

2022

ECOVE<sup>®</sup>

# ECOVE Environment Corporation

## Sustainability Report



Every Resource Counts

## Table of contents

# INDEX

Message from the  
Chairman 004

About ECOVE 006

About ECOVE 006

Sustainability

Performance 009



## Corporate governance

Corporate Sustainability  
Management 012

Sustainability Policy and Promotion Structure 012

Materiality Analysis 014

Response to the United Nations' Sustainable Development Goals (SDGs) 022

Participation in External Organizations 024

Ethical Corporate Management 026

Management Governance 026

Legal Compliance and Internal Control and Internal Audit 029

Risk Management 031

Information Security 032

Management Performance and Industry Outlook 034

Innovation and Supply Chain 037

Development, Integration and Application of New Technologies 037

Development of Intelligent Management Tools 037

Service Quality 038

Sustainable Supply Chain Management 040

Most Reliable 045





## Environmental Sustainability

### Guardians of Resource Cycling and Environmental Sustainability

048

First In the Industry to Pass the BS 8001 Audit 049

### Climate Strategy and Management 050

Climate Governance and High-Level Management 050

Risk Identification, Assessment, and Management Strategies 050

Climate Risk Scenario Analysis 054

Climate Indicators and Targets 054

GHG inventory 056

### Waste management 059

Waste transportation and Entry Management 059

Waste Incineration Volume 059

### Recycling and Reuse 061

IPA Recycling and Reuse 061

Recycled water treatment 062

Recycling of PET bottles 063

### Renewable energy 064

Cogeneration and Sales of Electricity 064

Solar power 065

### Reducing Environmental Impact 067

Pollution Reduction 067

Energy and Resource Conservation 069

Participation in Public Infrastructure 074

### Most Reliable 075



## Social Co-Prosperity

### Talent Caring 078

Talent Composition and Remuneration 078

Human Rights Protection and Benefits 081

Talent Cultivation and Development 083

### Safe and Healthy Workplace 088

Policies and Committees 088

Occupational Disaster Prevention 092

Occupational Health and Safety Management in the Post-Pandemic Era and Future Outlook 100

### Social Participation 102

Operations-related community activities 103

Long-term community building 107

Friendly corporate volunteers for the common good 109

### Most Reliable 111

## Appendix

About This Report 112

GRI Sustainability Reporting Standards (GRI Standards) topic correlation table 113

Sustainability Accounting Standard's Board (SASB) Comparison Table 117

The risks and opportunities posed by climate change to companies and the corresponding response measures implemented by companies. 119

Independent Assurance Opinion Statement 122

## Comprehensive Resource Cycling Services: Advancing the Power of Net Zero Action

Recognizing the urgent global impact of climate change, countries worldwide have declared their commitment to achieving "Net Zero Emissions by 2050" and have taken actions accordingly to effectively mitigate rising temperatures. In March 2022, the National Development Council released the "Taiwan 2050 Net Zero Emissions Pathway and Strategy Overview" to guide the green transformation of industries. Additionally, the escalation of fossil fuel and raw material prices resulting from the Russia-Ukraine war has made resource cycle and accelerated energy transition crucial challenges for businesses.

As a practitioner of resource cycling, ECOVE is dedicated to aligning with international trends, complying with government policies, and deepening its core business in waste management, recycling, and renewable energy on its path towards achieving net zero. ECOVE strives to connect Taiwan's resource cycling technologies with the international community and continuously assesses external environments and opportunities. Through technology adoption and collaborative research and development, ECOVE explores potential business opportunities in the decarbonization market.

ECOVE's efforts in net zero have yielded significant results in recent years. In the fields of waste management and solar power, ECOVE aims to provide integrated services to its customers. The Company has also expanded its presence in the recycling sector and demonstrated impressive carbon reduction achievements. ECOVE will continue to make tangible contributions to the sustainable development of the planet through up-to-date technologies and comprehensive resource cycling services.

### Deepening waste management and expanding integrated services.

Taiwan currently operates 24 large-scale municipal waste incineration plants, processing approximately 6.3 million metric tons of waste each year. ECOVE holds a market share of over one-third in waste incineration capacity in Taiwan. Furthermore, ECOVE successfully won the bid for the environmental protection site in Changhua Binhai Industrial Zone last year (2022). It will be developed into a low-carbon recycling and disposal center, completing the final step in waste management. Through this project, ECOVE aims to capture the market for the annual disposal of 100,000 metric tons of inorganic waste. ECOVE has successfully integrated upstream waste collection and transportation management, intermediate recycling, incineration, and final disposal services, achieving the goal of providing customers with integrated waste management solutions.

In terms of incineration plant operations and power generation, ECOVE currently operates eight incineration plants in Taiwan and two in Macau. These plants process over 2.5 million metric tons of waste annually, demonstrating excellent performance. For instance, in Taiwan, the operating rate of incineration plants in 2022 reached 90.9%, surpassing the national average of 84.8%. This significantly contributes to resolving waste management issues for local governments and clients. Moreover, the electricity generated through incineration is equivalent to replacing 550,000 metric tons of fossil fuels. This successful conversion of non-renewable waste resources into energy enhances urban energy self-sufficiency. In the future, ECOVE plans to collaborate with local developers in line with the government's Southbound Policy to export waste management, incineration technologies, and experiences, thereby expanding its business.

To address the fact that most incineration plants in Taiwan have reached their operational lifespan, ECOVE actively participates in the government's "Diversified Waste Treatment Program." It promotes facility upgrades and improvements for aging incineration plants based on the concept of circular economy. These efforts aim to enhance energy recycling and utilization efficiency, extend the lifespan of outdated equipment, reduce resource consumption, and mitigate environmental pollution, breathing new life into aging incineration plants.

Additionally, ECOVE has expanded its incineration plant electromechanical integration technologies and experiences into high-tech and transportation sectors. This includes projects such as high-tech plant utility systems, core mechanical and electrical systems for Kaohsiung MRT, Danhai light rail and the Taoyuan Airport Terminal 1 passenger boarding bridge equipment maintenance. In the future, ECOVE will strive to obtain opportunities for dynamic testing and subsequent maintenance of electromechanical equipment in multiple domestic metro systems, as well as project management opportunities for the installation of skybridges in Taoyuan Airport's Terminal 3.

### Integrating recycling and waste reduction + carbon reduction

Adhering to the concept of "cherishing every resource," ECOVE provides integrated waste recycling and reuse services, actively assisting industries in implementing a circular economy while reducing waste. As an example, in the semiconductor industry, ECOVE integrates distillation, extraction distillation, and membrane separation technologies to dehydrate and concentrate waste isopropyl alcohol (IPA) to industrial-grade standards for reuse in the supply chain. This process replaces approximately 3,450 metric tons of primary IPA production annually and reduces carbon emissions by two-thirds compared to primary IPA, achieving remarkable waste and carbon reduction effects.

In the water resources sector, to address the scarcity of water resources and the demand for reclaimed water, ECOVE not only operates and maintains the Linkou Water Resource Recovery Center, Jiangcuilijian Riverside Park, and Pingtung Agricultural Water Resource Plant for wastewater treatment but also expands its expertise to reclaimed water plants. ECOVE participates in the operation of the "TSMC Nanke Reclaimed Water Plant" implemented by its parent company, which is the world's first water plant that recycles and reuses industrial wastewater in the semiconductor manufacturing process. This project has significant implications as it has stringent requirements for water supply stability and quality. Looking ahead, ECOVE will leverage its existing recycling achievements to expand its service scope.

### Keeping up with the trend of renewable energy, creating a comprehensive and diversified energy portfolio.

Solar Power is a key strategic component of Taiwan's energy transformation. ECOVE's solar power services have expanded from Taiwan to the United States. Currently, ECOVE has developed and operates over 100 solar power projects, with a cumulative installed capacity of approximately 154 MW and a total maintenance capacity exceeding 470 MW. Capitalizing on the opportunities presented by electricity liberalization, ECOVE continues to expand its solar power sales services. In addition to selling electricity



to Taiwan Power Company, ECOVE has also signed green energy supply contracts with high-tech and traditional industries. The volume of transactions has steadily increased, assisting businesses in achieving their green energy growth needs and creating new opportunities for low-carbon operations, successfully embarking on a new strategic direction. Becoming one of the few companies in Taiwan that can provide a complete service model from investment, development, construction, operation, to green energy trading, ECOVE is a key player in the comprehensive energy development landscape.

To further diversify its energy portfolio, ECOVE is actively involved in the energy storage field. The construction of a 5MW energy storage system in the central industrial zone is accelerating. By investing in energy storage systems and participating in Taiwan Power Company's power ancillary services, ECOVE contributes to the stability of the power grid.

**All personnel are committed to ESG, shaping a new culture of corporate sustainability.**

With the goal of ESG (Environmental, Social, and Governance) as a driving force for sustainable business operations, ESG is an integral part of ECOVE's corporate culture.

In terms of corporate governance, ECOVE strengthens its adaptability and responsiveness to the global sustainability trend by adopting the BS8001 Circular Economy Guide in 2017, enhancing information transparency, maintaining a robust operational structure, and safeguarding shareholder rights. ECOVE has been honored for eight consecutive years as a top 5% company in corporate governance evaluation by the Taiwan Stock Exchange.

Regarding the environment, ECOVE undergoes the "TCFD Climate-related Financial Disclosures Compliance" audit to assess the risks and opportunities of climate change on business operations. ECOVE formulates strategies to actively develop waste-to-energy plants that comply with renewable energy generation regulations (energy recycle efficiency greater than 25%), engage in renewable energy and recycling businesses, and introduces new technologies and innovative thinking in ongoing projects to reduce carbon emissions and implement energy-saving measures. ECOVE continuously improves climate risk and opportunity management strategies through the PDCA (Plan-Do-Check-Act) cycle.

In the social dimension, ECOVE is committed to promoting environmental education and engaging in community activities. It creates teaching activities on popular SDGs (Sustainable Development Goals) themes for elementary schools and promotes online engineering education through the "CTCI EDU," a resource provided by the CTCI, offering engineering knowledge to college students. In community engagement, ECOVE focuses on "Community Activities in Connection with Operations," "Long-term Community Development," and "Corporate Volunteer-Friendly Partnership" as its key pillars. It encourages employees to actively participate in volunteer activities and contribute to society through practical actions.

**Working towards net-zero, ECOVE practices sustainable development on Earth.**

Net-zero emissions bring goals and hope to global climate action, and ECOVE's business promotion revolves around the circular economy. This is not only a business venture but also a source of pride for all ECOVE employees. ECOVE will continue to integrate green technologies, optimize resource cycling efficiency, and work together with customers to achieve net-zero emissions by 2050, contributing to global sustainable development.



ECOVE Environment Corp.  
Chairman

*J. J. Liao*

# About ECOVE

GRI 2-1、2-6、SASB IF-WM 000.C

ECOVE Environment Corp. (hereinafter referred to as "ECOVE" or the Company) is a subsidiary of CTCI, an international engineering and construction conglomerate. It is also the leader of the Group Resource Cycling Business. ECOVE is committed to enhancing the efficiency of resource reuse and providing professional investment and operation services in the field of resource cycling. Its core focus is on the development and operation of renewable energy, biomass, and recycled water, deeply rooted in the areas of waste management, recycling, and renewable energy.

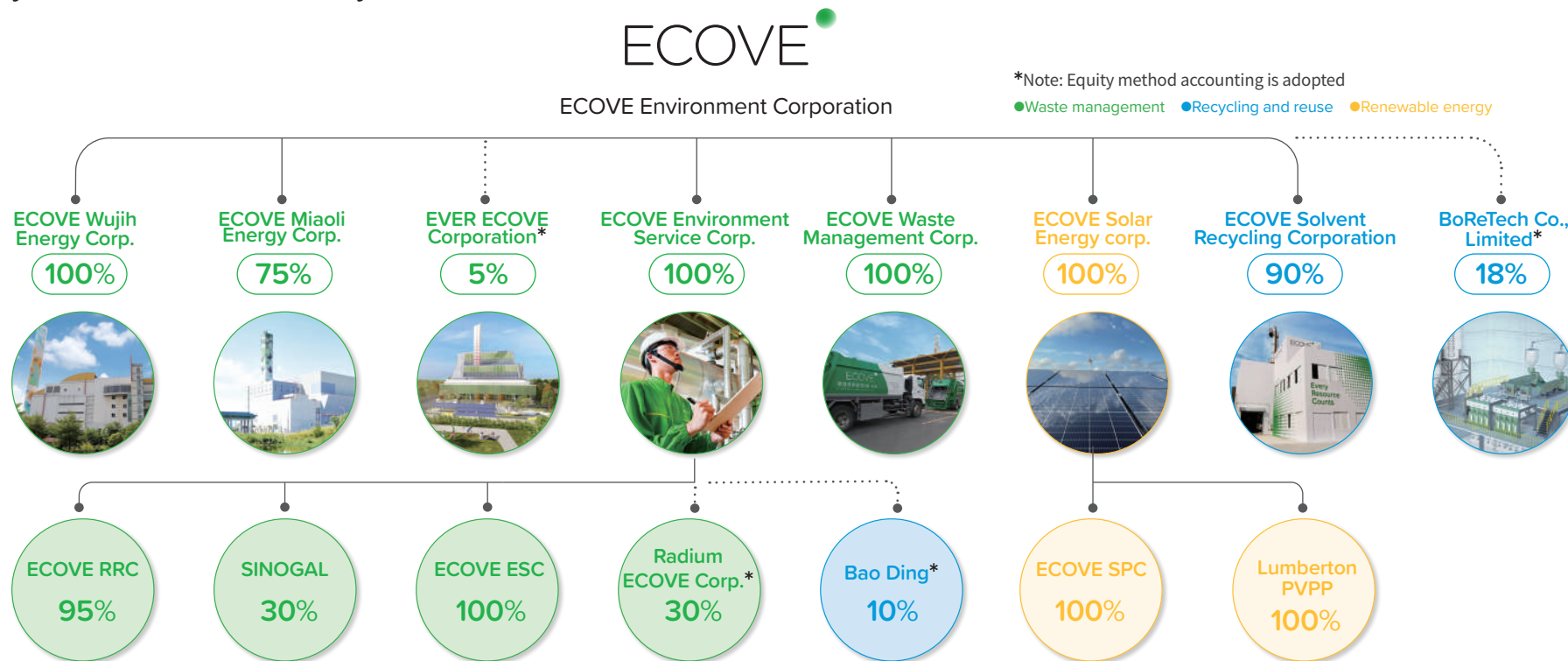
ECOVE ECOVE Environment Corporation	
ECOVE Environment Corporation	Founded in <b>1999</b>
Stock Code	<b>6803</b>
Capital	NT\$ <b>673.1</b> million
Consolidated revenue in 2022	Around NT\$ <b>7</b> billion
Affiliated Companies	<b>15</b> companies (12 domestic, 3 overseas)
Total number of employees at the end of 2022 (Human Resources)	<b>891</b> people
Location of headquarters	12th floor, No. 16 Fushan Road, Beitou District, Taipei City
Company website	<a href="http://www.ecove.com">http://www.ecove.com</a>
Total market capitalization in 2022 (Calculated based on year-end stock price)	Around NT\$ <b>1,741.3</b> million

ECOVE's scope of business includes "investment and management," "operational management," and "technical and consulting services." Its services cover public and private enterprises in the Greater China region, Southeast Asia, and the United States. Through its 15 subsidiary investment companies, they play different roles and support each other in the development of circular economy businesses. They provide comprehensive professional environmental services in Taiwan, Macau, mainland China, Southeast Asia, and the United States, establishing a professional circular economy team.

## Scope of Business and Services



## Company Structure and Global Key Locations



### ● ECOVE Environment Corporation

- ECOVE Environment Services Corporation
- ECOVE Wujih Energy Corporation
- ECOVE Waste Management Corporation
- ECOVE Miaoli Energy Corporation
- ECOVE Solar Energy Corporation
- ECOVE Solvent Recycling Corporation

- EVER ECOVE Corporation
- BoReTech Co., Ltd. Corporation (Zhejiang, China)
- SINO GAL · Waste Services Co., Ltd. (Macau, China)
- Lumberton PVPP (New Jersey, the USA.)
- Radium ECOVE Corporation
- ECOVE Solar Power Corporation

- ECOVE Gangshan Energy Corporation
- Bao Ding Reclaimed Water Co., Ltd.
- ECOVE Resource Recycling Corp.

(Companies in order of year of establishment)



## Our Vision and Mission

As a practitioner of resource cycling, ECOVE has always strived to expand the impact of global sustainability through a lifelong mission in resource cycling. We continue with our vision of "The most reliable provider of industry-leading 'resource cycling' services", and with "advanced technical integration applications" and "'Resource cycling' efficiency™" as our mission, with the brand ethos of "Every Resource Counts" underpinning our operational model and thinking.

### Vision and Mission



● Vision

The most reliable provider of industry-leading "resource cycling" services

● Mission

Advancing technologies and integrating them for application and optimizing resource cycling efficiency

### Brand Associations



## ECOVE's Corporate Culture and Action Plan

Having devoted time and effort to the Taiwanese market for more than twenty years, ECOVE has always held fast to our corporate culture of "Professionalism, Integrity, Teamwork, Innovation" to optimize 'resource cycling' efficiency™ through advanced technical integration applications. On top of conjugating the Company's operating activities to improve the environment, we have also cared for Taiwan's social development for a long time, hence fulfilling our promise of becoming "the most reliable" brand.





# Sustainability Performance

## Environmental Aspect

**15** billion kWh

Total renewable energy generation exceeding 1.5 billion kWh

**290,000** metric tons

Serving over 397 customers with annual waste removal volume of 290,000 metric tons

**Top-ranked**

Top-ranked in Environmental Protection Administration's incineration plant evaluation - Keelung EfW Plant and Miaoli EfW Plant

**26.85** million metric tons

Annual total treatment volume of wastewater treatment plants: 26.85 million metric tons

**14,710** metric tons

IPA waste reclaimed and treatment volume of 14,710 metric tons.

## Social Aspect

**16** years

Blood dioxin tracking test for employees - continuous for 16 years (results show lower dioxin concentration compared to the general population)

**5** plants

Received attestation for five environmental education facilities located at Keelung EfW Plant, Miaoli EfW Plant, Houli EfW Plant, Tainan EfW Plant, and Southern Taiwan Science Park EfW Plant from the Environmental Protection Administration (EPA)

**13,000** people

Proactive environmental education program "Step by Step: Factories for Sustainable Environmental Education," with participation of over 13,000 teachers and students (2018-2022)

**3,051** hours

Total hours of volunteer service 3,051 hours

**50%**

Establishment of employee stock trust with 50% reward in return

## Corporate Governance Aspect

**The Executive Yuan**

Honored with "National Sustainable Development Awards" from the Executive Yuan

**Ministry of Labor**

Industry Benchmark Award at National Occupational Safety Awards by the Ministry of Labor

**The Ministry of Economic Affairs**

Gold Award in Top Solar System Awards by the Bureau of Energy, Ministry of Economic Affairs

**The Ministry of Economic Affairs**

Excellent Award at Water-saving Improvement Incentive by the Bureau of Energy, Ministry of Economic Affairs

**Environmental Protection Administration**

The 4th National Enterprise Environmental Protection Award - awarded by the EPA to Keelung EfW Plant, Miaoli EfW Plant, Houli EfW Plant, Tainan EfW Plant, and ECOVE Solvent Recycling Corporation.

**Environmental Protection Administration**

Two-star Rating in Excellent Resource Cycling Enterprise by the Environmental Protection Administration

**Environmental Protection Administration**

Awarded Carbon Reduction Label from Low-carbon Product Incentive by the Environmental Protection Administration

**Financial Supervisory Commission (FSC)**

Financial Supervisory Commission - Top 5% in consecutive Company Governance Evaluation for 1st to 9th terms (2015-2023)





# Corporate Governance

We are committed to incorporating SDGs into the Company's development strategy, addressing environmental and social issues through our business activities, and transparently disclosing our performance related to the SDGs to promote sustainable development.



## Performance Highlights

### TOP 5%

Consistently ranked in the top 5% in the Corporate Governance Evaluation by the Financial Supervisory Commission for 9 consecutive terms.

### TOP 10%

Ranked in the top 10% of non-financial electronic listed and OTC companies with a market capitalization of over NT\$10 billion by the Financial Supervisory Commission (FSC) (the only OTC company to achieve this for 5 consecutive years).

### Excellent Enterprise of Green Procurement

Recognized as a Green Procurement Excellent Enterprise in 2021 by Changhua County Government and Keelung City Government.

### First Place

Ranked as the first place in the Environmental Sanitation Services category of the "Top 650 Service Industries 2021" by CommonWealth Magazine.

# Corporate Sustainability Management

ECOVE Environment Corp. is committed to practicing corporate social responsibility by focusing on its core business operations and actively responding to both domestic and international sustainable development trends, in line with the United Nations Sustainable Development Goals (SDGs). In addition to maintaining robust growth in business operations, we ensure the implementation of various corporate social responsibility initiatives through a comprehensive sustainable management framework. By listening and collaborating with stakeholders, we strive for synergistic cooperation, consistently cultivating three core areas to create sustainable value.

## Sustainability Policy and Promotion Structure GRI 2-12 ~ 13、2-16

### Sustainable Policy and Vision

As the most reliable provider of industry-leading 'resource cycling' services in Taiwan, ECOVE has made the fulfillment of corporate social responsibility part of our key operational indicators. While pursuing the best interests for our shareholders, we also take into account the rights and interests of relevant stakeholders to create a sustainable and better living environment together. ECOVE Environment Corp. has established a sustainable strategy and vision to strengthen sustainable management, encompassing three major areas: corporate governance, environmental sustainability, and social prosperity. We are committed to "strengthening the resilience of our business operations," "dedicating ourselves to environmental conservation," and "fulfilling our social citizenship responsibilities."



#### Strengthening the Company's management structure

With an eye on achieving the goals of sustainable development, ECOVE formulated effective internal control systems and established effective management mechanisms on top of adhering to laws and regulations.

#### Committing to realizing environmental protection

Apart from providing various environmental protection services, ECOVE is also committed to technological upgrading, and invited partners to jointly realize the goals of sustainable environmental ecology.

#### Fulfilling the responsibilities as a corporate citizen

With long-term commitment in the nurturing of talents via different ways, ECOVE helps in enhancing their professional knowledge. At the same time, the well-being of the public is improved to achieve the goal of inclusive growth.

Furthermore, in order to further practice the spirit of corporate sustainability, ECOVE has developed the "Guidelines for Sustainable Development," which pledge to implement corporate governance, promote sustainable environmental practices, contribute to social welfare, and enhance the disclosure of information related to sustainable development. As we pursue sustainable business and profitability, we also prioritize adherence to environmental, social, and governance issues.

### ECOVE Guidelines for Sustainable Development



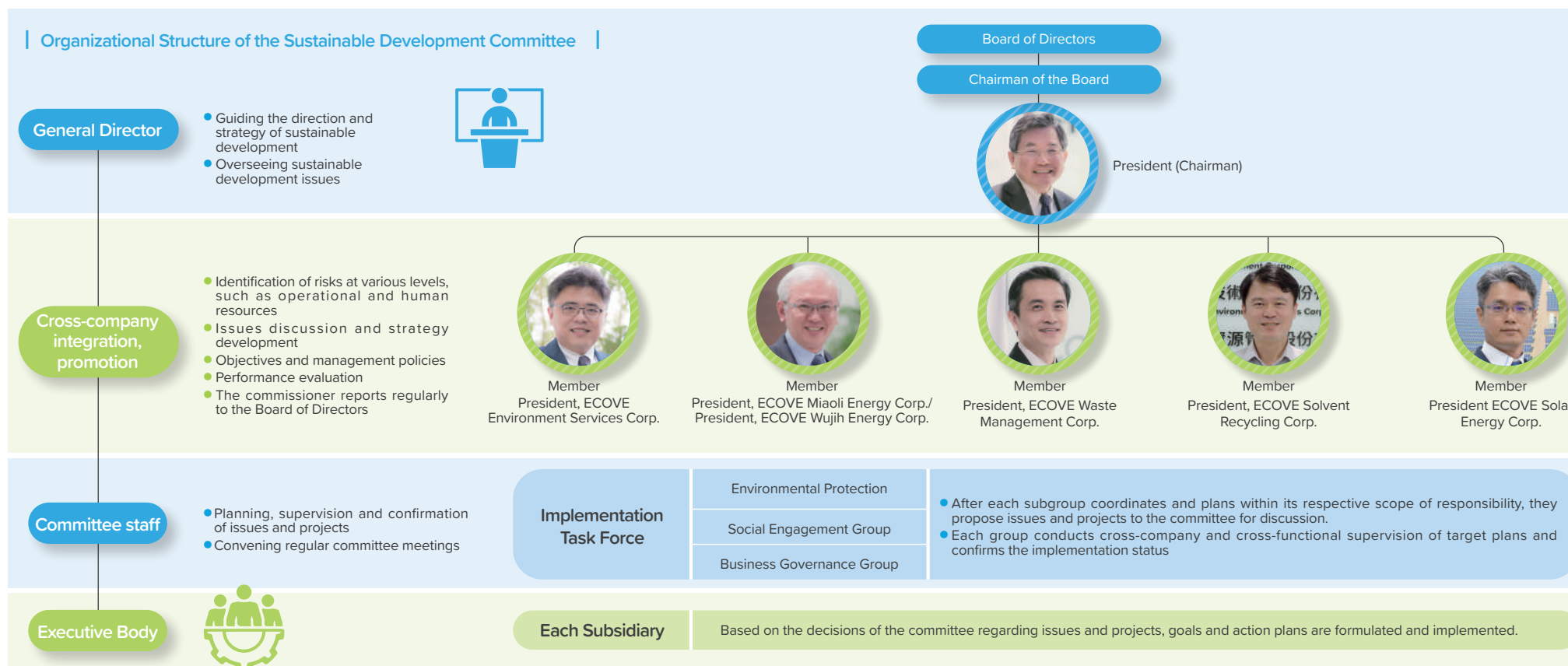
ECOVE Guidelines for Sustainable Development.



## Corporate Sustainability Promotion Framework

To effectively implement corporate social responsibility, ECOVE has established the "Sustainable Development Committee" as the decision-making unit for sustainable development within the company, overseeing matters related to corporate social responsibility, environmental protection, and corporate governance. The Sustainable Development Committee is chaired by the Chairman and the President serves as the commissioner. It includes the Chairman, President, and department heads of subsidiary companies as members. The committee holds meetings semi-annually, reviewing the progress of mid-year implementation in the first-half meeting and evaluating the achievements of sustainable development and plans for the following year in the second-half meeting. Ad hoc meetings are convened as necessary to track and implement sustainable development initiatives. The committee comprises three subcommittees: the "Social Engagement Subcommittee," the "Environmental Protection Subcommittee," and the "Business Governance Subcommittee." These subcommittees consist of department heads responsible for respective issues, aiming to comprehensively promote sustainable development.

The Sustainable Development Committee provides regular reports to the Board of Directors on the progress and next-year plans for sustainable development. The most recent report was submitted in the fourth quarter of 2022, presenting the sustainable annual plan for 2023. The report covered various topics, including talent retention and recruitment, occupational safety and health, social engagement, renewable energy development, effectiveness of waste-to-energy plants, greenhouse gas inventory in offices, recycling and reuse initiatives, waste reduction, air pollution prevention, water resource management, and corporate governance. ECOVE will continue to execute sustainable development initiatives according to the plan. Starting from 2022, the sustainability performance will be linked to key performance indicators of the Board of Directors, President, and senior executives, ensuring the implementation of sustainable development practices.



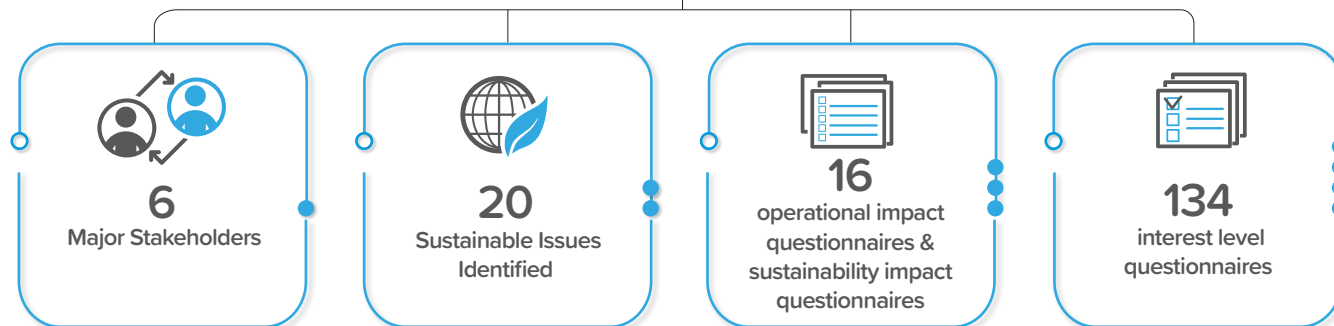
## Materiality Analysis

GRI 2-25、2-29、3.1~3.3

ECOVE is committed to addressing the specific challenges and opportunities of sustainability by incorporating the principles of inclusivity, materiality, reliability, and the eight reporting principles of the GRI Standards 2021 GRI 3. In addition to understanding the concerns of various stakeholders, we conduct an internal survey on the "operational impact level" among our members. By combining the assessment results of the sustainability impacts of different issues, we create a comprehensive materiality analysis. Through the evaluation of positive/negative impacts and actual/potential assessments on different economic, environmental, and social aspects (including human rights), we integrate the analysis of

operational impact, sustainability impact, and external concern levels to determine the degree of impact for each issue. In terms of sustainability issues, we reference international standards and frameworks, including GRI, SDGs, TCFD, and SASB, as well as engage in communication with international peers and stakeholders, and consider the recommendations of external experts regarding relevant issues. This allows us to identify the sustainability issues that have significant influence on ECOVE and formulate management policies to integrate sustainability into our operational activities.

### Continual Identification and Assessment of Impacts



- Identify key stakeholders based on the five principles using AA 1000 SES:2015.

- Based on the content of GRI Standards 2021, SDGs, international peers, stakeholder communication, as well as issues recommended by TCFD, SASB, and external sources, summarize the sustainability issues related to operations.

- Compared to the previous year, we have adjusted "Air Pollution Control" to "Pollution Prevention and Control."

- Engage 16 executives and colleagues from the Sustainability Development Committee to identify the impact of sustainability issues on operations (revenue, costs, technological capabilities, brand reputation, employee morale, and social influence).

- The same group of members conducts sustainability impact assessments for sustainability issues.

- Survey the level of external stakeholders' concerns regarding sustainability issues.

### Determining the Material Topics for Reporting



- By conducting positive/negative and actual/potential assessments through different economic, environmental, and societal aspects (including human rights), integrating them into operational impacts, sustainability impacts, and external concern levels, determine the impact levels of each issue.

- After discussions by the Sustainable Development Committee and reporting to the Chairman, taking into account operational impacts, sustainability impacts, and external stakeholder concerns, it has been decided to identify 15 key topics and integrate related issues into short, medium, and long-term goals and management policies.

- Based on the selected 15 key issues, in comparison to the seven GRI themes and six additional themes specific to the ECOVE's industry, there are a total of 13 major themes.

## Stakeholder Communications and Feedback

ECOVE has established diverse communication mechanisms to listen to suggestions, understand the expectations, and address the concerns of stakeholders, serving as a driving force for improvement and enhancement. We utilize the quantification approach of the AA1000 SES:2015 (Account Ability 1000 Stakeholder Engagement Standard:2015) to evaluate the impact of stakeholders on ECOVE's operations

based on five principles: dependence, responsibility, influence, diverse perspectives, and tension. Through collective identification by department members, we have identified six key stakeholders: employees, government, customers, shareholders, suppliers, and the community.



### Employees

Conscientious employees are ECOVE's greatest assets

#### Topics of Concern

- Employee benefits and compensation
- Talent Retention and Recruitment

#### Response

- Annual adjustments of salaries based on the industry standards and competitors' employee benefits
- Execute talent development plans and formulate customize individual development plans (IDP) for employees
- Participate in campus recruitment programs, employment pilot schemes for vocational high school students, etc.

#### Mode/Frequency of Engagement\*

- Annual adjustments of salaries based on the industry standards and competitors' employee benefits to ensure salaries are competitive/Annually
- Execute talent development plans and customize IDPs for employees with potential and who are technically competent/Annually
- Participate in campus recruitment programs, employment pilot schemes for vocational high school students, etc./Annually

#### Results of Communication

- **Annual adjustments of salaries**  
Annual periodic review
- **Annual review**  
IDPs for employees with potential
- **4 Campus recruitment sessions**  
Participation in Campus Recruitment Events in 2022



### Shareholders/Investors

ECOVE upholds the principles of openness and transparency in the disclosure of information for investors of the Company

#### Topics of Concern

- Corporate Governance
- Financial Performance

#### Response

- Disclose financial, business, and operating information to attract investors

#### Mode/Frequency of Engagement\*

- Annual general meeting/Annually
- Investor conference/Quarterly
- Extraordinary Shareholders' Meeting/Ad hoc
- Investor Relations/Real-time Information
- Public Information Disclosure System/Real-time Information
- Investor conference call/Ad hoc

#### Results of Communication

- **One session**  
General Shareholders' Meeting
- **Four sessions**  
Investor conferences



### Communities

Promote public participation through environmental education and media channels, infusing unique features of neighborhoods around our facilities

#### Topics of Concern

- Social participation

#### Response

- Explain and communicate various issues brought up by residents
- Communicate pollution prevention monitoring results and public opinion

#### Mode/Frequency of Engagement\*

- Friendly community promotion activity/Ad hoc
- Environmental education visit/Ad hoc
- Care for the underprivileged/Ad hoc
- Environmental protection/Ad hoc

#### Results of Communication

- **68 Sessions**  
Environmental education activities
- **7,940 participants**  
Involvement of the outside public
- **3,051 hours**  
Employee volunteering hours



## Suppliers/Subcontractors

Mutually assisting partners who supply materials and cooperate in innovation and in value creation

### Topics of Concern

- Supply Chain Management
- Occupational Safety and Health (OSH)

### Response

- Ensure quality and delivery of materials to maintain stable operations at all sites/projects

### Mode/Frequency of Engagement\*

- Assessment of suppliers/Annually
- OSH coordination meeting/Biannually
- Coordination meeting/Monthly
- Phone, email, or fax/Ad hoc
- On-site acceptance visit/As needed according to demand

### Results of Communication

- **24 sessions**  
Supplier communication meetings
- **27 Sessions**  
Supplier acceptance visits



## Customers

Bring about more growth in ECOVE through service and communication

### Topics of Concern

- Occupational Safety and Health (OSH)
- Service Quality

### Response

- Organize drills in OSH mechanisms and service processes
- Waste scheduling coordination and communication
- Optimize execution based on feedback on existing projects

### Mode/Frequency of Engagement\*

- Work meetings/monthly
- Questionnaires/annually
- Trade union or bilateral visit and communication/Quarterly, ad hoc

### Results of Communication

- **2 sessions**  
OSH or service processes topical training per customers' concern
- **0 Incident**  
Customer feedback



## Government

Compliance with consultation regulations to facilitate the execution of related operations and maintain smooth functioning.

### Topics of Concern

- Communications with competent authority
- Amendments to policies and laws

### Response

- Revise relevant measures in accordance with policies and laws
- For non-compliance with regulations, issues shall be fixed within the timeline set and punishments meted out according to regulations

### Mode/Frequency of Engagement\*

- Participation in public hearing or briefing/Ad hoc
- Announcement of policies and regulations of competent authorities/Ad hoc
- Correspondence from the competent authorities, response by the Company or on-site inspection/Ad hoc

### Results of Communication

- **Continuous participation**  
Public hearing or briefing
- **Continuous improvement**  
Violations (if any)



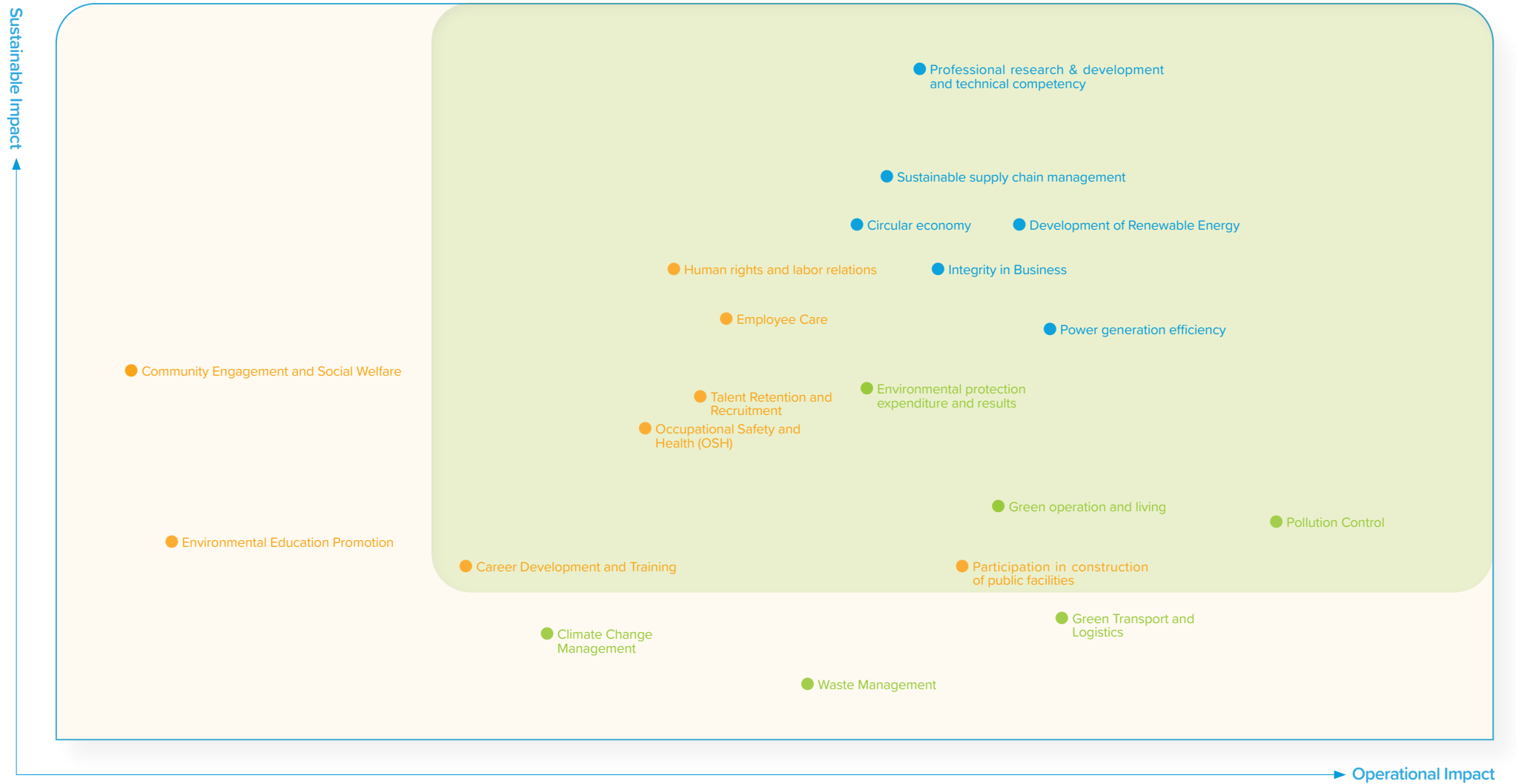


Material Topics	GRI material topics*	SASB topics	Corresponding Chapter/ Page Number	Value Chain													
				Within the organization							Outside the Organization						
				ECOVE	Subsidiary						Upstream		Midstream		Downstream		
					ECOVE Waste Management Corp.	ECOVE Solvent Recycling Corp.	ECOVE Wujih Energy Corp.	ECOVE Environment Service Corp.	ECOVE Solar Energy Corp.	ECOVE Miaoli Energy Corp.	Domestic waste/ General household	General industrial waste/General industry	Township Office Cleaning Squad	Waste disposal institution	Foreign waste treatment inStitutum	Resource recycling (waste-to-energy) plant	Waste Treatment Institution
Ethical business conduct	Anti-corruption (205)	-	Professional Ethics and Legal Compliance	●			▲						○		○		○
Power generation efficiency	Specific to ECOVE	-	Cogeneration and Sales of Electricity	●			▲						○		-		○
Development of Renewable Energy	Specific to ECOVE	-	Renewable Energy Source	●			▲						-		-		○
Professional research & development and technical competency	Specific to ECOVE	-	Development, Integration and Application of New Technologies	●			▲						-		-		○
Sustainable supply chain management	Procurement practices (204)	-	Sustainable supply chain management	●			▲						○		○		○
Pollution Control	Emissions (305)	GHG	Climate Indicators and Targets	●			▲						○		○		○
Green operation and living	Energy (302)	-	Energy and Resource Conservation	●			▲						-		-		-
Environmental protection expenditure and results	Specific to ECOVE	-	Energy and Resource Conservation 、 Sustainable Supply Chain Management	●			▲						○		○		○
Occupational Safety and Health (OSH)	Occupational Safety and Health (403)	Workforce Health & Safety	Safe and Healthy Workplace Environment	●			▲						-		-		-
Employee Care	Employment (401)	-	Talent composition and remuneration	●			▲						-		-		-
Career Development and Training	Training and education (404)	-	Talent Cultivation and Development	●			▲						-		-		-
Talent Retention and Recruitment	Employment (401)	-	Talent composition and remuneration 、 Human Rights Protection and Welfare	●			▲						-		-		-
Human rights and labor relations	Employment (2-23) 、 (401)	Labor Prestices	Talant compesitron and remuneration. Human Rights Protection and welfare	●			▲						-		-		-
Participation in construction of public facilities	Specific to ECOVE	-	Participation in construction of puldic Pacilieies	●			▲						-		-		-

● Causing - Resulting in impacts due to its own activities    ▲ Contributing - Organizational activities leading to, facilitating, or inducing another entity to cause impacts  
○ Directly linked - The organization is not causing or contributing to negative impacts, but its operations, products, or services may be "directly linked" to negative impacts through its business relationships.

\* The numbers in parentheses in the GRI major theme field represent the GRZ disclosure indicator item number.

## Materiality matrix



## Risks/Opportunities and Management Policies of Sustainability Topics

Sustainability Topics in 2022	Impacts Description		Management Policies			2022 Target	2022 Achievement Status (V: Achieved X: Not achieved)	Long-term Goals (by 2030)
	Negative	Positive	Policies	Commitment	Action initiative			
Ethical business conduct	Violation of the Code of Conduct and Ethics may result in company losses.	By implementing the Code of Conduct and Ethics, we aim to reduce the risks associated with business ethics and reputation loss.	Internally, ECOVE established regulations, provides education and training, and promotes awareness, while also offering channels for reporting and protection, fostering a culture of professional ethics and legal compliance.	We enhance our corporate governance system and strengthen management functions to safeguard the rights and interests of stakeholders.	Signing of Employee Letter of Undertaking of Integrity by all employees and carry out educational training courses	100% compliance of all employees with the Government Procurement Act and the Company's anti-bribery policy.	V	100% of all employees have signed a commitment to comply with the Government Procurement Act and the Company's anti-bribery policy.
Sustainable supply chain management	Unexpected internal demand changes, unpredictable natural factors, or insufficient contractor capacity may result in the inability to supply as planned in terms of quantity and quality. Specifications or sources may be restricted, reducing the available options.	Long-term stable operations serve as the foundation for interactive collaboration within the supply chain, ensuring reliability and mutual growth in the supply and contracting relationships.	<ul style="list-style-type: none"> <li>Enhancing CSR awareness through meetings and contacts.</li> <li>Promoting and implementing supplier evaluations.</li> <li>Implementing local procurement.</li> </ul>	By having suppliers sign CSR commitments and conducting supplier evaluations, we strengthen and enhance their sustainable management performance, creating a positive cycle and expanding the sustainable impact of suppliers.	<ul style="list-style-type: none"> <li>Enhancing awareness of the Code of Conduct.</li> <li>Implementing audit evaluations and corrective measures.</li> </ul>	<ul style="list-style-type: none"> <li>Achieving 100% annual signing of CSR commitments.</li> <li>Conducting key supplier evaluations with a 100% completion rate.</li> </ul>	V	Establish sustainable supply chain management measures and implement vendor classification and identification, as well as key vendor management.
Power generation efficiency	Under the pressure of high waste treatment, and influenced by global environmental climate, the rising temperatures have led to insufficient performance of the steam condensing system, potentially reducing power generation efficiency.	In the future, we will improve power generation efficiency through renovation and integrate renewable energy sources to create diversified power generation capacity.	Continuously drive system energy-saving improvement measures	Continuously enhance resource cycling efficiency, reduce environmental impact, and take on more social responsibilities.	<ul style="list-style-type: none"> <li>Coordinate with the rectification process and replace with new energy-saving equipment.</li> <li>Ensure the proper operation of all system equipment through effective management practices.</li> </ul>	Achieve a sales volume of up to 500 kWh/ton of waste converted into electricity.	V	Achieve a sales volume of up to 560 kWh/ton of waste converted into electricity.
Professional research & development and technical competency	Currently, a significant amount of funds cannot be allocated to carbon fees, carbon taxes, and similar initiatives in the short term.	By implementing small-scale applications of low-carbon and sustainable construction methods, we aim to establish core capabilities and seize market opportunities.	Dedicated to developing new construction methods that are low-carbon, sustainable, safe, fast, and of high quality.	Our focus is on pursuing sustainability and operational efficiency by researching and developing new construction methods that are suitable for the industry.	Independent researches by the Technology Development department or requests put forth by other departments in the Company to the Technology Development department	Obtained 4 patents.	V	Obtain 4 patents annually.
Development of Renewable Energy	The global increase in raw material prices due to the pandemic, inflation, and interest rate hikes have raised investment risks and affected the cost of capital, impacting investment returns.	Benefiting from the energy transition policies, there is a continuous release of space for power generation installations, with Taiwanese businesses repatriating funds and increased demand for green electricity from major electricity consumers and the green supply chain, contributing to revenue and profit growth.	Actively compete for development rights to large-scale projects and increase capacity in solar power-building in line with green energy development	In accordance with government green energy policies, we actively invest in various types of power plants to expand our investment scale.	<ul style="list-style-type: none"> <li>Annual targets for solar power generation connection and development.</li> <li>Cultivate and maintain long-term and stable partnerships; evaluate opportunities for establishing overseas renewable energy bases.</li> </ul>	<ul style="list-style-type: none"> <li>Estimated grid connection capacity achievement rate <math>\geq</math> 80%.</li> <li>Estimated development capacity achievement rate <math>\geq</math> 95%.</li> </ul>	V	Cumulative solar power generation exceeds 470,000 million kWh.

Sustainability Topics in 2022	Impacts Description		Management Policies			2022 Target	2022 Achievement Status (V: Achieved X: Not achieved)	Long-term Goals (by 2030)
	Negative	Positive	Policies	Commitment	Action initiative			
Circular economy	<ul style="list-style-type: none"> <li>The Chinese yuan experienced a decline followed by an increase against the US dollar in 2022, resulting in a slowdown in orders in the second half of the year.</li> <li>Strict epidemic control measures in China have affected business visits and participation in international exhibitions compared to sector in the industry.</li> </ul>	<ul style="list-style-type: none"> <li>Asian countries have gradually opened up the use of recycled PET for food packaging and corresponding mandatory regulations.</li> <li>Continued development of cleaning products for mixed plastics, focusing mainly on HDPE, LDP, and other plastic waste, to expand market capacity.</li> </ul>	<ul style="list-style-type: none"> <li>Based on our current industry positioning, we continuously strengthen and extend our presence in other related resource recycling industries.</li> <li>Comprehensively expand recycling and regeneration equipment for various types of plastic waste to contribute to the maintenance of Earth's resources in a broader sense.</li> </ul>	<ul style="list-style-type: none"> <li>Transformation from a professional supplier of PET recycling and cleaning to an integrated engineering company in the plastic recycling industry, achieving sustainable operations.</li> <li>Assist customers in achieving stable growth through more energy-efficient and emission-reducing equipment products.</li> </ul>	<ul style="list-style-type: none"> <li>Project management systems, project risk controls, project specialized responsibility systems</li> <li>Strengthen the product manager system to provide technical support to sales personnel and increase the bidding success rate.</li> <li>Promote the "Stellar Project" to cultivate sales and high-level R&amp;D talents.</li> </ul>	<ul style="list-style-type: none"> <li>Develop the project-based operation model with product managers as the core responsibility.</li> <li>Total Cost Down, Achieve zero growth in costs.</li> </ul>	V	<ul style="list-style-type: none"> <li>Maintain the leading market share in Western Europe or international projects for cleaning equipment and adhesive equipment tonnage.</li> <li>Surpass leading European products in terms of automation level, durability, functionality, and energy consumption for cleaning products.</li> <li>Achieve 20% annual growth in revenue from projects related to cleaning equipment for mixed plastics.</li> </ul>
	Risk of reduced volume due to the trend of carbon reduction and circular economy as the company moves towards a closed-loop electronic-grade recycling model.	Opportunity to provide in-house system implementation and operation maintenance services in response to the trend of closed-loop recycling.	Continue to invest in various waste reuse business to increase the rate of reuse.	Improve the integrated application of technology, enhance competitiveness, and achieve sustainable operation	Provide services for the establishment of in-house systems for enterprises.	Assist enterprises in establishing in-house recycling systems and obtaining different enterprises' procurement volume of waste isopropanol.	V	In response to the trends of carbon reduction and circular economy, we will move towards the development of electronic-grade materials and provide integrated services for enterprise system implementation, operation, and product sales.
Pollution Control	The government may progressively tighten regulations or increase control measures, leading to increased usage of process chemicals or the need for process changes to meet standards.	By introducing foreign technologies and applying them to incinerators, we can reduce pollutant emissions or achieve cost savings.	Enhance waste inspection to reduce the entry of non-combustible waste and ensure the normal operation of air pollution prevention systems.	Set emission reduction targets in compliance with regulations and contribute one's own efforts to the sustainability of the planet.	<ul style="list-style-type: none"> <li>Confirm the proportion of waste entering the plants and that air pollution prevention equipment are functioning normally through regular inspections</li> <li>Implement operational practices through internal control management that exceed regulatory standards.</li> </ul>	Nitrogen oxide emissions per ton of waste: <1.2 kg	V	Nitrogen oxide emissions per ton of waste:<0.9 kg
Green operation and living	In response to the international decarbonization trend, the Company faces increased costs due to the purchase of green energy for partial electricity consumption.	<ul style="list-style-type: none"> <li>Reduce resource consumption in office facilities.</li> <li>Foster a sense of sustainability among employees.</li> <li>Promote energy conservation and carbon reduction to secure a better future for the next generation.</li> </ul>	Lead by example as a company and guide colleagues to embrace a green lifestyle, not only in the workplace but also in their personal and daily lives, by implementing energy-saving and carbon-reducing practices and cultivating an environmentally friendly attitude.	In compliance with government and group policies, we strive to implement various energy-saving and carbon-reducing initiatives, reducing our environmental footprint and fulfilling our collective responsibility to protect the Earth's environment.	<ul style="list-style-type: none"> <li>Strive to build a green office by actively engaging in energy and resource conservation, waste reduction at the source, plastic waste reduction, green procurement, and other initiatives. Our objective is to actively and responsibly contribute to creating a sustainable and environmentally friendly work environment.</li> <li>Encourage employees to become advocates for sustainability by participating in international initiatives.</li> <li>Promote sustainability concepts through ESG awareness campaigns.</li> </ul>	New issue	No	The operational headquarters aims to achieve net-zero carbon emissions.
Environmental protection expenditure and results	Investments made in response to environmental goals have increased operating expenses. Although our new process meets air pollution control and environmental goals, it has led to an increase in carbon emissions.	We are actively promoting energy-saving equipment upgrades and process improvements to enhance efficiency and increase revenue. These efforts align with current trends and help enhance our corporate image.	Green investment and green operations	By leveraging the concept of a circular economy, we aim to achieve the sustainable use of Earth's resources through three key aspects: resource cycling supply, resource recovery, and extending product and asset lifecycles. This approach is designed to ensure the long-term sustainability of our planet's resources.	Enhancing resource reuse. Implementing energy efficiency improvement measures.	New issue	No	50% implementation rate for energy-saving and carbon reduction enhancement proposals. Meeting the criteria for green office initiatives and obtaining the Green Office Environment Certification.



