
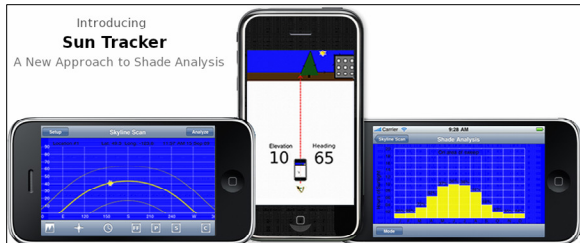
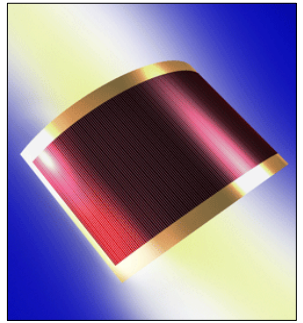
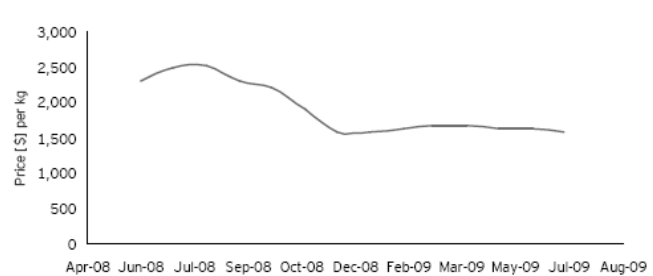


Source	Title	Date	Link	Category
CEVS	Clean Energy Venture Summit, "Bringing the Smart Grid to Life"	Event Date Oct 14-15, 2009	<a href="http://budurl.com/CEVS2009">http://budurl.com/CEVS2009</a>	Sponsored Event
Sponsored Event	<p>The third annual Clean Energy Venture Summit, "Bringing the Smart Grid to Life" on October 14 and 15, 2009 provides clean energy technology companies and entrepreneurs a venue for presenting innovations to investors that currently invest in clean energy, along with experts from Austin Energy, corporate partners, other utility executives and government leaders.</p>  <p>Bringing the Smart Grid to Life.</p> <p>Prizes include: marketing and PR packages, deferred legal fees, incubation support and access to the Emerging Technology Fund, and the opportunity to interact with Austin Energy and corporate partners, among others. The deadline for application to compete is September 11, 2009. Investors have responded enthusiastically. Already, 20 venture capital firms and angel groups have committed to attend, although the event is still two months away. Click here to join us <a href="http://budurl.com/CEVS2009">http://budurl.com/CEVS2009</a></p>			
Mercom Communications	It's Heating up in India: Highlights from the 3rd Renewable Energy India 2009 Expo	Aug 14, 2009	<a href="#">Mercom Report</a>	Industry News
	<p>The 3rd Renewable Energy India 2009 Expo held in New Delhi, India on Aug 10-12, 2009, had an impressive turnout from around the world. The event echoed the mood of the renewable energy industry in India, upbeat, yet uncertain. The participants were very excited about the future of renewable energies but were unsure about the effects of the global recession and the support the renewable energy sectors will receive from the Government of India.</p> <p>Mr. Deepak Gupta, India's Secretary for the Ministry of New and Renewable Energy, commented, "The Government is likely to roll out a plan to add 20 gigawatt solar-based power generation capacity by the year 2020. The solar mission has been approved in principle, now we have to work on the roll-out. Hopefully, we will go to the Cabinet in the next couple of months so we can roll-out the plan this calendar year".</p> <p>Indian companies are of the opinion that the investment interest in the industry is strong but government support is critical at this point. There were many Indian companies which commented that the demand in domestic markets for PV needed to be boosted rather than be dependent on the export markets.</p> <p>There was a good showing of international companies looking to take part in the future of India's renewable energy markets. The conference hosted pavilions for Germany and the U.S., and there was good attendance from companies representing China and Taiwan as well as a few other European countries. As expected, Solar was the predominant sector at the conference; however, representation of Wind companies was commendable.</p> <p>From a regional perspective, Gujarat and Rajasthan were the two Indian states that stood out in their efforts to encourage the clean energy drive. Both of these state governments have laid out aggressive plans to bring clean energy to every household in their respective states.</p>			
EERE	More than \$119 Million Awards for State Energy Programs in Seven States and Territories	Aug 14, 2009	<a href="http://budurl.com/mercomsep">http://budurl.com/mercomsep</a>	Funding News
	<p>U.S. Department of Energy (DOE) Secretary Steven Chu today announced more than \$119 million in funding from the American Recovery and Reinvestment Act to support energy efficiency and renewable energy projects in <b>Alabama, American Samoa, the District of Columbia, Illinois, Maryland, North Dakota, and Wyoming</b>. Under DOE's State Energy Program, states and territories have proposed statewide plans that prioritize energy savings, create or retain jobs, increase the use of renewable energy, and reduce carbon pollution.</p> <p>"This funding will provide an important boost for state economies, help to put Americans back to work, and move us toward energy independence," said Secretary Chu. These states and territories are receiving 40% of their total State Energy Program (SEP) funding authorized under the Recovery Act today. They will now have received 50% of their total Recovery Act SEP funding. The initial 10% of total funding was previously available to states to support planning activities; the remaining 50% of funds will be released once they meet reporting, oversight, and accountability milestones required by the Recovery Act.</p>			
DOE	Advanced Energy Manufacturing Tax Credit (48C)	Aug 13, 2009	<a href="http://budurl.com/mercomaemt">http://budurl.com/mercomaemt</a>	Funding News
	<p>The American Reinvestment and Recovery Act of 2009 (ARRA) authorizes the Department of Treasury to award \$2.3 billion in tax credits for qualified investments in advanced energy projects, to support new, expanded, or re-equipped domestic manufacturing facilities. The Advanced Energy Manufacturing Tax Credit (MTC) was authorized in Section 1302 of ARRA and requires the Secretary of Treasury to work in consultation with the Secretary of Energy. The MTC is also referred to as Section 48C of the Internal Revenue Code.</p> <p>The MTC provides a 30% credit for investments in new, expanded, or re-equipped advanced energy manufacturing projects. Up to \$2.3 billion in MTCs will be allocated for advanced energy projects, which will support total capital investments of almost \$7.7 billion in new renewable and advanced energy manufacturing projects. The Department of Energy (DOE) and the Internal Revenue Service (IRS) will review and make determinations on the eligibility and merit of MTC applications. Applicants will receive tax credits based on the expected commercial viability of their project and the ranking of their project relative to other projects.</p> <p>The application period opens August 14, 2009. Preliminary applications are due to DOE September 16, 2009, followed by final applications being due to DOE and IRS on October 16, 2009. By January 15, 2010, IRS will certify or reject applications, and notify the certified projects with the approved amount of their tax credit. Awardees will receive acceptance agreements from the IRS by April 16, 2010. Credits will be allocated until the program funding (\$2.3 billion) is exhausted. Subsequent allocation periods will depend on remaining funds. Projects must be completed within 4 years of their tax credit acceptance. Eligible investment credits cover future expenditures and do not award past investment. All other applicable sections of the Internal Revenue Code are in force. Click here for further details - <a href="http://budurl.com/mercomassQAEP">http://budurl.com/mercomassQAEP</a></p>			

