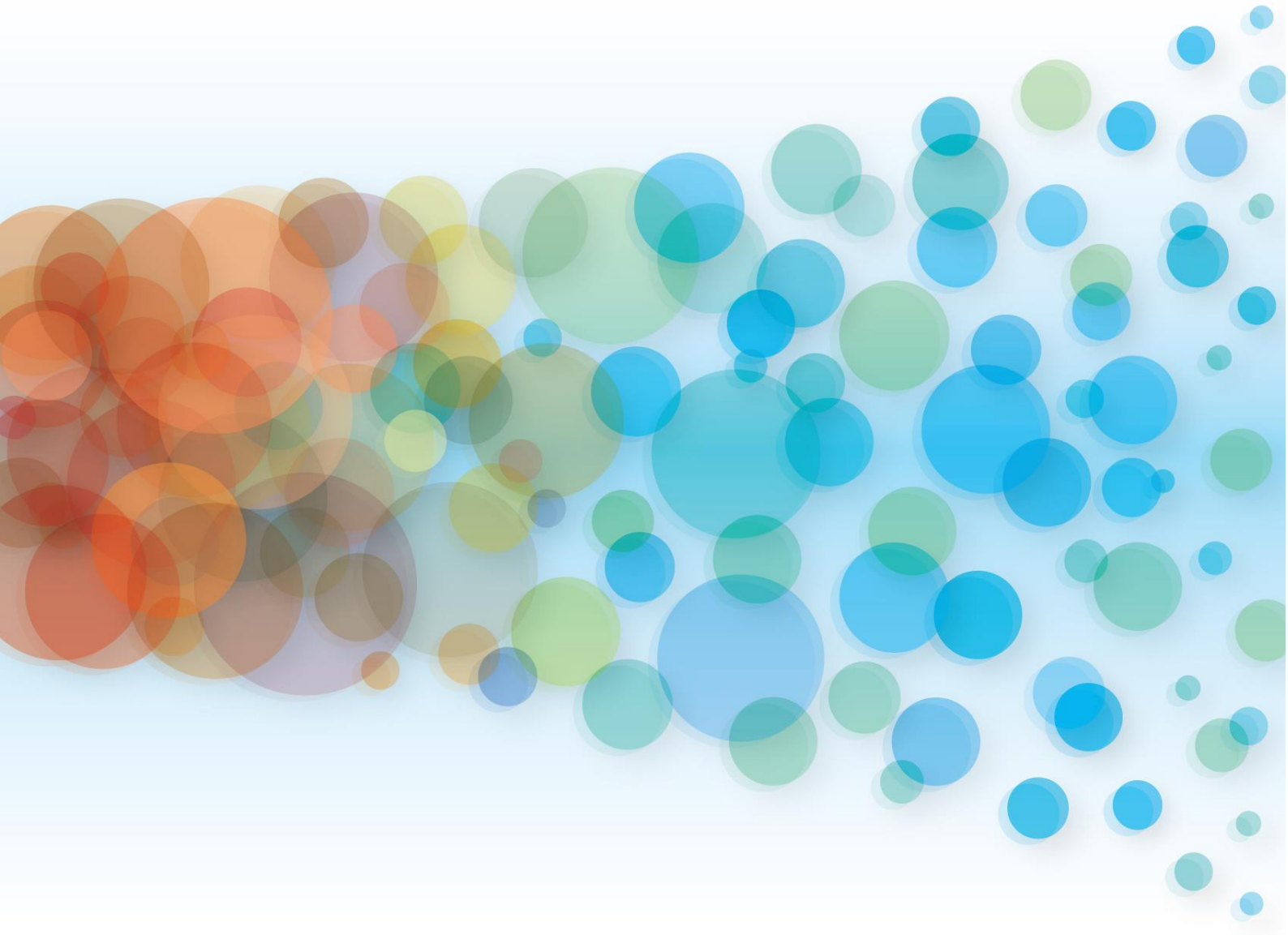
Energywith Environment Report

No. 1



Energywith Co., Ltd.

Energywith Environment Report

No. 1

Forward

Environment Report

President and
Chief Executive Officer
Masato Yoshida

Contributing toward realizing a low-carbon and resource efficient society, as a proposal-based energy storage solution company

