	13,171	65,935	50,296	86,109	27,205	50,316	59,438	75,315	35,017	49,698	41,026	48,184

Revenues

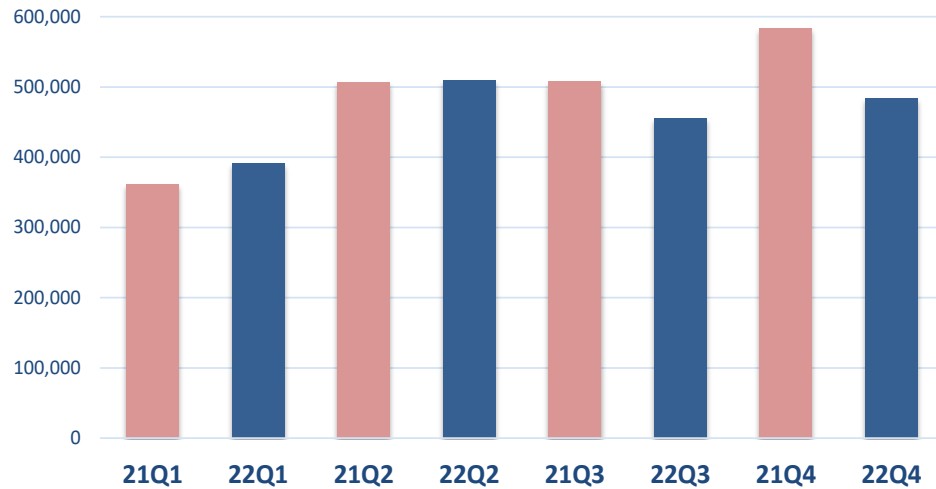


Net Income



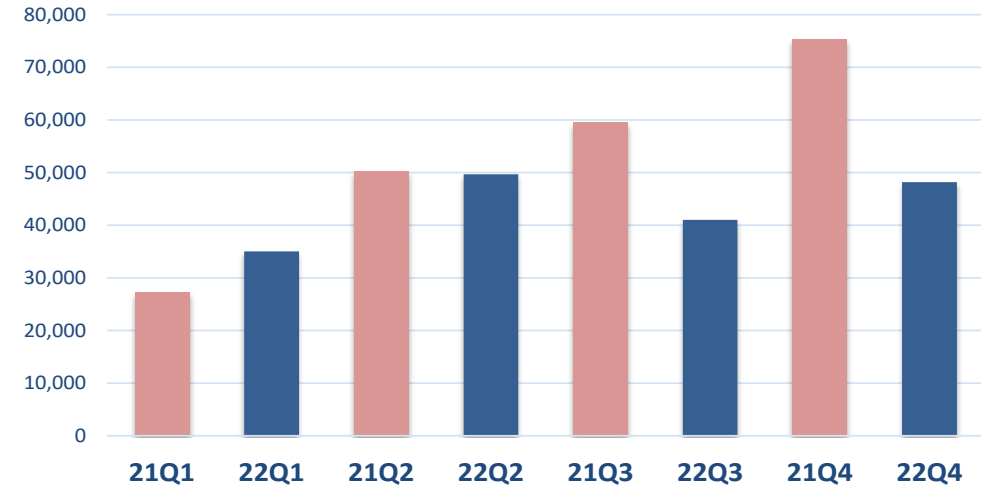
# QoQ Performance

www.gsd.net.tw



## Revenue

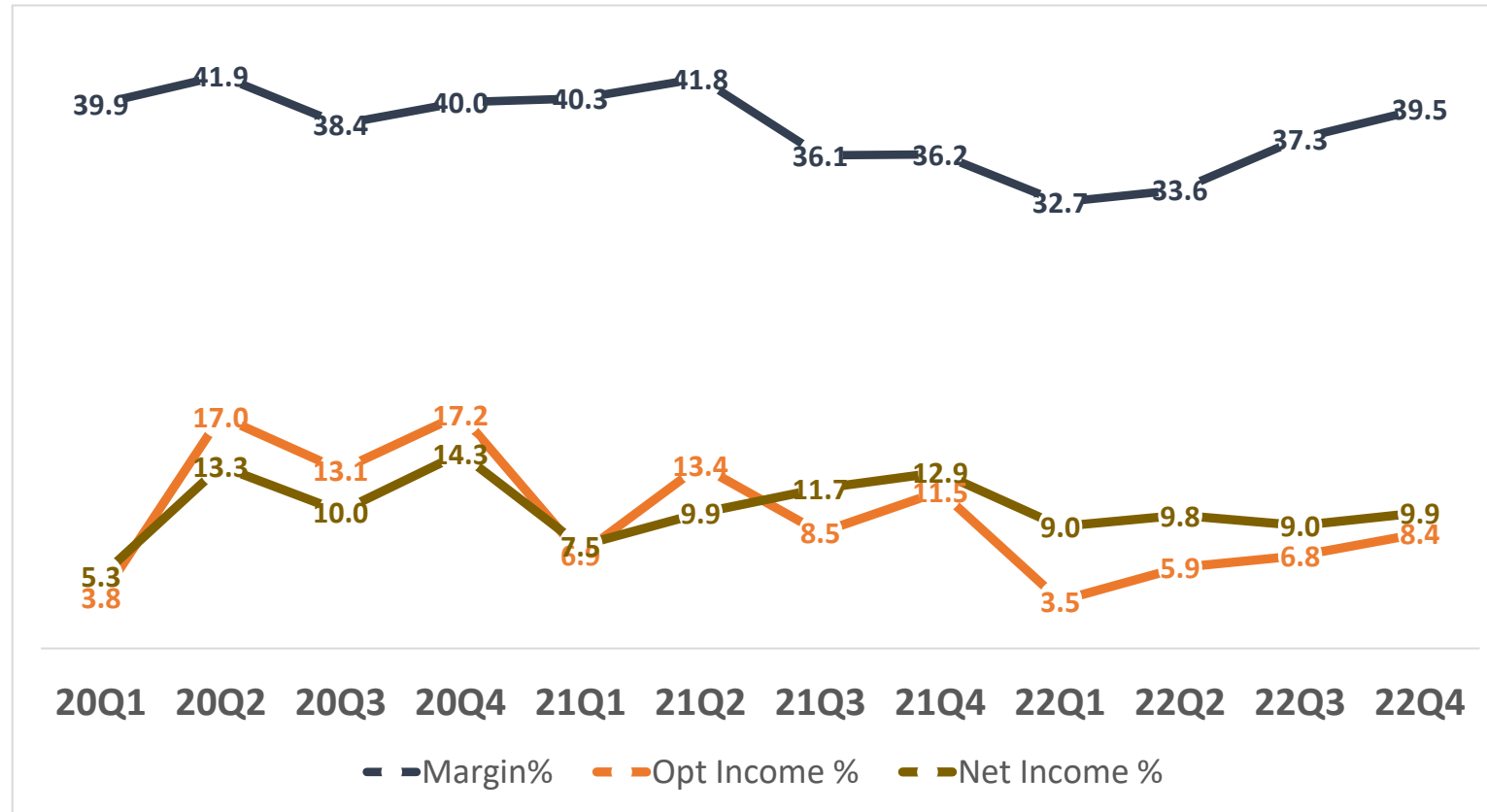
Items	21Q1	22Q1	21Q2	22Q2	21Q3	21Q3	21Q4	21Q4
Revenue	361,672	391,236	506,872	509,063	507,774	455,796	584,200	484,489
Net Income	27,205	35,017	50,316	49,698	59,438	41,026	75,315	48,184



## Profit

Currency	2021	2022	Difference
NTD/CNY	4.341	4.422	1.87%

# Profitability ratio



**Low gross profit margin in Q1 and Q2 of 2022: due to inflation and a relatively high proportion of Taiwan's income.**

## EPS & dividend (NTD %)

Items	2017	2018	2019	2020	2022
EPS(1)	4.81	6.86	6.79	6.52	5.0
EPS(2)	4.81	6.28	6.79	6.52	5.0
Cash dividend	3.01	3.8	4.5	4.5	3.5
payout ratio %(N1)	63%	61%	66%	69%	70%

EPS(1): counted by average shares

EPS(2): counted by year end shares

N1: counted by EPS(2)



# Industry Overview

03





Source: Output Value of Environmental Protection Industry (Bioenergy and Environmental Protection Industry Information Network)