Sustainability Topics in 2022	Impacts Description		Management Policies			2022 Target	2022 Achievement Status (V: Achieved X: Not achieved)	Long-term Goals (by 2030)
	Negative	Positive	Policies	Commitment	Action initiative			
Occupational Safety and Health (OSH)	Risk of cardiovascular diseases (such as stroke, heart attack)	Enhanced interviews for new employees to identify and document risks through feedback. Timely inquiry about exercise habits and inclusion of health conditions as part of the assessment.	Prioritizing safety and well-being; promoting employee health and welfare; protecting the environment and ensuring sustainable development; implementing risk management mechanisms; complying with regulations and contractual requirements; encouraging the participation and training of all personnel; continuously improving the HSE system.	Implement management through ISO 45001 and CNS 45001 OSH Management Systems	Setting safety and health objectives. Implementing on-site safety and health management. Conducting health promotion education and training. Regular health check-ups and tracking for employees. Providing on-site medical services.	ISR $\leq$ 0.6 IFR $\leq$ 0.15 TRCR $\leq$ 0.15 Achieving AED Safe Place certification for two plant areas by 2022. Conducting CPR+AED education and training for all personnel to reduce health risks through professional training.	V	ISR $\leq$ 0.6 IFR $\leq$ 0.14 TRCR $\leq$ 0.14
Talent Retention and Recruitment	If unable to recruit qualified talents in a timely manner, the Company's operations may be affected as a result.	Having suitable talents is essential for the sustainable operation of the Company.	Spare no effort to cultivate outstanding employees, encourage continuing education and sharing of knowledge and skills, and create a healthy and friendly workplac	Enhance personnel's identification and compliance with the Company's corporate culture, so that personnel can adapt their talents and grow	Develop human resource policies, formulate fair and incentivizing performance appraisal, salary, and reward policies	The regular turnover rate should be within a reasonable range of 5% to 8%.	V	<ul style="list-style-type: none"> <li>The turnover rate to be within a reasonable range of 5% to 8%</li> <li>Recruit talent that agrees with ECOVE's corporate culture</li> </ul>
Human rights and labor relations	Failing to protect employee rights adequately not only impacts the Company's reputation but also erodes employee morale and diminishes the attractiveness in talent recruitment.	Providing diverse learning resources and channels to encourage employees' self-directed learning enhances individual performance and potential.	Implement diversified communication channels, online opinion platform, forums with senior managements, labor-management conferences, employee satisfaction surveys, etc.	ECOVE is committed to the belief of benefit sharing, providing a good working environment and smooth working channels, and continuously enhancing the harmonious communication between employers and employees	Increase communication frequencies and methodologies to promote labor-management harmony	No labor disputes or penalties for violating labor laws occurred annually.	V	No labor disputes or penalties for violating labor laws occurred annually.
Career Development and Training	If talent fails to keep up with the times, it will erode the Company's competitive advantage and growth momentum.	The growth of the Company is closely related to the personal learning and development of employees. Personal learning and development not only contribute to improved job performance but also provide opportunities for colleagues to apply their knowledge in daily life, creating a positive impact on society's progress and advancement.	Promote of mobile training platform so that employees can learn professional knowledge from anywhere and rely on robust control mechanism to effectively realize the employee training system and development blueprint	Comprehensive talent nurturing and in line with business development, elevate the professional capabilities of employees	Plan employee career development, education and training curriculum, and performance indicators to enhance the professionalism of personnel	Total employee training hours is 18,000 hours	V	Total employee training hours is 18,000 hours
Employee Care	Assist employees in maintaining physical and mental well-being and achieving work-life balance.	Provide a conducive environment for colleagues to achieve a healthy balance between family and work.	Establish a fair and incentivizing benefits and compensation system associated with future goals and the future strategies of the Company	Keeping integrity in mind, provide fair and competitive salaries and benefit plans for employees	Update salary scale according to the latest market trends	Offer a competitive salary and benefits package that surpasses industry standards.	V	Offer a competitive salary and benefits package that surpasses industry standards.
Participation in construction of public facilities	Rising global raw material prices, inflation, and interest rate hikes increase investment risks and impact the cost of capital, potentially affecting investment returns. Labor and material shortages may also cause project delays.	Participate in public infrastructure projects to enhance the convenience of people's lives.	ECOVE actively engages in public construction, creating mutual benefits for the government, businesses, and the public.	Enhance technological integration and optimize resource cycling efficiency to improve competitiveness and achieve sustainable operations.	<ul style="list-style-type: none"> <li>Refer to the latest government tendering project updates for bidding.</li> <li>Actively participate in private sector involvement in public construction investment conferences to seize business opportunities.</li> </ul>	New issue	No	Extend core technologies to provide maintenance services for a wider range of public facilities.

## Response to the United Nations' Sustainable Development Goals

ECOVE carried out a comprehensive inventory of organizational objectives and practices, starting from our core competencies, and internalized SGDs into operational activities, deepened the Company's sustainable development so as to mitigate the impact of operating activities, and apprehend the opportunities for sustainable development.



### People-oriented employee care

- Long-term monitoring and tracking of dioxin level in blood for employees
- Passed ISO 45001 certification
- Total Recordable Case Rate (TRCR) is 0
- Provided annual health checkups, including the tracking of health checkup status and assisting high-risk personnel to seek medical attention



### Promote environmental education to foster a green future

- 2021 ~ 2025 "Step by step: " Factories for Sustainable Environmental Education"
- Promoted 21 elementary schools in 2022
- 5 incinerators certified as environmental education sites



### Water resource recycling and reuse

- Water resource recycling and reesue passed the BS 8001 certification
- Recycling and reusing through eco- engineering methods and dierent levels of pollutant treatment
- Total of 26.85 million tons of sewage was treated in 2022



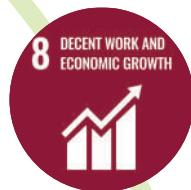
### Recycling of renewable energy

- Continuous installation of solar panels with a total annual capacity of approximately 113,916 MMH
- ncinerators sold back a total of 1,157,766 MWh of electricity to Taipower, representing 81.2% of its total electricity generation



Recycling and Reuse





**Sustainable economic growth to promote full employment and suitable jobs for everyone**

- 2022 EPS reached a new high, with consecutive 11 years of EPS exceeding NT\$10
- New recruits of 181 people, providing many employment opportunities
- Employed 13 persons with disabilities



**Reduce hazardous impacts to the environment from the cities in terms of waste disposal and subsequent management.**

- Passed the world's first BS 8001 certification (incineration efficiency improvement) Incineration
- wastes and final substances were tested and disposed of according to laws and regulations



**Provide recycling services for industries and promote responsible consumption and production of industries**

- Treatment of waste solvents, reducing carbon dioxide emissions
- Capable of PET bottles recycling and cleaning solution, reducing water consumption.



**Respond to climate change with early warnings complemented with mitigation and adaptation**

- Disclosed climate change risk and impact in accordance with TCFD framework, and passed the BSI verification
- Assisted EPA to formulate carbon footprint rules for "Waste Management Services" and obtained certification
- Regular greenhouse gas inventory assessments are conducted to align with the government and corporate objectives of achieving net-zero carbon emissions



## Participation in External Organizations

GRI 2-28

### Participation in Associations and Organizations

By participating in various associations and organizations related to industry development and operating strategies, ECOVE can strengthen our ties with the industry and the latest technologies. On top of enhancing service competitiveness and realizing industry impact, we can also increase the opportunities to form strategic alliances to create opportunities for business growth.

Name of organizations	Participating Identities
Water Affairs Organization · Taiwan	Executive Director
Sustainable & Circular Economy Development Association	Director
Taiwan Institute for Sustainable Energy (TAISE)	Member
Taiwan Electric Power Association (TEPA)	Member
Taiwan Environmental Engineering Association	Member
Taiwan Water Pipe Engineering Association	Member
Taiwan Electrical Contractors Association	Member
Taiwan Boiler Association	Member
Taiwan Refrigeration & Air-conditioning Engineering Association of R.O.C.	Member
Taiwan Resource Recycling Industries Association	Member
Taichung Waste Management Commercial Association	Member
Taoyuan Waste Management Commercial Association	Member
Solar PV Generation System Association of R.O.C (PVGSA)	Member
Taiwan Occupational Safety and Health Management System Northern Region Promotion Association (TOSHMS)	Member
Kaohsiung City Municipal Waste Management Commercial Association	Member
Taiwan PM2.5 Control Association	Member

ECOVE has accumulated over 20 years of experience in waste incineration operation and has made significant developments in areas such as solar energy and recycling in recent years. In addition to being invited to share Taiwan's experience at domestic and international forums, ECOVE has also featured on the various key media. For instance, ECOVE utilizes multi-rotor unmanned aerial vehicles (UAVs) equipped with infrared thermographic cameras to inspect various equipment in power plants. This allows for rapid and extensive inspection operations that are not affected by the operating environment on site. By identifying equipment safety issues in advance and improving equipment reliability, ECOVE enhances the power generation efficiency of solar power plants. The application of this technology has been published in a renowned international journal in 2022.



ECOVE utilizes UAVs equipped with infrared thermographic cameras to enhance the operational efficiency of solar power plants. The technology was published in the internationally renowned journal, Power Magazine.

## Participation in Seminars or Forums

ECOVE actively participates in national and regional environmental policies and issues, and we share more than 20 years of experience in resource cycling industry development and operating strategies with public and private groups from the government, industry, and the academia as well as the public in response to invitations from domestic and overseas government or non-governmental organizations. This helps to build cornerstones in resource cycling economy and to ensure that we stay on top of the trends.

Inviting/Organizing Entities	Presentation Topics
Environmental Protection Administration, Executive Yuan	Sharing of Safety Management Experience in EfW Plant Rectification Work
Public Construction Commission	Experience Sharing of the ECOVE Solar Energy Corporation's Lumberton Solar Power Project in the United States
Over-the-Counter Securities Trading Center	Practical Experience Sharing in Greenhouse Gas Inventory
Industrial Technology Research Institute (ITRI) Green Energy Division	A Special Topic Presentation: Integration Experience of Photovoltaics with Large-Scale Transportation Infrastructure
Taiwan Institute of Chemical Engineers and Department of Chemical Engineering, National Kaohsiung University of Science and Technology	Transforming Linear Economy into Circular Economy through Green Technologies: A Case Study on Solvent Waste
Department of Occupational Safety and Health, Chia Nan University of Pharmacy and Science	Sharing of Occupational Safety and Health Experience in Enhancing Sense of Mission through Climbing Incinerators
CommonWealth Magazine	The Issue of Emission Reduction through EfW Plant Rectification
Water Affairs Organization · Taiwan	Waste Isopropyl Alcohol Recycling and Reutilization Technologies
Industrial Technology Research Institute (ITRI)	Low Carbon Circularity Recycling Technology for Waste Isopropyl Alcohol (W-IPA)
CTCI Education Foundation (CTCI EF)	Commitment to Achieving Net Zero Goals, Leading the Engineering Industry towards Sustainability
	Circular Economy - Turning Waste into Resources



Jointly organized by ECOVE Environment Corp., CTCI, and CTCI Education Foundation (CTCI EF), the 2nd Taiwan Sustainable Engineering Forum will be held, gathering renowned experts and scholars. ECOVE will share practical experiences in the field of circular economy.



Invited by the Environmental Protection Administration of the Executive Yuan to share safety management experiences in EfW plant rectification work.



Invited by the Green Energy Division of the Industrial Technology Research Institute (ITRI), ECOVE Solar Energy Corporation will deliver a special presentation at the 2022 Solar Power System Competitiveness Forum.



## Ethical Corporate Management

GRI 2-9~11, 2-15, 2-17~20

Effective corporate governance is the cornerstone for sustainable development of enterprises. We see Ethical Corporate Management as the supreme principle, implement sound risk management, comprehensive information security management, and actual compliance with laws and regulations. As a means to achieve the goal of sustainable co-prosperity, we took a proactive approach to understand and respond to the needs of various stakeholders through a variety of information disclosure channels on top of rigorously safeguarding shareholders' rights and interests.

### Management Governance

ECOVE sees ethical corporate management as the fundamental spirit of corporate governance and embarks on a quest to satisfy the expectations of investors and various stakeholders while working on the stable growth of the organization. We have established diverse channels to provide relevant information, such as setting up a dedicated section for corporate sustainability and a stakeholder area. These initiatives aim to provide symmetrical information for investors and stakeholders, ensuring integrity and transparency in corporate governance, meeting the expectations of various stakeholders, and facilitating effective communication.

 <p><b>Investor Conference and Annual Shareholders' Meeting</b></p> <ul style="list-style-type: none"> <li>• Convened regularly each year</li> <li>• Explain the Company's finances and operations</li> </ul>	 <p><b>Investors' Section</b></p> <ul style="list-style-type: none"> <li>• Make timely disclosures on the status of corporate governance, business announcements, financial statements, material information, investor conferences, internal audit, and other relevant information</li> </ul>	 <p><b>Market Observation Post System (MOPS)</b></p> <ul style="list-style-type: none"> <li>• Publish detailed information on the Company's operations and management</li> </ul>	 <p><b>Stakeholders' Section</b></p> <ul style="list-style-type: none"> <li>• Dedicated personnel/section to respond to stakeholders</li> <li>• Stakeholders Can contact the Company Via Phone, fax, or email.</li> </ul>	 <p><b>Sustainability Report and Sustainability Zone</b></p> <ul style="list-style-type: none"> <li>• Publish CSR reports each year to disclose corporate governance, environmental protection, social prosperity among other information and make reports available for stakeholders to download</li> <li>• The Company website features a Sustainability Zone, which provides stakeholders with access to relevant information on sustainability.</li> </ul>
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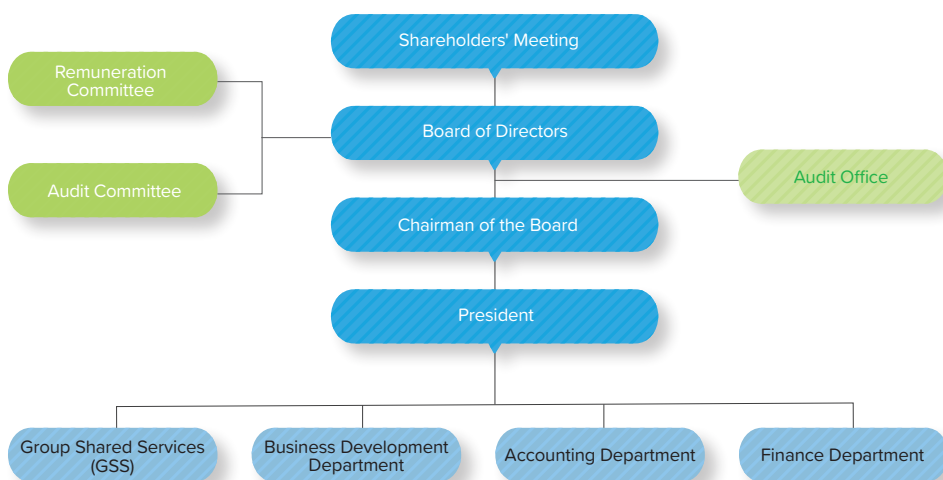
ECOVE not only focuses on resource recycling-related fields in investment planning but also places great importance on implementing sustainable development. Through transparent, professional, and robust corporate governance principles, ECOVE has been consistently ranked in the top 5% of the "Corporate Governance Evaluation" for listed companies for nine consecutive years. This demonstrates our commitment to being a responsible corporate citizen and serves as a model for information disclosure and ethical business practices.



## Governance Structure


The highest decision-making unit in ECOVE is the Board of Directors, as stipulated in the Article of Incorporation, the Company shall have a Board of Directors consisting of five to nine directors, each serving a three-year term. The directors are appointed by the shareholders' meeting from eligible individuals and can be re-elected. Among the aforementioned director seats, two to three positions are designated for independent directors. The selection and appointment of directors (including independent directors) in the Company follow the candidate nomination system outlined in Article 192-1 of the Company Law. The directors are appointed by the shareholders' meeting from the list of director candidates. The 8th Board of Directors of the Company consists of nine directors, including three independent directors, accounting for approximately 33% of the board. They are responsible for formulating the Company's business policies and important strategies.

The operation of our Board of Directors follows the "Rules Governing Procedure for Board of Directors Meetings" and "Guidelines for Board of Directors Meeting Operations Management." The Board holds meetings at least once per quarter, adheres to conflict of interest regulations, and any director with personal interests involved in a board resolution automatically recuses themselves and does not act as a proxy for other directors in voting. In 2022, the average attendance rate of the Board of Directors' meetings was 98%. The Chairman of ECOVE has the primary responsibility of overseeing the executive management to ensure that the company's operations and business execution align with the corporate philosophy. The President's primary responsibility is to lead the management team and ensure the overall operations are carried out in accordance with the directives of the Board of Directors. The Chairman does not hold the position of President to avoid conflicts between their respective responsibilities.




To ensure the Board of Directors effectively fulfills its supervisory, auditing, and managerial functions, ECOVE has established an "Audit Committee" and a "Remuneration Committee" under the Board of Directors. The Company also has an internal audit organization that plans and executes auditing activities. The internal audit team reports regularly to the independent directors on auditing matters and attends meetings of the Audit Committee and the Board of Directors to provide reports.

	Remuneration Committee	Audit Committee
<b>Main Responsibilities</b>	Evaluate the remuneration policy and system of the directors and managers objectively and make suggestions to the Board of Directors accordingly for policy-making reference.	Established voluntarily since 2014, the Committee is responsible for supervising the fair expression of the Company's financial statements, the selection (dismissal) and independence and performance of CPAs, the effective implementation of internal controls, compliance with relevant laws and regulations, and the control of existing or potential risks.
<b>Composition of Committees</b>	<ul style="list-style-type: none"> <li>The term of office of the 4th Committee from May 28, 2020 to May 27, 2023</li> <li>Convener :Shuh-Woei, Yu</li> <li>Members : James Tsai and Shan Shan, Chou</li> </ul>	<ul style="list-style-type: none"> <li>The term of office of the 3rd Committee from May 28, 2020 to May 27, 2023</li> <li>Convener :Shuh-Woei, Yu</li> <li>Members : James Tsai and Shan Shan, Chou</li> </ul>
<b>Meetings</b>	Two meetings were convened in 2022. The average attendance rate of the three members was 100%.	Seven meetings were convened in 2022. The average attendance rate of the three members was 100%.




Articles of Association

Remuneration Committee





Audit Committee




## Board Diversity

The members of the Board of Directors possess the professional knowledge, experience, and qualities required to fulfill their duties, including expertise in fields such as engineering & environmental protection, industrial safety, water resources, finance & environment, and more. They are equipped with international perspectives, decision-making and leadership abilities, and crisis management skills to adapt to changes in the economy, environment, society, and other aspects. Furthermore, we are committed to promoting board diversity. We have formulated diversity policies for Board Members based on the company's operations, business models, and development needs. Specific objectives include limiting the number of directors concurrently serving as Company General Manager to no more than one-third of the board seats, ensuring at least one female director, and having at least two independent directors whose consecutive terms do not exceed three. The results of the 2020 board election were in line with the diversity policy. Currently, the board consists of 8 male members aged 50 and above, as well as one female member aged 50 and above.





Information on the current positions, educational and professional backgrounds, current concurrent roles, and areas of expertise of board members.



Implementation of the Board's Diversity Policy


## Directors' Further Training and Performance Evaluation


In an effort to implement corporate governance, enhance the functions of the Board of Directors, as well as to establish performance targets and strengthen the operational efficiency of the Board of Directors, the Company revised the "Regulations Governing the Board Performance Evaluation" at the 13th meeting of the 7th-term Board of Directors in May 2019, stipulating that performance evaluation of the Company's Board of Directors shall be carried out at least every three years by an external professional independent body or a team of external experts and academics, the results of internal and external performance evaluations of the Board of Directors shall be completed before the end of the first quarter of the following year, and that the scope of evaluation shall be extended to the performance evaluation of the Board of Directors as a whole, individual Board Members, and functional committees. The individual performance evaluation of directors will serve as a reference for determining their compensation. Evaluation methods include internal self-assessments by the Board of Directors and functional committees (Remuneration Committee and Audit Committee), self-assessments by individual Board Members, appointment of external professional bodies, experts, or other appropriate means of performance evaluation.

In late 2021, the Company appointed an external professional and independent organization, the "Taiwan Corporate Governance Association," to conduct the evaluation. The evaluation results and proposed measures were presented to the 13th meeting of the 8th Board of Directors on March


7, 2022. The results of the Board's performance evaluation, as well as subsequent reviews and improvements, will be reported to the Board and disclosed in the annual report and on the Company's website.

All members of the Board of Directors of the Company have completed relevant training in accordance with the "Guidelines for Continuing Education for Directors and Supervisors of Exchange-listed and OTC-listed companies." The training content covers corporate governance, business ethics and compliance, corporate sustainability, information security, etc., aiming to enhance the Board's understanding of emerging issues and the effectiveness of corporate governance. In 2022, the average training hours for the Company's Directors reached 7.33 hours, with all directors meeting the requirement of a minimum of 6 hours of training under the "Guidelines for Continuing Education for Directors and Supervisors of Exchange-listed and OTC-listed companies." Related information is disclosed on the Market Observation Post System.





The internal performance evaluation results of the Board of Directors



The external performance evaluation results of the Board of Directors

## Remuneration Structure for Directors and Managers

The remuneration of the Company's Directors and General Manager follows the guidelines and criteria set forth by the Remuneration Committee and the Board of Directors, including the "Guidelines for Director Performance Evaluation and Remuneration System" and the "Guidelines for General Manager Performance Evaluation and Remuneration System." The remuneration takes into account industry norms, as well as the Company's performance, individual contributions, and achievements, aiming to provide reasonable compensation.

The compensation structure for General Manager (including those who are also directors) includes fixed and variable components and is subject to annual performance assessment. The assessment encompasses the achievement of various financial goals (approximately 65% weightage), non-financial performance indicators (approximately 25% weightage), and the Company's sustainable goals related to economic, environmental, and social aspects (approximately 10% weightage). In addition, the annual salary adjustments and performance bonuses are calculated based on their performance evaluation results compared to general employees. The performance results, salary adjustments, and annual bonuses are reported to the Remuneration Committee and the Board of Directors for discussion. (Human Resources Department)

Starting from 2022, the performance goals for Directors, the President, and General Manager have incorporated ESG (Environmental, Social, and Governance) elements. Discussions on goal setting take place at the beginning of the second quarter each year, and the achievement rate is reviewed in the fourth quarter. ESG goals account for a weightage of 10% in the overall performance goals. Key performance indicators include receiving national environmental awards, conducting 20 off-site environmental education activities through the CTCI Education Foundation (CTCI EF), and organizing visits to business locations by the Directors. Furthermore, within the annual performance assessment, supervisors have ESG self-assessment items to encourage them to actively participate in various internal and external ESG activities or awards within the group. This aims to ensure the implementation of the Group's ESG sustainable goals in daily work.

The remaining employee remuneration and welfare protection are also inline with the general management's regulations. However, there are exceptions for the allocation of stock options and pensions for senior managers, where the distribution of warrants is reviewed by the Remuneration Committee, while pension is set out based on the coverage rate of the old pension mechanism and is controlled by the Pension Supervision Committee and an actuarial firm to protect the retirement rights and interest of senior managers as employees.

General Manager Remuneration Structure

- Fixed compensation includes base salary, allowances, and bonuses, which are determined based on professional qualifications and market remuneration levels.
- Variable compensation includes bonuses and rewards, which are determined based on the Company's overall performance, business unit considerations, and individual relative performance contributions. It aims to align with the Company's core values, demonstrate leadership and management capabilities, and take into account factors such as future risk implications to reasonably determine the compensation.
- Long-term incentive awards are granted in the form of stock-based compensation, which is deferred for five years and calculated based on future stock prices at the time of fulfillment. This ensures that General Manager compensation is linked to the Company's long-term performance. In the event of significant risk events that could impact the Company's reputation or internal mismanagement, or other risk events related to personnel misconduct, the issuance of General Manager bonuses may be affected, reduced, or withheld, or previously granted bonuses and virtual share rights (including events occurring during the five-year deferral period) may be subject to recovery at the discretion of the Company.


The Remuneration Committee and the Board of Directors shall regularly review the reasonableness of the remuneration, and shall review the remuneration system from time to time according to the actual operating conditions and relevant laws and regulations. They shall not guide the directors, presidents, and vice presidents to engage in acts beyond the Company's risk appetite in pursuit of remuneration, so as to avoid improper circumstances such as the Company suffering losses after payment of remuneration.

## Legal Compliance and Internal Control and Internal Audit


GRI 2-23 ~ 24、2-26 ~ 27、205-1 ~ 3、206-1

### Professional Ethics and Legal Compliance


ECOVE adheres to the spirit of integrity in its operations and ensures that daily operations comply with corporate ethics and morals. We have established basic standards of conduct that must be followed by the Directors, General Manager, and general employees, including "Corporate Governance Principles," "Ethical Corporate Management Principles," "Code of Ethics for Directors and General Manager," and "Code of Conduct for Employee Professional Ethics," among other regulatory standards. Additionally, we have set forth work rules for all ECOVE employees to follow in their daily business activities. At the same time, with the intention of maintaining fair trade and preventing corruption and bribery, ECOVE strictly requires employees and related parties to conduct transactions without preferential treatment, and not to request, obtain, offer, accept favors such as gifts, entertainment, kickbacks, or bribes for themselves or people around them when performing their duties. Through the internal control system, relevant risks can be confirmed and mitigated for all operating sites. Within the "Code of Conduct for Employee Professional Ethics," it is specified that employees of the Company must not, in any way, engage in political contribution, support specific political parties or candidates, or participate in other political activities that may influence other employees.




### Rules and Procedures




Corporate Governance Standard




Ethical Corporate Management Principles



Code of Business Conduct and Ethics for the Board of Directors and Managers



Code of Ethical Conduct for Employees



Accusation Management Regulations

To continuously strengthen our commitment to integrity in business operations, ECOVE organizes internal and external activities and training sessions related to ethical business practices for all employees on an annual basis. In 2022, we conducted two online corporate integrity courses in which a total of 867 employees participated, accounting for 97.3% of the entire workforce.

In order to ensure that all ECOVE employees are familiar with the various management standards, since 2020, all employees, regardless of their positions, including newly hired staff, are required to sign the "Employee Ethics Commitment Letter." In 2022, the signing rate reached 100%. During the orientation and training for new employees, the importance of ethics and integrity is emphasized, along with an introduction to ECOVE's "Code of Conduct," "No Gift Policy," "Whistleblowing Website," and other legal compliance regulations and reporting mechanisms. The corporate culture of "integrity" is also included as an annual performance evaluation criterion, deepening the connection between ethical behavior and employee performance, with the aim of instilling the culture of integrity in the hearts of every employee. ECOVE also requires all employees of affiliated companies and overseas subsidiaries to sign the "Confidentiality, Non-Competition, and Intellectual Property Commitment Letter." In 2022, there were no incidents of corruption or bribery, and our commitment to integrity in business operations has received recognition and approval from our partners. All Board Directors also underwent courses related to ethical corporate management issues, and advocacy was further conducted on the issues of legal compliance, avoidance of interest, improper political contributions and donations, with a completion rate of 100%, thereby strengthening the concept of ethical management at the governance level.

The Company's business scope covers three major areas: waste management, recycling, and renewable energy. We regularly review the latest legal changes and updates both domestically and internationally and are committed to establishing a culture of compliance. In 2022, ECOVE did not face any legal actions related to anti-competitive behavior, antitrust and monopoly practices, non-compliance with product and service information and labeling regulations, or violations of marketing and promotion (regulatory or voluntary guidelines).



## Internal Control System

ECOVE's internal control system is based on the "Guidelines for Establishing Internal Control Systems for Publicly Issued Companies" issued by the Financial Supervisory Commission. It incorporates elements such as control environment, risk assessment, control activities, information and communication, and monitoring. Designed by the General Manager, approved by the Board of Directors, and implemented by the Board of Directors, General Manager, and other employees, the system aims to promote sound business operations, ensure operational effectiveness and efficiency, reliable and timely information reporting, and compliance with relevant laws and regulations. It is regularly reviewed to adapt to changes in the internal and external environment, ensuring the ongoing effectiveness of system design and implementation.

ECOVE has an internal audit unit under the oversight of the Board of Directors. The unit has established an internal audit system, which is approved by the Board of Directors. It is staffed with a dedicated audit manager and works in conjunction with the Audit Committee to assist the Board of Directors and General Manager in examining and reviewing deficiencies in the internal control system, measuring operational effectiveness and efficiency, and providing improvement recommendations as necessary. This ensures the continuous and effective implementation of the internal control system and serves as a basis for reviewing and revising the system.

The audit department develops an annual audit plan based on risk assessments and submits it for approval by the Board of Directors. It then carries out various audit procedures according to the plan. Identified deficiencies and abnormal issues related to the internal control system are disclosed in audit reports, which are tracked and followed up on after submission. Follow-up reports are prepared at least quarterly until improvements are implemented to ensure that relevant departments have taken timely and appropriate corrective measures. The audit manager reports the results of the independent director audit plan execution monthly and has individual face-to-face meetings with independent directors every quarter to discuss internal control and audit-related matters. The audit manager also attends Audit Committee and Board of Directors meetings to present audit business reports and demonstrate the effectiveness of the audit function.

## Whistleblower and Consultation Mechanism

ECOVE has established the "Whistleblowing Operation Management Measures," which are managed by the Human Resources department. The department is responsible for receiving whistleblower cases and providing initial review recommendations. The cases are then forwarded to the GSS or Group Shared Services for further investigation, ensuring a transparent whistleblowing channel and fair investigation process. ECOVE has also set up a "Whistleblower Website" on the "Employee Opinion Platform," developed by the independent firm Deloitte Taiwan, to protect the rights of whistleblowers and ensure proper investigation and handling of whistleblower cases. Both internal employees and external individuals can freely choose to make reports on the platform, either anonymously or with their names disclosed. External individuals can also report through ECOVE's official website reporting platform (<https://www.ecove.com/?L=CH&C=0600>).

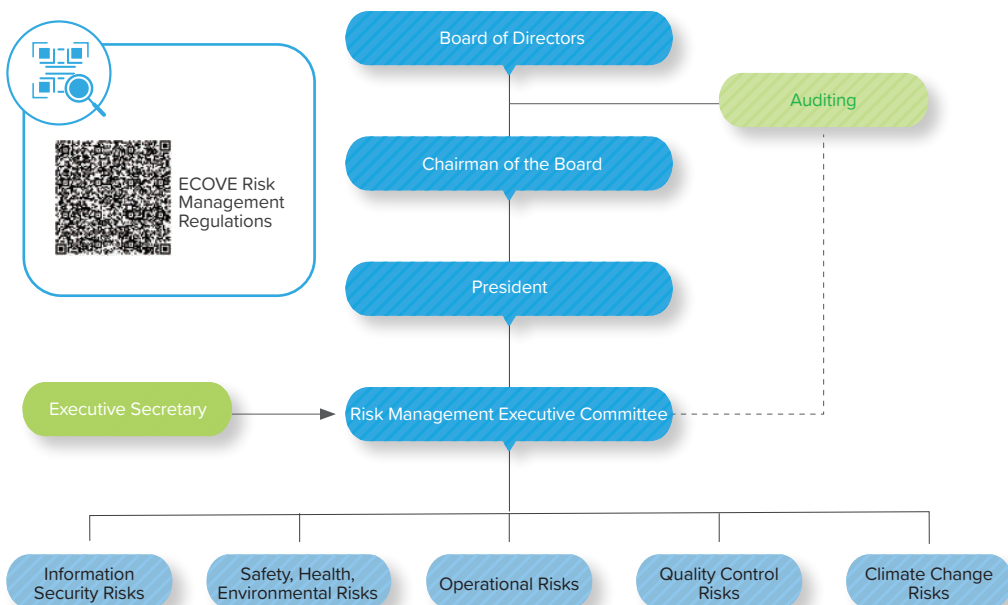
If employees have concerns or inquiries regarding the various codes of conduct or ethical business practices, they can consult with their supervisors or contact the internal complaint mailbox (HR@ecove.com). Although there were no confirmed complaints or violations related to integrity in 2022, ECOVE will continue to adhere to its brand positioning as the "Most Reliable" and enforce ethical corporate standards.



## Risk Management

To strengthen the operational resilience and competitiveness of itself and its subsidiaries, ECOVE issued the "Risk Management Guidelines" in 2017. It established the "Risk Management Executive Committee" with a structure consisting of the Board of Directors, Chairman, President, and executive secretary. The committee holds meetings in the first and third quarters of each year, prioritizing risk issues and proposing control measures. The implementation of control measures is continuously reviewed through audits to assist the Board of Directors and General Manager in ensuring effective risk control. The committee primarily manages five types of risks: information security risk, health and safety environmental risk, operational risk, quality management risk, and climate change risk. Effective actions are taken to manage risks or seize potential opportunities. In the 2022 Risk Management Report, eight risks were identified, such as environmental laws and regulations, unforeseen plant shutdowns, safety and health, human resources, pandemic impact, and VOC leakage risk. After discussions on risk assessment, 58 action control measures were proposed, all of which were implemented in accordance with regulations to ensure effective risk control.

### Organization Chart of the Risk Management Committee



As an investment holdings company, ECOVE maintains control on various aspects of subsidiaries and requires subsidiaries to submit monthly operations reports, so as to review and analyze management strategies and risk management. The results of such reviews and analysis are compiled into guidelines or amendment reports and will be approved by responsible managers and the Chairman before being carried out by subsidiaries. In addition, with the object of maintaining a stable operation, related supervision processes were conducted, based on the characteristics of industries on all subsidiaries that ECOVE has invested in.



## Information Security

GRI 418-1

Resolute to protect the vital intellectual assets of customers, ECOVE strengthens the reliability and quality of project executions to enhance customers' trust. With a sound information security management system, regular security risk assessments, and information security management mechanisms in place, we proactively identify and reduced information security risks, and adhere to owners' requirements or legal requirements, such as the Trade Secrets Act, Personal Data Protection Act, and Cyber Security Management Act, so as to improve the quality of information security management holistically.

### Information Security Management System

ECOVE continues to implement the PDCA (Plan-Do-Check-Act) cycle to continuously improve its information security risk management operations. The promotion and implementation of information security management, regular reviews, and timely updates not only support the sustainable operation and development of the Group's business, but also lay the foundation in a new era for ECOVE's IT.

Based on the Financial Supervisory Commission's "Guidelines for Establishing Internal Control Systems for Publicly Issued Companies," the Company is required to establish a dedicated information security unit (including one information security manager and at least one information security personnel) by the end of 2023. We have initiated personnel recruitment to meet this legal deadline and will comprehensively update the "Information Security Management Guidelines" and related guidelines in accordance with the principles of ISO/IEC 27001. These measures aim to regulate the Company's information security management system to ensure the confidentiality, integrity, and availability of the Company's governed information, thereby safeguarding the interests of the Company and all employees. According to the provisions of the "Risk Management Guidelines," the "Risk Management Execution Committee" serves as the highest governing unit for information security. Under the committee's guidance, the Information Services Center is responsible for executing and regularly submitting execution results and effectiveness reports on social engineering, antivirus systems, firewalls, email filtering systems, email auditing systems, and other security measures. These reports are consolidated into the "Risk Management Committee Report" and presented to the Board of Directors annually in the fourth quarter to report on the annual progress and plans.

### Information Security Risk Identification

To proactively identify possible risks to information security, we conducted an annual risk assessment exercise to analyze key items from a combination of potential threats and vulnerabilities, including:

- Scam syndicates using fake e-mail messages to trick employees of the Company into remittances or transactions, or providing personal information.
- Industrial spies or competitors using hacking technologies to continuously infiltrate the internal hosts and steal corporate internal information.
- The criminal syndicates and hackers distributing content with malicious links through e-mails, SMSes, social networking software, and communication software, to induce employees to fall victim to scams or to cause victims' computers to be encrypted and held hostage until the demanded ransom is paid.

- Hackers initiating a large number of connection requests through the network to block the normal operation of the Company's network.
- Employees using illegal software or copying sensitive data of the Company to portable storage devices, causing data leaks due to loss, theft, or sale of the devices.
- Natural and man-made disasters causing damage to information software and hardware, resulting in service interruption or data loss.

With regard to information security risks, ECOVE adopted a multi-prong approach to reinforce information security management mechanisms designed for reducing threats and managing risks, by applying information security management guidelines, introducing technological solutions, and stepping up information security education and training. Key measures include:

- Regarding the disposal of hard drives from decommissioned computers, we employ dedicated wiping machines (in accordance with the US Department of Defense DoD 5200.22 standard) to prevent malicious individuals from tracking, recovering, or manually dismantling and destroying the magnetic disk records within the hard drives.
- We conduct quarterly simulations of social engineering attacks and provide cybersecurity education and training to enhance employees' awareness of email protection.
- In 2022, we upgraded the client installation monitoring software (SmartIT) to strengthen asset management and security controls (such as controlling the connection of USB storage devices or permissions for self-installing software).
- In 2022, we installed antivirus software on all servers and personal computers, enabling automatic and regular scanning of computers and continuous updates of the antivirus systems and virus definitions to ensure computer security.
- We plan to replace the email gateway filter (which currently filters email viruses and spam) and add functionality to filter phishing emails by the second quarter of 2023. This will reduce the risk of attackers exploiting the email channel for attacks.
- Protect the confidentiality of documents through smart document management system and disk encryption technologies.
- Set up "social engineering attack prevention advocacy" website and "scam mail notification mailbox" to reduce the risk of being attacked.
- Regularly conduct internal/external audits to serve as a basis for improving the operation of the information security system on top of refining the operation of the information security management system.
- To enhance our cybersecurity defense, starting from August 1, 2021, we relocated to the second headquarters. The new building's server room has undergone a comprehensive upgrade with new firewall technology and accompanying antivirus software. To connect to the internal network using end-user computers, it is mandatory to check if the computer belongs to the company domain and has the designated antivirus software installed. Otherwise, the connection will be denied.
- To prevent disruptions in business operations due to outbreaks or other external factors, we have gradually opened and consistently reminded employees of various "WFH" (Work From Home) related functionalities. These include video/web conferences, remote access (Citrix, Global Protect SSL VPN), the "myShare" electronic file exchange platform (limited to internal exchanges within the Group), the Group mobile extension "Deltapath Mobile" app, and health management and attendance logging on the "myCTCI" mobile app.
- In 2022, the use of remote encrypted connections (SSL VPN) was automated through domain policies. When computers connect to external networks, they first pass through the Company's firewall before establishing internal or external connections, benefiting from the same cybersecurity protection measures as the internal network.
- In 2022, we underwent a cybersecurity health check and improvement operation in coordination with the supply chain security assessment by our client (TSMC).
- In 2022, we engaged a professional vendor (CHT Security) to conduct an annual cybersecurity health check and improvement confirmation.
- In 2022, we planned to procure and complete the update of backup software and hardware systems (3 storage media + 2 off-site + 1 offline) by the second quarter of 2023 to meet the basic requirements of the "3-2-1 backup principle" and achieve automation in backup operations. This helps prevent human errors or omissions in periodically replacing external hard drives or tapes.

## Information Security Management Mechanisms

In 2012, following the recommendation of an independent director, ECOVE adjusted its practices for off-site backups based on the suggestion from the 2003 National Information and Communication Security Taskforce of the Executive Yuan. The distance between the main data center and the off-site backup facility was increased to a minimum of 30 kilometers, relocating from Neihu, Taipei to Wuri, Taichung. In 2013, in response to the Personal Data Protection Act, measures and management mechanisms were enhanced to protect personal information. For instance, dedicated wiping machines were used for disposing of scrapped hard drives to prevent data leakage. By the same token, in July 2017, social engineering drills were rolled out, and based on the results, those with medium to high levels of risks were subjected to education and training to reinforce their awareness of information security.

Furthermore, ECOVE consistently invests resources in information security-related matters. In 2022, the annual budget for information security-related software, hardware, and services reached NT\$11.79 million. Resource allocations include strengthening security defense equipment, upgrading and revising antivirus software, replacing outdated servers, following the "3-2-1 backup principle" for backup system replacement, engaging professional cybersecurity vendors for security assessments and improvements, and reinforcing security management systems and education training. These efforts span from management to technical aspects to enhance information security capabilities.

Due to the significant damage caused to well-known companies by ransomware attacks in recent years, ECOVE has established a "Social Engineering Attack Prevention" website and a "Fraudulent Email Reporting Inbox" to assist employees in identifying and avoiding risks associated with "fraudulent/phishing emails" and more precise "Business Email Compromise (BEC)" attacks. Considering information security risks, a comprehensive inspection and replacement of outdated servers, as well as improvements to outdated systems, have been implemented since the second half of 2021, becoming an annual routine operation. In 2022, the replacement of Windows Server 2008 and the extension of the time management system's lifespan have been completed. Additionally, in 2023, important tasks are planned, including the replacement of outdated servers, the replacement of the time management system, and the replacement of the email antivirus and spam filter system with the addition of anti-fraud functionality. To effectively distribute the potential losses caused by information security risks, the Company purchased "Electronic Equipment Comprehensive Insurance," with a total coverage amount exceeding NT\$53.34 million.

According to the "Information Security Management Guidelines," if employees detect a computer virus intrusion or other malicious software, they should immediately notify the nearest Information Center or the computer administrator of their department for handling. In practice, when the Information Service Center receives notifications from the antivirus system (indicating that automatic cleaning or isolation has failed), they proactively intervene to prevent individual employees from neglecting the antivirus system's alarm notifications. In the year 2022, there were no reported incidents of infection, two instances of automatic cleaning, and five instances of automatic isolation. These incidents did not result in any data loss or customer damage. Up to now, no security events affecting the normal operation of internal information systems and related facilities have occurred. The future focus will continue to be on improving and reviewing relevant processes, comprehensively enhancing security management to meet international quality requirements.

Employees in the Information Service Center have set different items and goals for their respective responsibilities within the "2022 KPI Performance Targets and Scoring Method," including incidents of computer infection within the domain, network, servers, application systems, etc., unplanned service interruptions, non-disaster or external force-induced service disruptions, high-risk individuals in social engineering drills, security inspections, information security audits, etc., to ensure the implementation of various information security measures.

To enhance employees' awareness of information security, in 2022, information and relevant personnel participated in professional courses related to information security, totaling 9 individuals. For general employees identified as having medium/high risk based on quarterly social engineering exercise results, they attended the "Introduction to Social Engineering Attacks and Key Information Security Awareness" course, totaling 64 individuals. The total number of participants in the aforementioned cybersecurity education and training sessions amounted to 73 individuals, aiming to enhance awareness and defense capabilities. Please refer to the detailed statistics in the table below.

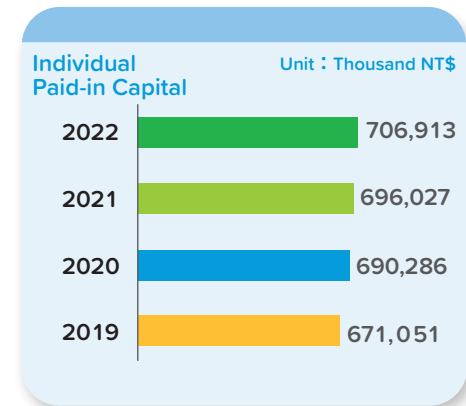
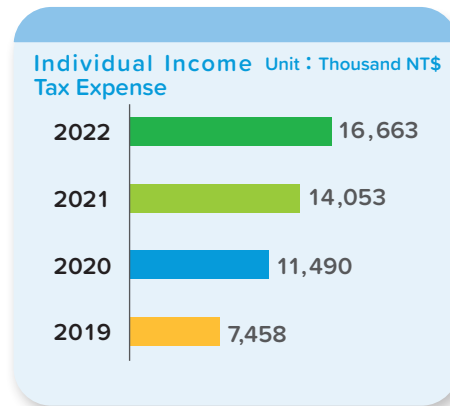
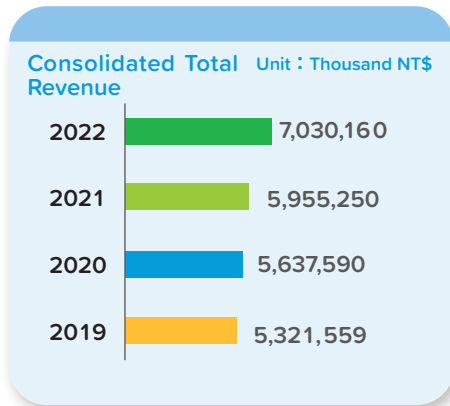
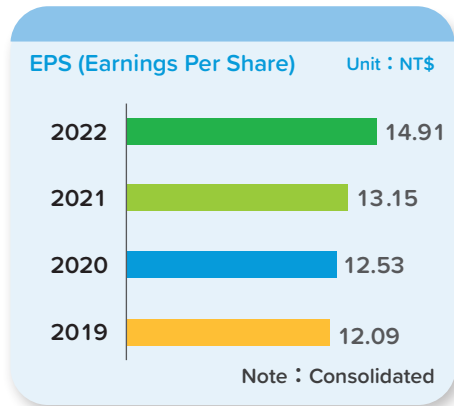
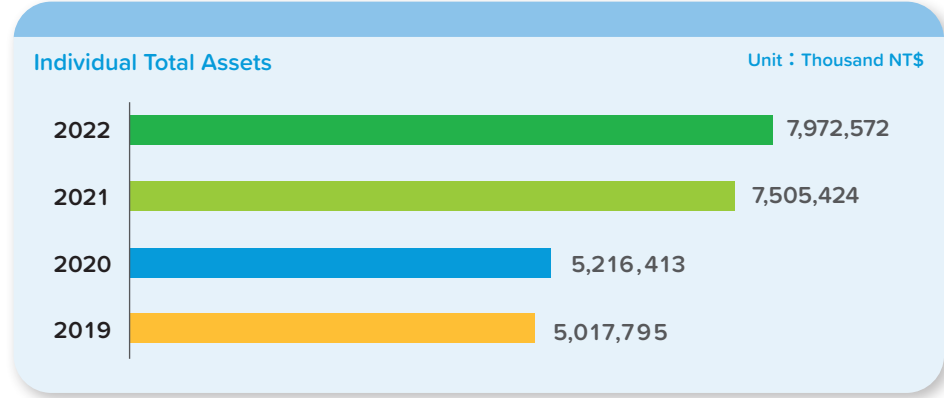
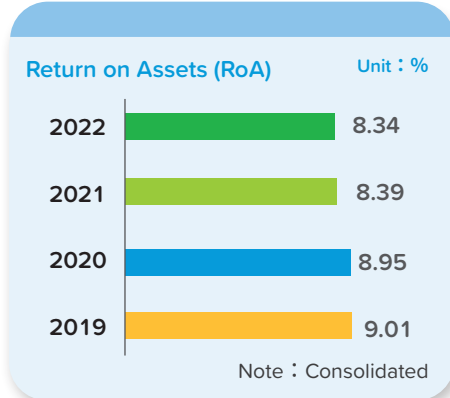
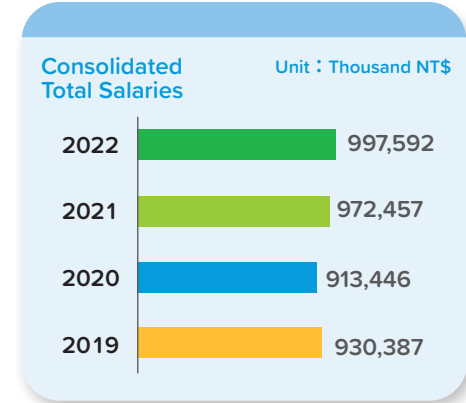
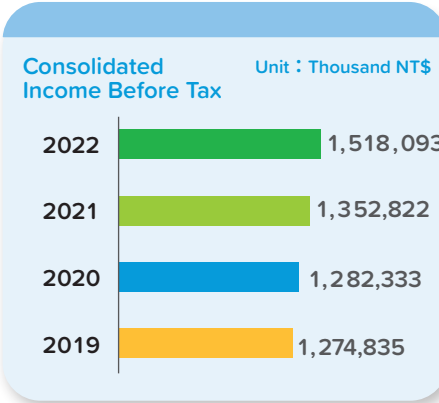
Additionally, starting from the second quarter of 2021, employees who received training in the "Introduction to Social Engineering Attacks and Key Information Security Awareness" course were required to submit a training reflection report of at least 500 words. From the third quarter of the same year, for employees who received consecutive or second-time training, a President interview was introduced, and they were also required to submit an interview reflection report of at least 500 words. These measures were implemented to continuously strengthen and raise employees' crisis awareness regarding information security, and they have been ongoing since then, including in 2022.

Persons to be trained	Courses	Number of Persons to be trained	Course hours
Information - related employees	Introduction to Information Security (M-4-1-E101-20211215)	9	1
Employees at medium/high risk in social engineering drills	Identifying techniques for social engineering phishing emails (M-4-1-E104-20200603).	32	1
	Enhanced identification of Social Engineering attacks and information security key issues propaganda (2022-Q2)(M-4-1-E102-20220701)	7	1
	Enhanced identification of Social Engineering attacks and information security key issues propaganda (2022-Q3)(M-4-1-E102-20221001)	25	1

Note: Medium risk refers to individuals who clicked on links within phishing emails, while high risk refers to those who not only clicked on the links but also entered their own account credentials.

