



# Annual Report

RRD eBP - File Name: BPX18754\_wo3\_First\_Solar\_CV.pdf Mar 22, 2011 - Page: 1 of 12  
HINGE



enabling a **world** powered by **clean, affordable SOLAR** electricity



2010

## About First Solar

First Solar, Inc. (NASDAQ: FSLR) manufactures photovoltaic (PV) solar modules with an advanced semiconductor technology, and develops, designs, and builds utility-scale PV solar systems. Our module manufacturing costs are the lowest in the world due to proprietary technology, high-volume continuous-flow manufacturing, and operational excellence. We measure our long-term financial success by targeting a return on net assets of at least five percent above our cost of capital. First Solar is included in the S&P 500® and the NASDAQ 100 indices.

By enabling clean, renewable electricity at competitive prices, First Solar provides an economically and environmentally viable alternative to peaking fossil-fuel electricity generation. First Solar has set the benchmark for environmentally responsible product life cycle management by introducing the industry's first prefunded, comprehensive collection and recycling program for solar modules. From raw material sourcing through end-of-life collection and recycling, First Solar is focused on creating value-driven renewable energy solutions that protect and enhance the environment. For more information about First Solar, please visit [www.firstsolar.com](http://www.firstsolar.com).

All financial numbers in this report are based on U.S. Generally Accepted Accounting Principles.

This report contains forward-looking statements within the meaning of the United States federal securities laws. These forward-looking statements do not constitute guarantees of future performance. These forward-looking statements are based on current information and expectations, are subject to uncertainties and changes in circumstances, and involve a number of factors that could cause actual results to differ materially from those anticipated by these forward-looking statements, including risks described in the company's most recent annual report on Form 10-K, and other filings with the Securities and Exchange Commission. First Solar assumes no obligation to update any forward-looking information contained in this report or with respect to the information described herein.



# To Our Shareholders

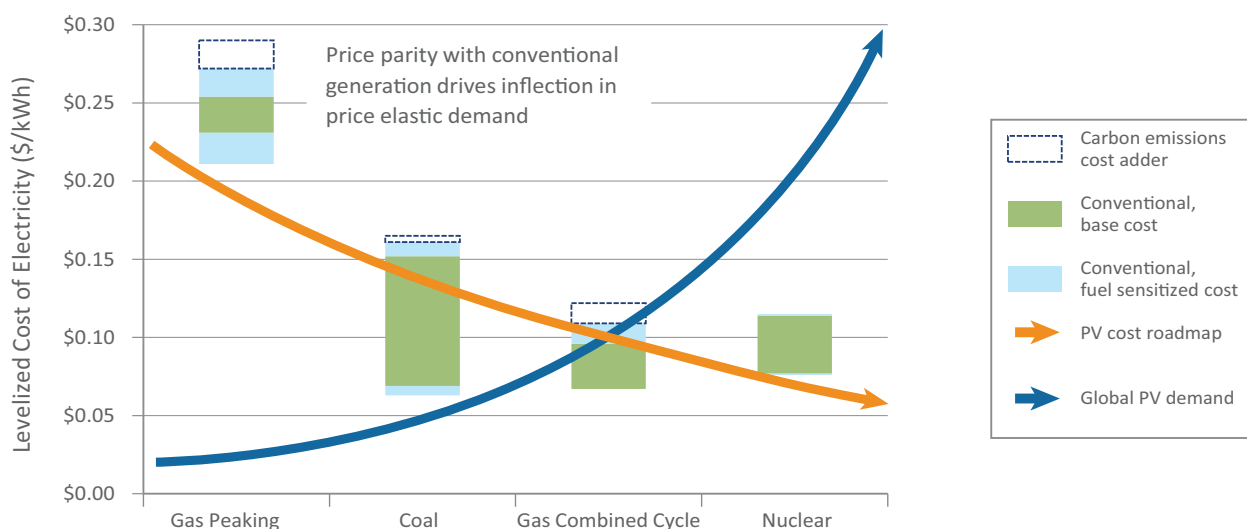
2010 was a year of significant progress for First Solar, setting the stage for future growth and value creation. We executed well on our cost reduction and technology roadmaps, began to implement significant manufacturing capacity expansions, diversified our end-market exposure, bolstered our utility-scale systems business, and delivered solid financial results. By the end of the year, we had reached over 3 gigawatts (GW) of cumulative production, enough electricity to power approximately 900,000 average homes. All of these accomplishments advance our mission of enabling a world powered by clean, affordable solar electricity.