## Taiwan's pollution prevention and control expenditure in 2021

Function	2021		2020		Difference in 2021 & 2020	
	NTD (100 million)	ratio (%)	NTD (100 million)	NTD (100 million)	ratio (%)	
<b>Expenditure on pollution prevention and control</b>	<b>1,923.5</b>	<b>100.0.</b>	<b>1,778.3</b>	<b>145.3</b>	<b>8.2</b>	
Air pollution prevention and control	540.3	28.1%	458.7	81.6	17.8	
Greenhouse gas reduction	37.0	1.9%	24.0	13	54.2	
Prevention and control of water pollution	437.4	22.7%	438.7	-1.4	-0.3	
Waste disposal	661.7	34.4%	619.5	42.2	6.8	
Noise and vibration control	16.3	0.8%	14.5	1.8	12.7	
Prevention and control of soil and groundwater pollution	19.4	1.0%	17.9	1.5	8.3	
Research development	13.0	0.7%	9.1	3.9	43.1	
Other	198.5	10.3%	196.0	2.5	1.3	

Source: Environmental Protection Agency

In April 2017, Taiwan proposed a "forward-looking infrastructure design plan" about NT \$250.8 billion is expected to be invested in "water environment construction" within 8 years. With a view to creating a high-quality water environment that is free from water scarcity, good drinking, flooding, and proximity through the integration of resources across departments.

