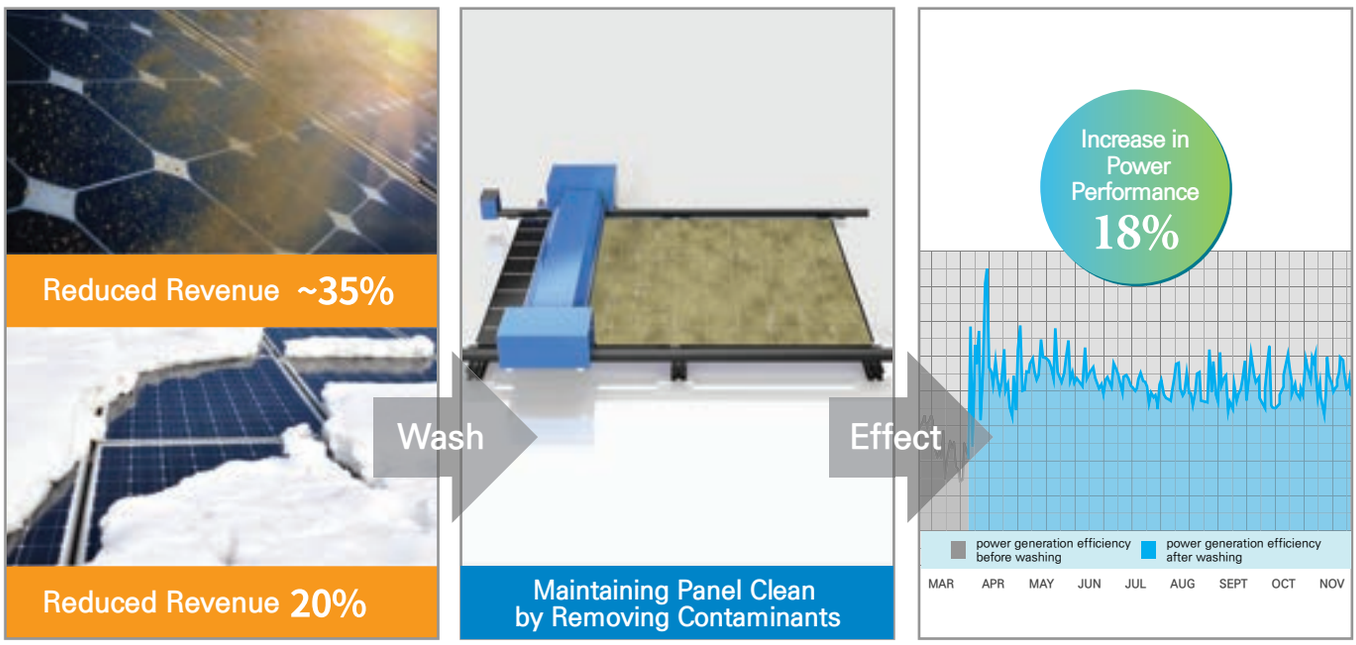
Robotics & ESG Consulting
RESET

Automated Solar Panel Cleaning Robot

RESET COMPANY CO.,LTD

Performance



Problem

Reduced power generation revenue by **up to 35%** due to pollution and snow on solar panels

Solution

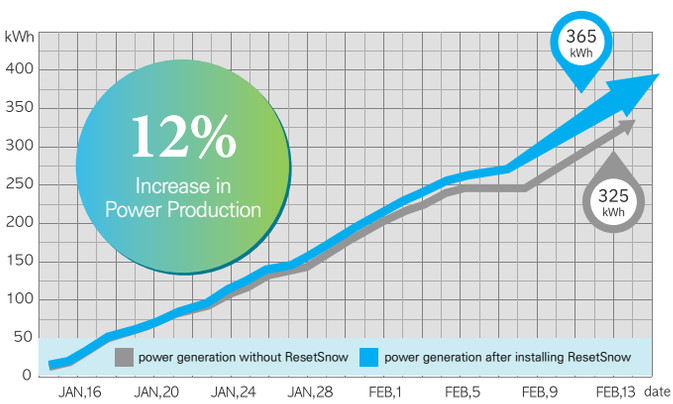
The autonomous cleaning robot that moves **automatically** like a car wiper and cleans

