



Create better life with green energy



Sichuan SafeQuene Energy Storage Technology Co., Ltd

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SFQ Energy Storage

集团概况

OVERVIEW OF THE GROUP



Shenzhen Chengtun Group, founded in 1993, is headquartered in Shenzhen, and its western headquarters and global operation center is located in Chengdu, with more than 15,000 employees. In 2023, the Group's revenue and total assets both exceeded 70 billion yuan, and its strength was strong and attracted much attention.

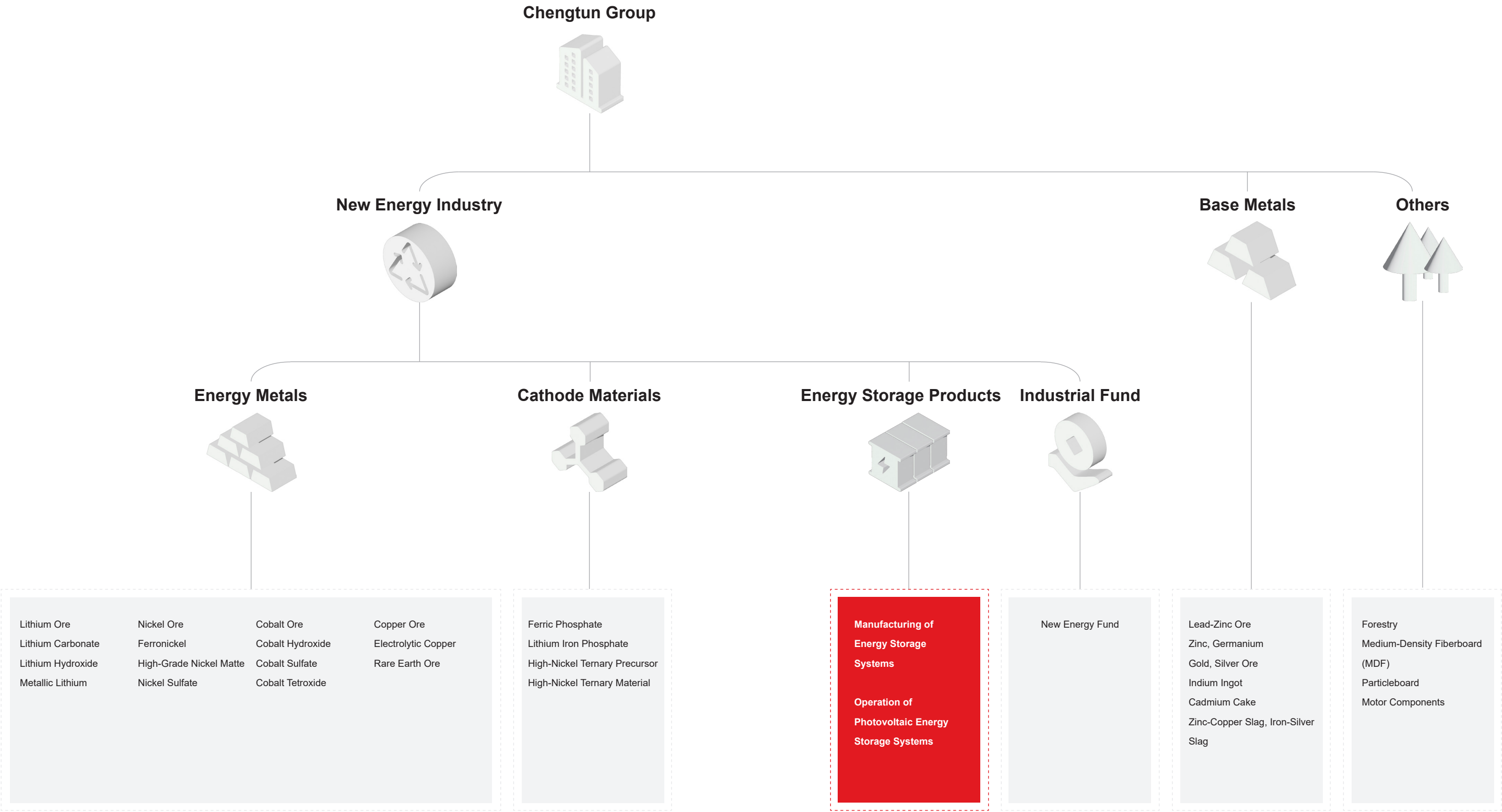
Since 2016, Chengtun Group has accurately anchored the opportunity of the vigorous development of the new energy industry, made a strong layout in the fields of lithium, copper, nickel, phosphorus and other energy metals, and successfully built an integrated industrial ecology from resource exploration and selection to material smelting and manufacturing. In 2022, Sichuan Safe Quene Energy Storage Technology Co., Ltd. and Guangdong Ge Rui GreenEnergy Technology Co., Ltd. were successively established to focus on the development of the green energy industry.

The Group actively responds to the call of the national strategy, continues to increase the layout of energy metals, continuously delivers key raw materials for the new energy industry, deeply integrates into cutting-edge fields such as electric vehicles and energy storage, and cooperates closely with many enterprises to work together for mutual benefit and win-win results. Its two listed companies, **Chengtun Mining (600711)** and **Shengxin Lithium Energy (002240)**, have successfully completed the strategic layout related to energy metal resources such as lithium, copper, nickel and phosphorus, and seized the opportunity in the capital market and industry track.

Looking forward to the next three years, Chengtun Group will unswervingly implement the strategic policy of "controlling resources and expanding materials", give full play to its own advantages, steadily increase the production capacity of lithium salts, copper, nickel, etc., carry out innovative practices of carbon reduction around new energy metals, and actively participate in the wave of industrial and energy structure adjustment. The Group is determined to become a highly competitive and growing benchmark enterprise in the industry, and to contribute to the achievement of the "dual carbon" goal and the sustainable development of world energy. Adhering to the concept of "making good use of resources and creating life with perfection", Chengtun Group is striding towards a broader future.

