

Silicon photovoltaics: Accelerating to grid parity

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Lost in recent headlines about solar company failures, reduced government support and popped stock valuations is the fact that photovoltaic (PV) systems continue to be installed at an extremely healthy rate – an approximately three-fold increase from 2009, to a cumulative 70 GWp of installations worldwide. The primary factor behind this remarkable growth has been the cost reduction afforded by manufacturing and technology improvements to the basic crystalline silicon (c-Si) PV cell. In fact in the past 2 years, c-Si module cost learning curves have accelerated over their historical norms as a function of both volume and time, and as a result c-Si PV has reached parity with conventional forms of electricity in an increasing number of places in the world. In this talk, likely c-Si PV technology paths and market implications will be reviewed, leading to a prediction that unsubsidized, cost-effective PV electricity will be delivered to more than 95% of the world's population by 2020.