



GCL System Integration Technology Co., Ltd.



# GCL SYSTEM INTEGRATION

## Corporate Presentation

Q3 2025

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# GCL Group

Bringing **Green** Power to Life

# About GCL Group



**Renewable Power**



**PV Manufacturing**



**Semiconductor Material**



**Natural Gas**



**ESS Materials & Products**



**EV Charging**

**No.4**

amongst global Top 500  
New Energy Companies

**4**

public listed  
companies

**35**

years of experience in  
energy sector

**3,000+**

patents and intellectual  
properties

**\$27.8 billion+**

in assets

# About GCL Group



 GCL HQ at Suzhou

## Mission

Focusing on green growth for a sustainable future

## Values

Founded by hard work  
Leading by values  
Driven by innovation

## Spirit

Entrepreneurship  
Innovation  
Competition  
Transcendence

## Culture

Simplicity  
Efficiency  
Discipline  
Dynamism

# Our Journey



# GCL

1990

**GCL Group was founded**

1996

GCL's first power plant commissioned in China

2006

GCL marched into the PV industry

2007

GCL-Poly Energy Holdings Limited (**03800.HK**) got listed on HKEX  
Delivery of the first batch of polysilicon

2014

GCL New Energy Holdings Limited (**00451.HK**) got listed on Hong Kong Stock Exchange (HKEX)

2015

GCL System Integration Technology Co., Ltd. (**002506.SZ**) got listed on Shenzhen Stock Exchange (SZSE)

2019

GCL Energy Technology Co., Ltd. (**002015.SZ**) got listed on SZSE

2021

GCL SI Hefei **60 GW Giga Factory** got commissioned  
GCL **100 MW** Perovskite solar production line got operational

2022

Silane fluidized bed reactor (FBR) method granular silicon production capacity reached **400,000 tons**

2023

GCL SI Wuhu **TOPCon Cell** factory commenced production

2024

GCL SI modules annual shipments ranked TOP 8

# Global Layout



## Overseas Power Projects

- Geothermal
- Energy
- Gas Turbine Photovoltaics
- ★ Overseas Manufacturing Projects
- 🔬 Science and technology R&D center and incubator
- ▶ Branches
- ⚓ Port
- 🚢 LNG carrier
- Hydropower
- Wind Power
- Oil and Gas



### Asset Allocation

China, Southeast Asia, Middle East, North America, Africa, Europe

### Branches

Ethiopia, USA, Japan, Vietnam, Indonesia, Sri Lanka, Turkey, etc.

### R&D Center & Incubator

Japan, Israel, Houston and St. Louis in the US, Shanghai, Nanjing, Xuzhou and Suzhou in China

# Integrated Industrial Chain





GCL Energy Center  
-Entrance Hall-



# GCL SI

Bringing Green Power to Life

## Energy System Solutions

GCL System Integration Technology Co., Ltd. is the world's leading energy system solutions provider, covering the R&D, design, production, sales, and service of its products.

### Cell

N-type  
High-efficiency Cells

### Module

- TOPCon
- GPC
- Floating
- Lotus

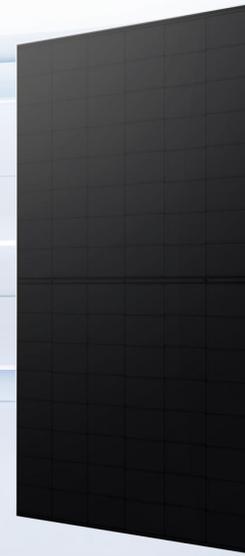
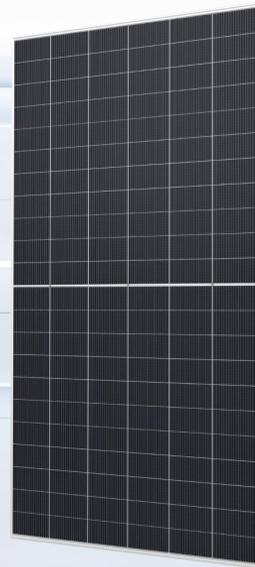
### Energy Storage

- Residential
- Commercial & Industrial
- Smart String
- Outdoor

### Integrated Energy Solutions

- Grid-connected solutions
- Off-grid solutions

# Regular Module Products



Technology type

**TOPCon**

**TOPCon**

**TOPCon**

**GPC**

**GPC**

Module power

**605W**

**630W**

**720W**

**470W**

**660W**

Cell size

183

210R

210

210R

210R

# Scenario-based Module Products

## GPC 2.0



### Rooftop Module

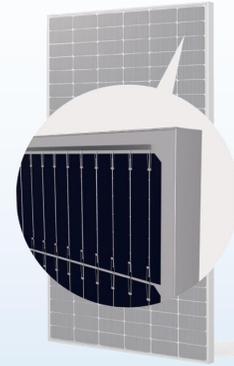
**Higher gain**  
Cell efficiency > 27.5%  
Maximize light utilization, high passivation level