产业布局

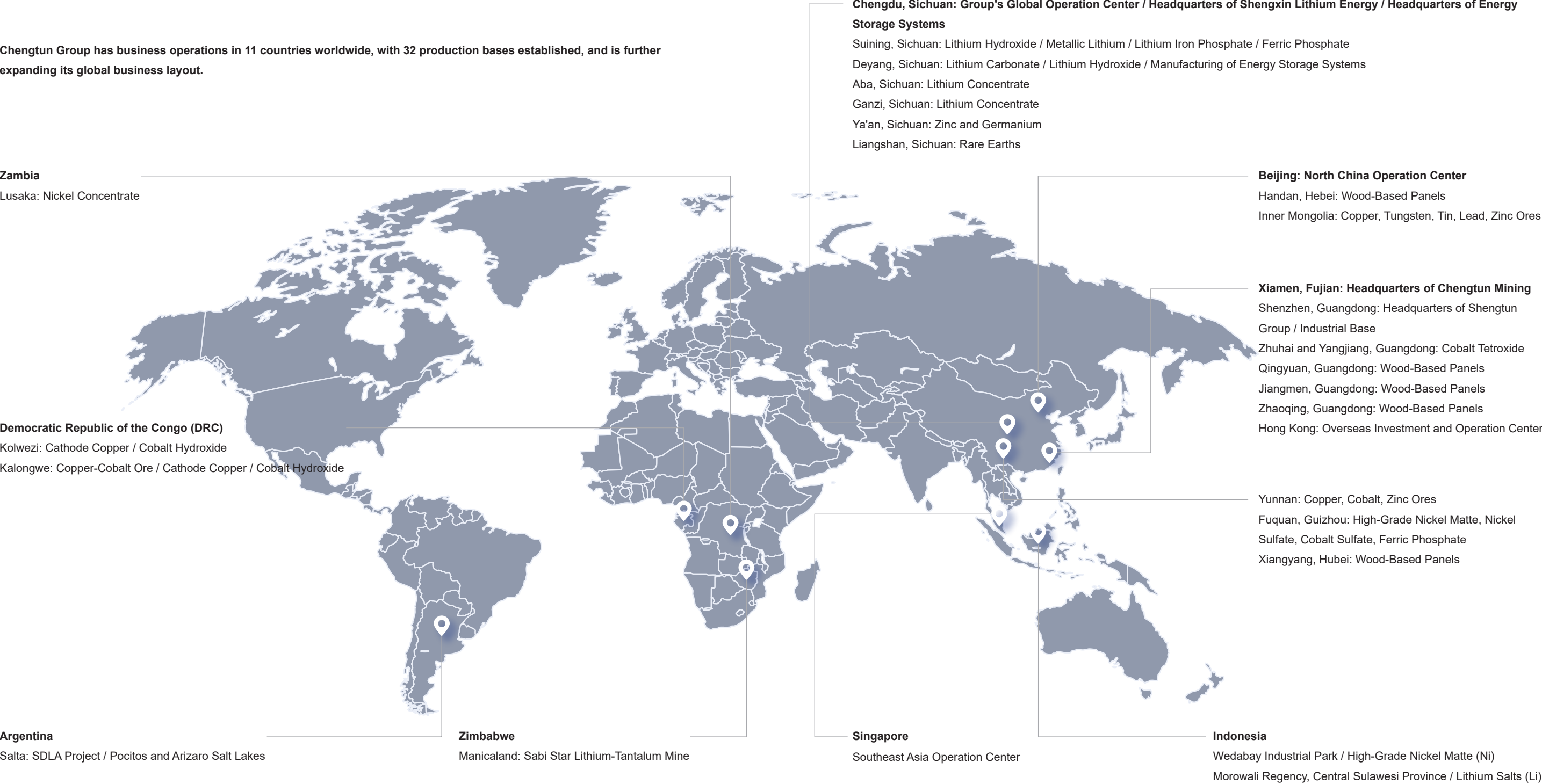
INDUSTRIAL LAYOUT



全球分布

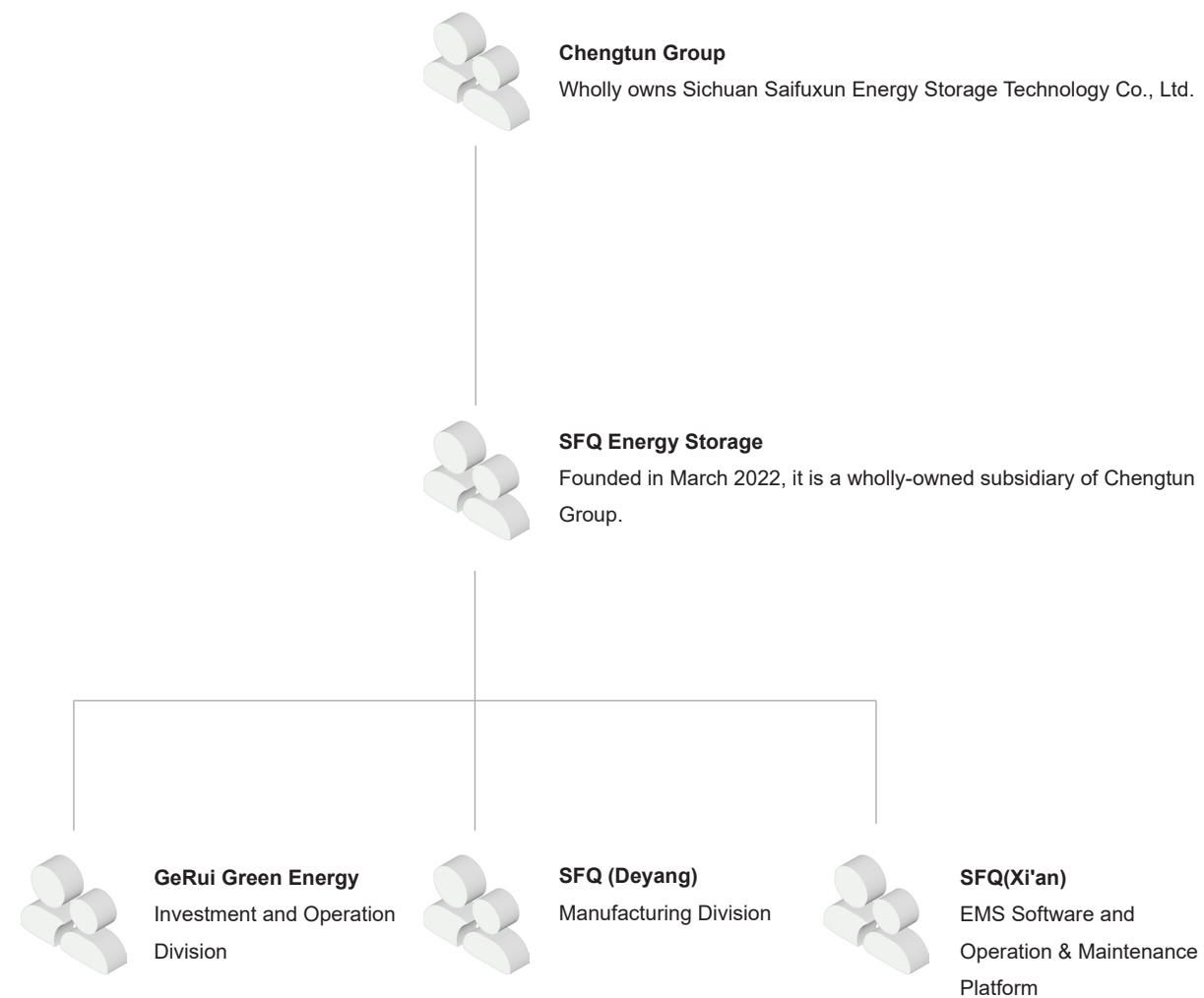
GLOBAL DISTRIBUTION

Chengtun Group has business operations in 11 countries worldwide, with 32 production bases established, and is further expanding its global business layout.



