RevGen Solar Technology Consulting Services

The installed capacity of solar energy has experienced impressive growth over the last four years but despite this recent success, the solar energy industry is still in its infancy. There are many questions about its viability, from both a technological and cost standpoint, as a significant future energy source.

How Can RevGen Group Help?

As enthusiasm for and commitment to solar technology deployment increases, objective analyses of the technology, cost, and return on investment are essential. The RevGen Group offers thorough, unbiased research, analysis, and evaluation of solar energy industry trends, and of real life deployment and implementation issues. Unlike many solar energy consultancies, the RevGen Group focuses on larger projects (100kW to >10MW) utilizing all of the emerging solar technologies including:

- Concentrating Photovoltaics (CPV) systems
- Concentrating Solar Thermal (CST) systems
- Silicon and Thin Film systems

We offer:

Up-to-Date Comparison and Projection of the Performance of Several Systems

- ✓ Current silicon and thin film solar panel performance
- ✓ CPV cell and module performance projections
- ✓ CST technology and performance comparisons
- ✓ Technological and deployment challenges for each technology

	Advantages	Disadvantages
Silicon PV Module efficiency approaching 20%	• Indirect sunlight acceptable • Operates with or without tracking • Mature, robust technology	• Limited efficiency improvements possible without adding tracking • Significant efficiency loss at high ambient temperatures
Thin Film PV Module efficiency<10%	• Indirect sunlight acceptable • Potential for lowest cost/kWh • Can be integrated into building materials	• Low efficiency, long term reliability unproven • Requires significant surface area and large support structure • Efficiency loss at high ambient temperatures • Utilizes scarce, environmentally-challenging materials
High Concentrating Photovoltaics (HCPV) Module efficiency >25%	• Potential for highest module and system efficiency • Good performance in hot climates • Potential for lowest $/kWh/m^2 • Significant efficiency improvement still possible • Highest power delivery during peak loads	• Requires direct sunlight, complex optics and tracking • Optical and tracking losses degrade system efficiency • Generally not cost effective below 100 kW • Long term reliability unproven
Concentrating Solar Thermal (CST) Efficiency is configuration-dependent, but could exceed 25%	• Efficient in large, utility-type installations • Potential to store energy • Not dependent on cell efficiency improvements	• Requires direct sunlight • Capital intensive installation • Remote locations create permitting, land use and transmission line availability challenges • Generally not amenable to distributed power applications

From Seeing Solar Energy in a Different Light at the RevGen Group web site http://RevGenGroup.com

Solar Technology Cost Projections

- ✓ Analysis and evaluation of the solar technology value chain
  - Module and panel costs
  - Balance of system costs (e.g., inverters, wiring, support structure, trackers)
  - Installation costs
  - Indirect costs
- ✓ Industry trends affecting material availability and costs
- ✓ Future cost trends

Installation and Deployment Assessments

- ✓ Project plan evaluation and critique
- ✓ Analysis of power and energy projections
- ✓ Identification of potential technology or implementation issues
- ✓ AC power, water, and special material or construction needs
- ✓ Wind, dirt, and moisture provisions
- ✓ System monitoring and measurement provisions

Operational and Maintenance Evaluation

- ✓ Power degradation at elevated ambient temperatures and with age
- ✓ Cleaning, inspection, and periodic maintenance requirements
- ✓ Warranty provisions

Mort Cohen's Professional Summary

Team leader with more than 20 years of management and consulting experience in the areas of strategic marketing, product line management, and project management.

Product Line Manager for several technology areas including solar energy, electric and hybrid vehicles, wireless and fiber optic communications, and analytical instrumentation.

Product Line Manager and Business Development Manager for a newly-formed photovoltaic business unit within JDSU Corporation. Prepared the business plan and performed all key project, product and business analyses for the concentrating photovoltaic (CPV) business unit. Key tasks included ROI analysis, competitive technology assessment, product definition and differentiation, strategic marketing analysis, customer liaison, and partnership negotiations.

Product Line Manager for two different high technology products that received the R&D100 Award by R&D Magazine for the most innovative products of the year.

Consultant for a technology-based hedge fund performing industry analyses and due diligence assessments.

Consultant for Wi-Fi and broadband wireless semiconductor, subsystem and system clients in the US, Israel, and Asia performing industry analyses and project evaluations.

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