



*A 50MW brownfield solar project in Kedah.  
(Source: theedgemarkets.com)*



## Green energy with CSC Steel's realzinc™ solar photovoltaic (PV) system

In response to achieve national carbon neutrality, countries worldwide have shifted towards the use of reliable and environmentally friendly solar energy. The International Renewable Agency (IRENA) noted that the cumulative solar photovoltaic (PV) deployment has reached 578 GW at the end of 2019, while the Global Trends in Renewable Energy Investment 2019 report stated that the global investment in solar energy production reached US\$1.3 trillion<sup>[1][2]</sup>. In a pathway towards carbon emission reduction, the Malaysian government has set a goal of 20% of the country's energy to be generated from renewable sources by 2025, and one of the most focused renewable energy sources is solar energy<sup>[3][4]</sup>.

Generally, the common solar PV systems found in the local market are rooftop type and ground-mounted type. A ground-mounted solar tracking system is preferable in Large Scale Solar (LSS) photovoltaic plant, which has capacity packages ranging from 1MWac up to a maximum of 100MWac since the solar tracking system is able to track the perfect sunray orientation to maximize solar energy production<sup>[5]</sup>. To ensure the return of investment (ROI), the LSS system supplier must assure that the solar PV system can be operated for minimum 21~25 years under the lowest maintenance cost. Therefore, relatively cost-friendly CSC Steel's realzinc™ products, a well balance galvanized steel (GI) with higher

strength and excellent weathering corrosion resistant is more suitable in LSS photovoltaic plant as compared to other materials such as aluminium and stainless steel.

As a local steel supplier, the team of CSC Steel can provide professional technical support on customer inquiries on time during the pre-sales and after-sales service. In the year 2021, CSC Steel had cooperated with Baojia New Energy Manufacturing Sdn Bhd (Baojia), a prestigious solar product manufacturer in developed GI steel that customized for solar tracking system. Baojia mainly supply solar products for Nextracker Inc, the first ranked solar tracker company in the world.

Recently, CSC Steel has successfully developed a new generation of SGC440(Mod2) and G380(Mod) with high strength and high formability properties (min elongation of 26% and 19% respectively). SGC440(Mod2) is produced by adding Nano-alloy with low carbon steel under a proper heat-treating process to improve the material ductility. CSC Steel's realzinc™ had been accredited with MS 2660:2020 product certification by SIRIM QAS International Sdn Bhd, which confidently tells our customer that the product has undergone assessment and subjected to a program of supervision and control before they are ready to be used.

Since ground-mounted solar tracking systems are subjected to high load bearing and wind loading, a precise bracket engineering



We accelerate from where we begin.



CSC STEEL SDN BHD

180, Kawasan Industri Ayer Keroh, Ayer Keroh 75450 Melaka, Malaysia.

info@cscmalaysia.com sales@cscmalaysia.com

T +606 231 0169 (Hunting)

F +606 231 0167, +606 231 9166

www.cscmalaysia.com





(Source: nextracker.com)

design using high-strength materials can reduce material consumption while providing a solid foundation and the necessary strength to hold the solar PV system safely in place. Some solar tracking system designers have adopted high-strength GI steel with a thickness of 1.8~2.5mm in the bracket design.

CSC Steel is able to provide multiple configurations to accommodate these solar tracking systems according to customer special requirements, as the company is the only local steel manufacturer capable of producing GI steel with a thickness of more than 1.8mm. The ability to protect solar PV system from environmental deterioration is critical since the equipment will be expected to be exposed under harsh environmental conditions. Depending on the installation environment, the appropriate coating quality is an important factor in achieving the desired LSS PV system service life, which is usually 21-25 years. CSC Steel's *realzinc™* can be coated up to Z400 zinc code, the highest specification in Malaysia that enables solar PV structure to fulfil LSS service life requirement. The product provides galvanic protection for solar PV structure by offering self-sacrificing capability where zinc ions react with corrosive agent and eventually protecting expose solar PV structure from getting rust.

The newly developed G380(Mod) and SGC440(Mod2) have

been verified by Salt Spray test (SST) and Charpy Impact test that they could meet the corrosion resistant, design strength and formability requirements of the bracket and subsequently been approved by international solar energy system manufacturer and distributor of solar energy equipment, which will be exported to major markets in the United States and Canada.

CSC Steel is honoured to be able to participate in the progress of global efforts to reduce carbon emissions, and hopes to introduce more special steel for solar PV system for the domestic LSS system use, and jointly move towards on achieving a carbon neutral country.

<sup>[1]</sup>Solar Power. (n.d.). IRENA. Retrieved June 22, 2021, from <https://irena.org/costs/Power-Generation-Costs/Solar-Power>

<sup>[2]</sup>A decade of renewable energy investment, led by solar, tops USD 2.5 trillion. (2019, September 5). UN Environment Programme. <https://www.unep.org/news-and-stories/press-release/decade-renewable-energy-investment-led-solar-tops-usd-25-trillion>

<sup>[3]</sup>Landau, E. (2019, May 5). Future lies with renewable energy. NST Online. <https://www.nst.com.my/news/nation/2019/05/485777/future-lies-renewable-energy>

<sup>[4]</sup>Legal Updates on the Solar Energy Industry in Malaysia – Legal Developments. (2020, November 23). The Legal 500. <https://www.legal500.com/developments/thought-leadership/legal-updates-on-the-solar-energy-industry-in-malaysia-2/>

<sup>[5]</sup>Rajah & Tann Asia. (2019, January). Here Comes the Sun: The Development of the Solar Energy Industry in Malaysia. Christopher & Lee Ong. [https://www.christopherleeong.com/media/3168/2019-01\\_development\\_of\\_the\\_solar\\_energy\\_industry\\_in\\_malaysia2.pdf](https://www.christopherleeong.com/media/3168/2019-01_development_of_the_solar_energy_industry_in_malaysia2.pdf)