Source	Title	Date	Link	Category
Digitimes	<b>Taiwan solar makers hold mixed views on poly-Si price trends</b>	Aug 13, 2009	<a href="http://budurl.com/mercomtmsm">http://budurl.com/mercomtmsm</a>	Industry News
	<p>Some Taiwan-based solar wafer and solar cell makers expect poly-Si spot market prices will stand at about US\$70/kg in the second half of 2009 and slightly decline in 2010, whereas others expect prices to increase to exceed US\$100/kg, according to industry sources. The reason some expect falling prices is that makers in China are expanding capacity, which, along with new entries to the market, will create an oversupply, the sources pointed out. Meanwhile, some makers believe supply will be unable to meet demand for solar cells in the US, China and Japan in 2010, the sources indicated.</p>			
Solar Industry Mag	<b>A-Power Energy Generation Systems Acquires EVATECH Co.</b>	Aug 13, 2009	<a href="http://budurl.com/mercomapeg">http://budurl.com/mercomapeg</a>	Company News
	<p>A-Power Energy Generation Systems Ltd., a provider of distributed power generation systems, has signed a memorandum of understanding to acquire 100% of EVATECH Co. Ltd. of Kyoto, Japan, a 22-year-old designer and manufacturer of industrial equipment for liquid crystal displays and plasma display panels. "EVATECH has more than 20 years of experience in developing thin-film products, and since 2006, it has begun producing production lines for thin-film PV batteries, with dedicated R&amp;D centers in Japan," notes Jinxiang Lu, A-Power's chairman and CEO.</p> <p>The all-cash transaction is initially valued at \$50 million and is expected to be primarily funded through a combination of government subsidies and loans. Government subsidies are expected to amount to 40% to 45% of the total purchase price, and auditors in Japan are currently preparing a fairness opinion for the transaction. A-Power expects to sign a definitive purchase agreement with EVATECH by September and close the transaction by the end of November.</p>			
FBR Capital Markets	<b>U.S. Market Analysis: Centralized vs. Distributed Generation</b>	Aug 13, 2009	<a href="#">Analyst Report</a>	Industry News
	<p>Our preliminary analysis of the U.S. market indicates that the solar PV utility market over the next five years (2010 through 2014) will be in the range of 3.5 GW to 5.0 GW in aggregate. Although the actual size of the U.S. market is debatable, the most important takeaway from our analysis is that the trend toward distributed generation (DG) (i.e., rooftop) is gaining momentum, especially in California. In fact, our analysis suggests that the mix of DG (as a percentage of the total U.S. utility market) has already exceeded 50% and is fast approaching 60%.</p> <p>This trend could actually accelerate if California were finally to pass into law the new (and generous) FIT tariff (that we highlighted in our July 17 industry note, "A New FIT Program in CA Could Help with Some Rays of Hope, but Not Until 2010"), which is also expected to count toward utilities' RPS portfolio requirements in California. There are several reasons behind the trend toward DG, such as (1) inadequate transmission line bandwidth/capacity that is necessary for large utility projects that would be required to be set up in remote areas, (2) the speed by which DG projects could be implemented (i.e., no need for lengthy environmental studies, etc.), and (3) ease of financing (for relatively much smaller DG projects versus large-scale ground-mounted projects).</p> <p>We note that Southern California Edison (SCE) and PG&amp;E in California have each proposed and received approval for 500 MW of DG projects. Two critical factors that make SPWRA one of the primary beneficiaries of the trend toward DG among U.S.-based utilities are that roof-top projects are space-limited and that California accounts for more than 60% of the PV utility market in the U.S.</p> <p><b>Key Points:</b> Our preliminary study of all the Requests for Bids (RFBs) by utilities indicates that the size of the solar PV utility market in the U.S. from 2010 through 2014 could be at least 3 GW and up to as much as 5 GW. It should be noted that a similar study indicated that the amount of concentrated solar power (CSP) in the U.S. is at least 50% greater than that of solar PV. Additionally, we note that California accounts for more than 60% of the PV utility market in the U.S.</p> <p>Our analysis also indicates that of all the PV utility projects in the U.S. (that we have been able to tabulate), 57% are DG, a mix that could actually increase, given limited available transmission that prohibits the implementation of large-scale PV or CSP projects. Although utilities are spending billions of dollars to upgrade transmission lines, we note that it will take several years for such projects to be implemented. This, combined with increased political pressure on utilities to fulfill the RPS requirement by the deadline (which is most likely before adequate transmission capacity will be available), can actually increase the mix of DG projects above 57%.</p>			
Plextronics	<b>Plextronics Becomes the First Company to Deploy Organic Solar Modules at NREL</b>	Aug 12, 2009	<a href="http://budurl.com/mercompi">http://budurl.com/mercompi</a>	Company News
	<p>Plextronics Inc. announced today that a set of its test solar modules were deployed at the National Renewable Energy Laboratory (NREL) in Golden, CO, for outdoor monitoring and performance testing. This is the first set of organic photovoltaic (OPV) modules ever deployed at NREL. A set of ten Plextronics test solar modules – which were created using the company's Plexcore® PV ready-to-use ink system – were installed on the roof of the Outdoor Test Facility at NREL. The performance of the test modules will be continuously monitored, and the performance in Colorado will be compared with testing Plextronics is already doing in Pittsburgh on identical modules.</p> <p>The performance of the modules will also be compared with the performance of other solar modules that are being tested at the NREL facility. The data over the next few months will be used to improve outdoor stability of the company's OPV technology and pave the way for testing more modules and refinement of the method. The module deployment at NREL is important to building an outdoor performance database for Plextronics' products. According to Andy Hannah, Plextronics' CEO, "Our customers want to understand the real-world performance of our solar technology, and this testing with NREL will allow us to provide them that data," he said.</p>			
PV Society	<b>Applied's EES Weathers Difficult Market</b>	Aug 12, 2009	<a href="http://budurl.com/mercompvam">http://budurl.com/mercompvam</a>	Company News
	<p>Despite overall weakness in its solar equipment unit, Applied Materials Inc. (Santa Clara, Calif.) executives said sales of cSi wafering equipment were unexpectedly strong in the company's fiscal third quarter, ending July 26. Applied reported solar-related sales of \$224M in the quarter, down 37% from the previous quarter. The Energy and Environmental Solutions (EES) unit narrowed its loss to \$53M for the quarter.</p> <p>Applied CEO Mike Splinter said in a conference call following release of the quarterly results that demand for solar is growing in China, the United States and elsewhere, "offsetting the decline in Spain" where feed-in tariff subsidies have largely ended. The EES unit faced "difficult market conditions and tight credit," Splinter said, causing orders to decline slightly from the previous quarter. "We expect annual PV installations to grow at annual 30% CAGR, with China poised to grow at twice the average rate of the industry," Splinter said. In 2010, Applied expects 4 GW of capacity will be added.</p> <p>"Crystalline silicon polysilicon prices are flattening and module prices are falling," Splinter said. Equipment for cSi solar production declined overall on general weakness in the solar industry, but Splinter said Applied sold 55 wafering systems to major customers in China, Taiwan and other parts of the Asian region.</p>			

