



GCL SYSTEM INTEGRATION

GCL SYSTEM INTEGRATION
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GCLSI



Bringing Green Power To Life

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ABOUT GCL GROUP

Golden Concord Holdings Limited (GCL Group) is a global leading innovative enterprise that focuses on the integration of hydrogen storage in wind and solar power generation and source network load storage, new energy, clean energy and new ecology of mobile energy industries, and the coordinated development of silicon materials, lithium materials, carbon materials, integrated circuit core materials and other related industries. The company drives innovation and development with leading green, low-carbon and zero-carbon energy technologies and follows a brand-new development mode of "scientific and technological GCL", "digital GCL" and "green GCL" under the national goals of achieving carbon peak and carbon neutrality.

VISION

To be a respectable leading global new and clean energy enterprise

MISSION

Focusing on green growth for a sustainable improvement of living environments

CORE VALUES

Value-oriented, innovation-driven, striving-based, collaboration-grounded



6

Continents Business coverage



30+ years

energy service expertise



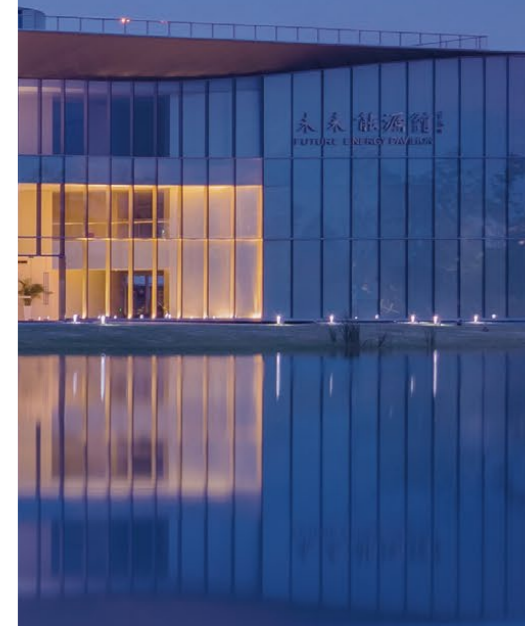
3000+

patents & international properties



200 billion USD

assets in total



ABOUT GCL SYSTEM INTEGRATION

It is a world-class module manufacturer with multiple cell and module production bases globally. GCLSI offers a wide variety of top tier quality products for all photovoltaic application and environments, including bifacial, 182mm, 210mm large format, and Topcon modules. All products underwent the most rigorous quality inspection and testing. GCLSI is rated as a global Tier1 module supplier by Bloomberg and ranked A by PV Module Tech for its bankability. With a vertically integrated value chain operation, GCLSI has proven track record of capability and expertise in delivering state-of-the-art solar package solutions incorporating DESIGN-PRODUCT -SERVICE.

OUR POSITIONING

Being the one-stop integrated clean energy solution provider

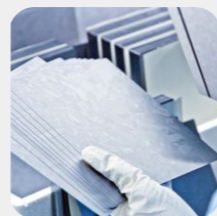
GCL PV VALUE CHAIN

Silicon materials



185,000 tons annual capacity of poly-silicons
260,000 tons annual capacity of granular silicon

Wafer



50 GW annual capacity of wafers

Module



30GW* annual capacity of modules
Top 10 global module supplier

* By the end of 2023

PV stations



8+ GW PV Plants operation experience

PV MODULE

MODULES

As the world-class crystalline silicon module manufacturer, GCLSI dedicates on the research and development of high efficiency module for all application scenarios, products including: bifacial, half-cell, 182mm, 210mm large format, Topcon and certified low-carbon modules. All products have passed comprehensive inspection and rigorous testing.

ADVANCED INTELLIGENT MANUFACTURING

GCLSI developed the first PV module intelligent factory based on the Ali-Cloud bigdata platform, achieving all around intelligent manufacturing with 28 automated patents.



GCLSI produces innovative and cost-effective solar modules with an advanced automated integrated industry. Our vertical supply chain business model allows us to

- Control manufacturing costs
- Decrease dependency on third party suppliers
- Optimize logistic chain
- Reduce production loss and improve overall product quality
- Streamline product development from R&D to mass-production
- Stable quality guaranteed