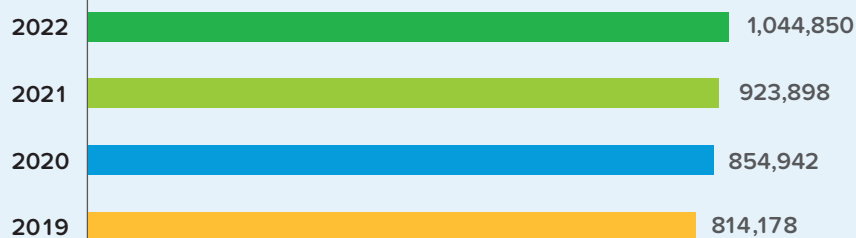
## Management Performance and Industry Outlook

### Management Performance



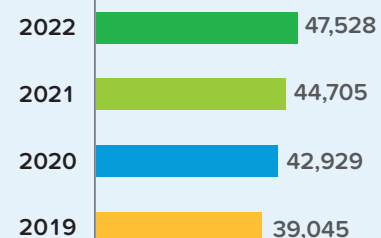
Individual Total Revenue

Unit : Thousand NT\$



Total employee benefits

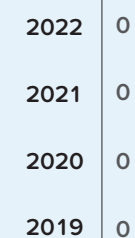
Unit : Thousand NT\$



Note : Parent company only

Political contributions

Unit : Thousand NT\$



Individual net income

Unit : Thousand NT\$



Note : Net income attributable to owners of the parent company

Individual Operating Expense

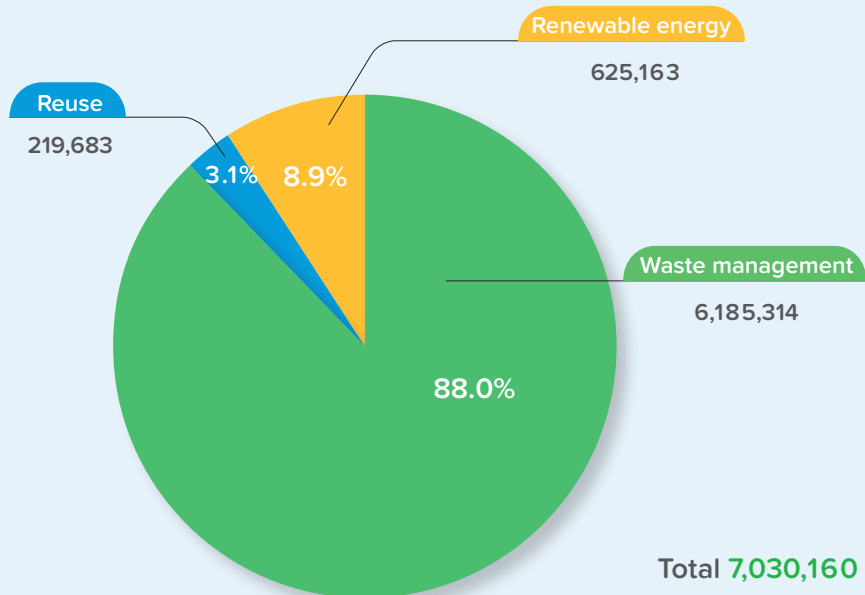
Unit : Thousand NT\$



Note : Operating cost + operating expense

Revenue Distribution in ECOVE's Three Major Business Areas in 2022

Unit : Thousand NT\$





## Industry Outlook

In 2022, ECOVE will continue to integrate SDGs, deepen the domestic market, expand overseas presence, and strive for more project collaboration opportunities. Additionally, we respond to the development trend towards a circular economy model in the market by actively expanding operations in waste resource utilization to enhance resource cycling efficiency. Leveraging our core capabilities and existing business expansion, we will continue to deepen our presence in the areas of "waste management," "recycling and reuse," and "renewable energy," showcasing Taiwan's technical expertise and strength in the resource cycling industry to the world.



### Waste management

In line with the government's net-zero transformation strategy and diverse waste treatment policies, we will continue to strive for investment opportunities in extending the lifespan of incineration plants and establishing waste-to-energy and biomass power plants. In overseas regions, we will sign cooperative agreements with local strategic partners, proactively select suitable targets, and make early preparations. We aim to replicate the successful model of incineration plant public-private partnerships (PPP) in BOT projects and leverage our mature operation and maintenance (O&M) capabilities in international markets. We are actively expanding our presence in the ASEAN region and mainland China.



#### Opportunity

The Taiwanese government's implementation of the "Diverse Waste Treatment Program" in 2017 and the 2050 Net Zero Transformation Policy has placed great emphasis on waste-to-energy and resource recovery, as well as enhancing the energy efficiency of incineration plants. Through upgrading and retrofitting, introducing new technologies from abroad, or establishing diverse treatment facilities, the government has actively planned and designed initiatives in this field. As a result, the experience and feedback gained from the Taoyuan Biomass Plant (the first large-scale incineration plant to pass the Renewable Energy Source Development Act) can be used to continuously advance and promote relevant technological advancements.



#### Risks

The government's net-zero transformation policy aims to gradually increase the capacity for waste recycling, leading to a long-term decline in the amount of waste incineration. Incinerating high-calorific-value industrial waste reduces the volume of waste to be treated but can cause equipment damage and air pollution, leading to increased demand for treatment agents and exacerbating the waste crisis.



### Renewable energy

Actively aligning with the government's 2050 net-zero key strategy, careful selection of investment object primarily focuses on public-owned small and medium-scale projects, while also cautiously assessing opportunities in public and private large-scale project development and energy storage businesses.



#### Opportunity

The 2050 net-zero target has accelerated global renewable energy development. The domestic target of installing 20GW of solar power capacity by 2025 remains unchanged, and the government continues to assess available space for solar power generation. Additionally, driven by the demand from large electricity consumers and net-zero planning, the green electricity supply and energy storage service businesses are flourishing. Internationally, the markets in the United States, Europe, and Southeast Asia continue to thrive. Among them, the United States offers great development potential with a robust market mechanism and comprehensive incentive measures.



#### Risks

The global supply chain has been impacted by the pandemic, leading to significant increases in raw material prices. Factors such as labor shortages and material shortages have affected project development and execution schedules, causing impact disruptions to solar energy companies' installation timelines and expected returns. To maintain reasonable profits, it is necessary to reflect the increased costs by adjusting the feed-in tariff rates, which falls under the purview of the Bureau of Energy. The emergence of inflation warnings may trigger an increase in interest rates, raising investment risks and increasing the cost of capital, thus impacting investment returns.



### Recycling and reuse

The plant facilities are under the influence of the large-scale and high-standard trend, attracting investments from large state-owned enterprises, thus bringing business opportunities for the BoReTech Co., Limited systems and for sales of equipment opportunities. Active development of other categories of material recycling projects includes the recycle and reuse of waste solvents, resource utilization of food waste, and the recycling of wastewater from sewage treatment, all aiming to achieve a circular economy. Besides existing capabilities of recycling polyester into fibers, ECOVE will also evaluate the pioneers in circular economy in Taiwan to seek for partnership opportunities in areas such as biomass power generation.



#### Opportunity

##### Government policies, industrial economy, and ESG incentives

The government promotes renewable energy by increasing the feed-in tariffs, thereby enhancing the financial feasibility of renewable energy projects. Industries practice ESG principles by promoting internal waste recycling and reuse, as well as adopting recycled materials.



#### Risks

##### Recycling material clearing

The recycling industry relies on a large number of transport vehicles. It is expected that the government may gradually raise the waste gas emission standards of transportation vehicles as a countermeasure to climate change, thus increasing the procurement cost for clearing vehicles.

##### Recycling and reuse

With the aim of avoiding secondary environmental pollution due to recycling processes, the government may gradually raise the standards for waste emission, hence inducing the simultaneous increase in capital investments for plants and control equipment. Furthermore, the standards for recycled products may progressively increase, resulting in the need to relentlessly pump in resources into R&D and investment costs.

## Innovation and Supply Chain

ECOVE is Taiwan's first investment holding company with a primary focus on resource cycling as its core business scope. In addition to being committed to technological innovation and actively developing patents, we have established close collaborations with the government, enterprises, and communities over the years. Upholding a corporate culture of being the "most reliable," we provide excellent product and service quality. In addition, we forge positive partnerships with suppliers. While pursuing sustainable operation, we also built a sustainable supply chain that co-exist and co-prosper through cooperation with suppliers.

### Development, Integration and Application of New Technologies

In response to the global trend of achieving net-zero carbon emissions, ECOVE has expanded its focus on new technology development to include carbon dioxide reduction, circular reuse (such as flue gas carbon capture to produce hydrogen carbonate), and hydrogen energy applications (such as hydrogen production from waste and electrolysis using surplus/green electricity). Meanwhile, we continue to address the needs of the Group's EfW, recycling, and solar energy core businesses, pursuing optimal final disposal solutions, increasing the reuse rate of waste resources, enhancing the added value of waste resources, improving energy production efficiency, and implementing diverse application schemes for energy storage systems.

Technological Development Strategy Objectives	Application Fields
Optimization of treatment efficiency	Enhancement of power generation efficiency in EfW, integration of new incineration technologies, flue gas recirculation for denitrification, coating technology for superalloy furnace tubes, fly ash water washing and fixed shock wave cleaning for methane residual pressure recycle, agricultural waste incineration for power generation.
Increased Waste Resource Reuse Rate	Reclaimed water, pre-sorting of waste, purification of waste solvents, biomass green energy biogas centers, gasification or pyrolysis for synthesis gas power generation, recycling of waste solar panels.
Enhanced Added Value of Waste Resources	Refining waste engine oil into base oil, high-value utilization of regenerated isopropanol etc.
Improved Energy Production Efficiency	Such as enhancement of solar power generation efficiency, suppression of bed agglomeration in boiler furnace, power generation through waste heat recycle from flue gas, investigation and adoption of generators with optimal power generation efficiency, and wind avoidance mechanism for solar panels etc.
Implementation of diversified applications for energy storage systems	Energy storage for automatic frequency control

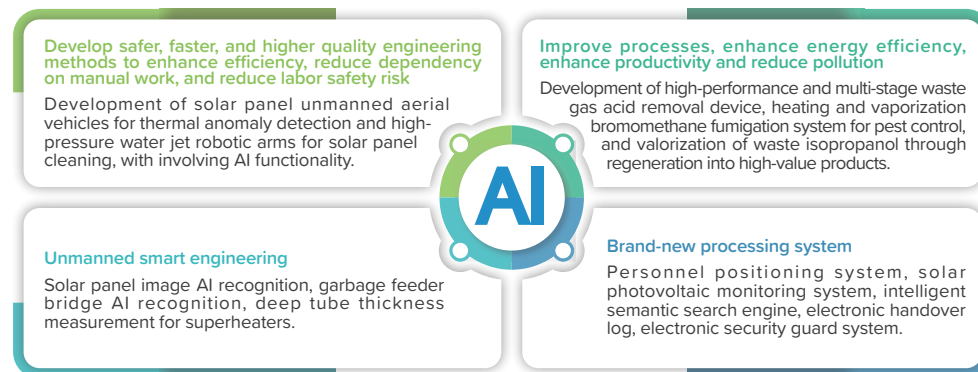
In the semiconductor industry, in the aspect of waste isopropanol (IPA) recycle and regeneration, ECOVE Solvent Recycling Corporation aims to achieve the goal of cyclic utilization in semiconductor manufacturing processes. ECOVE Solvent Recycling Corporation has established a pilot plant for high-value regeneration of IPA, taking a new step towards resource cycle. Through advanced technology integration and application, in 2021, ECOVE Solvent Recycling Corporation introduced green technology for membrane separation, increasing the purity of waste IPA to 99.9% and reducing the water content to below 1,000 ppm. The energy-saving efficiency has exceeded 75%, enabling more effective utilization of resources and expanding the scope of recycling. This indirectly reduces the use of traditional fossil fuels and contributes to global net-zero carbon emissions.

In terms of carbon dioxide (CO<sub>2</sub>) emission reduction, to effectively reduce the CO<sub>2</sub> emissions from incineration plant flue gas, carbon capture technology with proven results is the optimal choice. Collaborative efforts are being made to develop carbon capture and utilization technologies, aiming to achieve the goal of achieving net-zero carbon emissions at an earlier stage.

## Development of Intelligent Solutions for Management Tools

In response to the global trend of digital transformation in businesses, ECOVE continues to dedicate itself to developing intelligent management, control, and maintenance technologies, as well as adopting more advanced management tools. These include remote control rooms, incident retrieval for repairs, high-temperature cameras for furnace inspections, advanced combustion control systems, robot-assisted boiler slag removal, shockwave cleaning, personnel safety positioning systems, AI-based image recognition for unmanned aerial vehicles monitoring solar panels, smart monitoring systems for solar photovoltaic sites, intelligent semantic search engines, digital avatar-assisted workflow processes, electronic inspections, electronic handovers, factory automation, electronic security guards, electronic fencing, high-pressure water jet robotic arms for solar panel cleaning, AI-based identification for waste feeding hoppers, overheated tube thickness measurement technology, and wireless networks for incineration plants. Important operational information (IOI) of each factory can be accessed anytime and anywhere through mobile devices such as the ECOVE Environment Service Corp. Mobile IOI System and LINE notification platform. This allows real-time monitoring of operational performance, emission monitoring, abnormal equipment conditions, and on-site inspection data, enabling timely control and improving operational management efficiency. Furthermore, it can enhance employee training and educational effectiveness, such as VR-based educational training and guidance using 3D models.

In response to the post-pandemic remote work mode requirements, ECOVE leverages its experience in remote technology during the pandemic as a starting point. By implementing video tools and upgrading intelligent management systems, ECOVE enables remote execution of tasks such as inspections, guidance, and audits. This aims to achieve intelligent management in incineration plants and enhance operational efficiency. In waste management services, ECOVE employs advanced vehicle sensing devices to assist drivers in maintaining alertness and understanding their surroundings. By utilizing driver monitoring systems in 2022, using onboard cameras and sensors powered by artificial intelligence, the state and behavior of drivers can be monitored. This proactive approach to driver and vehicle safety enhances the prevention of catastrophic consequences that may arise from momentary errors, especially during long hours of driving. It contributes to comprehensive intelligent fleet safety management.

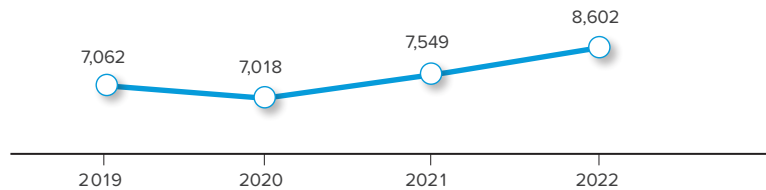


## R&D RESULTS - PATENTED TECHNOLOGIES

ECOVE promotes innovation and is committed to the development of new technologies. Over the past four years, our investment in research and development (R&D) has been increasing year by year. Through the application of new technologies, we not only enhance management efficiency effectively but also create opportunities for new business ventures.

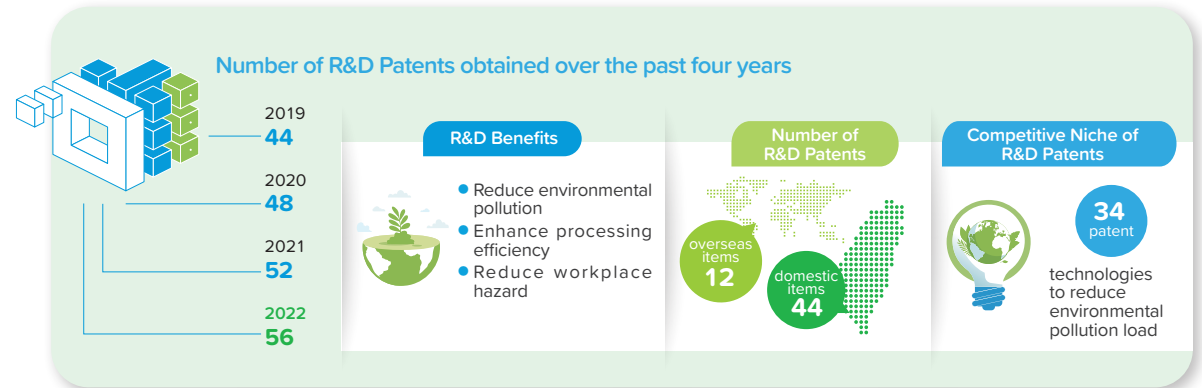
### Annual R&D expenditure over the past four years

Unit: Thousand NT\$



Note: R&D expenses are the labor expenditures incurred by the R&D Center for the development of new technologies and systems. The cost of value-added application of new technologies or the integration costs of systems with other project systems shall be absorbed by the relevant project costs.

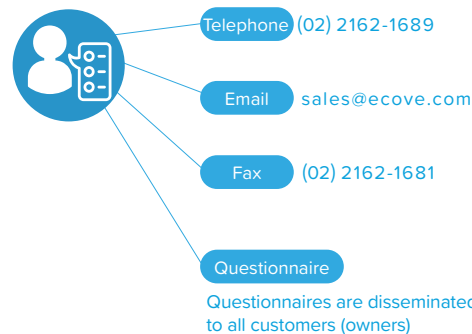
ECOVE places great importance on the management of intellectual property rights, and relevant patent operations are conducted according to standard operating procedures. Additionally, an incentive system is established to encourage innovation among employees. Once the patent certificates are issued, they are publicly disclosed on the company's official website and briefly explained during regular management meetings, highlighting the core content and applications. In 2022, ECOVE obtained four patents, including "Carbon Capture and Fly Ash Sodium Salt Recycle Carbonate Utilization System for Incineration Plants," "Gas Boosting System," "Windproof Mechanism for Solar Panels," and "Waste Solvent Purification and Separation System." Notably, the "Waste Solvent Purification and Separation System" invention patent marks ECOVE's first patent obtained in the United States. By the end of 2022, ECOVE had accumulated 44 domestic patents, 11 patents in China, and 1 patent in the United States. The majority of these patented technologies are actively applied in operations. Furthermore, ECOVE also focuses on environmental sustainability and occupational health and safety promotion. Among the research and development achievements, 34 patented technologies effectively enhance the operation of incinerators, waste gas treatment, and recycling efficiency, reducing environmental pollution and providing a competitive edge to enhance operational performance.



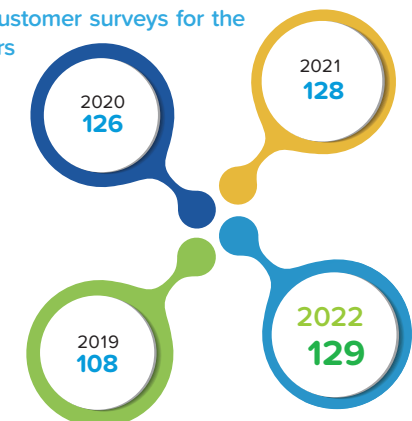
## Service Quality

ECOVE provides diversified services with professional technology and the spirit of excellence, and looks forward to becoming the best support and partner of customers. We are committed to sustainable business practices and providing excellent customer service. In addition to offering customers diverse and smooth communication channels, we proactively send registered mail questionnaires every six months to the responsible project managers and their supervisors for ongoing projects to gather feedback and understand their opinions. When customers provide relevant suggestions, we have a well-defined process for handling customer suggestions, providing prompt feedback, and requesting the executing units to carefully analyze the root causes of the issues and propose improvement plans and processes to enhance overall customer service quality. In 2022, we received 28 customer suggestions, primarily praising our personnel's performance in project execution. There were also two customer suggestions related to project communication, and we have already informed the project personnel and made improvements accordingly. In 2022, the Company had no customer complaints or incidents of customer privacy infringement.

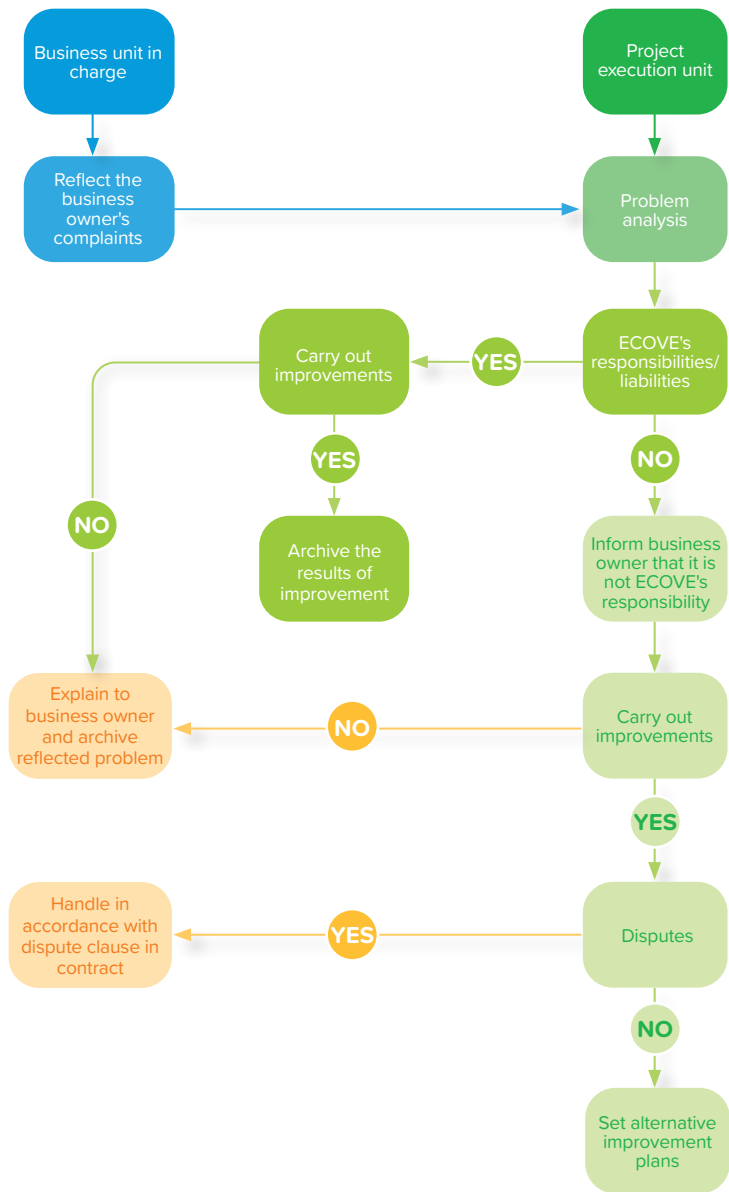
### Customer suggestion channel



### Number of customer surveys for the past four years



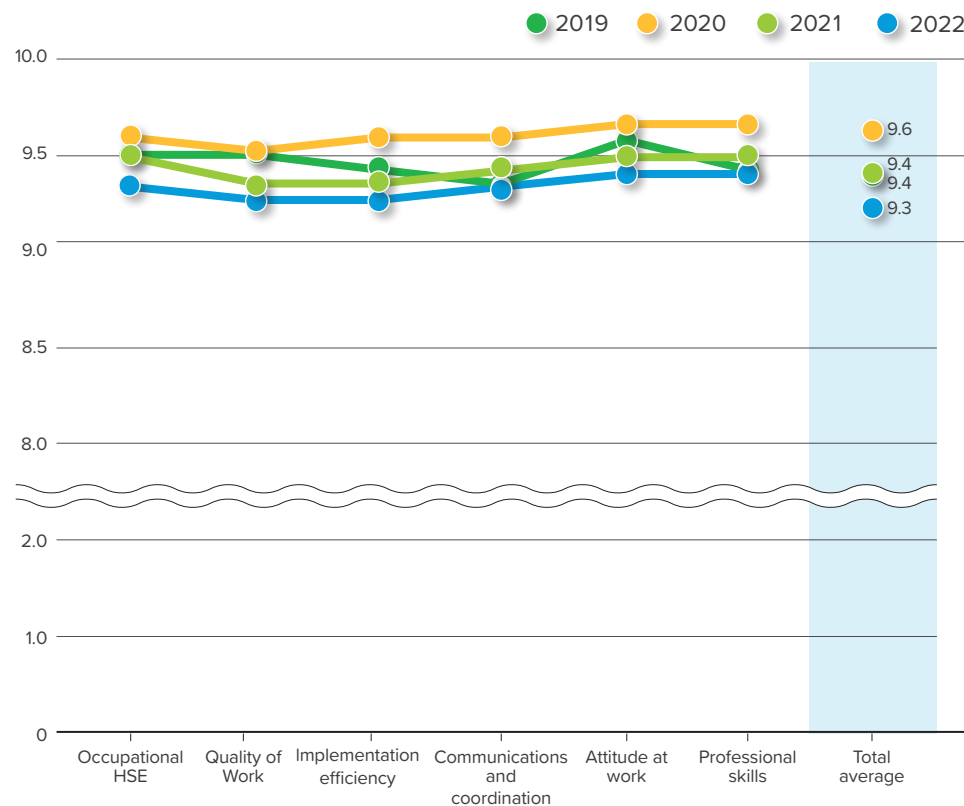
Workflow of customer (owner) suggestion



Surveys of customer satisfaction

To ensure that our service quality meets customer expectations and needs, ECOVE conducts an annual customer satisfaction survey among all ECOVE Environment Service Corp.'s clients. This survey serves as the basis for improving our service quality. The survey covers six main areas, including occupational safety and health, work quality, execution efficiency, communication and coordination, work attitude, and professional expertise. In the survey with a maximum satisfaction rating of 10 points, we received an average score of 9.3 points in the 2022 assessment. In the future, we will continue to improve, with the total average score of 9 as the minimum standard, to provide even better quality and well-rounded service.

Customer satisfaction survey results for the past four year



## Sustainable Supply Chain Management

GRI 2-6 \ 204-1

With the vision of "The most reliable provider of industry-leading 'resource cycling' services", ECOVE, as Taiwan's largest environmental resource management company, plays an important role in helping supply chain vendors to move towards sustainability by promoting and implementing sustainable supply chain management, so as to cope with future risks and opportunities, and enhance their sustainability.

### Overview of supply chain

ECOVE provides services in three main areas: waste management, recycling and reuse, and renewable energy. Our primary focus is on the incineration and related facility maintenance management of waste delivered by government agencies and other clients, with the aim of generating electricity through cogeneration. Our supply chain vendors are primarily classified into three categories: equipment suppliers, engineering contractors, and labor contractors. They provide the necessary equipment, materials, maintenance assistance, improvement project implementation, and manpower support for ECOVE's operational facilities and stations. This includes various equipment parts, consumables (including chemicals and disposable supplies), and service providers for major maintenance, emergency repairs, equipment inspections, and labor workforce. By collaborating with various suppliers and contractors, we ensure stable operation of ECOVE's daily maintenance and successful completion of various project works. The number of manufacturers and the annual procurement amount indicate that, in addition to routine equipment maintenance materials and operational consumables, ECOVE's major procurement expenses are primarily focused on maintenance, updates, and repairs to keep the equipment running smoothly and on project contracts.

Supplier category	Cumulative number 2019	Cumulative number 2020	Cumulative number 2021	Cumulative number 2022	Cumulative number and proportion of suppliers in 2022	The proportion of procurement amount in 2022
Materials suppliers (Inclusive of chemicals, consumables, etc.)	593	625	720	732	55%	31%
Engineering contractors (Provision of professional services, such as annual maintenance, emergency repair, equipment maintenance, etc.)	414	431	480	519	39%	65%
Labor contractors (Provision of professional services, such as manpower, etc.)	74	76	82	86	6%	4%
Total	1,081	1,132	1,282	1,337	100%	100%

Note: The cumulative number of suppliers is calculated based on the condition that the accumulated transaction amount in the current year with suppliers under the control authority of the Company exceeds NT\$300,000. Suppliers meeting this condition account for over 98% of the total annual transaction amount, while the remaining portion represents the proportion of transaction amounts below this threshold.

## Sustainable supply chain development strategy

In accordance with the sustainable development strategy of the supply chain of the Group's parent company, CTCI, ECOVE has invited suppliers to join us in our sustainable development strategy in the four aspects of "zero tolerance for unethical conduct", "full protection of employee rights", "safety first", and "local procurement". We manage vendors' information through the supplier and sub-contractor section of CTCI and also provide a whistleblowing platform, thereby establishing a comprehensive communication mechanism.

### Zero-tolerance for integrity issues



We prioritize suppliers' integrity in business operations. Every quarter, we refer to the government's electronic procurement platform to identify and refuse transactions with suppliers who have been suspended due to violations of procurement laws. In order to operate with integrity and sustainability, the Group currently commissions a neutral third-party, Deloitte Taiwan, to run a whistleblowing website. If any unfair or unjust behavior, improper handling, or incidents with possible violation of the laws, regulations, and professional standards are found, reports can be filed directly on the site. There were no reports filed in 2022.

### Safety first



We prioritize occupational health and safety in all workplaces. In addition to requiring all subcontractors entering the construction site to comply with safety and environmental regulations, we also communicate the content of CTCI's safety and environmental policies to suppliers and partners, ensuring their full understanding and implementation of safety and environmental requirements, thereby creating a safe and healthy work environment. Contractors shall hold safety advocacy meetings before work when they enter the work site every day.

### Employee rights and benefits prioritized



We prioritize suppliers' compliance with employee rights and benefits. For contractors involved in on-site construction in Taiwan, it is mandatory for their employees to have labor insurance coverage. For international contractors, compliance with local regulations is required before engaging in construction activities. Contractors are also required to purchase liability insurance for construction projects to protect the rights of both our employees and contractors' employees.

### Local procurement



When purchasing goods and services, we prioritize local sourcing and avoid external procurement whenever possible. By doing this, we reduce energy consumption and carbon footprint arising from transportation while creating job opportunities locally and elevating the employment rate.

## Sustainable supply chain development policy

### Engaging Suppliers/Contractors in Social Responsibility

ECOVE believes that the consensus and collaboration of the entire supply chain regarding sustainable development are crucial for the overall industry to move towards sustainability. Therefore, we continuously require suppliers and contractors to fully comply with all relevant local laws and regulations. In line with international initiatives and requirements, we aim for suppliers/contractors to actively participate in and implement social responsibilities. Key aspects emphasized and required include the prohibition of child labor, protection of human rights, non-discrimination, fair treatment, compliance with legal working hours and wages, and environmentally friendly management. For the requirements of labor rights, environmental protection, safety and health risk management, and control in the supply chain, various measures are taken to assist suppliers and contractors to improve and elevate the service quality and management, thereby establishing a solid, reliable, and sustainable partnership through reducing the business risks and operating costs for ECOVE, our suppliers and contractors.



### ECOVE's Supply Chain Social Responsibility Policy



### Supplier Code of Conduct

ECOVE is actively committed to promoting corporate social responsibility and developing partnerships. We adhere to the principles outlined in the United Nations Global Compact, Universal Declaration of Human Rights, and the UN Framework and Guiding Principles on Business and Human Rights. In line with these standards on human rights, labor practices, environment, and anti-corruption, we have established the "ECOVE Supplier Code of Conduct." It requires suppliers to comply with sustainable standards related to labor and human rights, health and safety, environment, and ethical practices. The code applies to all suppliers, including their subsidiaries, affiliated companies, and contractors, who provide goods or services to ECOVE. It mandates that all their business activities, including those of their subsidiaries, affiliated companies, and contractors, fully comply with the provisions of the code as well as with the applicable laws and regulations in their respective jurisdictions.

### ECOVE's Supplier Code of Conduct



### Strengthening ethical business conduct

In response to the Group's efforts to strengthen the ethical business management with vendors, during interactions with vendors, such as requesting for quotations, tender meetings, going through ordering procedures, etc. we will express CTCI's and ECOVE's resoluteness in ethics by means of words, written and verbal. Prior to a tender meeting, we will execute Integrity Moment actions, explaining the contents of the Supplier Code of Conduct to vendors, informing the prohibition of private interests, and providing information to the whistleblowing mailbox. The implied covenant of good faith and fair dealing is also added to purchase orders to vendors and engineering commission contracts.

### Rules that Suppliers Shall Comply With



In addition to the Company's Supplier Code of Conduct, when offering prices to the Company, vendors shall also comply with and pay attention to the following rules :

### ECOVE's Supplier Code of Conduct

- Vendors shall not pay commission, intermediary fees, kickbacks, or other benefits (e.g., dividends, gratuities, bribes, kickbacks, or any other form of improper interests) to relevant personnel of the project (organizers of the buyer, project member, organizers from client, or client) to promote the signing of the purchase contract.
- If any of the aforementioned illegal interest has been validated to be true, the vendor shall be stopped from continued participation in the tender of the project. If purchase contract for the project has been signed, it will be terminated and claims for any of the buyer's losses will be sought.
- At the same time, vendors shall report on any ECOVE employee who breaches the ethical code of conduct. If allegations were found to be true, suitable rewards will be given from ECOVE.
- Vendor reporting method: provide substantial explanation and related proof, or submit to the designated reporting mailbox at (ctci@reportnow.com.tw).

#### ECOVE's Supplier Code of Conduct



## Sustainable supply chain management mechanisms

### Supplier Social Responsibility Undertaking

To jointly implement corporate social responsibility with suppliers and encourage their compliance with relevant CSR and environmental issues, ECOVE refers to the International Labour Organization (ILO) conventions and the Social Accountability 8000 standard (SA8000). In 2014, ECOVE developed the "Social Responsibility Commitment" and actively invited suppliers and contractors to sign it. The commitment covers aspects such as ethical behavior, human rights protection, and environmental preservation. Both parties pledge not to impede freedom of association for employees, refrain from employing child labor, respect the rights of indigenous peoples, and refrain from engaging in any activities that harm human rights. By the end of 2021, existing suppliers had completed the signing process, achieving 100% compliance with the commitment for new suppliers in 2022. Along with it, all contracts include the clause "The contract may be terminated or rescinded at any time by the Company if Party B has violated its corporate social responsibility policy and has caused a significant negative impact on the environment and society" to reinforce the actual implementation of the undertaking of social responsibility.

### Supplier Evaluation, Audit, and Guidance

To assess the risks and competitiveness of the supply chain, ECOVE has established a mechanism for supplier evaluation, audit, and guidance. The evaluation, assessment, and audit of supplier and contractor supply and execution quality are conducted by cross-departmental teams comprising the Procurement Center, General Managers, the Occupational Health and Safety Management Department, and on-site team leaders. These teams evaluate and assess the quality of supply and execution by suppliers and contractors. On top of listing the quality of suppliers and contractors, costs, service standards, environmental protection, OSH, and technologies into the evaluation items to ensure their quality standards and safety and health, we also uphold the spirit of PDCA, requiring suppliers and contractors

#### Supplier Audit/ Evaluation Items



to rectify their deficiencies and we provide necessary guidance in a timely manner, so that ECOVE's supply chain can maintain the best competitive state and mitigate the risk of operational disruptions. For equipment and material suppliers, a comprehensive evaluation is conducted to assess their commitment to compliance, delivery control, product quality, defect handling, and any disputed matters. This evaluation aims to examine the overall service and quality provided by the suppliers and serves as a basis for incentivizing them and providing improvement recommendations.

As for contractors, the Occupational Health and Safety Management Department conducts periodic audits and provides guidance at various construction sites. In terms of the use of hazardous substances such as chemicals, gas, and fuel, suppliers are required to provide information on the components, safety information, and inspection report. Contractors will also be evaluated upon completion of each contract.

In 2022, in addition to routine evaluations of contractors during annual maintenance periods and evaluations of contracted projects with a procurement amount of over NT\$ 2 million since 2018, the evaluation scope was expanded to include suppliers of equipment and materials with a value exceeding NT\$300,000. Additionally, newly engaged suppliers were also included in the evaluation process to assess their performance and provide reference for future selection of suppliers.

If the evaluation results indicate non-compliance or unsatisfactory performance, the supplier will be coordinated for improvement. If improvement cannot be achieved, the supplier will be reported as a disqualified supplier. Upon review and confirmation by the responsible supervisor, the supplier will be included in the "Disqualified Supplier List" and terminated and suspended. In 2022, there were a total of 115 evaluations conducted, in addition to 141 evaluations for first-time trading suppliers, resulting in a total of 256 evaluations. One labor service supplier received a failing grade in the evaluation, and upon verification of the information, it has been decided to suspend further inquiries and classify the supplier as disqualified.

Supplier Assessment and Audit	Number of Assessments
2019	58
2020	67
2021	78
2022 <sup>Note 1</sup>	256

**2023 Annual Goals**<sup>Note 2</sup>

- 18 annual maintenance projects and projects exceeding NT\$2 million
- Supply of equipment exceeding NT\$300,000
- Vendors with first-time transactions exceeding NT\$100,000

Note 1: In 2022, in addition to conducting vendor evaluation and contract amount assessment for annual maintenance projects in various factories, with contracts exceeding NT\$2 million, the evaluation scope was expanded to include vendors supplying equipment exceeding NT\$300,000 and also included evaluation for first-time transaction vendors. There were 209 instances of contract evaluation (101 evaluations for contracts exceeding NT\$2 million in amount, and 108 evaluations for first-time vendors), and 47 instances of equipment and material evaluation (14 evaluations for equipment exceeding NT\$300,000 in value, and 33 evaluations for first-time vendors).

Note 2: In 2023, evaluations will be conducted after transactions for equipment or contracts exceeding NT\$100,000 and involving first-time transactions.

### Contractor Visit and Communication

In 2022, despite the ongoing pandemic, the situation remained relatively stable. Arrangements were made for the crucial pharmaceutical supply to waste incineration plants, and the crisis related to sourcing and storage gradually eased. We aspire to exert a positive influence on the vendors through procurement practices other than via the evaluation of construction results of the contractors by the supervisors of various units. In 2022, visits and interactions were conducted with key equipment and material suppliers/contractors. Through factory inspections during project implementation, 27 evaluations and visits were carried out. Apart from auditing the quality, safety, and regulatory compliance at the suppliers' premises, further guidance was provided to ensure the implementation of corporate social responsibility policies. The evaluation results from these visits to supplier factories can serve as a reference for future procurement and contracting decisions.

In the future, there will be continued efforts to understand the internal operational practices of suppliers/contractors through various interactive opportunities and to verify their quality management. For example, site visit inspections when key equipment is sent out for maintenance, inspection of customized equipment and materials prior to delivery, and on-site operation audit of quality and safety during annual maintenance. Through these on-site inquiries and visits, suggestions are provided, and assistance is offered to facilitate improvement.

The development of new suppliers involves assessing their contracting and management capabilities

through actual site visits, understanding their company facilities, manpower, materials, quality, warehouse management, etc., as references for trial orders.

To ensure the control and management of supplier sustainability risks, a plan was made in 2022 to participate in the CTCI's supplier forum event, inviting important engineering or technical service providers to exchange and share experiences in five major aspects: internal supply chain management, occupational health and safety, labor rights and human rights management, environmental protection, and corporate governance. However, due to pandemic control measures by the Group, the event was postponed and will be rescheduled for 2023.

ECOVE encourages suppliers to fulfill their responsibility to protect the environment and aims to collaborate with them in building a fair and just society and a sustainable living environment. For key partners in the ECOVE supply chain, a survey questionnaire on sustainability and net-zero practices aligned with the Group's initiatives was conducted. This helps understand the suppliers' current sustainability practices and net-zero emissions status and assesses the potential for future collaboration. It is hoped that suppliers and ECOVE can grow and improve together. In 2022, a total of 64 questionnaires were sent out to vendors, and as of the deadline, 43 vendors responded. Among them, 81% expressed willingness to collaborate with ECOVE in setting reduction targets to gradually decrease greenhouse gas emissions starting from 2023.

請認真填寫此表

### 崑鼎企業永續經營及淨零排放現況調查表 ECOVE Corporate Sustainable Management and Net Zero Investigation Sheet

\* 表示必填欄位

電子郵件 +  
nrtruce@hbox.hinet.net

供應商名稱  
Supplier Name  
國材企業有限公司

廠商類型(可複選)  
Vendor Type (Select all that apply)

- 材料供應商 Material Supplier
- 化學用藥供應商 Chemicals Supplier
- 設備供應商 Equipment Supplier
- 工程協力廠商 Construction Subcontractor

解讀請依序閱讀，務必共同閱讀與簽署。  
(請查看信件附件中為「崑鼎企業永續經營及淨零排放之承諾書」，後續將會提供ECOVE實際承諾書供簽署參考。)

ECOVE (A CTCI Company) expects to combine all supplier to establish a fair and justice society and a sustainable and eternal living environment. Therefore, we have attached the "Vendor's Commitments on Corporate Sustainable Management and Net" to formulate specifications about the supplier's corporate integrity, the employees' rights and interests, occupational safety and health, and environmental protection, for mutual observance and practice. Please review the attached commitment and sign off on it.

連結 Link:  
<https://drive.google.com/file/d/1JugdNkGvcHfB2L-4qBWYPvniH5Rbb5/view?usp=sharing>

已了解，同意簽署  
 不同意

是否有計畫發表永續報告書，或將揭露相關永續資訊？

Does COMPANY plan to publish Sustainability Report or disclose the relevant sustainability information?

- 已發行且經第三方查證 (Published and verified by an independent third party)
- 已發行，未經第三方查證 (Published but no verified by an independent third party)
- 否，規劃發行 (Not yet planned publish, upcoming publication year)



### Green Procurement

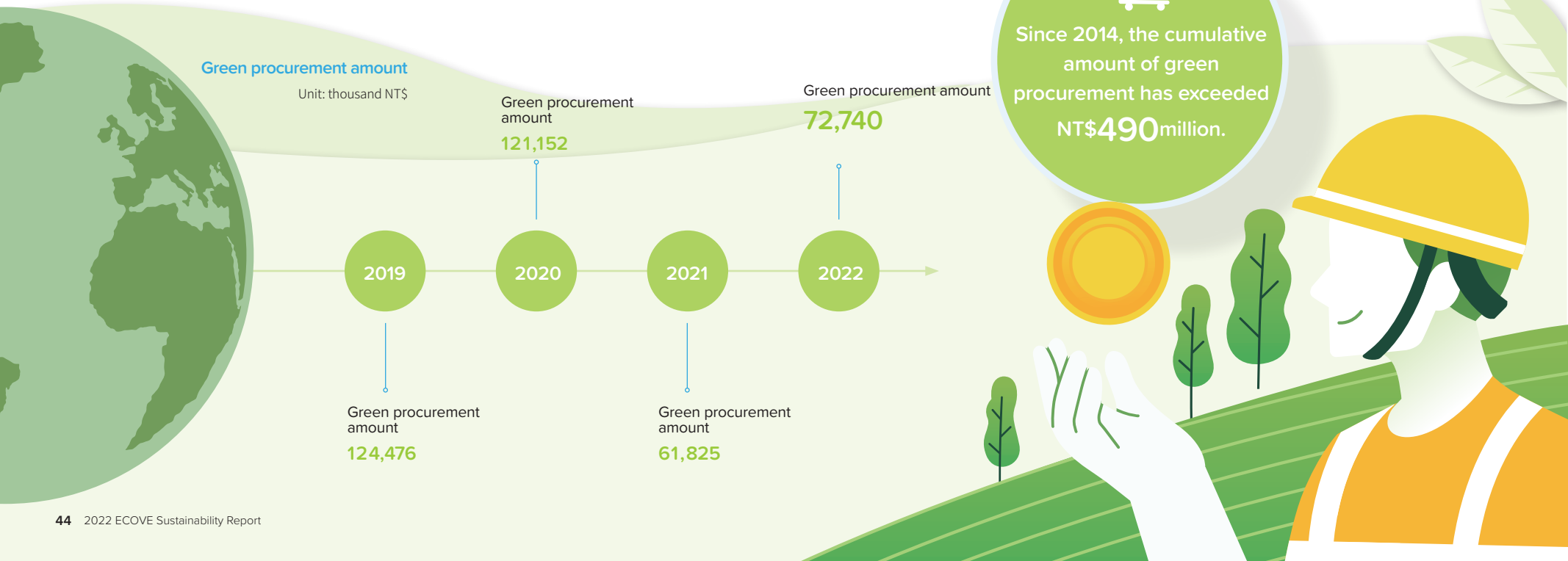
In 2022, ECOVE Environment Service Corp. undertook the ROT (Renovation, Operation, and Transfer) project for the construction and operation of the Gangshan Waste Incineration Plant in Kaohsiung City, as well as the equipment renewal and functional enhancement project for the Tainan Science Park Resource Recycling Center in Tainan. Similar to the approach taken in 2021 for the Xizhou Incineration Plant and equipment improvement projects, energy-efficient and environmentally friendly equipment, such as frequency converters, transformers, and electrical appliances, were utilized in these two new operation and improvement projects. Additionally, ECOVE Solar Energy Corporation continued its investment in the establishment of a solar power plant, utilizing high-efficiency solar modules and inverters.

ECOVE response to the Environmental Protection Administration's green procurement program. The Keelung Plant and Xizhou Plant were invited to be publicly recognized for their outstanding performance, in recognition of their contribution to environmental protection and their commitment to fulfill corporate social responsibility. ECOVE recognizes green procurement and green consumption as essential core values in promoting sustainable development within the Company. In response to the

policy on green consumption, the concept of the green living circle has been introduced into the Company. This includes implementing green procurement of environmentally friendly products that are "low-pollution, energy-saving, and recyclable," as well as adopting other green services in daily life, such as green office environments and green transportation. In both production and daily life, ECOVE aims to achieve energy efficiency, carbon reduction, and a love for the Earth as sustainable development goals.



ECOVE's outstanding performance in green procurement has earned them an invitation for public recognition

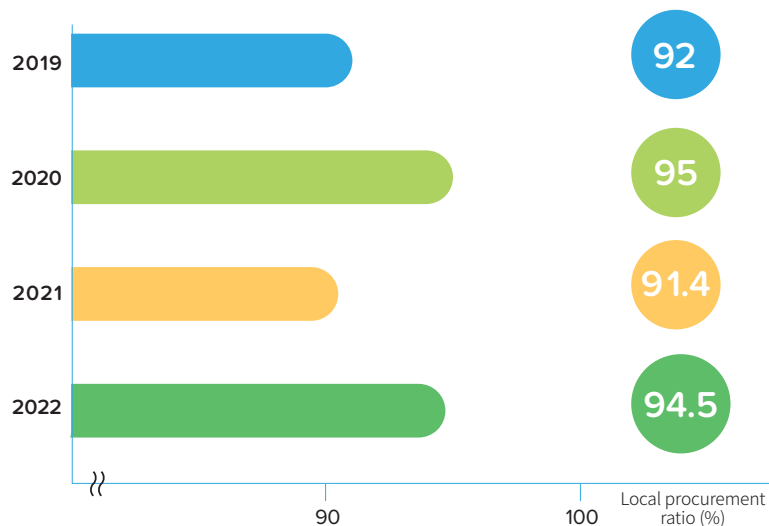




### Local Procurement

ECOVE implements the local procurement policy in compliance with the parent company's sustainable supply chain development strategy. We believe that local procurement is conducive to local economic development and can minimize the negative impact on the environment by reducing carbon emissions from transportation. Except for special machinery components, ECOVE strives to source locally without affecting the stable operations, safety, and fairness of procurement. We screen local vendors with potential for the re-engineering of worn parts and equipment and provide them the opportunities to win trial orders and improve autonomy. The spare part engineering is mostly contracted to local vendors to reduce carbon emissions and waste and to create local employment and business opportunities.

The local procurement Proportion in the past four years



1. Local procurement is defined as procurement conducted in New Taiwan Dollars with local vendors in Taiwan.
2. The ratio of local procurement is subject to the variation in procurement amounts due to the presence of important equipment (including foreign original parts and technicians) and the occurrence of minor and major maintenance cycles (3-year minor maintenance and 6-year major maintenance).
3. In 2022, due to the implementation of the Xizhou EfW Plant Upgrade and Improvement Project and the c Gangshan EfW Plant ROT Project, the total procurement and contracting amounts significantly increased, leading to a relative increase in local procurement amounts. Although there was a need to purchase foreign original equipment and materials or introduce new technologies for process improvement, the proportion of these amounts was lower compared to 2021.

## Most Reliable

**Corporate Governance Evaluation:**  
ECOVE has consistently ranked in the top 5% for 9 consecutive years.

The results of the 9th Corporate Governance Evaluation, jointly organized by the Taiwan Stock Exchange and the Taipei Exchange, were announced. ECOVE stood out among the 1,662 evaluated listed companies, receiving the highest grade of recognition in the top 5%. The Company governance evaluation has been conducted for nine sessions, and ECOVE has consistently maintained a top 5% ranking for all nine sessions. It is also the only non-financial electronic company listed on the OTC market that has been selected in the top 10% for five consecutive years among companies with a market capitalization of over NT\$10 billion. ECOVE can be considered a role model for corporate governance among OTC-listed companies.

Over the years, ECOVE has regarded sustainable governance as the highest guiding principle in its business operations. It has consistently demonstrated excellence in various aspects of corporate governance, such as "safeguarding shareholders' rights and treating shareholders equally," "strengthening the structure and operations of the Board of Directors," "enhancing information transparency," and "implementing corporate social responsibility." ECOVE has continuously expanded the scope and breadth of sustainable governance, showcasing outstanding performance.

ECOVE envisions itself as the "most reliable leader in sustainable resource cycle" and upholds the vision of "enhancing resource cycling efficiency," "leveraging intelligent systems and data management," "actively engaging in national environmental policies and issues," and "collaborating with communities and making contributions." It contributes to the economy, environment, and society, creating sustainable value for the Company and continuously enhancing its reputation as the "most reliable" leader in the industry.

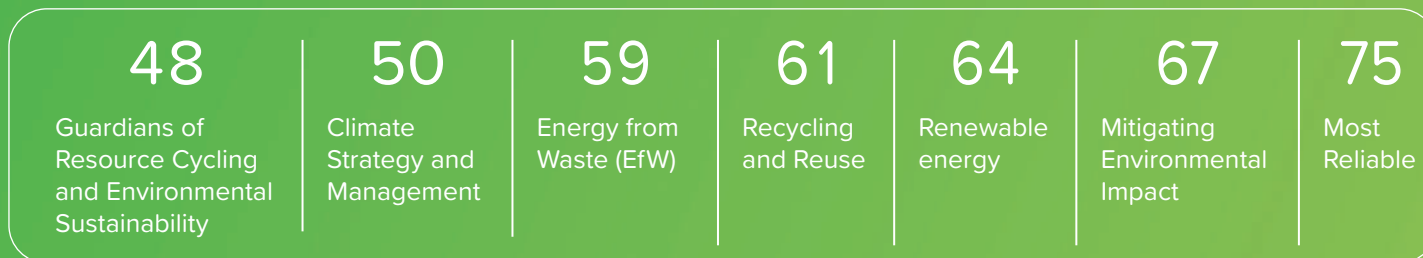






# Environmental Sustainability

In response to climate change and global warming, we are committed to actively enhancing environmental protection performances during operating activities to make a sustainable environment.



## Performance Highlights

### Enterprise Environmental Protection Award

The 4th National Enterprise Environmental Protection Award, organized by the Environmental Protection Administration.