Source	Title	Date	Link	Category																					
Digitimes	<b>Small PV makers in Europe faced with price competition from Asia</b>	Aug 12, 2009	<a href="http://budurl.com/mercomdtpc">http://budurl.com/mercomdtpc</a>	Industry News																					
	<p>Photovoltaic (PV) module makers in China and Taiwan have seen increasing orders from Europe since the beginning of the third quarter due to lower prices than quoted by fellow makers in Europe, according to industry sources in Taiwan. China- and Taiwan-based makers have production costs 20-30% lower than competitors from Europe, the source said. Consequently, small PV module makers in Europe without strong financial support are under the pressure of being forced out of competition, the sources commented.</p>																								
EIA	<b>Short-Term Energy Outlook: Electricity</b>	Aug 11, 2009	<a href="http://budurl.com/mercomeiae">http://budurl.com/mercomeiae</a>	Industry News																					
	<p><b>Electricity Consumption.</b> Total retail sales of electricity are projected to decline by 2.7 percent throughout the United States during 2009. Sales in the industrial sector are projected to decrease by about 10 percent this year due to the weak economy. The decline in the West South Central region is projected to be smaller than in other regions since hot summer weather has boosted residential electricity sales. Total electricity consumption is expected to rise by 0.8 percent in 2010.</p> <p><b>Electricity Prices.</b> Residential electricity prices rose by about 7.5 percent during the first 5 months of 2009 as high generation fuel costs from last year were passed through to retail consumers. Lower generation fuel costs this year are expected to be passed through to retail consumers later this year, keeping the annual average growth in prices at around 4.2 percent in 2009 and 2.6 percent in 2010.</p>																								
DisplaySearch	<b>DisplaySearch: Solar Cell Manufacturing Capacity is expected to Grow 56% in 2009 to 17 GW</b>	Aug 11, 2009	<a href="http://budurl.com/mercomdsmc">http://budurl.com/mercomdsmc</a>	Industry News																					
	<p>DisplaySearch, the worldwide leader in display market research and consulting and part of the NPD Group, is expanding its business to include solar market research. The release of the first edition of the Quarterly PV Cell Capacity Database &amp; Trends Report makes DisplaySearch's proprietary solar cell capacity database and unique analysis available to clients around the world. According to the Q3'09 Quarterly PV Cell Capacity Database &amp; Trends Report, solar cell manufacturing capacity is expected to grow 56% in 2009 to 17 GW. Ramped capacity, which was only 2.3 GW in 2005, is forecast to grow at a compound annual growth rate of 49% to more than 42 GW in 2013.</p> <p>"Despite PV module demand shrinking 17% in 2009, so much cell manufacturing equipment was ordered and installed over the past year that capacity is still expected to grow 56% this year," said Charles Annis, DisplaySearch Vice President of Manufacturing Research and author of the report. Here are just some of the many highlights from the Q3'09 Quarterly PV Cell Capacity Database &amp; Trends Report:</p> <ul style="list-style-type: none"> <li>* Through 2006, Japan had the largest solar cell production capacity in the world. However, Chinese companies started to ramp up a host of new facilities in 2005 and by 2007 had more solar cell capacity on line than any other country. China has continued to invest heavily in production facilities, about a third of the worldwide cell capacity in 2009 and is forecast to be the main region for cell production well into the future.</li> <li>* Of the 3.58 GW of thin film capacity available in 2009, more than 30% use 600 x 1200 mm glass substrates, the standard CdTe glass size used by First Solar. Gen 5-equivalent substrates, ranging from 1000 x 1200 to 1100 x 1400 mm, are the second most common glass size, used for 18% of available thin film capacity.</li> <li>* Between January 2008 and July 2009, approximately 11.4 GW of new solar cell capacity was installed in fabs around the world. These previous investment commitments are the reason that capacity is continuing to grow 56% in 2009 despite falling demand.</li> <li>* In 2005, 95% of solar cell manufacturing capacity was for crystalline silicon solar cells and 5% for thin film solar cells. In 2009, thin film will account for more than 20% of capacity. By 2013, thin film technologies are forecast to account for as much as 30% of solar cell capacity.</li> <li>* For a-Si factories, in 2009 the four largest turn-key equipment vendors are AMAT, Oerlikon ULVAC and EPV, representing 946 MW of ramped capacity or more than 50% of a-Si capacity on-line this year.</li> <li>* In terms of capacity available for production in 2009, First Solar is the largest solar cell manufacturer with more than 1 GW of capacity. Q-Cells and Suntech are not far behind and essentially tied for second place. These and other current leading PV cell manufacturers are forecast to invest at the highest rates over the next four years.</li> </ul>																								