STANDARD MODULE

182 SERIES



385-420 W
M1054H
Efficiency 21.5%



520-555 W
M1072GDF
Efficiency 21.5%

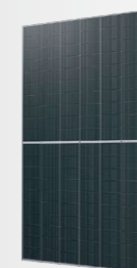


525-560 W
M1072H
Efficiency 21.7%

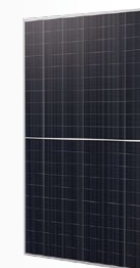


525-560 W
M1072H-Roof
Efficiency 21.7%

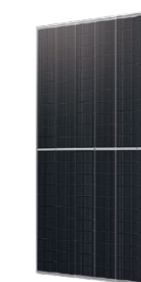
210 SERIES



575-610 W
M1260GDF
Efficiency 21.6%



580-615 W
M1260H
Efficiency 21.7%



635-670 W
M1266GDF
Efficiency 21.6%



640-675 W
M1266H
Efficiency 21.7%

TOPCon SERIES



555-580 W
NT1072GDF
Efficiency 22.5%

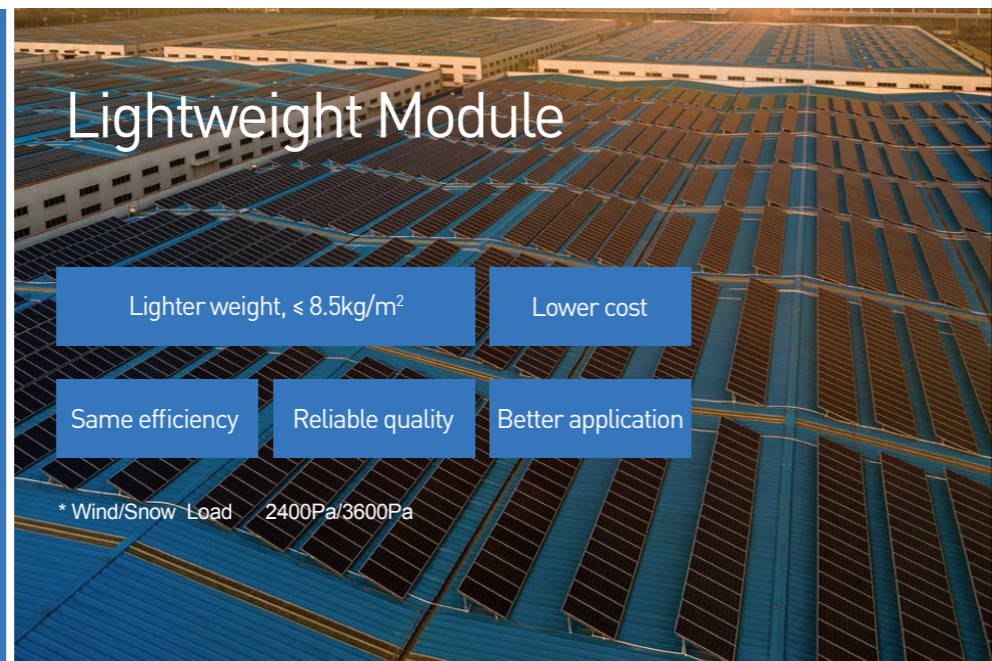
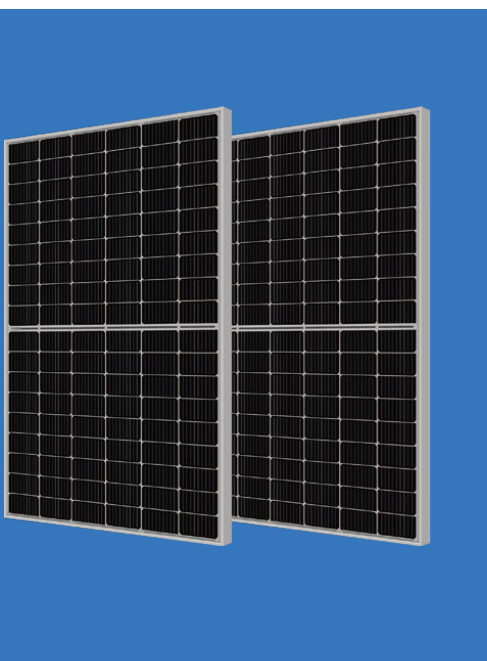
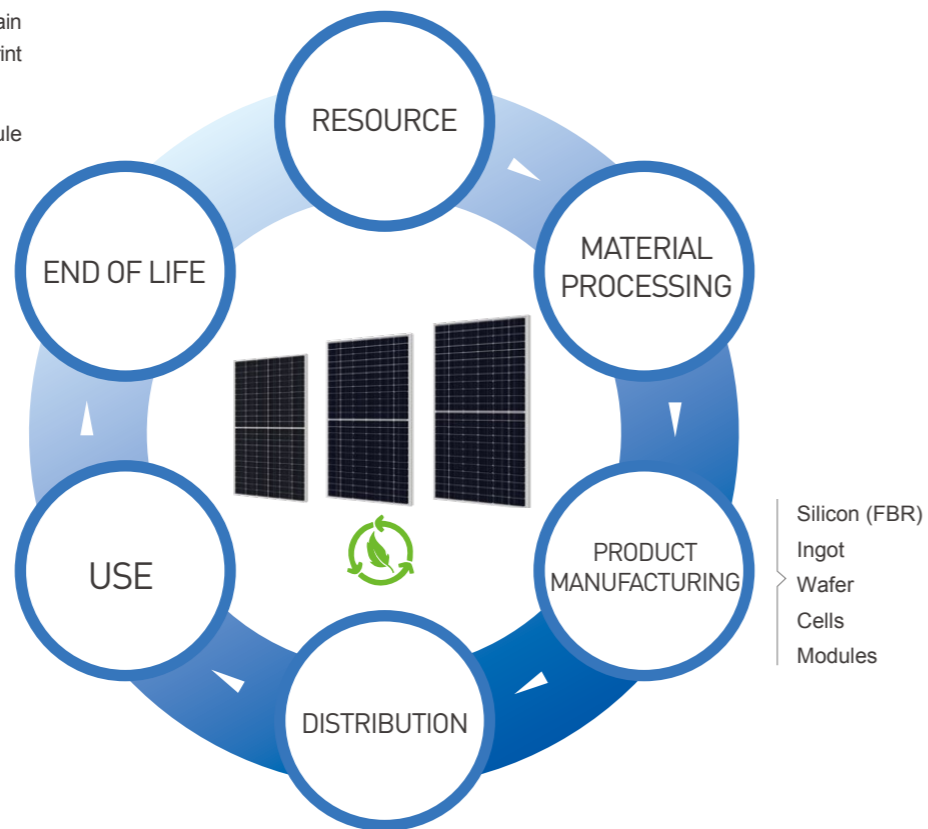


