

Driving energy transition

There is increasing interest in the cement industry in using renewable energy sources to provide production facilities with electrical power and thus lowering CO₂ emissions. Raju Shukla, founder and chairman of Cleantech Solar, speaks with ICR about the company's venture into providing solar energy facilities for the cement industry where it has some of its landmark projects, and explains why the sky is the limit.

■ by ICR Research, UK

ICR: How did Cleantech Solar's adventure start?

Raju Shukla (RS): Back in 2014 some of my former colleagues at Barclays and I were talking about what next challenge we could pick up. We came across the "solar PPA" (Power Purchase Agreement) business model which was then only starting. In this business model the solar company finances the solar photovoltaic (PV) system, installs it and eventually operates and maintains it. Effectively, the end user only pays for the electricity that the system had generated.

Starting up Cleantech Solar in that space felt like a natural fit where we could not only contribute our financial expertise but also leverage our extensive business networks across Asia. In addition, we were really driven by the sense of purpose of developing a start-up with great commercial potential with the final aim to reduce CO₂ emissions for corporates.

Since then, we have grown exponentially in our key markets of India and southeast Asia. The Climate Fund Managers joined us in 2018 and, most recently, we completed the investment by global energy giant Shell, who now owns



Raju Shukla, founder and chairman of Cleantech Solar

49 per cent of the company. Becoming the strategic partner with one of the world's 10 largest companies is a huge deal and is helping us accelerate further.

ICR: What response did you get from the market? Some of the corporate players are rather hard-nosed and mainly focussed on the bottomline, so would sustainability be a strong selling point?

RS: That is the beauty of it. Solar

energy today not only is one of the best solutions we have to tackle greenhouse gas emissions, but it has also become significantly cheaper than grid electricity. We have signed contracts with about 120 customers in eight different countries and I can assure you that each of those solar systems is saving money for our customers, day in, day out.

Moreover, there is also value in the wider picture that includes all of the branding benefits, employee engagement and competitive advantage.

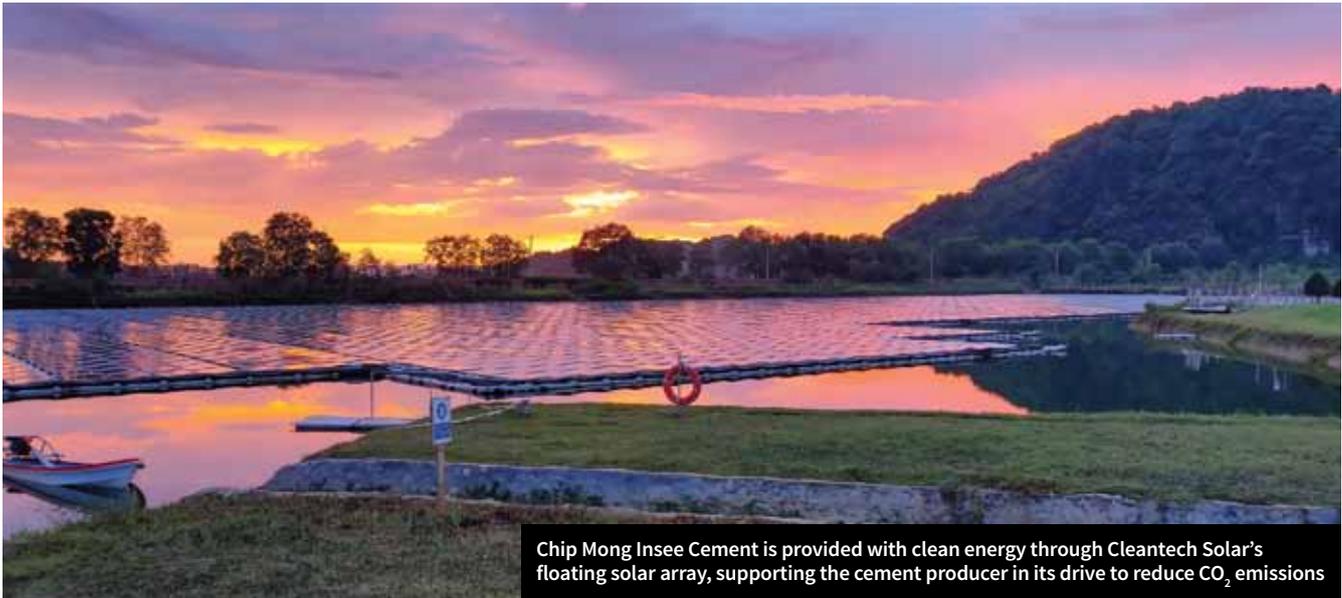
ICR: And what about cement, is that a good industry for Cleantech Solar?

