

**SUSTAINABLE &  
INNOVATIVE  
CUSTOMER  
SOLUTION**



**SUSTAINABLE ENERGY**



**SUSTAINABLE TRANSPORTATION**

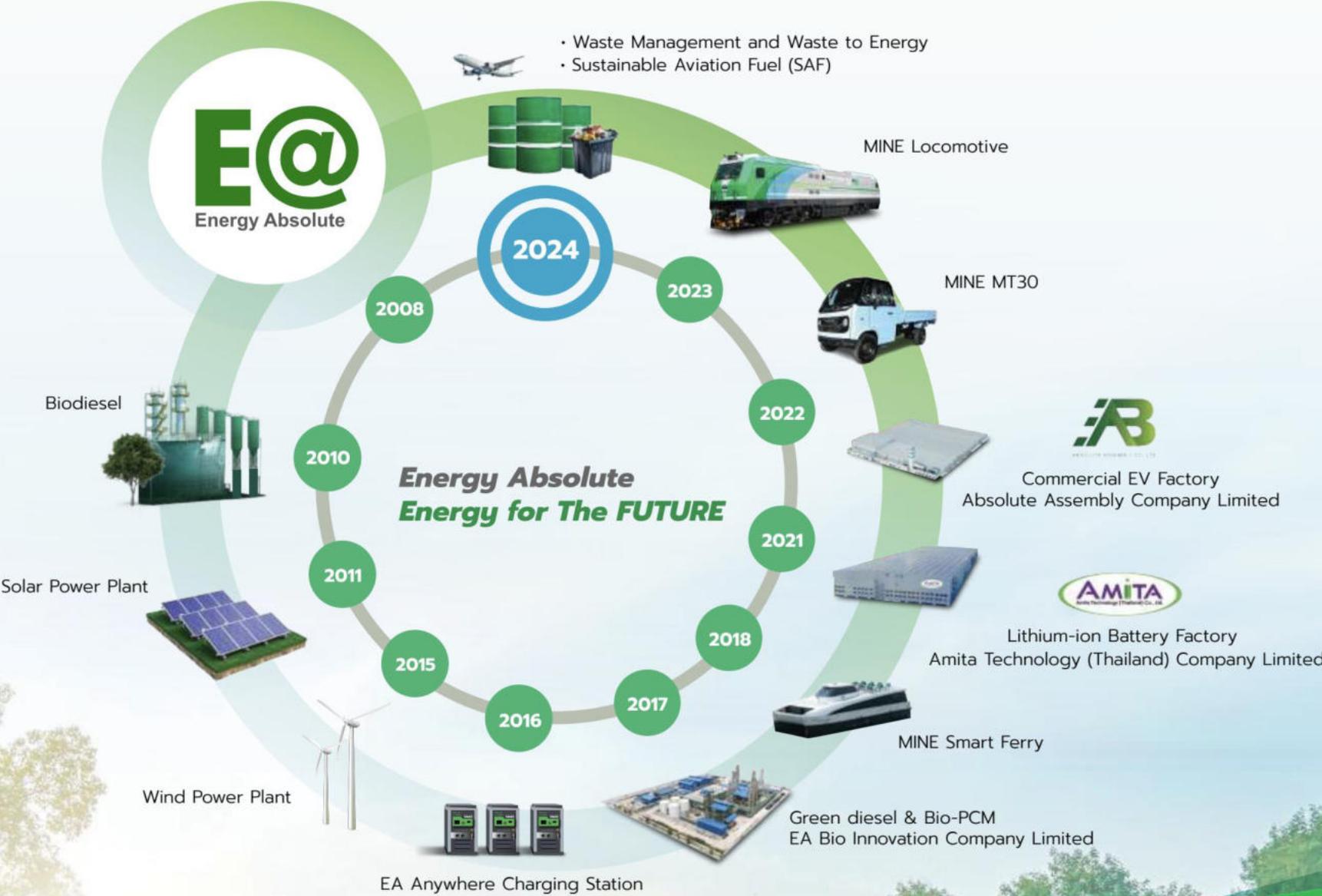


**COMMUNITY-BASED ENERGY**



**CIRCULAR ECONOMY SOLUTIONS**

# EA's Milestones



## OVERVIEW

- The Company operates across the clean energy value chain—from renewable energy production such as biodiesel, wind power, and solar energy, to the development of advanced technologies for energy storage and distribution, including industrial-grade batteries and a nationwide network of over 450 electric vehicle (EV) charging stations.
- In addition, we are committed to the development of commercial electric vehicles, including electric trucks, electric buses, and electric ferries, to support the transition toward a clean energy future.
- The Company is also dedicated to continuous innovation and technological advancement, offering diverse solutions that enhance energy stability in all dimensions. Our efforts include the development of infrastructure and technologies that support a sustainable society and improve the quality of life. We aim to deliver greater convenience and maximum value to our customers and stakeholders, while driving the company's growth with stability and long-term resilience.

**“ Create Sustainability  
Create a Liveable World ”**