Effect

Power generation performance improvement through solar panel cleaning

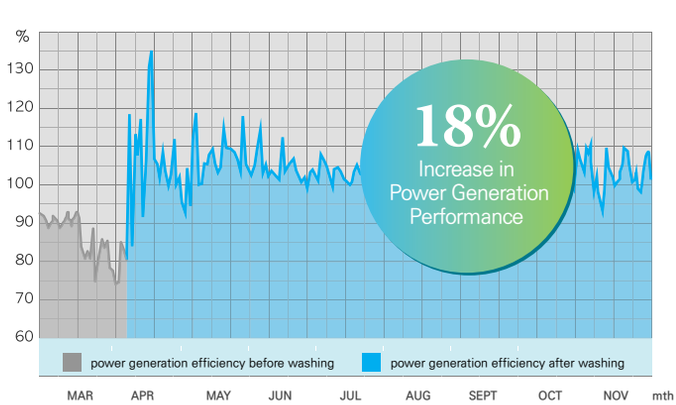
Case Study

The Effect of ResetSnow in Hokkaido, Japan



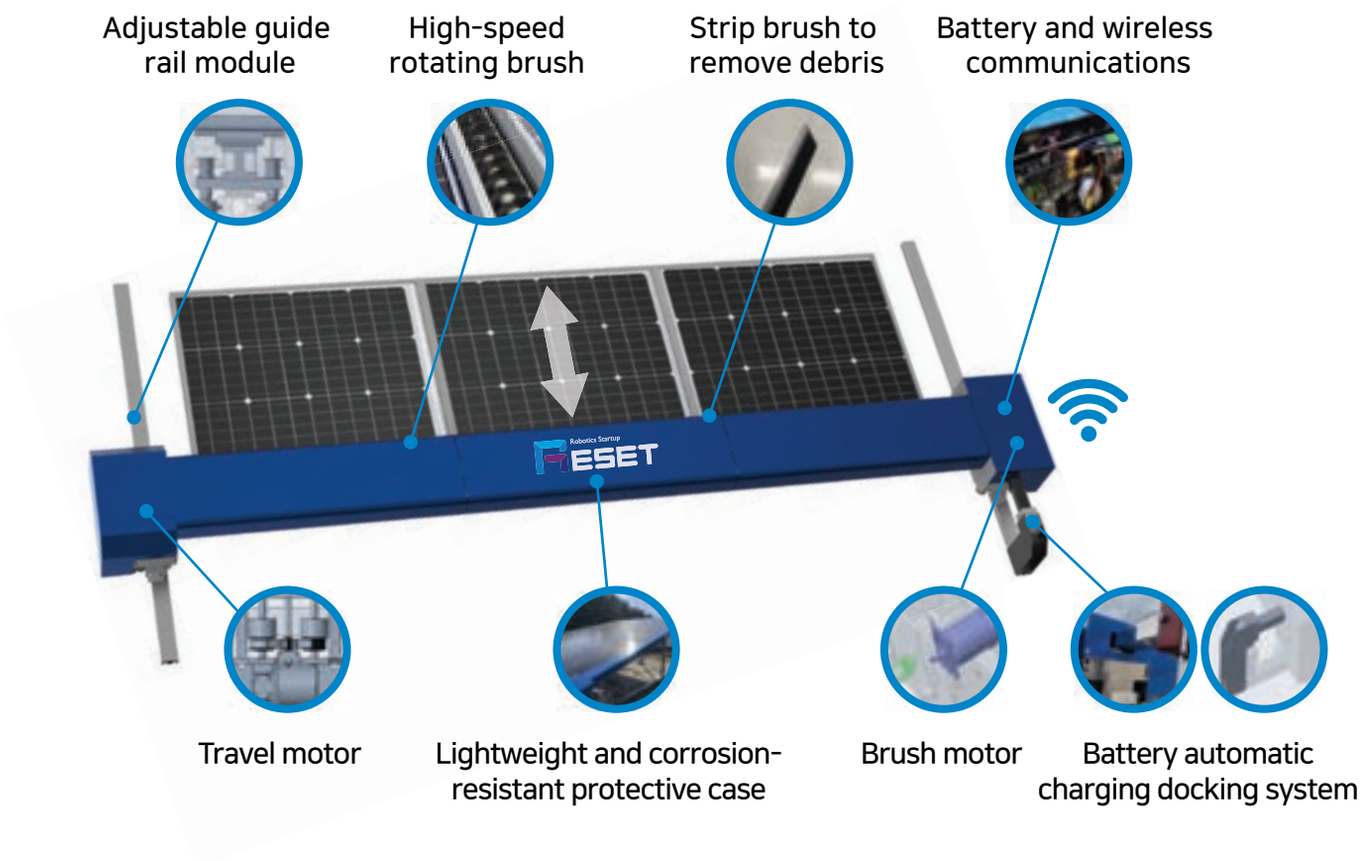
RESET SNOW [Hokkaido Obihiro Solar Power Plant]

