

Technical Assistance Request – CapSOL

Development towards Commercialization

1. **NREL and/or Sandia (PSEL)** – Technical assistance is requested to determine performance metrics such as net solar output performance. Identifying the power output of CapSOL compared to equivalent monofacial and bifacial modules of the same rating will provide data needed for performance ratings and for marketing/promotion. Quantifying the performance of effective harvesting of reflected, diffuse, and concentrated light will help us demonstrate the true value of our unique design.
2. **NREL** – Technical assistance is requested to calculate overall cost savings of fabrication, installation, and maintenance of CapSOL compared with traditional solar modules.
3. **LBNL** – Technical assistance is requested to help optimize the optical performance of CapSOL’s dome-shaped lens. Although CapSOL’s lens works similar to commercially available tubular skylights work in directing light, the lens has more sophisticated design on both internal and external surfaces (see Figure 1)
4. **LBNL** – Technical assistance is requested to help demonstrate CapSOL’s wind/storm resistance compared to traditional solar modules.
5. **NREL (CNGMD)** – First prototypes of CapSOL will be made using commercially available CIGS Thin-film flexible solar panels (see Figure 2). In production, custom fabricated thin-film panels from U.S. manufacturers are desired. Technical assistance requested for help with prototyping multi-layer flexible thin-film photovoltaic material (CIGS and CZTSSe layers) for production.
6. **NREL** – Technical assistance is requested to determine the potential of licensing of flexible thin-film photovoltaic IP and method for direct application on cylindrical structure.
7. **Connectors** – Technical assistance requested for help with Market research, product distribution partner opportunities, and to **assist with a cooperative agreement with federal labs.**

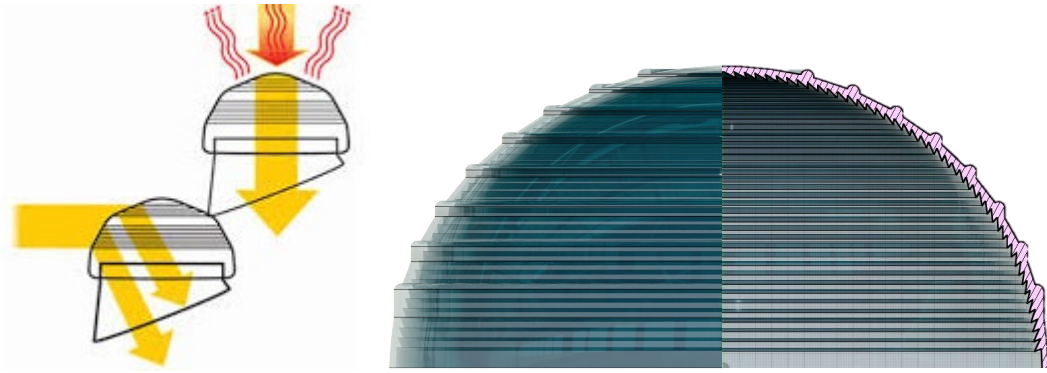


Figure 1. Commercial tubular skylight (a), CapSOL lens design (b)



Figure 2. Some commercially available CIGS Thin-film flexible solar panels