**High reliability**  
Straight-line ribbon reduces the risk of hidden cracks  
Superior shading tolerance, eliminating hot spot risks

**Lower degradation**  
Temperature coefficient  $-0.26\%/^{\circ}\text{C}$   
First-year degradation < 1%  
Linear power degradation < 0.35%

**Minimalist design**  
Front gridless design, all-black look

## Lotus



### Full-screen Module

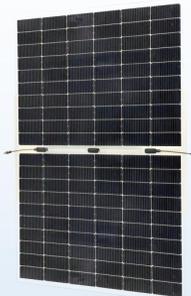
**Cleaner**  
Borderless A-side, zero debris trapping

**Higher yield**  
Field-proven 15% higher energy yield

**More convenient**  
Lift-assist frame design, 40% faster installation

**Stronger**  
Withstands hurricanes up to Category 15 (TÜV certified)

## Offshore



### Floating Solar

**Reliable**  
Rigorously tested for mechanical load, salt mist, PID, and damp heat

**Efficiency**  
N-type bifacial cells - lower degradation & temperature coefficient

**Weatherproof**  
Marine-grade construction with double-coated glass  
quad-layer waterproof junction box  
heavy-duty corrosion-resistant framing

## SiRo



### Carbon Data Platform

**Traceable**  
Raw material selected for minimal carbon impact

**Readable**  
Exclusive QR code: Monitor every gram of carbon from source to system

**Trustworthy**  
Third-party certified carbon footprint data

# Energy Storage Systems

## Residential



## Smart String



# Smart Energy Solutions



## Commercial & Industrial



## Outdoors



# Grid-connected Solutions



## Residential PV

- Safe and reliable PV system for roof mounting
- Intelligent and reliable home energy storage system
- Real-time power generation monitoring & data analysis



## C&I Integrated

- Modular design for flexible capacity expansion
- Compact design for easy and flexible installation
- “Xin Zhi Yun” Energy Management System integrated



## Utility Scale

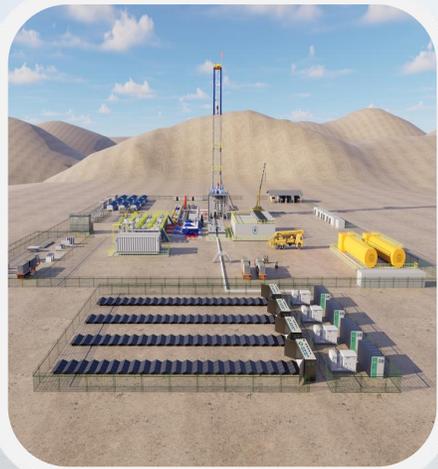
- Expanded load capacity with G-BANK energy storage cabinets
- Hybrid grid-connected/off-grid operation with flexible power regulation
- “Xin Zhi Yun” Energy Management System integrated

# Off-grid Solutions



## Mining

- A smart microgrid system integrating "PV module + energy storage + EMS + PPFS + AI" to provide a sustain power supply for mining equipment
- Stable power output under extreme weather conditions



## Oil & gas

- A smart microgrid solar power systems for oil & gas drilling rigs
- "Xin Zhi Yun" EMS integrated



## Zero-carbon Industrial Park

- Compact design for easy installation and high space efficiency
- Compliant with RE100 initiative
- "Xin Zhi Yun" EMS integrated



## Temporary Infrastructure

- The temporary smart PV-storage microgrid system enables rapid deployment and relocation
- Seamless synchronization between power supply and temporary equipment loads
- Noise-free operation



## Offshore

- Lower investment
- Seawater-resistant, capable of withstanding waves and biofouling
- Optimized mooring system compliant with aquaculture regulations
- Rainwater collection

# Capacity Layout



**Module 30 GW**



**N-type Cell 16 GW**



**Hefei Factory** | Module



**Funing Factory** | Module



**Wuhu Factory** | Cell

# Business Growth 2024



Operating revenue  
**\$2.26 billion+**



Net profit attributable to shareholders  
**\$9.51 million+**



GCL Energy Center  
-Night View-



# Industry Advantages

Bringing **Green** Power to Life

# R&D Achievements



## TECHNOLOGY IS THE POWER

• **3,000+** intellectual property assets • **2,000** patent applications filed

### R&D Strength

- **Over 70** R&D institutions worldwide including USA, Japan and China
- **3,000+** key R&D professionals
- **23** engineering technology research centers
- **2** provincial key laboratories
- **100** external experts represented by 8 academicians of Chinese Academy of Sciences