Digitimes	<b>Half of all solar panels made this year won't be installed in 2009, says iSuppli</b>	Aug 11, 2009	<a href="http://budurl.com/mercomisu">http://budurl.com/mercomisu</a>	Industry News																					
	<p>The solar industry in 2009 has been undermined by collapse in demand due to the decision by Spain, which accounted for 50% of worldwide installations in 2008, to change its feed-in-tariff policies, according to Henning Wicht, senior director and principal analyst for photovoltaics at iSuppli. This demand drop led to a massive buildup of inventory throughout the supply chain, from the raw material polysilicon, to Photovoltaic (PV) cells, to complete solar systems. Despite this, solar panel makers have continued to increase capacity and production, exacerbating the inventory buildup."</p> <p>Total solar panel production in 2009 will grow by 14.3% to 7.5 Gigawatts (GW), up from 6.5GW in 2008. However, only 3.9 GW worth of installations will take place this year. That means that almost one out of every two panels produced in 2009 will not be installed but stored in inventory.</p> <p>This inventory glut will have a long-term impact on the solar business, with panels set to remain in a state of oversupply until 2012, Wicht said. After that year, fast-growing demand for solar installations will be able to absorb global panel production and inventory.</p> <p>Despite the global economic recession, most of the leading producers of solar panels - such as Suntech, Sharp and JA Solar - will continue to grow in concert with the overall PV industry, although they have no intention of slowing production of cells and panels. Even in the face of the downturn, many panel and cell producers have continued to ramp up their capacities as if a recession had never occurred, Wicht said. Most companies are doing this in order to maintain their share in the market.</p>																								
			 <table border="1"> <caption>iSuppli: Previous and revised global crystalline and thin film solar panel production, 2008-2013 (Gigawatts)</caption> <thead> <tr> <th>Year</th> <th>New forecast</th> <th>Old forecast</th> </tr> </thead> <tbody> <tr> <td>2008</td> <td>6.5</td> <td>7.7</td> </tr> <tr> <td>2009</td> <td>7.5</td> <td>11.1</td> </tr> <tr> <td>2010</td> <td>13.5</td> <td>14.2</td> </tr> <tr> <td>2011</td> <td>15.5</td> <td>17.9</td> </tr> <tr> <td>2012</td> <td>17.2</td> <td>20.2</td> </tr> <tr> <td>2013</td> <td>19.7</td> <td></td> </tr> </tbody> </table>	Year	New forecast	Old forecast	2008	6.5	7.7	2009	7.5	11.1	2010	13.5	14.2	2011	15.5	17.9	2012	17.2	20.2	2013	19.7		
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Global Solar Technology	<b>Acro Energy announces new residential solar financing plan</b>	Aug 11, 2009	<a href="http://budurl.com/mercomgsae">http://budurl.com/mercomgsae</a>	Company News
<p>Acro Energy Technologies Corp., a leading residential solar installation company, is introducing a financing program that makes solar energy systems more accessible to consumers. With this new program, Acro Energy is now offering California customers a flexible and convenient way to go solar. The financing program offers an unsecured, same-as-cash loan of up to \$45,000 for solar systems installed by Acro Energy in California for approved customers. With no principal payments or interest for up to 12 months, the financing provides homeowners sufficient time to realize the benefits of the existing 30-percent federal tax credit for the installation of residential solar energy systems.</p> <p>Acro Energy customers who qualify and participate in the same-as-cash solar financing program will have up to 12 months without payments or interest accruing. At the end of the period, the homeowner can either pay off the loan in full or convert it to a fixed interest instalment loan. Individuals should consult with their own professional tax advisors concerning the tax credit and their specific tax circumstances. The financing program is administered by Lyon Financial Services, a leader in home improvement loans and funded by EnerBank USA.</p>				
Dell	<b>Energy-Saving Initiatives to Save Dell an Estimated \$5.8 Million Per Year</b>	Aug 11, 2009	<a href="http://budurl.com/mercomde">http://budurl.com/mercomde</a>	Company News
