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NEWS RELEASES

CANADIAN SOLAR TO START MASS PRODUCTION OF TOPCON MODULES WITH POWER OUTPUT UP TO 690W

GUELPH, ON, Dec. 15, 2022 /PRNewswire/ -- Canadian Solar Inc. (the "Company", or "Canadian Solar") (NASDAQ: CSIQ), today announced that its majority-owned subsidiary CSI Solar Co., Ltd. will start mass production of high efficiency N-type TOPCon (Tunnel Oxide Passivated Contact) solar modules in the first quarter of 2023.

Canadian Solar's TOPCon modules are best in class and have a power output of up to 690W, and a cell conversion efficiency of around 25.0%, which is 1.5% higher than the average cell efficiency of the mainstream products in the market. Canadian Solar's TOPCon modules will increase energy yield of PV systems and deliver one of the most competitive BOS (balance of system) cost savings and LCOEs (levelized cost of electricity) for solar power plants, compared to PERC modules.

Canadian Solar will provide a diversified portfolio of the TOPCon products to meet the needs for utility-scale, commercial and residential markets. The TOPCon portfolio includes the 182mm cell based bifacial TOPBiHiKu6 (555W-570W) and monofacial TOPHiKu6 (420W-575W) modules, and the 210mm cell based bifacial TOPBiHiKu7 (615W-690W) modules. Canadian Solar will deliver the 182mm cell based TOPCon modules in the first quarter of 2023 and will start mass production of the 210mm cell based TOPCon modules in the second quarter of 2023. TOPCon module shipments are expected to account for around 30% of the Company's 2023 total module shipments.

The TOPCon modules will solidify Canadian Solar's product and technology leadership, while further increasing customers' return on investment:

- Temperature coefficient of Canadian Solar's TOPCon modules is as low as -0.30%/℃, and therefore, the TOPCon modules will have better performance under hot environments compared to the mainstream products in the market.
- No Boron-oxygen related LID (Light Induced Degradation), and therefore, the TOPCon modules will have less power degradation.
- The power degradation of the TOPCon modules was only 1.0% after 2,000 hours of damp and heat (DH2000) test, compared to 1.9% degradation of PERC modules under similar test.

- The bifaciality of TOPCon bifacial modules can reach up to 85%, with a significant power gain of around 2% compared to PERC bifacial modules under the similar field conditions.
- 30-year limited performance warranty for monofacial TOPCon modules compared to 25-year for mainstream monofacial products in the market.

Dr. Shawn Qu, Chairman and CEO of Canadian Solar commented, "We are pleased to start delivering our cutting-edge N-type TOPCon modules early next year. The TOPCon modules will become one of our featured products with higher energy yield, lower LCOE and longer performance warranty, compared to the mainstream products in the market. The TOPCon modules will solidify our competitiveness in terms of technology leadership and pricing power. We are committed to delivering more high efficiency and quality products to our customers, while contributing to combating climate change globally."

About Canadian Solar Inc.

Canadian Solar was founded in 2001 in Canada and is one of the world's largest solar technology and renewable energy companies. It is a leading manufacturer of solar photovoltaic modules, provider of solar energy and battery storage solutions, and developer of utility-scale solar power and battery storage projects with a geographically diversified pipeline in various stages of development. Over the past 21 years, Canadian Solar has successfully delivered around 82 GW of premium-quality, solar photovoltaic modules to customers across the world. Likewise, since entering the project development business in 2010, Canadian Solar has developed, built and connected over 7 GWp in over 20 countries across the world. Currently, the Company has approximately 500 MWp of projects in operation, 6 GWp of projects under construction or in backlog (late-stage), and an additional 19 GWp of projects in advanced and early-stage pipeline. Canadian Solar is one of the most bankable companies in the solar and renewable energy industry, having been publicly listed on the NASDAQ since 2006. For additional information about the Company, follow Canadian Solar on LinkedIn or visit www.canadiansolar.com.

Safe Harbor/Forward-Looking Statements Certain statements in this press release are forward-looking statements that involve a number of risks and uncertainties that could cause actual results to differ materially. These statements are made under the "Safe Harbor" provisions of the U.S. Private Securities Litigation Reform Act of 1995. In some cases, you can identify forward-looking statements by such terms as "believes," "expects," "anticipates," "intends," "estimates," the negative of these terms, or other comparable terminology. Factors that could cause actual results to differ include general business, regulatory and economic conditions and the state of the solar and battery storage market and industry; geopolitical tensions and conflicts, including impasses, sanctions and export controls; volatility, uncertainty, delays and disruptions related to the COVID-19 pandemic; supply chain disruptions; governmental support for the deployment of solar power; future available supplies of high-purity silicon; demand for end-use products by consumers and inventory levels of such products in the supply chain; changes in demand from significant customers;

changes in demand from major markets, such as Japan, the U.S., China, Brazil and Europe; changes in effective tax rates; changes in customer order patterns; changes in product mix; changes in corporate responsibility, especially environmental, social and governance ("ESG") requirements; capacity utilization; level of competition; pricing pressure and declines in or failure to timely adjust average selling prices; delays in new product introduction; delays in utility-scale project approval process; delays in utility-scale project construction; delays in the completion of project sales; continued success in technological innovations and delivery of products with the features that customers demand; shortage in supply of materials or capacity requirements; availability of financing; exchange and inflation rate fluctuations; uncertainties related to the CSI Solar carve-out listing; litigation and other risks as described in the Company's filings with the Securities and Exchange Commission, including its annual report on Form 20-F filed on April 28, 2022, as amended on October 18, 2022. Although the Company believes that the expectations reflected in the forward-looking statements are reasonable, it cannot guarantee future results, level of activity, performance, or achievements. Investors should not place undue reliance on these forward-looking statements. All information provided in this press release is as of today's date, unless otherwise stated, and Canadian Solar undertakes no duty to update such information, except as required under applicable law.

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