关于我们

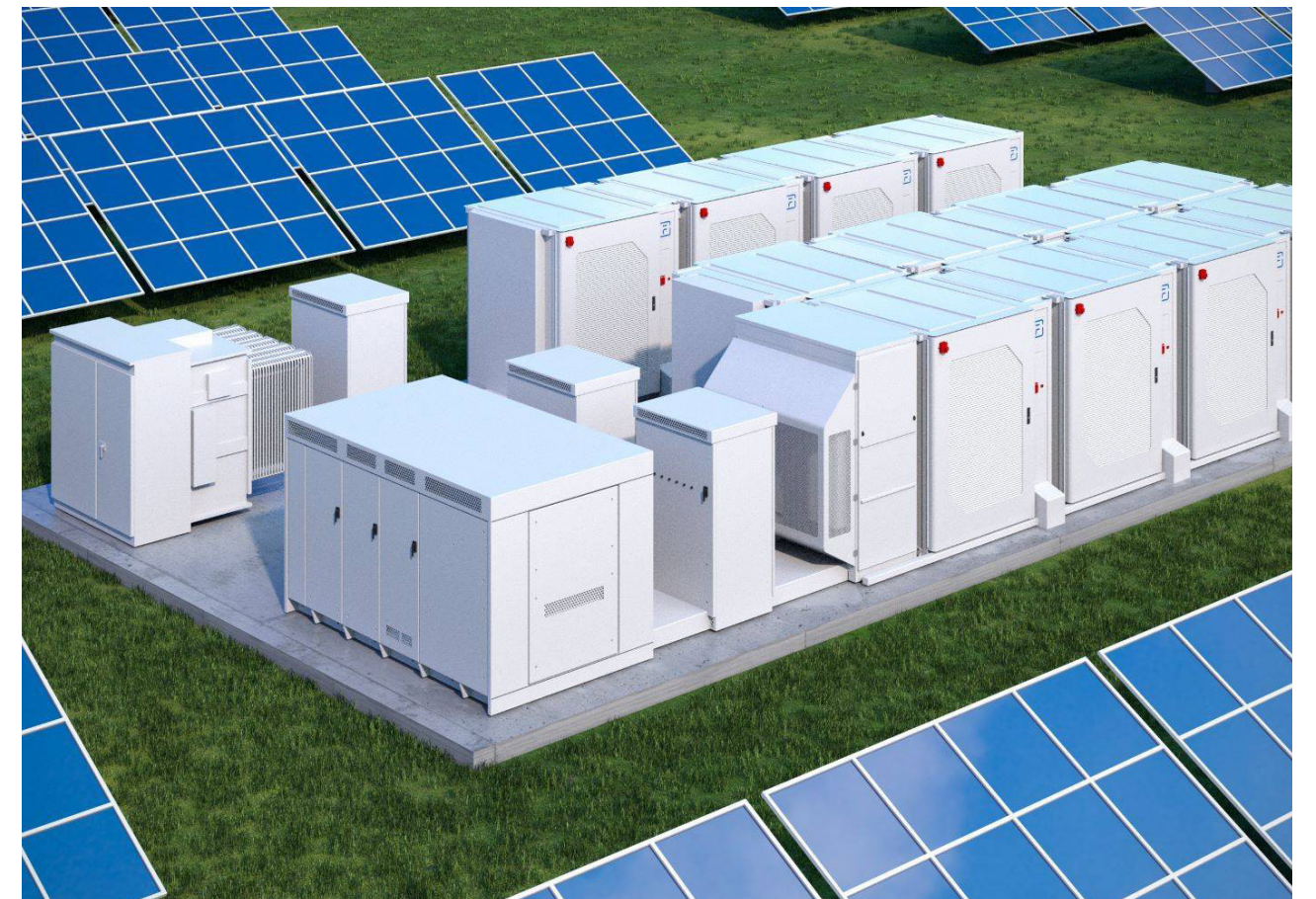
ABOUT US



Sichuan SafeQuene Energy Storage Technology Co., Ltd., established in March 2022, is a wholly-owned subsidiary of Chengtun Group Co., Ltd. It is an integrated energy solution provider and service provider specializing in offering comprehensive energy storage system solutions for global users, integrating technology, R&D, production, sales, and operation.

The company is committed to fully integrating energy storage technology with multi-scenario applications on the user side, continuously innovating solutions, and providing users with safe and cost-effective energy storage system solutions as well as business value innovation.

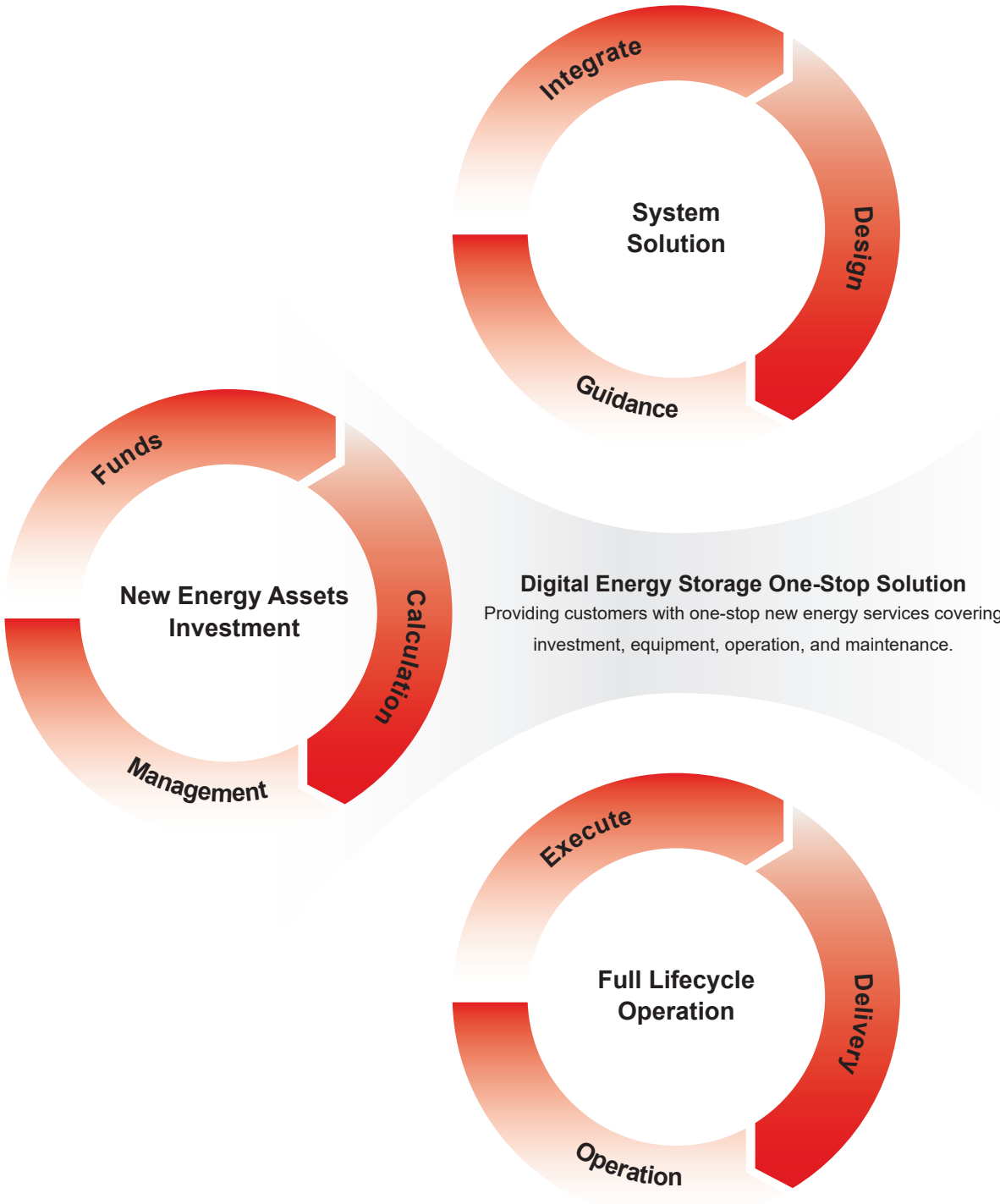
Industry-specific solutions include: residential off-grid photovoltaic energy storage solutions, industrial and commercial energy storage solutions, wind-solar-diesel-storage microgrid solutions, smart new energy solutions for photovoltaic-storage-charging, new energy supply solutions for petroleum and drilling, comprehensive energy supply solutions for smart mines and green smelting, and energy solutions for agriculture and infrastructure.