*Rob Gillette*  
Chief Executive Officer

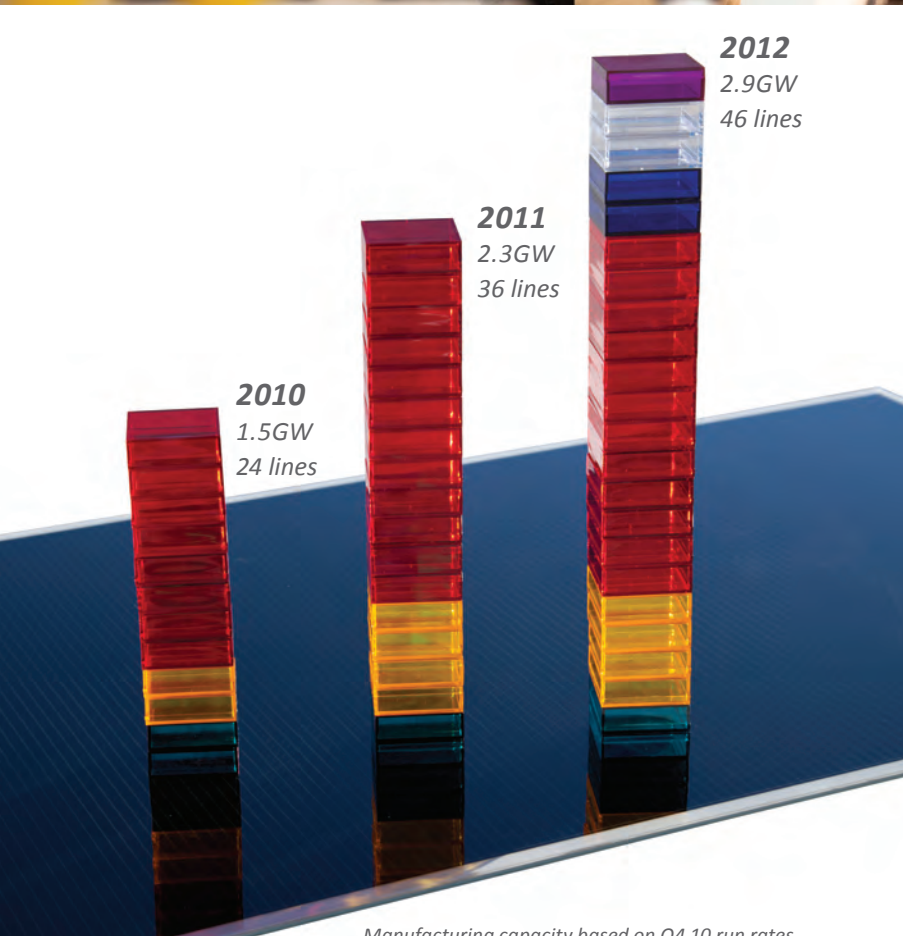
We retained our cost leadership position and continued to minimize the cost of generating photovoltaic (PV) electricity. Our goal is to reduce the levelized cost of electricity (LCOE) to parity with peak generation assets, enabling prices of \$0.10-0.12 per kilowatt hour (kWh) in regions with high solar resource, like the Southwestern United States. During 2010, we made significant progress to reduce costs in four areas: module, balance of system (BoS), project development, and financing.