The Effect of ResetCleaning in Hokkaido, Japan



RESET CLEANING [Seoul World Cup Stadium Solar Power Plant]

Specification



Installation Process

1. Bracket Installation

2. Rail Installation

3. Robot Installation

4. Control Box Installation

5. Docking Station Installation

6. Commissioning and Completion

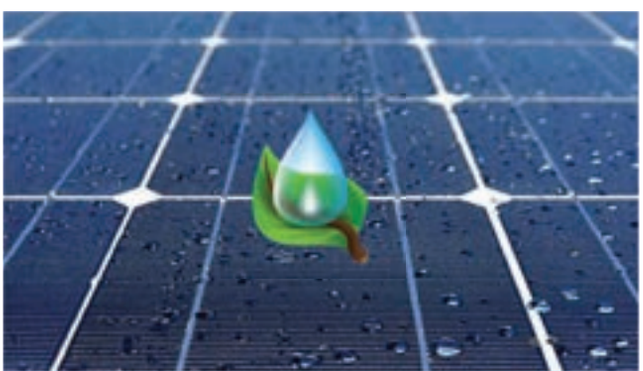
Product Technology

Variable Drive Patent Technology

Can be installed on any type of terrain without restrictions on structure shape

Industry's First Autonomous Snow Removal Technology

Snow removal possible up to 300mm per day (Exported to Japan)



Eco-friendly Rainwater Cleaning Technology

Eco-friendly cleaning that does not use chemical cleaning solution removes 99% of contamination

Domestic and International Proven Products

Confirmation of domestic and Japanese verification and cumulative sales of 200 units

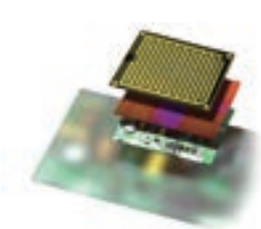
1 High Performance Wiper Motor

Powerful DC motor removes heavy snow and solidified dirt stains effectively.

2 Power Charging Docking System

The maximum capacity 20A charger in the docking system enables fast, efficient charging and ensures safe operations when restarting.

3 Real-time Snow, Rain Detection Sensor



Current sense resistors detect snow and rain to enable robots to real-time operate according to the weather.

4 Rotating, strip Brush

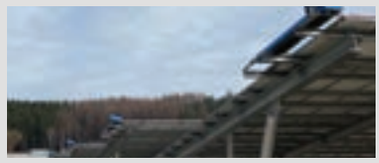
The rotating brush made with proprietary technology removes contaminants on the solar panel more effectively.

Installation Case

Robotics Startup RESET

Korea South-East Power Company, South Korea

Incheon International Airport, South Korea



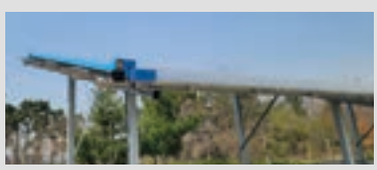
National Institute of Livestock Science, South Korea

Korea Airports Corporation – Gimhae International Airport, South Korea

Korea Airports Corporation – Gimpo International Airport, South Korea

East-Sea Fishery Management Group, South Korea

Korea Institute of Startup & Entrepreneurship, South Korea



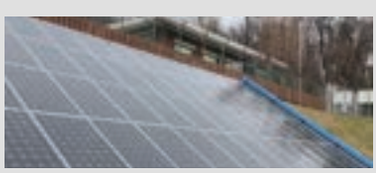
Incheon Environment Corporation, South Korea