560-585 W
NT1072H
Efficiency 22.6%

CARBON FOOTPRINT CERTIFIED MODULE

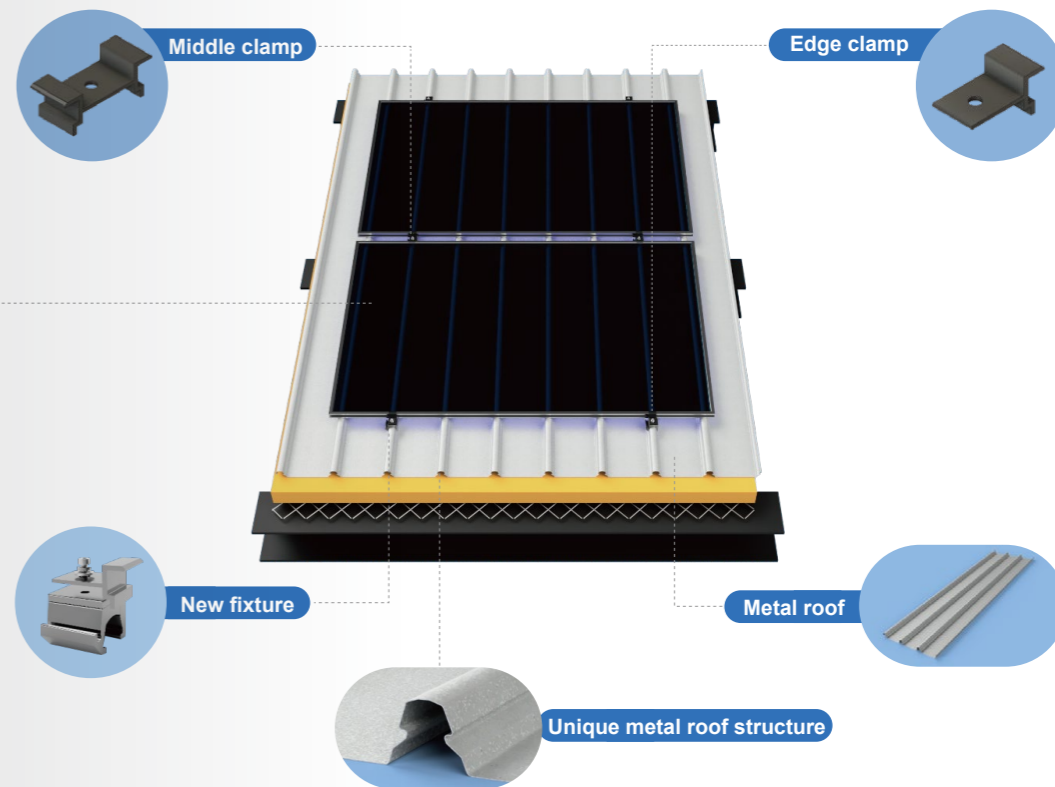
GCL's fully integrated in-house supply chain ensures reaching competitive carbon footprint values.

182mm, 210mm series and Topcon module products are carbon footprint certified.