## The Drive to Price Parity



Conventional generation from Lazard LCOE Analysis v4.0; June 2010. Assumes coal price of \$2.50/MMBtu and natural gas price of \$6.00/MMBtu. Carbon emissions cost assumes \$30/ton CO<sub>2</sub>. High end of coal costs incorporates 90% carbon capture—emissions adder does not apply.





Manufacturing capacity based on Q4 10 run rates.

*With **NEW** and **EXPANDED** facilities throughout the world, First Solar will nearly **DOUBLE** its manufacturing **CAPACITY** by the end of 2012.*

For example, our module manufacturing cost per watt declined 11 percent year over year to \$0.75 in the fourth quarter of 2010 through improvements in factory throughput, material costs, and module conversion efficiency. Additionally, we continued to drive down BoS costs. Our cost of labor and materials required to install solar modules is down 30 percent since 2008. Overall, we made substantial progress in reducing LCOE in 2010, and built projects in the U.S. capable of producing power at \$0.14-0.16/kWh.

During 2010, we were capacity constrained and re-allocated significant volumes of modules from our systems business to support our customers in Europe. We announced and began construction on several expansions to address this constraint and to enable our future growth, including new factories in Malaysia (8 lines), Germany (4 lines), Vietnam (initial capacity 4 lines), and the United States (initial capacity 4 lines). All told, we plan to almost double our current capacity to 2.9GW, at current annual throughput rates, by the end of 2012.

We cultivated new markets for solar power and expanded our own utility-scale systems pipeline. The global solar market grew over 100 percent in 2010 to almost 16GW, according to analyst estimates. While Germany remained an important market, Italy, France, and North America grew as a percentage of our revenues. We took another important step toward realization of the Ordos project in China by entering into a partnership with one of the largest generating companies in the country, China Guangdong Nuclear. The Ordos City project in Inner Mongolia received approval of its pre-feasibility study in September 2010, an important permitting milestone. We are also the module supplier for two of the four finalists for the Solar Flagship program in Australia. And in India, we signed module supply agreements with ACME and Moser Baer Clean Energy.





*Sarnia, Ontario,  
Canada, 80MW (AC)  
The Sarnia project is  
currently the largest  
PV installation in the  
world, displacing  
approximately  
22,000 metric tons  
of carbon dioxide  
(CO<sub>2</sub>) emissions  
annually.*



*Boulder City, Nevada,  
USA, 58MW (AC)  
Utilizing one million  
First Solar modules,  
the El Dorado and  
Copper Mountain  
projects together  
constitute the largest  
solar power plant  
in the U.S., which  
was named Solar  
Project of the Year  
by Renewable  
Energy World.*



*Cimarron, New Mexico,  
USA, 30MW (AC)  
This facility is the  
largest PV project  
in New Mexico,  
annually displacing  
CO<sub>2</sub> emissions  
equivalent to taking  
about 7,000 cars  
off the road.*





In North America, we acquired NextLight Renewable Power and its 1.1GW of contracted and advanced pipeline, as well as the solar project pipeline of Edison Mission Energy. We constructed and sold three sizeable projects, one of which, in Sarnia, Ontario, Canada, is currently the largest solar PV installation in the world.

First Solar added and expanded relationships with several major North American utility scale customers. For instance, we entered into an agreement to sell the 290 megawatt (MW) alternating current (AC) Agua Caliente project to NRG Energy. Upon its completion, Aqua Caliente is expected to be the largest operational solar PV plant in the world. We significantly broadened the list of buyers of our utility-scale systems, which is a positive sign of the continued acceptance and technology adoption of PV solar. This geographic diversification is important as we strengthen our position in the traditional subsidized markets, while developing new markets that have the potential to become sustainable.