公司优势

COMPANY ADVANTAGES

Professional technical survey — scheme — product — installation — strategy — delivery — operation and maintenance;
ensuring that each project has professional and specialized advantages in product operation.



Smart Energy Cloud Platform

Based on the SaaS architecture, it integrates Huawei Cloud technology, big data analysis, artificial intelligence algorithms, and Internet of Things (IoT) technology to achieve safety, intelligence, openness, and collaboration in energy storage management.

Professional Electricity Consumption Data Analysis

Data Analysis + AI Model Technology: Ensuring reliable charging and discharging, maximizing returns, enabling early warning, implementing predictive charging and discharging management, and achieving intelligent learning parameter tuning.



Smart Operation and Maintenance Platform

Combining the SaaS-based intelligent operation and maintenance platform with mobile terminals, it helps service providers quickly establish a honeycomb-style operation and maintenance system, realize a point-to-face operation and maintenance system, and reduce the operation and maintenance costs throughout the entire life cycle of energy storage.

Panoramic Dynamics + Multi-Dimensional Collaboration

Coverage of multiple electricity tariff types and dynamic joint optimization;
Maximizing revenue through "price difference revenue + reduction of demand charges + demand response + aggregated regulation"
"Source-load-storage + consumption-sales-storage" multi-dimensional collaborative management!



EnergyLattice EMS

EnergyLattice EMS is the core of the on-site energy storage system. Relying on its high-speed and stable EMU, it achieves more stable and reliable cloud-edge collaboration. Through massive data collection, AI intelligent algorithm analysis, and intelligent strategy execution, it ensures the safe, economical, and reliable operation of the system while maximizing the comprehensive benefits of the energy storage system.

Professional Operation and Maintenance

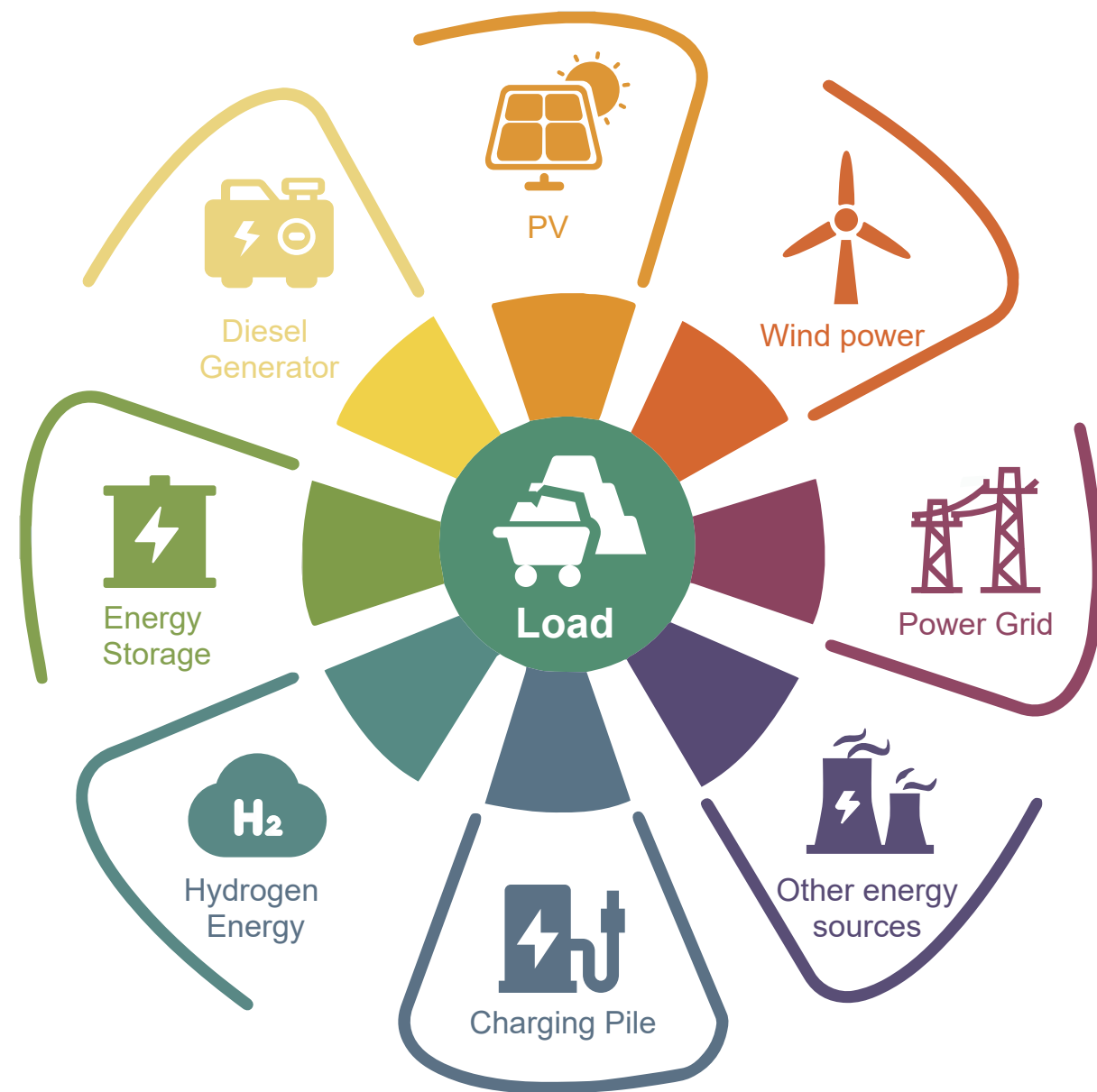
By comprehensively utilizing core technical means such as the intelligent battery diagnosis system, commercial energy storage cloud-edge collaborative EMS, and energy storage big data cloud platform, it conducts condition monitoring and intelligent operation and maintenance on the core equipment of user-side energy storage power stations.