Established in 2021, Energywith Co., Ltd. was originally spun off from the energy storage devices and systems business of the former Showa Denko Materials Co., Ltd. (now Resonac Corporation). We are now a subsidiary of Advantage Partners Inc. and Tokyo Century Corporation. With the support of our two parent companies, we will continue to transform from a specialized manufacturer of storage batteries into an energy storage solutions provider. Our parent organization, the former ShinKobe Electric Machinery Co., Ltd., has a history stretching back 100 years, and we carry on their tradition of manufacturing and selling automotive and industrial lead-acid batteries. We also develop products that utilize lead-acid batteries, such as power supply systems and electric golf carts. The main material used in our products is lead, which is highly recyclable, and we can contribute toward realizing a low-carbon and resource efficient society by increasing the recycling ratio of lead. These lead-acid battery products can help reduce environmental impacts, and we will use products to transform into a company that goes beyond simply selling products to customers, and that can also provide a range of solutions including tackling environmental issues. More specifically, we will propose the electrification of mobility through providing lead-acid batteries for automotive auxiliary equipment, lead-acid batteries for electric vehicles, electric carts, and electric forklift lead-acid battery monitoring services; and projects promoting renewable energy through providing renewable energy lead-acid batteries, renewable energy storage systems, and lead-acid battery monitoring system for renewable energy storage system, as measures to help customers achieve carbon neutrality.

Energywith and our Group companies regard the environment as one of our most important management issues. In order to realize a sustainable society in harmony with the global environment, we are working with stakeholders and our Group companies on a global scale to reduce environmental impacts and help solve environmental issues such as climate change, through our business activities, products, and services. Greenhouse gas emissions are one factor contributing to climate change, and we announced our participation in the Science Based Targets initiative (SBTi) last fiscal year. Our medium-term target for reducing the greenhouse gas emissions of Energywith and our Group companies by fiscal 2030 was approved by SBTi this fiscal year. We announced that our long-term reduction target would be to "achieve carbon neutrality for Scope 1 and Scope 2 emissions by 2050 and promote initiatives to contribute to society." In order to achieve these goals, we will implement a range of measures including promoting energy conservation activities, energy transition, and introducing renewable energy.

Through these activities, we will help realize a low-carbon and resource efficient society in accordance with our corporate philosophy of operating as a company that "adds new wisdom to energy storage and focuses on quality to provide people with reliability and safety as a trusted energy storage solution company."

President and
Chief Executive Officer 吉田誠人

1 Environmental Initiatives

In order to realize a sustainable society in harmony with the global environment, we are working on a global scale to reduce environmental impacts and help solve environmental issues such as climate change, through our business activities, products, and services.

■ Basic policy on environmental management

Energywith regards the environment as an important management issue, and we promote environmental management in cooperation with stakeholders under our action guidelines for environmental conservation. In order to realize a sustainable society in harmony with the global environment, we are working together with the entire Group on a global scale to reduce environmental impacts and help solve environmental issues such as climate change through our business activities, products, and services.

■ Action guidelines for environmental conservation

Under the purpose and action guidelines below, Energywith contributes toward realizing a lower-carbon society through such means as promoting energy conservation activities, energy transition, and introducing renewable energy. We also strive to reuse water and reduce waste, aim to help realize a resource efficient society, and comply with laws and regulations related to chemical substances, drainage, waste, and air pollution prevention.

Purpose

In order to realize a sustainable society in harmony with the environment through providing products and services, Energywith meets its social responsibilities by promoting globally-applicable driving, on a worldwide basis, "MONOZUKURI" (designing, manufacturing and repairing of products) which aims at reduction of environmental impacts throughout the entire life cycle of products and by striving to conserve the global environment.

Action guidelines

1. Global environmental conservation is an important issue for everyone. We are committed to fulfilling our social responsibilities by assisting in the realization of a sustainable society in harmony with the environment as one of our management priorities.
2. We strive to contribute to society by accurately identifying needs related to concerns over preventing global warming, reusing resources, and conserving ecosystems, and then by developing highly reliable technologies and products related to these needs.
3. Members of the management team in charge of environmental conservation are responsible for promoting appropriate environmental conservation activities. Departments responsible for environmental conservation endeavor to promote and ensure environmental conservation activities (including improving environment-related rules and regulations and setting targets for reducing environmental impacts), and confirm that their environmental conservation activities are properly, maintained, and improved.
4. We promote global globally-applicable MONOZUKURI with the aim of identifying and reducing environmental impacts at every stage, from product research, development, and design, to production, distribution, sales, usage, and disposal.
5. In order to investigate and review the impact of our MONOZUKURI on the environment and reduce environmental impacts, we aim to make use of environmentally friendly technologies and materials with regard to efforts such as conserving energy and resources, recycling, managing chemical substances, and considering impacts on ecosystems.
6. In addition to complying with international, national, and local environmental regulations, we are committed to conserving the environment through implementing voluntary standards when necessary.
7. We consider our impact on local environments and communities with regard to our globally-applicable MONOZUKURI, and strive to implement measures as requested by local communities.
8. We conduct training on conserving the global environment from a wide perspective with a focus on society at large, in an attempt to raise awareness among employees and ensure that they comply with environment-related laws.
9. We evaluate potential environmental problems and endeavor to prevent them from occurring. In the event that an environmental problem occurs, we take appropriate measures to minimize the environmental impact.
10. We strive to disclose information on environmental conservation activities to our stakeholders, and to actively communicate with them so as to strengthen mutual understanding and forge cooperative relationships.

