Taka Solar
Request for Technical Assistance

For near term deployment, Taka has explored multiple polymer and glass-based encapsulation methods. To prove out long term reliability, we would like to work with NREL's reliability specialists and Test To Failure protocols, as well as tests to meet basic UL/CE/IEC requirements. Using advance lab equipment, we can complete accelerated testing with reliability and bankability in mind. Initial, priority tests include Damp Heat and Wet Leakage. Taka has created concepts for future, novel encapsulation methods, with potential for considerable cost savings and reliability improvements. Such methods benefit the progression of solar technology. We would like to work with NREL's Silicon Device Group to prove or disprove viability. We have reached out to NREL for discussion with various groups, as well as NREL veterans, who have pointed our research into useful directions.

We will require rooftop outdoor testing, preferably at Fraunhofer, possibly at NREL, to fully characterize performance for energy yield estimates, and verify the Taka internal model.

We have a special interest in boro 3.3 glass manufacturing, tempered float glass shaping, and low-iron glass cost reducing methods. Our product's unique shape makes evolution of solar encapsulation more pressing and more promising.

As manufacturing methods and materials become finalized, Taka would like to request analysis of our lifecycle for improvement, possibly with the Idaho National Laboratory (INL) Net Zero Waste projects. It is also possible to improve our encapsulation by consulting with their High-temperature materials specialists. The INL is within range of in-person meeting certain times of the year.

The Lawrence Berkeley National Laboratory (LBNL) has completed significant work into Cool Roof Characterization, and we would like to test novel roof materials with their 'Cool Roof Time Machine' to ensure maximum long-term energy production. We'd also like to develop an automated web tool that connects building owners to the most reflective roof materials, and to the most skilled roof installers who can prevent standing water and ensure roof O&M to keep the surface reflective. This is important for the bifacial solar rooftop market. Oak Ridge National Laboratory has also conducted significant research into building envelope energy savings, which our product integrates into. Future iterations of our technology will require new testing of different aspects of the building envelope.

Finally, we have connected with premier agricultural research groups such as UC Davis, and found that typical agriculture solar offerings are a poor fit. We'd like to conduct future research in agricultural fields near Northern California, possibly with mock-ups, in preparation for calibrating our light apertures.

Taka personnel are available to travel to NREL, INL, LBNL, and locally in California, for in-person meeting and project initiations.

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