# OUR IMPLEMENTATION

□ The company fully understands that the transition from traditional energy sources, which have long been deeply ingrained in consumer behavior, is a complex and challenging process. Recognizing this, we provide comprehensive and integrated solutions that encourage our customers to reduce their dependence on conventional energy consumption and increase their adoption of renewable energy sources.

Our approach begins with raising awareness and fostering trust among consumers regarding the performance and reliability of clean energy systems. We emphasize the importance of collective responsibility toward society and the environment, and we actively communicate the urgent need to move towards a sustainable society—an inevitable path for the future.

In addition to building understanding and confidence in clean energy technologies, the company is also fully aware that business success must go hand in hand with generating appropriate returns. Therefore, we prioritize providing clear projections of return on investment (ROI) to our customers, ensuring that our solutions meet their expectations and business objectives. This balance between environmental responsibility and economic viability forms the foundation of our commitment to supporting a sustainable energy transition.

## Enhance Awareness and Deliver Effective Solutions 3D CONCEPT



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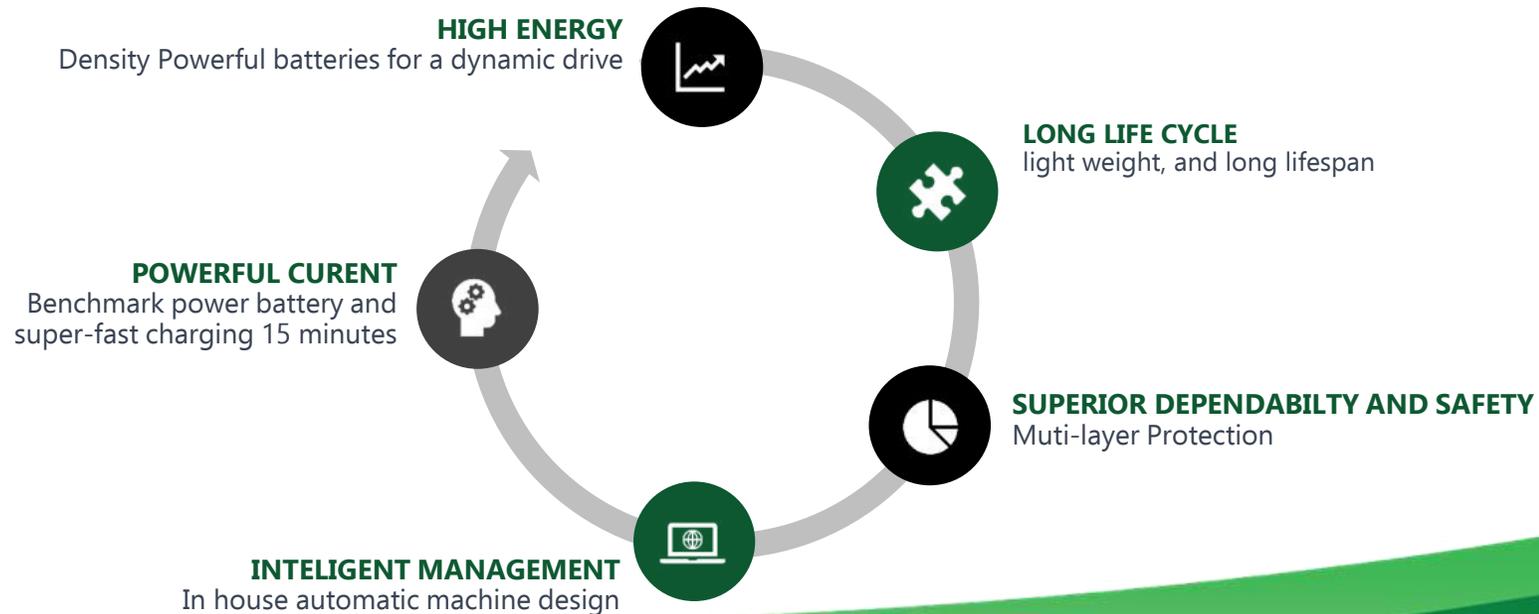
❄️ **SUSTAINABLE ENERGY** ❄️