BIPV MODULE

SPV Metal Roof Product Structure Design



540-555 W
M10/72GDF-B

390-415 W
M10/54GDF-B



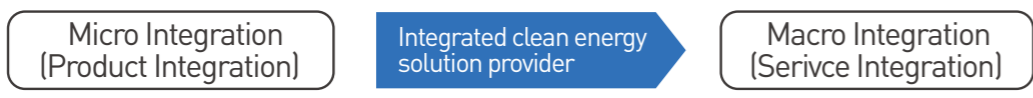
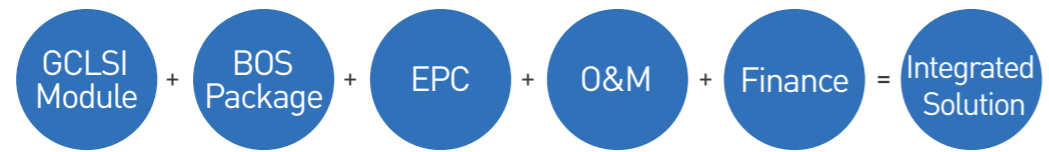
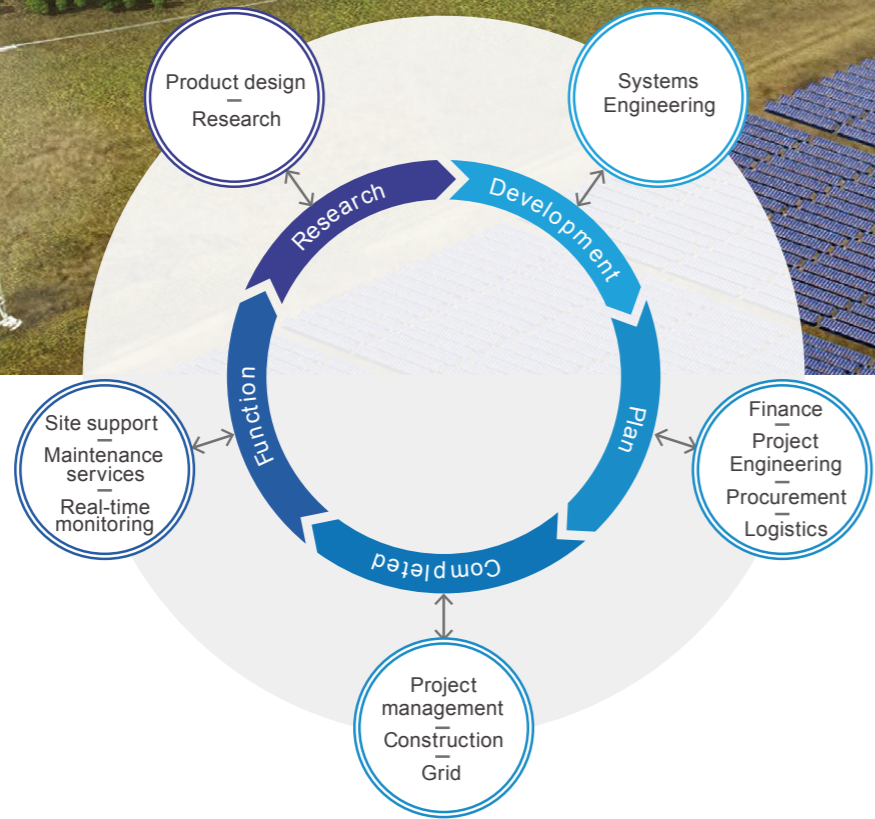
- Passed weather resistance tests: Dust sand, salt mist, ammonia, etc
- MBB and half cut technology, low working temperature and high power generation
- Dual glass modules, Class A anti-fire level, Safer
- Product warranty: 12 years, performance warranty: 25~30 years
- PID Preferred packaging scheme, excellent anti PID performance

SOLAR SOLUTION

ONE STOP SERVICES

Developed with high power output and innovative technology, reliable operation in diverse climatic conditions, while saving the consumption of raw materials.

The highly vertical integration of the industrial chain has determined the leading position of the group.