<p><b>Anticipated Savings Result from Building Upgrades, Power Management and IT Solutions; Company Piloting Solar Projects to Integrate More Renewable Energy into Operations</b> Dell expects to save an estimated \$5.8 million a year as a result of power-saving initiatives and building upgrades in its facilities worldwide. The company, which sources more than 25 percent of its global energy needs from renewable sources, is also piloting solar projects on select campuses to incorporate even more renewable energy in its operations. These, along with Dell's other environmental initiatives, are indicative of Dell's long-standing commitment to sustainability.</p> <p>By the end of 2009, Dell expects to cut its global power use by around 48 million kilowatt hours per year, enough energy to power more than 4,000 average American homes for one year. It will accomplish this through a combination of building upgrades, power management strategies and IT solutions.</p> <p><b>*Solar Pilot Projects:</b> Dell is launching solar pilot projects around the world to determine new, innovative ways it can incorporate more renewable energy into its operations.</p> <p><b>*Parking Lot Solar Arrays:</b> Dell is building a parking cover topped with solar arrays at its Round Rock, Texas headquarters. The structure, designed by Envision Solar and McBride Electric, Inc. using solar arrays from BP Solar, is designed to produce 131,051 watts of solar power and reduce 221,000 lbs of GHG emissions each year, roughly equivalent to planting 23 acres of pine forest every year.</p> <p><b>*Solar water heaters:</b> Dell recently completed a solar water heating pilot project at its manufacturing site in Hortolandia, Brazil. Solar panels on the roof connect to glycol pipes, which wrap around water tanks to heat water for the building's kitchen and cafeteria areas. This solution is expected to save 76,000 KWh.</p>				
Renewable Energy World	<b>SMUD Announces "Feed-in Tariffs"-- But Can Program Deliver as Promised?</b>	Aug 11, 2009	<a href="http://budurl.com/mercomfits">http://budurl.com/mercomfits</a>	Industry News
<p>The Sacramento Municipal Utility District (SMUD), the nation's sixth largest publicly owned utility, announced with much fanfare that its board of directors had approved the introduction of feed-in tariffs for renewable energy in 2010. The announcement created a buzz within the renewable energy industry as evidence that another utility voluntarily moved toward feed-in tariffs to boost renewable energy development. Utilities in Indiana and Michigan have proposed their own feed-in tariffs and the municipal utility in Gainesville, Florida began offering a feed-in tariff this past spring.</p> <p>SMUD makes no differentiation between technologies, size, application, or resource intensity, unlike successful programs in Europe and the proposed feed-in tariff program in Ontario, Canada. Payment under SMUD's program will require a sophisticated analysis of hour-by-hour generation and the probability of occurrence. For example, the tariffs for a 20-year contract beginning in 2009 vary from \$0.082 USD/kWh during the shoulder season to \$0.29 USD/kWh during superpeak.</p> <p>SMUD, one of California's more respected utilities, tried to hedge its tariffs by offering a bonus for the generation's green value. The proposed tariffs include the wholesale cost of power avoided plus estimated greenhouse gas mitigation costs and the cost due to natural gas price volatility. For a 20-year contract, the greenhouse adder is \$0.0111 USD/kWh and the gas-price hedge is \$0.0115 USD/kWh for a total premium in 2009 of \$0.0227 USD/kWh. Draft SMUD Feed-in Tariff Policy (<a href="http://budurl.com/mercomfits">http://budurl.com/mercomfits</a>): Note that the posted tariffs will be adjusted in November of 2009 to reflect SMUD's revision of its wholesale costs of generation.</p>				
Reuters	<b>TSMC approves \$50 mln for solar investments</b>	Aug 11, 2009	<a href="http://budurl.com/mercomtsmc">http://budurl.com/mercomtsmc</a>	Finance News
<p>Top contract chip maker TSMC said on Tuesday it would allocate \$50 million for possible investments in solar energy-related areas, as part of its efforts to diversify into the solar market. TSMC announced the news after its board meeting, where the company also approved capital appropriation of \$1.1 billion to boost chip capacity using advanced 45-nanometre process technology and install 32-nanometre process capacity. The company had said about two months ago it planned to venture into LEDs (light-emitting diodes) and solar energy as it sought diversification and long-term growth drivers beyond chip foundries.</p>				
Solar Industry Mag	<b>Imeasure Systems Releases iPhone-Based Shade-Analysis Tool</b>	Aug 11, 2009	<a href="http://budurl.com/mercomii">http://budurl.com/mercomii</a>	Product Highlight
<p>Vancouver, British Columbia-based Imeasure Systems, a developer of software tools, has introduced Sun Tracker, a new product designed for conducting site shade analysis. Sun Tracker uses the compass and inclinometer functions of the Apple iPhone to trace the local skyline. Together with built-in sun positioning algorithms, Sun Tracker can perform on-site shade analysis in seconds, the company says.</p> <p>Running on a standard platform also allows the product to be introduced at an unprecedented price point, Imeasure Systems adds. Sun Tracker is available for immediate download from Apple's App Store.</p>				
			 <p>Source: Imeasure Systems</p>	