Korea Industrial Technology Evaluation and Management Institute, South Korea

Buyeo County Office, South Korea

Korea Labor Welfare Corporation, South Korea

Gwangju Metropolitan City Corporation, South Korea



Korea Gas Corporation, South Korea

K-water, South Korea

Daegu Environmental Corporation, South Korea

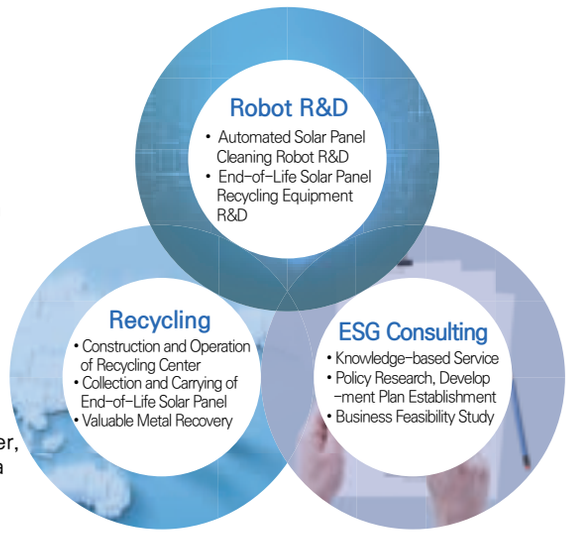
Solar Power Plant in Aomori, Japan

Solar Power Plant in Kagoshima, Japan

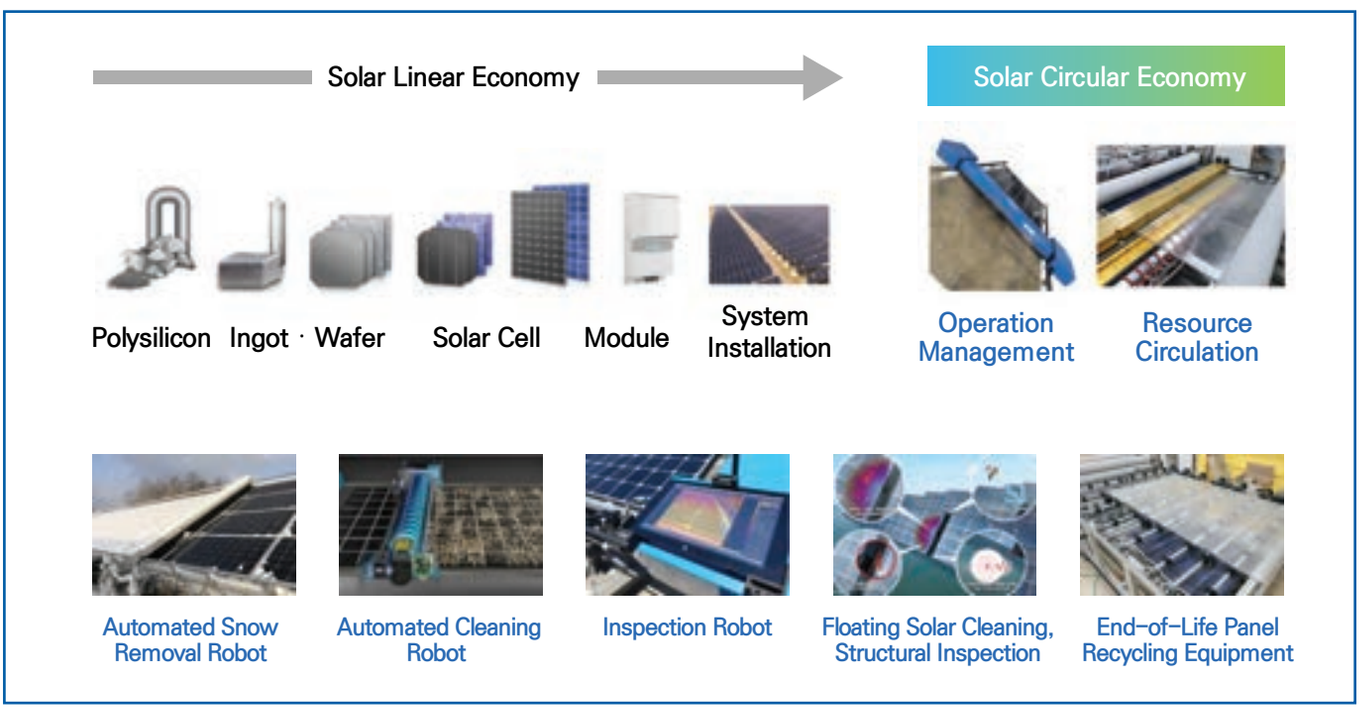
Solar Power Plant in Iwate, Japan

Company Overview

Company Name	Reset Company
CEO	Seongdae Jeong
Establishment Date	2016. 9. 26
Number of Employees	30
Main Business	Robot R&D, End-of-Life Solar Panel Recycling, ESG Consultin
Headquarter	Room 802, 10, Hwangsaeul-ro 351beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
Factory	39 Munhyeon-ro 161beon-gil, Mohyeon-eup, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Research Center 1	Room 508, 239, Geomdansan-ro, Hanam-si, Gyeonggi-do, Republic of Korea
Research Center 2	Room 201, Korea Ceramic Technology Institute's Startup Center, 109, Soho-ro, Jinju-si, Gyeongsangnam-do, Republic of Korea
Japan Office	Room 403, Tensho Shinbashi 5-chome Building, 12-11 Shinbashi 5-chome, Minato-ku, Tokyo, Japan
Homepage	www.resetsnow.com
Phone	+82 31 892 0014
E-mail	sales@resetsnow.com