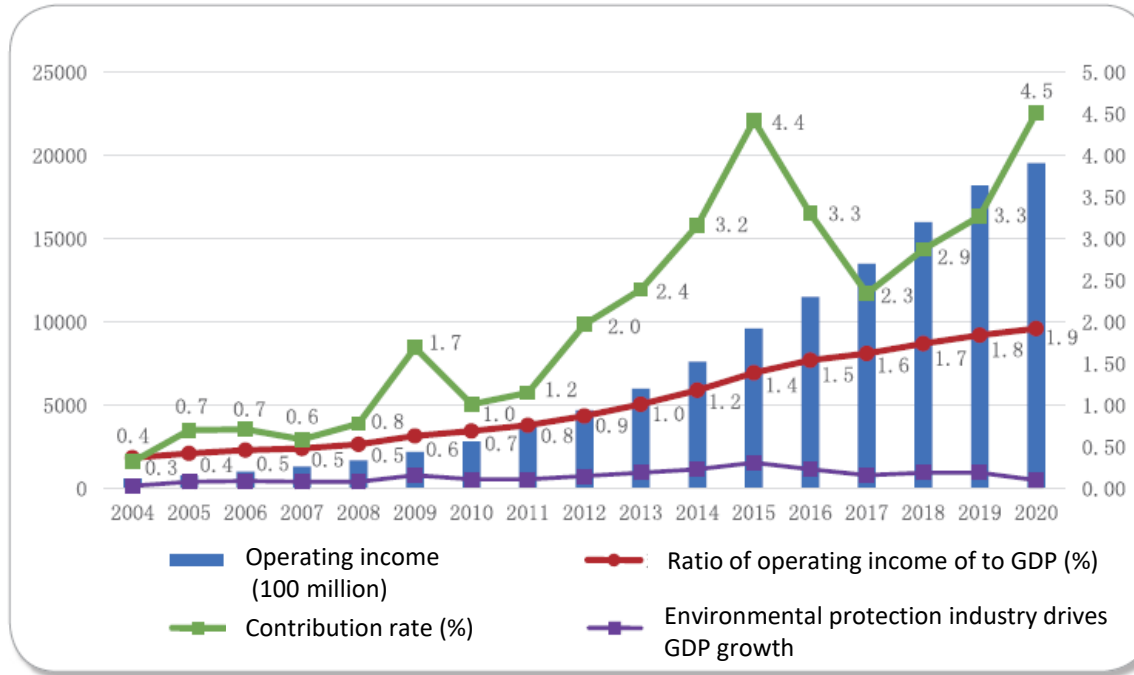
## 2023 China Economic growth targets **5%**

### **Be steady**

Adhere to the principle of maintaining stability of stabilize growth, employment, and prices  
"In the past, focus on " whether there is a problem "was solved, and in the future, attention should be paid to solving the problem of" whether it is good or not "."

### **Intelligent+Green**

Vigorously develop the digital economy, support the development of the platform economy, and accelerate the construction of a modern industrial system through **Intelligent** and **Green** directions.