### Excellent Rating

Excellent Rating in the Environmental Protection Administration Incinerator Evaluation.

### Top Solar Award

The 9th Top Solar System Awards Excellent Roof-Top System Award organized by the Bureau of Energy, Ministry of Economic Affairs.

### Silver Award

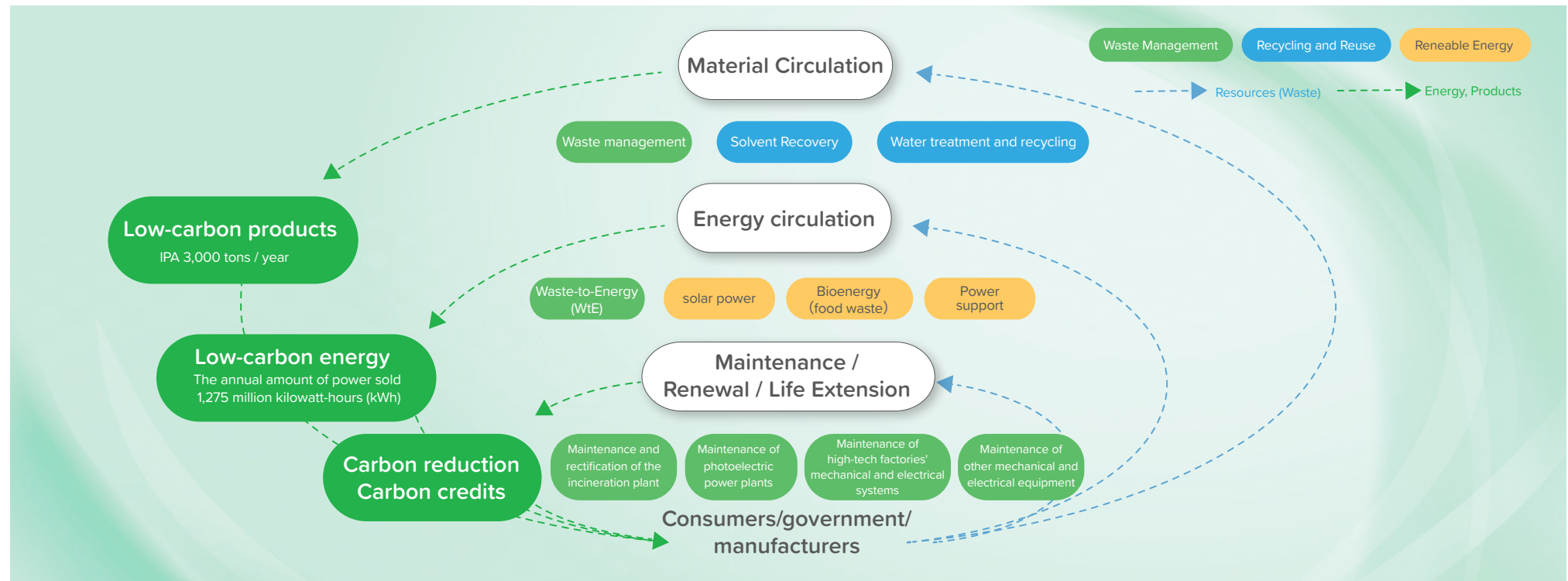
Silver Award for 2022 Solar Smart Building Label in Kaohsiung City Government

## Practitioner of Resource Cycle and Environmental Sustainability

Taiwan, where we are located, has relatively limited natural resources, with approximately 72.44% of raw materials imported. According to a report by the Ellen MacArthur Foundation, 55% of global carbon emissions are related to energy, while 45% are associated with product manufacturing. Of the carbon emissions in the manufacturing process, 55% can be reduced through techniques like carbon capture, while the remaining 45% requires reduction through circular economy approaches. As a result, governments worldwide are actively demanding carbon emissions reductions from businesses. In March 2022, Taiwan released the "Taiwan 2050 Net Zero Emissions Pathway and Strategy Overview," accompanied by 12 key strategies to implement the net-zero transition goal. Among them, the 8th key strategy is "Transition to a Fully Circular Economy and Move towards a Zero Waste Era." Embracing the principles of sustainable resource cycle, Taiwan aims to promote sustainable consumption and production, enhance resource efficiency, and add value to waste in three directions to achieve the net-zero target by 2050.

services company in Taiwan, ECOVE has long been committed to integrating the latest waste treatment and energy production technologies to achieve comprehensive resource utilization of non-renewable waste. Over the past three years, ECOVE has annually converted an average of 2.5 million tons of waste into energy (Energy from Waste, EfW), which is equivalent to replacing 550,000 tons of fossil fuels. Additionally, over 98% of the resulting bottom ash is sent for reuse. Advanced regeneration technologies are employed to annually recover and reuse approximately 15,000 tons of low-concentration waste byproduct, specifically known as isopropyl alcohol (IPA), generating over 3,000 metric tons of low-carbon recycled goods for the market. Furthermore, the volume of wastewater treated amounts to 26.85 million metric tons. In response to the government's net-zero policy, ECOVE has initiated comprehensive carbon inventories and external verification for its consolidated subsidiaries since 2022. It continues to align with the government's net-zero policy and strives towards the objectives of sustainable consumption and production, improved resource efficiency, and value-added waste treatment.

Waste management represents the final phase of the circular economy. As a leading environmental



## Pass the BS 8001 Audit

ECOVE's business revolves around the core principles of the circular economy, continuously improving and optimizing resource cycling efficiency in waste management, recycling, and renewable energy sectors. To implement the development and business model of the circular economy, ECOVE adopted the BS 8001 standard for the circular economy since 2017, starting with waste management and gradually extending its scope to encompass the entire business domain. In 2020, the Company further included energy from waste (EfW), renewable energy source, and recycling in the audit criteria, applying for BS 8001 certification under the framework of "Integrated Innovation and Efficiency Enhancement in Resource Cycling Services." The audit results confirmed the highest maturity level and optimization in innovation, certifying that ECOVE meets the standards of the circular economy across all business areas. Through optimized resource management, ECOVE enhances economic, environmental, and social benefits, increasing the recycling and utilization rates of each resource, as well as Resource Cycling Efficiency™, thereby aligning with and implementing the principles and models of the circular economy across all business domains.

### 2017 - Obtained the world's first "BS 8001 Circular Economy" certificate

Targeting "Energy from Waste (EfW) with Efficiency Enhancement," ECOVE obtained the world's first "BS 8001 Circular Economy" certificate. The Chairman, Jun Jer Liao (right) represented the Company in receiving the certificate from Mr. Pu Shu-Sheng, President of the British Standards Institution (BSI).



## Conformity Statement

BS 8001: 2017

<b>Client</b>	ECOVE <sup>®</sup> Environment Corporation 10F, No. 89, Sec. 6, Zhongshan N. Rd., Shilin Dist., Taipei City 11155, Taiwan
<b>Objective</b>	ECOVE <sup>®</sup> Environment Corporation follows BS 8001:2007 to implement circular economy and establish business model. This check process is to ensure the development of business model "Integration and Innovation in Resource Cycling Services, as well as Efficiency Enhancement" of ECOVE <sup>®</sup> Environment Corporation that be conducted with the requirements of BS 8001: 2017 guiding principles 4.2.1 to 4.2.6.
<b>Result</b>	ECOVE <sup>®</sup> Environment Corporation follows the requirements of BS 8001:2017 to implement circular economy business model development, the maturity model for the "Integration and Innovation in Resource Cycling Services, as well as Efficiency Enhancement" is <b>Optimizing</b> grade.

  
Managing Director BSI Taiwan, Peter Pu

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Statement No: **CEC 006**

The British Standards Institution is incorporated by Royal Charter. BSI Pacific Limited, Taiwan Branch: 20th Floor, No.37, Ji-Hua Road, Xinyi District, Taipei 11492  
Taiwan Tel: 886 2656 0333

### 2020 - Obtained "BS 8001 Circular Economy" certificate

Under the framework of "Integrated Innovation and Efficiency Enhancement in Resource Cycling Services," ECOVE obtained the "BS 8001 Circular Economy" certificate, achieving certification for the circular economy standard across all business domains, in line with the goal of being a net-zero carbon enterprise.



GRI 305-5

## Climate Strategy and Management

To address the impacts of global climate change, ECOVE conducts climate risk and opportunity assessments in its three major business areas: waste management, recycling, and renewable energy. We regularly identify sources of risk and assess their potential impacts, establish relevant operational standards, and mitigate the operational impacts caused by these risks. Since 2020, we have implemented the management framework of the Task Force on Climate-related Financial Disclosures (TCFD) and continued to assess climate change risks related to our operations in 2022. This enables us to enhance the organization's resilience in response to climate change.

### Climate Governance and High-Level Management

ECOVE focuses on the development of a circular economy and categorizes its subsidiary businesses into three main areas: waste management, recycling, and renewable energy, based on their attributes. Under the "Risk Management Guidelines," ECOVE has established a "Risk Management Implementation Committee" that reports relevant operational risks to the Board of Directors annually. The Company identifies and assesses physical risks such as high temperature, typhoons, thunderstorms, floods, droughts, as well as regulatory, market, and technological transformation risks that may arise from climate change and formulates corresponding response strategies.

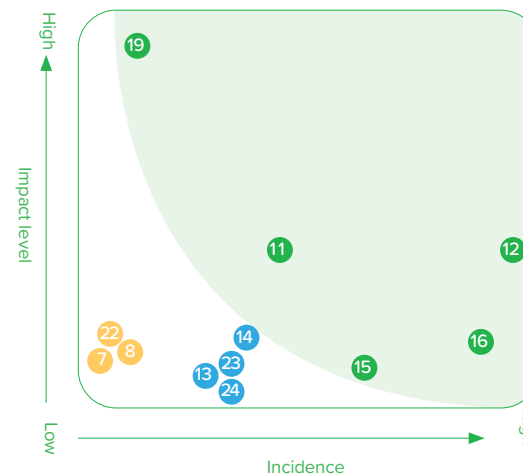
Being an investment holding company, all of ECOVE's relevant investment budgets must be approved by the Board of Directors. The management team prepares an annual "Business Operations and Development (including development focus, goals, and strategies in each area)" report at the end of each year, which serves as the basis for the following year's "Operating Budget." This report is then submitted to the Board of Directors for review. Through explanations provided by the management team, the Board of Directors is fully informed about significant business plans and development strategies for the Company's future. After discussions, inquiries, and recommendations from the Board of Directors, a consensus is reached to finalize the financial planning for the next year.

Under the "Sustainability Development Committee," ECOVE includes three major groups: social engagement, environmental protection, and corporate governance. Each group sets annual work objectives to fulfill corporate responsibilities. At the end of each year, the "Sustainable Development Committee" reports to the Board of Directors on the current year's performance and next year's work plan to familiarize the Board of Directors with the Company's goals, performance, and plans in the implementation of corporate social responsibility and corporate governance related to climate issues, so that the Board of Directors can indirectly achieve the purpose of monitoring and supervision.

## Risk Identification, Assessment, and Management Strategies



The highest committee responsible for climate-related matters within ECOVE is the Risk Management Execution Committee, composed of the Board of Directors, Chairman, Audit Unit, President, Executive Secretary, and department heads of subsidiary companies. The Risk Management Committee is convened on a quarterly basis to discuss and identify prioritized risk issues and propose control measures. In addition, the audit results related to climate change risk of each subsidiary, compilation of material or immediate risk issues, are reported to the Risk Management Executive Committee. The Risk Management Executive Committee shall compile the risk assessment results to be provided as a reference for the audit unit to draw up the annual audit plan. The audit office will report the audit results to the Board of Directors to facilitate the board's monitoring of climate-related issues.



In accordance with the "Risk Management Regulations", ECOVE systematically identifies climate risks that may be faced during operations. Climate risk consists of two major types, transformational and physical, which are further differentiated into regulations, technology, market, reputation, and immediate and long-term. Opportunities are divided into five categories namely, resource efficiency, energy sources, products and services, market, and resilience. The risk and opportunity matrices are evaluated and drawn based on the two consideration factors of incidence rate and impact. After discussion by the Risk Management Committee, the material risks and opportunities which ECOVE may face are determined, and effective actions are adopted to manage risks or harness the possible opportunities so as to strengthen the operational system and competitiveness of the Company and its subsidiaries. Short-term is defined as within 1 year, mid-term as 2025, and long-term as 2030. Incidence rate is divided into seven levels, expressed as percentages. Impact is divided into five levels, and is divided into financial aspects, capacity or service locations, personnel injuries, regulations, consequences of reputation, etc. In pursuit of optimal efficiency, the Risk Management Committee convenes regularly on a quarterly basis to propose control measures, incorporating climate change issues. This is done to continually monitor and assess the effectiveness of the implemented control measures through audits, aiding the Board of Directors and General Manager in ensuring effective risk control.



Climate Change Risk Types	Sources	Risk Levels
12 : Transition	Uncertainty of new regulations	High
16 : Transition	Shift in customer behavior	High
19 : Physical	Impact of extreme weather events	High
11 : Transition	Product efficiency regulations and standards	High
15 : Transition	Negative feedback loop	High
14 : Transition	Reputational damage	Medium
23 : Transition	Changes in customer preferences	Medium
24 : Transition	Lack of regulations or compliance	Medium
13 : Transition	Legal litigation	Medium
22 : Transition	Uncertainty of market information	Low
7 : Physical	Changes in average temperature	Low
8 : Physical	Changes in average rainfall	Low

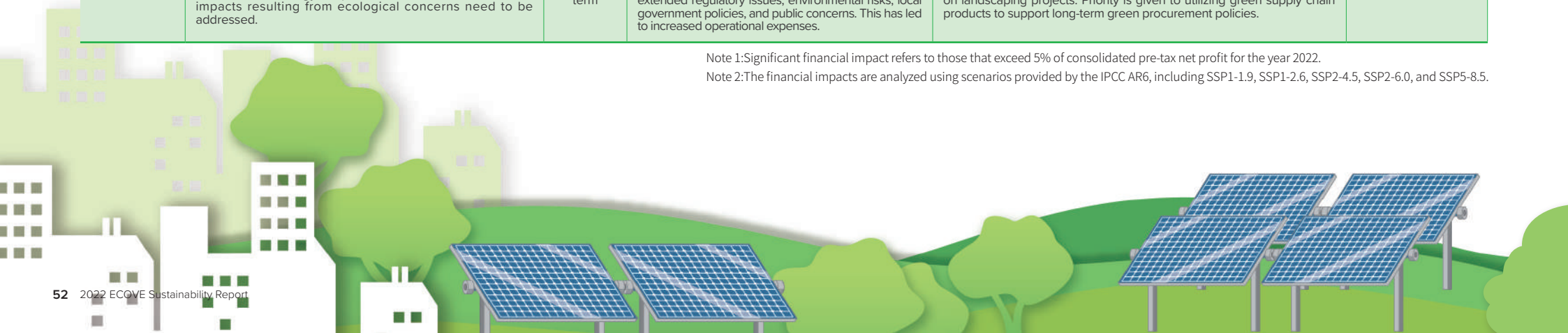


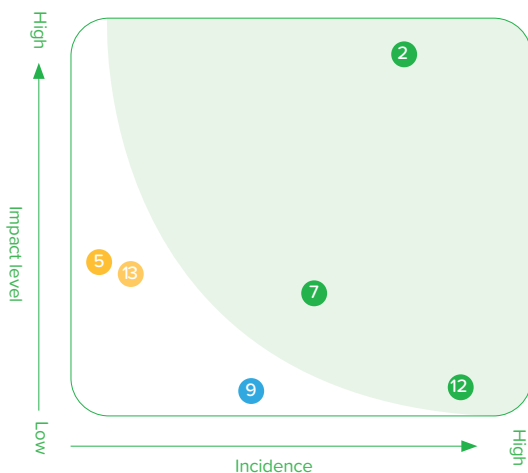
Major risk	Details of risk	Period of incidence	Annual potential financial impact	Management method	Significant financial impact(Note 1)
 <p>Uncertainty of new regulations:</p>	<p>Implementation of climate change response laws results in increased operational costs associated with achieving national long-term greenhouse gas reduction targets and phase-specific regulatory objectives.</p>	Long-term	<p>By 2030, the carbon cost derived from various scenarios is expected to be less than 4% of pre-tax net profit, resulting in limited impact.</p>	<p>Through voluntary green energy supply and process improvements, it is projected that ECOVE and its production facilities with complete operational control will achieve a 30% reduction in carbon emissions by 2030.</p> <ul style="list-style-type: none"> <li>Office electricity consumption will gradually transition to self-generated solar green energy from ECOVE Solar Energy Corporation, reducing the impact of carbon taxes. All company vehicles will be completely replaced with electric vehicles.</li> <li>ECOVE Solvent Recycling Corp. will implement a low-carbon recycling process, with an estimated investment of NT\$15 million, resulting in a reduction of over 30% in carbon emissions while lowering processing costs.</li> <li>ECOVE Waste Management Corp. will gradually replace old waste collection vehicles with the latest environmentally friendly models and transition to new energy vehicles starting from 2030, with an annual investment of NT\$ 30 million.</li> <li>ECOVE Solar Energy Corporation will adopt a self-generated and self-used approach, aiming to achieve a 30% reduction in carbon emissions by 2030.</li> </ul>	-
	<p>In response to new energy or climate-related regulations, the adoption of updated, energy-efficient, and high-performance system designs or equipment is required.</p>	Short-term	<p>Currently, only the Gangshan Plant exceeds the regulated capacity limit, with an annual impact of less than NT\$50,000, resulting in limited effects.</p>	<ul style="list-style-type: none"> <li>By upgrading to the latest energy-efficient equipment, it is projected that after the rectification is completed, the contracted capacity will be reduced to below the regulated limit.</li> </ul>	-
	<p>The government has been actively advocating "clean transportation" and to use low- or zero-polluting transport equipment instead. Currently, since the latest emission standards for diesel vehicles were published in 2014, newly purchased vehicles must meet the latest emission standards.</p>	Long-term	<p>By 2030, the carbon cost derived from various scenarios is expected to be less than 4% of pre-tax net profit, resulting in limited impact.</p>	<ul style="list-style-type: none"> <li>Starting from 2022, vehicle procurement and replacement will prioritize Euro 6 vehicles.</li> <li>Long-term planning will be based on international decarbonization trends and technological advancements, evaluating the timing of purchasing vehicle models that utilize clean energy sources such as electricity and hydrogen power to achieve synergies.</li> <li>In 2023, it is projected that one Euro 6 vehicle will be newly purchased, while two non-environmentally friendly vehicle models will be replaced.</li> </ul>	-
 <p>Change in customer behaviors</p>	<p>In response to the increased sustainability awareness of government agencies, the resource recycle rate will be gradually improved, reducing the proportion of waste incineration.</p>	Long-term	<p>Preliminary assessments indicate that by 2030, the variation in waste inflow volume in various scenarios will be less than 1%, resulting in limited impact.</p>	<ul style="list-style-type: none"> <li>Increase the revenue proportion of renewable energy and recycling businesses.</li> <li>Invest in energy-from-waste plants to enhance the efficiency of waste energy recycle and improve profitability.</li> </ul>	-
	<p>Competitive solar energy market with declining feed-in tariffs.</p>	Medium-term	<p>Reduction in revenue due to policy changes that cause declines in wholesale price year by year</p>	<ul style="list-style-type: none"> <li>There is a trend of decreasing feed-in tariffs for medium to long-term solar power projects. However, the government is actively expanding renewable energy installation targets to accelerate energy transition. To encourage active participation from industry players and reduce investment risks, feed-in tariffs are dynamically adjusted considering market factors such as raw material and construction costs, ensuring a certain level of profitability for the stakeholders.</li> <li>Companies are planning to meet net-zero targets and comply with the EU's carbon border tax requirements. This has led to a significant increase in green energy procurement demand and the subsequent rise in green energy supply prices. ECOVE has already signed green energy procurement contracts with several customers and commenced supply. Expansion of green energy supply business will be actively pursued.</li> </ul>	-

Major risk	Details of risk	Period of incidence	Annual potential financial impact	Management method	Significant financial impact(Note 1)
 <p>Impact of extreme weather conditions.</p>	High water demand in waste incineration and recycling processes may lead to decreased production capacity or production shutdown during drought seasons.	Long-term	Waste incineration: Estimated revenue reduction of 1.15%, with minimal impact. Recycling: Under extreme weather conditions, an annual revenue impact of up to approximately NT\$2.5 million.	<ul style="list-style-type: none"> <li>If there is a forecast of natural disasters, increase the inventory of relevant chemicals and water in the plants as soon as possible. Establish a multi-supplier supply chain and develop or establish a second water supply channel.</li> <li>Water truck dispatching as necessary to meet the water demand in water-deficient areas, with an estimated total cost of approximately NT\$17 million.</li> <li>Process improvement to reduce the demand for cooling water usage.</li> </ul>	-
 <p>Product efficiency regulations and standards</p>	Amendments to renewable energy power generation facilities management regulations	Medium-term	Reduction in revenue due to the possibility of decrease in identified changes in electricity sales rate	New technologies and high-efficiency equipment are used in the construction of plants to improve the operating efficiency of the plants.	-
	According to the characteristics of the product, solar cells are confirmed to have the characteristics of safety, high efficiency, durability, and reliability	Long-term	Increase in operating costs due to increased risk of product failures as a result of unstable product reliability. Increase in operating expenses due to related expenditures in related laws and regulations derived from litigation, such as taxes, fees, fines, etc., if waste materials are not handled in accordance with regulations	<ul style="list-style-type: none"> <li>Solar cells should have the characteristics of safety, high efficiency, durability, and reliability. Vendors which are certified to meet the requirements of "Taiwan Solar Cell Technical Specifications" of the Bureau of Standards, Metrology and Inspection, MOEA would be given priority when module materials are being procured.</li> <li>In addition to the materials approved by the Bureau of Standards, Metrology and Inspection, MOEA, the operation of the solar power plant shall be insured with property liability insurance for each project to prevent major economic losses caused by emergencies.</li> </ul>	-
	The use of new acid removal agents results in the emission of carbon dioxide as a byproduct, leading to increased carbon emissions.	Medium-term	Each kilogram of sodium bicarbonate used contributes to an additional 0.52 kilograms of carbon emissions. The maximum carbon cost impact in various scenarios is less than 0.5% of net profit, thus having a minimal effect.	Continuous investment in research and development is being made to introduce carbon-neutral acid removal agents.	-
	Evaluation is being conducted for the installation of ground-mounted and floating solar power plants in the field of ECOVE Solar Energy Corporation. Potential environmental impacts resulting from ecological concerns need to be addressed.	Medium-term	The dedicated team is responsible for formulating regulations and addressing environmental issues related to the solar energy industry, considering extended regulatory issues, environmental risks, local government policies, and public concerns. This has led to increased operational expenses.	Investment projects are carefully selected, incorporating environmental risk assessments during the design phase and incorporating feedback on landscaping projects. Priority is given to utilizing green supply chain products to support long-term green procurement policies.	-

Note 1: Significant financial impact refers to those that exceed 5% of consolidated pre-tax net profit for the year 2022.

Note 2: The financial impacts are analyzed using scenarios provided by the IPCC AR6, including SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP2-6.0, and SSP5-8.5.





Climate Change Risk Types		Risk Levels
2	Exploration of funding sources	High
7	Production processes	High
12	Participation in public infrastructure projects	High
9	Transportation modes	Medium
5	Identifying new business opportunities	Low
13	Substitution or diversification of resources	Low



Major opportunity	Details of opportunity	Period of incidence	Annual potential financial impact	Management method	Significant financial impact
Develop funding sources	Seeking investment from interested parties in the environmental protection industry to expand and diversify operational business.	Long-term	Issuance of green bonds to reduce operational costs, enhance company image, and facilitate business expansion, leading to increased revenue.	Issuance of green bonds (NT\$1 billion green bond issued in 2021).	-
Production Process	Use of sodium-based alkali or high-efficiency agents to remove acid and reduce reaction products	Short-term	Decrease in operating costs due to productions with reduced energy consumption or increased utilization rate	Formulate SOPs complemented with operational information management systems to review the efficacy of deacidification of chemicals	-
Participation in construction of public facilities	Providing "Energy from Waste (EfW) with Performance Improvement Services" that adhere to circular economy standards and have been awarded the world's first BSI 8001 certificate.	Long-term	Increase in revenue due to successful tender based on provision of "energy from waste (EfW) and efficiency improvement services" when competitive biddings are open for the overhaul and maintenance of incinerators in various locations	To unceasingly innovate and enhance performance to become the most reliable provider of industry-leading 'resource cycling' services.	V

Note 1: Significant financial impact refers to those that exceed 5% of consolidated pre-tax net profit for the year 2022.

## Climate Risk Scenario Analysis

ECOVE's climate risks can be classified into two main categories: transition risks and physical risks, further divided into regulatory, technological, market, and reputational risks, as well as immediate and long-term risks. Opportunities are divided into five categories namely, resource efficiency, energy sources, products and services, market, and resilience. ECOVE conducts scenario analysis based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We refer to various sources of information such as the Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP), Representative Concentration Pathways (RCPs), Shared Socioeconomic Pathways (SSPs), International Renewable Energy Agency (IRENA), and National Science and Technology Center for Disaster Reduction (NCDR) to assess the financial impacts of risks and opportunities.

## Climate Indicators and Targets

ECOVE's business model is highly correlated with environmental sustainability, and the Company has developed various incentive schemes that are directly or indirectly related to climate change. The reward mechanisms are linked to initiatives aimed at improving waste collection volume, incineration power generation, operational efficiency, water conservation, energy conservation, resource efficiency, and efficiency improvements (including labor savings). Furthermore, ECOVE's subsidiary companies actively participate in external environmental assessment programs and have received awards such as the National Enterprise Environmental Protection Award, evaluations by the Environmental Protection Administration, and various prestigious awards in energy conservation and carbon reduction. Monetary incentives are also provided to recognize their achievements. Each subsidiary company has established key performance indicators including incineration volume, input volume, chemical usage for pollution prevention, generation of derived waste, post-treatment exhaust emission concentration, and cumulative capacity of solar power installations (MW). ECOVE continuously monitors and reviews these indicators to enhance its performance in these areas.

Achieving the highest level of TCFD (Task Force on Climate-related Financial Disclosures) verification, we strive towards a sustainable new paradigm.

ECOVE is actively implementing corporate sustainability and has become the first environmental resource-related industry in the country to pass the BSI (British Standards Institution) "Task Force on Climate-related Financial Disclosures (TCFD) Compliance" assessment, achieving the highest level of "Excellence" performance.



TCFD Certification



## Environmental targets

### Waste management and incineration sector :

ECOVE Waste Management Corp. Waste Collection conducts regular organization-level greenhouse gas inventories, using an emission intensity calculated based on an average fuel consumption of 500,000 kilometers per 167.3 liters of fuel, as a control basis. The emission intensity in 2022 was 454.898 metric tons CO<sub>2</sub>e per 500,000 kilometers. With the reference year as 2022, the Company aims to achieve a 15% reduction in emissions by 2026 and strive towards net-zero emissions by 2050. The carbon emission intensity from incineration plants is 456 metric tons CO<sub>2</sub>e per ton of waste, with a target to reduce emissions by 1% annually until 2030.

### Renewable energy sector :

The target for greenhouse gas reduction in 2023 is 69,000 metric tons, calculated based on the existing solar power generation capacity.

### Recycling and reuse sector :

The target for electricity consumption per IPA in 2022 is 0.467 kWh/ton, which has already been achieved. The target for 2023 is 0.453 kWh/ton. The target for water consumption per IPA in 2022 is 2.645 m<sup>3</sup>/ton, which has already been achieved. The target for 2023 is 2.566 m<sup>3</sup>/ton.

## Greenhouse gas emission-related risks in each sector

### Waste collection:

- **Scope 1** : Mainly derived from emissions generated by fuel consumption of waste collection vehicles. An increase in the number of vehicles due to changes in waste collection volume leads to an increase in greenhouse gas emissions.
- **Scope 2** : Emissions originating from the electricity used in offices, with relatively low-risk concerns.

### Waste incineration:

- **Scope 1** : Emissions are influenced by variations in waste input volume, waste composition, and actual heating value of the waste.
- **Scope 2** : Main emissions are those generated by purchased electricity, which is related to the operation of the incinerator for the year. If the efficiency of the power generation is good in a year, there is no need to purchase electricity, and correspondingly the risk of emissions is relatively low.

### Recycling and reuse

- **Scope 1** : The primary source of emissions is natural gas used in the process stage gas boilers. Increased processing volume will result in higher gas consumption and, consequently, increased emissions.
- **Scope 2** : Emissions originate from purchased electricity, mainly related to the process stage distillation units. Changes in processing volume will also affect emissions due to the associated electricity consumption.

### Renewable energy

- **Scope 1** : The main source of emissions is fuel consumption from government vehicles. To reduce emissions from fuel consumption, the vehicles can be replaced with hybrid or electric vehicles. There are relatively low emission risks in this scope.
- **Scope 2** : Emissions primarily result from purchased electricity for charging stations and monitoring systems. There are minimal emission risks in this scope.





## Greenhouse Gas Inventory

In response to the government's net-zero carbon policy, ECOVE is conducting comprehensive greenhouse gas emission inventories. Regular organizational-level greenhouse gas inventories are conducted for units with operational control, and third-party certifications are obtained. In addition, self-assessments are carried out for other operated incineration plants. The reduction targets are set based

on the 2022 baseline year. For the headquarters building, the targets are a 20% reduction by 2024, a 40% reduction by 2026, and achieving net-zero by 2030. For the waste management, recycling, and renewable energy sectors with long-term operational control, a 15% reduction target by 2026 and achieving net-zero by 2050 are set.

### Scope 1

Business	Company	Total emissions (metric tons CO <sub>2</sub> e)
Operational Headquarters	ECOVE	0.43

### Scope 2

Business	Company	Total emissions (metric tons CO <sub>2</sub> e)
Operational Headquarters	ECOVE	123.00

### Scope 3

Business	Company	Total emissions (metric tons CO <sub>2</sub> e)
Operational Headquarters	ECOVE Commute	0.69
Operational Headquarters	ECOVE Upstream fuel and energy resources	21.74
Operational Headquarters	ECOVE Waste management of operational waste	2.28
Operational Headquarters	ECOVE Investment	198,471.50



Note 1: Due to the difficulty of separating water usage, Scope 3 for ECOVE includes the water consumption of other subsidiary headquarters. Investment emissions include: ECOVE Waste Management Corp., ECOVE Miaoli Energy Corp., ECOVE Environment Service Corp., ECOVE Wujih Energy Corp., ECOVE Solvent Recycling Corp., ECOVE Solar Energy Corporation, ECOVE Resources Co., Ltd., SINOGAL, ECOVE Environment Consulting Corp., ECOVE Gangshan Energy Corp., ECOVE Solar Power Corp., South One Solar, G.D. International, LLC, Lumberton Solar W2-090, LLC.

Scope 1

Business	Company	Total emissions (metric tons CO2e)
Waste collection and transportation	ECOVE Waste Management Corp.	805.64
	ECOVE Environment Service Corp.	172.94
Waste incineration	SINO GAL	26.55
	ECOVE Wujih Energy Corp.	124,267.82
	ECOVE Miaoli Energy Corp.	70,552.21
	ECOVE Solvent Recycling Corporation	1,106.74
Renewable energy	ECOVE Solar Energy Corporation	5.25

Note 1: The biomass emissions equivalent from waste incineration is calculated based on garbage sampling analysis.

Scope 2

Business	Company	Total emissions (metric tons CO2e)
Waste collection and transportation	ECOVE Waste Management Corp.	5.70
	ECOVE Environment Service Corp.	24.36
Waste incineration	SINO GAL	37.36
	ECOVE Wujih Energy Corp.	290.74
	ECOVE Miaoli Energy Corp.	59.25
	ECOVE Solvent Recycling Corporation	742.61
Renewable energy	ECOVE Solar Energy Corporation	215.52

Note 1: The emission factor data for 2021 is sourced from the announcement by the Bureau of Energy, MOEA, stating that the carbon emission factor for electricity in 2021 is 0.509 kg CO<sub>2</sub>e/kWh, with a Global Warming Potential (GWP) value based on IPCC AR6.

Note 2: Due to the difficulty of disaggregating electricity consumption, Scope 2 emissions for ECOVE include the electricity consumption of its subsidiary headquarters as well.



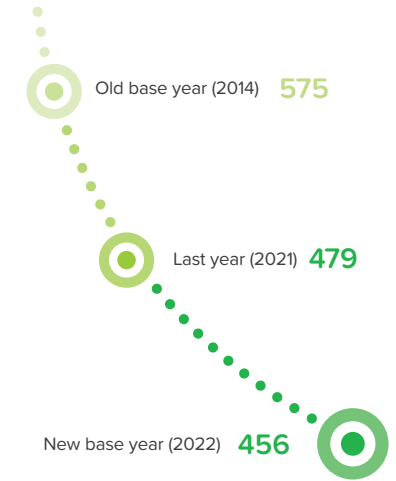
ECOVE Environment Service Corp. conducts regular organizational greenhouse gas inventories for the waste incineration plants under its operational control. The base year was originally set as 2014 but adjusted to 2022 to align with the current carbon inventory. The results of the inventory are shown in the following table, and emissions intensity is used as a control measure. The emissions intensity for 2022 is 456 kgCO<sub>2</sub>/t, a 5% decrease from 2021, and a 21% decrease compared to 2014.

**Greenhouse gas inventory and reduction achievements for waste incineration (metric tons of CO<sub>2</sub>e).**

Plant Type	2021					2022 (Base Year)					
	Scope 1	Proportion of Scope 1 (%)	Scope 2	Total greenhouse gas (GHG) emissions	Biomass emissions	Scope 1	Proportion of Scope 1 (%)	Scope 2	Total greenhouse gas (GHG) emissions	Biomass emissions	Reduction results
Keelung plant	77,117.64	99.74	202.41	77,320.05	96,628.21	92,153.44	99.86	131.12	92,284.56	120,690.16	-14,964.51
Southern Taoyuan Plant	235,507.43	99.91	217.62	235,725.05	209,823.00	152,244.38	98.62	2124.83	154,369.21	181,362.07	81,355.84
Miaoli plant	72,421.61	99.93	47.39	72,469.00	85,101.33	70,552.21	99.92	59.25	70,611.46	92,600.00	1,857.54
Houli plant	140,154.63	99.88	167.47	140,322.10	149,740.37	136,340.72	99.82	240.45	136,581.17	179,353.77	3,740.93
Wujih Plant	134,352.92	99.75	337.25	134,690.17	167,926.87	124,267.82	99.77	291.00	124,558.82	160,512.60	10,131.35
Tainan plant	60,506.99	99.70	179.03	60,686.02	107,191.91	82,749.16	99.80	166.87	82,916.03	108,018.83	-22,230.01
Xizhou Plant	32,748.44	99.99	3.99	32,752.43	129,342.18	131,344.11	99.97	35.63	131,379.74	173,065.87	-
Gangshan Plant	271,253.12	99.92	217.62	271,470.74	99,674.59	151,902.44	99.93	99.41	152,001.85	198,893.38	119,468.89
Total	1,024,062.78	99.87	1,372.78	1,025,435.56	1,045,428.46	941,554.28	99.67	3,148.56	944,702.84	1,214,496.68	179,360.03

**Intensity of emissions**

(Greenhouse gas emissions/waste disposal quantity of the year)



Note 1: In 2022, the Xizhou Plant and Gangshan Plant are included.

Note 2: Unit: kilograms of CO<sub>2</sub> per ton of waste.

Note 1: The Xizhou Plant commenced operations on June 2, 2021, therefore the data for 2021 is calculated from the commencement date and does not include greenhouse gas reduction achievements.

Note 2: The electricity emission factor data for 2022 has not been released yet, so the emission factor of 0.509 kgCO<sub>2</sub>e/kWh announced by the Bureau of Energy, Ministry of Economic Affairs for the year 2021 is used.

Note 3: The Global Warming Potential (GWP) value of IPCC AR4 is used for 2021, and the GWP value of IPCC AR6 is used for 2022.

Note 4: The calculation method for the proportion of Scope 1 and Scope 2 emissions is as follows: the total emissions of Scope 1 and Scope 2 are the denominator, and the emissions of Scope 1 and Scope 2 are the respective numerators.

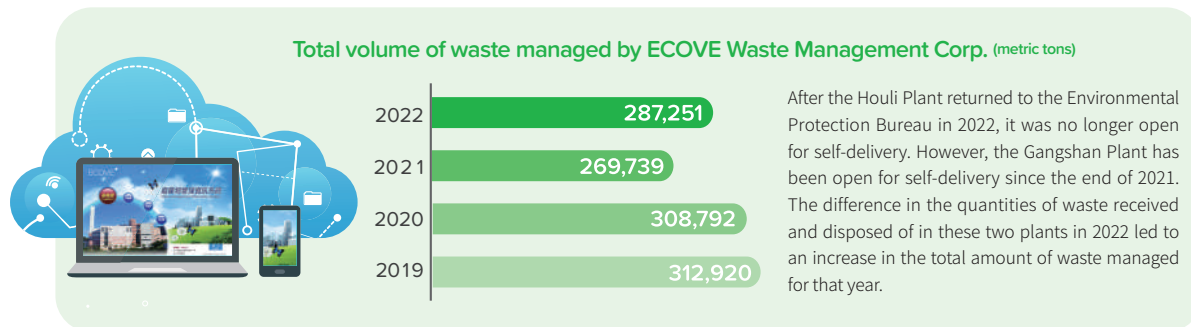
Note 5: The Miaoli Plant and the Wuqi Plant have operational control, while the other plants are operated by third-party operators and do not have operational control.

## Waste management

GRI 301-1; SASB IF-WM-110a.1, IF-WM-120a.1, IF-WM-120a.2, IF-WM-420a.1

### Waste transportation and entry management

ECOVE Waste Management Corp. is responsible for waste collection, transportation, disposal, incineration residue management, and related services. In 2022, the total amount of waste managed by the Company was 287,251 metric tons, accounting for 35% of the total waste entrusted to private organizations for management at large-scale urban waste resource recycle (incineration) plants in the country. To effectively manage waste quality, ECOVE Waste Management Corp. utilizes an intelligent management system that screens vendor qualifications, approves waste types, establishes and stores entry data, and performs real-time monitoring of entry information. Through the analysis of entry statistics, waste quality is effectively controlled. In 2022, the management system was further optimized by adding functionality to interface with the declaration system of the Environmental Protection Administration. This allows for the rapid and accurate upload of data to the regulatory center, ensuring legal compliance and reducing redundant work. Additionally, the management system provides real-time updates and announcements on environmental regulations and entry management information for vendors. It establishes lists of inappropriate waste or vendors in each incineration plant to enhance regulatory efficiency and analyzes waste characteristics in different regions to achieve effective resource management.



To further understand and confirm the sources and nature of the waste, on-site visits and guidance were conducted for waste generators. In 2022, a total of 116 visits were conducted to gain insights into their processes, waste generation quantities, storage conditions, and other relevant information. During these visits, relevant environmental regulations were explained, and key management points for the entry and exit of waste at incineration plants were highlighted. Suggestions were also provided to optimize waste management practices. These efforts ensure that the waste provided by waste generators meets the operational requirements of the incineration plants, ensuring stable processing efficiency and minimizing processing risks. Furthermore, waste generators are guided to explore resource recovery options for waste that would otherwise be misplaced in incinerators. For example, assistance is provided in connecting waste generators with Solid Recovered Fuel (SRF) manufacturing plants. Currently, there are ongoing connections with SRF manufacturing plants such as Lien Tai Paper Co., Ltd., and Green Pine Environmental Protection, aiming to achieve sustainable operations.

In the field of waste incineration, as part of our long-term waste reduction goals, we aim to facilitate the recycling and disposal of sludge generated from agriculture, forestry, fisheries, and manufacturing industries through resource circulation. Our target is to

reduce the incoming volume by 50% compared to the base year of 2018. In 2022, the amount of sludge received was 2,190 tons, achieving a reduction of approximately 65% and successfully meeting the target. We will continue to maintain this incoming volume of sludge in the future.

Year	Sludge intake statistics				
	2018	2019	2020	2021	2022
Sludge intake (in metric tons)	6,213	5,475	4,115	3,746	2,190
Reduction percentage in sludge intake (%)	-	12	34	40	65

### Waste incineration volume

ECOVE Environment Service Corp.'s main business operation is waste incineration, converting thermal energy into electrical energy and reselling it to power companies as one of Taiwan's power sources. In addition to reducing the use of fossil fuels, it also mitigates the pollution impact from landfilling waste. Through ECOVE Environment Service Corp.'s optimal operational techniques, not only is maximum power generation efficiency achieved from the incineration of waste, but also the energy and efficiency required during the waste disposal process are greatly maximized. This helps reduce waste, emissions, wastewater, and secondary pollutants, fulfilling the mission of "optimizing resource circulation efficiency."

ECOVE Environment Service Corp. currently manages eight large-scale waste incineration plants and two small-scale industrial waste incineration plants. For the purpose of analysis, the data presented here focuses on the eight large-scale incineration plants <sup>1</sup>, including the Keelung Plant, Southern Taoyuan Plant, Miaoli Plant, Houli Plant, Wujih Plant, Xizhou Plant, Chengxi Plant, and Gangshan Plant. In 2022, the total amount of waste received by the plants (general waste and general industrial waste) was 2,095,875.65 metric tons. Considering the total waste received by all 24 waste incineration plants in Taiwan in 2022, which was 6,201,993.09 metric tons, ECOVE Environment Service Corp. accounted for 33.8% of the total. Among them, general waste accounted for 1,703,308.39 metric tons, representing 81.27% of ECOVE Environment Service Corp.'s total intake, while general industrial waste accounted for 392,567.26 metric tons, representing 18.73% of ECOVE ESC's total intake. According to the latest announcement by the Environmental Protection Administration,

<sup>1</sup> The primary source of data for incineration plants is the Environmental Protection Administration's incineration plant operation and management system information.

Executive Yuan, Taiwan generates an average of approximately 1.152 kilograms of waste per person per day <sup>2</sup>. Incineration accounts for 41.23% of waste treatment, which means ECOVE Environment Service Corp. serves an equivalent of around 9.824 million people's annual waste generation. Hazardous industrial waste, as regulated by laws and regulations, must be handled by specialized treatment facilities, and the incineration plants operated by our company do not accept hazardous waste.

<sup>2</sup> Based on the statistics from the Environmental Protection Administration for the years 2019 to 2021.

**Volume of incoming waste and waste treated by incineration plants operated and managed by ECOVE Environment Service Corp. (metric tons)**

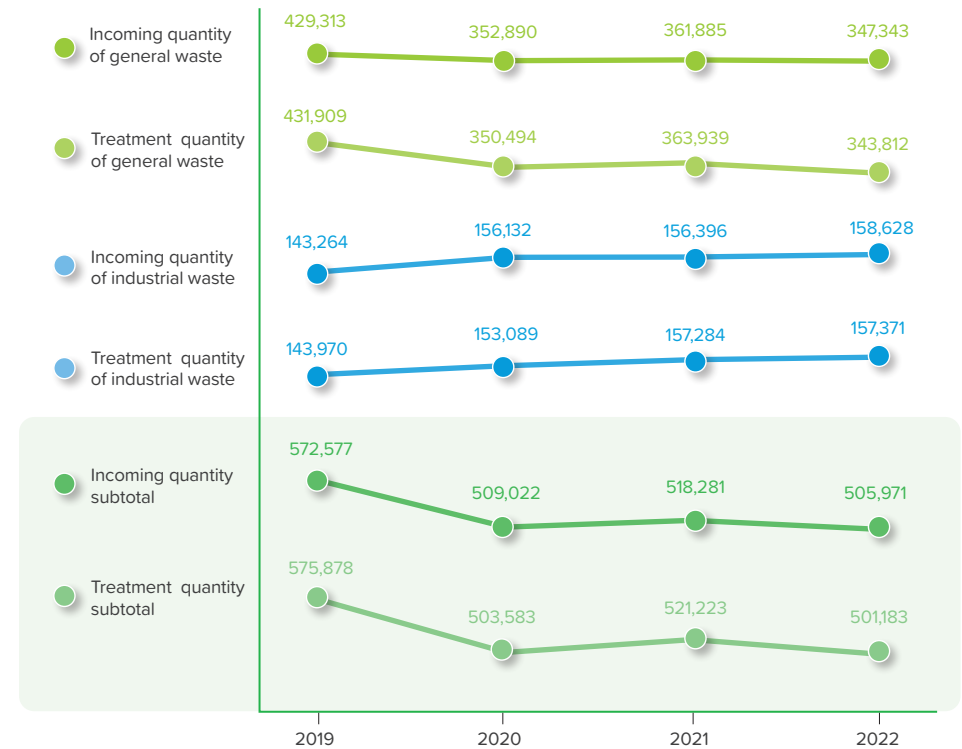


Note 1: The difference between the intake and processing quantities primarily stems from water evaporation or adjustments in storage pit inventory.

Note 2: Starting from June 2021, we took over the operation of the Xizhou Plant in Changhua County.

In addition to Taiwan, our waste incineration services have also expanded overseas, with our subsidiary SINOGAL undertaking general waste disposal business in the Macau region. With a local population of approximately 830,000 people, the total intake of waste in 2022 was 505,971 metric tons, of which general waste accounted for 347,343 metric tons, representing 68.65% of the total, and general industrial waste accounted for 158,628 metric tons, representing 31.35% of the total. Based on the average of the past four years, the annual average total intake was 526,463 metric tons, and the average total processing quantity was 525,467 metric tons.

**Volume of incoming waste and waste treated by incineration plant operated and managed by SINOGAL (metric tons)**



Note: The difference in quantity for incoming waste and waste treated is mainly attributable to water vaporization or adjustment of storage volume of the bunker



## Recycling and Reuse

In a resource-constrained environment, ECOVE firmly believes that the circular economy model is the most sustainable approach. Therefore, we leverage our core operational expertise to avoid pollution and waste generation from the source through redesign, business models, and improved resource efficiency. We aim to create more value with fewer resources, while aligning with government sustainable development policies and promoting waste resource utilization towards a circular economy society.

### IPA Recycling and Reuse

To maximize the value of waste resources, ECOVE extends the application of recycling and reuse technologies through its subsidiary, ECOVE Solvent Recycling Corp., specifically targeting the purification and conversion of waste isopropyl alcohol (IPA) generated in the semiconductor industry. The purified IPA is transformed into industrial-grade products and reintroduced to the market, effectively reducing resource waste. In 2022, ECOVE Solvent Recycling Corp. processed approximately 14,710 metric tons of waste isopropyl alcohol, an increase of 3,610 metric tons compared to the previous year. This resulted in a reduction of 10,841 metric tons of carbon dioxide emissions annually.



Physical view of ECOVE Solvent Recycling Corp.



Replacement of heavy oil with natural gas.

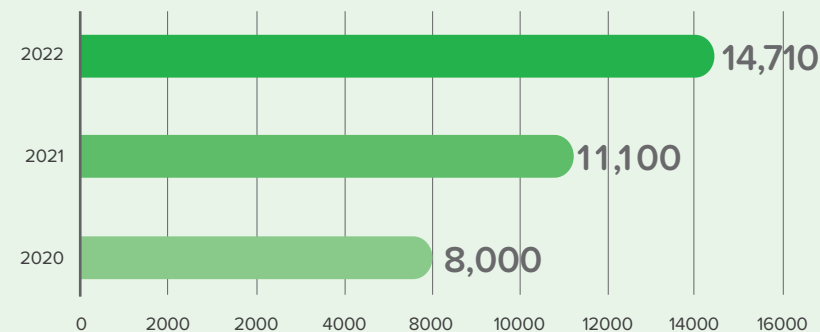
#### Quantity of waste treated by ECOVE Solvent Recycling Corp

Approximately **14,710** **79%**

The total weight of solvent waste processed (in metric tons per year)

Percentage of permitted reuse in solvent waste treatment (%)

#### The total weight of solvent waste processed (in metric tons per year)






Note 1: Reference data is sourced from the Environmental Protection Administration's Environmental Resource Database - Carbon Footprint Emission Factors. According to this data, incinerating 1 ton of waste, such as waste isopropyl alcohol, in Tainan Science Park incineration plant results in the emission of 737 kgCO<sub>2</sub>e.

Note 2: The permitted reuse quantity is 18,600 metric tons per year.

## Recycled water treatment

ECOVE's core operations in the water resources field encompass wastewater treatment, rivers and streams restoration, and water resource regeneration. Various methods, including primary treatment, secondary treatment, advanced treatment, and ecological methods, are utilized to remove pollutants from water and further recycle and reuse water resources. To ensure real-time monitoring of discharged water quality, automated continuous monitoring systems are installed in the water plants. This enables the monitoring of trends in discharged water quality and facilitates access for relevant authorities and the public to query the data.

### Developmental works in water resources and expected technical performance

Type of Work	Item	Technicalities	Current Performance	Expected Performance
 Wastewater treatment	Linkou Water Resource Center	<ul style="list-style-type: none"> <li>The treatment targets domestic wastewater generated by the general public and the industrial park.</li> <li>Preliminary treatment and primary treatment to remove waste and suspended solids in the water.</li> </ul>	<ul style="list-style-type: none"> <li>ECOVE is responsible for the operational management and maintenance, processing 23,000 metric tons of sewage daily.</li> <li>The second phase of expansion construction, awarded to ECOVE, began in August 2022 and is expected to be completed by the end of July 2024.</li> </ul>	36,500 metric tons of wastewater treated per day. Note 1
	Zhongli Sewerage System BOT Project	<ul style="list-style-type: none"> <li>Subsequently, water-soluble pollutants are removed using cultured micro-organism through the bio-reactor method during secondary treatment.</li> <li>The treated wastewater is recycled through a simple three-stage treatment process for internal and external use within the plant.</li> </ul>	<ul style="list-style-type: none"> <li>The construction is being carried out by CTCI, and it is expected to be completed by the end of September 2023. After completion, the project will be handed over to ECOVE for subsequent operation and maintenance work.</li> </ul>	156,800 metric tons of sewage treated per day
	Pingtung Agricultural Biotechnology Park Water Resource Treatment Plant		<ul style="list-style-type: none"> <li>Operational and maintenance work is carried out by ECOVE, handling 4,000 metric tons of sewage daily.</li> </ul>	8,000 metric tons of wastewater treated per day. Note 2
 River and Streams Rehabilitation	New Taipei City Gravel Contact Oxidation Treatment and Water Resource Center	<ul style="list-style-type: none"> <li>An on-site treatment facility is used to rehabilitate and restore the water quality of the Tamsui river system.</li> <li>The wastewater is made to flow through a zone of underground gravel and supplied with oxygen by aeration so that micro-organism settles on the gravel to form a biofilm to absorb pollutants in the wastewater.</li> <li>Set up ecological parks and observation corridors on the ground level to create a space for ecological conservation, leisure, and education functions.</li> </ul>	<ul style="list-style-type: none"> <li>Operational and maintenance work is carried out by ECOVE, purifying 113,800 metric tons of sewage daily.</li> </ul>	
	Zhonggang Water Resource Center	<ul style="list-style-type: none"> <li>Target of treatment is the industrial wastewater discharged into the Zhonggang Main Drainage.</li> <li>Physical methods such as dissolved air flotation, filtration, and activated carbon adsorption are used to remove pollutants from water.</li> </ul>	<ul style="list-style-type: none"> <li>Operational and maintenance work is carried out by ECOVE, purifying 30,000 metric tons of sewage daily.</li> </ul>	
 Resource Recycling	TSMC Reclaimed Water Plant at Southern Taiwan Science Park	<ul style="list-style-type: none"> <li>The treated effluent from the wastewater treatment plant in Tainan Science Park is further purified to meet the water requirements of TSMC.</li> <li>In addition to advanced membrane filtration, innovative technologies developed by the Industrial Technology Research Institute (ITRI) such as BioNET, AFB, and FBC are utilized as auxiliary methods to remove specific pollutants, including boron and nitrogen.</li> </ul>	<ul style="list-style-type: none"> <li>The construction of the wastewater treatment plant was completed by CTCI in 2022, and it has been operational since then.</li> <li>ECOVE is assisting in the commissioning process, and there are plans to hand over the subsequent operational and maintenance tasks to ECOVE upon completion.</li> </ul>	<ul style="list-style-type: none"> <li>The plant produces 20,000 metric tons of recycled water daily.</li> <li>The integration includes a total of 47,000 cubic meters per day (CMD) of recycled water produced from both the Yongkang Water Recycling Center and Anping Water Recycling Center. Note 3</li> <li>The total water supply volume is expected to reach 67,000 cubic meters per day (CMD) in 2024. Note 4</li> </ul>

Note 1: The completed first phase of the construction can handle 23,000 metric tons of sewage daily. After the completion of the second phase of the expansion project, the total sewage treatment capacity will reach 36,500 metric tons per day.