■ Environmental management promotion structure

Energywith and our Group companies (Table 1) hold the "Group Environment, Safety and CSR Conference" four times a year, with the company president acting as chair. The conference is attended by corporate officers, Group company presidents, and production site and corporate division managers, and is an opportunity for participants to discuss ESG management and decide policy for the entire Group. Participants also confirm the status of initiatives for reducing environmental impacts, share and discuss issues, and develop new policies and plans.

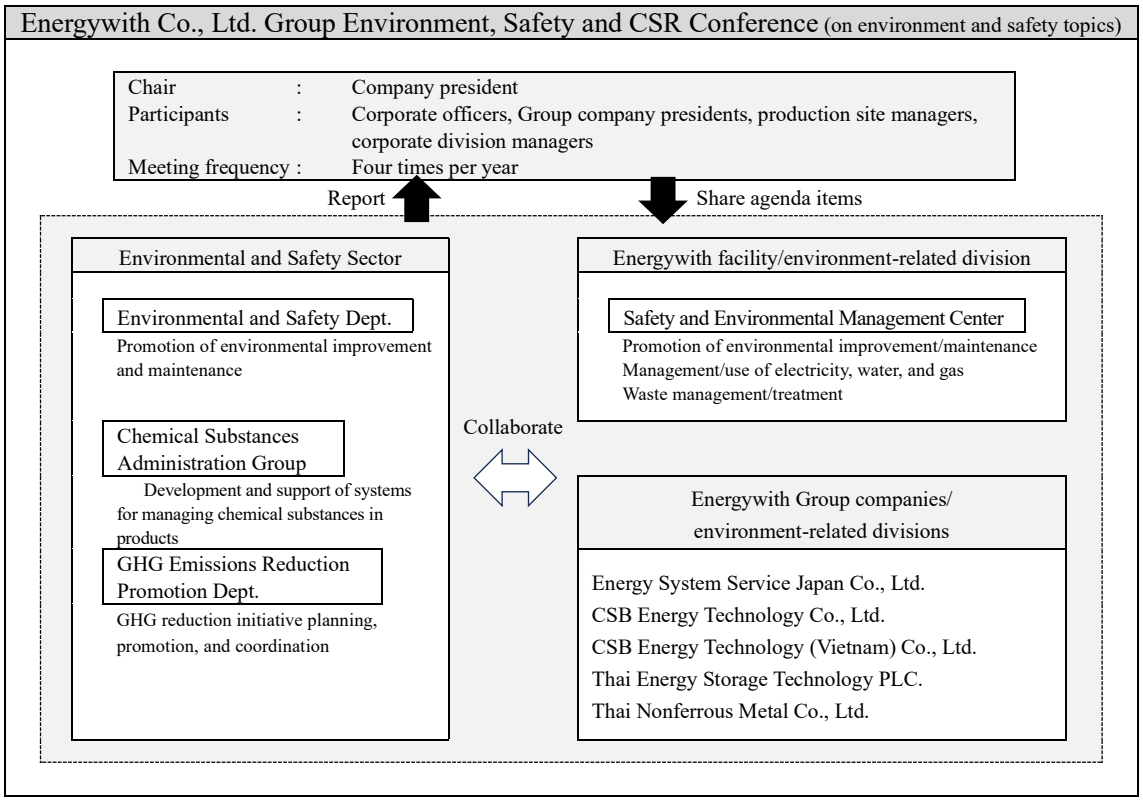


Figure 1. Environmental management promotion structure centered on Group Environment, Safety and CSR Conference

Table 1. Energywith Group companies

Company	Location
Energy System Service Japan Co., Ltd.	Japan
CSB Energy Technology Co., Ltd.	Taiwan
CSB Energy Technology (Vietnam) Co., Ltd.	Vietnam
Thai Energy Storage Technology PLC.	Thailand
Thai Nonferrous Metal Co., Ltd.	Thailand

■ Environmental management system

Energywith and Group company facilities have obtained ISO 14001 international standard certification.

Table 2. Facilities with ISO 14001:2015 certification

Company	Facility	Date certified
Energywith Co., Ltd.	Nabari Works	Oct. 28, 1997
	Saitama Works	July 29, 1997
CSB Energy Technology Co., Ltd.	Tainan factory	June 11, 2013
CSB Energy Technology (Vietnam) Co., Ltd.	Vietnam factory	July 8, 2013
Thai Energy Storage Technology PLC.	Bangpoo factory	May 24, 2016
	Gatway factory	Sept. 6, 2016

2 Initiatives Toward a Low-Carbon Society

Energywith and our Group companies have defined "pursuing businesses that offer solutions to environmental and social issues" as a business materiality. In order to help realize a low-carbon society with little environmental impact, we set reduction targets for greenhouse gas (GHG) emissions and work toward achieving these targets.