Proportion of environmental protection to GDP in 2020 is

**1.9%**

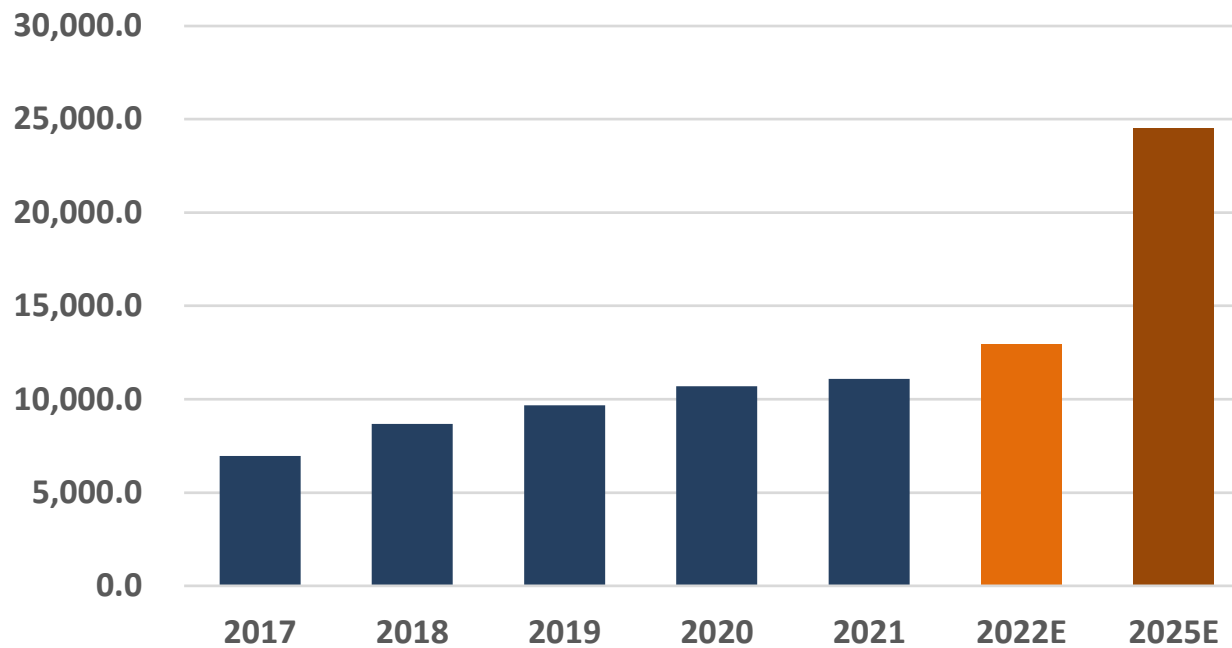
The output value of the environmental protection in 2022 increased compared to 2021 (Note)

**1.9%**

Source: report on the development of China's environmental protection industry (2021)

<Note> According to the estimation of China Environmental Protection Industry Association, the annual revenue of the ecological and environmental protection industry in 2022 is about 2.22 trillion RMB, an increase of about 1.9% compared to the same period in 2021.

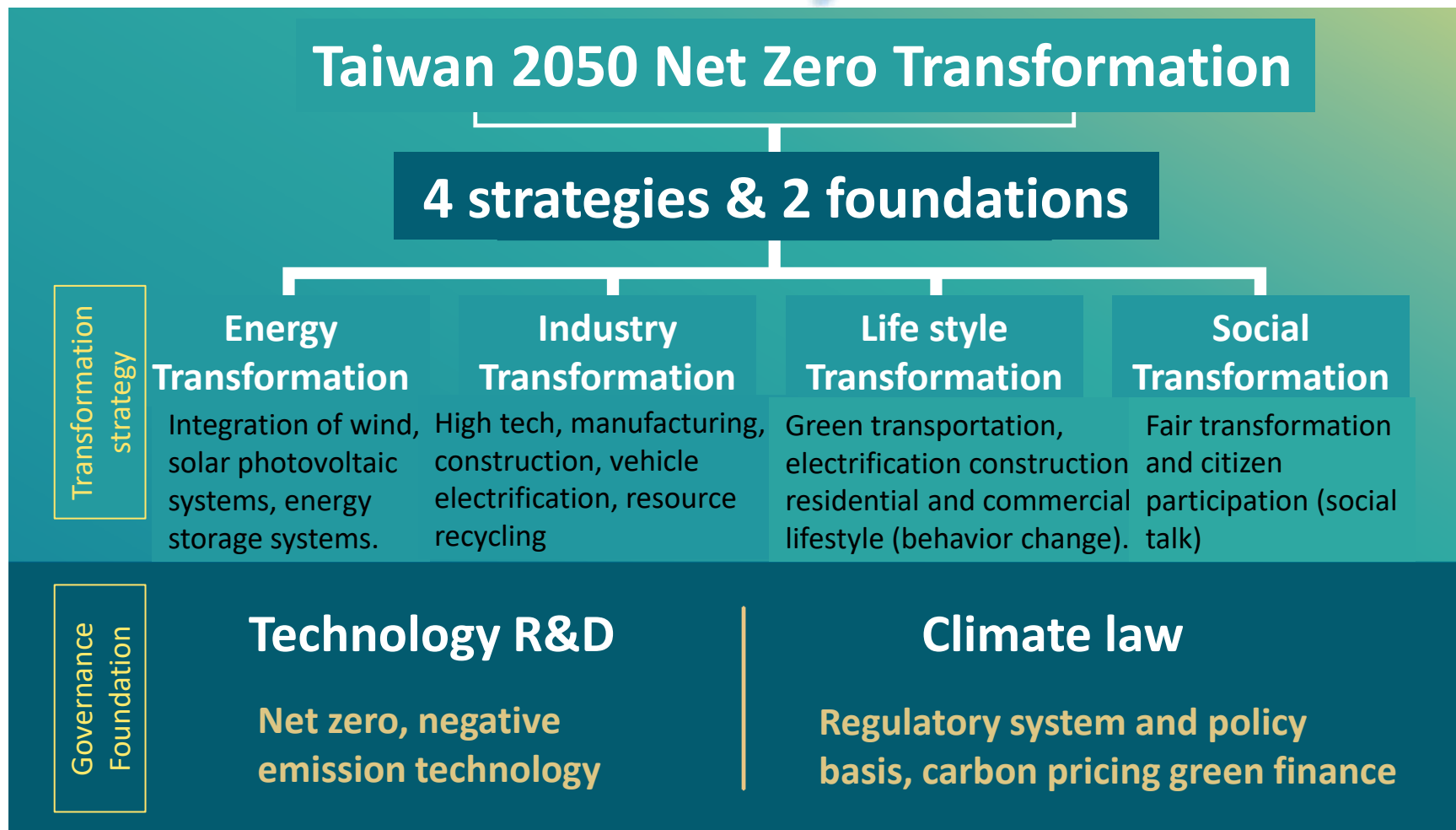
Statistical Prediction of China's Water Pollution Control Market Size during 2017-2025