Source	Title	Date	Link	Category
The Malaysian Insider	<b>Japan's Tokuyama to invest ¥65 billion (approx US\$ 0.67 billion) in Malaysia plant</b>	Aug 11, 2009	<a href="http://budurl.com/mercomjt">http://budurl.com/mercomjt</a>	Company News
	<p>Japanese silicon maker Tokuyama Corp will invest ¥65 billion (approx US\$ 0.67 billion) in a planned plant in Malaysia to boost its polysilicon production capacity by 75 per cent and meet demand from solar cell makers. Tokuyama, which trails US firm Hemlock Semiconductor Corp in polycrystalline silicon, will launch the new plant in spring 2013 with annual production capacity of 6,000 tonnes — double the original plan announced last year.</p> <p>Tokuyama has taken a wait-and-see approach in capacity and has fallen far behind in a capacity race with Hemlock, nearly two-thirds owned by Dow Corning Corp, while rivals Wacker and new Chinese entrants close in. Tokuyama, which supplies the key polysilicon ingredient to wafer makers including Sumco Corp, Renewable Energy Corp and MEMC Electronic Materials, had previously said it would invest 50 billion yen in the plant, to be built in Sarawak, east Malaysia. Tokuyama now has polysilicon production capacity of 8,200 tonnes per year.</p>			
PA Office of Governor	<b>Pennsylvania Governor Announces Grants For Renewable Energy Investment</b>	Aug 10, 2009	<a href="http://budurl.com/mercompaog">http://budurl.com/mercompaog</a>	Funding News
	<p><b>Governor Rendell: Investing in Clean Energy Projects creates Jobs, Strengthens the Economy, Cleans the Environment.</b> Governor Edward G. Rendell today announced \$20.7 million of investments in 25 projects to generate and conserve enough energy to power more than 26,000 homes, reducing carbon emissions equivalent to removing more than 17,000 cars from our roadways. The projects will produce or save 2.2 billion kilowatt hours of electricity over their lifetimes, or 110 million kilowatt hours per year. These projects will create 430 permanent green jobs, 1,068 construction jobs and help to retain 4,110 manufacturing jobs by stabilizing energy costs with on-site renewable energy systems.</p> <p>Pennsylvania Energy Development Authority (PEDA) awarded \$20.7 million in grants, including \$10 million from the federal American Recovery and Reinvestment Act. The public funding leverages another \$120 million in private matching funds for a total investment of \$140.7 million. "Past investments have positioned Pennsylvania as a leader in the clean energy industry. The awarding of these grants will help continue that trend," Governor Rendell said. In addition, the projects include 9.3 megawatts of solar projects, geothermal, wind, carbon capture for coal, biodigesters for farms, combined heat and power and efficient lighting systems.</p>			
Global Solar Technology	<b>Organic solar cells - Clevios™ materials for a new technology</b>	Aug 10, 2009	<a href="http://budurl.com/mercomgscm">http://budurl.com/mercomgscm</a>	Company News
	<p>The goal of new developing organic photovoltaic (OPV) producers is to offer flexible and economic film based photovoltaics for novel applications. Can OPVs be wearable? Can a solar cell be unrolled and used to power up your mobile phone? HC Starck Clevios GmbH offers two types of materials for use in OPV's. Both are based on versions of the patented Clevios™ P (PEDOT:PSS), but have different functions.</p> <p>The first is a so called "hole acceptor" layer that also has a planarizing or smoothing effect in the device. The materials for this function are Clevios™ P A14083 or HIL types . These unique HC Starck products make OPVs operate far more efficiently. The second is the use of PEDOT:PSS as an economic substitute for the indium tin oxide (ITO) electrode. Highly conductive Clevios PH500 or the even more conductive "new" PH1000 can be used. Clevios™ materials are more resistant to cracking on bending and can be more reliable than ITO.</p> <p>Clevios™ materials provide a flexible non-metallic solution to OPV producers who wish to have not only low cost raw materials but also use economic printing methods - even ink jet technology. This leads to the possibility of flexible low cost organic solar cells being available, e.g. for powering up your computer, in the near future.</p>			
	Source: Global Solar Technology			
Solid State	<b>Unlocking laser tools' potential in c-Si cell fabs</b>	Aug 10, 2009	<a href="http://budurl.com/mercomcsi">http://budurl.com/mercomcsi</a>	Industry News
	<p>For laser tools to become standardized equipment within high-efficiency c-Si cells, various technical and supply-chain issues need to be resolved. For over 25 years, solar institutes have vigorously championed lasers as an enabling technology to realize next-generation advanced crystalline silicon (c-Si) cells. With lasers offering non-contact micro-material processing and selective material removal/modification, the basis for this continued enthusiasm is obvious.</p> <p>And since laser-based equipment has a proven track record within semiconductor fabs, solar tool qualification (with a proactive supply-chain) appears from the outside a done-deal. All this changed during the past 12 months. Not however due to any earth-shattering technical breakthrough, but thanks to macro-economic conditions which form the basis of the supply-demand dynamics impacting today on cell manufacturing.</p>			
Ernst & Young	<b>Renewable energy country attractiveness indices</b>	Aug 2009	<a href="http://budurl.com/mercomeyi">http://budurl.com/mercomeyi</a>	Industry News
	<p>This issue sees China climb three points in the all renewables index to tie with Germany, following announcements of increased support for solar PV. This represents a marked move by the Chinese authorities to support national PV generation. Chinese 2020 targets for solar power have risen to 9GW, which is 75 times the current solar capacity of about 120MW. The impact of substantial demand in China (and possibly the US) in the near term may start to stabilize the recent global decline in solar module prices.</p> <p>The solar industry in particular responded with a dash for production capacity and the aggressive development of newer technologies, such as thin film, as it sought to reduce costs and accelerate the move toward "grid parity" (buoyed by ever-rising oil prices). Concentrated solar and geothermal sectors received a marked uptake in investment rates.</p> <p>As a consequence, the pendulum has swung to overcapacity, possibly chronic in the case of some segments of the solar industry, with prices falling sharply and factories closing or experiencing delayed openings. In many cases, solar panel prices have halved this year (from about US\$4 to just US\$2 per watt), partly reflecting large reductions in silicon prices as well as oversupply.</p>			<p>Average price of silicon</p>  <p>Source: Ernst &amp; Young</p> <p><b>A 40% fall in four months last year has been followed by fairly level prices.</b></p>