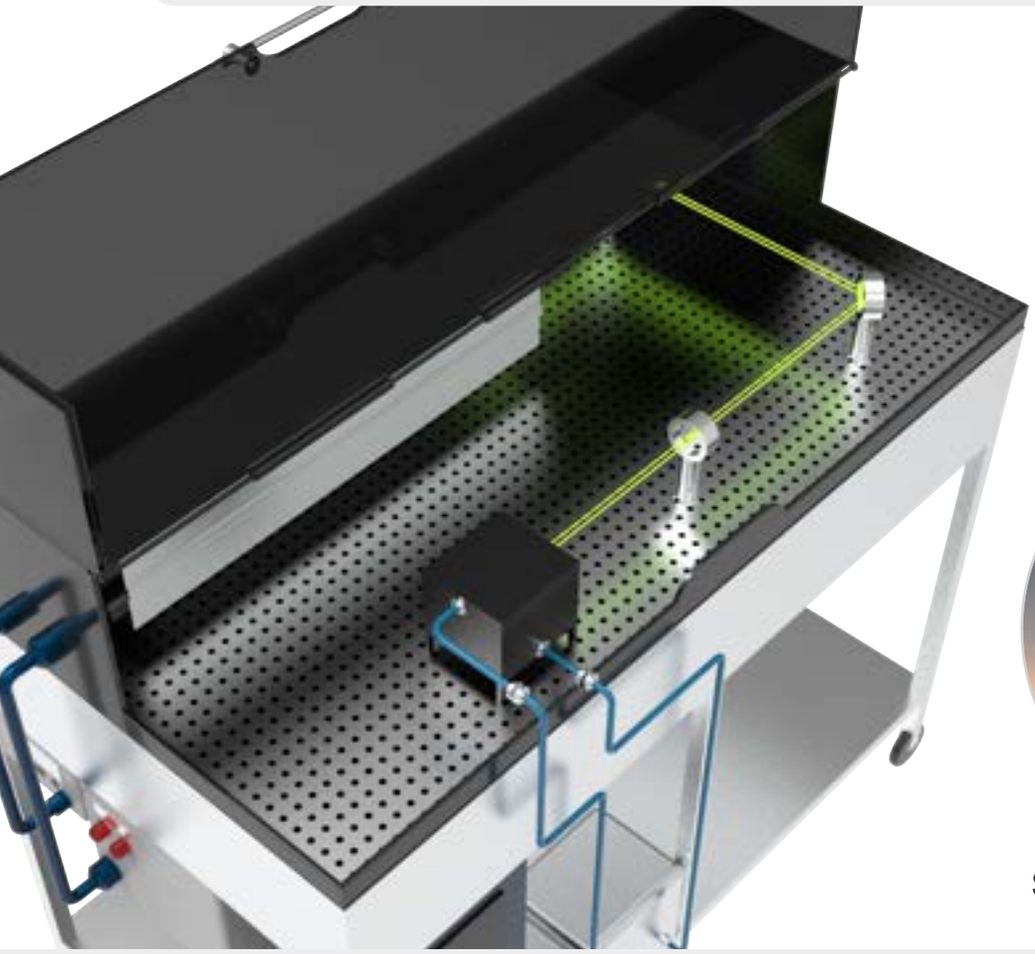


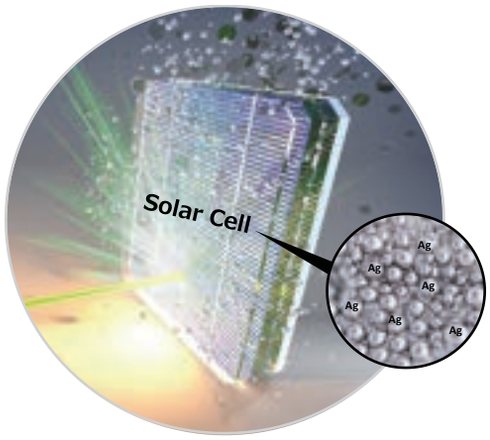
Reset Company is South Korea's representative energy leader that takes the lead in building a sustainable energy production and resource circulation ecosystem by solving the problem of reducing the efficiency of photovoltaic power generation, which is the core of the global carbon-neutral era, and the disposal of waste photovoltaic modules that are discarded at the end of their lifespan. It is an innovative company.