风、光、柴、储、充等微电网解决方案

SOLUTIONS

A small-scale microgrid system that integrates grid, wind, solar, diesel, energy storage, and other energy sources to achieve multi-energy complementarity can be widely adapted to the needs of grid-connected operation, off-grid operation, and power supply in non-electrified areas.

At the same time, by building a composite application model for combined power supply, multi-functional power supply, and multi-scenario power supply of large electrical equipment, it can reduce equipment idleness and waste caused by load intermittency and short-term power supply. It also addresses issues such as low economic calculation and poor profitability in such scenario applications. This thus creates a new type of power supply system that expands application directions and scenarios.



Multi-energy access

- Through standard energy storage and power supply systems, solutions and approaches for different loads and application scenarios are realized.

Multi-functional integration

- It can realize the integration function of multiple energy sources such as photovoltaic, wind power, diesel power generation, and gas-fired power generation.

Multi-mode configuration

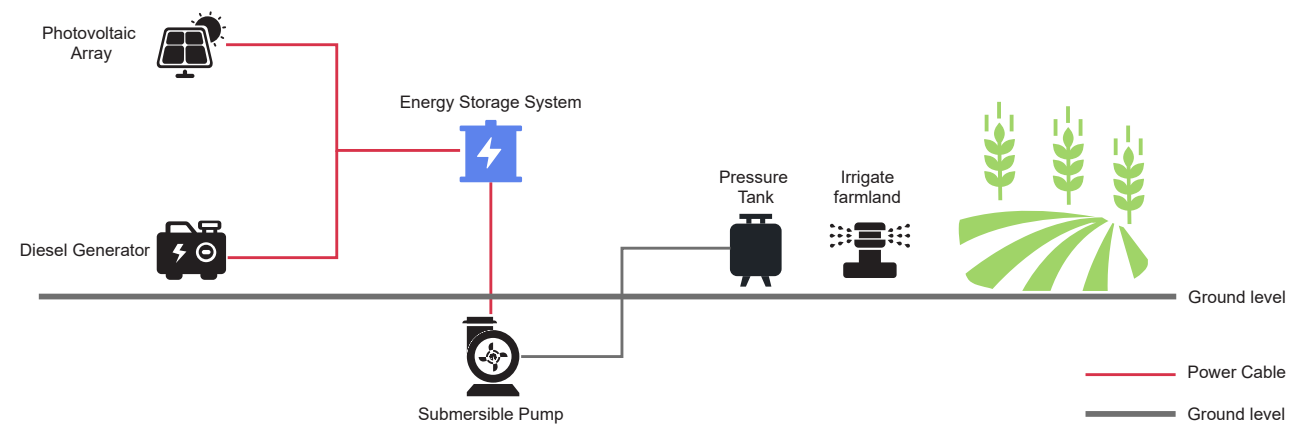
- Standardized products, standardized strategies, applications in special (customized) scenarios, and moving toward certification and the international market.

农业、基建能源解决方案

SOLUTIONS

Agricultural and infrastructure energy solutions are small-scale power generation and distribution systems composed of distributed photovoltaic power generation equipment, energy storage devices, energy conversion devices, load monitoring devices, and protection devices.

This new type of green power supply system provides stable electricity for agricultural irrigation, agricultural equipment, farm machinery, and remote infrastructure areas. The entire system generates electricity locally and consumes it locally, offering new ideas and solutions to address power quality issues in remote mountain villages. While improving power supply quality, it also significantly enhances safety and convenience. By tapping into the potential of renewable energy, it better serves regional economic development and people's production and daily lives.



Ensure stable agricultural production

- Alleviate the pressure on the power grid caused by energy-intensive agriculture.
- Ensure continuous power supply for critical loads.
- In the event of a power grid failure, the emergency backup power support system operates off-grid.

Improve the quality of rural electricity supply

- Solve the problems of intermittent, seasonal, and temporary overloads.
- Solve the problem of low voltage at the end of distribution lines caused by their long power supply radius.

Address the rigid demand for electricity

- Address the electricity needs for daily life and production in remote rural areas without access to electricity.
- Farmland achieves off-grid irrigation.



Miniaturization

Low voltage level, small system scale, and on-site utilization of electrical energy.



Self-balancing

The internal electricity of the microgrid is self-balancing, with minimal power exchange with the external power grid.



Cleanliness

Mainly relying on clean energy sources such as photovoltaic power and wind power generation, it is clean and low-carbon.



Efficiency

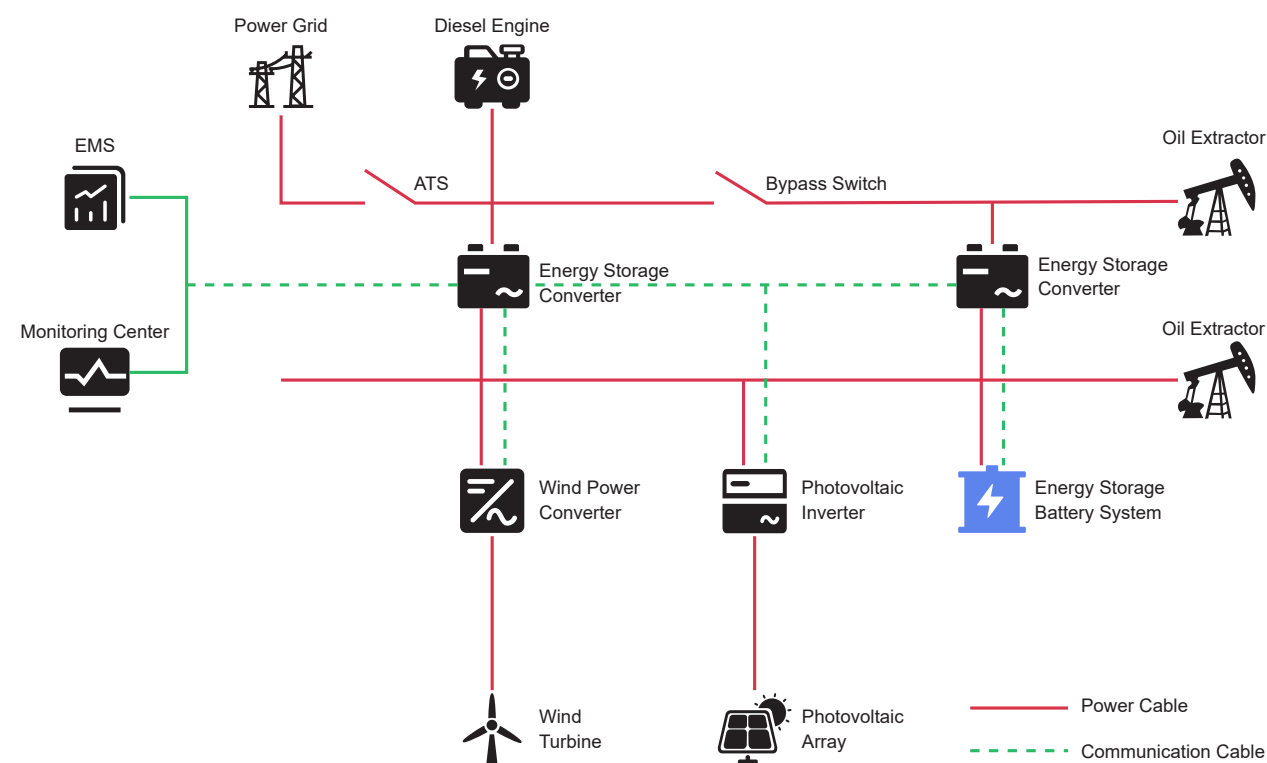
Integrate all links of electrical energy, improve energy utilization efficiency, and achieve energy conservation and emission reduction.