Source	Title	Date	Link	Category
Raymond James	Energy: Stat of the Week	Aug 10, 2009	<a href="#">Analyst Report</a>	Industry News

**Bending the (solar) cost curve: the gain, and the pain, of the PV industry's breakneck march toward grid parity:** A rapid pace of cost reduction is taking place before our very eyes in the global photovoltaic (PV) industry, with manufacturing costs – and thus selling prices – exhibiting staggering declines over the past 12 months. A conventional module can now be bought for close to \$2.00/watt – a 50% haircut from 2008 highs. For some perspective on that pace of descent, we looked up our solar economics Stat from July 2007. It included a cost curve that assumed 6% (!) annualized declines in module prices, concluding that grid parity in the U.S. market was realistic (drum roll please) “within as little as a decade.” Oops. We were only off by five years or so. To be fair, we noted in the 2007 Stat that 6% is probably too conservative.

Now that credit constraints are finally easing, the dramatic module price reductions are starting to fuel a clear demand response in the PV market, as nearly all companies have indicated during their 2Q09 results. As average selling price (ASP) reductions continue to run their course – and there is plenty more to come – the prospect of grid parity emerging in selected cases in 2010 and becoming widespread by 2012 becomes increasingly feasible. Of course, not all PV companies will be able to survive the current price war, but those that survive will be able to take part in a global solar growth curve that, for the first time ever, will be able to stand on its intrinsic economics and not government incentives.

**We are now in a world of \$2/watt modules, and grid parity is visible in the distance.** As indicated by our channel checks during last month's Intersolar conference, along with 2Q09 results from a variety of companies, the leading-edge average selling price of conventional PV modules is now on the cusp of \$2.00/watt (Chinese “tier 1” pricing). Contrast this with the peak pricing of 3Q08, when ASPs were north of \$4.00/w at the height of Spain's solar land rush. This is a roughly 50% decline in ASPs.

As recently as 1Q09, in fact, ASPs were in the neighborhood of \$2.75/w. We have no doubt that 1Q09 marked the cyclical bottom for global PV shipments, with 2Q09 meaningfully higher and 3Q09 shaping up even stronger. But rising shipments and thus improving capacity utilization do not mean that ASP declines are at an end. Make no mistake about it: Both the near-term and long-term outlook for ASPs is for consistent declines, albeit not at the pace of the past year. As we have often pointed out, ASPs must come down – way down – for the industry to achieve its long-awaited target of grid parity.

Hence we assume continued ASP declines over the next three years, as shown in the table, heading toward the \$1/w level in 2012. As shown in the table, the all-in cost of a commercial-scale (megawatt-class) PV installation using poly-based modules is now down roughly a third over the past year, to about \$4.75/w. The vast majority of this reduction came from lower module ASPs, with the balance of system costs down only slightly.

	3Q08	1Q09	2Q09	3Q09	4Q09	FY 2010	FY 2011	FY 2012
<b>PV module</b>	\$ 4.00	\$ 2.75	\$ 2.40	\$ 2.10	\$ 1.95	\$ 1.65	\$ 1.40	\$ 1.20
<b>Balance of system</b>	\$ 3.00	\$ 2.75	\$ 2.70	\$ 2.65	\$ 2.60	\$ 2.50	\$ 2.30	\$ 2.10
<b>Total cost</b>	\$ 7.00	\$ 5.50	\$ 5.10	\$ 4.75	\$ 4.55	\$ 4.15	\$ 3.70	\$ 3.30
<b>Decline vs. 3Q08</b>		-21%	-27%	-32%	-35%	-41%	-47%	-53%

Source: RJ est.

So how close is \$4.75/w to grid parity? The answer will vary from market to market – mainly due to differences in retail power prices, and secondarily differences in sunlight patterns. For simplicity, we would say that \$4/w represents the high end of true grid parity (by which we mean costequivalence without subsidies) in markets with ultra-expensive electricity (\$0.20/kWh and up), for example Japan, Italy, and Hawaii. And \$3/w would be enough for somewhat cheaper but still above-average markets, such as Germany and California. Toward \$2/w, the door opens to grid parity even in places like France, Australia, and the U.S. Southeast, with cheap electricity.

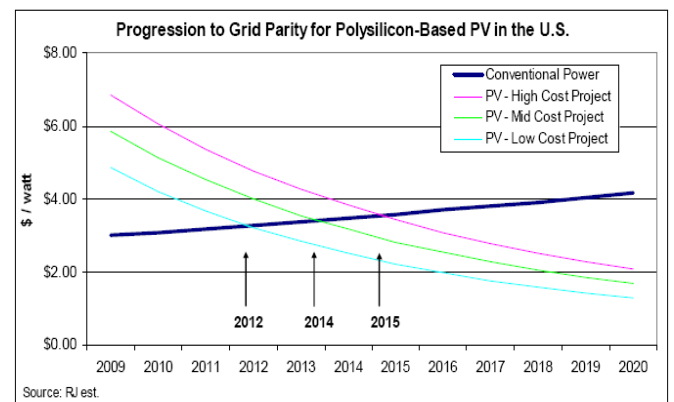
Thus, the cost reductions that have taken place over the past 12 months have traversed anywhere from 50% to two-thirds of the “road” to grid parity. As highlighted in the table, the industry should be **entering the realm of grid parity (sub-\$4/w all-in) in 2011-2012**, and even in 2010 it may be realistic in some cases, depending on the economics of individual projects (e.g., those with cheaper balance of system costs).