# SUSTAINABLE ENERGY

## OUR TECHNOLOGY & SOLUTION : BATTERY

□ The company owns the first gigawatt-scale lithium-ion battery manufacturing facility in ASEAN, operated under Amita Technology (Thailand). Recognized internationally, this facility marks a key milestone in positioning Thailand as a regional hub for electric vehicle (EV) innovation. With proprietary technology, the company provides a fully integrated solution—developing and producing battery cells, modules, packs, and Battery Energy Storage Systems (BESS). The batteries are engineered for high energy density, lightweight design, and long service life. Importantly, they are free from hazardous substances such as acid and lead and incorporate STOBA technology for enhanced safety by minimizing thermal and explosion risks during charging.

**Currently, our batteries are used in over 2,000 electric public buses across 122 routes in Bangkok and nearby areas, as well as in more than 35 electric ferries on the Chao Phraya River—Thailand’s first public e-ferry project. These applications highlight the batteries’ strong performance, safety, and reliability, reinforcing customer confidence in the quality and dependability of our battery solutions.**



**Amita Technology (Thailand)** The 1 GWh lithium-ion battery factory in Thailand and the largest in the ASEAN region.



# SUSTAINABLE ENERGY

## OUR TECHNOLOGY & SOLUTION : SMART MICROGRID SYSTEM

- The company has been developing own Smart Microgrid software, an intelligent, decentralized energy system capable of generating, distributing and Operate Independently from the Main Grid (Island Mode).
- A key strength of this system is ability to integrate diverse energy sources, such as solar PV system, wind turbines, and batteries energy storage, through a smart control system to maximize energy efficiency.
- The Smart Microgrid offers both flexibility and reliability. In the event of a main grid failure, it can automatically switch to Island Mode to ensure uninterrupted power supply. It supports long-term energy cost reduction for customers while enhancing the efficient utilization of renewable energy sources.

### **Benefit of Microgrid**

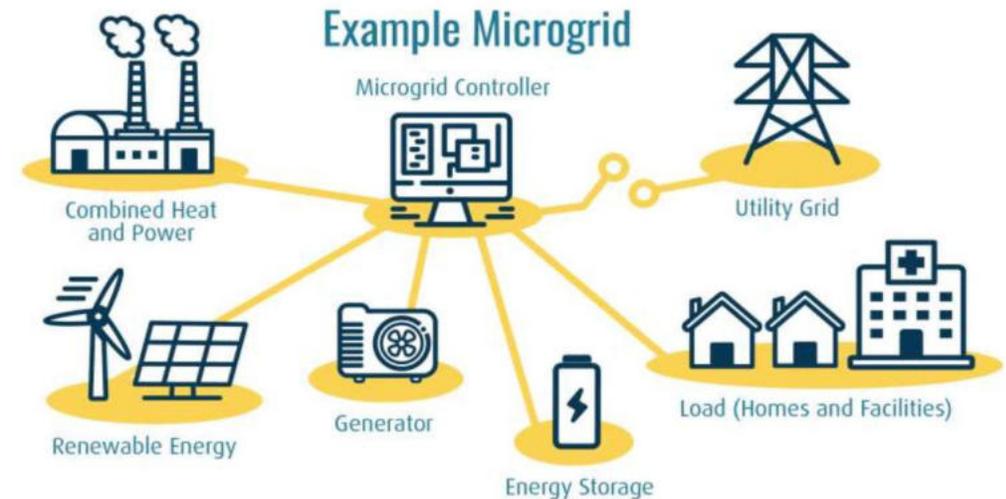
**Reliability:** Can continue to supply power during grid outages by using this function below.