石油钻探、采油、输油新型能源供给解决方案

SOLUTIONS

The new energy supply solution for drilling, fracturing, oil production, oil transportation, and camps in the petroleum industry is a microgrid power supply system composed of photovoltaic power generation, wind power generation, diesel generator power generation, gas-fired power generation, and energy storage.

With the support of peripheral equipment systems, it can realize grid-connected operation, off-grid operation, and arbitrary switching between grid-connected and off-grid operation with multiple voltage levels. The solution provides a pure DC power supply method, which can improve system energy efficiency, reduce losses during energy conversion, recover the stroke energy of oil production machines, and offer an AC power supplement solution.

**Flexible access**

- Flexible access to new energy sources allows for the integration of photovoltaic power, energy storage, wind power, and diesel generators to build a microgrid system.

Simple configuration

- Dynamic coordination of wind power, photovoltaic power, energy storage, and diesel generators: the product types of each unit are diverse, the technology is mature, and engineering application is simple.

Flexible expansion

- The access power of the system can be flexibly expanded in the later stage, with low transformation costs and short implementation time.

Plug-and-play

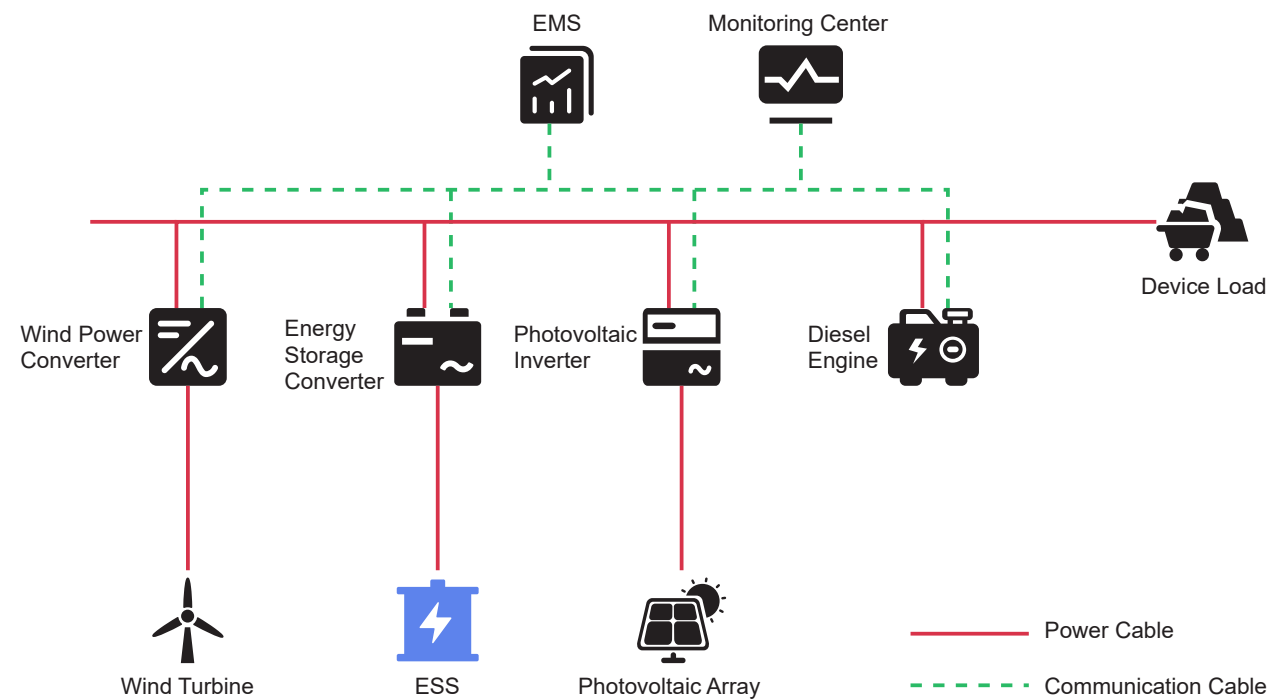
- The equipment supports "plug-and-charge" and "plug-and-use" with "unloading-type" discharge, ensuring stability and reliability.

智慧矿山、绿色冶炼综合能源供给解决方案

SOLUTIONS

A large amount of energy is required to sustain energy supply in the production processes of ore mining and smelting. Energy conservation and emission reduction have become the top priority for enterprise development. Effectively utilizing natural resources in combination with factory conditions to promote energy reform will drive the development of "smart mines and green smelting".

By integrating photovoltaic power, energy storage, thermoelectricity, generators, and power grid coordination to achieve comprehensive energy supply, significant contributions can be made to enterprises in terms of capacity expansion, reducing electricity costs, and promoting energy conservation and emission reduction!



Sustainable Energy Microgrid

- Design, invest in, and operate wind-solar-storage microgrids.
- Sign a long-term power purchase agreement with the mine.

Lay bricks for smart mines and add tiles to green smelting.

- Engage in the construction of zero-carbon green mines, and promote the harmonious coexistence of the mining industry and nature.
- Gather the power of energy, empower zero-carbon mines and smelting, and start a new chapter in the sustainable development of the mining industry.

户用储能系统

CORE PRODUCTS

We have specially developed high-performance energy storage systems tailored for household scenarios, which are best-selling in countries and regions such as Southeast Asia and Africa. These systems integrate photovoltaic storage, off-grid backup power, and intelligent electricity management into one, helping families reduce electricity costs by 40% and mitigate risks such as power outages and unstable power supply.