■ Medium-term targets for reducing greenhouse gas emissions

Energywith and our Group companies have set medium-term targets for reducing GHG emissions by fiscal 2030, and these targets have been approved by SBTi[*1].

Table 3. Greenhouse gas emission reduction targets approved by SBTi

Item	Greenhouse gas emission reduction target by fiscal 2030 (vs. fiscal 2018)
Scope 1, Scope 2[*2]	50.4% reduction (1.5°C threshold[*3])
Scope 3[*2]	30.0% reduction

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

*1. SBTi: Science Based Targets initiative
An organization jointly operated by the CDP (an international NGO), the United Nations Global Compact (UNGC), the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF) to certify SBTs (greenhouse gas emission reduction targets set by companies based on climate science).

*2. Scope 1: Greenhouse gases emitted by the business operator itself (such as through burning fuel or engaging in industrial processes).
Scope 2: Greenhouse gases emitted indirectly through the use of electricity or heat steam provided by another company.
Scope 3: Greenhouse gases emitted indirectly that are not classified as Scope 1 or Scope 2.

*3. 1.5°C threshold: A goal to limit the increase in global temperature to 1.5°C over the global temperature from pre-industrial times, a value even lower than the 2°C threshold required by the Paris Agreement. This is a requirement of SBTi.

Table 4. Greenhouse gas emissions results[*1]

Scope & category		Fiscal 2018 GHG emissions (tCO_2e)[*2]	Fiscal 2022 GHG emissions (tCO_2e)[*2]
Scope 1		20,925	18,724
Scope 2		136,360	110,280
Scope 1 + Scope 2 total		157,285	129,004
Scope 3	1. Purchased goods and services	484,062	374,287
	2. Capital goods	19,984	10,383
	3. Fuel- and energy-related activities (not included in scope 1 or scope 2)	22,696	19,523
	4. Upstream transportation and distribution	17,604	18,053
	5. Waste generated in operations	1,014	1,112
	6. Business travel	564	466
	7. Employee commuting	1,732	1,409
	9. Downstream transportation and distribution	15,884	15,302
	10. Processing of sold products	8,024	6,371
	11. Use of sold products	154,075	127,024
	12. End-of-life treatment of sold products	8,929	7,545
Scope 3 total		734,568	581,475

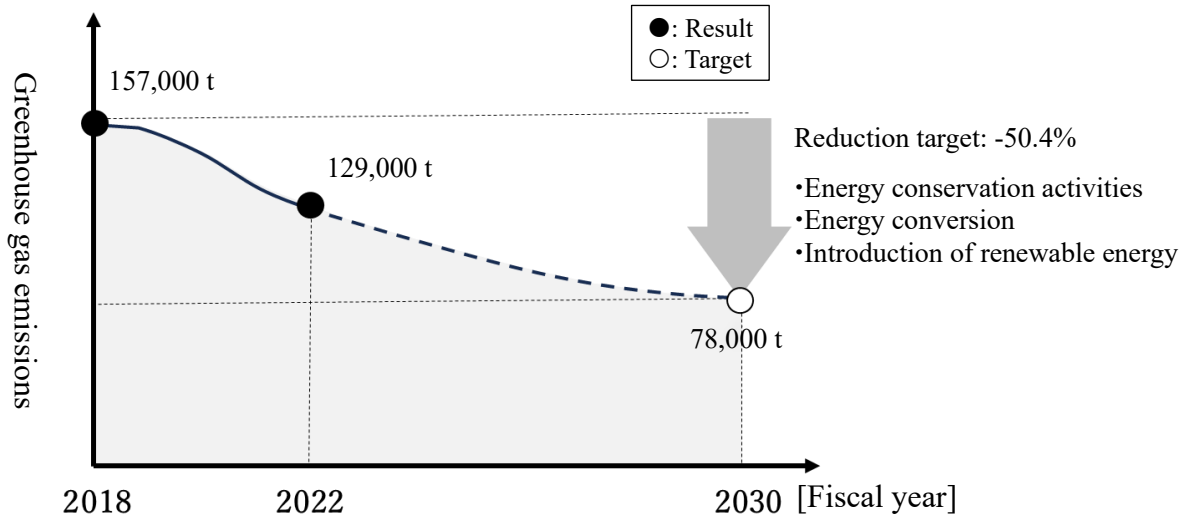


Figure 2. Greenhouse gas emission results and reduction targets within Scope 1 and Scope 2 for Energywith and Group companies

*1. Greenhouse gas emissions results: Entire supply chain of Energywith and Group companies (including two companies in Japan and two companies overseas) included in calculations. Greenhouse gas emissions calculated based on the GHG Protocol international standard.

*2. CO_2e: CO_2 equivalent. A method of expressing GHG emissions converted into the equivalent amount of carbon dioxide. CO_2 equivalent is used to evaluate emissions of different greenhouse gases using a common standard.