To zero in on when PV can make meaningful inroads into the U.S. electricity market (which we believe is \$3/w all-in), without the Investment Tax Credit or other subsidies, we put together the chart below. In visual terms, grid parity occurs when the lines intersect. The chart looks, shall we say, rather different than the cost curve we envisioned in 2007, or even this past spring. Specifically, the chart is based on the following assumptions:

- The high cost, mid cost and low cost cases mean current all-in installed system costs of roughly \$7/w, \$6/w and \$5/w, reflecting oftentimes wide differences in project types and sizes. In each case, the current module is assumed to be \$2.10/w (wholesale price).

- The module ASP is assumed to decrease 20% per year. While much slower than the 50% meltdown over the past 12 months, it is still sizable, reflecting the technological and other changes detailed below. There is no doubt that some module producers, and other companies along the value chain, will find it difficult to compete against the backdrop of these price declines.

- Balance of system costs is assumed to decrease 8% per year.
- The cost of conventional power is assumed to increase 3% per year, which reflects our standard long-term price inflator of 2% for oil and gas prices, along with a 1% add-on for costs associated with new generation and transmission infrastructure. However, in this analysis we are **not** assuming any cost increases from carbon cap-and-trade.



Source: RJ est.

**What will make solar costs come down further?** While the nature of PV manufacturing makes it easier to rapidly squeeze out costs as compared to system assembly/installation, there is ample room across the value chain for further cost reductions, as we detail below. And there is also no disputing the reality that margin structures are not going back to their lofty levels of 2008. After all, a 20% gross margin on a \$4.00/w ASP equates to a profit of \$0.80/w, whereas the same percentage margin at today's ASP of around \$2.00/w would yield a profit of only half as much, or \$0.40/w. In a commodity business – which module manufacturing will eventually become, if it hasn't already – volume will need to compensate for lower per-unit profitability.

**Increasing conversion efficiency:** Conversion efficiency of modules (the percentage of sunlight converted into electricity) is steadily rising, as R&D programs of manufacturers bear fruit. The industry average is currently about 15%, with some variability depending on wafer characteristics (mono or multi). Today's highest-efficiency mass-produced modules – made by SunPower – are around 20%. Near the low end of the spectrum are thin film modules, for example Energy Conversion Devices' amorphous silicon laminates around 8.5%.

Source	Title	Date	Link	Category
Raymond James	Energy: Stat of the Week	Aug 10, 2009	<a href="#">Analyst Report</a>	Continued
<p>For some historical perspective, consider the fact that one of the first commercially produced solar cells, in 1955, had 2% efficiency and cost a whopping \$1,500/w (about 1,000x today's cost). We believe that average efficiency can gradually rise by roughly 0.50% per year for the foreseeable future, with plenty of running room until theoretical limits north of 30% are reached. In other words, this is a sustainable technological trend.</p> <p><b>Decreasing polysilicon prices:</b> This has been the single biggest driver behind the 50% meltdown in module ASPs over the past 12 months. The spot price of raw poly plunged from ludicrously high levels of \$400/kg in the spring of 2008 to about \$65/kg currently. While contract prices were never close to \$400/kg, they have also dropped sharply, as many customers demanded the renegotiation of long-term supply agreements. If poly falls further to \$50/kg in 2010, and industrywide poly utilization for modules stays flat at about 7 grams per watt, this translates to only \$0.35 of poly per watt.</p> <p>Adding \$1.00/w for processing costs gets us to a total manufacturing cost structure of \$1.35/w. A 20% gross margin – on par in percentage terms with last year's levels – implies an ASP of \$1.65/w, which in fact is our 2010 ASP forecast. Even cheaper poly is not out of the realm of possibility given that a \$50/kg price still implies a hefty 40% gross margin assuming \$30/kg production costs.</p> <p><b>Decreasing processing costs:</b> Since poly prices will eventually be more or less equalized across the industry, where individual PV manufacturers can differentiate themselves is on squeezing out their controllable manufacturing costs. Vertical integration usually helps in this regard. Also important is reducing poly consumption per watt, i.e., thinner wafers. Going from 7 g/w to 6 g/w at \$50 poly saves about \$0.05/w – which is meaningful at sub-\$2/w module ASPs. Reducing breakage rates, increasing line throughput, and developing larger and better-designed plants are other key drivers at work. As we said before, not all companies will be able to pull this off – but if they want to succeed, they'll have to.</p> <p><b>Decreasing balance of system costs:</b> When you buy a sofa and pay someone from the store to assemble it, or perhaps a computer when you want professional installation, it is highly unlikely that the cost of the service will exceed the cost of the actual product. What is striking about today's solar economics is that the opposite is true. The PV module now typically represents less than half of the all-in system cost. The balance of system costs – which includes some ancillary equipment (e.g., an inverter) but mainly represents labor – will therefore need to be reduced significantly in order for grid parity to be achieved. Partly, it is a matter of developing economies of scale. California alone has 300+ solar installers.</p> <p><b>Finally, a word about thin film:</b> Clearly, there is less room for thin film ASPs (and costs) to fall from current levels, simply because they are so much lower than conventional modules to begin with. First Solar's all-in manufacturing cost in 2Q09 was \$0.87/w – the lowest in the industry. By contrast, today's lowest cost structure for poly modules is probably in the neighborhood of \$1.50/w – with many producers north of \$2.00/w. Still, thin film ASPs will also trend down over time.</p> <p>With PV demand clearly on a cyclical upswing, the demand response resulting from much-improved solar economics (above and beyond subsidies) is increasingly visible. The key fact we would underscore is that the past 12 months have gotten the industry at least halfway towards grid parity – from \$7.00/watt to under \$5.00/watt for a commercial-scale polysilicon-based PV system on a fully installed basis, with the "magic number" of \$3.00/watt achievable in many markets in the next three years. As poly prices come down further, along with other cost savings across the supply chain, the progression toward \$3.00/watt should be less disruptive than the one just experienced, but the ferocious dynamics of price-based competition are here to stay.</p>				