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Helping the Lamborghini of the solar industry become a little more like BMW

Sunpower, headquartered in Silicon Valley, has been among the top 10 solar firms worldwide for several years. Julie Blunden, Vice President of Public Policy and Corporate Communications at Sunpower, talks to Rolf Wüstenhagen about the company's strategy to navigate through a turbulent growth market as well as about some of the current trends in global solar markets. Read on to learn why the company needs to transform from being the Lamborghini of the solar industry to being more like BMW; why there is no place on earth like Germany; why solar growth will create many jobs in Asia, but even more jobs in the West; why some oil firms invest more proactively than others; and why it is a great thing to work for a solar company.



Julie Blunden

- Julie Blunden serves as SunPower's executive vice president for public policy and corporate communications. She is responsible for public policy and market development, market and competitive intelligence, corporate communications, and investor relations.
- Blunden serves as the Vice Chair of the board of directors at the Solar Energy Industries Association and on the board of advisors for Vote Solar.
- Prior to SunPower, Blunden led KEMA-XENERGY consulting practice on renewable resources, energy markets and policy to industry, utilities and state and federal governments.
- 2004: support of the Schwarzenegger administration in developing the Million Solar Homes Initiative.
- 1997: Co-foundation of the Green Mountain Energy Company, a national retail electric supplier of renewable power.
- Earlier in her career, Blunden worked for the AES Corporation where she was responsible for power plant development and acquisitions in the independent power generation business.
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The current situation in solar markets seems paradoxical: While the world is facing a serious carbon and energy challenge, an industry that could supply a significant part of the solution suffers from short-term overcapacities and a demand shortage – is marketing something that still needs to be discovered in the solar industry?

I would distinguish between the solar industry and the energy industry. Most people generally take their electricity for granted, so the idea of power choice, that you can choose where your electricity comes from, is relatively new in many parts of the world. But even if power choice has only been around for 15 years, it has had an influence on people's awareness for different energy sources, and in particular renewable energy. You can think of solar energy as the ultimate form of power choice, when you decide to put your own solar power plant on the roof of your house, your firm, or your school. This idea of choosing solar has become very popular for people in countries like Germany, Italy and Spain.

So you see consumer choice as a key driver for the emergence of solar markets?

The idea of choosing solar as a way to get your electricity has been established in some countries, but the idea of choosing between different subcategories, of differentiating between solar firms is still very immature. At Sunpower, we actually have a differentiated technology, so we are in a good position to differentiate from a marketing perspective. We have a dealer network that sells directly to customers, that has given us an opportunity to establish a brand. But we are still a small proportion of total global sales in the solar industry. So today we have been the equivalent of Lamborghini, a premium brand serving a small proportion of the market. Our challenge over time as we gain share is to continue to establish a premium position while expanding our market base, and to become something closer to a BMW. That is something that we have worked on, but you can imagine that in an environment as we have today where you have compressing margins and extreme competition on price, it is not a great time to run a massive TV campaign, the money is just not there. Instead the question is, how do you use your distribution channel, how do you use online techniques, to establish a brand that has a premium

position and is tied to a value proposition that customers want. In our case, that value proposition is to get more power from your roof, or depending on who the customer is, more money from your roof, or less carbon from your roof. And it is our job to make sure that customers understand the difference. Our dealers play an important role in communicating our value proposition especially to small-scale customers in the residential or small commercial markets. By the end of the year we will have 2'000 dealers in our global network, and the majority of those will be in Europe. These dealers are relatively savvy on solar, they understand the differences between technologies, and they help us to carry our message to our customers, as they explain why it is that you would rather get more power off your roof.

You mentioned the pressure on prices, which is a strong trend in the solar industry. How do you deal with the challenge of people expecting better prices next year, and therefore becoming hesitant to buy now?

We have seen that and it is fascinating when you look at the price curve over time, there have been a couple of periods in the last few years where there have been very rapid price drops within just one or two quarters. The first was during the financial crisis in 2009, and the second was the summer of 2011. The consequence is that as people watch prices drop quickly, dealers included, they tend to say: «Hm, perhaps I should wait another week or two, prices will come down again.» The way that we have dealt with this is that we have been very consistent with our dealers, where we alert them in advance when we expect a price reduction, and we have been very consistent that we reduced prices at the times we said we would. So waiting around for another few weeks is not going to provide you with the opportunity for another price reduction. We do work on promotions with our dealers, and look for opportunities to take advantage of certain events that we can work on together, but because of our fundamental technology advantage we have got the benefit of being able to work with our dealers in a way that many of the quantity players just cannot. Some of those firms drop prices by the day in some periods to accommodate the fact that they are just trying to move product based on price alone.

So transparency helps to convince your dealers to buy even in a context of price slides, but what about retail customers? Do they also understand those price dynamics or are they hesitant?

There have been periods where residential customers have heard a lot about price drops coming in the solar industry. We do not think that in general this is stalling the market. Customers do not only look at the price for solar, they also look at the declining levels of feed-in tariffs or other policy incentives, and there is recognition of the fact that if you wait, you will end up with lower incentive levels, as well as a lower price, so you might as well buy today and start earning money immediately. So we think the challenge with falling prices is less around residential customers as it is around securing dealer procurement.

And what about commercial customers?

In Europe, and also in the US, we see a growing class of commercial customers who are quite savvy about solar, too, and understand that there is a real opportunity over time to hedge their electricity expenses. With increasing gas prices and the upcoming retirement of older power plants, the upward pressure on retail electricity prices is likely to continue. For customers to be able to take responsibility for their own electricity generation, to offset their own load, we find that this is a very attractive value proposition. To have confidence about what the cost of electricity is going to be over time, knowing that this is a stable and identifiable rate, is really important for those larger commercial customers.

