

Abstract

This chapter covers the integrated analysis component of the program, which provided a critical resource to help define the optimal research agenda. This work includes assessing the solar resource across the various climate zones in India and a coupling of this to the technology roadmaps in India and the United States. The analysis was coupled with mapping optimal site selections for diverse applications of photovoltaics (PV) and concentrated solar power (CSP) from village power to national grid. The results were backed up by detailed techno-market and techno-economic analysis that helped to define the detailed research roadmap for both PV and CSP. Various potential scenarios were defined for the manufacture of silicon solar cells in India, revitalizing this manufacturing sector. Overall, this work led to clearly defining the bankability of solar across different deployment length scales. This analysis helped investors and governmental entities develop specific policies to meet solar deployment goals. Part of this work included developing online tools specific to India to assess the resource and technology/deployment scenarios; one example is the System Advisor Model tool specific to India.