



Driving down the CSP cost

——2019 China Solar Thermal Electricity Conference

1. CSP development status in China

China's concentrated solar power (CSP) industry has continued to expand, with a considerable number of companies specializing in CSP. The industry chain of CSP product manufacturing has basically formed owing to the implementation of first group of CSP demonstration projects at home and international CSP projects abroad.

With the advancement of the National CSP demonstration projects, the production capacity of key components of CSP has increased substantially. For example, the annual output of ultra-white glass can reach an installed capacity of 2,000MW; the annual output of glass tube used for tube receiver for parabolic trough amounts to 20,000 tons; the parabolic and flat glass mirror can produce 15 million square meters annually, equivalent to the capacity of 200MW respectively; the annual production capacity of molten salt, heat transfer oil and tracking devices is about 600,000 tons, 500,000 tons and 500,000 sets, equivalent to 1,700 MW of installed capacity.

The document of “Promoting the Construction of Solar Thermal Power Demonstration Projects” issued by China National Energy Administration last May clearly stated that “the first batch of CSP demonstration projects which are completed and put into production by December 31, 2018, will adopt the benchmark on-grid price of RMB 1.15 per kilowatt-hour (inclusive of taxes). An electricity price reduction mechanism for overdue projects will be established for fairness. The detailed price policy will be separately published by the National Development and Reform Commission.”

By now, there're three CSP demo projects that have put into operation, and they are CGN Delingha 50MW parabolic trough plant, Shouhang Dunhuang 100MW solar tower power plant and Supcon Solar Delingha 50MW solar tower power plant. There're six projects under construction, including 50MW Molten Salt solar tower plant in Hami city by Northwest Electric Power Design Institute Co., Ltd. of China Power Engineering Consulting Group, 50MW molten salt solar tower plant in Gonghe County by Northwest Engineering Corporation Limited of Power China, 100MW parabolic trough plant in Urat by China Shipbuilding New Power Co., Ltd, 50MW molten salt Fresnel project in Dunhuang by Lanzhou Dacheng Dunhuang and 50MW beam-down solar tower project in Yunmen by THVOW, which are expected to put into operation this year or next year.

However, at present, there are only three CSP stations that have been put into operation in China, and the domestic CSP industry is at the initial stage of

commercialization, and the industrial scale has not yet been formed. The project cost is still higher against solar PV, the reliability and durability of key materials, key equipment and control systems are still lacking actual operation tests and have not been fully verified under the weather conditions in the northwest of China. In addition, the development of the entire industry chain is not well-balanced. For example, the products such as molten salt pumps, molten salt valves, rotary joints and test instruments at high operating temperature of CSP plants are required to be imported. There're lack of inspection and certification for the industry, and the operation and maintenance service capacity for CSP plants is almost at a blank stage.

2. Driving down the cost

Owing to the development status and installed capacity, the LCOE of CSP plants are still high. Technology advancement is one of the methods to drive the cost down. In order to promote the industrial development of CSP field by scientific and technological innovation, and build a platform of communication and exchanges, China National Solar Thermal Energy Alliance (referred to STE Alliance), Chinese Society of Engineering Thermophysics, Chinese Renewable Energy Society and Chinese Society for Electrical Engineering decided to organize the **5th China Solar Thermal Electricity Conference in Hangzhou city, Zhejiang Province on 20-22, August, 2019**, with the local host of SUPCON solar. It is the most authoritative and influential annual conference of solar thermal power

generation technology in China. Here we sincerely welcome you to join and contribute to this annual big event.

3. Speech opportunities

The 5th China Solar Thermal Electricity Conference is calling for speeches within the topics of CSP as well as solar heating for building.

Please get access to the website of STE Alliance at <http://en.cnste.org/>, click the banner and submit the title and abstract online.

- Abstract submission deadline extended: June 20, 2019
- Date of acceptance notification: June 30, 2019
- Full PPT and poster submission deadline: Aug.1, 2019

4. Registration

Please make the registration before Aug. 15, 2019 by sending the registration form attached. The registration fee covers conference materials, conference bag, meals (5 coffee breaks, 3 lunches and 2 dinners) and site visit transportation. The travel expense, accommodation and other expenses will be borne by attendee himself. The organizing committee is not responsible for booking hotel.

Please note that the registration fee is not refundable after remittance if the participants are not able to present on site, but it can be transferred to the next year use. The students need to provide copies of student ID card or other supporting papers. The registration fee can be 10% off if there're more than 3 persons (excluding) from the same company registered.

| Representative category | before June 30 | After June 30 and on-site payment |
|---------------------------|--|-----------------------------------|
| Speaker and poster author | CNY ¥ 2600 | CNY ¥ 3000 |
| STE alliance member | CNY ¥ 2800 | CNY ¥ 3200 |
| Domestic attendee | CNY ¥ 3000 | CNY ¥ 3500 |
| Domestic student | CNY ¥ 1900 | CNY ¥ 2200 |
| Foreign attendee | US \$480 | US \$550 |
| Foreign student | US \$290 | US \$350 |
| Sponsors | be exempted according to the sponsorship agreement | |

Please send the scanned copy of the remittance proof back to the organizer at the email address of CSP2019@126.com. By bank transfer, please state clearly the registrants name, company's name, remittance amount and the corresponding items.

The account information is as below:

Beneficiary: ZHONG GUAN CUN XIN YUAN SOLAR THERMAL
TECHNOLOGY SERVICES CENTER

A/C No. : 11050163990000000225

BNS' Name: Baofusi sub-branch, Beijing Branch, China Construction Bank

5. Sponsorship

The conference invites all kinds of sponsors, including co-host, banquet naming, conference bag, coffee breaks, representative cards, convention gifts,

exhibition booths and so on. Please contact the organizer for detailed sponsorship programme if interested.

The conference set a limited number of exhibition booths with the exhibition fee of CNY ¥ 25,000, with 2 delegates' exemption from registration fees.

6. Convention Hotel

The convention hotel is Sanli New Century Grand Hotel Zhejiang.

Hotel address: 538 Shaoxing Road, Xiacheng District., Hangzhou, China

Hotel website: <http://zhejiangsanlinewcentury.com/>

The conference has the negotiated prices with standard room of CNY ¥ 450/night, and single room of CNY ¥ 490 / night.

Due to the shortage of the hotel rooms, please make sure to book the hotel at least 2 weeks in advance and confirm your stay 5 days earlier before the conference. When booking, please mention the "5th CSP Conference" so as to enjoy the discounted price.

Hotel Booking contact: Mr. Wang Jianquan, 0086-13336041900

7. Contact information

Ms. Fengli Du, Mobile phone: 0086-18611073193

E-mail: du.fengli@mail.iee.ac.cn

Website: www.cnste.org

ANNEX:

Registration form of 2019 China Solar Thermal Electricity Conference

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|----------------------------|--|---------------------|-------|
| Company name | | | |
| Participants category ■ | <input type="checkbox"/> Alliance member <input type="checkbox"/> Non-Alliance participant <input type="checkbox"/> Domestic student <input type="checkbox"/> Overseas participant <input type="checkbox"/> Overseas student <input type="checkbox"/> Sponsor | | |
| Address and contact person | | | |
| Information of invoice | | | |
| Name | Title/position | Mobile phone number | email |
| | | | |
| | | | |

Please send this registration form to the organizing committee no later than August 10 at CSP2019@126.com.