■ Long-term targets for reducing greenhouse gas emissions

In support of the Japanese government's goal of accelerating efforts toward achieving carbon neutrality[*1] by 2050, Energywith has made the following carbon neutrality declaration with regard to long-term GHG emission reduction targets[*2].

"We will achieve carbon neutrality for Scope 1 and Scope 2 emissions by 2050 and promote initiatives to contribute to society"

■ Greenhouse gas emission reduction policies

Energywith and the Energywith Group have set mid- to long-term GHG emission reduction targets, and have also created an emission reduction roadmap in order to achieve these targets. Table 5 lists some of the GHG emission reduction policies described in this roadmap. Our plan is to achieve each GHG emission reduction target using two major approaches. The first approach is to reduce emissions through the efforts of the Energywith Group, such as engaging in energy conservation activities and energy transition. The second approach is introducing renewable energy. We continue to make use of on-site and off-site PPAs in introducing renewable energy.

Table 5. Energywith Group greenhouse gas emission reduction policies

Category	Policy
Energy conservation activities	Use highly efficient devices, replace existing devices
	Conduct energy conservation assessments to make improvements
Energy transition	Switch from fossil fuels (fuel oil, LPG) to electricity
Introduction of renewable energy	Make use of on-site PPAs[*3]
	Make use of off-site PPAs[*4]

Figure 3. On-site PPA example

Thai Energy Storage Technology PLC. Bangpoo factory

*1. Carbon neutrality: A condition where greenhouse gas emissions are canceled out by greenhouse gases removed from the atmosphere, resulting in essentially zero emissions. It has roughly the same meaning as "net zero."

*2. Target for Energywith Co., Ltd. only.

*3. On-site PPA: A system in which a power producer (PPA operator) installs power generation facilities within a power consumer's premises in order to supply electricity.

*4. Off-site PPA: A system in which a power producer (PPA operator) supplies electricity to certain general power consumers through the standard power grid.

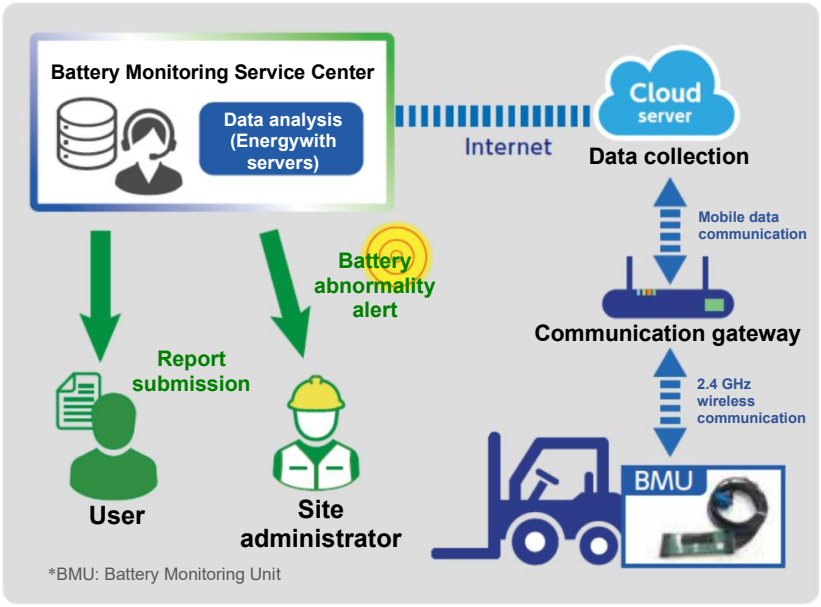
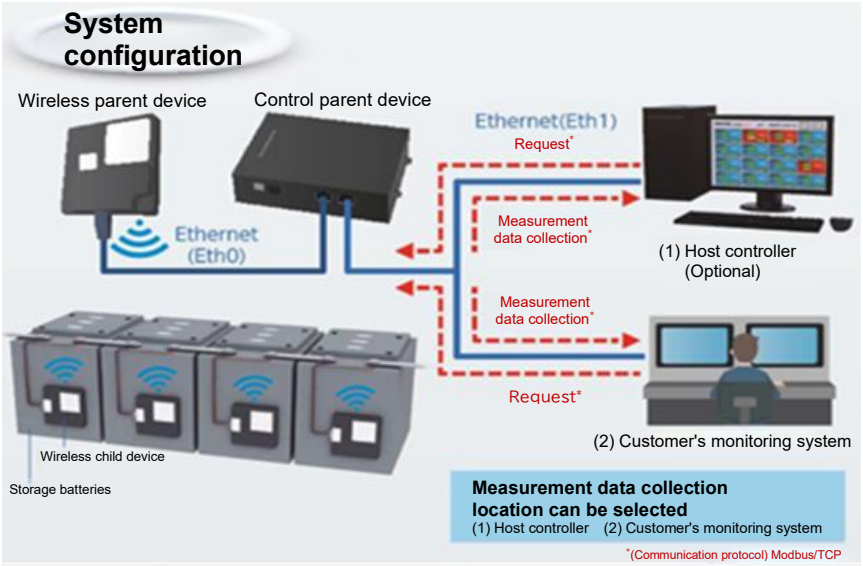
■ Contribution of business activities to carbon neutrality