Home Energy Storage All-in-One System
Hope-T 5kW/5.12kWh
Hope-T 5kW/10.24kWh

Hope-T Household Energy Station

- Capacity configuration: 5.12kWh basic unit × modular expansion
- 32.5% standby power consumption optimization (industry average > 45%)
- Supports 72-hour off-grid operation for critical loads

Rapid Energy Response

- Photovoltaic direct connection input | Charging efficiency >97.5%
- Off-grid switching <10ms | 32.5% standby power consumption optimization (measured data)

Life Protection System

- AI-based battery health diagnosis | Leakage protection<0.1s
- IP54 outdoor rating

机柜式工商业储能系统

CORE PRODUCTS

All-in-One Energy Storage System

- Perfluorohexanone Fire Protection System
- Intelligent Inter-Cluster Balancing
- Wide temperature range operation from -30°C to 55°C

Distributed Energy Storage System

- Millisecond-level fault isolation
- Intelligent scheduling for multi-machine parallel operation
- Power quality optimization



C&I ESS
ICESS-T 30-20/40/A
ICESS-T 39-30/61/A



C&I ESS
ICESS-T 0-125/257/A



Liquid-Cooled C&I ESS
ICESS-T 0-130/261/L



Split-type Multi-Energy Integrated Power
Supply System
30kW ICS-AC XX-30/54
60kW ICS-AC XX-60/54
100kW ICS-AC XX-100/54
125kW ICS-AC XX-125/54
250kW ICS-AC XX-250/54



Split-type Multi-Energy Integrated Battery System
40kWh ICS-DC 40/A/10
241kWh ICS-DC 241/A/10
417kWh ICS-DC 417/L/10
835kWh ICS-DC 835/L/10

集装箱式储能系统

CORE PRODUCTS

- Technical Highlights:**
- Intelligent Thermal Management and Explosion-Proof Design
 - Modular Battery Cabin (supports flexible capacity expansion)
- Scenario Adaptation:**
- Oil drilling, oil production, oil transportation supply | Off-grid power supply for mines | Emergency backup power system
- Core Values:**
- Full-Domain Intelligent Monitoring: Millisecond-level fault isolation for battery clusters
 - Energy Dispatching Hub: Supports VPP (Virtual Power Plant) access
 - Cross-Platform Compatibility: Adaptable to 1000kWh~10MWh systems



Containerized Multi-Energy Integrated Microgrid System
SCESS-T 500-500/1205/A



Containerized Multi-Energy Integrated Microgrid System
SCESS-T 500-500/2089/L

集装箱式储能系统

CORE PRODUCTS

Leveraging years of experience in energy storage system R&D and global project implementation, we have launched innovative containerized energy storage products. The entire product line adopts military-grade waterproof design, enabling all-weather safe operation through intelligent temperature control and multi-level protection systems. It boasts core advantages such as modular cascading architecture, grid-level frequency regulation support, and millisecond-level response. The products are sold far and wide to incremental markets including Southeast Asia and Africa.



Container Multi-Energy Integrated Power Supply System

1000kW ICS-AC XX-1000/54



Energy Storage and Boosting Integrated System

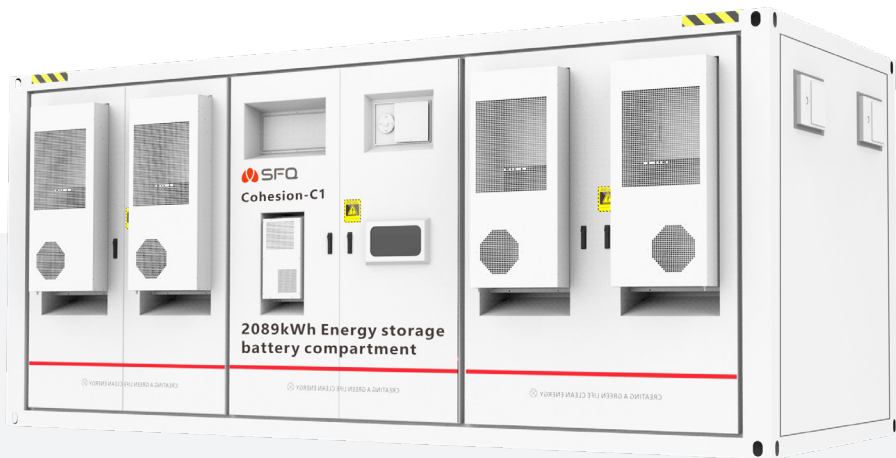
2500kW ICS-AC XX-1000/54

5000kW ICS-AC XX-1000/54

集装箱式储能系统

CORE PRODUCTS

We have launched high-performance large-scale containerized energy storage system solutions. This series of products deeply integrates advanced engineering equipment with a mature product system, featuring core advantages such as safety and reliability, flexible deployment, stable operation, and intelligent operation and maintenance. They have been successfully applied in multiple innovative scenarios. Strictly adhering to domestic and international certification standards, the products have obtained a number of authoritative certifications and are best-selling in overseas markets. With excellent performance, they meet customer needs and provide clear and efficient energy storage value.



Large-Scale Containerized Energy Storage System

1929kWh ICS-DC 1929/A/10

2089kWh ICS-DC 2089/A/15



Large-Scale Containerized Energy Storage System

2507kWh ICS-DC 2507/L/15

5015kWh ICS-DC 5015/L/15

EnergyLattice EMS 能源管理系统

CORE PRODUCTS



Product Introduction

As the core of the EnergyLattice EMS on-site energy storage system, it relies on a high-speed and stable EMU to achieve more stable and reliable cloud-edge collaboration. Through massive data collection, AI intelligent algorithm analysis, and intelligent strategy execution, it ensures the safe, economical, and reliable operation of the system while maximizing the comprehensive benefits of the energy storage system.

Product Features

Safety Protection / Fault Handling

- Intelligent linkage with BMS (Battery Management System) for real-time monitoring and evaluation of battery health status, high-speed detection of grid abnormalities, and triggering of protection actions to reduce safety risks
- Supports main-standby switching to ensure stable system operation in case of partial faults

Reliable Edge-End Acquisition

- High-speed acquisition chip, focusing on millisecond-level centralized control services
- Local integrated strategy library + OTA remote upgrade
- Standardized device protocols for more flexible configuration

Energy Prediction / Intelligent Decision-Making

- Intelligent load forecasting to optimize charging and discharging depth and improve charging and discharging efficiency
- Adoption of algorithms such as Model Predictive Control (MPC) and Dynamic Programming (DP) for real-time adjustment of energy storage operation strategies

Intelligent Strategy Networking

- EMS dynamic host allocation and operation mechanism to ensure uninterrupted network connectivity
- High-speed microgrid coordinator, collaborating with EMS to implement intelligent microgrid strategies

Intelligent Hardware



Intelligent Collector / SFQ-212 Intelligent Acquisition
The embedded integrated monitoring host SFQ-212 is a new-generation multi-purpose ARM monitoring host developed for important scenarios such as modern intelligent systems and energy storage systems. This host also supports data processing and linkage control, which can replace manual inspection, realize unattended operation, significantly improve maintenance efficiency, and reduce management costs.