- Grid following
- Grid forming
- Islanding
- Black start
- Improving Distribution System Reliability (UPS)
- Enhanced Voltage Control
- Frequency Regulation
- Volt/VAR Active power - Reactive power control mode (PF control effect)
- LVRT (Low Voltage Ride Through)

**Efficiency:** Reduces transmission losses by generating power near the load.

**Cost Saving:** Optimizes energy use and reduces peak demand charges.

- Energy shifting
- Load Leveling
- Peak Shaving



## OUR TECHNOLOGY & SOLUTION : BATTERY ENERGY STORAGE SYSTEM : BESS

□ Batteries play a crucial role in stabilizing renewable energy systems, such as solar and wind power. By storage the excess electricity during periods of low demand and releasing it during peak demand, batteries help balance the grid, improve energy efficiency, and minimize unnecessary energy loss.

Strategy to sustainable future, the company repurposes used batteries from its internal operations through a reuse second lifetime them into Battery Energy Storage Systems (BESS). These systems application to storage the electricity for stabilizing and peak/off peak obligation function used, especially during times when the main power sources are insufficient.

The BESS (Battery Energy Storage System) helps mitigate the intermittency of renewable energy, enhances grid stability, and effectively reduces energy costs for customers. It is available in more business models to accommodate the diverse needs of users.





# SUSTAINABLE ENERGY

## OUR TECHNOLOGY & SOLUTION : PHASE CHANGE MATERIAL (PCM)

- The company actively invests in continuous research and development, particularly in the field of thermal energy management, by integrating Phase Change Materials (PCMs) into its energy solutions. PCMs are advanced materials that can absorb, store, and release significant amounts of thermal energy during phase transitions—typically between solid and liquid states—without drastic changes in temperature.
- This unique capability makes them highly effective for enhancing thermal efficiency and maintaining precise temperature control in both heating and cooling applications. When used in thermal storage systems, PCMs absorb excess heat during periods of high energy availability—such as midday when solar radiation is at its peak—and release it during periods of low energy availability, like nighttime or cloudy conditions. This not only ensures continuous system operation and thermal stability but also significantly reduces reliance on conventional energy sources, thereby lowering operational costs and energy waste over the long term.
- PCMs offer high versatility and are increasingly applied across various industries, including smart buildings, green construction, cold chain logistics, automotive systems, and temperature-sensitive textiles. Their ability to regulate and stabilize temperature conditions makes them a valuable component in energy conservation strategies.

In addition, the company is exploring and developing bio-based PCMs, which are derived from renewable and environmentally friendly resources. These materials not only meet sustainability standards but also offer high thermal energy density, making them ideal for large-scale deployment in applications requiring efficient and eco-conscious heat storage. By leveraging PCM technology, the company reinforces its commitment to sustainability, innovation, and delivering integrated solutions that align with global efforts to reduce carbon emissions and transition toward clean energy systems.



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**CUSTOMER SOLUTION**

**❄ SUSTAINABLE TRANSPORTATION ❄**

# SUSTAINABLE TRANSPORTATION

## OUR TECHNOLOGY & SOLUTION : CHARGING STATION

□ The Company provides electric vehicle (EV) charging station services using advanced technologies in a wide range of formats, covering all types of electric vehicles—whether private cars, public buses, electric ferries, or EVs developed in-house by the Company. Each station is designed to accommodate various charging needs based on battery size and user requirements.

**This initiative aims to facilitate a smooth and efficient transition to clean energy. The Company's extensive and diverse network of charging stations enhances convenience for all EV users and represents a significant step in driving Thai society toward sustainable, clean-energy transportation.**



### Super-Fast Charge

#### 40 kW DC charging units:

Designed to support battery electric vehicles (BEVs) that require fast and convenient daily charging.



□ The Company offers EV charging services in 3 main formats as models:

### Ultra-Fast Charge

High-power DC charging cabinets designed for large electric vehicles:

- **360 kW and 300 kW units:**  
Support ultra-fast charging speeds, ideal for electric ferries and large electric buses.
- **150 kW units:**  
Suitable for mid-sized battery electric vehicles (BEVs) such as electric buses and electric cars.



### Normal Charge

Standard AC charging units: Support charging for both Plug-in Hybrid Electric Vehicles (PHEVs) and Battery Electric Vehicles (BEVs). Ideal for home use or locations where high-speed charging is not required.

