U.S. Solar Power Market

Morocco Solar Photovoltaic (PV) Reverse Trade Mission June 8 - 18, 2014

A. John Rezaiyan **3E Consulting, LLC**

U.S. Market

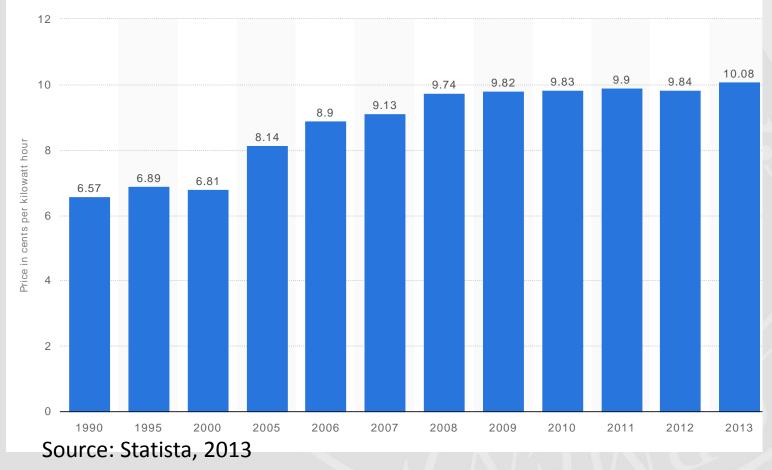
- Geographically diverse with 50 State regulatory bodies
- Market Players 2009 publicly owned utilities, 192 Investor owned utilities, 871 cooperatives, 9 Federal Power Agencies, and 211power marketers
- PV began as on off-grid solution about 20 years ago and gradually transitioned to a subsidized on-grid solution
- Different market drivers

U.S. Market

- CSP is gaining attention, utilities like CSP due to its storage capability
- Renewable Portfolio Standards (RPS) is a major driver (CA: 33% by 2020)
- American Reinvestment and Recover Act (ARRA) provided a market incentive
- PV manufacturing cost has dropped -accounting for about 30% of the total project cost

U.S. Retail Tariff

Average retail electricity prices in the U.S. from 1990 to 2013 (in cents per kilowatt ho



Applications Are Expanding



0.9 MW FedEX Building, Oakland, CA



83kW Ridgely's Wastewater Treatment Facility, MD



83 KW Kimberly-Clark Facility, Hendersonville, NC



178,000 Sqft IKEA Solar Rooftop

Global Module Production

Global PV Module Production, 2007-2013 45,000 39,987 38,750 40,000 36,996 35,000 30,000 MM 25,000 23,481 20,000 15,000 11,103 10,000 7,267 4.028 5,000 0 2008 2012 2007 2009 2010 2011 2013



This RTM

• Will meet with U.S.:

- Technology Leaders
- Equipment & Service providers
- Exchange Ideas and Make Long-Lasting Relations
- I am here to help, if something is unclear ask – I may not have the answer but can find those who have