Note 2: The completed first and second phases of the construction can handle 4,000 metric tons of sewage daily. The future plans for the third and fourth phases of the park include a total sewage treatment capacity of 8,000 metric tons per day.

Note 3: The recycled water produced by Anping Water Recycling Center and Yongkang Water Recycling Center is collected in the central distribution reservoir of the TSMC Reclaimed Water Plant at Southern Taiwan Science Park recycled water plant. It is then mixed with the recycled water produced by the TSMC Reclaimed Water Plant at Southern Taiwan Science Park recycled water plant and supplied to TSMC for their use.

Note 4: The TSMC Reclaimed Water Plant at Southern Taiwan Science Park recycled water plant produces 20,000 cubic meters per day (CMD) of recycled water, while the Anping Water Recycling Center produces 37,500 CMD of recycled water, and the Yongkang Water Recycling Center produces 9,500 CMD of recycled water.



Linkou Water Resource Center



Zhongli Wastewater Sewage System (BOT)



Pingtung Agricultural Biotechnology Park Water Resource Treatment Plant



New Taipei City Gravel Contact Oxidation Treatment and Water Resource Center



Zhonggang Water Resource Center




TSMC Reclaimed Water Plant at Southern Taiwan Science Park

ECOVE is not only committed to environmental protection in its operational and maintenance efforts but also focuses on maximizing resource value and promoting sustainability. In 2022, ECOVE's water resource recycle centers in Linkou, Zhonggang, and the purification facility in New Taipei City, as well as the water resource treatment facility in Pingtung Agricultural Biotechnology Park, collectively processed 26,851,116 metric tons of sewage. Additionally, a cumulative total of 41,091 metric tons of treated effluent (from Linkou water resource center only) were recovered and made available for internal and external use. Based on the estimation criteria outlined in the Ministry of the Interior's "Technical Standards for Building Wastewater Treatment Facilities," ECOVE's efforts and achievements in wastewater treatment and water resource reuse are equivalent to serving 119,340,000 person-days. This is equivalent to treating the sewage output of the national population for nearly 5.1 days. The amount of water recycled is also equivalent to the daily water consumption of 183,000 individuals. In addition to treating wastewater, we provide clean water resources as an alternative water source, equivalent to the daily water consumption of nearly 183,000 individuals, thus continuously enhancing the sustainability of water resources.

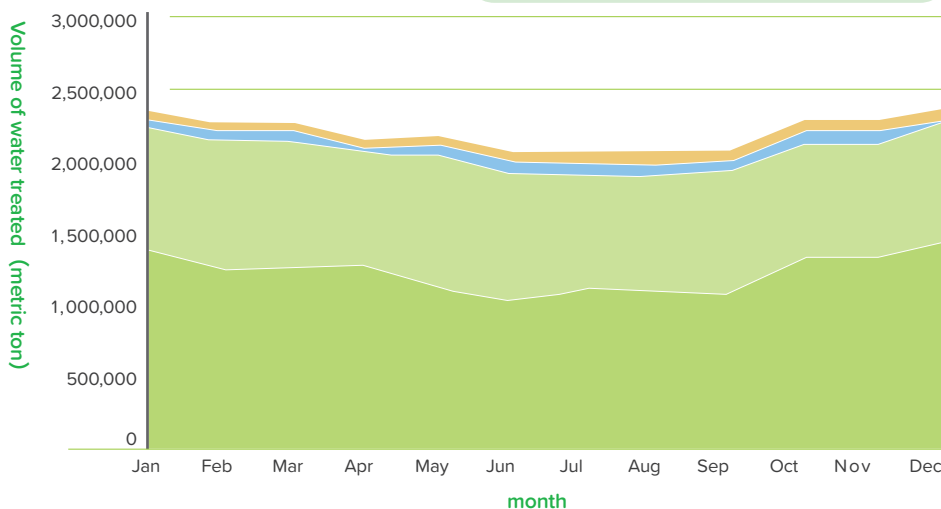
### Sewage treatment volume in 2022

- New Taipei City Gravel Contact Oxidation Treatment and Water Resource Center
- Linkou Water Resource Center
- Zhonggang Water Resource Center
- Pingtung Agricultural Science



The total annual sewage treatment quantity is **26,851,116** metric tons.

The average daily sewage treatment quantity is **73,565** metric tons.



## Recycling of PET bottles

BoReTech Co., Limited is a subsidiary of ECOVE's investment company, providing comprehensive PET bottle recycling and regeneration solutions to customers. We offer end-to-end integration of the recycling industry chain, including production line design, engineering, bottle washing, pelletizing, and chemical fiber spinning. This vertical integration significantly reduces production costs of PET bottle recycling and cleaning equipment, minimizes losses during production, and improves the quality of the final products. In 2022, the "ES Process" was successfully applied to the PET bottle recycling and cleaning system. By integrating label removal with bottle washing into a unified module, it assists customers in significantly reducing equipment footprint and further enhancing the efficiency of label removal. We also collaborated with customers to develop a compact integrated fishing net recycling and cleaning system, contributing to marine conservation efforts. Furthermore, we developed cleaning processes for rigid plastic and film recycling systems, aiming to expand the product scope of plastic recycling and make a greater contribution to global plastic recycling as a whole.

### Geographical Scope

**40** countries and regions

A total of 219 cleaning lines have been sold to 40 countries and regions worldwide.

### Recycling Scale (Accumulated from 2004 to the end of 2022)

**470** tons

The global PET recycling capacity totals approximately 4.7 million tons from BoReTech Co., Limited's equipment.

### Product Quality (Accumulated from 2004 to the end of 2022)

**B to B Grade** : Processing capacity of approximately 1.47 million tons, producing bottle flakes suitable for PET bottle manufacturing.

**Chemical Fiber Grade** : Processing capacity of approximately 2.91 million tons, producing fibers suitable for functional clothing.

**Sheet Grade** : Processing capacity of approximately 340,000 tons.



B to B Grade PET bottle cleaning line

③ The 'ES process' refers to the integration and modular design of certain equipment and functions in the existing cleaning line process. It aims to reduce the occupied space and improve the quality of finished products. This process involves the rational merging of certain equipment functions, the addition of specific equipment functions, and the implementation of modular flow design.

## Renewable energy

SASB IF-WM-420a.1

### Cogeneration and Sales of Electricity

ECOVE Environment Service Corp.'s waste incineration plants, including Macau but excluding two small plants, utilize the heat generated from waste incineration to generate electricity. This method serves as a substitute for fossil fuels, reducing carbon emissions. In 2022, a total of 2,570,868.26 metric tons of waste were incinerated. The total electricity generated was 1,425,844 megawatt-hours (MWh), with approximately 1,157,766 MWh sold back to the power company. This means that 81.2% of the total electricity generated was fed back to the grid, while the remaining portion was used for the operation of the incineration plants. According to statistics from Taiwan Power Company (<http://www.taipower.com.tw>) and Macau Power Company (<https://www.cem-macau.com/zh/>), the electricity generated in 2022 could supply approximately 275,200 households in Taiwan for a year<sup>4</sup> and 31,300 households in Macau for a year<sup>5</sup>. Based on calculations, electricity generation from the incineration plants in 2022 resulted in a reduction of approximately 748,300 metric tons of CO<sub>2e</sub> emissions for Taiwan and Macau Power Companies combined (based on carbon emission factors for electricity, refer to footnotes 1 and 2 in the table).

- <sup>4</sup> According to Taiwan Power Company (Taipower), the average household electricity consumption from January 2022 to December 2022 was 3,619 kilowatt-hours (kWh) per household.
- <sup>5</sup> According to Companhia de Electricidade de Macau, the average monthly electricity consumption per household is 430 kilowatt-hours (kWh). Therefore, the average annual electricity consumption per household is approximately 5,160 kilowatt-hours (kWh)

#### Keelung

Total power generation : **117,167**<sup>(MWh)</sup>  
 Amount of power sold : **92,774**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2022 : **0.61**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2021 : **0.63**<sup>(MWh)</sup>  
 Power generation difference per ton of waste : **-0.02**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **59,638**<sup>(Metric ton CO<sub>2e</sub>)</sup>

#### Southern Taoyuan

Total power generation : **207,342**<sup>(MWh)</sup>  
 Amount of power sold : **178,166**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2022 : **0.54**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2021 : **0.61**<sup>(MWh)</sup>  
 Power generation difference per ton of waste : **-0.07**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **105,537**<sup>(Metric ton CO<sub>2e</sub>)</sup>

#### Miaoli

Total power generation : **92,694**<sup>(MWh)</sup>  
 Amount of power sold : **75,150**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2022 : **0.58**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2021 : **0.59**<sup>(MWh)</sup>  
 Power generation difference per ton of waste : **-0.01**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **47,181**<sup>(Metric ton CO<sub>2e</sub>)</sup>



Total power generation : **1,425,844**<sup>(MWh)</sup>  
 Amount of power sold : **1,157,766**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **748,265**<sup>(Metric ton CO<sub>2e</sub>)</sup>



Note 1: Greenhouse Gas Emission Reduction in Macau (metric tons of carbon dioxide equivalent) = Macau total electricity generation × 0.62 kg/kWh (Power discharge coefficient: 0.62 kg/kWh is the emission factor announced by Macau Power Company in 2021)



**⚡ Houli**

Total power generation : **174,327**<sup>(MWh)</sup>  
 Amount of power sold : **145,261**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2022 : **0.64**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2021 : **0.63**<sup>(MWh)</sup>  
 Power generation difference per ton of waste : **0.01**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **88,733**<sup>(Metric ton CO<sub>2e</sub>)</sup>

**⚡ Chengxi**

Total power generation : **107,358**<sup>(MWh)</sup>  
 Amount of power sold : **82,574**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2022 : **0.56**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2021 : **0.54**<sup>(MWh)</sup>  
 Power generation difference per ton of waste : **0.02**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **54,645**<sup>(Metric ton CO<sub>2e</sub>)</sup>

**⚡ Wujih**

Total power generation : **180,801**<sup>(MWh)</sup>  
 Amount of power sold : **147,120**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2022 : **0.65**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2021 : **0.65**<sup>(MWh)</sup>  
 Power generation difference per ton of waste : **0.00**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **92,028**<sup>(Metric ton CO<sub>2e</sub>)</sup>

**⚡ Gangshan**

Total power generation : **178,359**<sup>(MWh)</sup>  
 Amount of power sold : **137,660**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2022 : **0.60**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2021 : **0.66**<sup>(MWh)</sup>  
 Power generation difference per ton of waste : **-0.06**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **90,785**<sup>(Metric ton CO<sub>2e</sub>)</sup>

**⚡ Xizhou**

Total power generation : **164,999**<sup>(MWh)</sup>  
 Amount of power sold : **137,396**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2022 : **0.57**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2021 : **0.53**<sup>(MWh)</sup>  
 Power generation difference per ton of waste : **0.04**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **83,984**<sup>(Metric ton CO<sub>2e</sub>)</sup>

**⚡ Macau**

Total power generation : **202,797**<sup>(MWh)</sup>  
 Amount of power sold : **161,665**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2022 : **0.40**<sup>(MWh)</sup>  
 The electricity generation per metric ton of waste in 2021 : **0.40**<sup>(MWh)</sup>  
 Power generation difference per ton of waste : **0.00**<sup>(MWh)</sup>  
 Total greenhouse gas (GHG) emissions reduced : **125,734**<sup>(Metric ton CO<sub>2e</sub>)</sup>

Note 2: Greenhouse Gas Emission Reduction in Taiwan (metric tons of carbon dioxide equivalent) = Taiwan total electricity generation × 0.509 kg/kWh = reduction in kg of carbon dioxide equivalent. (Power discharge coefficient: 0.509 kg/kWh is the carbon emission factor announced by the Bureau of Energy, Ministry of Economic Affairs in Taiwan in 2021)

**Solar power**

In response to the escalating issues of climate change and carbon reduction, solar power has emerged as a significant clean energy source worldwide. Under the umbrella of ECOVE, its subsidiary ECOVE Solar Energy Corporation focuses on the development, investment, construction, and operation of solar power systems. As of the end of 2022, it has cumulatively developed approximately 154 MW capacity both domestically and internationally. ECOVE Solar Energy Corporation has received recognition for its achievements, including 26 Kaohsiung City Government Photovoltaic Intelligent Building Certificate (Gold, Silver, Bronze, and Special awards), two awards at the 3rd Annual Top Solar System Awards by the Bureau of Energy, MOEA, one award at the 4th Annual Top Solar System Awards by the Bureau of MOEA, one award at the 5th Annual Top Solar System Awards by the Bureau of Energy, MOEA, one award at the 9th Annual Top Solar System Awards by the Bureau of Energy, MOEA, one gold award each at 13th Annual Top 10 Enterprise and Manager Awards, and one award each at the 2017 Outstanding Enterprise and Model Entrepreneurship Award.



**Ground-mounted/Lumberton Solar Plant, New Jersey,**

United States/9.5 MWp



**Roof-mounted/Taichung Metro/5.6 MWp**



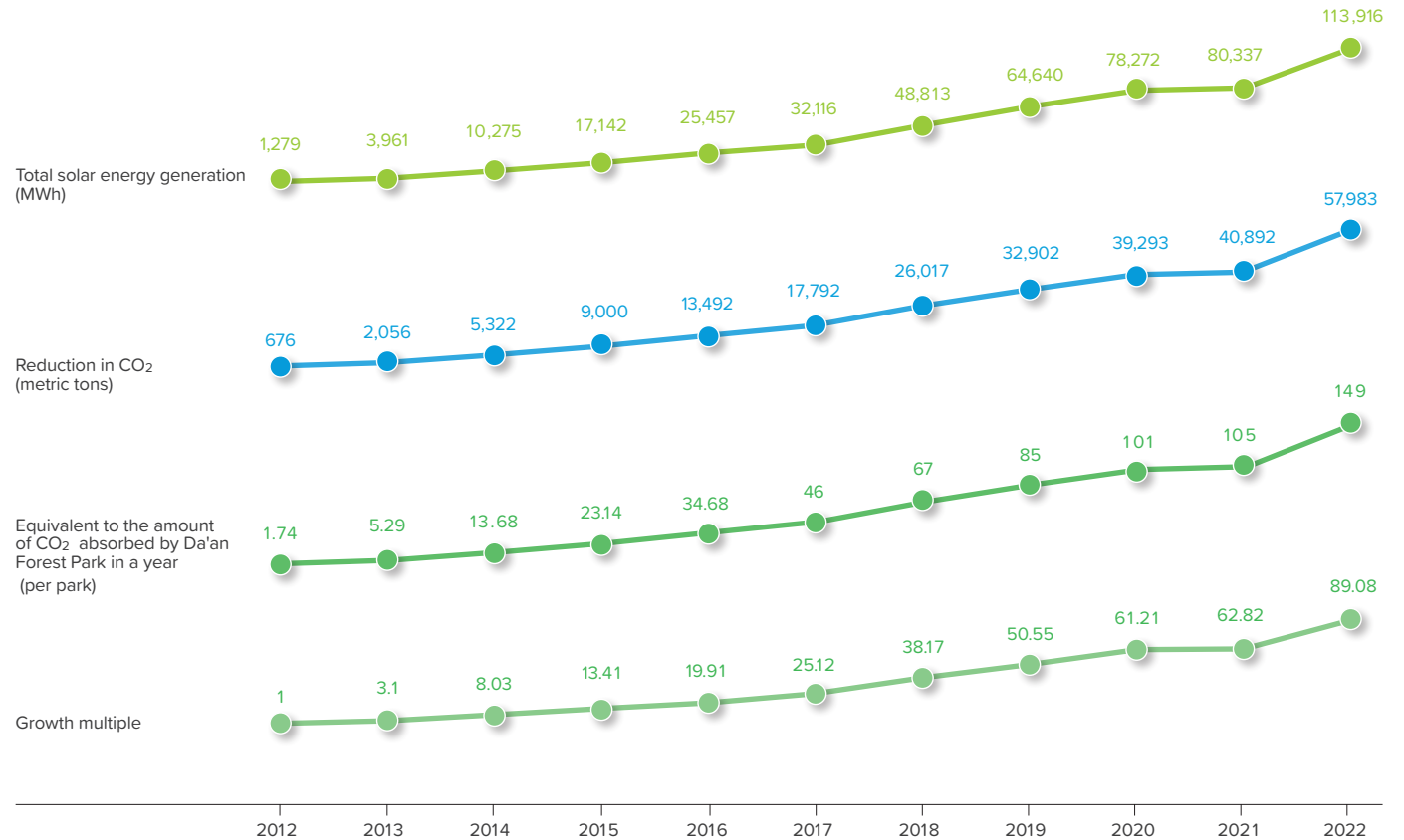
**Floating/High-Speed Rail Wujih detention basin/0.3 MWp**



In addition to its ongoing commitment to the development of the solar power industry, ECOVE Solar Energy Corporation continues to invest in the establishment and operation of solar power systems. By the end of 2022, ECOVE Solar Energy Corporation has completed numerous project installations in collaboration with key partners such as Taiwan High-Speed Rail, Kaohsiung Rapid Transit Corporation, Taipei Metro, Taichung Metro, Port of Kaohsiung, Tainan City Government, and others. The cumulative achievements include ground-mounted projects with a total capacity of 38.31 MWp, rooftop projects with a total capacity of 58.20 MWp, and floating solar projects with a total capacity of 5.06 MWp. Overall, the completed installations have reached a total capacity of 101.57 MWp. To overcome the inherent intermittency of renewable energy and mitigate the impact on the power grid, Taiwan Power Company (Taipower) has planned an electricity trading platform and established a market for ancillary services. This allows private investors to deploy energy storage systems to provide stable power services. ECOVE Solar Energy Corporation is currently in the process of constructing a 5MW energy storage project, which is expected to be completed in Q2 of 2023. Once finished, it will be able to offer power ancillary services to Taipower.

With the successive amendments to the Electricity Act and the Renewable Energy Development Act by the government, Taiwan has fully opened up the renewable energy sector for direct supply, wholesale, and the sale of renewable energy. ECOVE Solar Energy Corporation has long been dedicated to the development of the solar energy field in Taiwan. In response to the global net-zero carbon emissions agenda and the urgent demand for green energy from major corporations, ECOVE Solar Energy Corporation officially entered the green energy trading business in 2021. It provides optimal solutions to enterprises, assisting them in achieving carbon neutrality and net-zero emissions goals. As of the end of 2022, ECOVE Solar Energy Corporation has signed six green energy supply contracts and continues to explore other cooperative opportunities.

Total power generation of ECOVE Solar Energy Corporation and its subsidiaries (inclusive of Lumberton) in each year



Note: The CO<sub>2</sub>e reduction coefficients are based on those published by Bureau of Energy, MOEA 0.519 (102), 0.518 (103), 0.525 (104), 0.530 (105), 0.544 (106), 0.533 (107), 0.509 (108), 0.502 (109), 0.509 (110), 0.509 (111) kilograms of CO<sub>2</sub>e per kilowatt-hour (kWh), with a GWP value based on IPCC AR4.

## Reducing Environmental Impact

GRI 302-1; 306-4; SASB IF-WM-110b.1, IF-WM-000.B

### Pollution Reduction

#### Waste collection and transportation

ECOVE Waste Management Corp.'s main pollution comes from the emissions of its waste transportation vehicles. To control related pollution operations, ECOVE Waste Management Corp. has implemented an environmental management system (ISO 14001). Through optimal route planning and the establishment of a paperless dispatch system, ECOVE Waste Management Corp. achieves the effectiveness of reducing pollution and resource consumption. Currently, there are a total of 25 of waste transportation vehicles. Since 2012, ECOVE Waste Management Corp. has been gradually purchasing Euro 5 vehicles. Starting from 2022, the focus is on the Euro 6 vehicles. In the future, evaluations will be conducted for the purchase of clean energy vehicles based on international decarbonization trends and technological developments. By the end of 2022, ECOVE Waste Management Corp. has purchased 17 vehicles for the Euro 5 and 2 vehicles for the Euro 6. It is projected that 3 Euro 6 vehicles will be purchased in 2023. Based on statistics, the fuel consumption of Euro 5 and Euro 6 vehicles operated by ECOVE Waste Management Corp. accounted for 87% of the total fuel consumption in the year. The estimated reduction in black smoke emissions is 35%.

#### Performance of ECOVE Waste Management Corp.'s Eco-friendly Vehicles in Environmental Impact Reduction

Item	2018	2019	2020	2021	2022
Fleet size of waste removal vehicles (number of vehicles)	23	22	23	24	25
Diesel consumption of operating vehicles	194,181	199,692	233,101	283,576	298,391
Diesel Fuel Consumption for Euro 5 Vehicles	90,635	142,595	189,217	242,533	250,372
Diesel Fuel Consumption for Euro 6 Vehicles	0	0	0	0	8,133
Total fuel consumption of all vehicles (billion joules)	7,165	7,369	8,601	10,464	11,011
Proportion of Diesel Fuel Consumption for Euro 5 and 6 Vehicles in the Current Year	47	71	81	86	87
Ratio of reduction in black smoke emissions to annual emissions	19	29	33	35	35

Note 1: According to the emission standards for vehicle air pollutants, the emission standard for black smoke pollution for Euro 5 vehicles is 15% opacity, while for Euro 4 vehicles, it is 25% opacity.

Note 2: Proportion of Diesel Fuel Consumption for Euro 5 and 6 Vehicles in the Current Year (A) =  $\frac{\text{Diesel Fuel Consumption for the Euro 5 and 6 Vehicles}}{\text{Diesel consumption of operating vehicles}} \times 100\%$

Note 3: Black smoke reduction on annual emission =  $\frac{\text{Black smoke effluent standards from Euro 4 vehicles} - \text{Black smoke effluent standards from Euro 5 vehicles}}{\text{Black smoke effluent standards from Euro 4 vehicles}} \times A$



ISO 14001 Certificate for ECOVE Waste Management Corp.'s Environmental Management System.

## Waste incineration

To mitigate the environmental impact caused by air pollutant emissions, ECOVE Environment Service Corp.'s incineration plants have implemented an environmental management system (ISO 14001) and installed a continuous emission monitoring system. The monitoring system tracks seven parameters, including exhaust gas flow rate, oxygen content, sulfur oxides, nitrogen oxides, hydrogen chloride, carbon monoxide, and opacity. It operates 24/7 to ensure continuous monitoring and control. The information from the continuous emission monitoring system is promptly uploaded to the Environmental Protection Administration's website [6](https://swims.epa.gov.tw/Statistics/Statistics_AirMonitor.aspx), enabling real-time access and transparency. The online query service is available for all eight operating large-scale incineration plants. In addition, regular on-site inspections are conducted on a monthly or quarterly basis to assess various parameters including sulfur oxides, nitrogen oxides, hydrogen chloride, carbon monoxide, particulate matter, heavy metals, and dioxins. The Environmental Protection Administration (EPA) imposes air pollution fees specifically for sulfur oxides, nitrogen oxides, volatile organic compounds, particulate matter, heavy metals, and dioxins emitted from fixed pollution sources. However, for the purpose of this report, only the air pollution fees for sulfur oxides, nitrogen oxides, and volatile organic compounds are included, as the emissions of particulate matter, heavy metals, and dioxins are relatively small in comparison. Due to the lower emission concentrations of sulfur oxides and volatile organic pollutants, only the emissions of nitrogen oxides are included in the Key Performance Indicator (KPI) monitoring. In 2022, the nitrogen oxide emission intensity was 0.93 kilograms per metric ton of waste. The target for 2023 is to further reduce the

[6](https://swims.epa.gov.tw/Statistics/Statistics_AirMonitor.aspx) [https://swims.epa.gov.tw/Statistics/Statistics\\_AirMonitor.aspx](https://swims.epa.gov.tw/Statistics/Statistics_AirMonitor.aspx)

### Pollutant emission intensity (kilograms per metric ton of waste)

Item	2020	2021	2022	Goals for 2023
Nitrogen oxides	1.02	0.96	0.93	0.92
Sulfur oxides	0.07	0.06	0.07	-
Volatile Organic Compounds (VOCs)	0.01	0.02	0.02	-

Note: The emissions of nitrogen oxides, sulfur oxides, and volatile organic compounds (VOCs) are calculated based on the reported emission quantities for air pollution fees from each facility.



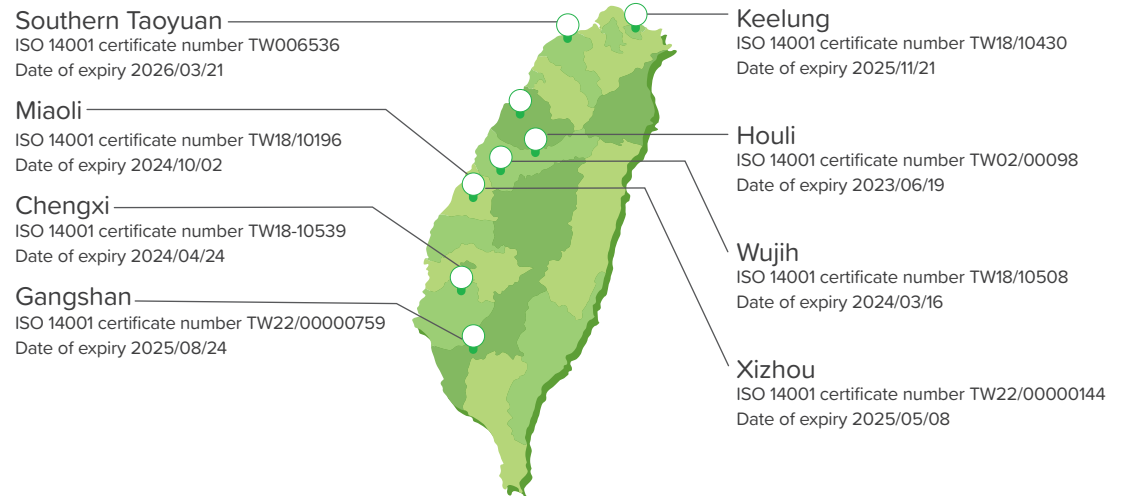
Introduction of Environmental Management System (ISO 14001) in ECOVE Environment Service Corp. Operation Management's Incineration Plants (Using Keelung Plant and Xizhou Plant as examples)

emission intensity to 0.92 kilograms per metric ton of waste.

With ECOVE Environment Service Corp.'s expertise, waste is highly utilized, and comprehensive control measures are implemented to manage emissions of various pollutants. In 2022, the unit urea (or ammonia) consumption in the eight existing large-scale incineration plants has increased compared to the past four years. This is primarily in response to the Environmental Protection Administration's (EPA) air pollution reduction targets for the year 2024. To achieve the goal of reducing nitrogen oxide (NOx) emissions, measures such as increasing the unit urea (or ammonia) consumption (used in selective non-catalytic reduction systems, SNCR) or optimizing the efficiency of the SNCR system are adopted. ECOVE Environment Service Corp. is committed to continuously improving the air pollution control system. This includes updating the SNCR system, improving urea injection locations, and enhancing atomization effects to achieve both air pollution reduction and a decrease in urea (or ammonia) usage. In 2022, the unit lime consumption for waste treatment slightly decreased compared to 2021. Slacked lime is used to enhance the mixing process of waste, stabilize the characteristics of waste, and increase its calorific value. ECOVE Environment Service Corp. is continuously exploring ways to improve the efficiency of acid removal agents or adjust process parameters to enhance the efficiency of chemical usage. The aim is to reduce the consumption of chemicals per ton of waste treated.

### Amount of chemicals and slaked lime used at the incineration plants

Item	Purpose	Unit	2019	2020	2021	2022
Urea	To reduce nitrogen oxide (NOx) emissions - Implements a Selective Non-Catalytic Reduction (SNCR) system.	Total amount (metric tons)	2,897	3,319	3,568	4,056
		Average amount used per one ton of waste treated (kg)	1.50	1.75	1.76	1.96
Slaked lime	Enhancing waste blending operations - To stabilize the characteristics and increase the heating value of the waste.	Total amount (metric tons)	25,222	26,075	28,266	27,030
		Average amount used per one ton of waste treated (kg)	13.0	13.8	14.0	13.1



## Energy and Resource Conservation

### Operational Headquarters

The primary sources of carbon emissions at ECOVE's operational headquarters are fuel consumption from the Company vehicles and electricity usage in the office. We have set 2022 as the base year and have planned to achieve net-zero carbon emissions at our operational headquarters by 2030. Our short-term goal is to reduce Scope 1 and Scope 2 carbon emissions by 20% by 2024, while our mid-term goal is to achieve a 40% reduction by 2026. In August 2021, ECOVE relocated to the second headquarters of its parent company, CTCL. The office building is a smart, diamond-rated green building. In 2022, the total electricity consumption at the headquarters was 241,700 kilowatt-hours. Through energy-saving campaigns, adjusting the temperature of the server room air conditioning, reducing lighting in inefficiently lit areas, and optimizing smart energy-saving schedules, the electricity consumption decreased significantly by 25% compared to the period after moving in 2021 (August to December). The Energy Use Intensity (EUI) at the headquarters in 2022 was 99.17 kWh per square meter, with an emission intensity of 1.21 metric tons of CO<sub>2</sub>e per person.

Currently, ECOVE has fully adopted hybrid vehicles for its fleet of official cars and plans to gradually replace them with electric vehicles to reduce carbon emissions and pollution. Additionally, ECOVE has a plan to start purchasing 20% green electricity by 2024 and increase it to 40% by 2026. By the year 2030, the entire operational headquarters will be powered by green electricity. In addition, ECOVE also responds to the government's green office initiatives by implementing five major indicators and 35 measures, including energy resource conservation, waste reduction at the source, green procurement, environmental greening, and advocacy and promotion. ECOVE has adopted 30 of these measures, demonstrating its commitment to making a positive impact on the environment.

### Waste collection and transportation

ECOVE Waste Management Corp. waste management's average fuel consumption was 167.3 kiloliters

per 500,000 kilometer. The carbon dioxide emission intensity (Scope 1 and Scope 2 total carbon emissions) amounts to 454.898 metric tons of CO<sub>2</sub>e. To address fuel consumption and carbon emissions from waste transportation vehicles, ECOVE Waste Management Corp. has developed short, medium, and long-term plans based on the reference year of 2022. The organization aims to reduce emission intensity by 15% by 2026, 30% by 2030, and achieve net-zero emissions by 2050. In the short term, ECOVE Waste Management Corp. plans to actively update its waste transportation vehicles to the latest environmentally friendly models. Garbage compression vehicles will be gradually replaced with hybrid or electric-powered vehicles, which can reduce fuel consumption by over 30% per vehicle.

### Waste incineration

ECOVE actively introduces the green technologies of the Group to continuously improve energy efficiency and resource conservation in its operational incineration plants. In 2022, a total of 15 energy/resource-saving initiatives were implemented, including the replacement of energy-efficient lighting fixtures for internal lighting, retrofitting energy-efficient lighting fixtures during annual maintenance, installation of variable frequency drives for large fans, replacement of air condenser fans with FRP materials, upgrading of air compressors, and improvement of furnace beds, among others. Through the aforementioned energy-saving measures, a total reduction of approximately 4,610 metric tons of carbon dioxide equivalent was achieved in 2022. This reduction includes a decrease in electricity consumption by 6,853,000 kilowatt-hours, an increase in power generation by 2,125,000 kilowatt-hours, a decrease in diesel consumption by 10 kiloliters, and a reduction in water usage by 9,384 metric tons. At the Ganshan plant, the improvement of the furnace bed has effectively addressed the long-standing issue of sinter accumulation. Each furnace can potentially save up to 2.2 metric tons of high-pressure steam consumption per hour. This improvement results in an annual carbon reduction of 540 metric tons of CO<sub>2</sub>e and a water saving of 53,000 metric tons. At the Xizhou plant, energy-efficient amorphous transformers have been selected, resulting in a significant 60% reduction in transformer energy consumption. This improvement project has received recognition from the Changhua County Government for its contribution to green procurement practices.

#### 2022 Energy Saving Implementation Plan



Number of Projects

**15** Items



Electricity savings (kWh)

There are a total of **11** initiatives, resulting in an annual electricity savings of **6,852,000** kilowatt-hours (kWh).



Increase in power generation (kWh)

The increase in power generation is **2,125,000** kilowatt-hours (kWh) per year for the 4 identified measures.



Fuel Savings (kL)

The water saving is **9,384** metric tons (MT) per year for the **2** identified measures.



Water conservation (metric tons)

The reduction in diesel fuel consumption is **10** kiloliters (kL) per year for the identified measure.

### Recycling and reuse

ECOVE Solvent Recycling Corp. has implemented an environmental management system (ISO 14001) and continuously introduces green technologies. In 2022, the company upgraded the capacity of the feed heat exchanger, resulting in an annual saving of 8,780 natural gas units. Additionally, variable frequency drives were installed for the exhaust fan, leading to an annual electricity savings of approximately 11,000 kilowatt-hours (kWh). In 2023, ECOVE Solvent Recycling Corp. will proceed with the update of the air compressors and cooling water towers. ECOVE Solvent Recycling Corp.'s carbon emissions will be measured against the base year of 2022. The carbon intensity of its recycled products is 0.593 kgCO<sub>2</sub>e/kg. The company aims to reduce its emission intensity by 15% in 2026, 30% in 2030, and achieve net-zero emissions by 2050. Currently, ECOVE Solvent Recycling Corp.'s renewable energy usage rate is approximately 6%. In the short term, the Company will continue to focus on process improvements to reduce carbon emission intensity while achieving energy and resource savings.



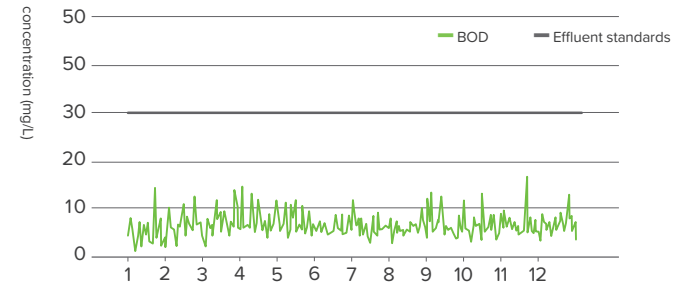
ECOVE Solvent Recycling Corp. implements an environmental management system to control environmental impacts.



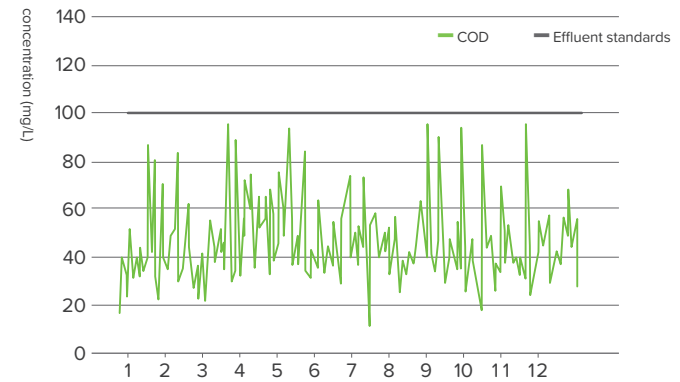
Water quality analysis

Wastewater treatment/recycled water plant laboratory provides accurate unit conditions and water quality data, but it requires a longer analysis time. To ensure real-time monitoring of the discharged water quality, the plant is equipped with an automatic continuous monitoring system. This system utilizes automated analyzers to provide rapid but less precise water quality data, enabling operational units to quickly respond and adapt to the trends in discharged water quality. It also serves as a reference for regulatory authorities and the general public. Through water quality analysis, automatic continuous monitoring, and other measures, the effluent from the Linkou Water Resources Center met and was lower than the statutory effluent standards in 2022, achieving the goal of environmental protection.

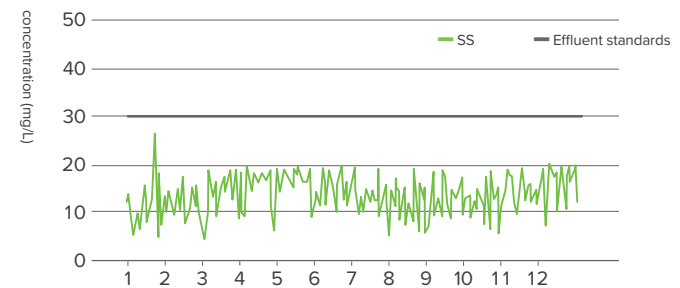
### Trend chart of BOD in effluent for 2022



### Trend chart of COD in effluent for 2022



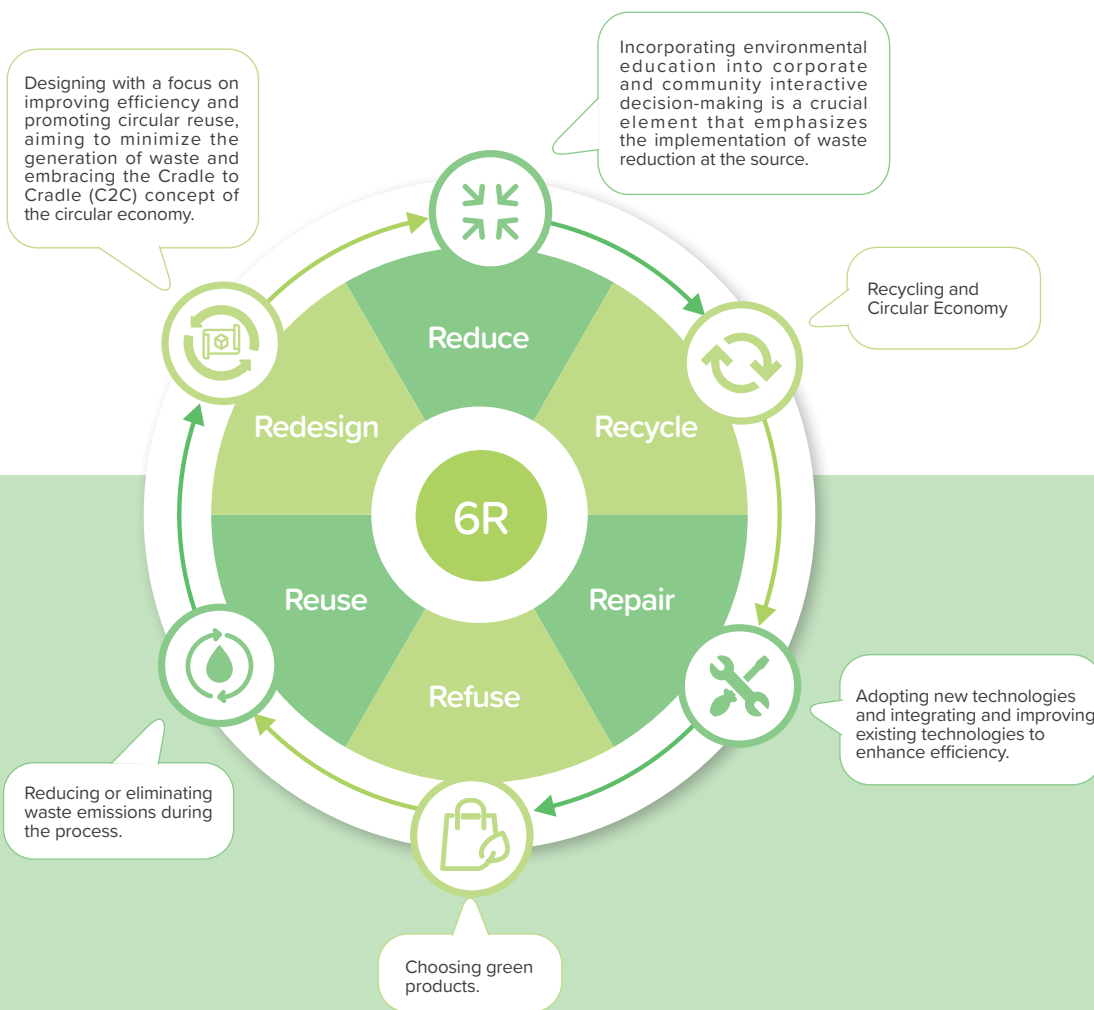
### Trend chart of SS in effluent for 2022





## Wastewater and Waste Management

ECOVE actively aligns with government sustainable development policies and considers global issues such as the transformation and sustainable utilization of Earth's energy resources and greenhouse gas emissions. We proactively promote and implement the concept and actions of the 6Rs (Reduce, Reuse, Recycle, Recover, Replace, and Respect) in environmental conservation, aiming to establish effective waste management practices.



## 6R Concept

- Utilizing the environmental education facilities at our five incineration plants, we organize educational activities on resource management and environmental sustainability in the local communities. Through interactive engagement with community members, we aim to promote the concept of resource utilization and waste reduction at the source, ensuring that future generations have access to viable resources and a sustainable environment.
- We have established a paperless office operation platform, which includes various systems and tools such as the ECOVE official website with an electronic bulletin system, the MHI work hour management system, the PRS procurement and order management system, the operational information management system, the WebSMS webpage messaging system, the electronic inspection system, and the DHL electronic handover book.
- We strive to transmit information in electronic format as much as possible to reduce paper usage, for example, reservation systems for meeting rooms and company vehicles, and electronic copies of monthly reports from various plants (plants were originally required to submit hard copy reports to the plant affairs department on a monthly basis. However, soft copies are now used to save costs in photocopying and mailing, as well as storage space), and promote the recycling of old printouts.
- After equipment maintenance and repair, the residual materials such as iron, galvanized iron, lubricants, etc. are classified and gathered, stored in appropriate containers, and managed by zones before being entrusted to the subsequent recycling units for disposal to achieve recycling of waste.
- Promote green procurement by selecting products with environmentally friendly labels, such as carbon cartridges, energy-saving equipment, and energy-saving goods.
- Continue to utilize the MMIS (Maintenance Management Information System) for effective maintenance information management, allowing us to monitor equipment life cycles and promptly replace critical components, thus extending the lifespan of the equipment.
- The Project Department is primarily responsible for conducting comprehensive assessments of incineration plant improvements, enhancing efficiency across various facilities, and exploring options for plant life extension to improve energy efficiency.



ECOVE actively promotes green office practices and environmental education focusing on source reduction through ESG Moments.

## Operational Headquarters

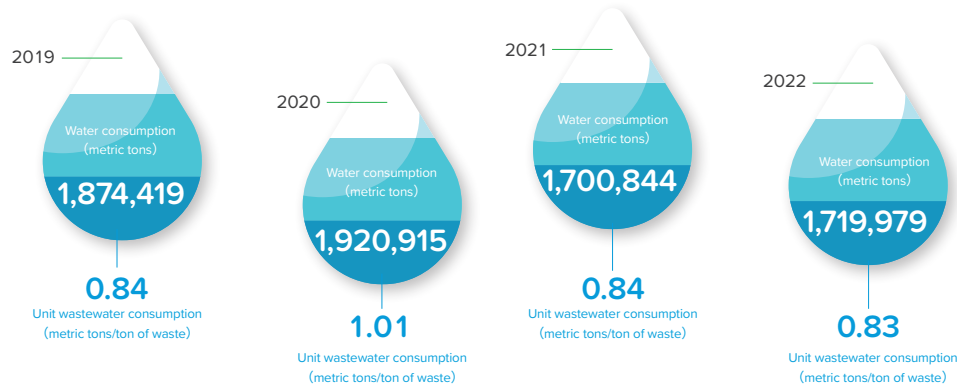
ECOVE's headquarters building relies 100% on tap water as its water source and does not draw water from any other bodies of water. All wastewater is discharged into the sewage system. In addition to extensively using automatic sensor faucets to reduce water consumption, ECOVE also controls the water flow and timing to conserve water. They have also created various water-saving slogans to remind employees to save water at all times. Rainwater harvesting systems have been installed on the rooftop of the building and at construction sites to collect rainwater for irrigation of plants or for use during construction activities. The total water consumption in 2022 was 1,381.6 cubic meters. The water intensity, or water consumption per person, in 2022 was 13.545 cubic meters.

The general waste generated by the headquarters building in 2022 was 3.3 metric tons and it was treated through incineration. Paper, metal, plastic, and kitchen waste are all recycled at the headquarters building. In response to the significant increase in lunchtime meal waste, a separate recycling management system is implemented for paper and plastic food containers during the lunchtime period.

## Waste incineration

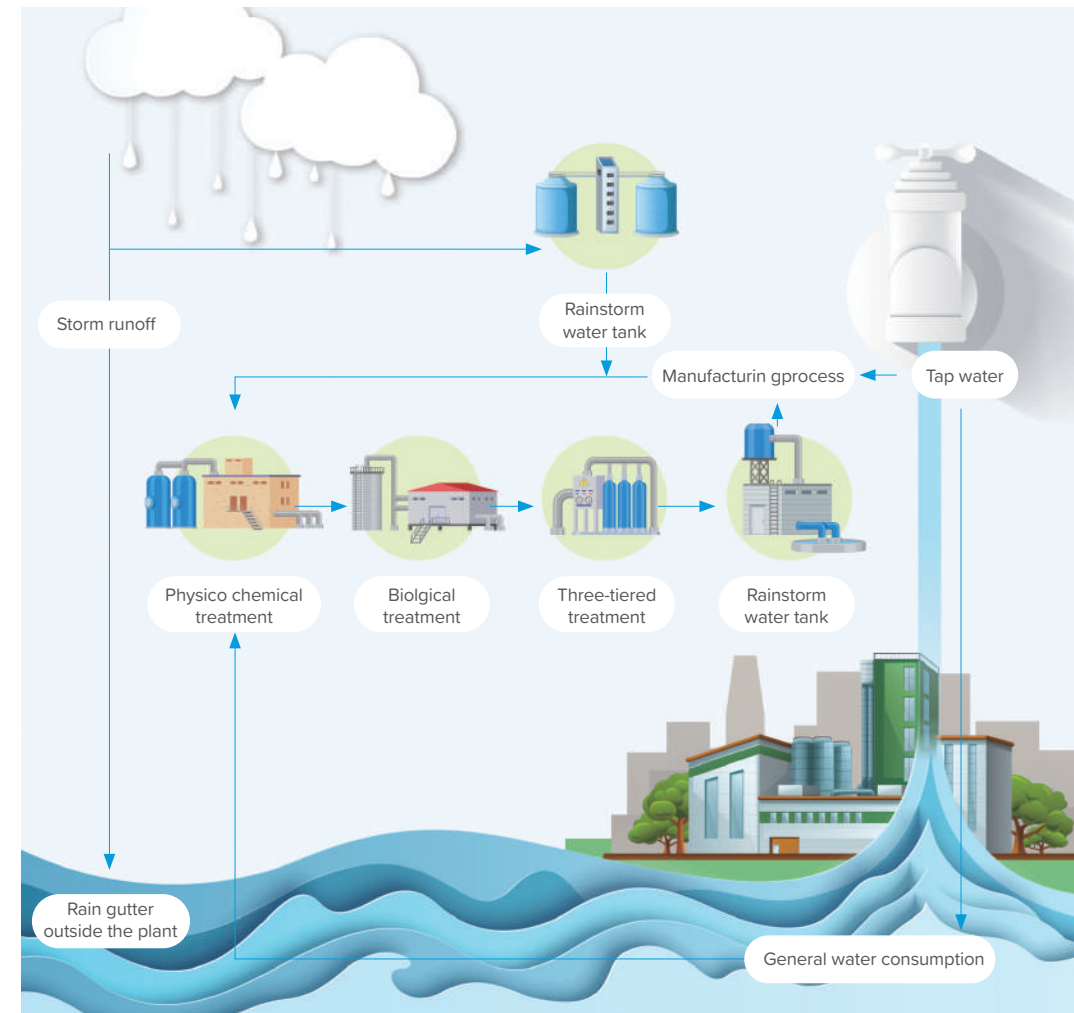
All 8 large-scale waste incineration plants operated by ECOVE Environment Service Corp., a subsidiary of ECOVE, source 100% of their water from the municipal water supply. This water is primarily used for the production of boiler feedwater or the generation of soft water for process purposes. During the incineration process, various types of wastewaters, including process wastewater, vehicle washing wastewater, and employee domestic wastewater, are collected and treated in the on-site wastewater treatment system to meet design standards. After treatment, the water is introduced into an internal recycling system, such as for waste gas cooling, to achieve a goal of "zero wastewater discharge" through 100% recycling and reuse.

## Total water consumption in each plant



Note: The tap water supply for the facilities comes from Keelung, Southern Taoyuan, Miaoli, Houli, Wujih, Xizhou, Tainan, and Gangshan plants. Calculation based on Taiwan Water Corporation's water bill data.

Starting from 2022, Southern Taoyuan Plant has implemented a pilot project for fly ash washing service. The water source for cleaning is tap water, and each ton of fly ash requires 3 tons of water. After treatment, the wastewater meets the discharge standards of the Zhongli Industrial Zone and is discharged into the industrial zone's sewer system.