RS: As far as Cleantech Solar goes, we are effectively industry-agnostic and currently have solar systems on pharmaceutical plants, Coca-Cola factories, paint factories and many others.

Cement is a great sector for us where we have some of our landmark projects. In that industry, we are dealing with typically large companies with a global footprint with very high energy consumption and having an increasingly strong focus on environmental performance. In addition



Installing the last panels of a floating solar array for Chip Mong Insee Cement, Cambodia



Chip Mong Insee Cement is provided with clean energy through Cleantech Solar's floating solar array, supporting the cement producer in its drive to reduce CO₂ emissions



In the early stages of the CMIC project, Cleantech Solar identified suitable locations for the installation of rooftop solar panels

to rooftop and ground-mount options, we have also been a bit creative, as with Chip Mong Insee Cement (CMIC), a cement factory in Cambodia, by using the retention pond.

Technically, cement plants are demanding projects in terms of the significant distances between the solar plants and the connection points, as well as the quality and safety requirements, but those happen to also be our key strengths. From a safety perspective, our latest project in Cambodia for CMIC was an extremely successful project that achieved 140,168 working hours with zero injuries, despite challenging conditions. We have an exceptional track record in Cambodia with our partner, Comin Khmer, with whom we have completed high-quality projects such as the 2600kWp Coca-Cola Cambodia plant in Phnom Penh.

Another specific challenge in cement plants is the soiling situation, in other

words, the dust that deposits on the solar panels. Through multiple testing and experimentation, we have now developed special cleaning routines and procedures for our cement sites.

ICR: Tell us more about the CMIC project?

RS: CMIC is a joint-venture between Chip Mong Group and Siam City Cement Co (SCCC) from Thailand. The state-of-the-art CMIC cement plant, located at Touk Meas in Kampot province, adopts cutting-edge technology and equipment.

We were in contact with CMIC even before the ground was broken at site and gradually, we developed the project with a view to maximise the potential. From the onset, the CMIC team was very clear that it wanted to make a difference, not only by creating jobs and developing a successful company, but also by setting new standards on the environmental front.

In the initial phase of the plant construction, we identified some roofs that we could use. However, about 18 months ago, we identified the retention reservoir as another potential to expand the PV system capacity to generate more clean energy.

This enabled us to reach almost 10,000kWp of PV system, combined on both reservoir and rooftops. Together with our partner at Ciel et Terre, who provided the floating components, we had a very smooth installation. In addition to generating more green energy, the floating PV system is also reducing evaporation considerably. This fits in nicely with CMIC's objective to be net water positive by 2022.

Overall, we now have a state-of-the-art solar PV system at CMIC that will avoid the emission of almost 200,000t of CO₂ over its lifetime, and one would need 9m trees planted to have the same impact on CO₂ emissions reduction. In addition, and not the least, CMIC is also now enjoying lower energy costs as the solar system enables it to reduce its monthly electricity bill.

ICR: What's next for Cleantech Solar?

RS: In a way, the sky is the limit. The demand for green energy from corporate customers is increasing faster than we can meet it. This is for good reasons as the pressure to reduce greenhouse gas emissions has never been greater, whilst also coinciding with the economics for solar becoming more compelling by the day.

In addition, very large organisations such as Shell are now putting their weight behind the energy transition, so all stars are definitely aligned for more solar to be deployed at manufacturing sites, and in particular cement plants. ■