Recovery of Nano Silver by Using Pulsed Laser

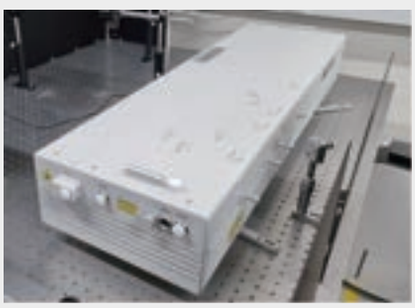
Research and development is ongoing to recover silver with high value from solar panels.
Aluminum frame, junction box, tempered glass are separated, and the remaining solar cells are dissolved.
Reset has succeeded in recovering silver from here by using pulsed laser photoreduction technology.
Nano silver recovered in this way has excellent antibacterial and antibiotic properties, so it can be sold at a high price.

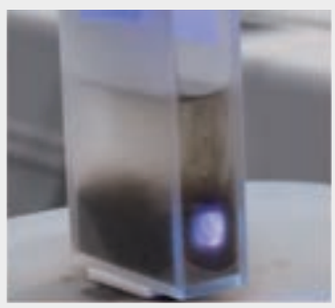




Silver Nanoparticles Recovery

Panel Types That Can Be Treated	All Types
Separation Time	10 Minutes
Separation Method	Pulsed Laser Photoreduction Technology
Equipment Size	About 3,000x2,000x500 mm
Recovery Rate	Over 90%





Tempered Glass Separation Equipment

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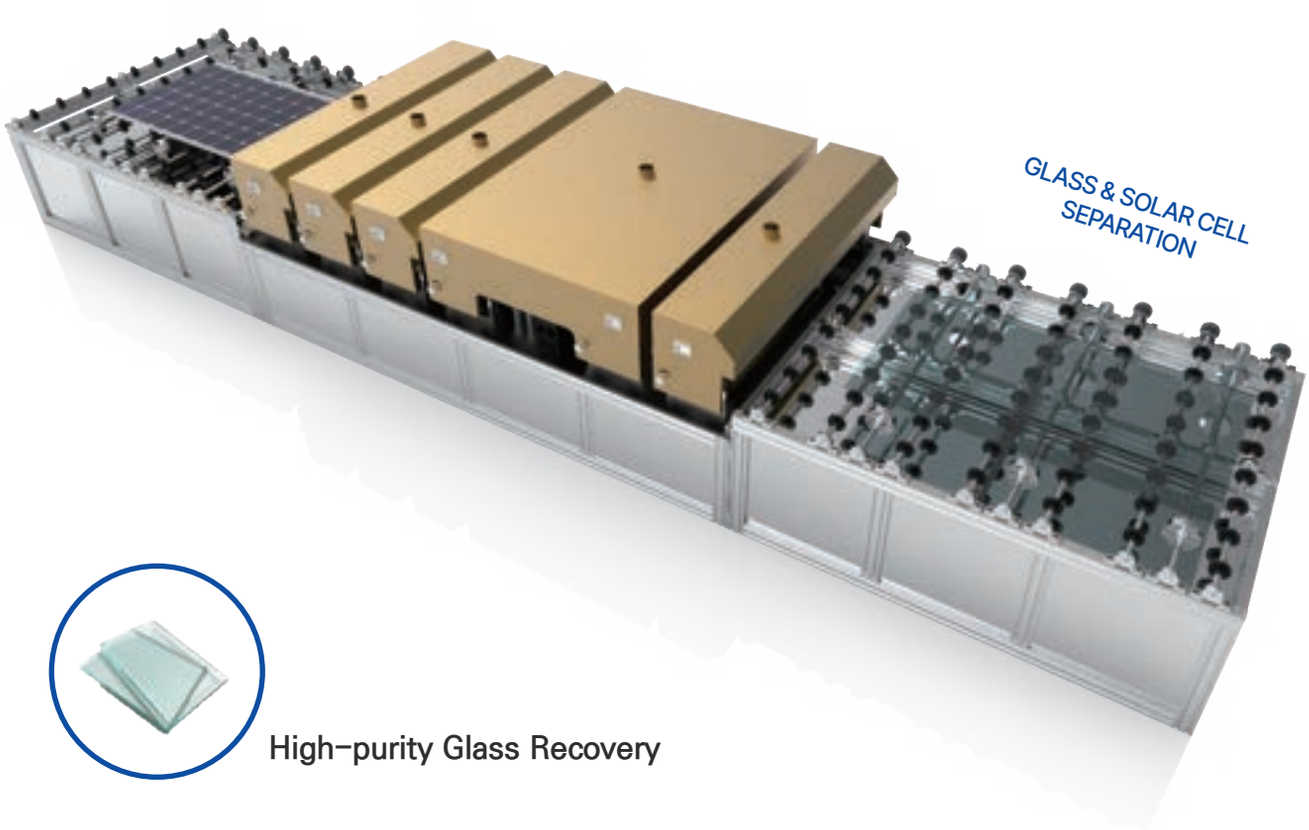
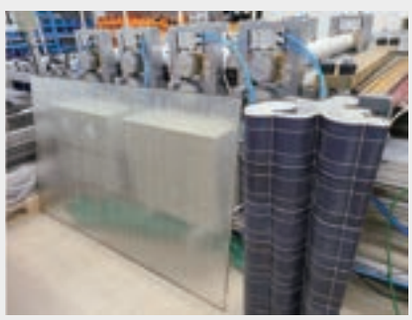
Tempered glass without aluminum frame and junction box can be separated.
The glass for solar panel uses low-iron tempered glass, which is attached to the EVA sheet.
The equipment can separate the tempered glass and EVA sheet by using a special blade, and as a result, high-purity glass can be separated to increase the value of recycling.