2017-2020  
Compound Growth  
**15.4%**

Source: Mainland China Commercial Industry Research Institute (2022.7.18)

## Taiwan and the World Jointly Strive towards Net Zero



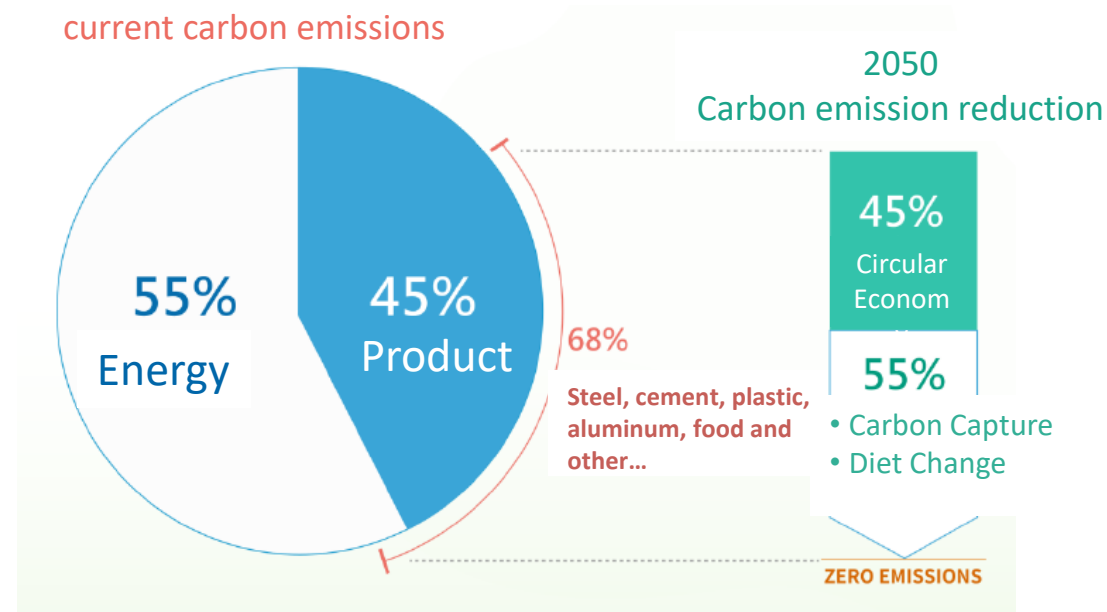
Source: Taiwan 2050 Net Zero Emission Path and Strategy Overview

# Increase the carbon reduction target to **24%±1%**

Taiwan plans to increase its carbon reduction target by 2030 to **24% ± 1%** from a 20% reduction compared to the base period of 2005. "We will maximize the carbon reduction results by 2030 through the input of the" Twelve Key Strategies ".

## 12 key strategies create **NTD 5.9 trillion**

By promoting the "12 Key Strategies" to reducing carbon emissions equivalent to 29% by 2020, it can also create huge opportunities. It is expected that from 2023 to 2030, it will drive private investment of over **NTD 4 trillion** and create an output value of **NTD 5.9 trillion**.



Source: Resource Cycle Zero Waste Key Strategic Action Plan (Draft) Environmental Protection Department



- Through **7 major promotion strategies** and **48 measures**, energy conservation measures were promoted in the 5 major areas of **industry, commerce, housing, transportation, and technology**.



Knowledge transfer leads to social energy-saving actions

**5 measures:** **advocacy and promotion**, **visualization of electricity**, incentives for energy conservation, promoting **public awareness & concrete implementation**.