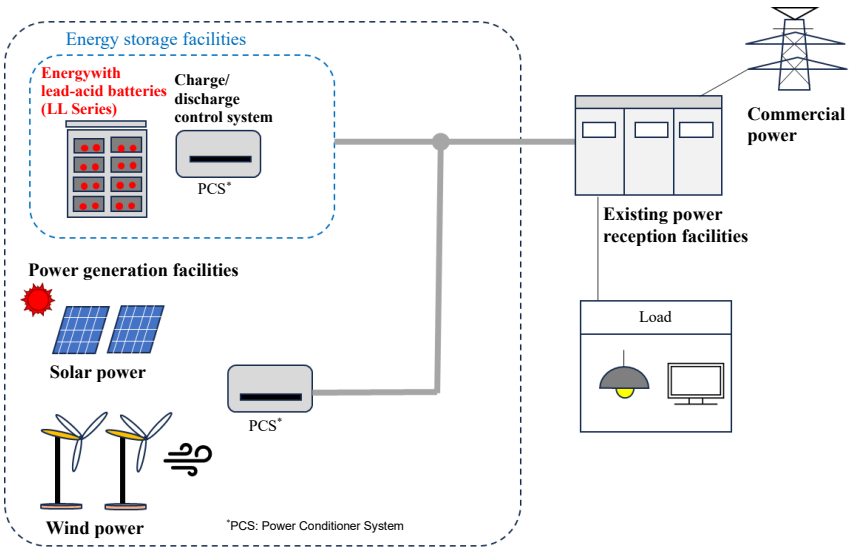
Energywith and our Group companies have designated business activities that could contribute to the decarbonization efforts of our customers as "carbon neutrality contribution business activities." We propose these to customers as policies to help achieve carbon neutrality.

Table 6. Products contributing to carbon neutrality business activities

Category	Product	Product description/example
Mobility electrification	Lead-acid batteries for automotive auxiliary equipment	Hybrid vehicles and electric vehicles are an important means of reducing GHG emissions. In addition to the storage battery used to power the vehicle itself, these vehicles contain storage batteries to supply power to electronic devices and control systems. These storage batteries are called auxiliary storage batteries, and lead-acid batteries are also used for this purpose. As demand for hybrid vehicles and electric vehicles increases, we continue to propose that our customers make use of lead-acid batteries for auxiliary equipment.  Figure 4. Lead-acid battery for auxiliary equipment
	Lead-acid batteries for electric vehicles	These storage batteries are used in electric forklifts and electric carts, which contribute toward reducing GHG emissions by not emitting exhaust gases. Electric vehicles also generate significantly less noise, making them an increasingly popular choice for improving the environment. We continue to propose that our customers make use of storage batteries in their industrial vehicles.  Figure 5. Lead-acid battery for electric vehicle

Category	Product	Product description/example
Mobility electrification	Electric golf carts	The first electric golf cart released to market in Japan, this was designed as an eco-friendly golf cart that is good for people and the environment. It allows golfers to play in safety and comfort, and emits fewer GHG compared with engine carts.  Figure 6. Electric golf cart

Category	Product	Product description/example
Mobility electrification	Electric forklift lead-acid battery monitoring service	Our electric forklift lead-acid battery monitoring service optimizes lead-acid battery usage by visualizing lead-acid battery usage and providing 24-hour remote monitoring. This service allows customers to properly maintain and manage their lead-acid batteries, so that batteries can be used efficiently and fully until the end of their natural product lives.  Figure 7. Electric forklift lead-acid battery monitoring service system configuration
Renewable energy promotion	Lead-acid battery monitoring system for renewable energy storage system	Our lead-acid battery monitoring system for renewable energy storage system constantly monitors changes in lead-acid battery states. This system allows customers to properly maintain their lead-acid batteries, so that their renewable energy storage systems can be operated safely.  Figure 8. Configuration of lead-acid battery monitoring system for renewable energy storage system