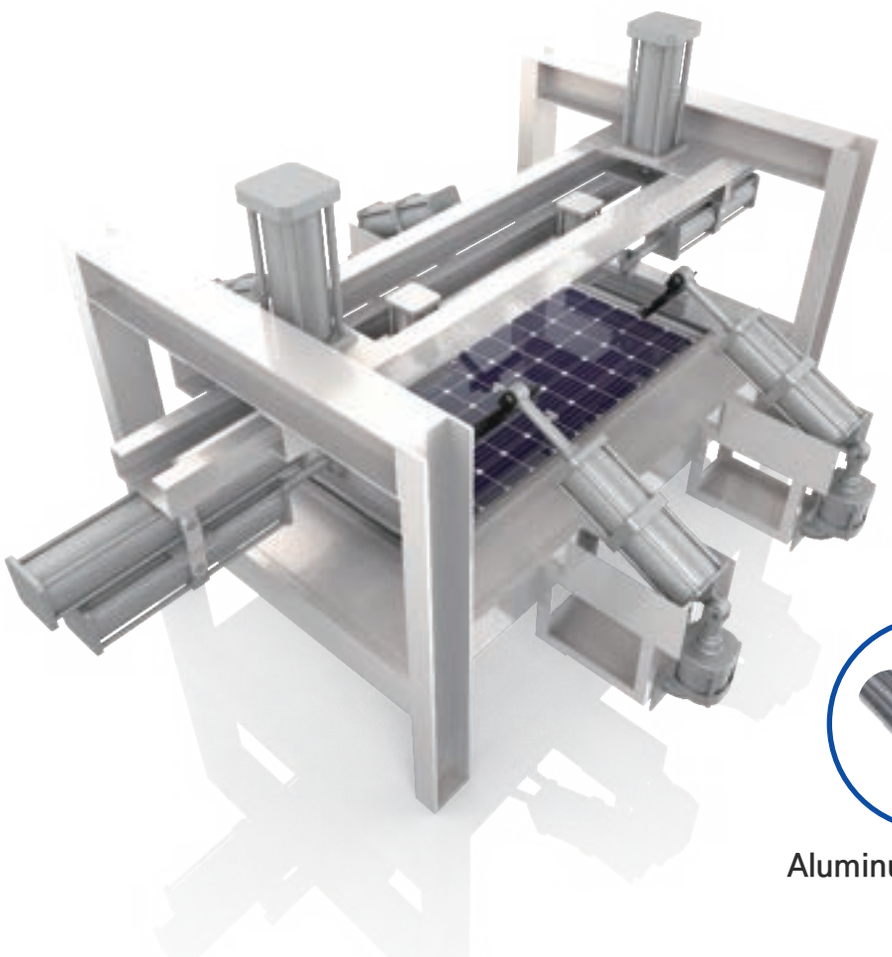
High-purity Glass Recovery

Panel Types That Can Be Treated	Single-sided Panel(60~72 cell)
Separation Time	Within 60 Seconds
Separation Method	Physical Separation
Equipment Size	About 7,000x2,000x1,200 mm



