



*To Provide Low-cost, High-quality, and Clean Energy!*

# QUARTERLY UPDATE

Q2, 2024



# WHO WE ARE >>>

Cosin Solar Technology Co., Ltd. ("Cosin Solar"), formerly known as Supcon Solar, was founded in 2010 with its headquarter in Hangzhou, China. As one of the pioneer and leading enterprise in China devoted in the promotion of research and industrialization of CSP technology, we are now specialized in the application of CSP, CSP+ hybrid solution and molten salt thermal energy storage technologies. We are able to provide our customers with advanced, mature, and cost-competitive CSP and molten salt energy storage products and solutions.

14 Years

 14 Continuous Research

117 Million USD

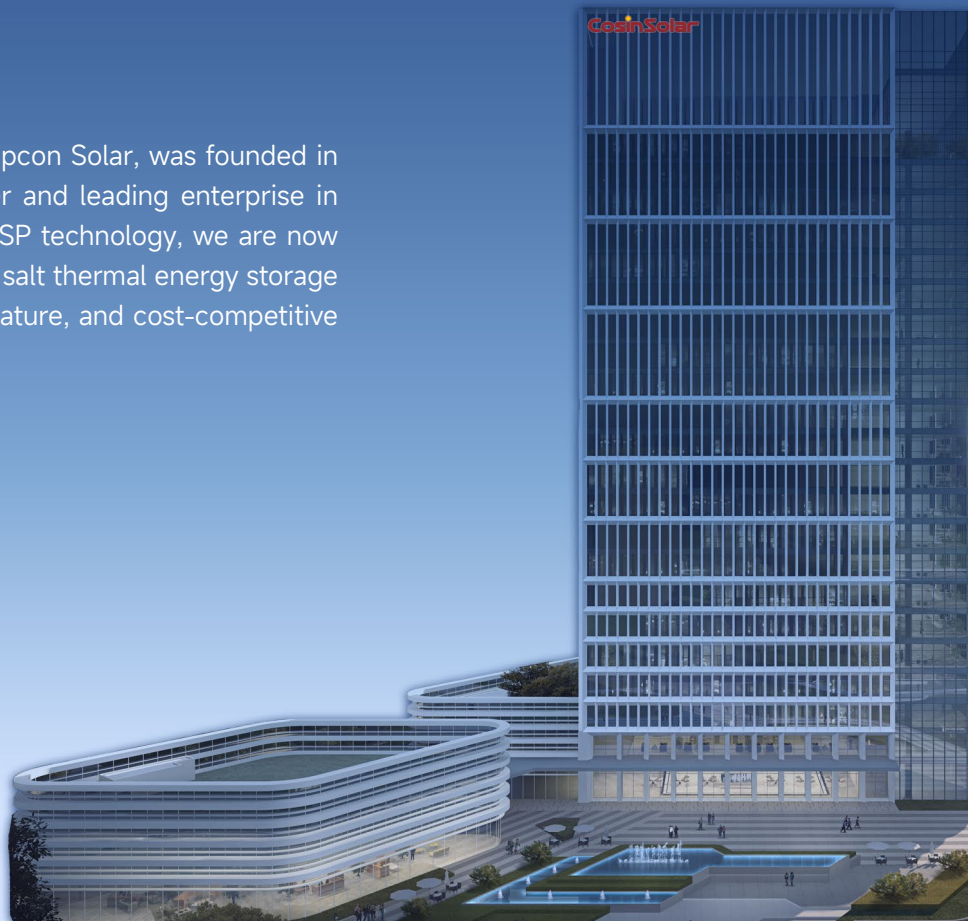
 R&D Investment

386

 Market share

55.3%

 Market share  
(\*CT CSP Businee)



# WHAT DO WE DO



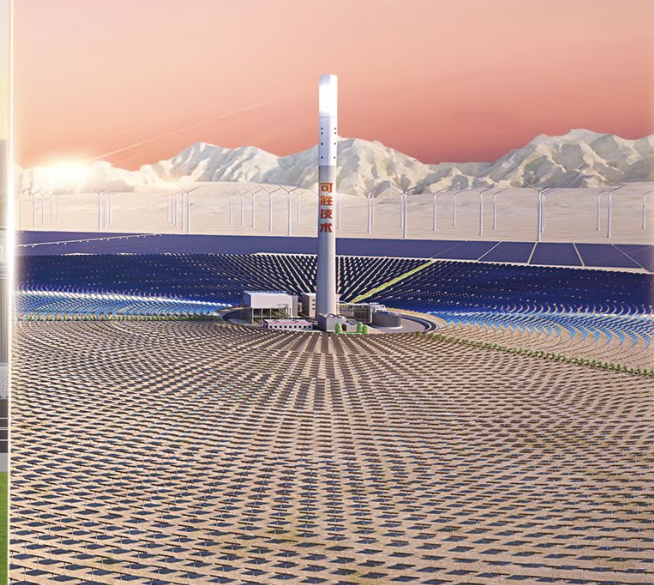
## MSES

Integrated Energy Solution  
Based on MSES



## CT CSP

Total Solution of Molten Salt  
Tower CSP



## PV

Comprehensive Solution for  
Smart PV Tracking System



# Total Solution of Molten Salt Tower CSP

Extensive experience in construction and operation of large-scale commercial tower CSP plants



Until the end of April 2024, the Tower CSP installed capacity of Cosin Solar has reached 1360MW, including three Tower CSP projects totaling 110MW under operation, and eleven Tower CSP projects of 1250MW under construction, and the market share is far ahead.