In 2022, ECOVE Environment Service Corp. managed 8 large-scale waste incineration plants in Taiwan. The bottom ash generated from these plants amounted to 276,210.48 metric tons, with an average of 133.46 kilograms of bottom ash generated per metric ton of waste processed. The fly ash (including reaction products) generated was 64,064.47 metric tons, with an average of 30.95 kilograms of fly ash generated per metric ton of waste processed. The bottom ash underwent sampling and testing to ensure compliance with the regulations for bottom ash reuse management. It was then transported to the bottom ash reuse facility for further utilization. The fly ash, after stabilization treatment, was either packaged and bagged or sent for water washing before being reused. The stabilized material also underwent sampling and testing before being sent to an approved sanitary landfill for disposal. During the landfill process, there was no methane emission from waste burial. In 2022, a total of 3,618.7 metric tons of water-washed fly ash were sent for reuse, further advancing towards the goal of zero waste management.

All large-scale waste incineration plants in Taiwan <sup>7</sup> currently do not accept hazardous industrial waste. The bottom ash and fly ash stabilization materials are classified as general industrial waste according to the hazardous waste determination criteria. Each plant is required to undergo regular testing to ensure compliance with the standards before the final landfill disposal can take place, as stipulated by laws and contracts. The approved landfill sites for waste disposal also need to have impermeable layers to isolate natural water bodies, as well as independent wastewater collection and treatment systems. There is currently no need for improvement due to substances released from landfilling.

Bottom ash and fly ash generation volume from incinerators

Item	Unit	2019	2020	2021	2022
Bottom ash	Total amount generated (metric tons)	276,683	262,244	269,371	276,210.48
	Average amount produced per one ton of waste treated (kg)	142.96	138.40	133.12	133.46
Fly ash	Total amount generated (metric tons)	65,183	69,364	62,897	64,064.47
	Average amount generated per one ton of waste treated (kg)	33.68	36.61	31.08	30.95

<sup>7</sup> A waste incineration plant that has a designed daily processing capacity of over 300 metric tons and is owned, managed, or supervised by the municipal or county (city) competent authority or executing agency.

Recycling and reuse

ECOVE Solvent Recycling Corp.'s operational water is primarily used for cooling systems, and the water source is 100% from the public water supply. Therefore, there are no significant impacts on water sources. The waste solvent generated after distillation is directed to the in-house wastewater treatment facility for treatment. Through processes such as adjustment, neutralization, aeration, and sedimentation, the wastewater can meet the standards for industrial wastewater discharge in the industrial zone. 100% of the treated wastewater is discharged to the industrial zone's wastewater treatment plant.

Total water consumption of ECOVE Solvent Recycling Corp.

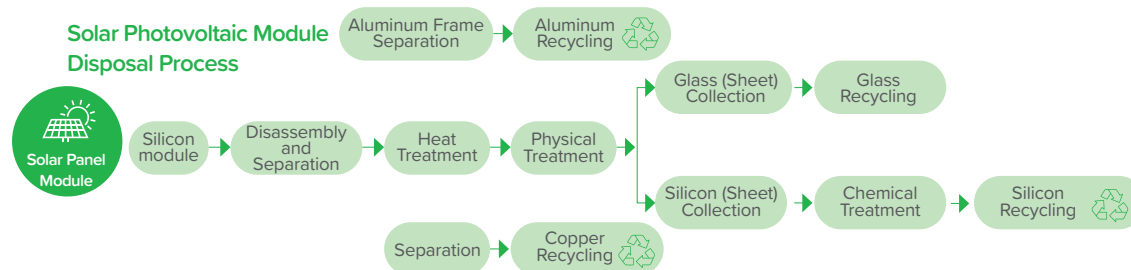


Solar power

Solar Power Plant Waste

In the case of solar panels, they mainly consist of modules, brackets, inverters, junction boxes, cables, and other electrical equipment. The modules are primarily composed of 74.2% glass, 10.3% aluminum frames, and 4% cells. Their waste should be handled in accordance with the recycling and disposal regulations set by the Bureau of Energy, MOEA. Recycling operators collect and process the materials through dismantling, sorting, treatment, and recycling. The sorted materials are then reused in various industries. The materials used for module brackets are mostly aluminum alloys and steel. Aluminum profiles have minimal consumption during use and can be 100% recycled as long as they are not corroded.

According to the "Regulations on the Installation and Management of Renewable Energy Power Generation Equipment," Article 17 states that solar panel installers are required to pay a certain amount as module recycling fees. These fees are collected by the Environmental Protection Administration (EPA) to establish a module recycling mechanism for proper management of retired photovoltaic modules. ECOVE Solar Energy Corporation also complies with the relevant regulations regarding the disposal of retired photovoltaic modules. The current disposal method involves centralized storage of retired solar panels and registering their serial numbers for module material tracking. When the recycling quantity specified by the EPA is reached, authorized waste solar panel transportation companies are commissioned to handle the disposal according to EPA requirements.



## Participation in Public Infrastructure

GRI 203-1

ECOVE Environment Service Corp. is a major player in waste management throughout Taiwan. In addition to maintaining excellent waste treatment performance, our operated waste incineration plants also contribute to energy conservation and carbon reduction efforts by selling the electricity generated during the incineration process back to Taipower Company. This demonstrates our commitment to

sustainable practices and reducing environmental impact. In addition to the field of waste incineration, ECOVE Environment Service Corp. also leverages its core technologies to provide maintenance services for various public facilities, including public transportation systems, aviation transportation systems, water resources, and wastewater treatment. By doing so, we aim to enhance the overall quality of life for the general public and contribute to the betterment of society.

### 2022 Public Service Projects



#### Incinerator and Waste Treatment

- Keelung City EfW Plant
- Taoyuan City Biomass Center build-operate-transfer (BOT) project
- Taoyuan County Southern District BOO EfW Plant
- Operation and Maintenance of Waste Cleaning Facilities at Taoyuan International Airport, 2021-2023
- Renovation of Continuous Automatic Monitoring Facilities for Incinerators at Taoyuan International Airport
- Miaoli County BOT EfW Plant
- Improvement of Selective Non-Catalytic Reduction (SNCR) System at Miaoli County BOT Waste EfW Plant
- Taichung City Wujih BOT Waste Resource Recycling Plant
- Improvement of Selective Non-Catalytic Reduction (SNCR) Equipment at Taichung City Wujih BOT Waste Resource Recycling Plant
- Taichung City Houli EfW Plant
- Changhua County Xizhou Waste EfW Plant
- Tainan City Chengxi EfW Plant
- Kaohsiung Gangshan Plant Build-Operate-Transfer (BOT) EfW Project
- Commissioned Operation and Management Plan for the Tainan Resource Recycling Center in the Southern Science Park, National Science and Technology Commission
- Equipment Upgrade and Function Enhancement for the Tainan Resource Recycling Center in the Southern Science Park, National Science and Technology Commission
- Kaohsiung City Central District Resource Recycling Plant Incinerator Equipment Annual Maintenance and Improvement Technical Services
- Procurement Project for Enhancing Operational Efficiency by Acquiring Related Equipment and Accessories for the Kaohsiung City Central District Resource Recycling Plant
- Professional Services for Equipment Maintenance and Garbage Crane Operation at the Kaohsiung City South District Resource Recycling Plant
- Professional Services for Equipment Maintenance and Garbage Crane Operation at the Kaohsiung City South District Resource Recycling plant.



#### Public Transportation

- Maintenance and Service for Water, Electricity, Fire Protection, and Air Conditioning Systems of the Tamsui Light Rail
- Maintenance and Service for Flood Control Gates at Taoyuan Metro Stations
- Equipment maintenance for Kaohsiung MRT utilities, environmental control, and power supply at red and orange lines
- Installation and Maintenance of Self-Service Baggage Drop and Check-In Counters with Conveyor Belts at Terminal 1 of Taoyuan International Airport



#### Water Resources and Wastewater Management

- Operations and maintenance agreement for New Taipei City Linkou Water Resource Center
- Turnkey Project for Sludge Drying at Linkou Water Resource Recycling Center in New Taipei City
- Expansion Project for Linkou Water Resource Recycling Center Phase 2 in New Taipei City
- Operation and Maintenance of New Taipei City Gravel Contact Oxidation Treatment and Water Resource Center for 2022-2024
- Equipment Lifespan Extension and Energy Efficiency Improvement Project at Kaohsiung Central Wastewater Treatment Plant
- Operation and Maintenance of Water Supply Facilities, Water Treatment Plants, and Power Center at Pingtung Agricultural Biotechnology Park, under the Council of Agriculture, Executive Yuan
- Operation and Maintenance Management of Yamugang SBR, Jinshan Gravel Facility, and Wa-Yao Gravel Facility in New Taipei City for the years 2022-2024
- Construction, Transfer, and Operation of Taoyuan North Water Resource Recycling Center for Reclaimed Water



#### Others

- Outsourced operations of Zhonggang Fumigation Treatment Plant from Taichung Branch of Bureau of Animal and Plant Health Inspection and Quarantine, Council of Agriculture, Executive Yuan
- Outsourced operations of Kaohsiung Port Health Inspection Center from Kaohsiung Branch of Bureau of Animal and Plant Health Inspection and Quarantine, Council of Agriculture, Executive Yuan
- Air conditioning system operations and maintenance for Kaohsiung Veterans General Hospital
- Purchase and maintenance, management, and operations of mobile environmentally-friendly joss paper burner in Tainan City

Note: Please refer to the chapter on "Environmental Sustainability and Renewable Energy" for detailed information on solar power.



## Most Reliable

ECOVE has been consistently recognized by the Environmental Protection Administration for its outstanding performance in environmental protection. Achieved remarkable results in compliance audits, evaluations, and has received the National Corporate Environmental Award.



According to the results of the "2021 Evaluation of Waste Incineration Plants" conducted by the Environmental Protection Administration, ECOVE, received the "Special Excellence Award" for its operation of Keelung Plant and Miaoli Plant. The Wujih Plant received the "Excellent Award," while Taoyuan Plant, Houli Plant, and Xizhou Plant were awarded the "Special Award." In addition to the aforementioned awards, Keelung Plant, Miaoli Plant, Houli Plant, Tainan Plant, and ECOVE Solvent Recycling Corp. also received the prestigious National Corporate Environmental Award, achieving the Bronze Level recognition.

The Keelung Plant has implemented innovative measures such as using platform garbage inspection CCTV to avoid the risk of personnel falling from large vehicles. It has also actively participated in the cross-regional cooperation project initiated by the Environmental Protection Administration, providing assistance in handling household waste from Lien Jiang County and Taoyuan City in 2021. The plant has made significant achievements in environmental education, community engagement, and other areas, earning positive recognition from the evaluation committee. It has been awarded the "Special Excellence" rating in the incineration plant assessment for four consecutive years. Recognized with the National Corporate Environmental Award for five consecutive years, acknowledging its outstanding environmental performance.

The Miaoli Plant actively responds to various national environmental policies and assists in handling waste from other counties and cities, thereby reducing the domestic waste treatment burden and improving the efficiency of waste incineration. As a result, there has been a significant reduction in the emission of air pollutants such as sulfur oxides and nitrogen oxides, and the electricity consumption has been decreasing year by year. In 2021, the Miaoli Plant successfully obtained the Carbon Footprint Reduction Label, with a carbon emission reduction of 50 kilograms per ton of waste incineration. This resulted in an annual reduction of over 9,000 metric tons of carbon emissions, showcasing its significant carbon reduction achievements. The plant's efforts were recognized with the special distinction of the Waste Incineration Plant Assessment and Evaluation. Recognized with the National Corporate Environmental Award for four consecutive years, acknowledging its outstanding environmental performance.

The Wujih Plant has achieved the first place in the country among 900-ton class waste-to-energy facilities nationwide in terms of power generation, electricity sales, and waste-to-energy generation per ton of incinerated waste. This achievement is the result of equipment improvements implemented at the plant. Additionally, the plant has developed a vehicle reservation management system, enhanced the efficiency of waste collection operations and reduced waiting times for waste collection vehicles. These accomplishments have earned the Wujih Plant the accolade of "Excellent Award" in the incineration plant assessment and evaluation.

The Southern Taoyuan Plant has been in operation for over 20 years and has consistently achieved outstanding performance indicators in terms of input volume, processing volume, power generation, and

electricity sales, ranking first among waste incineration plants nationwide. The Southern Taoyuan Plant has implemented a voluntary emission reduction plan for air pollutants, with short, medium, and long-term goals. As of the year 2021, the plant has achieved its mid-term target, reducing NOx emissions concentration by approximately 15%. In the year 2021, the Southern Taoyuan Plant received the Special Award in the incineration plant audit and evaluation.

The Houli Plant has planned for regular maintenance operations to ensure high processing capacity. It has also been gradually adopting advanced technologies to replace old equipment and improve efficiency. In the year 2021, the plant underwent an SNCR system upgrade project, resulting in a reduction of approximately 20% in NOx emissions concentration. This effort has been highly effective in reducing pollution and achieving significant emission reductions. In addition to receiving the Special Award in 2021 Incineration Plant Evaluation and Audit, the Houli Plant has also been recognized for its outstanding environmental performance with the National Enterprise Environmental Award for two consecutive years.

Since June 2021, the Xizhou Plant has been operated and managed by ECOVE, officially taking over its operations. It has successfully obtained certifications for international standards such as ISO 45001, ISO 90001, and ISO 14001. Its quality management and environmental management have received recognition from external parties, making it a professional incineration plant with a comprehensive system management approach. In the year 2021, the Southern Taoyuan Plant received the Special Award in the incineration plant audit and evaluation.

The Tainan Chengxi Plant has successfully implemented equipment upgrade and improvement projects. It has installed Selective Non-Catalytic Reduction (SNCR) systems, which are air pollution control devices, to reduce nitrogen oxide emissions to below 80 ppm. The plant has also replaced air condensers and other equipment to increase power generation while reducing water consumption. It has demonstrated outstanding efficiency in water conservation, energy saving, and electricity reduction. Additionally, the plant has been recognized with the National Corporate Environmental Award for two consecutive years.

ECOVE Solvent Recycling Corp. is actively promoting the recycling and reuse of waste isopropyl alcohol (W-IPA). It employs a process to dehydrate and concentrate waste IPA to industrial grade for reintroduction into the supply chain, replacing traditional incineration methods. This initiative not only reduces the consumption of raw materials needed for the production of virgin isopropyl alcohol but also creates value through green technology. The Company is committed to continuously improving energy efficiency and reducing carbon emissions by implementing measures such as replacing variable frequency motors and installing temperature control systems for cooling water towers. In 2022, ECOVE Solvent Recycling Corp. honored to receive the National Corporate Environment Protection Award for the first time.





# Social Co-Prosperity

We are committed to investing resources in each year toward long-term advocacy for a friendly workplace, a safety and healthy work environment, and to carry out environmental protection education, so that ECOVE's values are not limited to industry net worth.

78

Talent Caring

88

Safe and Healthy  
Workplace

102

Social  
Participation

111

Most Reliable

## Performance Highlights

### Excellent Units in Occupational Safety and Health

(Keelung Plant, Tainan Plant) as recognized by the Ministry of Labor.

### Occupational Safety and Health Unit - Southern

Taiwan Science Park, promoted by the Ministry of Science and Technology.

### Excellence Award - Tainan City Government's 2022

Occupational Safety and Health Family Performance Evaluation - Excellence Award

### Outstanding Engineering Award - Outstanding

Young Engineer Award by the Chinese Institute of Environmental Engineering

# Talent Caring

ECOVE is committed to creating a happy and friendly workplace for its employees. Through talent development and training, we combine the Company's goals with individual career planning, enabling employees to grow and thrive together with ECOVE. Together, we strive towards a sustainable and bright future.

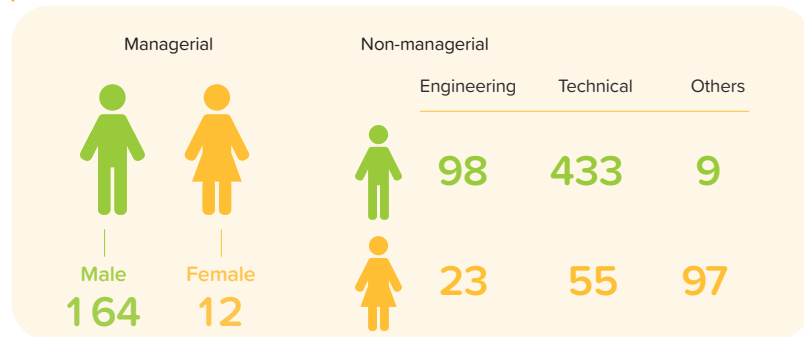
GRI 2-7~8、2-21、401-1、402-1、404-3、405-1~2

## Talent Composition and Remuneration

### Employee Composition and Distribution

ECOVE is dedicated to the field of circular economy and actively focuses on the recruitment and development of professionals in this area. In 2022, ECOVE had a total of 891 employees (excluding overseas employees and directors). Additionally, there were 138 non-employee workers who were contracted for long-term tasks such as facility maintenance, cleaning, solidification packaging, and greening. Among these workers, there were 112 males and 26 females. Due to the nature of the business and industry, there is a higher representation of male employees, accounting for 79.0% of the workforce. In terms of employment categories, the majority of employees at ECOVE are full-time staff, accounting for 98.3% of the workforce. ECOVE has only employed one foreign graduate in Taiwan, while the rest of the employees are local talents. This demonstrates ECOVE's commitment to providing employment opportunities and contributing to the local workforce in Taiwan.

### Number of male and female employees in managerial and non-managerial positions in 2022



Managerial roles: supervisors with ranks above foreman.

Non-managerial roles: Engineering - personnel who are engineers; Technical - on-site operation technicians; Others - such as financial, accounting, legal, auditing, human resources, administrative and clerical personnel.

### Statistics on number of employees and gender

Year		2019		2020		2021		2022	
Gender									
Employment type									
Full-time employees	Nurnber of employees	588	129	653	148	707	166	693	183
	Percentage fo total empolyes (%)	72.1	15.8	79.6	18.0	79.3	18.6	77.8	20.5
Part-time employees	Nurnber of employees	78	20	14	6	12	6	11	4
	Percentage fo total empolyes (%)	9.6	2.5	1.7	0.7	1.3	0.7	1.2	0.5
Total	Nurnber of employees	815		821		891		891	
	Percentage fo total empolyes (%)	100.0		100.0		100.0		100.0	

\*: Part-time employees refer to contract or outsourced workers.

\*: All employees in our company are full-time employees.

Year		2019		2020		2021		2022	
Age									
Gender									
30 years (incl.) and below	Nurnber of employees	79	21	65	21	62	20	80	29
	Percentage fo total empolyes (%)	10	3	7.9	2.6	7.0	2.2	9.0	3.3
31 - 50 years old	Nurnber of employees	443	116	450	116	472	128	456	132
	Percentage fo total empolyes (%)	54	14	54.8	14.1	53.0	14.4	51.2	14.8
51 years (incl.) and above	Nurnber of employees	144	12	152	17	185	24	168	26
	Percentage fo total empolyes (%)	18	1	18.5	2.1	20.8	2.7	18.9	2.9

## New Employees and Turnover

In 2022, there were 181 new recruits, accounting for 20.3% of the total workforce. The majority of the new hires were male, constituting 75% of the new recruits. In terms of age distribution of the new employees, most are aged between 31 to 50. In terms of employee attrition, there were 64 departures, accounting

for 7.1% of the total workforce. This aligns with the target range set in 2019 of 5-8% attrition rate to be achieved by 2025. Additionally, there were 4 colleagues who met the retirement eligibility criteria and chose to retire voluntarily.

### Age distribution and gender ratio of new recruits in the past 4 years.

Year		2019		2020		2021		2022	
Gender									
Age									
30 years (incl.) and below	Number of employees	26	8	25	7	31	9	47	17
	percentage fo total empolyes (%)	3	1	3.0	0.9	3.5	1.0	5.3	1.9
31 - 50 years old	Number of employees	38	17	47	11	79	22	75	28
	percentage fo total empolyes (%)	5	2	5.7	1.3	8.9	2.5	8.4	3.1
51 years (incl.) and above	Number of employees	5	0	8	0	22	2	14	0
	percentage fo total empolyes (%)	1	0	1.0	0	2.5	0.2	1.6	0
Number of new hires		94		98		165		181	
Their proportion in the total employee count (%)		12		11.9		18.5		20.3	

### Age distribution and gender ratio of employee attrition in the past 4 years

Year		2019		2020		2021		2022	
Gender									
Age									
30 years (incl.) and below	Number of employees	18	5	12	1	8	4	9	2
	Percentage fo total empolyes (%)	2	1	1.5	0.1	0.9	0.4	1.0	0.2
31 - 50 years old	Number of employees	32	7	30	7	39	5	33	10
	Percentage fo total empolyes (%)	4	1	3.7	0.9	4.4	0.6	3.7	1.1
51 years (incl.) and above	Number of employees	9	1	5	0	15	0	10	0
	Percentage fo total empolyes (%)	1	0	0.6	0	1.7	0	1.1	0
Number of employee turnover		72		55		71		64	
Percentage of total number of employees (%)		9		6.8		8.0		7.2	

## Promotion and Remuneration

ECOVE provides fair and competitive compensation in order to attract, retain, and motivate talented individuals. Every September, an annual performance evaluation is conducted for all employees who have completed their probationary period. For employees who have not yet completed their probationary period, a performance assessment is conducted after the probationary period ends. Salary adjustments and bonus distributions are based on individual performance, level of responsibility, and future growth potential. The magnitude of salary adjustments and the criteria for bonus distribution are not influenced by employment type, gender, or age differences. Furthermore, ECOVE actively participates in salary surveys to ensure the provision of competitive overall compensation packages. In terms of career development, the Company provides employees opportunities for cross-departmental competencies and learning development and consults employees on their willingness before internal rotations are conducted. In the event that there is a need to transfer employees due to business needs or employees voluntarily seek for a transfer, both parties will spend time together to negotiate and discuss so that sufficient preparations and adjustments for business arrangements and employee preparations can both

	2022 (Monthly salary ratio)	2022 (Annual salary ratio)
Managerial	1.111	1.113
Engineering	0.849	0.798
Non-managerial Technical	0.809	0.702
Others	0.782	0.846

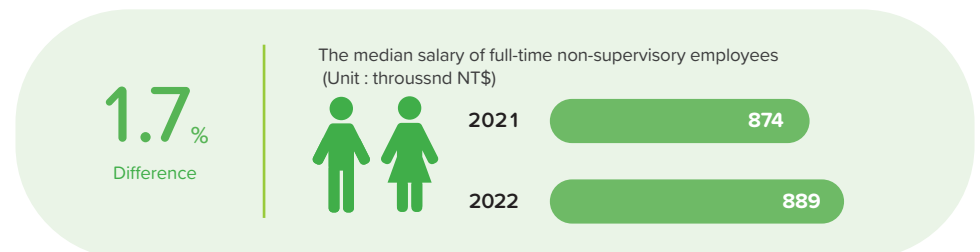
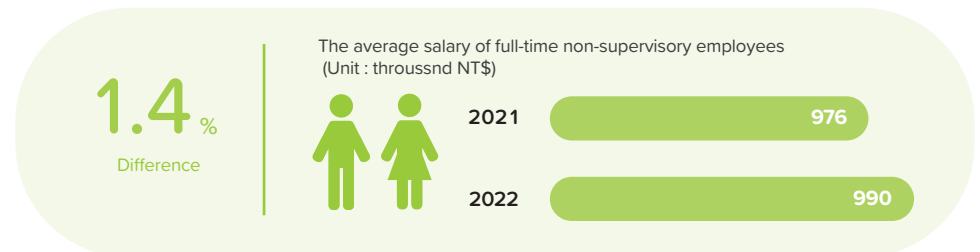
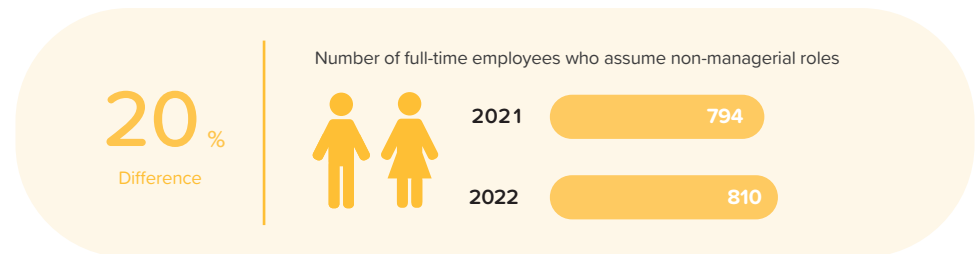
Note:

1. Base salaries are the same for both females and males for all positions. The differences between compensations between each ranks are related to individual seniority. No difference is found between the standards of base salaries and compensations for the same ranks and seniority.
2. The compensation includes base salary, allowances, bonuses, benefits, overtime pay, compensatory time off, and any other subsidies. The scope of the statistics does not include compensation for dispatched personnel.
3. Managerial roles: supervisors with ranks of Head of Team or above.
4. Non-managerial roles: Engineering - personnel who are engineers; Technical - on-site operation technicians; Others - such as financial, accounting, legal, auditing, human resources, administrative and clerical personnel.
5. Due to safety consideration, female workers do not participate in shifts; therefore, no nighttime duty-related incentives were distributed as a part of their compensations.
6. Selection criteria for the monthly salary and annual salary ratio based on the number of individuals: Employees who were employed throughout the period from January 1, 2022, to December 31, 2022.

be achieved. Should there be significant operational changes, employees would be notified in advance within the time limit prescribed by law and regulations. All of the above efforts are made in pursuit of deploying the right people in the right places.

In 2022, the highest individual annual income at ECOVE was 9.74 times the median annual income of other employees, compared to 9.32 times in the previous year. Additionally, while the highest individual income increased compared to 2021, there were also adjustments in the compensation of other employees. Therefore, the percentage increase for the highest individual income compared to the median percentage increase of other employees is 3.72 times.

Non-managerial



Note: The salary data for full-time non-supervisory employees published in ECOVE's 2021 sustainability report is incorrect.



GRI 2-23 ~ 24、401-2 ~ 3、402-1、406-1、SASB IF-WM-310a.2

## Human Rights Protection and Benefits

ECOVE adheres to the human rights policy established by the CTCI Group, supporting the key principles of the United Nations Global Compact (UNGC), the Universal Declaration of Human Rights, and the UN Framework and Guiding Principles on Business and Human Rights. The Company explicitly prohibits any form of discrimination or exclusion among employees based on factors such as gender, race, religion, political affiliation, sexual orientation, job level, nationality, and age in its code of conduct for ethical behavior. Additionally, ECOVE emphasizes the importance of maintaining a healthy and safe working environment, strictly prohibiting any form of sexual harassment, violence, threats, or intimidation. In 2022, ECOVE employed a total of 13 employees with disabilities, surpassing the required employment ratio set by the regulations in Taiwan. This demonstrates ECOVE's commitment to creating a fair and inclusive employment environment, where individuals with disabilities are given equal opportunities and support.

With respect to sexual harassment, ECOVE has established a Sexual Harassment Grievance Handling Committee and set up a complaint hotline at (02)2162-1688#56112 and dedicated email HR@ecove.com to receive complaints. If there are occurrence or suspected occurrence of sexual harassment incidents, the committee shall activate an investigation procedure to conduct investigations on the basis of the principle of confidentiality and non-disclosure. Investigation reports shall be submitted within three months. If found to be true, punishments will be meted based on the seriousness of the incidents. There are three committee members in the Sexual Harassment Complaint Handling Committee. The department head of Group Shared Services (GSS) serves as the commissioner while other members are selected from among employees by the head of each department in consultation with the highest supervisor of the GSS. The ratio of female members shall not be less than half.

ECOVE is committed to ensuring the freedom of association for its employees and does not employ child labor. With a belief in caring for employees and sharing benefits, ECOVE provides a good working environment and an open communication channel. In 2022, there were no reported cases of sexual harassment or unlawful discrimination. Furthermore, there were no labor disputes or strikes that led to the suspension of employment during the year.

## Communication Channels

ECOVE has established an "Employee Opinion Platform" to enhance communication with its employees and provide them with a channel to voice their opinions. The platform is divided into five major categories: facility management, employee mailbox, proposal for improvement, sexual harassment complaints, and reporting of unethical behavior. All complaints are treated confidentially to safeguard the rights and interests of the complainants. In 2022, there were no cases reported through the platform.

Furthermore, in accordance with regulations, ecove has also nominated employer and employee representatives with a representation ratio of 50% on each side. In order to promote communications and harmony between the company and the employees, labor relations meetings are convened on a quarterly basis to discuss matters on labor conditions, benefits, and productivity.

A senior executive forum is also held annually to invite personnel to have a meal with the Chairman and the President, enabling personnel to have face-to-face communication channels to improve and solve problems in a timely manner. Personnel can also share their views in normal time via internal grievance email HR@ecove.com. In 2022, there were no violations of labor laws reported as a result of effective communication between labor and management.



ECOVE also embraces the trend of the digital era by launching the my CTCI APP in collaboration with the Group. This digital platform integrates various systems such as HR, education and training, and real-time message announcements. It allows employees to access the latest information instantly, whether they are at home or on the go, enabling seamless communication regardless of distance. During the challenging times of the pandemic, my CTCI played a crucial role and became one of the essential tools for remote work.









## Employee Caring

ECOVE is committed to providing comprehensive care and support to its employees, and it spares no effort in this regard. In addition to the existing life, medical, accident insurance, and funeral subsidies, ECOVE has taken additional measures to address the COVID-19 pandemic. Since 2021, it has offered all employees insurance coverage for vaccines and epidemic prevention. Furthermore, it provides group insurance plans for employees' dependents, and over 80% of employees choose to include their family members in the group insurance. Other benefits include coverage for major illnesses, disasters, maternity subsidies, and condolences. These welfare programs not only ensure the occupational safety of employees but also safeguard their family life. By taking care of their well-being, ECOVE aims to create a comfortable and supportive environment where employees can fully dedicate themselves to their work without undue burdens.

For employees stationed overseas (in Mainland China and Macau), ECOVE provides comprehensive support to ensure their well-being and enable them to focus on their work. In addition to fully subsidizing round-trip airfare and providing home leave, the company has taken additional measures in response to the COVID-19 pandemic. Since 2021, all overseas employees receive subsidies for quarantine hotels, coverage for nucleic acid testing costs, business travel insurance, and epidemic prevention kits. These measures ensure that employees working abroad have peace of mind and can devote themselves wholeheartedly to their work, thereby contributing to the overall success of the company.

ECOVE complies with gender equality laws and relevant regulations. In addition to statutory provisions such as "maternity leave without pay" and "sick leave," the Company also offers "epidemic care leave." In 2022, a total of 23 employees applied for "epidemic care leave." This policy allows employees to take care of their family members without worries, promoting a work-life balance and providing a supportive workplace environment. In 2022, a total of 7 employees applied for "maternity leave without pay." Among them, 4 individuals have completed their leave and returned to their positions to resume their employment.

### Data on unpaid parental leave

Year	2019			2020			2021			2022		
			Total			Total			Total			Total
Number of Applicants	2	0	2	2	5	7	2	5	7	2	5	7
Number of employees eligible to apply for unpaid parental leave in the current year*	8	1	9	26	9	35	12	16	28	12	5	17
Number of employees who applied for reinstatement in the current year	0	0	0	2	3	5	1	3	4	1	3	4
Number of employees who were supposed to be reinstated in the current year	0	0	0	2	4	6	1	3	4	1	4	5
Number of employees who have worked continuously for one year after reinstatement	0	1	1	0	0	0	1	1	2	0	0	0
Number of employees reinstated in the previous year	1	1	2	0	0	0	2	3	5	1	3	4
Application rate (%)	25	0	22	8	55	20	16	31.25	25	16	100	41
Reinstatement rate (%)	-	-	-	100	75	83	100	100	100	100	75	80
Retention rate (%)	-	100	50	-	-	-	50	33	40	-	-	-

Note: The number of eligible applicants in the year is counted as the number of individuals eligible for parental leave, and taking into consideration the privacy of employees, information that cannot be actively obtained, such as "whether the spouse is employed", are omitted during the calculation.



## Employee Satisfaction Survey

ECOVE conducts an employee engagement survey every two years. The next survey is scheduled to take place in 2023. The employee engagement survey conducted in 2021 targeted all employees who were employed before April 5, 2021, and still employed during the survey period. The response rate for the survey was 98%, and the overall employee satisfaction rate was 80%. The survey identified areas with lower scores, specifically in retaining and attracting talent. In response to the survey results, action plans were developed to address these issues and improve employee engagement. These plans include implementing mechanisms to retain key talents, enhancing effective communication between supervisors and employees, and organizing discussion sessions. The plans are being implemented according to the designated timeline, and continuous evaluation and improvement efforts are being made to enhance employee engagement.

## Welfare Pluralism

ECOVE has established the "Labor Pension Reserve Supervisory Committee" as required by regulations and opened an account in a government-designated financial institution. The existing pension scheme is actuarially calculated, compliant with government regulations, and fully allocated. Under the new pension scheme, the Company contributes 6% of employees' monthly wages to the individual retirement accounts at the Ministry of Labor, which applies to all eligible employees.

ECOVE established an Employee Stock Ownership Trust (ESOT) Charter with an eye to attract and retain talents while motivating employees and boosting the cohesiveness of employees to co-create benefits for the Company and shareholders. Employees can withdraw 5% - 15% of their salary each month as a deposit and the Company will provide a 50% rebate of the withdrawal amount as a form of reward to encourage employees to make long-term investments. Employees are therefore incentivized to hold stocks of the parent company on a long-term basis to reap business achievements. In 2022, a total of 540 employees participated in the Employee Stock Ownership Trust (ESOT), representing a participation rate of 63% among eligible employees.

In an effort to encourage employees to undergo regular health checkups, ECOVE reviews the health checkup items offered by contractual hospitals once every two years and provides free health check for employees. We continue to care for employees and promote health management, as well as provide a safe, healthy, and friendly work environment. In addition to the basic labor insurance, health insurance, group insurance, health check-ups, and employee stock ownership trust, employees are provided with life insurance and accident insurance coverage fully paid by the Company from the day of employment. Furthermore, employees and their families have the option to choose additional insurance coverage, such as hospitalization medical insurance, accident medical insurance, maternity benefits, daily hospitalization allowance for parents, cancer medical insurance, and funeral allowances (with the Company covering 60% and employees covering 40%), with subsidies provided. This ensures that employees feel the Company's commitment to providing extra financial security for their families.

ECOVE and its subsidiaries have established an Employee Welfare Committee for many years. In 2020, in collaboration with affiliated companies within the Group, the CTCI Joint Employee Welfare Committee was established. The committee consists of representatives elected by employees and representatives from management, working together to enhance the planning and provision of welfare services for employees within the Group. The committee organizes periodic trips, family day, club activities, sports day, year-end parties, etc. To boot, birthday gifts, seasonal holiday gifts, and various subsidies are offered so that personnel can focus on their work without worries.

In response to the ongoing impact of the COVID-19 pandemic in 2022, and to mitigate the risk of spreading the virus through gatherings, it was decided after careful consideration to cancel various group activities scheduled for that year. However, the allocated budget for these activities was still utilized to provide practical gifts or vouchers as a form of appreciation to the employees. ECOVE has officially launched the Welfare Portal, providing a convenient platform for employees to access information about the Welfare Committee's operations, related regulations, and guidelines. Through this

platform, employees can electronically apply for various welfare subsidies and register for activities. This digitalization of processes ensures transparency and efficiency in serving the employees. Furthermore, the Welfare Committee has collaborated with online platforms to replace the traditional distribution of physical gift vouchers with welfare points. Employees can now use these points on the platform to choose from a variety of options such as travel, shopping, or redeeming vouchers. This change aims to enhance the convenience, flexibility, and diversity of welfare benefits for employees.



## Talent Cultivation and Development

### Educational Training and Industry-University Collaboration GRI 404-1~2

Due to the unique and professional nature of the business, ECOVE has formulated the "Employee Continuing Studies Management Procedures" for training and cultivating of professional competence of employees, and annual training plans and subsequent follow-up reviews of results are carried out accordingly. At the same time, with the aim of improving competitiveness and internationalization, ECOVE encourages employees to obtain certificates in English, Japanese, German, and Arabic language. On top of providing subsidies, employees are also offered online learning resources, books available for borrowing, and discounts for supplementary courses.



ECOVE has recognized the lack of educational programs and resources in the field of incineration in Taiwan. To address this gap, we have collaborated with relevant companies in the industry to establish a series of training courses. In recent years, we have signed memorandums of understanding for industry-academia collaboration with universities such as Tamkang University, Chia Nan University of Pharmacy and Science, Feng Chia University, Fooyin University, Tajen University, National Kaohsiung University of Science and Technology, National Kaohsiung Marine University, and National Yunlin University of Science and Technology. Through these collaborations, we engage in long-term partnerships in various areas, including consulting, technical exchanges, internship programs, and on-the-job training.

In 2022, we continued to promote industry-academia collaboration and signed internship cooperation programs with seven universities, including Ming Chi, Chin-Yi, Feng Chia, Chia Nan, Tamkang, National Central, and Chaoyang. The goal was to cultivate young talents and foster high-quality manpower. However, due to the impact of the pandemic, only one intern participated in the upgrade and refurbishment project at the Xizhou Plant. The intern was able to earn academic credits from the university while gaining practical experience, allowing for effective utilization of resources and the establishment of a collaborative relationship between the industry and academic institutions. In 2022, a total of three students who participated in the training programs joined ECOVE after their graduation.

Since 2020, we have integrated the existing online training systems, GTS (Global Training System) and the Knowledge Base System, with other business groups within the CTCI Group and external resources to create a new comprehensive training management system called "CTCI University." We have expanded our knowledge domains to include six major colleges: HSE College; Engineering and Design College; Project Integration College; Business Management College; Leadership College; and General Education College. Following a university-like structure, each college offers various specialized departments and programs tailored to meet the specific professional competency requirements. Every employee within the Group is assigned to a specific department in one of the colleges, and a customized set of required credits is designed based on their job requirements. This assists employees in advancing towards their career development goals. In addition, we leverage digital platforms to integrate the existing knowledge base system with external resources such as MOOCs, TED Talks, YouTube, etc. This allows us to

transform knowledge and experiences into courses or learning materials that are accessible to employees across the Group, both domestically and internationally. This training platform enables unlimited access and multiple viewings, eliminating the constraints of time and location, and facilitating synchronized learning for all employees.



CTCI University online platform



Mobile phone (mobile device) learning platform

In 2022, the total duration of employee training programs, including online, classroom-based, and external training, amounted to approximately 27,572 hours. These training programs covered various areas such as specialized knowledge and skills training in incinerator operation and maintenance, safety and health training, self-care and wellness courses, as well as general and management training. The total expenditure on training costs for the year was approximately NT\$ 4.14 million.

### Statistics on training hours for courses on the digital platform of CTCI University

Year			2019			2020			2021			2022		
Level		Gender	Number of employees	Total training hours	Average training hours	Number of employees	Total training hours	Average training hours	Number of employees	Total training hours	Average training hours	Number of employees	Total training hours	Average training hours
Managerial		Female	19	558	29	15	642	42.7	12	281	23.4	8	189	23.6
		Male	163	4,547	28	79	5,112	64.7	149	5,794	38.9	72	3,028	42.1
Non-managerial	Engineering	Female	16	451	28	1,573	74.9	75	25	741	29.6	27	1,306	48.3
		Male	107	1,982	19	7,365	59.4	59	131	4,334	33.1	131	5,335	40.7
	Technical	Female	27	357	13	1,026	32.1	32	43	1,089	25.3	55	1,293	23.5
		Male	383	8,550	22	30,321	67.4	67	430	10,400	24.2	491	13,262	27
	Others	Female	87	1,150	13	2,774	33.0	32	92	2,132	23.2	97	2,890	29.7
		Male	13	74	6	224	24.8	25	9	218	24.2	10	271	27
Total		Female	149	2,515	17	154	6,015	39.5	172	4,243	24.7	187	5,677	30.3
		Male	666	15,152	23	667	43,022	64.9	719	20,745	28.9	704	21,895	31.1

Note 1: The number of employees in service as of December 31, 2022.

Note 2: Due to slight differences in job grading between ECOVE and the Group, there may be discrepancies in the presentation of management-level personnel and employee composition in the table.

ECOVE is actively investing resources in talent development, aiming to attract like-minded professionals and providing comprehensive education and training programs. The Company focuses on training new talents and offers specialized training for different job categories. In addition to creating Individual Development Plans (IDPs) for each employee, ECOVE also allocates resources to develop management capabilities, implement mentorship programs, and establish the CTCI University. This comprehensive approach ensures that employees have access to the necessary resources and opportunities for diverse development at every stage of their careers. By fostering a culture of continuous learning and growth, ECOVE promotes a strong sense of identification with its corporate culture and heritage.

With regard to formulating the IDP for personnel primed for key roles, personnel are able to understand their own strengths and weaknesses through communication with workplace mentors, on top of being encouraged to hone their knowledge, skills, and attitude. A diversified development approach is adopted to elevate their competitiveness, which in turn would effectuate a win-win result in elevating the competitiveness of personnel and the Company and fostering a work environment of limitless career progression and boundless opportunities for growth. Along with that, we use the elite talent training mechanism to properly lay out the division of labor for each business area and customize the mobility plans for personnel, essentially carrying out the succession training plan to cope with the potential risks in time to come.

### Performance of elite talent cultivation





### Total Participation of ESG

ECOVE combines corporate culture with sustainability issues and implements a series of internal activities to ensure that employees embody the spirit of sustainable development in their daily work practices, thereby achieving the vision of ESG (Environmental, Social, and Governance) integration for all. We foster a sustainable culture by promoting soft advocacy and fostering consensus among employees. Through methods such as team readings, bulletin postings, group sharing, and team advocacy, we ensure that information is conveyed to each and every employee. We also continuously integrate the corporate culture into the daily lives of all employees through activities that raise awareness of ESG. By encouraging team participation in these activities, we aim to enhance team cohesion.



[Figure Caption] ECOVE has established an ESG dashboard that is regularly updated with the latest information on achieving net-zero goals, introducing the SDGs, and showcasing the carbon reduction achievements of all employees.

ECOVE is committed to fulfilling its corporate social responsibility by integrating corporate culture with sustainability issues. We have designed and implemented a series of internal activities to internalize the importance of ESG among our employees. These activities aim to raise awareness, foster a sense of identification, and encourage active engagement in daily work with a focus on sustainability. By doing so, we empower our employees to make a greater sustainable impact and contribute to the long-term success of our organization.



[Figure Caption] The "ESG Moments" newsletter is sent out every Friday via email to all employees, providing long-term, informal educational training on various ESG topics.

In response to the United Nations' Sustainable Development Goals (SDGs), ECOVE actively integrates the SDG indicators into the work and lives of its employees. One of the initiatives taken is the SDGs Photo Challenge, which encourages all ECOVE employees to incorporate the SDGs into their work and daily lives.



[Figure Caption] "Winning Entries and Outstanding Works from ECOVE Employees' Participation in the SDGs Photography and Writing Fun Activity."

The first step in promoting "All-Staff ESG" at ECOVE is to incorporate ESG issues into the Company's meeting processes. Prior to any internal meeting with five or more participants, an "ESG Moment" is introduced to encourage employees to broaden their perspectives beyond their own work and engage in discussions related to sustainability and environmental protection.

### ESG Moment 垃圾處理 關鍵在你!

每天將垃圾丟上垃圾車後，你是否關切過？  
垃圾分類的確實，對後續處理的變化廠及環境有什麼影響？

確實分類 好習慣	未經分類 好習慣
<ul style="list-style-type: none"> <li>燃燒露天垃圾 穩定溫室效應</li> <li>防能設備 可有效去除空氣污染物</li> <li>穩定燃燒，穩定發電 垃圾變黃金！</li> <li>減少資源消耗，永續加分</li> </ul>	<ul style="list-style-type: none"> <li>焚燒不適燃垃圾 加速折舊，降低使用年限</li> <li>產生無法去除及負荷之氣體 造成高負負與環境污染</li> <li>發電效率不穩定 無法有效為社會發電</li> <li>增加資源消耗，永續扣分</li> </ul>

垃圾做分類，生活好 o.k.

### ESG Moment 循環綠能 - 屋頂種電，打造低碳台灣



充分運用閒置廠房屋頂空間，為台灣增加綠色能源，減輕環境負擔，太陽光電可轉換併聯至台電配電網送至家戶，是名符其實的循環經濟。

同仁進行機電維護，也能延壽太陽光電設備壽命，確保供電無虞，等於也是為循環經濟盡一份心力，為公司落實企業社會責任。

[Figure Caption] By promoting the "ESG Moment," employees are encouraged to pay attention to ESG sustainability issues.

ECOVE actively connects with international initiatives, with our executives serving as ambassadors, leading all employees to respond to international initiatives in promoting energy conservation, carbon reduction, and a new lifestyle in epidemic prevention, taking action to protect our planet.



The ESG Award is organized by CTCI Group to encourage employees to take climate action. It includes categories such as "Net Zero EPC, Circular Economy, Smart Solutions, Biodiversity", and "Talent Development, Gender Equality, Multicultural Workplace, Social Care for Vulnerable Groups, Community SDGs Sustainability Events" for social influence. The award recognizes outstanding project proposals that contribute to these themes. The employees of ECOVE, embracing the spirit of "All-Staff ESG," have achieved recognition in the ESG Award for their outstanding contributions to sustainability and impactful initiatives. They have received awards in the categories of Climate Action and Social Impact, focusing on themes such as plastic reduction, healthy living, and community welfare.

### 2022 CTCI Group ESG Award 永續卓越影響力獎得獎名單公告

中鼎集團氣候行動 部門/專案獎

Award	Corp.	dept.	Name	Proposal title
金獎	譯鼎	廠管部	【譯鼎減廢尖兵】郭奕凱、何麗潔、王傳收、許麗琳	環境減廢，從“食”開始 Environmental protection and carbon reduction - start from daily meal.
銀獎	益鼎	備電部	【益鼎工程備電部】羅瓦輝、林佑章	打造V2G停電電，實現智慧電網新應用 CTCI Group Climate Action Award - Smart Intelligence
銅獎	譯鼎	行政室	【譯鼎 SuperFIT】張運華、郭美露、黃于玲、陳榮敏	譯鼎健康減重，新能減碳又環保 WMC healthy weight loss, energy saving, carbon reduction and environmental protection.

### 2022 CTCI Group ESG Award 永續卓越影響力獎得獎名單公告

中鼎集團社會影響力 部門/專案獎

Corp.	dept.	Name	Proposal title	
金獎	中鼎	採購供應處 管理組	嚴紹輝、徐筱萍	興惠同行，供與永續 Partner with Ctci - Sustainability Together
銀獎	新鼎	人資部	陳威祺	「師傳傳門」- 關鍵技術人才養成計畫 Mentoring Program for Key Technical Talent Development
銅獎	原鼎	企劃部	林雅慧、張君偉、李麗莉、何漢真、周敏惠	友善公益，愛心滿溢 Friendly public welfare, overflowing with love

[Figure Caption] The ESG Award-winning projects of the CTCI Group.

# Safe and Healthy Workplace

GRI 403-1 ~ 10, SASB IF-WM-320a.1, IF-WM-320a.2, IF-WM-320a.3

## Policies and Committees

ECOVE's Health Safety and Environment (HSE) policy is based on fulfilling environmental protection obligations and creating a safe and healthy work environment. It aims to safeguard the physical and mental well-being of employees and contractors, ensuring a secure and hazard-free work environment.



### Upholding safety first

Provide a safe and secure workplace and promote a safety culture in the Company's operations and project execution with a view to achieving the goal of zero occupational casualties.



### Promotion of employee health and welfare

Actively promote the self-management of occupational health, strengthen the protection and care of physical and mental health, create a healthy working environment, and promote physical and mental well-being.



### Environmental protection and sustainable development

Provide professional services that meet environmental protection requirements, promote energy conservation, carbon reduction, pollution prevention and resource cycling, and collaborate with stakeholders to promote physical and mental well-being.



### Implement risk management systems

Identify the potential hazards of HSE activities, assess and deal with risks, prevent occupational injuries and diseases and environmental pollution, and continue to improve our overall performance in HSE.

Regarding Occupational Health and Safety Committees, in some subsidiaries of ECOVE Environment Corp., ECOVE Environment Service Corp. and ECOVE Waste Management Corp. have met the statutory requirements and established committees. However, ECOVE Environment Corp., ECOVE Wujih Energy Corp., and ECOVE Miaoli Energy Corp. have not met the required standards, and therefore, committees have not been established. Although ECOVE Solar Energy Corporation and ECOVE Solvent Recycling Corp. have not met the statutory requirements, they still follow the principles of ISO 45001 Occupational Health and Safety Management System in establishing committees. ECOVE Environment Service Corp., ECOVE Waste Management Corp., ECOVE Solar Energy Corporation, and ECOVE Solvent Recycling Corp. Occupational Health and Safety Committees hold quarterly meetings. Among them, the ECOVE Environment Service Corp. Committee consists of 36 members, with 13 representing the labor side, accounting for 36% of the total committee members. The committee is chaired by the President, and the meeting conclusions are publicly announced on the internal website of ECOVE Environment Service Corp., ensuring effective information dissemination and tracking of improvements. The ECOVE Waste Management Corp. Committee consists of 10 members, with 4 representing the labor side, accounting for 40% of the total committee members. The ECOVE Solar Energy Corporation Committee consists of 8 members, with 3 representing the labor side, accounting for 38% of the total committee members.



### Fulfill regulatory and contractual requirements

Identify laws, regulations, and contracts, supervise and implement the roll out of HSE plan, ensure the operation process of the Company and projects meet HSE requirements and fulfill the compliance obligations.



### Promoting company-wide employee participation and training

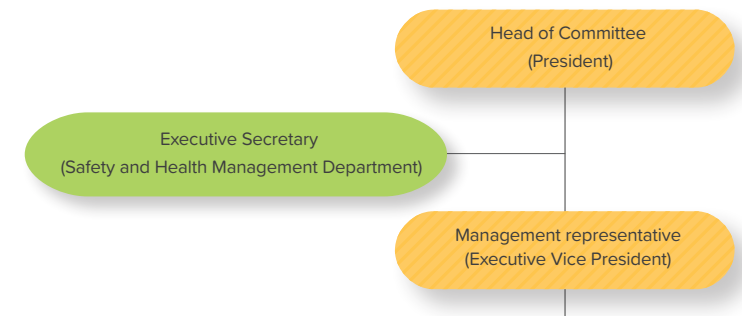
Encourage participation in HSE training, reinforce the awareness and capabilities for HSE, provide subcontractors and employees with HSE consultation, smooth communication and feedback channels.



### Continuous improvement of the HSE system

Continuously review and optimize HSE activities, strive to improve occupational health and working environment, ensure that the HSE management system is robust and feasible, and enhance the applicability, appropriateness, and effectiveness of the HSE management system.