SUPER SOLAR BLOCK

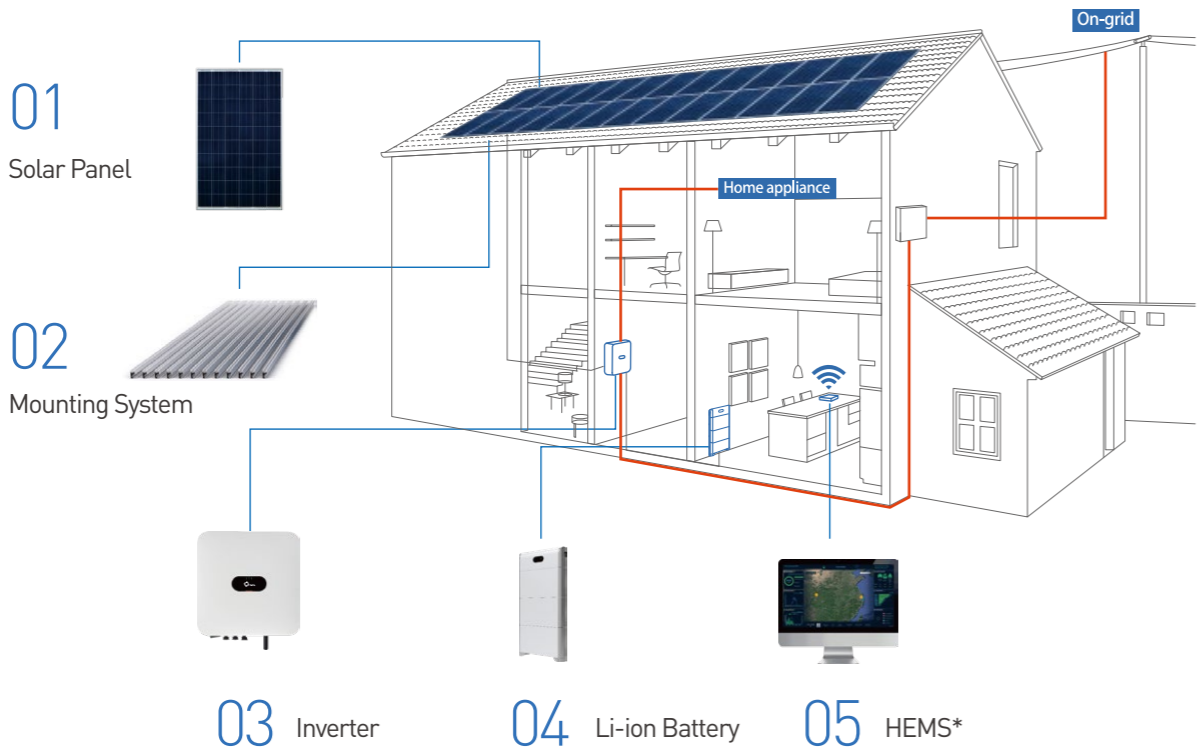
MORE EFFICIENT AND POWERFUL

GCL Super Solar Block is the latest package solution with best technology for partners. The solution focus on standardization and optimization for the solar power plant. Standardized block make the design & construction more convenient and efficient.

- Fully-integrated design with the substation make the installation quicker and easier.
- Bifacial module and tracking system maximize the sunlight capture.
- DC to AC ratio can be up to 1.5 .
- Applicable for both ground-mounted and floating systems.

Max. DC/AC Ratio	1.5
System Voltage DC	1500 V
System Voltage AC	AC MV up to 20-35 kV, 50/60 Hz
Solar Panel	Mono PERC bifacial with 70% bifacial ratio
Inverter	String / Central inverter
Mounting	Horizontal Single Axis Tracker / Floating Structure
Space Efficiency	~1000 kWp/ha / ~1500 kWp/ha (floating)

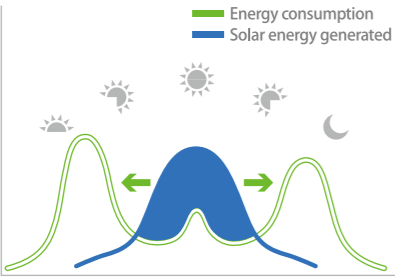
G-HOME SOLAR KIT



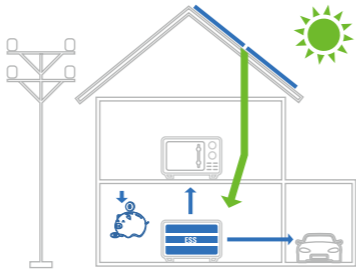
Solar Panel	Mounting System	Inverter	Li-ion Battery	HEMS*
Good performance and reliability on rooftop	Quick installation based on minimal design	High efficient, bi-directional converter, batter compatibility	Intelligent and reliable home energy storage system	Real time performance monitoring and data analysis

*HEMS = Home Energy Management System

ENERGY CONSUMPTION PATTERN



ENERGY INDEPENDENT MODE



- Service**
- Comprehensive product warranty
 - 7/24 data monitoring and analysis
 - Overall pre-sale consulting
 - Fast responding after-sale service

- Features**
- All certified products
 - Compact design
 - Flexibility with pre-assembled components
 - One-stop transportation
 - East and quick installation
 - Cost competitive

HYBRID SOLAR BLOCK

INTEGRATED SMART ENERGY MANAGEMENT SYSTEM GUARANTEE 24/7 POWER SUPPLY

GCL Hybrid Solar Block is a hybrid power generation system consisting of the most advanced components in the market, ensuring 24/7 power supply. Compared with pure diesel generation, it can effectively reduce the operation and maintenance cost, especially in the remote areas far away from the grid.