# SUSTAINABLE TRANSPORTATION

## OUR TECHNOLOGY & SOLUTION : ENERGY MONITORING

- The XML6115JEV bus model, which has been delivered to customers for public transportation services across more than 122 routes in Bangkok and its surrounding areas, is equipped with a 7-inch dashboard display to support drivers during operation.
- This display provides real-time insights into battery performance and energy consumption, including a State of Charge (SOC) indicator that shows the current battery level. It enables drivers to effectively monitor remaining power and estimate whether sufficient energy is available to complete the route.
- When the battery level drops below 30%, the system triggers a warning icon on the screen, prompting the driver to begin recharging in order to maintain uninterrupted service and ensure safe operations.



# SUSTAINABLE TRANSPORTATION

## OUR TECHNOLOGY & SOLUTION : CHARGING STATION

### Thailand's Largest Electric Boat Charging Station on the Chao Phraya River

Under the initiative to promote clean energy and sustainable transportation, the company has developed and launched the first electric boat charging station along the Chao Phraya River. This station has a total installed power capacity of no less than 4,000 kilowatts. It is equipped with multiple high-capacity DC Fast Chargers, each with a power output of 300 kilowatts.

The system is capable of recharging electric boats within 15 to 20 minutes, depending on the vehicle specifications and battery size. The station is designed to accommodate the company's own fleet of electric passenger boats as well as electric boats operated by other public and private organizations.

This infrastructure supports the broader goal of promoting electric mobility on Thailand's waterways. The company continues to expand its investment in clean energy infrastructure, with plans to establish additional charging stations at various key locations along the Chao Phraya River, enabling seamless and sustainable electric boat operations throughout the route.



# SUSTAINABLE TRANSPORTATION

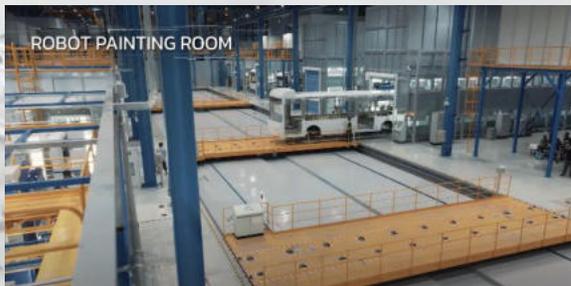
## OUR TECHNOLOGY & SOLUTION : ELECTRIC VEHICLE

- In response to the global warming crisis and the severe PM2.5 air pollution caused by diesel engine combustion—particularly from toxic emissions and black smoke—Thailand faces significant challenges due to its heavy reliance on aging public transport and commercial diesel vehicles, such as buses and tractor-trailers. These contribute to high levels of greenhouse gas emissions.
- Recognizing the urgency of the issue, the Group has invested in the construction of a large-scale commercial electric vehicle (EV) assembly plant, covering over 55,000 square meters in Ban Pho District, Chachoengsao Province. The plant is dedicated to developing environmentally friendly electric buses and commercial EVs that reduce pollution and lower operational costs for business operators.
- This initiative aligns with the National Energy Plan, which targets a nationwide transition to clean energy and aims for net-zero carbon emissions by 2065–2070.
- Notably, all 122 public electric bus routes serving Bangkok and its surrounding provinces—comprising over 2,000 electric buses—are powered by EVs manufactured at the Company's plant. These vehicles stand as a testament to the outstanding efficiency, safety, and performance of the Company's electric mobility solutions.



# SUSTAINABLE TRANSPORTATION

**Absolute Assembly Company Limited (AAB)** Under the collaboration between EA Group and NEX Point Group, the companies manufacture and assemble all types of commercial electric vehicles—such as buses, trucks, and pickups—with a production capacity of 9,000 units per year, the largest in ASEAN. The facility integrates advanced technology and complies with international standards.



# SUSTAINABLE TRANSPORTATION

## OUR TECHNOLOGY & SOLUTION : ELECTRIC VEHICLE

- The Company develops a wide range of electric vehicles to meet the diverse needs of customers across both commercial and public transport sectors. One of the Company's key strengths lies in its ability to design and develop every essential component in-house—ranging from battery systems, which form the core of EV technology, to the systematic planning and deployment of charging station infrastructure.
- With end-to-end ownership of technologies across the entire value chain (Full Ecosystem Integration), the Company is able to tailor products and services to meet individual customer requirements with flexibility, efficiency, and cost-effectiveness.
- This holistic approach not only accelerates the practical adoption of electric vehicles in everyday life, but also supports the transition toward a truly sustainable, clean energy society.