Expanding successful experience

**13 measures** to **integrate successful experiences** to replicate cost-effective models through business model changes.



Energy Efficiency Grading & Net Zero Construction

**10 measures** to set a rating system for **energy efficiency**, **green building materials** and **construction**.



Energy conservation & Ecosystem

**4 measures** to strengthen the **energy management**, establish **ESCO model** to promote energy conservation.



Empower enterprises for energy conservation

**2 measures** to **set energy conservation goals** and promote the **upgrading of energy management levels**, encourage voluntary response and diffusion into the **supply chain**.



Equipment efficiency in line with international standards

**8 measures** to improve the **penetration rate** of major **energy consuming equipment** (air conditioning, refrigeration, and motors).



Intelligent energy-saving & technological innovation

**6 measures** to introduce **intelligent technology**, and continue to **invest in energy conservation** technology research and development, laying out future energy conservation technology paths

Source: 2050 Net Zero Key Strategy "Energy Conservation Strategic Plan" (Energy Bureau, Ministry of Economy)

Unit: NTD 10,000

Strategy \ Year	2023年	2024-2025年	2026-2030年	2023-2030年
Knowledge transfer leads to social energy-saving actions	22,200	42,900	99,500	164,600
Strengthen energy conservation and governance of the ecosystem	5,700	12,000	37,800	55,500
Equipment efficiency is in line with international standards.	405,603	943,991	921,930	2,271,524
Classification of building energy efficiency & net zero development.	19,560	143,920	87,400	250,880
Successful experience in diffusion and energy conservation	274,387	478,316	1,715,794	2,468,497
Empower enterprises be aware of energy conservation.	13,600	27,200	68,000	108,800
Intelligent energy conservation and technological innovation	140,700	361,400	917,500	1,419,600
<b>Total</b>	<b>881,750</b>	<b>2,009,727</b>	<b>3,847,924</b>	<b>6,739,401</b>

Source: 2050 Net Zero Key Strategy "Energy Conservation Strategic Plan" (Energy Bureau, Ministry of Economy)

## Follow the path of green development

China released on Jan.19<sup>th</sup>.2023: The White Paper on China's Green Development in the New Era unswervingly follows the path of green development.

**Ecological Construction :** Carbon/Pollution reduction/ Green expansion/ Keep growth

From the harmonious coexistence to synergistic efficiency of pollution & carbon reduction.

### Double-carbon policy

By 2025, energy consumption will decrease 13.5% , and carbon dioxide emissions will decrease 18% to 2020.

By 2030, carbon dioxide emissions will decrease more than 65% compared to 2005, achieving the carbon peak target.



### Top Ten Actions for Carbon Peak

- Green & low-carbon transformation
- Action to save, reduce carbon & increase efficiency
- Carbon Peak Action in the Industrial Sector
- Urban and rural construction carbon peak action
- Green and low-carbon action in transportation
- Circular Economy Helps Carbon Reduction Action
- Green and low-carbon technology innovation action
- Action to consolidate and improve carbon sequestration capacity
- Green and low-carbon national action
- Orderly carbon peak reaching actions in various regions

## UN World Meteorological Organization releases State of Global Water Resources report

The State of the World's Water report states that "fresh water resources are limited, but people's needs are growing." Nearly 3.6 billion people around the world do not have enough fresh water for at least one month of the year. ...—By 2050, this number may exceed 5 billion people.

Between 2001 and 2018, **74%** of natural disasters were **water-related**

Source: The United Nations world water development report 2021



### Target 6.1

By 2030, achieve universal and equitable access to safe and affordable drinking water for all

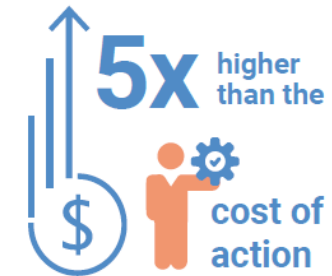
## Water resource & Net zero should also be prioritized in climate strategies

According to a survey of 2,934 companies worldwide by the non-profit organization CDP in 2020, **if enterprises continue to take NO action against water resources, they will pay more than 5 times the cost.** Conversely, if companies actively develop transformation measures related to water resources, **business opportunities can reach as high as US\$711 billion.**

The report also proposes that as global companies strive to proclaim the goal of "net zero", "water resources" should also be listed as the top priority issue in climate strategy. Enterprises should also deploy and develop "water security" strategies that are resilient or can create business opportunities.