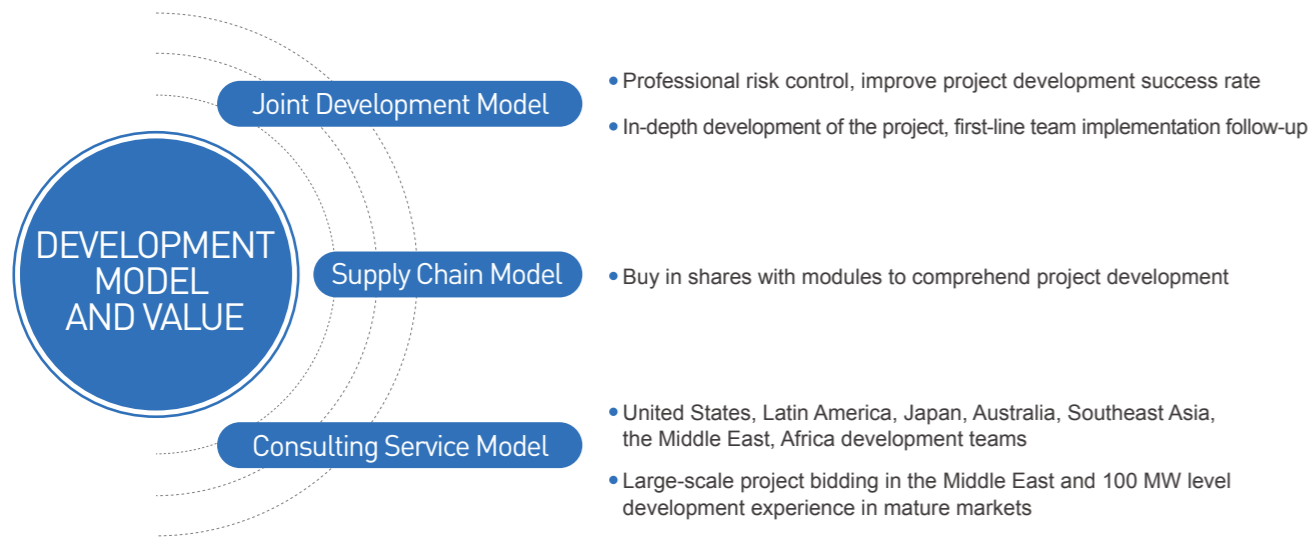
SYSTEM HIGHLIGHTS

- GCL Hybrid solar system with modular design for easy and fast installation.
- Lower LCOE cost compared with pure diesel generator.
- The system could supply enough power to cover more than 95% daily energy consumption.
- Remote monitoring by GCL cloud service through desktop or mobile phone.
- Advanced diesel generator and energy storage guarantee 24/7 powersupply.
- Compatible with local micro grid for power distribution.



PROJECT DEVELOPMENT

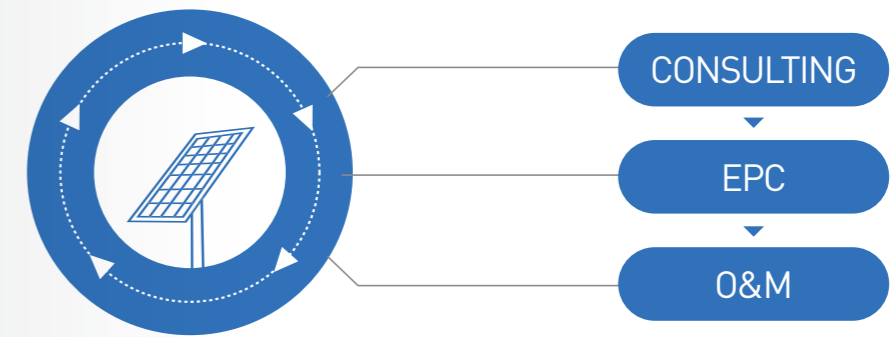
OVERSEAS PROJECT DEVELOPMENT MODEL AND VALUE



EPC AND O&M

GCLSI has provided EPC service to up to 4GW of solar plants, operation and maintenance projects exceeds 1.3GW. Solar plants categories: Utility scale solar plant, commercial solar plant (rooftop), floating solar plant, agricultural photovoltaic complementation plant, fishery photovoltaic complementation plant, PV+ESS.

POWER PLANT FULL-LIFE CYCLE PERIODIC SERVICES



DOMESTIC AND FOREIGN PARTNERS

State-owned Enterprises	International Financial Partner	Banks & Financing Institutions