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**CUSTOMER SOLUTION**

**❄️ COMMUNITY-BASED ENERGY ❄️**

# COMMUNITY-BASED ENERGY

## WASTE-TO-ENERGY POWER PLANT

- **The company recognizes sustainable and environmentally responsible waste management as a key priority.**

To this end, it has expanded its business into the waste management industry, including the generation of electricity from municipal solid waste and the treatment of infectious waste. Currently, four major projects are under development or construction:

### 1. An Integrated Municipal Solid Waste Management Center

Located on Koh Larn in Pattaya City, Chonburi Province, this project utilizes incineration technology and serves as a model for sustainable development in tourism-based cities.

### 2. Infectious Waste Treatment Project Using Steam-Based Technology

Implemented under a private contractor for Phuket City Municipality, this project exemplifies effective and sustainable handling of infectious waste in key tourist destinations.

### 3. Municipal Waste Management Public-Private Partnership Project

Also located in Phuket City Municipality, this project represents another initiative supporting sustainable development in tourism-centered communities.

### 4. Regional Waste Management Project

Led by Pathum Thani Town Municipality in Pathum Thani Province, this project promotes integrated waste solutions across multiple municipalities in the region.



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❄️ **CIRCULAR ECONOMY SOLUTIONS** ❄️

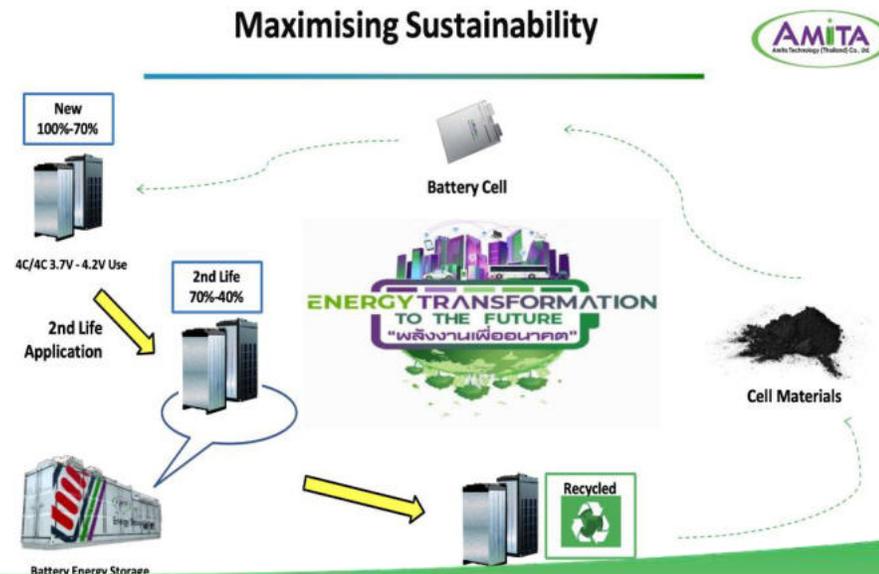
# CIRCULAR ECONOMY SOLUTIONS

## BATTERY REUSE/RECYCLE (under research & development)

□ The company places strong emphasis on research and development to continuously enhance existing technologies. It actively seeks out experienced professionals, including researchers and engineers specializing in lithium-ion batteries, and promotes collaboration with world-class research institutes, universities, and various organizations both domestic and international. These efforts help advance battery innovation, maintain leadership in the industry, and strengthen long-term competitiveness in the commercial sector and has also initiated projects focused on battery reuse and recycling in collaboration with public and private sector partners.

These initiatives promoting sustainability within the battery industry by minimizing environmental impact, increasing value, and reducing operational costs—thereby supporting the development of a circular economy in a practical and measurable way.

In addition, the company is in discussions with partner to explore second-life applications for used batteries, such as developing Battery Energy Storage Systems (BESS) and applying other recycling methods, to ensure maximum resource utilization and further contribute to sustainable energy practices.





Energy Absolute

Energy Absolute,  
*Energy for the **FUTURE***