*First Solar develops utility-scale projects, negotiating PPAs, selling projects to customers, and facilitating project financing.*

*All of this lowers LCOE while maximizing project energy yield, and promotes utility adoption of solar technology.*



Looking forward to 2011, new markets are developing rapidly, and overall unit demand is projected to grow by approximately ten percent year over year after a very strong 2010. Shifting government policy in subsidized markets is resulting in uncertainty about the amount and timing of demand. There is a risk of potential industry oversupply, which could pressure prices in the more competitive markets. Despite this backdrop, First Solar remains well-positioned for profitable growth due to several factors.

First, we are the cost and technology leader, and not all of the PV module supply in the industry is cost-competitive. We are increasing module manufacturing capacity which enables us to scale costs and gain market share, and we expect to continue to maintain at least a 30 percent cost advantage in 2011. Second, we enter the year with a high portion of our capacity under contract and committed to customers. As in 2010, we plan to use our contracted North American project pipeline of over 2.4GW (AC) as a buffer against demand uncertainties. Third, First Solar will invest \$1.1 billion in capital expenditures in 2011. In addition, we will invest significant sums in research and development to continue the drive for the lowest LCOE and maximum energy yield. Fourth, we are rapidly diversifying our market exposure, making us less dependent on demand from any one geographic region. Finally, our strong balance sheet and cash flow generation support a lower cost of capital for our utility-scale systems, and therefore lower the LCOE. Our strong financial position and business model have also enabled us to fund our capacity growth, R&D investment, and market development.

Our key areas of focus in 2011 are to execute on our planned project pipeline and customer contracts, implement our capacity expansion plans to drive growth, continue to invest globally in developing markets to increase demand visibility and mitigate risk, and drive LCOE toward grid parity by continuing to implement our cost and technology roadmaps.

While we are focused on results, we are also focused on how we want to accomplish these results. We are dedicated to conducting our business in a sustainable manner—environmentally, socially, and

*We intend  
to be the  
world's  
premier  
provider  
of solar  
PV solutions.*





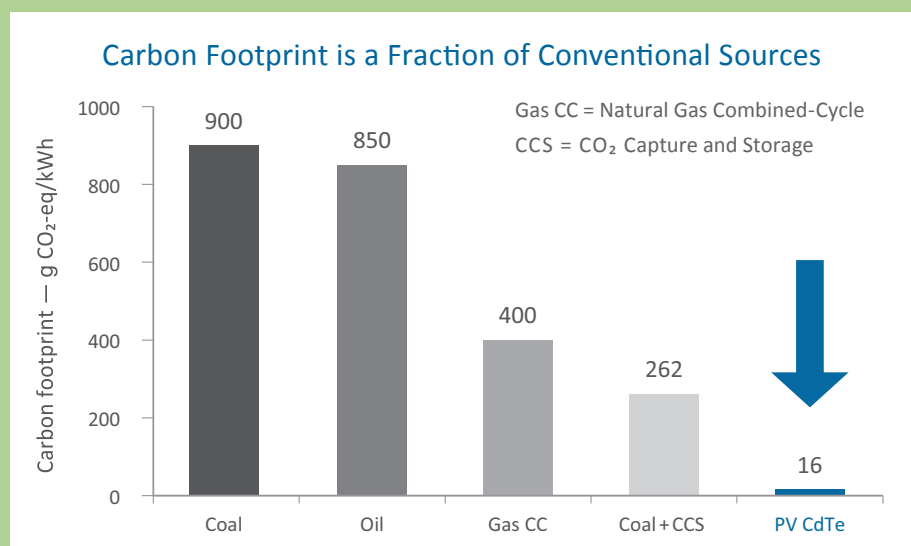
financially. With a commitment to product life cycle management, including our prefunded module collection and recycling program, First Solar is focused on providing value-driven energy solutions that protect and enhance the environment. On a life cycle basis, our PV technology has the lowest carbon footprint and the fastest energy payback time in the industry. In addition, First Solar has always had a long-standing commitment to socially sustainable manufacturing and site development.