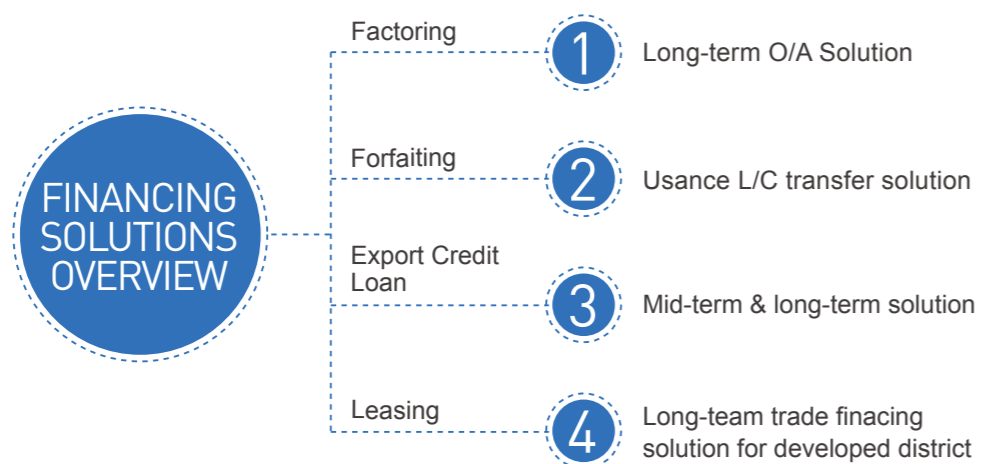
THE MAIN APPLICATION TYPES

Utility Scale Solar Plant	Commercial Solar Plant (Rooftop)	Floating Solar Plant
Agricultural Photovoltaic Complementation Plant	Fishery Photovoltaic Complementation Plant	PV + ESS

FINANCIAL SUPPORT

GCLSI focuses on various approaches of financing to reduce financing cost by means of forfaiting, export credit loan and leasing. Over three decades in pursuit of sustainable development, GCLSI has established strategic relationships with domestic first-class financing institutions and international financing agencies, amounting to 1 billion USD of credit lines have already been achieved.

GCLSI financing team provides professional financing service to all phases of the project, including trade financing solution, construction-phase financing solution and customized financing solution. Overseas sales insures overseas trade with PICC and SINOSURE, cumulates up to \$371 Million of applied insurance for almost 110 clients.



TECHNOLOGY AND INNOVATION

GCLSI focus on R&D and applications of high efficiency products via technology innovation. From polysilicon to One-Stop solutions, GCLSI provides optimized design for greater ROI.

3% Revenue used for Technology Innovation & Research

Cumulates up to 737 applied patents, including 480 authorized patents

Independent Research Lab which recognized by Third-party

Awarded as 'Top Performer' in PVEL's 2021 PV Module Reliability Scorecard



GCL products are qualified from international institutes



PROFESSIONAL FINANCING TEAM

- Diversified knowledge background
- Overseas working experience
- Skillful and deep trade financing acknowledge

CUSTOMIZED FINANCING SOLUTIONS

By analyzing client's requirement and evaluating the risk, we provide specified financing solutions to maximize the company's value and improve operation and asset quality.



SOCIAL RESPONSIBILITY



- **GCL Sun Charity Foundation** set up in April 2014
- As of the end of 2022, overall donation reached **300 million**, with over **30 million** disaster donation, and more than **22,000** volunteers. **400 thousand** people were aided.
- In the charity project 'Caring Library', **230** libraries have been established eight years ahead of schedule across **12** poverty-stricken areas, over **180,000** books were donated, benefiting more than **110,000** students.
- Continuously releasing **CSR Annual Reports** that discloses economic, environmental and public responsibilities in a spontaneous, timely and complete manner.