Intelligent Collector / SFQ-215 Intelligent Acquisition

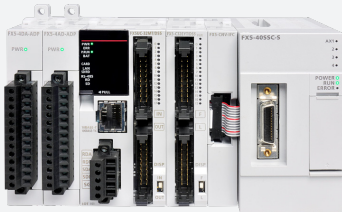
This collector is suitable for scenarios where few devices need to be connected and local display is not required. It offers the highest cost performance. With a compact size, it is also ideal for use when the space inside the cabinet is limited.



Intelligent Collector / SFQ-412 Intelligent Acquisition
The most prominent feature of this collector is its support for a local touchscreen. It can be used in standard cabinets, allowing local users to view internal cabinet parameters and real-time data information directly on the cabinet. The touchscreen itself has an elegant and sleek appearance, providing a pleasant visual experience.

Microgrid Coordinator

With ultra-high-speed interaction, the entire cycle of collection, calculation, and control takes less than 200ms. It is suitable for extreme scenarios such as peak shaving, frequency modulation, and grid-connected/off-grid switching, enabling fast and accurate responses to microgrid scenarios.



Microgrid Integrated Control Cabinet
An integrated energy storage controller applied to the rapid integration and deployment of energy storage power stations on-site; it internally integrates an EMS system, system server, microgrid coordinator, UPS, environmental detection equipment, smoke sensors, network transmission devices, and AC/DC power distribution components.

EnergyLattice 智慧能源云平台

CORE PRODUCTS



Product Introduction

Built on a SaaS architecture, it integrates Huawei Cloud technology, big data analysis, artificial intelligence algorithms, and Internet of Things (IoT) technology to achieve safe, intelligent, open, and collaborative energy storage management. It is a comprehensive management system that integrates energy monitoring, intelligent scheduling, and analysis and prediction.

Product Features

Intelligent Safety Early Warning and Proactive Operation & Maintenance Capabilities

- Establishment of fault prediction models and expert databases
- Operation and maintenance linkage to proactively promote problem closure
- Full-lifecycle safety management data

Intelligent AI Model

- Access to large AI models, enabling voice and text interaction as well as intelligent retrieval
- Battery charging and discharging analysis, SOH and SOC calculation, and photovoltaic power generation prediction analysis
- Ensuring that every question receives a response, with all answers being adaptive and relevant

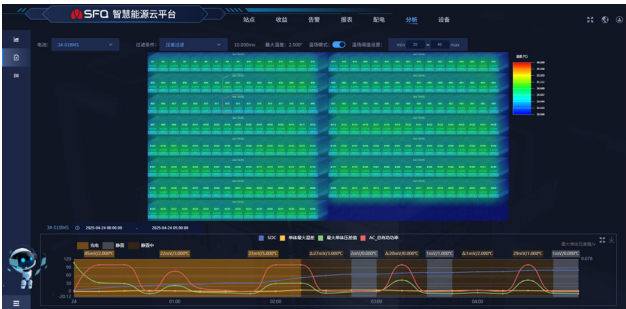
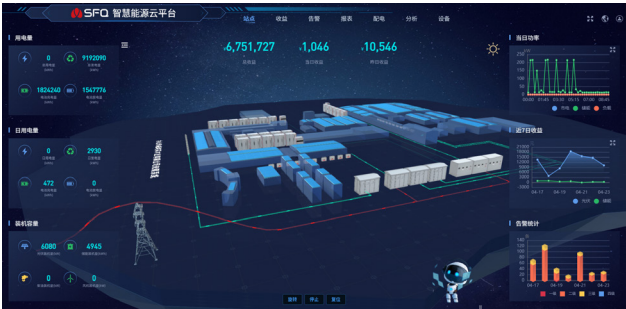
Multi-Dimensional Data Analysis for Energy Efficiency Optimization

- Intelligent analysis of charging-discharging efficiency and health status
- Comprehensive and effective suggestions focusing on carbon emissions
- In-depth analysis of energy consumption to improve energy efficiency

Multi-Terminal Collaborative and Efficient Management

- PC terminal: digital twin, visualized reports, and full-function access
- APP: data display for on-the-go viewing, including simplified reports and revenue statistics
- WeChat: device data presentation via QR code scanning

System Display



Applicable Scenarios



Energy Storage Power Station



Microgrid



Distributed Photovoltaic-Storage-Charging



Low-Carbon Park



Transformer District Energy Storage

System Modules

DashBroad	Revenue Management	AI Interactive Query
Digital Twin Simulation	Data Analysis	Report Statistics
AI Intelligent Assistant	Alarm Management	Intelligent Operation and Maintenance
Real-time Monitoring	Strategy Management	Health Assessment
Data Prediction	Notification Service	System Settings

项目案例

PROJECT CASES



微电网储能 MICROGRID BESS

Project: Solar Photovoltaic ESS Diesel Generator Microgrid
Capacity: 12.593MWp/10MW/11.712MWh
Location: Democratic Republic of the Congo
Completion Date: 2024
Installation Type: Outdoor
Application Scenario: Ground-mounted photovoltaic, energy storage, and diesel generator microgrid system



工商业储能 C&I BESS

Project: Solar Photovoltaic ESS Diesel Generator Microgrid
Capacity: 250kW/548kWh
Location: Democratic Republic of the Congo
Completion Date: 2024
Installation Type: Outdoor
Application Scenario: Ground-mounted Photovoltaic ESS Diesel Generator



项目案例

PROJECT CASES



工商业储能
C&I BESS

Project: Photovoltaic Energy Storage Street Light Project
Installed Capacity:
Photovoltaics: 240kW/495kWp
Energy Storage: 240kW/860kWh
Location: Yajiang County, Ganzi, Sichuan
Completion Date: 2024
Installation Type: Ground-mounted photovoltaic + energy storage + solar street lights



工商业储能
C&I BESS

Project: Industrial and Commercial Rooftop Distributed Photovoltaic and Ground-Mounted Energy Storage Project
Installed Capacity:
Photovoltaics: 7MWp/7MW
Energy Storage: 2.3MW/5.4MWh
Location: Taishan Weilibang Wood Industry Co., Ltd.
Completion Date: May 2024
Installation Type: Factory rooftop + ground-mounted



项目案例

PROJECT CASES



工商业储能
C&I BESS

Project: Solar Photovoltaic ESS Diesel Generator Microgrid
Capacity: 105.6kWp/100kW/215kWh
Location: Democratic Republic of the Congo
Completion Date: 2024
Installation Type: Outdoor
Application Scenario: Ground-mounted Photovoltaic ESS Diesel Generator



工商业储能
C&I BESS

Project: Solar Distributed Photovoltaic Project
Capacity: 9.5MWp
Location: Fengkai, Guangdong
Completion Date: 2025
Installation Type: Outdoor
Application Scenario: Ground-mounted + rooftop