I remain very excited about being a part of First Solar. My appreciation goes out to all of our associates for their contributions to our success in 2010 and beyond. I would also like to thank Mike Ahearn for his continuing commitment to First Solar's success as he transitions from Executive Chairman to Chairman of the Board of Directors. And finally, I would like to recognize and thank the shareholders who participate in our long-term vision. I assure you that we remain committed to creating enduring value for you now and in the future.

Sincerely,



Rob Gillette, CEO  
First Solar, Inc.



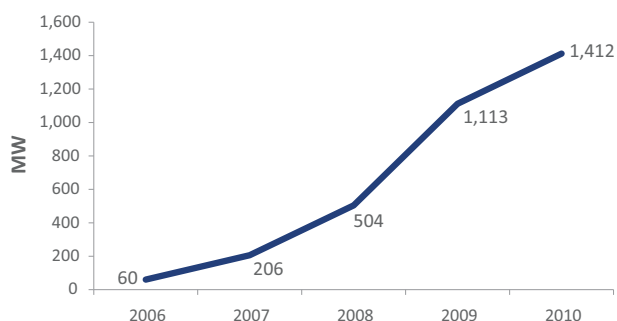
*First Solar has produced 3GW of PV modules worldwide, displacing over 1.5 million metric tons of CO<sub>2</sub> emissions per year.*

\*de Wild-Scholten, M., 'Life Cycle Assessment of Photovoltaics: from cradle to cradle,' presented at the 1st International Conference on PV Module Recycling, Berlin, January 2010. Both PV technologies use irradiation of 1700 kWh/m<sup>2</sup>. All other data from ExternE project, 2003; Kim and Dale, 2005; Fthenakis and Kim, 2006; Fthenakis and Alsema, 2006; Fthenakis and Kim, in press.

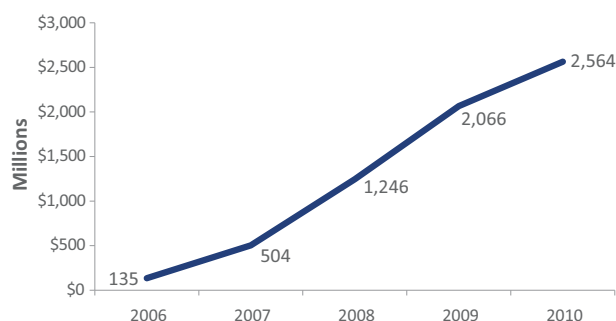
# Delivering Strong Financials

We delivered solid 2010 financial results. Net sales were \$2.6 billion, up 24 percent year over year, with diluted earnings per share of \$7.68. We generated \$705 million of operating cash flow to support our expansion plans, and our balance sheet remains among the strongest in the industry. We generated significant shareholder value, delivering a 19.5 percent return on net assets, exceeding our cost of capital by seven percentage points.