Category	Product	Product description/example
Renewable energy promotion	Renewable energy lead-acid batteries	Our renewable energy lead-acid batteries offer significant improvements over conventional products, with an expected product life of approximately 20 years* and 5,250 cycles*. They can be used for applications in energy storage stations, renewable energy captive consumption systems, and co-location with renewable energy power generation facilities, and these products have been in use in the renewable energy market for more than 20 years.  Figure 9. Renewable energy cycle long-life storage battery (LL Series)
Renewable energy promotion	Renewable energy storage systems	Our renewable energy lead-acid batteries offer significant improvements over conventional products, with an expected product life of approximately 20 years* and 5,250 cycles*. Our renewable energy storage systems combine these batteries with renewable energy power generation facilities. These systems can level out power generation fluctuations and can continue to supply renewable energy power even when solar power cannot be generated (such as during rainy weather or at night), helping to reduce GHG emissions. In addition to storage batteries, we can propose and supply entire power generation and energy storage systems.  Figure 10. Renewable energy storage system overview

* Years and cycles are expected values based on Energywith testing conducted under certain usage conditions (25°C, SOC from 30% to 90%, discharge current of 0.1C 10A, charge current of 0.1C 10A, and charging conducted under conditions set by Energywith). (SOC [State of Charge]: An indicator of the charging status. It is calculated by totaling the charge, with 100% representing a full charge.)

3 Initiatives Toward a Resource Efficient Society

The expansion of social activities based on a linear economy of mass production, mass consumption, and mass disposal is aggravating environmental problems such as water and other resource shortages, energy supply and demand issues, environmental pollution caused by increased waste, global warming, and loss of biodiversity. In order to resolve these issues and realize a sustainable society, we must transition from a linear economy to a circular economy, and then to a resource efficient society which takes the concepts of a circular economy even further.

The Energywith Group continues to make effective use of water resources, minimize the waste it produces, and promote lead recycling in order to reduce environmental impacts and help realize a resource efficient society.

■ Effective use of water resources

Energywith uses large amounts of water for purposes such as cooling lead-acid batteries during the charging process and diluting electrolytes, a lead-acid battery material. Water resources are important natural resources for us to continue operating as a business, and we are committed to reducing our use of water.

Table 7. Policies for the effective use of water resources

Item	Policy
Reuse of water	Recycle/reuse water in production processes (charging process, etc.)
Reuse of drainage	Used to sprinkle over roofs (for heat shielding) and as scrubber circulating water

Fiscal 2023 reduction rate for water usage per completed unit of consumption versus previous year*: 0.3%

■ Waste reduction and effective use of resources

In order to help realize a resource efficient society, Energywith and our Group companies are engaged in the effective use of resources and the "3 Rs" (Reduce waste, Reuse, Recycle).

Table 8. Policies for waste reduction and the effective use of resources

Item	Policy
Reduce	Purchase materials without packaging or with minimal packaging
Reuse	Repair and reuse wooden pallets
Recycle	Make proactive use of recycled materials in products
	Produce resource materials by sorting waste (selling off valuables by sorting waste plastic, etc.)

Fiscal 2023 reduction rate for waste generation per completed unit of consumption versus previous year*: 8.3% (includes recycled waste)

* Reduction rate versus previous year: Number for Energywith Co., Ltd. only.

■ Lead recycling

Lead-acid batteries, the main products produced by Energywith and our Group companies, contain lead as a main ingredient. This substance is a “specified chemical substance” and is hazardous to humans. However, lead-acid batteries are almost 100% recyclable and, when properly recovered and reused, have no environmental impact. They can also be used to develop an advanced recycling product business.

As a member of the Lead Acid Storage Battery Recycle Association, Energywith continues to leverage the recycling scheme offered by the association to promote activities to prevent illegal disposal and overseas export. Energy System Service Japan Co., Ltd., (ESSJ) an Energywith Group company, has received wide-area certification for recovering lead-acid batteries from the Ministry of the Environment, and continues to promote lead recycling. It will expand the use of recycled lead, continue to make effective use of resources and curb GHG emissions, and contribute toward a resource efficient society.