## 1360MW

*Tower CSP installed capacity*

## 110MW

*Tower CSP Projects Under Operation*

## 1250MW

*Tower CSP Projects Under Construction*

# WINNING PROJECT

## 100MW Cosin Solar Won the Bid of the Molten Salt Thermal Storage & Exchange System Equipment Supply for the 100MW CSP Project of Luneng Fukang Hybrid Project

On June 17, 2024, Cosin Solar received the "Notification of Award" issued by Shandong Luneng Three Public Bidding Co., Ltd., confirming that Cosin Solar won the bid for the Molten Salt Thermal Storage & Exchange System equipment supply of the 100MW CSP part of the Luneng Fukang Hybrid Project (the Project).

Cosin Solar will provide the design and integrated supply of equipment for the molten salt thermal storage & exchange system for the 100MW CSP plant, as well as handle the on-site assembly of the molten salt tanks. Cosin Solar will also be responsible for the technical service within the scope of supply, including equipment installation supervision, single equipment commissioning, sub-system commissioning, and O&M supervision during the trial run period.



Over more than a decade of technological research and operational experience accumulation, Cosin Solar has developed a comprehensive processes package for the molten salt thermal storage & exchange system, including system process design, key equipment design and selection and control system design. Cosin Solar has also mastered construction quality control, commissioning, and operation technologies.

Through collaboration with leading domestic equipment suppliers, Cosin Solar has overcome numerous technical challenges such as molten salt tank structure design and welding quality control, steam generation system and equipment design for wide-range and rapid load regulation, wear-resistant design of molten salt pumps in high-temperature environments, integrated design of molten salt pumps, pipelines and platforms,

sealing design of molten salt valves, and fatigue resistance of electric heat tracing under large temperature fluctuations. As a result, Cosin Solar has established a high-temperature molten salt thermal storage & exchange system engineering solution with completely independent intellectual property rights, obtaining 54 related patents.

Cosin Solar possesses full-process engineering capabilities and experience in system design, equipment integration, installation management, and technical supervision for commissioning, operation & maintenance. It has undergone training and verification through small-scale tests, pilot projects, and commercial projects. Cosin Solar's independently developed molten salt thermal storage & exchange technology has been successfully applied in several CSP plants, such as SUPCON SOLAR Delingha 10MW Tower CSP Plant, SUPCON SOLAR Delingha 50MW Molten Salt Tower CSP Plant, and Jinta ZhongGuang Solar "CSP + PV" Hybrid Pilot Project 100MW CSP Project.



The two core systems of a CSP plant are the solar field & MSR system (the solar collector system) and the molten salt thermal storage & exchange system. Previously, Cosin Solar successfully won the bid for the solar field and MSR system equipment of the 100MW CSP plant of the Luneng Fukang hybrid project. Now Cosin Solar has also won the bid for the molten salt thermal storage & exchange system of the same project, further demonstrating Cosin Solar's comprehensive solid competitiveness in the tower CSP technology and earning the trust and recognition of the Clients. Cosin Solar will continue to deepen in tower CSP and molten salt energy storage fields, continuously enhancing its technical products and services to deliver more advanced, reliable, and cost-effective integrated CSP solutions to its clients.

The molten salt thermal storage & exchange system is one of the key systems of a CSP plant, and its performance is vital for the safe and efficient operation. This system comprises key equipment such as molten salt storage tanks, pumps, molten salt heat exchangers, valves, instrumentation, electric heat tracing, and auxiliary systems such as preheating, anti-condensation, salt melting, and electric heating system. It is technically challenging to obtain the optimal system and equipment configuration of the molten salt thermal storage & exchange system to ensure its safe and stable operation and, at the same time, coordinate with the solar field, molten salt receiver, and power block for achieving efficient operation.

# UNDER CONSTRUCTION

## 100MW CHN Energy Qinghai Qingyu DC Phase II CSP + PV Hybrid Project

On June 15, the first set of heliostats for the 100MW CT CSP project of the CHN Energy Qinghai Qingyu DC Phase II CSP + PV Hybrid Project, being constructed by Cosin Solar, was successfully assembled, marking commencement of construction of the heliostat field.