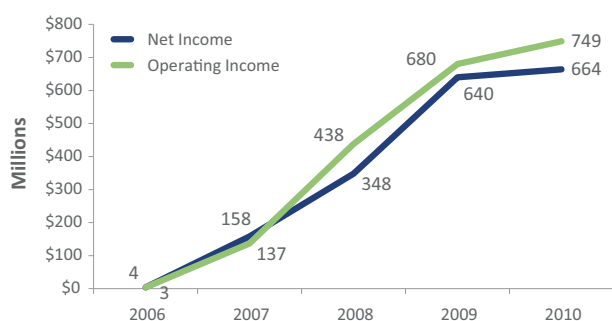
## Megawatts Produced



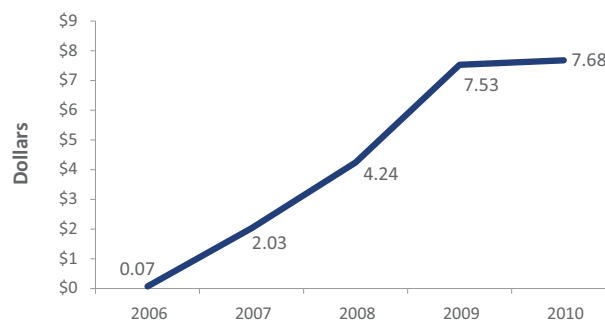
## Net Sales



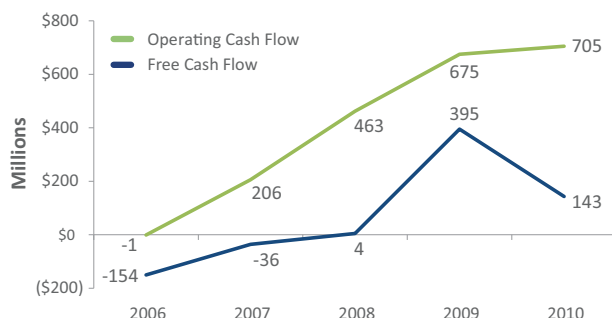
## Net & Operating Income



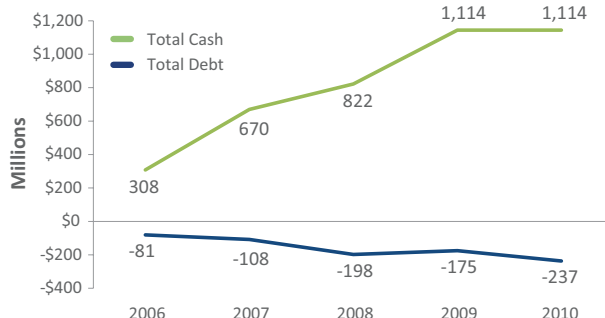
## Earnings per Diluted Share



## Operating and Free Cash Flow



## Cash & Marketable Securities vs Debt





# Corporate Information

## Executive Management

Robert J. Gillette, Chief Executive Officer  
TK Kallenbach, President, Components Business Group  
Jens Meyerhoff, President, Utility Systems Business Group  
Bruce Sohn, President, Operations  
Mark Widmar, Chief Financial Officer  
David Eaglesham, Chief Technology Officer  
Carol Campbell, Executive Vice President, Human Resources  
Mary Beth Gustafsson, Executive Vice President, General Counsel and Secretary  
Maja Wessels, Executive Vice President, Global Public Affairs  
James Zhu, Chief Accounting Officer

## Board of Directors

Michael J. Ahearn, Chairman of the Board  
Robert J. Gillette, Chief Executive Officer  
Craig Kennedy, Independent Director  
James F. Nolan, Independent Director  
William J. Post, Independent Director  
J. Thomas Presby, Independent Director  
Paul H. Stebbins, Independent Director  
Michael Sweeney, Independent Director  
José H. Villarreal, Independent Director

## Corporate Headquarters

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Suite 600  
Tempe, AZ 85281  
Telephone +1 602 414 9300  
Facsimile +1 602 414 9400  
info@firstsolar.com  
www.firstsolar.com

## Transfer Agent

Computershare Trust Company, N.A.  
250 Royal Street  
Canton, MA 02021  
Stockholder Services:  
+1 781 575 2879  
www.computershare.com

## Independent Auditors

PricewaterhouseCoopers LLP

## Investor Relations

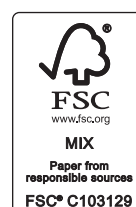
350 West Washington Street  
Suite 600  
Tempe, AZ 85281  
Telephone +1 602 414 9315  
investor@firstsolar.com

## Annual Meeting

Desert Willow Conference Center  
4340 East Cotton Center Boulevard  
Phoenix, AZ 85040  
May 25, 2011–9:00 a.m. local time

## Stock Listing

First Solar, Inc. common stock is  
traded on the Nasdaq Global Select  
Market, listed under FSLR.



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Affordable.  
Sustainable.  
Global.

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