### Achievements

- **11** national science and technology projects
- **26** provincial science and technology projects
- **100+** scientific research projects
- Contributes to **80+** international and national technical standards
- **660+** papers published in core periodicals



## Pioneering the FBR Technology



### Better Fluidity

Accelerating application-end intelligent upgrades (CCz)



### Lower Cost

Facilitating global PV power generation at lower prices



### Better Stability

Fully compatible to n-type monocrystalline index



### Less Carbon Footprint

Leading the industry chain in reducing carbon emissions by 80% throughout the life cycle

## Carbon Footprint Certificates



Our FBR technology has obtained multiple carbon footprint certifications including France ADEME, China CQC and ISO 14067.

## FBR Cost Advantage



Water Consumption ↓ **18%**



Labor Cost ↓ **61%**



Power Consumption ↓ **76%**



Hydrogen Consumption ↓ **57%**

# Perovskite Next Generation High Efficiency Module

## Record-breaking module performance

Single-junction module efficiency

**19.04%** @ 2m<sup>2</sup>

Tandem module efficiency

**26.36%** @ 1.71m<sup>2</sup>

## VS. Crystalline silicon products

- 50% lower production cost
- 20% more power generation with the same output efficiency condition
- 5%-8% higher conversion rate with crystalline silicon lamination

### PROJECT Y



GCL originated large-format perovskite module supplied best-cost value green energy for Zhangjiakou Ice & Snow event

# Certified Carbon Footprints



## Carbon Footprint Certifications Across Full Industry Chain



Microsilica    FBR Granular Silicon    Silicon Ingot    Wafer    PV Cell    Module

# GCL Carbon Data Platform

Carbon Footprint Traceability

Manufacturing & Logistics Carbon Data

Business Carbon Data

Procurement Carbon Data

3rd Party Accreditation



Carbon Emission

GCL Carbon Data Platform



Product Traceability



Product Carbon Footprint



Corporate Carbon Footprint Accounting

Carbon Emission Optimization

Client Benefits



Carbon Footprint Accreditation



Carbon Footprint Standards



Financing



Carbon Trading

Manufacturing Processes Optimization

# Traceability



Traceable



Accessible

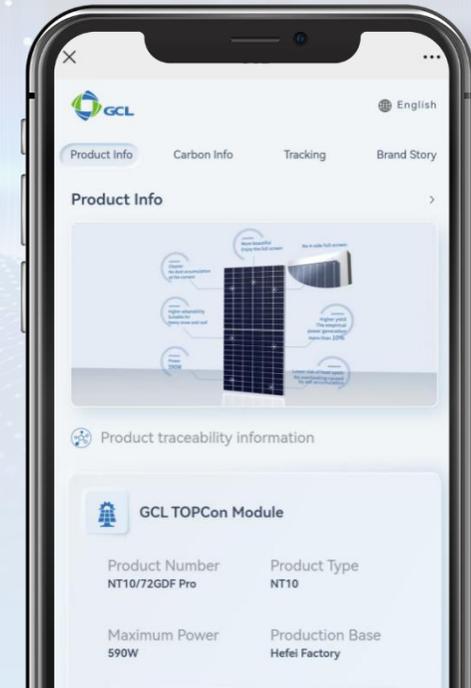


Trustworthy



Anti-tampering

- Microsilica
- FBR Silicon
- Ingot
- Wafer
- PV Cell
- PV Module



# ESG Results by 2024



## Environmental Performance

Environmental protection expenditure of **\$5.12 million**      **99.74%** general industrial solid waste recovery rate

**100%** production sites certified to both ISO 14001 and 50001 standards

## Corporate Governance

Proportion of independent directors: **33.33%**      **0** corruption reports

**100%** anti-corruption training coverage

## Social Performance

**6,074** employees

**18.95 h** average training hours per employee

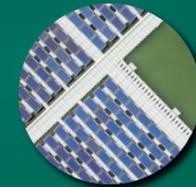
R&D spend increased by **43.59%** \*Compared to 2023  
Total: **\$29.26 million**

GCL SI module manufacturing plants **SA8000** certified

Total recordable incident rate (TRIR): **0.07** \*50% lower than 2023



**N**ature



**E**quity



**E**Xcellence



**T**rust

\* ESG report and organizational carbon footprint (Scope 1 & 2) verified by a third-party auditor