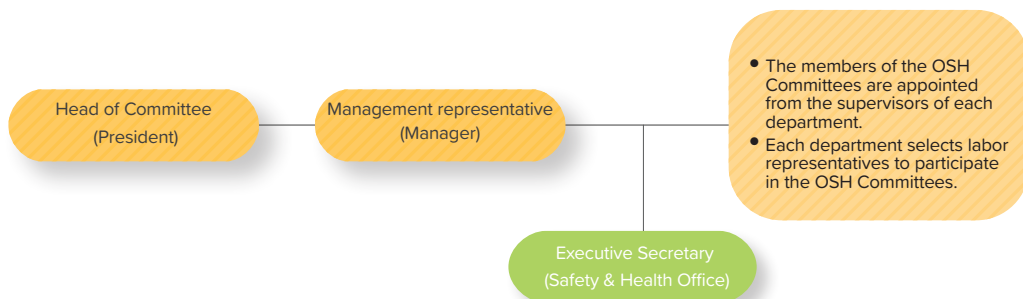
## Organizational chart of OSH Committee at ECOVE Environment Service Corp



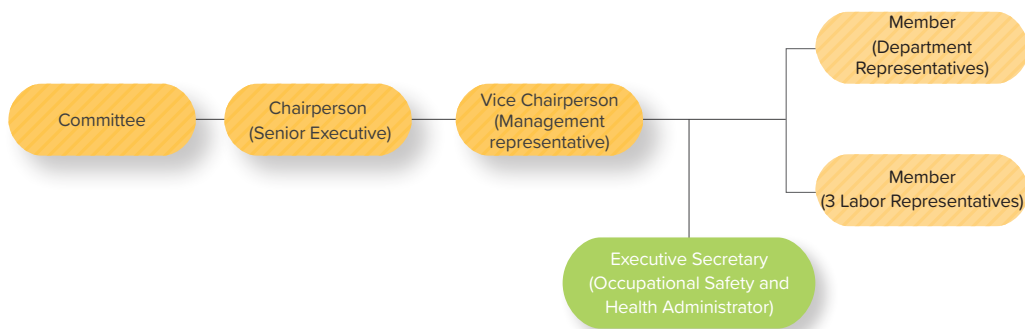
- The OSH Committees are composed of (senior) managers from various departments of the head office and the factory managers.
- Each factory and project select labor representatives to participate in the OSH Committee.



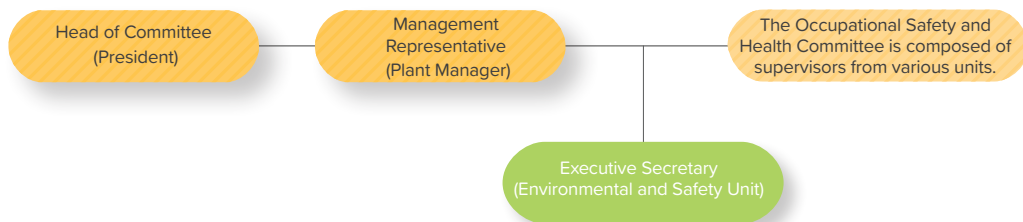
Organizational chart of OSH Committee at ECOVE Waste Management Corp



Organizational Chart of ECOVE Solar Energy Corporation Occupational Safety and Health Committee



Organizational Chart of ECOVE Solvent Recycling Corp Occupational Safety and Health Committee



## Risk Evaluation and Operations Safety Control

ECOVE and its subsidiaries employ a risk management approach to occupational safety and health, which involves categorizing risks through a Risk Management Committee. The identified risk categories include information security risk, HSE risk, operational risk, quality management risk, and climate change risk. HSE risks are assessed using an occupational safety and health management system. Each operational process, chemical, manual tool, and environmental exposure is subjected to risk assessment. Based on the level of risk assessment, specific operating standards and regulations are developed and promoted. Regular on-site inspections are conducted to review the adequacy and effectiveness of the operating standards, ensuring their appropriateness and compliance.

### Risk assessment process flow



After evaluating through the management system, high-risk and hazardous tasks such as hot work, elevated work, rotating equipment, lifting operations, electrical equipment maintenance, and abnormal equipment troubleshooting are governed by specific operational safety control regulations. Daily work assignments are managed through the MMIS (Maintenance Management Information System) developed by ECOVE Environment Service Corp. During the morning meeting, a Job Safety Analysis (JSA) is conducted to raise awareness of hazards. Employees are required to apply for work permits based on the job content risks and operational safety control regulations. The three parties involved, including the operators, maintenance personnel, and safety personnel, visit the site together to verify and carry out procedures such as power shutdown, isolation, lockout, and tagging. Only after confirming the absence of any potential hazards can the work commence, aiming to achieve the goal of zero accidents during operations.

### Operations safety control



Equipment isolation tag



Joint confirmation by operation, maintenance, and HSE personnel

## Mechanical Equipment Management and Contractor Management

Taking ECOVE Environment Service Corp. as an example, for the management of mechanical equipment, the MMIS system is utilized to schedule regular inspections of machinery and equipment in each operating management area, ensuring that maintenance planning and repair tracking are conducted through an electronic system to prevent oversights. Prior to operations, automated inspection plans are developed, including vehicle maintenance, and pre-operation checks are implemented. During operations, on-site observations and inspections are carried out, and post-operation site verifications are conducted, which are included in evaluations and reviews. Various safety control processes are implemented, supported by electronic systems for license and permit verification, ensuring the validity of certificates and confirming the qualifications of operators. This enables effective control of safety during operations.

Before contracting a project, ECOVE Environment Service Corp. evaluates the safety and health regulations and hazardous factors associated with the project. This information is documented in the project procurement manual to facilitate the selection of suitable contractors. Annually, safety and health education and training sessions are conducted for contractors to enhance their awareness of safety and health practices. In accordance with the HSE policies and contract content, compliance with relevant OSH provisions shall be included (such as rights to withdraw laborers as per Article 18 Occupational Safety and Health Act). The training teaches workers how to



protect themselves in unsafe or unhealthy situations.

Prior to commencing operations, hazard notifications are provided, and meetings are organized to discuss and establish agreements. These measures aim to enhance safety and health awareness and consciousness during on-site operations. Additionally, all entering tools and equipment are inspected individually to ensure their safe use. During the construction period, toolbox meetings will be conducted on a daily basis while audits are conducted from time to time. Immediate rectification will be required whenever deficiencies are found, and review meetings will be held when necessary. After the completion of the work, the seven major occupational safety and health performance indicators will be evaluated to assess performance. These indicators are categorized into five levels: A, B, C, D, and E. Contractors with a D-level rating should be avoided, and those with an E-level rating will be included in the non-compliant vendor list.

With regard to access control, besides utilizing facial and fingerprint identification systems for access control at each plant, qualification reviews for the construction personnel are also carried out. After permission has been granted, personal traits will be scanned into the identification system to reinforce access control for qualified personnel, and contractors will be included in the access control management. During the construction period, on top of the abovementioned audits and informative training, the Company will also run blood pressure or sobriety tests on the personnel from time to time. Should abnormalities be found, the work of the said personnel on that day will be stopped, so as to avoid any hazard of physical discomfort caused by constrained, working at heights or high temperature environment. Personnel is also constantly reminded to pay attention to the management of their own physical health and discipline.

Regarding vehicle safety, safe driving, and hazardous substances, safety advocacy will be carried out during morning briefings through JSA. The personnel's health and fit to work will be assessed prior to the commencement of operations. If there are any unwell personnel, this shall be raised immediately and the person in charge shall make

work adjustments immediately. Alcoholic beverages are strictly prohibited on-site and sobriety tests will be conducted as needed, and vehicle maintenance is managed according to the MMIS system. In 2022, there were two traffic accidents involving the ECOVE Waste Management Corp. Cleaning Fleet. However, according to the determination of the traffic accidents, our side was not found to be at fault. Additionally, no traffic violation tickets were issued to us, indicating that we did not violate any traffic regulations.

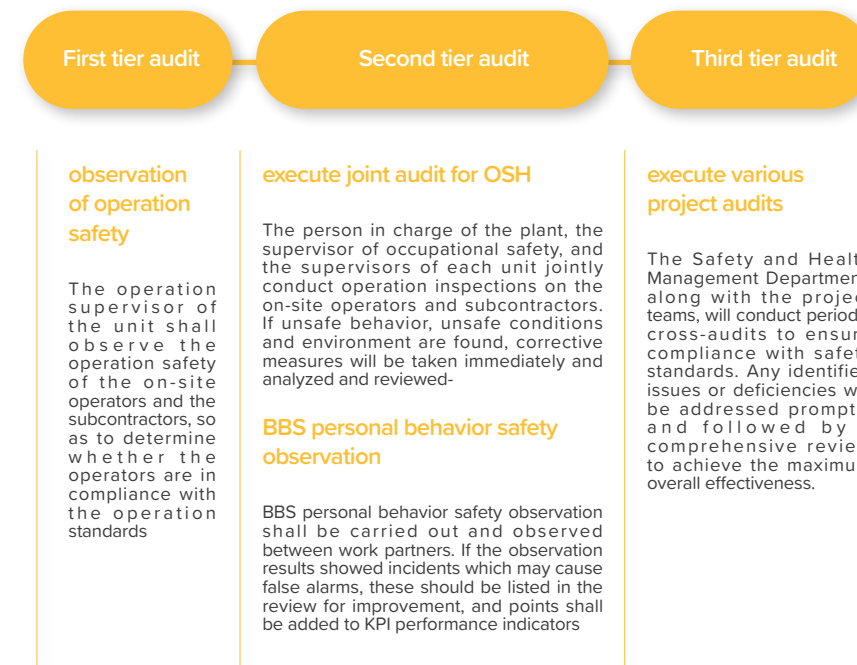


Installation of facial and fingerprint identification systems to facilitate the control of contractors' entry qualification

## Reinforced Safety Management and Audit

To strengthen safety management, ECOVE gradually and continuously improves to achieve enhanced safety management through the auditing system. At the same time, employees' safety knowledge and competencies are also verified and confirmed via audit. Weaknesses are understood and incorporated into the training system and as a reference for amendments to the work standards. ECOVE Environment Service Corp. actively promoted a three-tiered audit management system whereby on-site engineers shall carry out the level 1 management of safety and health, OSH personnel and plant managers shall conduct the level 2 of safety and health audits (including the independent evaluation of each plant), and the Company conducts level 3 safety and health supervisory audits. Safety management and audit systems are realized through the merging of the audit system with assessments. The execution of third-level audits involves presenting reports on audit sessions and the number of deficiencies during committee meetings. The relevant departments under the management of each incineration plant and project are responsible for implementing improvements. The Company conducts follow-up audits to confirm the effectiveness of the improvements.

### Three-tiered Audit Management



The Safety and Health Management Department requests the respective units under its jurisdiction to conduct root cause analysis for the identified audit deficiencies and develop corresponding improvement measures. Once the solutions are determined, corrective actions are implemented. The Safety and Health Management Department provides feedback to the relevant departments (Operations Department 1, Operations Department 2, or Project Department) and informs them of the corrective actions taken. The improvement results are presented and closed during company top manager meetings. Audit not only includes internal head office inspection or project cross audit, but also regular or irregular audits conducted by local external competent authorities in accordance with the annual inspection policy. Post audit, the local project will be informed of the inspection results immediately, and the local project shall be requested to cooperate in the implementation of safety management.



ISO 45001 System Document Inspection Procedure



Fire Brigade Supervision and Inspection Operation - Compliance with Regulations



Environmental Protection Bureau conducts periodic audits to supervise operational safety and quality.



Labor Inspection Department and Occupational Safety and Health Center Conduct On-site Inspections - Compliance with Regulations

## Occupational Disaster Prevention

ECOVE has always placed great emphasis on workplace safety and health. It actively invests resources in various aspects such as risk identification and assessment, education and training, operational safety control processes, emergency response drills, and occupational accident investigation mechanisms. The commitment of resources by ECOVE ensures a safer working environment for employees and fosters a deep understanding among all colleagues that safety is closely related to their personal well-being. ECOVE and its employees wholeheartedly collaborate in implementing safety and health management. The prevention of accidents is considered a top priority in our safe operations. Through the implementation of various plans and systems and adhering to the core value of "people-oriented," we allocate manpower and resources to ensure the safety and health of our employees. Our goal is to create a safe and healthy working environment, driven by the principles of sustainability, and to strive for accident-free working hours.

### Occupational Accident Incident Investigation Mechanism Flowchart



For ECOVE and its subsidiaries, there is no greater responsibility than providing a safe and secure working environment for our colleagues. Therefore, we allocate resources to create a friendly, healthy, and safe workplace. At ECOVE, "safety first" is neither a slogan we merely pay lip service to nor is it a routine matter. It is fully internalized as the daily work practices of all personnel. In addition to comprehensive training programs such as general safety and health education, specialized training for hazardous tasks (confined spaces, working at heights, etc.), contractor safety and health education, and emergency response drills, we prioritize safety in various situations. Supervisors play a crucial role by consistently emphasizing the importance of safety to their team members, repeatedly reminding them that safety is non-negotiable. Furthermore, we foster a culture of safety awareness by encouraging employees to share safety-related anecdotes and wisdom, replacing a strictly regulatory approach with practical and relatable insights.

Through the "Safety Quotes Sharing" event, employees step forward to emphasize the importance of safety.



Record of Accident-Free Work Hours at Miaoli Plant, Wujih Plant, and Tainan Science Park Plant.

ECOVE Statistics on work-related injuries

Item	2018	2019	2020	2021	2022	Calculation method
Total number of working hours	2,880,857HR	3,029,467HR	3,013,731HR	2,967,516 HR	3,187,888HR	Employee + Cumulative Work Hours of Employees and Contractors
Disabling injury frequency rate (IFR)	0	0	0	0.07	0	Number of disabling injuries x 200,000/total number of working hours
Disabling injury severity rate (ISR)	0	0	0	11.0	0	Total number of workdays lost x 200,000/total number of working hours
Total Recordable Case Rate (TRCR)	0.21	0	0.07	0.13	0	TRCR: OSHA recordable incidents*200,000/the total cumulative work hours in a year. OSHA recordable incidents include deaths, disabilities, restricted work cases, and cases involving job transfers or medical treatment.
Occupational disease rate	0	0	0	0	0	Number of occupational disease incidence x 200,000/total number of working hours
Number of deaths	0	0	0	0	0	—
Number of false alarms	0	0	0	0	2	—

Note 1:In 2022, there were no occupational accidents reported in ECOVE Environment Service Corp., ECOVE Wujih Energy Corp., ECOVE Miaoli Energy Corp.,ECOVE Waste Management Corp., ECOVE Solar Energy Corporation, and ECOVE Solvent Recycling Corp.

Note 2:In 2022, the contractor and subcontractor had zero rates of disability injury frequency rate, disability injury severity rate, and no fatalities.

Note 3:In 2022, there were 21 inspections conducted by the regulatory authorities in various jurisdictions. There were no penalty cases or occupational safety and health disability incidents reported.

Note 4:Recordable occupational safety incidents primarily include fatalities, disabilities, job transfers or restrictions due to injuries, and non-emergency medical incidents.



Type of occupational injury at ECOVE

Injury type (number of persons)	2017	2018	2019	2020	2021	2022
Slips, trips and falls	1	0	0	0	0	0
Caught in or crushed by machine	0	1	0	1	1	0
Falling objects	0	0	0	0	0	0
Cuts and lacerations	0	0	0	0	0	1 (No disabilities)
Burns	0	0	0	0	1 (Disability)	0
Being hit	0	0	0	0	0	0
Electrocution	0	0	0	0	0	0
Falls from heights	1	0	0	0	0	0
Musculoskeletal injuries	0	2	0	0	1	0
Commuting accident	5	0	3	8	4	8
Total	7	3	3	9	7	9

Note 1: In 2022, of the 9 people, 7 were male, and 2 were female.

Note 2: In 2022, there were 0 instances of injuries in each category for contractors and subcontractors.

Note 3: In the case of lacerations and cutting injuries, which are not considered "recordable occupational injuries," alternative tools are used to minimize direct contact and reduce associated risks to personnel.

Note 4: For commuting traffic incidents, safety promotion is conducted every Wednesday with the implementation of the Ministry of Transportation's Defensive Driving Manual and regular dissemination of traffic accident videos. A commuting route map is created for employees, indicating high-risk areas to raise self-awareness and prevent potential accidents.

Obtaining ISO 45001 Certification

ECOVE upholds the spirit of prioritizing safety, health, and the environment, following the seven major HSE policies. Its subsidiary, ECOVE Environment Service Corp., and all 10 operational waste incineration plants have obtained OHSAS 18001 and TOSHMS certifications since 2009. In 2011, in response to the Ministry of Labor's policy, TOSHMS was fully converted to CNS 15506, and continuous verification has been maintained. Starting from 2018, all 10 operational sites of ECOVE Environment Service Corp., ECOVE Solar Energy Corporation, and ECOVE Solvent Recycling Corp. have successively obtained ISO 45001 certification, with a verification coverage rate of 100% for each site. The certification includes all workers in the workplace, including employees, contractors, and subcontractors. In 2019, all locations, including the headquarters, under ECOVE successfully completed inspections, and ECOVE Environment Service Corp., ECOVE Waste Management Corp., ECOVE Solar Energy Corporation, and ECOVE Solvent Recycling Corp. have maintained the validity of their certifications in 2022.



ECOVE Environment Service Corp. ISO 45001 Certification



ECOVE Solar Power Corporation ISO 45001 Certification



ECOVE Waste Management Corp. ISO 45001 Certification

There are 10 operating locations including the headquarters, Keelung, Taoyuan South, Miaoli, Houli, Wujih, Xizhou, Tainan, Tainan Science Park, and Gangshan. ECOVE Wujih Energy Corp. and ECOVE Miaoli Energy Corp. do not meet the setup standards, but they are located within validated operating locations. ECOVE Wujih Energy Corp. is situated within the ECOVE Environment Service Corp. Wurih Plant, while ECOVE Miaoli Energy Corp. is located within the ECOVE Environment Service Corp. Miaoli Plant. All employees and non-employees are encompassed within the scope of the Occupational Health and Safety Management System.

## Awards

In order to actively promote the development of a safety and health culture and strengthen self-management in safety and health, ECOVE Environment Service Corp. encourages all units to participate in external safety and health evaluations. We have consistently achieved excellent results and received numerous national safety and health awards since 2008, demonstrating our effectiveness in promoting safety and health. In 2016, we were honored with the highest recognition, the National Occupational Safety and Health Excellence Award, by the Ministry of Labor (ineligible for participation in labor-related

safety evaluations within five years). In 2022, our Keelung Plant, Tainan Plant, Tainan Science Park Plant, and Gangshan Plant received the Excellent Unit Award for Occupational Safety and Health, etc. During this period, we have continuously strived to uphold our safety mission and have remained vigilant in ensuring safety. In 2022, we received the following awards.

**2022 Occupational Safety and Health Excellent Unit Award**

From Keelung City Hall

Awarded unit Keelung plant



**2022 Occupational Safety and Health Excellent Unit Award**

From Tainan Labor Bureau

獲獎廠別 Tainan plant




**2022 Safety and Health Family Performance Evaluation Excellence Award**

From Tainan Labor Bureau

獲獎廠別 Tainan plant




**2022 Occupational Safety and Health Excellent Unit Award**

From Southern Taiwan Science Park Bureau

獲獎廠別 Tainan Science Park Resource Recycling Center




**2022 Occupational Safety and Health Excellent Unit Award**

From Kaohsiung Labor Bureau

獲獎廠別：Gangshang plant






## Workplace Health Management

Taking into consideration the working environment and conditions of our employees, ECOVE has developed a comprehensive health management system. We provide all new employees with health examinations, including special examinations for factors such as dust, high temperatures, noise, and other specific hazards. In order to exceed legal requirements and take good care of our employees, the current general health examination frequency is once every two years. We also conduct monitoring and comparisons based on the employees' working conditions and potential exposure to hazards. For employees who may be exposed to specific hazards, such as those working with dust, special health examinations are conducted annually. Regular occupational and environmental monitoring is conducted to ensure effective management of the work environment and employee health. Currently, the implementation of health examinations is in good condition, with no reported occupational disease-related deaths or confirmed cases of occupational diseases diagnosed by specialist occupational physicians in the past 7 years.

In the occupational health service aspect, we assess the potential hazards that employees may be exposed to in the work environment. We organize relevant educational training sessions and provide consultations to ensure that employees have a comprehensive understanding of their work environment and are equipped with the knowledge to protect their own health and minimize health impacts. In 2022, a total of 27 health education lectures were conducted, with a total of 792 participants.

Furthermore, regular on-site services are provided by occupational specialists and nurses to offer free medical consultations and health guidance to employees. This helps employees to understand their physical or mental health issues and promotes awareness and proactive action towards health management. In 2022, a total of 44 hours were dedicated to on-site services, covering 15 sessions. Although the abnormality rate in health check results may be influenced by factors such as age, personal lifestyle habits, and other objective factors, we still prioritize providing enhanced health promotion guidance to employees with higher abnormality rates. We have developed an annual health promotion plan to implement various health promotion initiatives accordingly. Our on-site healthcare professionals, including physicians and nurses, conduct various activities such as on-site hazard assessments, tracking of abnormal health check results, general health consultation, chronic disease management, and injury/illness tracking. They also organize health promotion activities in accordance with the annual trends of health check abnormalities and prevailing epidemics. For example, we conduct seminars on vascular health and stroke prevention to help employees understand their personal health conditions. These seminars cover health check indicators related to individual metabolic syndrome and provide educational information on preventing metabolic syndrome. Furthermore, we are committed to promoting AED (Automated External Defibrillator) certification for our facilities to enhance the self-rescue and lifesaving capabilities of our staff. Currently, we have obtained AED certification for 10 factory locations, ensuring a safe and secure environment.

The Group Health Care System platform primarily includes relevant health information, hospital appointment scheduling for health check-ups, health questionnaire completion, health promotion activities, and registration for medical consultations. We are committed to promoting the intelligent systemized Hygeia Health Management System. This system enables us to collect and analyze data to effectively manage employee health information, generate reports, and conduct risk management through systematic and

data-driven approaches. With a multifaceted approach to health management, general health check-ups and management are categorized into four levels: normal, mild, moderate, and severe abnormalities. In 2022, employees with levels 3 and 4 health check-up abnormalities accounted for 3% of the total. They are prioritized as the primary monitoring targets, and relevant health education and follow-up are provided to them. If necessary, medical treatment and medication are recommended to ensure a comprehensive understanding of the current physical condition of employees. This is a primary task for healthcare professionals. For employees without levels 3 and 4 abnormalities in special health check-ups, we will continue to adhere to protective measures and conduct regular monitoring to safeguard their health and prevent occupational diseases. In 2022, we focused on preventing diseases related to excessive workloads. We provided personal health guidance to 5 individuals with moderate to high risks, conducted follow-ups for 128 individuals with abnormal health check results, and had physician consultations with a total of 128 individuals, achieving a completion rate of 100%. In 2022, we provided maternal health protection for 5 individuals in the workplace, and all cases were successfully closed within the year.

In response to the COVID-19 pandemic, ECOVE established an epidemic response task force, a system platform, and a mobile app called MyCTCI. These initiatives allow us to monitor the daily temperature changes, track the activities, record the COVID-19 vaccination status, and obtain at-home rapid screening results of each employee in real-time. ECOVE urges all employees, except those with special physiological conditions, to comply with government policies and receive the COVID-19 vaccine according to the designated schedule. By increasing vaccination rates and achieving herd immunity, we can effectively combat the virus and prioritize the prevention of disease spread.

## Health Lecture-Related Photographs

ECOVE and its subsidiaries provide occupational health services and promotion activities.



Health Lecture-Related Photographs



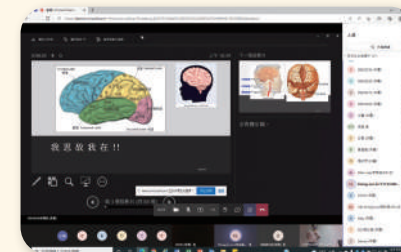
CPR+AED education and training (using the example of the Gangshan Plant)



Drug hazards and types (using the example of the Wujih Plant)



Office neck and shoulder pain (online lecture)



Caring for your blood vessels, staying away from stroke (online lecture)

On-site physician services



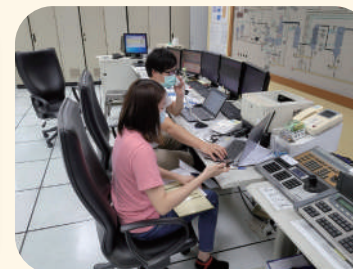
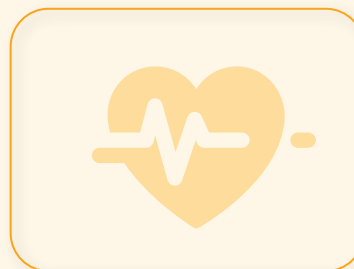
● Review of health check reports by the physician



● Review of on-site medical service records



● Health consultation



● Follow-up of employees with health check anomalies by phone



## Dioxin tracking test

Employees are the greatest asset of ECOVE. In addition to creating a safe working environment, we are committed to ensuring the health of our employees. Since 2008, we have entrusted the Research Center of Environmental Trace Toxic Substances of National Cheng Kung University to conduct analyses based on job nature, exposure environment, and years of service. Following the age-service operation interval and regulations for dust exposure in the workplace, representative employees from each operational area are selected for blood dioxin testing and monitoring. This blood test and follow-up examination are conducted every 4 years, and we have completed four consecutive rounds of testing to date. Additionally, we conduct health, dietary, and occupational exposure assessment questionnaires for cross-referencing purposes. This achievement not only makes ECOVE the first of its kind in Taiwan but also sets a benchmark globally.

The results show that the blood dioxin levels of the tested employees are relatively low compared to the general population in Taiwan and the recommended blood dioxin concentration values by the World Health Organization (WHO). This is because ECOVE's incineration plant has a comprehensive and effective air pollution control mechanism. Additionally, the Company has implemented education and

training programs to enhance employee health and safety awareness, leading to an increased usage of personal protective equipment.

The Company takes a rigorous approach to addressing the hazards of dioxin. Since dioxin accumulation is primarily related to ingestion, reducing exposure and modifying eating behaviors can significantly decrease dioxin accumulation. To prevent employees from being exposed to dioxin in the workplace, regular safety and hygiene education training is conducted before the annual maintenance operations. Employees are taught how to correctly wear personal protective equipment and strict safety controls are implemented during operations. Random checks are conducted to ensure compliance with PPE usage and safety protocols, and supervisors and managers perform regular inspections. If any employee is found to be not wearing the required protective equipment or if safety protocols are not being followed, they are immediately instructed to stop the operation until proper protective equipment is worn, and safety measures are in place. This requirement not only emphasizes safety but also demonstrates our commitment to our employees and their families, ensuring that they can leave for work happily and return home safely. It is not just a slogan, but a tangible action we take.

### Photos of dioxin testing at National Cheng Kung University



Personal data collection before the test



Measurement of blood pressure



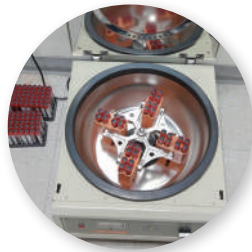
Body fat check



Blood test



Diet and health questionnaire



Pretreatment of separation of serum lipids

Year employees were tested	Value
2008	11.1 pg WHO-TEQ/g lipid
2012	13.3 pg WHO-TEQ/g lipid
2016	14.6 pg WHO-TEQ/g lipid
2020	12.1 pg WHO-TEQ/g lipid



The sole domestic provider for employee blood dioxin tracking

with all test results consistently lower than the average of 19.7 pg WHO-TEQ/g lipid for the Taiwanese population.

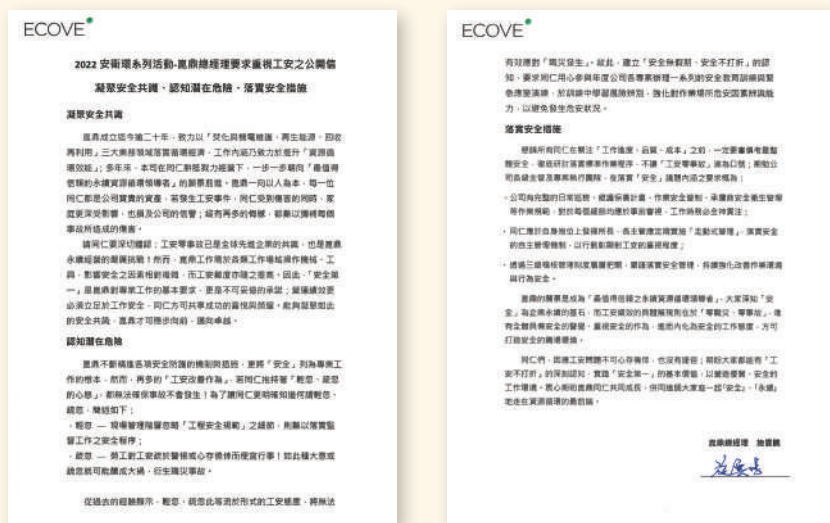
In 2020, a total of 38 urban solid waste incinerator operators were tested, and the average blood concentration of polychlorinated dibenzo-p-dioxins/furans (PCDD/F) was found to be 12.1 pg WHO9 8-TEQ/g lipid. This value is lower than the average test result in 2016 (14.6 pg WHO9 8-TEQ/g lipid) and 2012 (13.3 pg WHO9 8-TEQ/g lipid), but slightly higher than the average test result in 2008 (11.1 pg WHO9 8-TEQ/g lipid). The results indicate that despite long-term exposure to the incinerator work environment, the blood concentrations of polychlorinated dibenzo-p-dioxins/furans (PCDD/F) in the 38 urban solid waste incinerator operators did not show a significant increase.



## HSE Series Activities

The HSE Series Activities are organized annually. In 2022, through the Safety Open Letter from the President of ECOVE, all employees were reminded of the importance of building a safety consensus, understanding potential hazards, and implementing safety measures. Various levels of supervisors provided on-site guidance and inspections to ensure compliance with work safety requirements. Emergency response training was conducted through hands-on exercises, allowing employees to immerse themselves in realistic scenarios and understand how to respond effectively in such situations. Contract management also continuously engages in safety reflection, proposing innovative ideas or improvement suggestions to achieve the implementation of safety and health measures.

### HSE Open Letter



Open Letter from the President\_Fostering Safety Consensus, Recognizing Potential Hazards, and Implementing Safety Measures

### Visible Leadership



The various management personally chaired the HSE meetings



On-site inspection

### HSE Training



Group HSE Online Courses



Employee General/In-Service Occupational Health and Safety Training

### Emergency Response Drills



Emergency Response Drill for Landfill Incineration of Waste



Fire Extinguisher Usage Drill

### Contractor Safety Management



High-Risk Hazard Education and Training for Contractors



Regular HSE training for on-site supervisors



Implementation of Alcohol Testing during the Construction Contract Phase

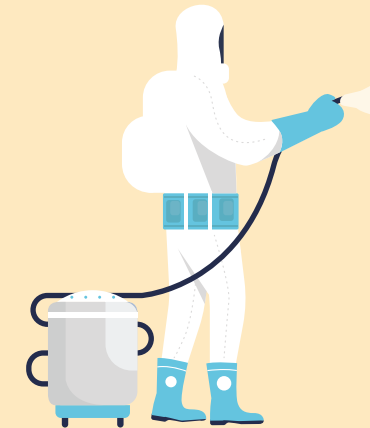


Hazard Communication Prior to Contractor Operations



## Occupational Health and Safety Management in the Post-Pandemic Era and Future Outlook

ECOVE regards effective occupational health and safety practices as fundamental to the sustainable operation of the Company. We are committed to providing all employees and stakeholders with a safe and secure working environment, ensuring peace of mind for our colleagues and their families, and instilling confidence in our clients to entrust us with various projects. In the future, we will continue to implement safety, health, and environmental management with the spirit of "everyone is accountable" to prevent occupational accidents. To achieve this, we consistently adhere to the following fundamental safety requirements: comprehensive personnel education and training, adherence to safety operating standards, safety audits, accident reviews, and experience sharing through lessons learned. We actively pursue safety objectives and ensure that every critical process is carried out in accordance with regulations, thereby reducing unsafe behaviors and conditions. Annually, we align with the Ministry of Labor's annual safety and health inspection policy, prioritizing inspections for high-frequency and high-risk operations. This ensures that safety and health promotion are seamlessly integrated, driving us closer to our goal of "zero disasters" and "zero accidents." The impact of COVID-19 on the world has been enormous, presenting significant challenges for businesses. Maintaining the stable operation of ECOVE and the health of our employees relies on the Company's epidemic prevention management and the cooperation of all colleagues. Following the guidance of the Central Epidemic Command Center, ECOVE adopts a dynamic management approach, promptly adjusting our epidemic prevention strategies. We have implemented a series of preventive measures, including COVID-19 vaccination information dissemination, visitor registration system, employee (and subcontractor) health management, maintaining social distancing during meetings, environmental disinfection, and reducing exposure through remote video conferences. Although these measures may bring inconvenience to work, we firmly believe that only with good health can we create a safer and healthier workplace. We aim to guide all employees through this crisis, continuously improve our practices, and envision ECOVE as a company that fulfills its corporate social responsibilities in a safe, healthy, stable, and sustainable state.





Post-pandemic Era Safety and Health Management - Sanitization



Example EfW Plant\_ Sanitization of dumping platform in Houli EfW Plant



Example EfW Plant\_Sanitization in Tainan EfW Plant



Example EfW Plant\_Sanitization in Xizhou EfW Plant

Post-pandemic Era Safety and Health Management - Access Control



Temperature Measurement

Post-pandemic Era Safety and Health Management - Social Distancing



Conference Room Protective Barriers for Maintaining Social Distancing



Maintaining Social Distancing during Morning Meetings

## Social participation

As a corporate citizen, giving back to the society and fulfilling corporate social responsibilities have always been the philosophies and goals ECOVE upholds on top of dedicating efforts to the Company's operations. Hence, besides the long-term commitment to the improvement of its main business, the Company is committed in long-term social participation with specific themes. With three themes of "long-term community building", "friendly corporate volunteers for the common good", and "operations-related community activities", personnel is encouraged to participate in happy and meaningful volunteer activities and contribute to society through practical actions and strike a balance between work and life. Despite the severe challenges posed by the pandemic in 2022, ECOVE remained committed to public welfare and caring for the local disadvantaged communities. ECOVE employees participated in various social activities, totaling 1,005 persons and 3,051 hours of dedicated service.



### Operations-related community activities

- \* Taiwan in My Eyes 120H
- \* Environmental education facilities and cultivate green future
- \* Step by step: Factories for sustainable environmental education



### Long-term community building

- \* Be neighborly and be part of the community
- \* Protect community environment and be a good neighbor



### Friendly Corporate Volunteers For the Common Good

- \* Friendly to charity and care for the disadvantaged
- \* Embracing multiculturalism, cultivating future impact.
- \* Respond to international initiatives and support green sustainability



## Operations-related community activities

To promote public participation in environmental protection, environmental education and communication channels are essential. Therefore, ECOVE actively promotes environmental education and has established five certified environmental education facilities. These facilities serve as enjoyable learning centers for the public and are equipped with educational resources. One notable example is Miaoli EfW Plant, which was designated as a visitation facility for the international event "Taiwan in My Eyes 120H." To cultivate the younger generation's basic understanding, values, and sustainable lifestyle towards the environment, ECOVE has been collaborating with the CTCI Education Foundation (CTCI EF) since 2018. They launched a three-year project called "Step by step: Factories for Sustainable Environmental Education " targeting elementary schools across Taiwan. This project aims to change the traditional passive factory visitation model by actively promoting environmental education on school campuses, thereby teaching children about sustainable lifestyles. Due to the enthusiastic and dedicated efforts of ECOVE's environmental education team, their work has been recognized and appreciated by teachers and students. In 2021, they continued their collaboration with the CTCI Education Foundation (CTCI EF) and expanded their promotion to elementary schools nationwide through the "Step by step: Factories for Sustainable Environmental Education" five-year project. This project aligns with the United Nations' initiatives and aims to deeply root environmental education by reaching out to schools and communities.

## Collaboration for six years

### Taiwan in My Eyes 120H

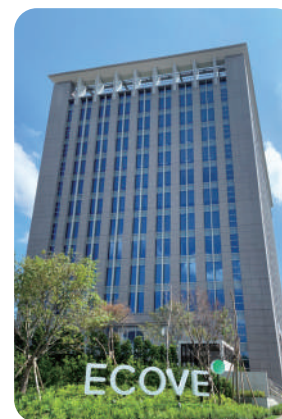
The "Taiwan in My Eyes 120H" initiative is an international event organized jointly by the CTCI Education Foundation (CTCIEF) and the Center for Corporate Sustainability (CCS) in Taiwan, which integrates the United Nations' Sustainable Development Goals (SDGs). Each year, the program specially arranges visits to exemplary Taiwanese companies for undergraduate and graduate students from domestic and international universities. In 2022, due to the pandemic, the event was held in the form of online tours, and ECOVE headquarters was designated as one of the visitation sites. The headquarters building is designed with the concept of intelligent energy management and eco-friendliness. It has obtained the "Taiwan Green Building EEWH Diamond Certification," "Smart Building Diamond Certification," and "LEED Gold Certification" from the United States Green Building Council. In 2022, it was also honored with the "National Architecture Gold Award." Through online participation, the participants gained insights into the overall planning of ECOVE's headquarters. In addition to having a user-friendly, practical, and comfortable flexible office space, the headquarters incorporates advanced green building and smart building design techniques. It aims to create an intelligent green building that can engage in dialogue with people, facilities, and the environment while promoting energy efficiency, sustainability, and environmental harmony. The visiting participants also utilized social media platforms like Facebook to amplify their voices internationally, showcasing Taiwan's profound sustainability efforts to the world. In 2023, Miaoli EfW Plant was once again selected as a designated visitation site. With its distinctive thematic exhibition spaces and various multimedia features, it serves as a connection point to showcase the operational aspects of the incineration plant and related environmental concepts. The goal is to create a green dream factory, emphasizing sustainability and environmental consciousness. Under the guidance of ECOVE staff, the participants are provided with explanations on practical knowledge related to waste resource sorting, waste incineration treatment, air pollution control technologies, and energy recycle for power generation. This educational experience aims to enhance participants' knowledge and values in environmental protection, cultivating a strong foundation in sustainable practices.



The opening ceremony of the 8th Taiwan in My Eyes 120H in 2022, featuring both in-person and online participants' group photo.



The closing ceremony of the 8th Taiwan in My Eyes 120H in 2022, featuring all participants' group photo.



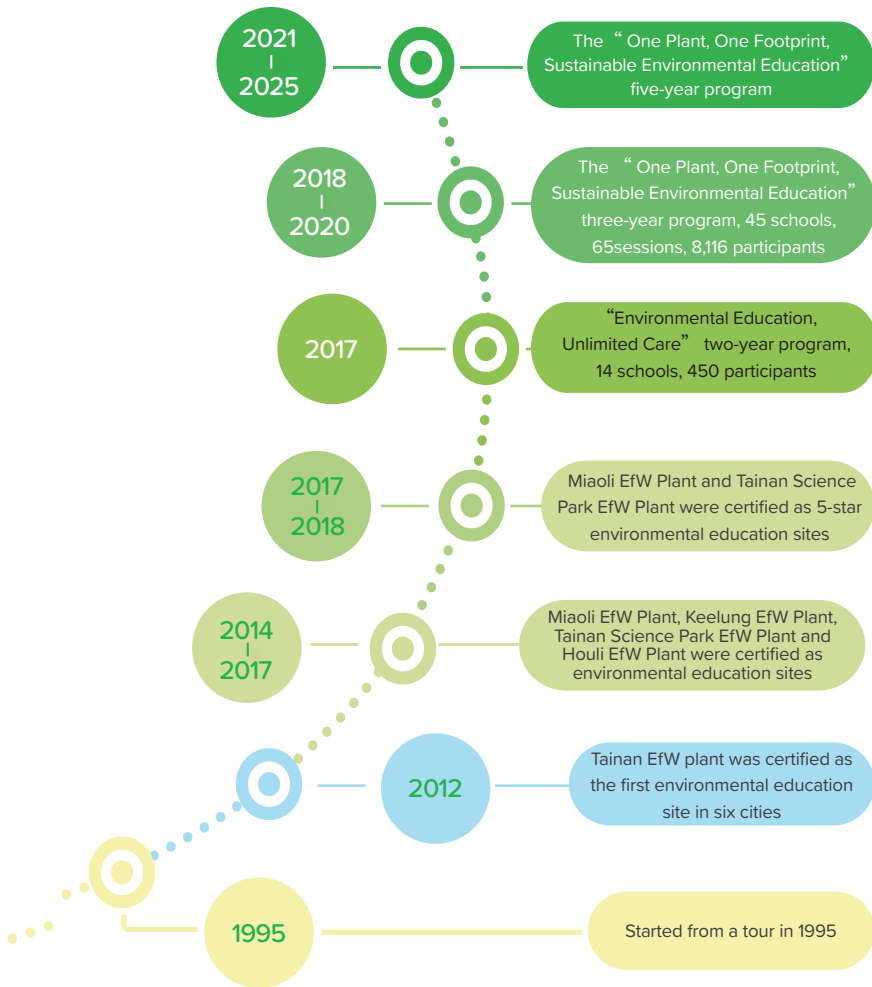
ECOVE headquarters has been honored with the "EEWH Diamond-level Green Building Certification" and "Diamond-level Smart Building Certification" in Taiwan.

## 5 plants

### Cultivating a Green Future with Environmental Education Facilities

ECOVE has established long-term partnerships with local resources and is committed to environmental education, deeply engaging in local environmental and ecological issues. Environmental education facilities refer to professional facilities which integrate environmental education professional capabilities, professional curriculums, and appropriate environmental education resources on the land regions with the characteristics of environmental education resources, and provide professional services for school students and the general public, so as to achieve the multi-functional objectives of education, research, conservation, culture, and recreation. This aligns perfectly with ECOVE's commitment to community engagement and contribution. Therefore, ECOVE actively participates in the certification of environmental education facilities and integrates its expertise in resource recycling. Taking into account the unique characteristics of each incineration plant, as well as the cultural and geographical aspects, ECOVE designs a variety of environmental education programs tailored to different age groups.

ECOVE's development of environmental education



Houli EfW plant

Combining waste incineration treatment and Dajia Stream water resources conservation to become the main focus, visitors can find out how the incineration plant can solve the waste treatment problems under the principles and objectives of "stabilization", "sanitation", and "resources". Through "The Past and Present of Dajia Stream", visitors can fully understand the sewage treatment and water quality monitoring mechanism of the plant, to better understand the importance of water resources conservation.

Tainan EfW plant

Planned high-quality environmental education space which blends humanity and natural characteristics with creative teaching of waste incineration cogeneration, resource recycling, and composting of raw food waste as the main focus of the lesson, becoming a place of incineration and environmental education functions.

Tainan Science Park EfW Plant

The concept and actions of sustainable production have been transformed into environmental education, and three series of environmental education courses on water resources, waste treatment, and nature conservation have been developed based on existing resources and characteristics.

Keelung EfW plant

Through a rich and diverse teaching experience, it is elucidated that although waste incineration has its imperfections, it also has its value, such as the transformation of the former sanitary landfill into a restoration park. We hope to inspire visitors to care and love the environment more through their own actions, so that this beautiful earth will last forever.

Miaoli EfW plant

- Based on the concept of the "Green Dream Factory," we have created a fictional group of five Green Mercurians, each with their own unique personality and expertise. These characters come from outer space to Earth to carry out various environmental missions, representing the environmental efforts of the incineration plant. Through themed exhibition spaces, interactive games, and multimedia features with wireless connectivity, we aim to connect visitors with a deeper understanding of the operation of the incineration plant and environmental knowledge. The goal is to create a rich and engaging environment for environmental education. The surrounding area includes wetland ecology, purple butterfly habitat, coastal vegetation, etc. It is the only environmental education facility associated with a wetland, demonstrating the coexistence of environmental friendliness and incineration operations.
- We are committed to creating a five-star intelligent facility and have developed online environmental education courses in response to the evolving COVID-19 situation. Our goal is to ensure that our environmental education initiatives can continue without being affected by external factors. By offering both physical and online environmental education programs.

Note: Miaoli EfW Plant and Tainan Science Park EfW Plant have been awarded the Excellent Five-Star Certification for Environmental Education Facilities.





Elementary school students from Liuhe Elementary School visit Miaoli EfW Plant for outdoor education.



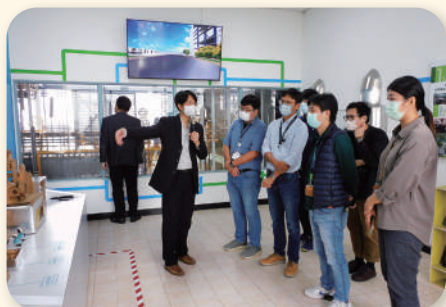
Students from Jhongsiao Junior High School in Tainan visit Tainan EfW Plant.



The Environmental Engineering Department from National Cheng Kung University visits Tainan Science Park EfW Plant.



Tucheng Elementary School visits Tainan EfW Plant.



TSMC visits Tainan Science Park EfW Plant.

**Event Activities** Various environmental education visits.

**Participants** Applications are open to schools, institutions, organizations, and community groups.

**How to apply** Please contact the environmental education officer via email at [ecovecsr@ecove.com](mailto:ecovecsr@ecove.com).



Environment protection is not a farfetched, difficult matter. Through various environmental education courses, we can practice green actions in life to be friendly to the planet and protect it! The ECOVE Environmental Education team offers a variety of environmental education courses, including engaging SDGs (Sustainable Development Goals) curriculum, waste-to-energy education, sustainable living, and upcycling workshops. These courses are provided free of charge, and applications from all sectors are welcome.

Activity Program: Various Environmental Education Visits Target audience: Schools, institutions, organizations, and community groups are all eligible to apply.

Application method: Please contact the Environmental Education Specialist via email at [ecovecsr@ecove.com](mailto:ecovecsr@ecove.com).



# For five consecutive years

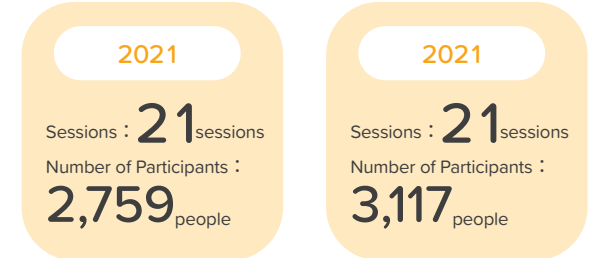
## Step by step: Factories for sustainable environmental education

To enable the next generation to understand the relationship between humans and the natural environment, as well as the relationship between humans and the environment in terms of society, economy, etc., while cultivating fundamental environmental concepts, values, and sustainable lifestyles, ECOVE has been collaborating with the CTCI Education Foundation (CTCI EF) since 2018. The "Step by step: Factories for sustainable environmental education" three-year program was launched, targeting elementary schools nationwide. ECOVE employees entered schools as lecturers to promote environmental education and teach children about sustainable lifestyles. The program received enthusiastic responses from many schools and students. In 2021, ECOVE continued its collaboration with the CTCI Education Foundation (CTCI EF) and extended the program to elementary schools nationwide. Following the content of the "Step by step: Factories for sustainable environmental education" three-year program, the "Step by step: Factories for sustainable environmental education" five-year program was initiated.

Through this program, we continuously enhance the content of our teaching materials. In addition to focusing on ECOVE's incinerator operation and recycling as core materials, the content is designed for different age groups and incorporates environmentally friendly hands-on activities. Examples include making crafts with recycled paper, such as handmade fans, and reusing seeds. We also integrate the concept of SDGs (Sustainable Development Goals) in daily life and address current environmental issues. This allows children to learn about important environmental concepts, such as the principles of waste-to-energy incineration, environmental certifications, and waste sorting, in an engaging and enjoyable way. Through videos, we also educate children about the presence of one hundred million tons of plastic waste in the ocean and guide them to reject plastic products like straws.

In 2022, the second year of the "Step by step: Factories for sustainable environmental education" program, nearly 56% of the events were a result of repeat invitations from previously participating schools. A total of 21 sessions were conducted, with 3,117 students participating. The program spanned from Dingnei Elementary School in Keelung in the north, to Gangshan Elementary School in Kaohsiung in the south, and even reached rural schools like Shuiwei Elementary School in Changhua County. ECOVE hopes that through continuous promotion, environmental education will permeate from school children to families, and then to rural and local neighborhoods, so as to maintain our beautiful living environment.

### Social Benefits of "Step by step: Factories for sustainable environmental education"



# 100%

According to the survey feedback results, it shows that 100% of the respondents are aware of and know that the organizers of the environmental education activities are the CTCI Education Foundation (CTCI EF) and ECOVE.

# 98%

98% of the respondents agree that ECOVE effectively enhances students' environmental awareness and promotes a sustainable atmosphere on campus.



ECOVE's environmental education team has been invited to Gangshan Elementary School in Kaohsiung for four consecutive years. This year, they will introduce environmental labels to the students and promote the implementation of environmental protection practices.



ECOVE's environmental education team led the students from Dingnei Elementary School in Keelung through a presentation titled "One Minute of Change," aiming to raise awareness among students about environmental protection issues.



ECOVE's environmental education team visited Shuiwei Elementary School in a rural area of Changhua to teach students about the United Nations Sustainable Development Goals (SDGs).



The ECOVE environmental education team visited Hsin-Hsing Elementary School in Tainan to vividly present the waste treatment process in an incineration plant using modular teaching materials.

## Long-term community building

In the past, ECOVE's operating sites were classified as NIMBY facilities, which gave local residents a sense of disgust and insecurity. ECOVE takes the initiative in showing concern for the locals and strives towards pollution reduction, energy-saving and carbon reduction, and environmental beautification and greening. It also makes the effort to get along with the neighbors, safeguards the community environment, organizes coastal cleanups, participates in community activities, builds environmental protection facilities, and maintains a quality and safe living environment, transforming a "NIMBY facility" which people hated in the past, into a facility welcomed by everyone.

ECOVE has been actively involved in community development for a long time. In 2022, it further integrated the spirit of creating social impact into its corporate culture. Responding to the Group's ESG Award for Sustainable Excellence and Impact, a total of 6 projects were awarded. ECOVE's "Friendly Public Welfare, Overflowing Love" project won an award, calling on colleagues to pay attention to community engagement and environmental education issues. The project involved regular collection of resources, utilizing toys and books frequently used by colleagues, promoting the concept of "maximizing utility and promoting goodness" and creating a shared atmosphere among owners, supply chain contractors, and volunteers. ECOVE's dedication to corporate social responsibility, combined with the creativity and ESG spirit demonstrated by its employees, was highly recognized by the judging panel. ECOVE will continue to strive for excellence based on the award-winning proposals, aiming to make concrete contributions to the sustainable development of the planet.