## 100MW All 23,731 sets of heliostats were assembled for the CTGR Qinhai Qingyu DC 100MW CSP Project

On June 29, all 23,731 sets of heliostats were assembled for the CTGR Qinhai Qingyu DC 100MW CSP Project, being constructed by Cosin Solar. This indicates that Cosin Solar has successfully completed all heliostat production and delivery tasks on schedule.



# Integrated Energy Solution Based on MSES

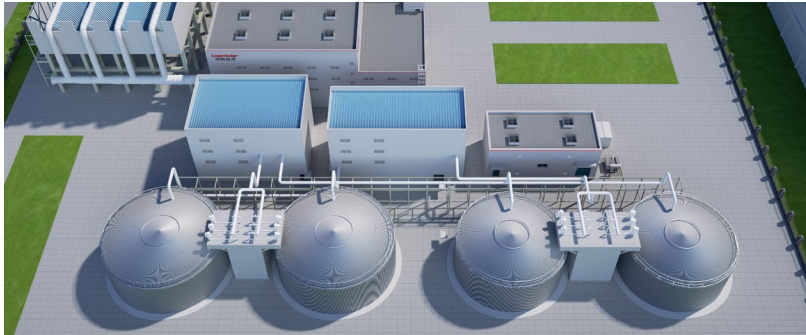
MSES is highly safe and environmental friendly and grid friendly, with the advantages of low cost both in investment and O&M, long service time and less area occupation. MSES can be well applied not only to CSP plant, but also to Carnot Battery for Coal-Fired Power Plant, CCHP (Combined Cooling, Heating and Power), Industrial Waste-heat Utilization, Petroleum refining and so on. Cosin Solar will continue to explore new paths for green development, contribute to the realization of green and efficient development in traditional energy, industry, petroleum and other fields, and practice and promote the national dual-carbon goal.





## Cosin Solar won the bid for the research project of molten salt energy storage green steam technology in Yumen Oilfield in 2024

On July 29, 2024, Cosin Solar received the "Notification of Award" issued by Xi'an Branch of China Petroleum Materials Co., LTD., confirming that Cosin Solar won the bid for the "Research on Key Technologies and Evaluation Methods for the Construction of Zero Carbon Plant in Yumen Oilfield" Project 1 of the Yumen Oilfield 2024 Oil Production Institute - Development services of green steam technology for molten salt energy storage("MSES").



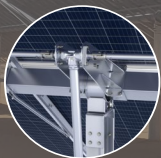
Cosin Solar will collaborate with the owner units to research related technologies of MSES green steam and submit a set of CSP+PV+MSES green steam clean alternative technology plans for the refining and chemical plant of Yumen Oilfield based on the actual steam demand in production.

The successful bid indicates a new breakthrough of Cosin Solar's MSES in the application scenario of CT CSP and is also an acknowledgement of its technical prowess in this field. Relying on the in-depth cultivation and accumulation in the field of CT CSP and MSES, we has gradually expanded its business to the comprehensive energy application field centered on MSES and is capable of providing customers with highly reliable and customized solutions throughout the entire process, including system design, equipment integration, installation management, commissioning operation and maintenance technical guidance.

Currently, Cosin Solar's independently developed molten salt thermal storage & exchange technology has been successfully applied in several CSP plants, such as SUPCON SOLAR Delingha 10MW Tower CSP Plant (with the molten salt system operational since August 2016, running for nearly eight years), SUPCON SOLAR Delingha 50MW Molten Salt Tower CSP Plant (synchronized to the grid on Dec. 30, 2018), and Jinta Zhongguang Solar "CSP + PV" Hybrid Pilot Project 100MW CSP Project.

# Comprehensive Solution for Smart PV Tracking System

Based on more than 10 years of independent design, development, manufacturing and operation of high-precision intelligent tracking products, Cosin Solar has actively expanded and extended the industrial chain, carried out technological innovation, and successfully developed Cosin Solar PV tracking system well suited for harsh environmental conditions. What's more, it has been successfully applied in commercial projects.



PT Tracking System



PJ Tracking System



# UPCOMING EVENTS



## SolarPACES 2024



October 8—11th, 2024



Rome, Italy



Cosin Solar will attend the meeting



*CONFERENCE INVITATION: We sincerely welcome all the friends from the industry to attend the conference.*

**CosinSolar**

- The former SUPCON SOLAR, officially renamed into Cosin Solar Technology Co., Ltd. ("Cosin Solar" for short) in July 2021
- Founded in 2010, focus on tower CSP and energy storage technology
- Independent R&D with fully patented technology and homebred equipment
- Technology consultancy, equipment integration, engineering services, etc
- Development, investment, construction, commissioning, operation of projects, etc



Youtube: Cosin Solar



Twitter: @CosinSolar



Website: [www.cosinsolar.com](http://www.cosinsolar.com)