# Partnership Network



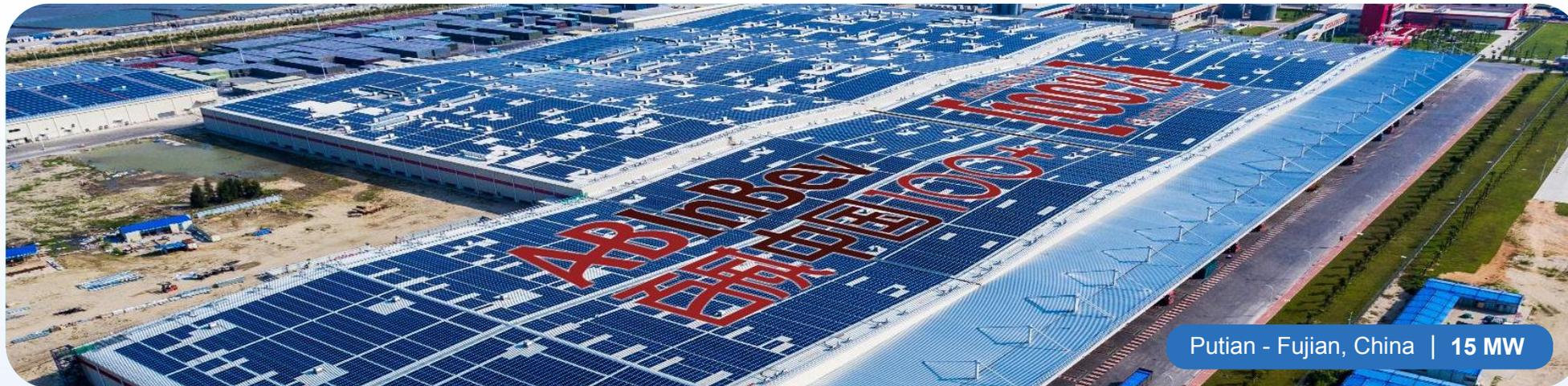


# Project Gallery

Bringing **Green** Power to Life









# Composite Solar Plants

Solar-Agriculture  
Integrated System



Suzhou - Anhui, China | 40 MW

Solar-Aquaculture  
Integrated System



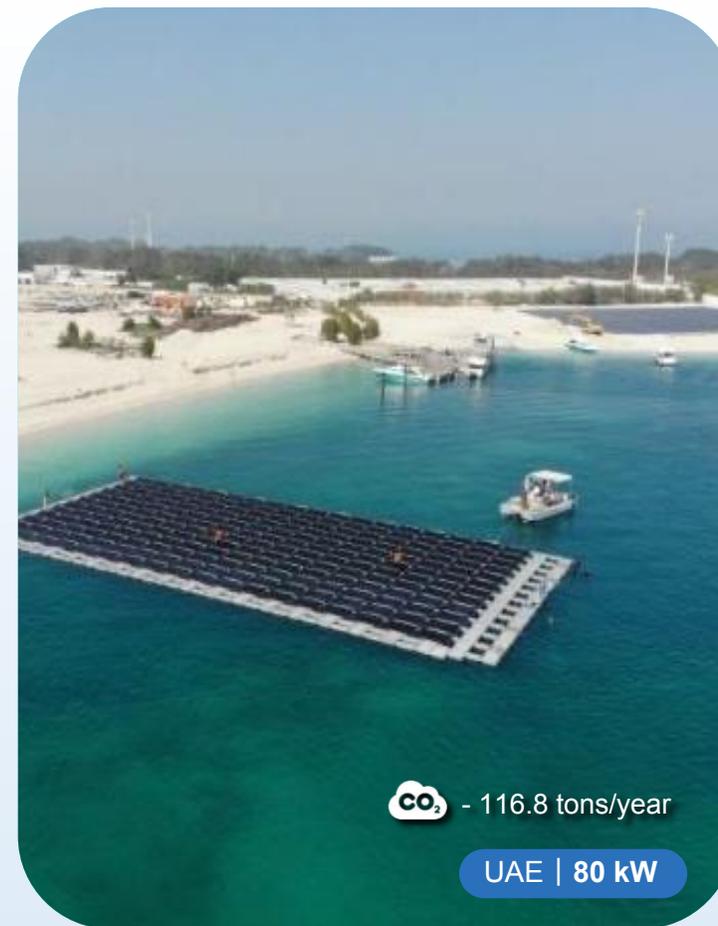
Tianchang - Anhui, China | 40 MW

Solar-Poultry Integrated  
System



Tongyu - Jilin, China | 15 MW

# Floating PV





Golmud - Qinghai, China | PV 50 MW ESS 15 MW/18 MWh (LFP)



Jinchang - Gansu, China | PV 200 MW | ESS 80 MWh

# G-Home Solar Systems



 - 8.71 tons/year

Catanduva – SP, Brazil | **5.97 kW**



GCL System Integration Technology Co., Ltd.

## Bringing **Green** Power to Life



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