## Neighborliness and integration to communities

As a corporate citizen, ECOVE emphasizes on the interactions with the community and seeks common good with the neighborhoods. Under ECOVE's management, the Linkou Water Resources Center integrates 3C technology with environmental education by introducing a learning-oriented mobile phone microscope. Through interactive games, the public can observe microorganisms in water, learn about wastewater treatment, and cultivate a sense of water resource conservation. Additionally, the Houli EFW Plant, located in

the Jiushe community of Taichung, co-organizes the "Jiushe Cultural Festival" annually, which has been held for 19 years. This event combines traditional cultural practices with new environmental concepts, creating a platform for exchange and heritage preservation. It enhances public awareness and interest in local cultural arts while fostering a sense of attachment and cohesion among the local community. The ecologically rich Tainan EFW Plant, located in the vicinity of diverse ecosystems, actively collaborates with the "Chengxi Community Development Association, Annan District, Tainan City" by signing a memorandum of understanding for environmental education cooperation. The plant also hires professional environmental education instructors to assist in the development of environmental ecology and green industries in the Annan District of Tainan City. Through the expertise of these instructors, who have extensive experience in hands-on teaching, participants are taught to create interesting and aesthetically pleasing artworks using simple tools and readily available waste materials in their daily lives. The aim is to stimulate their creativity and cultivate a habit of utilizing and recycling waste materials throughout their daily lives, reducing resource wastage, promoting cultural development, and deepening public concern and attention to local environmental ecology and industrial development. ECOVE not only contributes human and material resources to community involvement but also actively engages employees at all levels, from employees to senior managers, in community activities. For example, they enthusiastically participate in events such as the "Sustainable Environmental Education Green Living Family Fun and Excellent Environmental Volunteer Commendation Ceremony" in Miaoli, the "Sports in Tainan Science Park" event in Tainan Science Park, and the "Colorful Dike Walk and Environmental Protection School Resources Recycling Challenge" in Wurih, revealing the passionate participation of the leadership and employees of ECOVE, along with their families. This demonstrates ECOVE's active integration into the community and their dedication to community engagement. "Public Welfare Fund Million Steps" charity walk event, we can see the enthusiastic participation of both the executive officers and colleagues of ECOVE, accompanied by their families.



Tainan Science Park EFW Plant actively responds to the "Sports in Tainan Science Park" initiative by the Tainan Science Park Administration and promotes a new lifestyle of self-directed epidemic prevention among all employees, fostering a culture of regular exercise.



Miaoli EFW Plant is the first incineration plant in Taiwan that coexists with a wetland, creating an educational environment for environmental education. It actively maintains the ecological balance of the surrounding forest area and keeps the evergreen forest clean, providing a green environment for the public.



Poster for CTCI Group's ESG Award for Sustainable Excellence and Impact.



## Protect community environment and be a good neighbor

ECOVE not only pioneers as a green enterprise but also acts as a good neighbor in the community. It has been committed to maintaining the factory premises and the surrounding environment. Regular and ad hoc road cleaning operations, lawn restoration, and utilization of waste materials for art installations are conducted. In some of the operational sites, such as Keelung EfW Plant, Miaoli EfW Plant, Tainan Science Park EfW Plant, and Tainan EfW Plant, beach cleaning and forest cleaning activities are organized. Although these activities have limited impact on reducing marine and forest litter, they have raised environmental awareness among colleagues and promoted the practice of reducing plastic and avoiding single-use plastics in their daily lives. In 2022, a total of 701 hours of community service were dedicated, and 4 beach cleaning/forest cleaning activities were organized, resulting in the collection of 508 kilograms of trash.

In addition, ECOVE actively utilizes its influence to create a friendly habitat for the purple Crow butterfly. It collaborates with the Taiwan Purple Crow Conservation Association to participate in habitat creation and assist in planting and watering. It also encourages colleagues to join in weed removal and tree planting activities. Through hands-on participation, they gain an understanding of the importance of butterflies in the natural ecosystem, as well as practical skills such as identifying butterfly host plants and nectar sources and cultivating and caring for native plants to maintain the vital habitat of the purple Crow butterfly. Since 2020, ECOVE has actively participated in the initiative "Tamshui River Convention" advocated by CommonWealth Magazine for three consecutive years. They have been actively involved in environmental actions related to the Tamshui River, particularly in the maintenance of wetland environments in Guandu Nature Park. By engaging in practical environmental protection efforts, they aim to give back to society and provide high-quality living environments and urban landscapes for the local communities they operate in. When enterprises draw closer to the society, the role of the enterprises is beyond generating output value, but also creating their own "value". We believe that in time to come, with the participation of corporate partners, greater and stronger energy will be injected into the communities and we can realize a friendly and sustainable development lifestyle for the common good.



ECOVE Miaoli Energy Corp. Miaoli EfW Plant's activities in planting nectar plants and ecological conservation for the purple Crow butterflies.



Employees from the Taipei Headquarters participated in the Tamshui River Environmental Action and assisted in the maintenance of the wetland environment at Guandu Nature Park.



Tainan's Chengxi Windbreak Forest Clean Home event for World Oceans Day.



ECOVE Miaoli Energy Corp. Miaoli EfW Plant's Purple Crow Marking.



ECOVE Miaoli Energy Corp./Miaoli EfW Plant's Plastic Reduction and Beach Cleaning Initiative 17GO.



Keelung EfW plant's coastal cleanup activities

## Friendly Corporate Volunteers For the Common Good

### Friendly charity, concern for the disadvantaged

Employees from ECOVE set up the "Friendly Charity Society" and took the initiative to organize charitable activities. To further emphasize corporate social responsibility on the employees, ECOVE actively cooperates with external parties in practicing "green living" in everyday life.

ECOVE is committed to fulfilling its corporate social responsibility. In 2017, it established the "Friendly Charity Society," which encourages employees to proactively contribute to acts of kindness and share innovative ideas for promoting social welfare. In addition to the ongoing projects continued for six years such as the "Donation of Computer Dreams Come True" project, "Guanyin Loving Home Care and Love," and the "Epidemic Prevention with You - Hypochlorous Acid Water Donation" project, since 2020, we have collaborated with the Step30 international ministries "There Are No Shoes That Can't Be Donated to Save Lives" campaign. This initiative encourages employees to participate in donating used items. In 2022, we expanded our cooperation with external charitable organizations and aligned with the United Nations Sustainable Development Goals (SDGs). With ECOVE's core principle of cherishing every resource, we aim to raise awareness among all employees about valuing resources and donate unwanted items to charitable organizations. Through these efforts, we strive to promote a culture of sustainability, fulfill our social responsibilities, and be friendly to the Earth. We organize donation drives specifically for items with shorter lifecycles, such as books and toys. We have formed an alliance with the Sunshine Social Welfare Foundation to invite all employees to participate in a second-hand book donation campaign. This initiative aims to raise awareness among our colleagues about the importance of cherishing resources and encourage a culture of sharing within our team. By partnering with the foundation, we strive to deepen our company's commitment to sustainability and foster a culture of corporate responsibility.



Secondhand Book Donation Event at the Head Office



Book donation event at the Keelung EFW Plant



ECOVE Solar Energy Corporation Secondhand Donation Event



ECOVE Team Toy Donation Event



Continuously supporting the "Donation of Computer Program for Rural Areas" for 6 consecutive years, aiming to narrow the digital divide in rural schools.



Producing hypochlorous acid water internally and dispatching personnel to deliver it to social welfare organizations, safeguarding community health and assisting the government in epidemic prevention.



## Embracing multiculturalism, cultivating future impact.

In order to enhance cultural content and stimulate cultural economy, in 2022, ECOVE gradually implemented two activities: "Little Sustainable Engineers Camp" and "Promoting Science Popularization through Love and Support for Remote Areas." The goal is to promote local culture globally through the dissemination of cultural economy, thereby boosting the economy and creating a positive cycle for the cultural and creative industries. This will ultimately realize the cultural value of "being more local and more international."

◆ The "Little Engineers Camp" is a collaborative event organized by ECOVE, the CTCI Education Foundation (CTCI EF), and the parent company, CTCI. The aim is to enhance elementary school students' professional knowledge and skills in the areas of environmental sustainability and engineering, as well as foster their self-directed learning abilities. The camp includes visits to sustainable living environments, environmental education activities, and engineering workplaces. Through observation, hands-on experiences, and engagement with popular topics such as SDGs (Sustainable Development Goals) board games and 3D printing courses, the young participants unleash their creativity and engage in engineering DIY projects to put the concept of environmental sustainability into practice. In 2022, a total of 56 young engineers from 20 elementary schools participated in the three-day camp. Through their experiences and learning, the students shared their insights during the closing ceremony by taking turns to share on stage. We aspire for the future generation to embrace the concept of sustainability and become ambassadors for it. We hope they will embody the role of young advocates and, with the spirit of engineers, work tirelessly towards a sustainable future.

◆ The "Promoting Science Education in Rural Areas" is a collaborative initiative between ECOVE and its parent company, CTCI. It aims to embody ECOVE's commitment to diversity, fairness, and inclusivity, as well as its concern for rural communities. Through a group ticket purchase for the film "S-Girl," Taiwan's first science education movie released in 2022, the initiative supports and invests in the development of science culture. By combining the support of associations, the impact is spread to all employees, supporting the development of science education and culture in Taiwan. This initiative aims to empower and cultivate the next generation by incorporating the mindset of female scientists, as well as exploring topics related to family and life education.



Through the film "S-Girl," the aim is to cultivate the influence of science education and culture in Taiwan.



The "Little Sustainable Engineers Camp" aims to enhance children's understanding of environmental sustainability and related engineering fields while fostering their self-directed learning abilities.

## Respond to international initiatives

ECOVE actively connects with external initiatives, with senior executives and personnel serving as initiative ambassadors and leading all personnel to embrace green practices in their daily work. All operating sites respond to international initiatives in promoting energy conservation and carbon reduction, reinforcing personnel's attention on issues such as climate change and ecological environment, etc. On top of that, environmental issues are infused into daily lives through the participation of activities and in view of the global climate change, we emphasize that everyone has the ability and responsibility to change the world, and as long as we put our heart and soul into caring for the land we live in, we can support our planet.

### Earth Hour

Illuminations at all units were switched off for an hour on that day, and the week was designated as energy conservation week. Along with it, a Lights Out event was organized once during the summer and winter seasons to incorporate environmental issues into daily life such that energy conservation can become a habit.



### Global Handwashing Day

Called on personnel to strengthen their awareness on hygiene and prevent disease infection through the simple but important act of washing hands. Establish the right mindset of handwashing and implement a seven-word formula of "palms, back, cross, interlock, thumbs, fingertips, wrist" for hand washing. Constantly reminding ourselves that washing hands frequently is protecting ourselves while protecting others.

### Earth Day

- "Out in Full Force" - each plant and operating site launched small green acts, placing potted plants in offices, thereby creating green offices, beautifying the environment, and elevating productivity while reducing carbon to protect the earth!
- Biodiversity – Keelung EFW Plant collaborated with the Taiwan Wild Bird Federation to promote the conservation of Black Kite in conjunction with environmental education courses.
- Wetland conservation – Miaoli EFW Plant is the only incineration plant located in a wetland in Taiwan. The ecological conservation of the wetland was considered during the planning. In particular, the direction of the plant was altered and the site was reduced by one hectare. In recent years, the plant also has partnered with the local communities to restore the purple crow butterflies.
- Live teaching materials for environmental education - after the discovery of *Spiranthes sinensis* at the Linkou Water Resources Center, immediate efforts were taken to conserve and transplant the plant. Currently, the plants are growing well and have become the best live teaching materials.

### World Diabetes Day

ECOVE encourages all colleagues to prioritize their health and participate in the "Healthy ECOVE, Let's Get Moving" campaign. Employees were encouraged to take stairs instead of taking elevators in their daily lives, making "More Steps, More Healthier" not just a slogan.

### World Oceans Day

With the theme of "Reduce Plastic," the camp promotes the refusal to use disposable tableware. It initiates four beach cleaning and forest cleaning activities. Although beach cleaning and forest cleaning have limited impact on reducing marine and forest waste, they serve as catalysts for raising environmental awareness among participants. The camp aims to encourage participants to practice plastic reduction and avoid single-use plastics in their daily lives.



### Green Office



"Green Office" is an initiative that encourages colleagues to create a green office environment by promoting double-sided printing, utilizing video conferencing, prioritizing the purchase of environmentally friendly products, implementing waste sorting and recycling, enhancing environmental beautification, and raising awareness among employees. It aims to cultivate an environmentally friendly workspace and practice green living in everyday life.



ECOVE actively responds to international initiatives by appointing ambassadors from its subsidiary companies to lead all employees in building corporate citizenship awareness. These ambassadors integrate environmental issues into daily life and also remind colleagues to prioritize epidemic prevention measures.



ECOVE utilizes Global Handwashing Day as an opportunity to remind employees that the first step to maintaining good health is proper handwashing. By emphasizing the importance of hand hygiene, ECOVE aims to protect individuals and prevent the unintentional spread of viruses among colleagues and their families.



ECOVE strives to create a green office environment and promote an eco-friendly workspace. We actively practice green living in our daily lives.

### Most Reliable

ECOVE is committed to building a diverse, equitable, and inclusive workplace.

CTCI regards our employees as the most valuable asset of the Company. We are committed to creating a diverse and inclusive workplace that is safe and comfortable for all. We have established comprehensive talent development and retention programs to assist our employees in achieving a work-life balance. We actively promote diversity by hiring employees from different genders, religious beliefs, races, nationalities, ages, and ethnic backgrounds. We believe in a merit-based approach that respects diversity, fosters inclusivity, and cultivates a collaborative and sharing work environment with an international perspective.

ECOVE actively supports the concept of diversity and prosperity within the Group through practical actions. In recent years, some companies have faced challenges such as salary reductions or layoffs due to the impact of the pandemic. In order to attract and retain talent, as well as motivate and enhance employee engagement, ECOVE has implemented annual salary increases. In the year 2022, the average salary increases for employees exceeded 3%. The Company has also established an Employee Stock Trust Program, allowing employees to allocate a portion of their monthly salary (ranging from 5% to 15%) as a contribution to the trust. The Company provides a 50% matching contribution as a reward, encouraging long-term investment and incentivizing employees to hold shares of the parent company. This approach allows employees to share in the Company's business achievements. Furthermore, although the majority of employees at ECOVE are male due to industry characteristics, the starting salary for both genders is consistent across all job positions. When considering base salary and compensation for employees at the same level and with the same seniority, there is no differentiation based on gender standards.

ECOVE encourages regular health check-ups for employees by reviewing the health examination items provided by contracted hospitals every two years and offering free health checks to employees. This ongoing care for employees and promotion of health management is accompanied by the provision of breastfeeding facilities, ensuring a safe, healthy, and friendly working environment, thereby achieving the goal of work-life balance. Apart from basic employee health insurance, group insurance, health checkups, and shareholding trusts, the Company provides full life insurance and accident insurance coverage for all employees from their first day on their job. In addition, employees and their families are offered alternatives and subsidies, enabling them to feel that the Company is offering additional financial protection for their families.



Lactation room facilities Campus Recruitment

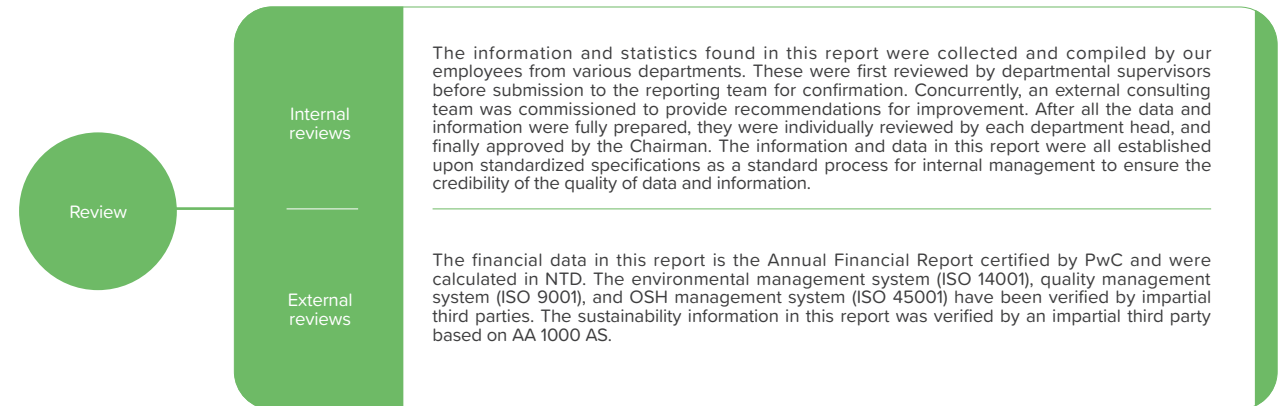
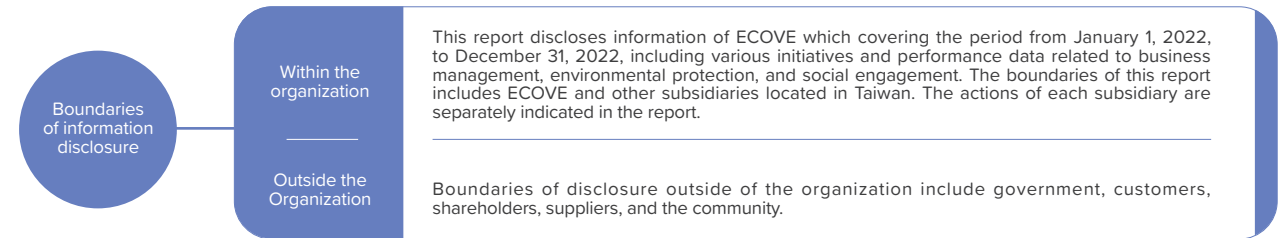
A Staff Welfare Committee is also established to organize various activities such as travel trips, Family Day events, sports competitions, and year-end parties on an irregular basis. Additionally, there are birthday gifts, holiday gifts, and various allowances provided to employees as part of the welfare benefits. The Staff Welfare Committee has also collaborated with online platforms to transform the traditional distribution of physical gift vouchers into welfare points that can be used by employees to choose from various options such as travel, shopping, and redeeming vouchers on the platform. This aims to increase the convenience, flexibility, and diversity of the welfare funds utilization for the employees.

# About This Report

ECOVE Environment Corp. (hereinafter referred to as "ECOVE" or "the Company") has been publishing sustainability reports for 13 consecutive years since 2010. Each year, the Company proactively discloses non-financial information to all stakeholders who are concerned about ECOVE, consistently conveying its commitment to sustainable business practices. The Company strives to engage in effective communication with stakeholders and address their needs. To meet the future demand for green investments, ECOVE approved its transformation into a business company during the shareholder meeting held on May 31, 2023. The sustainability report for the year 2022 was published in June 2023, and the next report is scheduled to be released in June 2024.



Time frame for information disclosure	GRI level	Assurance Level	External verification/Assurance
January 1, 2022, to December 31, 2022	According to GRI Standards (2021)	Type II - High level of assurance	<ul style="list-style-type: none"> <li>Financial data - PricewaterhouseCoopers (PwC)</li> <li>Quality management systems - ISO 9001:2015</li> <li>Environmental management systems - ISO 14001:2015 Greenhouse Gas (GHG) inventory - ISO 14064:2018</li> <li>Occupational Safety and Health (OSH) management - ISO 45001:2018</li> <li>Sustainable data - AA 1000AS V3</li> </ul>



# GRI Sustainability Reporting Standards (GRI Standards) topic correlation table

**Statement of Use :** ECOVE has prepared its reporting in accordance with the GRI Standards. The reporting period covers the period from January 1, 2022, to December 31, 2022.

**The GRI standard used for reporting GRI 1. :** GRI 1: Basic 2021

**Applicable GRI Sector Disclosures :** The applicable GRI sector disclosures have not been determined yet.

GRI Standards/ Other Sources	Disclosure Item	Corresponding Sections and Chapters	Page No.
<b>GRI 2: General Disclosures</b>			
GRI 2: General Disclosures 2021	2-1	Organizational Details	About ECOVE 006
	2-2	Entities included in the organization's sustainability report	About This Report 112
	2-3	Reporting period, frequency, and contact person	About This Report 112
	2-4	Restatements of information	No information reprocessing
	2-5	External assurance	About This Report 112
	2-6	Activities, value chain, and other business relationships	About ECOVE Sustainable supply chain management 006 040
	2-7	Employees	Talent composition and remuneration 078
	2-8	Non-employee workers	Talent composition and remuneration 078
	2-9	Governance structure and composition	Management Governance 026
	2-10	Nominating and selecting the highest governance body	Management Governance 026
	2-11	Chair of the highest governance body	Management Governance 026
	2-12	The highest governing body oversees the role of impact management.	Sustainability Policy and Promotion Structure 012
	2-13	The person responsible for managing impacts.	Sustainability Policy and Promotion Structure 012
	2-14	The role of the highest governance body in sustainability reporting	About This Report 112
	2-15	Conflict of Interest	Management Governance 026

GRI Standards/ Other Sources	Disclosure Item	Corresponding Sections and Chapters	Page No.
GRI 2: General Disclosures 2021	2-16	Communicating critical concerns	Corporate Sustainability Promotion Framework 012
	2-17	Collective knowledge of highest governance body	Management Governance 026
	2-18	Evaluating the highest governance body's performance	Management Governance 026
	2-19	Remuneration policies	Management Governance 026
	2-20	Process for determining remuneration	Management Governance 026
	2-21	Annual total compensation ratio	Promotion and Remuneration 080
	2-22	Statement regarding sustainable development strategy	Message from Chairman 004
	2-23	Policy Commitment	Legal Compliance and Internal Control and Internal Audit Human Rights Protection and Welfare 029 081
	2-24	Incorporating Policy Commitments	Legal Compliance and Internal Control and Internal Audit Human Rights Protection and Welfare 029 081
	2-25	Procedures for Remedying Negative Impacts	Materiality Analysis 014
	2-26	Mechanisms for Seeking Advice and Raising Concerns	Legal Compliance and Internal Control and Internal Audit 029
	2-27	Legal Compliance	Legal Compliance and Internal Control and Internal Audit 029
	2-28	Membership of associations	Participation in external organizations 024
	2-29	Stakeholder Engagement Policy	Materiality Analysis 014
	2-30	Collective bargaining agreements	Not signed -





GRI Standards/ Other Sources	Disclosure Item		Corresponding Sections and Chapters	Page No.
<b>Material topics</b>				
GRI 3 : Material topics 2021	3-1	Process for Determining Material Topics	Materiality Analysis	014
	3-2	List of Material Topics	Materiality Analysis	014
<b>Ethical business conduct</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
	205-1	Operations assessed for risks related to corruption	Legal Compliance and Internal Control and Internal Audit	029
GRI 205: Anti- corruption	205-2	Communication and training about anti-corruption policies and procedures	Legal Compliance and Internal Control and Internal Audit	029
	205-3	Confirmed incidents of corruption and actions taken	Legal Compliance and Internal Control and Internal Audit	029
<b>Power generation efficiency</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
Specific to ECOVE	-	Source Control of Incoming Waste, Enhancing Waste Incineration Efficiency, and Promoting Resource Cycling Efficiency	Cogeneration and Sales of Electricity	064
<b>Development of Renewable Energy</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
Specific to ECOVE	-	Develop renewable energy power generation efficiency, set short-, medium- and long-term power generation targets, and expand investment opportunities	Cogeneration and Sales of Electricity	064
	-		Solar power	065
<b>Professional research &amp; development and technical competency</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
Specific to ECOVE	-	Improve the management efficiency of the incineration plants which ECOVE operates on behalf, and provide various services such as waste clearing technical consultation, environmental protection, construction and equipment maintenance and sales agent for pollution prevention, and incinerator improvement planning/design	Development, Integration and Application of New Technologies	037

GRI Standards/ Other Sources	Disclosure Item		Corresponding Sections and Chapters	Page No.
<b>Sustainable supply chain management</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
	GRI 204: Procurement Practices	204-1	Proportion of spending on local suppliers	Sustainable supply chain management 040
<b>Pollution Control</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
	GRI 305: Emissions	305-1	Direct (Scope 1) greenhouse gas (GHG) emissions	Greenhouse Gas Inventory
305-2		Energy indirect (Scope 2) greenhouse gas (GHG) emissions	Greenhouse Gas Inventory	056
305-3		Other indirect (Scope 3) GHG emissions	Greenhouse Gas Inventory	056
305-4		GHG emissions intensity	Greenhouse Gas Inventory	056
305-5		Reduction of GHG emissions	Greenhouse Gas Inventory	056
305-6		Emissions of ozone-depleting substances (ODS)	Information not available	-
305-7		Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Upload continuous monitoring system information to EPA in real time	-
<b>Green operation and living</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	
	302-1	Energy consumption within the organization	Energy and Resource Conservation	069
GRI 302: Energy	302-2	External Energy Consumption of the Organization	Information not available	-
	302-3	Energy intensity	Energy and Resource Conservation	069
	302-4	Reduction of energy consumption	Energy and Resource Conservation	069
	302-5	Reductions in the energy requirements of products and services	Energy and Resource Conservation	069

GRI Standards/ Other Sources	Disclosure Item	Corresponding Sections and Chapters	Page No.	
<b>Environmental protection expenditure and results</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
Specific to ECOVE	-	Expenditure and Cost Control of Various Environmental Expenses, Benefits of Environmental Investments on Company Operations, Green Procurement	Energy and Resource Conservation	069
		Sustainable supply chain management	040	
<b>Occupational Safety and Health (OSH)</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
GRI 403: Occupational Health and Safety 2018	403-1	Occupational Safety and Health Management System		088
	403-2	Hazard identification, risk evaluation, and incident investigation		088
	403-3	Occupational Health Services		088
	403-4	Worker participation, consultation and communications regarding occupational health and safety		088
	403-5	Worker training regarding occupational health and safety	Safe and Healthy Workplace Environment	088
	403-6	Promotion of worker health		088
	403-7	Preventing and mitigating occupational health and safety impacts directly related to business relationships		088
	403-8	Workers covered by occupational safety and health management system		088
	403-9	Work-related injuries		088
	403-10	Work-related ill health		088
<b>Employee Care</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
GRI 401: Employment	401-1	New employee hires and employee turnover	Talent composition and remuneration	078
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Employee Caring Welfare Pluralism	082 083
	401-3	Parental leave	Employee Caring	082

GRI Standards/ Other Sources	Disclosure Item	Corresponding Sections and Chapters	Page No.	
<b>Career Development and Training</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
GRI 404: Training and Education	404-1	Average hours of training per year per employee	Educational Training and Industry-University Collaboration	083
	404-2	Programs for upgrading employee skills and transition assistance programs	Educational Training and Industry-University Collaboration	083
	404-3	Percentage of employees receiving regular performance and career development reviews	Promotion and Remuneration	080
<b>Talent Retention and Recruitment</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
GRI 401: Employment	401-1	New employee hires and employee turnover	Talent composition and remuneration	078
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Employee Caring Welfare Pluralism	082 083
	401-3	Parental leave	Employee Caring	082
<b>Human rights and labor relations</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
GRI 2: General Disclosures 2021	GRI 2-23	Policy Commitment	Legal Compliance and Internal Control and Internal Audit Human Rights Protection and Welfare	029 081
GRI 401: Employment	401-1	New employee hires and employee turnover	Talent composition and remuneration	078
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Employee Caring Welfare Pluralism	082 083
	401-3	Parental leave	Employee Caring	082
<b>Participation in construction of public facilities</b>				
GRI 3 : Material topics 2021	3-3	Management of Material Topics	Materiality Analysis	014
Specific to ECOVE	-	Participation in Environmental/Circular Economy-related Public Infrastructure Projects to Improve the Quality of Life and Convenience for the General Public	Participation in construction of public facilities	074



## GRI 200: Economic Series

Series	Disclosure Item	Description	Corresponding Chapters	Page No.
GRI 201: Economic Performance	201-1	Direct economic value generated and distributed(EVG&D) on an accruals basis	Management performance and industry outlook	034
	201-2	Financial implications and other risks and opportunities due to climate change	Climate Strategy and Management	050
	201-3	Defined benefit plan obligations and other retirement plans	Talent composition and remuneration	081
GRI 203: Indirect Economic Impacts	203-1	Infrastructure investments and services supported	Participation in construction of public facilities	074
	203-2	Significant indirect economic impacts	Social participation	102
GRI 206: Anti-Competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Legal Compliance and Internal Control and Internal Audit	029

## GRI 300: Environmental Series

Series	Disclosure Item	Description	Corresponding Chapters	Page No.
GRI 301: Materials	301-1	Materials used by weight or volume	Pollution Reduction	067
	301-2	Renewable materials used	Recycling and reuse	061

## GRI 400: Social Series

Series	Disclosure Item	Description	Corresponding Chapters	Page No.
GRI 401: Employment	401-1	New employee hires and employee turnover	Talent composition and remuneration	078
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Human Rights Protection and Welfare	081
	401-3	Parental leave	Human Rights Protection and Welfare	081
GRI 402: Labor/Management Relations	402-1	Minimum notice periods regarding operational changes	Human Rights Protection and Welfare	078
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	Talent composition and remuneration	078
	405-2	Ratio of basic salary and remuneration of women to men	Talent composition and remuneration	078
GRI 415: Public Policy	415-1	Political contributions	The Company is politically neutral and has no political donation	-
GRI 417: Marketing and Labeling	417-2	Incidents of non-compliance concerning product and service information and labeling	No such incidents occurred in 2022	-
GRI 418: Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Information Security	032

\* The 2016 version is adopted for all the above provisions, except for GRI 3030 and 403 series which adopt the 2018 version

## Sustainability Accounting Standards Board (SASB) Comparison Table

Topic	Code	Category	Measuring Unit	Accounting Metric	Chapter	Page No.
GHG	IF-WM-110a.1	Quantitative	Metric tons (t) CO <sub>2</sub> e; %	Under emissions-limiting regulations and emissions-reporting regulations: Scope 1 emissions Scope 1 emissions percentage covered	Greenhouse Gas Inventory	056
	IF-WM-110a.2	Quantitative	Million British Thermal Units (MMBtu); %	1. Total landfill gas generated 2. Percentage flared 3. Percentage used for energy	All the waste collected and transported by ECOVE is treated by incineration, and there was no landfill gas generated	-
	IF-WM-110a.3	Discussion and Analysis	N/A	Discussion of long-term and short-term strategy or plan to manage Scope 1 and lifecycle emissions, emissions reduction targets, and an analysis of performance against those targets	N/A	-
Fleet Fuel Management	IF-WM-110b.1	Quantitative	Gigajoules (GJ); %	1. Fleet fuel consumed 2. Percentage of natural gas consumed 3. Percentage of renewable energy consumed	Energy and Resource Conservation	069
	IF-WM-110b.2	Quantitative	%	Percentage of alternative fuel vehicles in fleet	There were no vehicles using alternative fuels	-
Air Quality	IF-WM-120a.1	Quantitative	Metric tons (t)	Air emissions of the following pollutants: 1. NO <sub>x</sub> (excluding N <sub>2</sub> O) 2. SO <sub>x</sub> 3. VOCs 4. HAPs	Pollution Reduction	
	IF-WM-120a.2	Quantitative	Number	Number of facilities in or near areas of dense population	Waste management	
Management of Leachate & Hazardous Waste	IF-WM-150a.1	Quantitative	Metric tons (t); %	1. Total Toxic Release Inventory (TRI) releases; 2. percentage released to water	All waste collected and transported by ECOVE was treated by incineration and was not buried. Hence, no relevant situation.	-
	IF-WM-150a.2	Quantitative	Number	Number of corrective actions implemented for landfill releases		
	IF-WM-150a.3	Quantitative	Number	Number of incidents of non-compliance associated with environmental impacts		
Labor Practices	IF-WM-310a.1	Quantitative	%	Percentage of active workforce covered under collective bargaining agreements	No collective agreements have been signed	-
	IF-WM-310a.2	Quantitative	Number; Number of days	Number; Days idle	Human Rights Protection and Welfare	081
Workforce Health & Safety	IF-WM-320a.1	Quantitative	Rate	For direct employees and contract employees: 1. total recordable incident rate (TRIR) 2. fatality rate 3. near miss frequency rate (NMFR)	Workplace Disaster Prevention	092
	IF-WM-320a.2	Quantitative	%	Safety Measurement System BASIC percentiles for: 1. Unsafe Driving, 2. Hours-of-Service Compliance, 3. Driver Fitness, 4. Controlled Substances/Alcohol, 5. Vehicle Maintenance, and 6. Hazardous Materials Compliance	Policies and Committees	088
	IF-WM-320a.3	Quantitative	Number	Number of road accidents and incidents	There were two traffic accidents involving the ECOVE Waste Management Corp. Transport Fleet, but based on the determination of the traffic accidents, our party was found not at fault for both incidents. Please refer to the Management of Mechanical Equipment and Contractor Management	090





Topic	Code	Category	Measuring Unit	Accounting Metric	Chapter	Page No.
Recycling & Resource Recovery	IF-WM-420a.1	Quantitative	Metric tons (t); %	1. Amount of waste incinerated 2. percentage hazardous 3. Percentage used for Energy Recovery	Waste management ECOVE's main operation is general waste incineration without any hazardous substance recycle activities. The energy recovery percentage for all incoming waste at ECOVE is 100%, as all waste is incinerated to generate heat for electricity production.	059 064
	IF-WM-420a.2	Quantitative	%	<b>Customer type by</b> 1. percentage of customers receiving recycling services 2. percentage of customers receiving composting services	ECOVE primarily engages in the incineration treatment of general waste and does not involve recycling or composting activities.	-
	IF-WM-420a.3	Quantitative	Metric tons (t)	<b>Amount of material</b> 1. recycled, 2. composted, and 3. processed as waste-to-energy	ECOVE does not engage in recycling or composting activities. Please refer to the section on Waste Incineration Volume for information on waste-to-energy conversion.	059
	IF-WM-420a.4	Quantitative	Metric tons (t); %	Amount of electronic waste collected, percentage recovered through recycling	ECOVE does not have an operational item specifically dedicated to the recycling of electronic waste.	-

## Activity Metrics

Code	Category	Measuring Unit	Activity	Chapter	Page No.
IF-WM-000.A	Quantitative	Number	<b>Number of customers by category</b> 1. municipal, 2. commercial, 3. industrial, 4. residential, and 5. other"	Due to the business nature of ECOVE, the customer category was not distinguished	-
IF-WM-000.B	Quantitative	Number	Vehicle fleet size	Pollution Reduction	067
IF-WM-000.C	Quantitative	Number	<b>Number of:</b> 1. landfills, 2. transfer stations, 3. recycling centers, 4. composting centers, 5. incinerators, and 6. all other facilities	ECOVE Solar Energy Corporation owns 105 solar power plants, and in 2022, ECOVE is responsible for operating 8 waste incinerators. Please refer to the 'About ECOVE' section for more information	006
IF-WM-000.D	Quantitative	Metric tons (t)	<b>Total amount of materials managed, by customer category:</b> 1. municipal, 2. commercial, 3. industrial, 4. residential, and 5. other	Due to the business nature of ECOVE, the customer category was not distinguished	-

## The risks and opportunities posed by climate change to companies and the corresponding response measures implemented by companies.

Item	Execution Situation
<p>1. Articulate the Board of Directors and Management's oversight and governance of climate-related risks and opportunities.</p>	<p>The highest committee responsible for climate-related matters within ECOVE is the Risk Management Execution Committee, composed of the Board of Directors, Chairman, Audit Unit, President, Executive Secretary, and department heads of subsidiary companies. The President serves as the Chairman of the Risk Management Committee and convenes regular quarterly meetings. After discussions in the Risk Management Committee, prioritized risk issues are identified, and control measures are proposed to be reported to the Chairman and the Board of Directors.</p>
<p>2. Describe how the identified climate risks and opportunities impact the Company's business, strategy, and finances (short-term, midterm, long-term).</p>	<p>Risks:</p> <ol style="list-style-type: none"> <li>1. Regulatory Uncertainty (Long-term): The implementation of climate change response legislation, such as the Climate Change Response Act, to achieve the country's long-term greenhouse gas reduction targets and various phase-wise regulatory objectives, may lead to increased operational costs for organizations.</li> <li>2. Regulatory Uncertainty (Short-term): Facing new energy or climate-related regulations, companies may incur fees within the contractual capacity specified by regulatory requirements.</li> <li>3. Regulatory Uncertainty (Long-term): The uncertainty surrounding new regulations may lead to increased operational costs for waste disposal and transportation.</li> <li>4. Shift in Customer Behavior (Long-term): As government agencies prioritize sustainability, there will be a gradual increase in resource recycling rates and a reduction in the proportion of waste processed through incineration plants.</li> <li>5. Shift in Customer Behavior (Short-term): In the solar energy market, there is intense competition, leading to a gradual decrease in feed-in tariffs.</li> <li>6. Product Efficiency Regulations and Standards (Midterm): Changes in electricity tariff recognition due to product efficiency regulations and standards may lead to reduced revenue.</li> <li>7. Product Efficiency Regulations and Standards (Long-term): If product reliability is unstable, there is an increased risk of product failure, leading to increased operational costs. Failure to properly handle waste materials according to regulations may result in additional expenses related to legal actions, such as taxes, fees, and fines, thereby increasing operating expenditures.</li> <li>8. Product Efficiency Regulations and Standards (Midterm): The use of new acid-removing agents in the manufacturing process may result in the emission of carbon dioxide byproducts, increasing carbon emissions, despite the improved effectiveness.</li> <li>9. Product Efficiency Regulations and Standards (Midterm): During the assessment phase of the G.D. Development Corporation solar power installation sites, both ground-mounted and floating solar power plants, there may be environmental impacts due to ecological concerns.</li> </ol>
<p>3. Impact of Extreme Weather Events and Transition Actions on Financials</p>	<p>Extreme Weather Events: High water demand in the waste incineration and recycling processes can lead to reduced production capacity or production shutdowns during drought seasons.</p> <p>Business Transformation Action: In the event of a natural disaster forecast, take proactive measures to increase the inventory levels of relevant chemicals and water within the facility. Establish a diversified supplier network for the supply chain. Develop or establish a secondary water source supply pipeline. Mobilize water trucks as necessary. Implement process improvements to reduce the demand for cooling water consumption.</p> <p>Financial Impact: The estimated decrease in revenue in the waste incineration sector is projected to be 1.15%, resulting in a minor impact. In the recycling and reuse sector, extreme weather conditions are expected to have an annual revenue impact of approximately NT\$2.5 million.</p> <p>Response to the 2030 ECOVE's target of reducing carbon emissions by 30% at fully operational control production sites, the transformation plan and its associated financial impacts are as follows:</p> <p>Office electricity consumption will gradually transition to self-generated solar green energy from G.D. Development Corporation, reducing the impact of carbon taxes. All company vehicles will be completely replaced with electric vehicles.</p> <p>ECOVE Solvent Recycling Corp. will implement a low-carbon recycling process, with an estimated investment of NT\$15 million, resulting in a reduction of over 30% in carbon emissions while lowering processing costs.</p> <p>ECOVE Waste Management Corp. plans to gradually replace old waste collection vehicles with the latest environmentally friendly vehicles and transition to new energy vehicles starting from 2030. This initiative is estimated to require an annual investment of NT\$30 million.</p>
<p>4. Climate risk identification, assessment, and management should be integrated into the overall risk management system.</p>	<p>The highest committee responsible for climate-related matters within ECOVE is the Risk Management Execution Committee, composed of the Board of Directors, Chairman, Audit Unit, President, Executive Secretary, and department heads of subsidiary companies.</p> <p>In accordance with the "Risk Management Regulations", ECOVE systematically identifies climate risks that may be faced during operations. Climate risk consists of two major types, transformational and physical, which are further differentiated into regulations, technology, market, reputation, and immediate and long-term. Opportunities are divided into five categories namely, resource efficiency, energy sources, products and services, market, and resilience. The risk and opportunity matrices are evaluated and drawn based on the two consideration factors of incidence rate and impact. After discussion by the Risk Management Committee, the material risks and opportunities which ECOVE may face are determined, and effective actions are adopted to manage risks or harness the possible opportunities so as to strengthen the operational system and competitiveness of the Company and its subsidiaries. Short-term is defined as within 1 year, mid-term as 2025, and long-term as 2030. Incidence rate is divided into seven levels, expressed as percentages. Impact is divided into five levels, and is divided into financial aspects, capacity or service locations, personnel injuries, regulations, consequences of reputation, etc. The audit results related to climate change risks for each subsidiary will be presented and discussed during quarterly Risk Management Execution Committee meetings. Control measures will be proposed to ensure the ongoing review and implementation of these measures through audits. This process will help the Board of Directors and managers ensure effective control over the identified risks.</p>



Item

Execution Situation

5. When conducting scenario analysis to assess resilience against climate change risks, it is necessary to explain the following elements: the scenario used, parameters, assumptions, analysis factors, and the primary financial impacts.

When conducting scenario analysis to evaluate resilience against climate change risks, the following scenarios provided by the IPCC AR6 can be utilized: SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP2-6.0, and SSP5-8.5. Assuming no improvement in the identified risks by the year 2030, the analysis would assess the financial impacts caused by these risks under each scenario.

The analysis parameters include organizational greenhouse gas emissions, projected carbon tax, global economic growth rate, waste disposal volume, renewable energy infrastructure cost, renewable energy feed-in tariffs, maximum consecutive dry days, and greenhouse gas emissions from chemical products.

The primary financial impacts include the uncertainty of new regulations. The implementation of climate change adaptation laws and regulations may lead to increased operational costs in order to achieve the national long-term greenhouse gas reduction targets and the phase-wise regulatory objectives.

6. If there is a transition plan in place to address climate-related risks, please provide an explanation of the plan's content, as well as the indicators and objectives used to identify and manage physical risks and transition risks.

The Company uses the indicator of maximum consecutive dry days as a measure of physical risk, and carbon cost as an indicator of transition risk. The assessment criteria for each indicator consider risks to be significant and significant if they result in a significant financial impact exceeding 5% of the consolidated pre-tax net profit for the year 2022. After assessing the relevant transition and physical risks, no significant risks were identified. The description of the transition plan is as follows:

1. Incineration Plant: Investing in a waste-to-energy power plant to enhance the efficiency of energy recycle from waste and improve profitability. Currently, there is one plant in the trial operation phase, and one plant under design and planning.
2. ECOVE Waste Management Corp.: Gradually replacing old waste collection vehicles with the latest environmentally friendly vehicles and transitioning to new energy vehicles starting from 2030. An estimated annual investment of NT\$30 million is planned for this initiative. A 30% reduction in emission intensity is projected by 2030.
3. ECOVE Solvent Recycling Corporation: Introducing a low-carbon recycling process with an estimated investment of NT\$ 15 million, which can reduce carbon emissions by over 30% while also lowering processing costs. A 30% reduction in emission intensity is projected by 2030.
4. ECOVE Solar Energy Corporation: Adopting a self-supply and self-use approach, aiming to achieve a 30% reduction in emission intensity by 2030.

The plan to address physical risks includes the development of alternative water supply pipelines, the deployment of water trucks as needed, and process improvements to reduce the demand for cooling water.

7. If using internal carbon pricing as a planning tool, it is important to explain the price-setting foundation.

No internal carbon pricing has been established.

8. If climate-related goals have been set, it is important to provide information on the covered activities, scope of greenhouse gas emissions, planning timeframe, and annual progress towards achieving the goals. If carbon offsets or Renewable Energy Certificates (RECs) are used to achieve these goals, the source and quantity of carbon offsets or the number of RECs should be explained.

Using the year 2022 as the base year, ECOVE Headquarters has set reduction targets (Scope 1 + Scope 2) as follows: a 20% reduction by 2024, a 40% reduction by 2026, and achieving net-zero emissions by 2030. For the waste management, recycling, and renewable energy sectors with long-term operational control, a 15% reduction target by 2026 and achieving net-zero by 2050 are set.

Detailed reduction targets for each sector are as follows:

1. Waste management and incineration sector: ECOVE Waste Management Corp. conducts regular organizational greenhouse gas inventories for waste collection, aiming to achieve a 15% carbon reduction by 2026 and eventually reach net-zero emissions by 2050. For incineration plants, the target is to reduce emissions by 1% annually until 2030, with each ton of waste resulting in 456 metric tons of CO<sub>2</sub>e emissions.
2. In the renewable energy sector, the target for 2023 is to achieve a greenhouse gas reduction of 69,000 metric tons, based on the electricity generation capacity of existing solar power facilities.
3. In the recycling and reuse sector, the target for electricity consumption per metric ton of IPA (Industrial Processed Material) in 2022 has been achieved at 0.467 kWh/metric ton. The target for 2023 is set at 0.453 kWh/metric ton. As for water consumption per metric ton of IPA, the target for 2022 has been achieved at 2.645 cubic meters/metric ton, and the target for 2023 is set at 2.566 cubic meters/metric ton.

9. Greenhouse Gas Inventory and Verification Status (to be filled in the "Greenhouse Gas Inventory and Verification Status" table below).

The greenhouse gas inventory for this assessment has been verified by SGS Taiwan Limited (SGS).

## Greenhouse Gas Inventory and Verification Status

### Company Basic Information

According to the roadmap for sustainable development of listed companies, the following information should be disclosed.

- Companies with a capital of over NT\$ 10 billion, operating in the steel and cement industries
- Companies with a capital between NT\$ 5 billion and less than NT\$ 10 billion
- Companies with a capital below NT\$ 5 billion

- Individual investigation of the parent company
- Consolidation financial report investigation of subsidiaries
- Individual confirmation of the parent company
- Confirmation of consolidated financial reports of subsidiaries

Scope I	Total emissions (metric tons CO <sub>2</sub> e)	Intensity (metric tons of CO <sub>2</sub> e per thousand dollars)	Auditing institution	Audit findings explanation
ECOVE	0.4269	6.1E-08	SGS Taiwan Limited (SGS)	Verified
ECOVE Environment Service Corp.	172.9398	0.0317		
ECOVE Waste Management Corp.	805.6424			
ECOVE Wujih Energy Corp.	124,267.8196			
ECOVE Miaoli Energy Corp.	70,552.2060	0.0050		
ECOVE Solvent Recycling Corporation	1,106.7427			
ECOVE Solar Energy Corporation	5.2472			
<b>Total</b>	<b>196,911.0246</b>			

Scope II	Total emissions (metric tons CO <sub>2</sub> e)	Intensity (metric tons of CO <sub>2</sub> e per thousand dollars)	Auditing institution	Audit findings explanation
ECOVE	122.9993	1.7E-05	SGS Taiwan Limited (SGS)	Verified
ECOVE Environment Service Corp.	24.3586	6.1E-05		
ECOVE Waste Management Corp.	5.7008			
ECOVE Wujih Energy Corp.	290.7408			
ECOVE Miaoli Energy Corp.	59.2475	0.0034		
ECOVE Solvent Recycling Corporation	742.6106			
ECOVE Solar Energy Corporation	215.5233			
<b>Total</b>	<b>1,461.1809</b>			

Scope III (Voluntary Disclosure)	Total emissions (metric tons CO <sub>2</sub> e)	Intensity (metric tons of CO <sub>2</sub> e per thousand dollars)	Auditing institution	Audit findings explanation
ECOVE	122.9993	1.7E-05	SGS Taiwan Limited (SGS)	Verified



## Independent Assurance Opinion Statement



### ASSURANCE STATEMENT

#### SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE ECOVE Environment Corporation's SUSTAINABILITY REPORT FOR 2022

##### NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by ECOVE Environment Corporation (hereinafter referred to as ECOVE) to conduct an independent assurance of the Sustainability Report for 2022 (hereinafter referred to as the Report). The scope of assurance, based on the SGS Sustainability Report Assurance methodology and AA1000 Assurance Standard Type 2 high level to assess whether the text and data in accompanying tables contained in the report complied with the GRI Universal Standard (2021) and AA1000 Accountability Principles (2018) during verification (2023/Mar/07–2023/Apr/12). The assurance process did not include the evaluation of specific performance information outside the scope of assurance, such as climate-related financial disclosures (TCFD) and sustainability accounting standards (SASB). 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 ECOVE's Stakeholders.

##### RESPONSIBILITIES

The information in the ECOVE's Sustainability Report of 2022 and its presentation are the responsibility of the directors or governing body (as applicable) and management of ECOVE. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the report content within the scope of verification with the intention to inform all ECOVE'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 manages each topic, and the guidance on levels of assurance contained within the AA1000 series of standards and/or ISAE3000.

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)	n/a
B	AA1000ASv3 Type 2 (AA1000AP Evaluation plus evaluation of Specified Performance Information)	High

TWLPP5008 Issue 2302

##### 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 Universal Standard (2021) (In Accordance with)
2	AA1000 Accountability Principles (2018)

- evaluation of content veracity of the sustainability performance information based on the materiality determination at a high level of scrutiny for ECOVE and moderate level of scrutiny for subsidiaries, joint ventures, and applicable aspect boundaries outside of the organization covered by this report;
- AA1000 Assurance Standard v3 Type 2 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2018); and
- evaluation of the report against the requirements of Global Reporting Initiative Universal Standard 2021 (GRI 2, GRI 3, 200, 300 and 400 series) claimed in the GRI content index as material and in accordance with.

##### ASSURANCE METHODOLOGY

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, CSR 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, Task Force on Climate-related Financial Disclosures (TCFD) and SASB related disclosures 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 verification, 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 ECOVE, 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.

##### VERIFICATION/ ASSURANCE OPINION

On the basis of the methodology described and the verification work performed, we are satisfied that the specified performance information included in the scope of assurance is accurate, 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.

TWLPP5008 Issue 2302

##### AA1000 ACCOUNTABILITY PRINCIPLES (2018) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

##### Inclusivity

ECOVE has demonstrated its commitment to stakeholder inclusivity through formalised commitment from the highest governing body. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, CSR experts, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns.

##### Materiality

ECOVE 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. It's recommended to use appropriate criteria and thresholds to determine the significance, likelihood, and present and expected future impact of identified material sustainability topics.

##### Responsiveness

The report includes coverage given to stakeholder engagement and channels for stakeholder feedback. Communications with stakeholders on an ongoing and timely manner are recommended to be delivered reasonable and viable responses.

##### Impact

ECOVE has performed processes to recognize and manage the organisation's impacts that are applied across the organisation under the governance of senior management. It's recommended to defined methodology to present impacts as quantitative or monetised measurement results.

##### GLOBAL REPORTING INITIATIVE REPORTING STANDARDS CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

The report, ECOVE's CSR Report of 2022, complies with the Requirements set out in section 3 of GRI 1 and is adequately in accordance with the GRI Universal Standards 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. For future reporting, it is recommended to enhance the disclosure about implementation of due diligence on the identification and the evaluation of its impacts on the economy, environment, people, and human right. Meanwhile it is suggested to get more detailed descriptions about how to communicate and apply the policy commitments of responsible business conduct and human rights to its organization's activities and business relationships.

##### Signed:

For and on behalf of SGS Taiwan Ltd.

Stephen Pao  
Knowledge Deputy General Manager  
Taipei, Taiwan  
26 May, 2023  
[WWW.SGS.COM](http://WWW.SGS.COM)



TWLPP5008 Issue 2302



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