Source: CDP GLOBAL WATER REPORT 2020

The cost of inaction  
could be over



Water-related  
opportunities  
could be up to

**US\$711  
BILLION**



# Operating Strategy

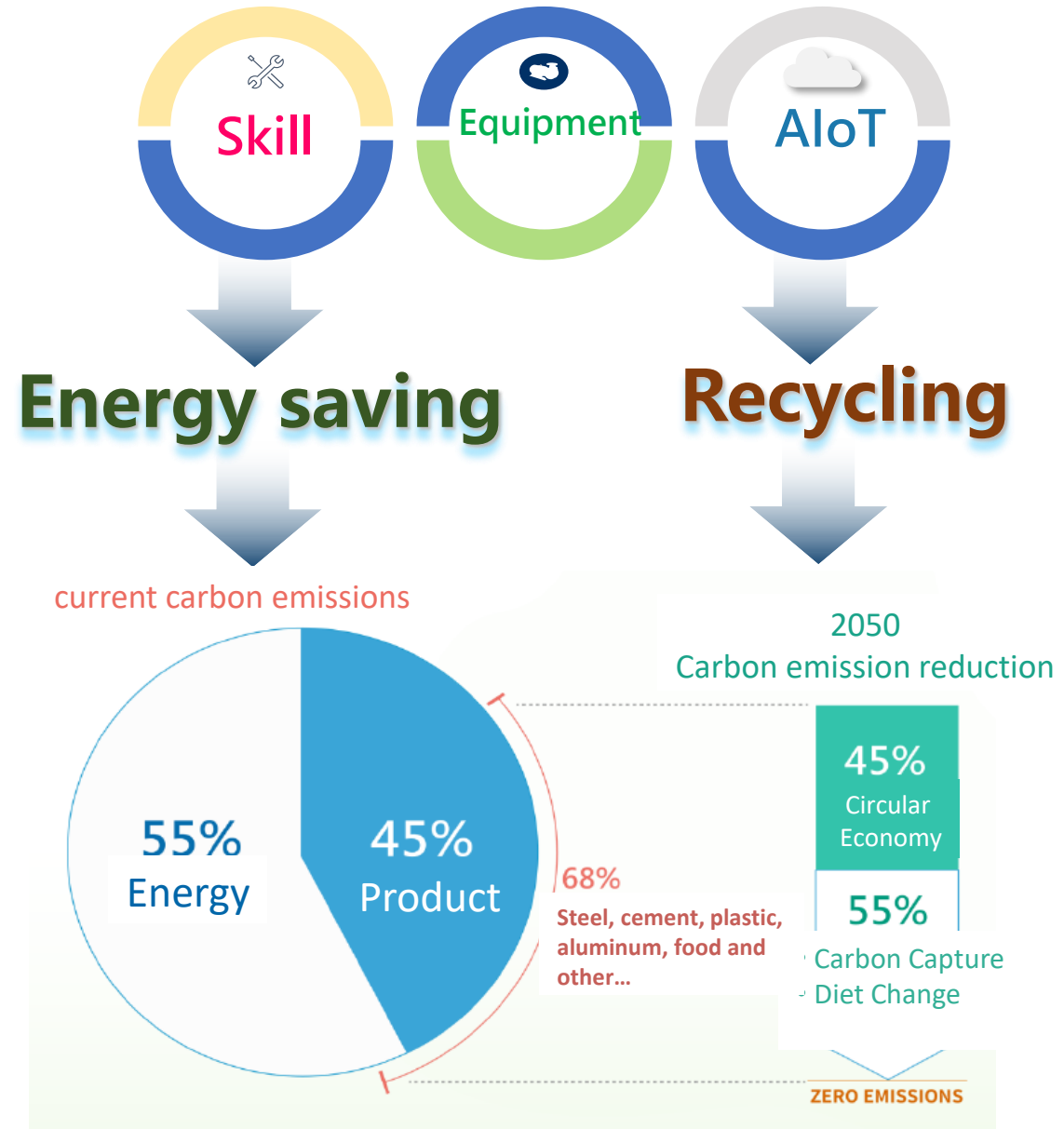
04

# GSD

# ESG

Green product

Green management





## Mechanical energy saving

40% of total revenue

## Upgrading & transformation

Improve energy eff. by process transformation

## Energy saving

- To smart equipment
- AIoT process control
- Intelligent inspection

## Participate in public bid

Promote green products  
Assist owners in saving energy & reducing consumption

## Green-manufacturing

- water-based paint
- recyclable turnover box
- solar energy generation

## Employee Benefits

- Skill competition
- Physical activity
- Retired employees

## Enviro Day

- Parent-child enviro education between employees.
- Feedback to our community
- Invite friend factory to participate

## Green Product

- Energy saving to reduce carbon emissions, including mechanical & process .
- Smart energy saving & resource utilization (sludge, water recycling, SRF).

## Green Management

Carbon emissions and carbon footprint inventory, setting 30/50 goals, ESG issues and formulating green investment strategies.