230

libraries established



22,000+

volunteers



500,000

people aided



300 Million RMB

cumulative donations




PARTNERSHIP

Strong Partnership to Stimulate Sustainable Development of Green Energy

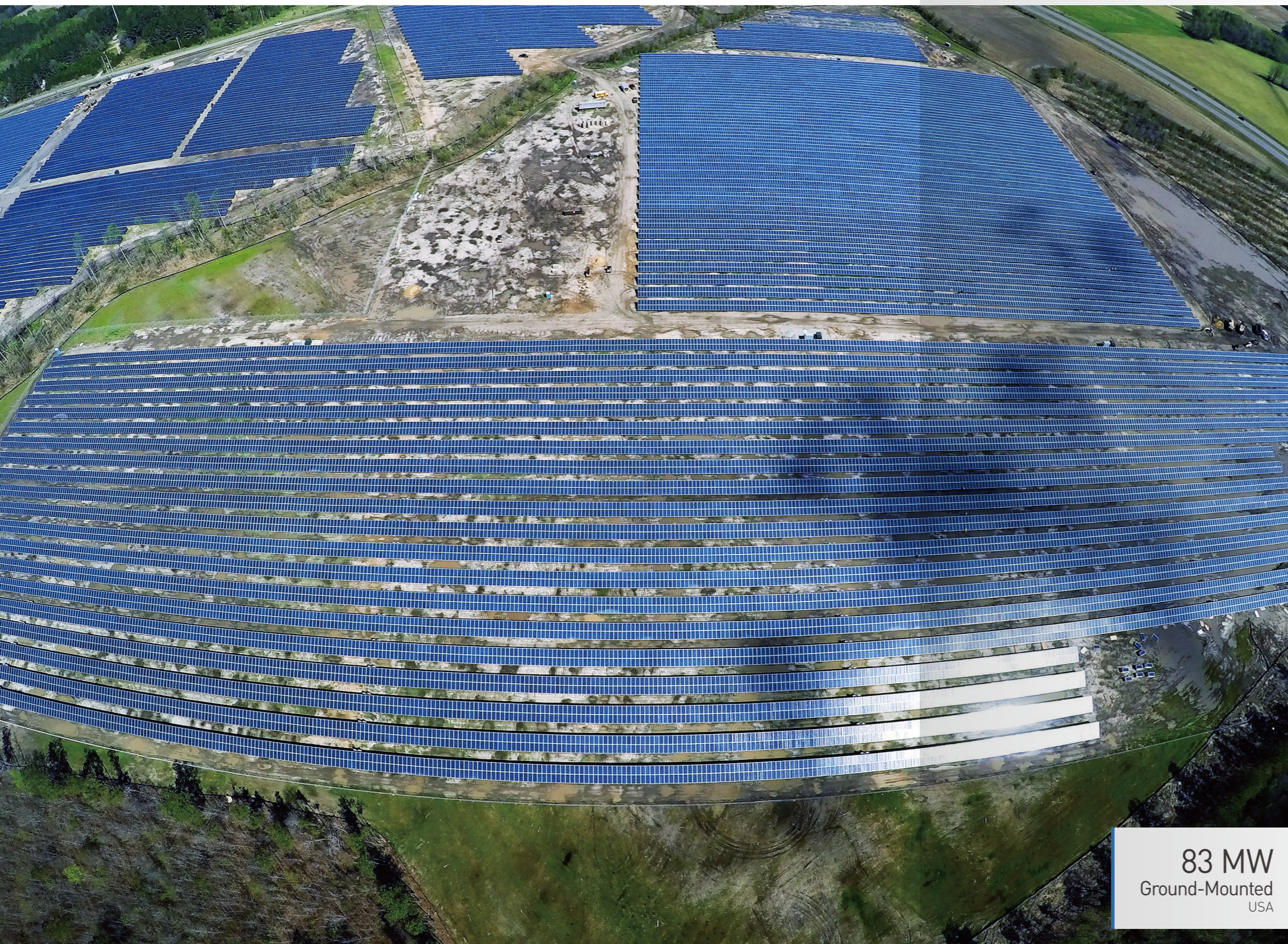


GLOBAL PRESENCE

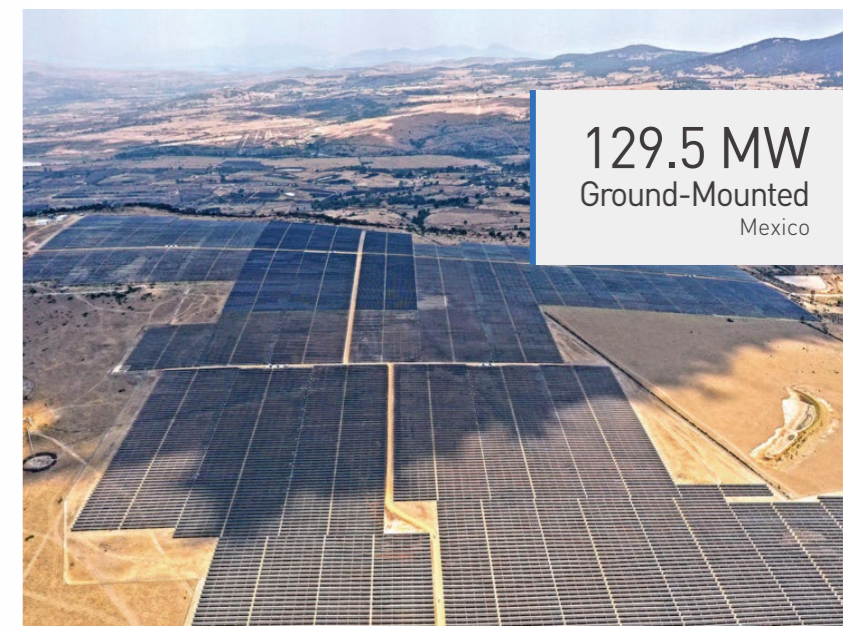


-  Headquarter
-  Subsidiaries & Branch Office
-  Production Bases

CASE STUDY



83 MW
Ground-Mounted
USA



129.5 MW
Ground-Mounted
Mexico



5.775 MW
Ground-Mounted
Ukraine



90 MW
Ground-Mounted
Kurnool, India



110 MW
Ground-Mounted
Phu Khanh, Vietnam



120 MW
Ground-Mounted
UFV Juazeiro Solar I, II, III e IV
Juazeiro - BA, Brazil



1.4 MW
Commercial Rooftop
Caxias do Sul - RS, Brazil



7.7 MW
Commercial Rooftop
The Netherlands



0.9 MW
Commercial Rooftop
Chiba, Japan



200 kW
Floating Solar Plant
Philippines



40 MW
Floating Solar Plant
China