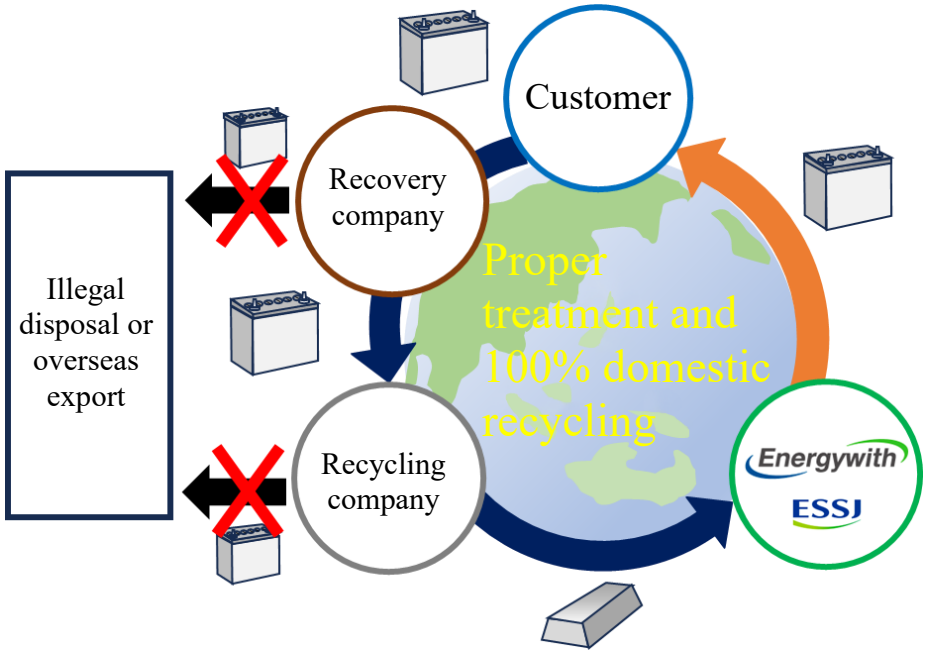


Figure 11. Overview of lead recycling initiative

Thai Nonferrous Metal Co., Ltd., another Energywith Group company, operates a business recycling lead from lead-acid batteries used in Thailand, and is the only lead recycling company in Thailand to have received EHIA* certification. It contributes toward realizing a resource efficient society in Thailand through its lead recycling business.

* EHIA: Environmental Health Impact Assessment.
EHIA is a type of environmental health impact assessment that is under the jurisdiction of the Ministry of Natural Resources and Environment of Thailand. It is used to evaluate the potential impact of projects, policies, and programs on public health, with the goal of minimizing negative impacts on the environment and health.

■ Compliance with chemical substance laws and regulations

In order to comply with laws and regulations related to chemical substances, Energywith and our Group companies have formed the Chemical Substances Administration Division and the Chemical Substances Administration Committee, and work together toward obtaining the latest regulatory information and properly managing regulated substances. We have also created a set of Green Procurement Guidelines that incorporate information from Japanese laws and regulations in addition to matters covered by overseas laws and regulations (including the European RoHS Directive*1 and European REACH Regulation*2) and international conventions such as the Stockholm Convention (POPs Convention)*3. Based on these guidelines, we maintain and manage a list of prohibited chemical substances and a list of controlled substances. We work with our suppliers to thoroughly manage what is contained in the materials we purchase, and are committed to improving the environmental quality of our products.

The URL for the Energywith Green Procurement Guidelines can be found in Table 9.

Table 9. Green Procurement Guidelines URL

Company	Green Procurement Guidelines URL
Energywith Co., Ltd.	https://www.energy-with.com/en/company/procurement/green/

■ Prevention of environmental pollution caused by drainage

Water containing lead, a hazardous substance, is discharged during the production process for lead-acid batteries, which are the main products produced by Energywith and our Group companies. In order to prevent drainage from negatively affecting the environments around our facilities, the Energywith Group manages drainage under voluntary control standards even stricter than regulatory standards, in order to ensure compliance with drainage standards based on laws and regulations. The Energywith Group contributes toward realizing a society coexisting with nature by properly handling environmental pollution around our facilities caused by drainage.

■ Prevention of air pollution

In order to conserve living environments and safeguard the health of employees and local residents, Energywith and our Group companies operate in compliance with air emission standards based on laws and regulations related to soot, dust, and volatile organic compounds discharged into the air during business activities. Energywith Group facilities have obtained ISO 14001 international standard certification, and help to realize a society coexisting with nature by implementing management and air pollution prevention measures in compliance with this standard (such as installing dust collectors, local ventilation equipment, and dust removal equipment, and maintaining related facilities).

*1. RoHS Directive: Abbreviated name for "Restriction of the use of certain Hazardous Substances in electrical and electronic equipment." A European Union directive that covers restrictions on the use of certain hazardous substances in electrical and electronic devices.
*2. REACH Regulation: Abbreviated name for Registration, Evaluation, Authorisation and Restriction of Chemicals." A European Union regulation that covers the registration, evaluation, authorization, and restriction of chemical substances.
*3. POPs Convention: Abbreviated name for "Stockholm Convention on Persistent Organic Pollutants."

■ Greening activities

Thai Nonferrous Metal Co., Ltd., an Energywith Group company, promotes "Eco Factory plus Social Value," an initiative aimed at creating social value and operating factories in a manner friendly to the environment, as part of the Bio-Circular-Green (BCG) economic model promoted by the Thai government. Thai Nonferrous Metal Co., Ltd. is honored to have been recognized for their efforts for two years in a row.

Eco Factory plus Social Value

2022: Gold Award

Figure 12. "Eco Factory plus Social Value" awards

Contact information

If you have any inquiries about this document, please use the inquiry form at the following address on the Energywith website to contact us.

Inquiry website address:

https://www.energy-with.com/en/inquiry/

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Energywith Co., Ltd.

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