## WaterOps Net Zero Carbon Strategy Blueprint

### Short term goal

Equipment elimination & smart energy-saving management



#### Upgrading water treatment equipment

IoT on Pumps, Blowers

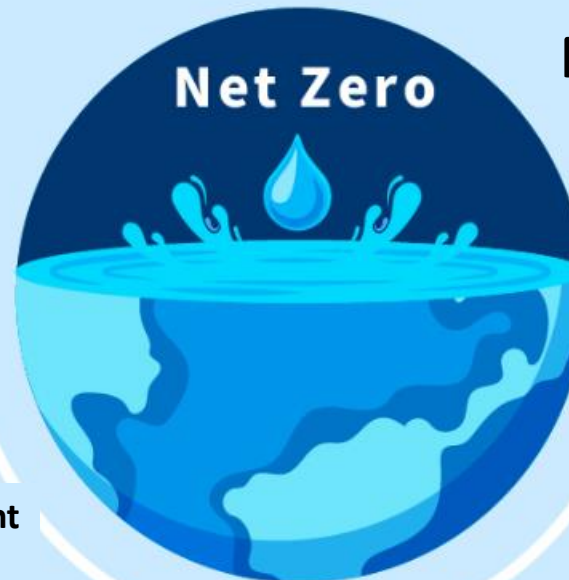
- Provide monitoring and early warning mechanism
- Reduce unit maintenance costs
- Extended service life



#### Building sludge treatment system & AI model

Drive the upstream & downstream of the ecosystem

- Building ISO5001
- Importing WaterOps



### Medium & Long term goals

Full cycle management of water operation



#### Follow the 2X2 framework to develop technological innovation

By digital twins to copy a digital version of "virtual model" can be monitored, simulated and predicted.

- Accurate assessment & forecasting to reduce power and operating costs.
- Apply the AI module and computing efficiency of the WaterOps platform to plan carbon inventory, carbon neutrality and other green transformation preparations.

Note: 2X2 framework - 2x2 Net Zero Transformation Architecture "Energy-Industry" and "Low Carbon-Zero Carbon" .

## Response 2050 Net Zero: Apply Smart Management module

### AIoT process control

Three AI models have been put on the water platform to assist wastewater treatment operators with A<sup>2</sup>O, AO and ASP treatment programs to make AI prediction and decision.

### To smart equipment

The Prognostic and Health Management AI model has been put into the Prognostic platform, and the prognostic & health management (PHM) model has been established.

Project	Customer applied
AIoT process control Precise dosing.	Semiconductor factory, Panel A, Water treatment plant, smart farm.
To smart equipment	Blower factory, Panel factory, dehydration factory, plasticizing plant.

## Awards and honors

### ■ 2022 Winning in the "Green Technology Innovation

Award " of the Small and Medium Enterprises Division of the Ministry of Economic Affairs. Two cases, the "Plant Wastewater Discharge PH/COD (Chemical Oxygen Content) Prediction System" and the "Waste Soil Abnormal Image Object Detection System". GSD was selected as the priority cooperation by Juhe International Co., Ltd.

### ■ 2021 "Data Innovation and Application Competition"

Gold Award of the open data application group of the ministry of economy. Seeking Water, but not relying on sky-drought Prevention and early warning crystal ball.

### ■ 2020 Winning the First "Urban Data Reality

Competition". Innovative Technologies for Improving the Operation and Management of People's Livelihood Sewage Sewerage Systems.



Project	Tender amount (tax included)	Estimated project period
New Taipei City sewage treatment management turnkey project.	NTD 39.88 million	Aug/19/2022-Dec/31/2023
3 <sup>rd</sup> & 4 <sup>th</sup> Expansion Project of Water Resources Treatment Plant in Agricultural Biotechnology Park	NTD 192 million	Jan/18/2023-Aug/19/2024
A permanent water pump project added to the A-line pumping station in Linbian , Pingdong city.	NTD 23.98 million	Mar/15/2023-Jan/31/2024

**To better understand the needs of customers, GSD participate in some government bids**



Stock  
Code : 6641

## Disclaimer

- This presentation is a summary and assessment of the past, present and future operations of our company at the time of the presentation. It contains forward looking statements that will be affected by risks, uncertainties and inferences, some of which will partially be beyond our control. The actual conclusions may differ greatly from these forward-looking statements.
- The information provided (including views on the future) does not express or imply that it is correct, complete and reliable ; nor does it represent a complete exposition of the company, the state of the industry and the subsequent major developments.
- The expectation for the future in this presentation reflects our company's view so far. If there is any change or adjustment, our company is not responsible for reminding and updating at any time.

# Thank you !