Frame/Junction Box Separation Equipment

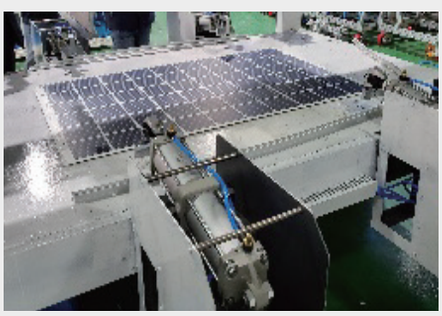
Solar panel frame and junction box separation equipment was developed to separate the aluminum and junction box. The aluminum frame and junction box are usually attached with silicon-based adhesives or adhesive seals. It is designed to separate them simultaneously by using an electric or hydraulic cylinder.

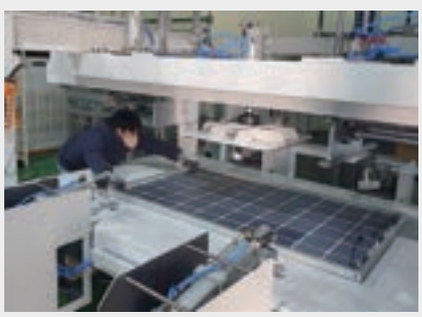


Aluminum Recovery

Plastic Recovery

Panel Types That Can Be Treated	Single, Double-sided Panel
Separation Time	Within 40 Seconds
Separation Method	Hydraulic Separation
Equipment Size	About 4,000x3,000x2,300 mm



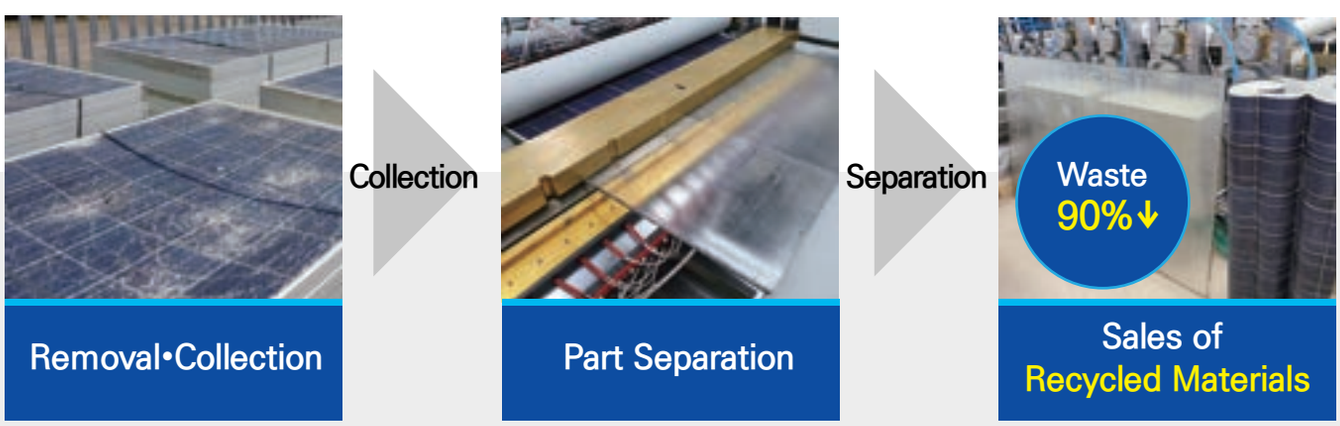


Upcoming Solar Panel Waste Problem

By reducing the amount of discarded solar waste, we create environmental, social, and economic impacts.
Power generation companies reduce processing costs by reducing the waste through Reset's panel separation equipment, and recyclers generate additional profits by recycling clean materials.
We provide a win-win environment for both power generation companies and recyclers.

Automatic Separation Technology for End-of-Life Solar Panels

Solar panels are bulky and heavy, and recyclable materials such as aluminum and tempered glass must be separated, reduced, and disposed of. (Composition ratio: tempered glass 76%, aluminum 8%, polymer 8%, silicon 5%, copper 1%, silver 0.1%)



Problem

('30) Solar PV recycling market to be worth **$2.7 billion**

Solution

Automatic separation of aluminum frame, tempered glass, solar cell

Effect

Reprocessing and sales of aluminum, tempered glass, **reducing landfill waste by more than 90%**

Robotics & ESG Consulting
RESET

Automated Solar Panel Recycling System

RESET COMPANY CO.,LTD