You mentioned policy incentives, and especially feed-in tariffs. Will these incentives continue to play an important role for the solar industry? Or will policy become less important as solar further progress on the technology learning curve and reach grid parity, i.e. the point where solar energy costs the same as conventional electricity?

Well, I would say a little bit of both. When feed-in tariffs were first designed, policymakers did not know exactly what the market implications would be. Their full consequences were sort of learned by doing throughout Europe. Different countries experimented with other market mechanisms, with France for example implementing an auctioning mechanism. Other countries including South Africa and China all came up with variations of those policies, and regardless of whether you call

those frameworks feed-in tariffs or something else, I think they are going to be around for some time. What is going to happen with feed-in tariffs is that as they get closer to the retail electric rates, customers will ask the question – wait a minute, isn't it better for me to use solar power myself than to sell it to the grid? So I think there is an inevitable discussion coming up, perhaps in the 2014–2015 timeframe, around what are we going to do as feed-in tariffs hit that retail market parity. And by the way, grid parity is not a magical event that is happening, it is sometimes being discussed as a point of Nirwana, but that will not be the case. One scenario is that as we approach grid parity, customers will use their own batteries to use solar power on site.

So we might see more people disconnect from the grid and use their solar power locally?

Yes, that is a possibility, although by the way this would not be the most efficient outcome. The most efficient outcome would be for everyone to use the grid. But if you do not have a market mechanism that allows customers to lend or retrieve power from the grid, then people might not choose that most efficient solution.

Which of the European solar markets are currently most promising from your perspective?

Italy has established a good track record especially for small customers. In Italy, we have a lot of dealers, so I think there is an opportunity in Italy to build off that knowledge base. On the one hand, Italy can sometimes be a complicated country, but on the other hand, it is a pretty innovative place, it has got high electricity rates, it is not going to build nuclear power plants, and it does not have a lot of wind. So solar is almost an inevitable winner in Italy. It is just a question of how it meanders to that point. The success of feed-in tariffs in recent years, which of course created some substantial challenges in terms of pricing, means that there is going to be twelve Gigawatts of solar installed by the end of 2011, and that is a remarkable achievement. – Germany is interesting because... there just is no place on earth like Germany. There is no other market that has been as willing to commit to solar at the scale as Germany was. The leadership of German politicians on this subject is unequalled on earth, and they will have changed the opportunity for the world on solar in terms of the pace of penetration. The question now becomes what do you do, with

the capacity towards the end of 2011 reaching 20 Gigawatts, that is almost as much as wind energy, and solar will surpass wind in Germany next year. We do not see a fundamental change in the German mindset. They are pretty solution-oriented folks, so we are confident that they will move from the current market structure to an evolved version of it, as they have been doing over the past three years. One of the challenges in Germany is that as we are getting to the transition point where we take nuclear off the system, there is a fundamental question of what do we do? Are we going to really be able to solve our replacement needs through distributed renewables or are we still going to build new coal- or gas-fired power plants at a substantial volume? One of the things solar has going for it is that we are such a fast-market technology that by the time the question about possible new central power plants will have been resolved, a good chunk of the requirement will have been replaced by renewables on a distributed basis. So that question will have been resolved for them, but in an ideal world, you would think through the combination, including optimization of transmission networks and other aspects. Unfortunately in Germany, they do not get to make transmission decisions by themselves, so if they wanted to import solar from Turkey or Greece, they would have to go and discuss that with a lot of other folks, too, to build the transmission line, and that's hard to do. So I think Germany is going to end up by default solving its replacement needs by distributed renewables, merely because it is almost impossible to really organize a comprehensive approach to a blend of centralized and distributed resources in a short amount of time.

One of German policymakers' hopes in designing generous incentive schemes for solar energy was to create jobs in Germany. But now we are seeing some of those jobs being relocated to Asia. What will the solar industry look like five years from now – are we still going to have solar jobs in Europe, or are we all going to be shopping in China?

It depends on which piece of the value chain you look at. Unfortunately, and here is a real public policy marketing challenge, so much of the public policy world these days wants manufacturing jobs. The reality is that a good chunk of manufacturing jobs will be located in Asia, because that is where we manufacture most things these days. However, just like we assemble cars close to demand, we can also be assembling solar panels close to demand. Sunpower put a new solar panel

assembly facility online in Silicon Valley at the end of 2010, we have manufacturing capacities in Europe as well, but that is still not where the majority of the jobs are. The majority of the jobs are on the installation and construction side. It is at least three to one, three times more jobs downstream than upstream. And that is only going to be more true as we get to larger scale, more automated factories, wherever they are located. If you look at the jobs in our company, for example in the San Francisco Bay Area, most of our jobs, 9:1, are office jobs rather than manufacturing jobs, and then that is dwarfed by our construction jobs. What Germany has very successfully done is establish competency for example on equipment that is exported all over the world. We use a whole bunch of German equipment in our factories, whether they are in Asia, the United States or Europe. They have also created manufacturing jobs for solar panels, some of those are going away now and more of them will go away later – that's a function of the overall cost of manufacturing in Europe versus other locations on Earth. But that does not mean that all of the jobs go away, and in fact as overall penetration of solar energy increases you are going to see dramatic increases in jobs for installation. So will there be jobs in Asia because of what is happening in Germany? Yes. Will there be jobs in Germany because of manufacturing in Asia? Yes. And will there be jobs in Germany because Germany decided to put in solar? Yes, there will be a whole lot of construction jobs today and tomorrow.

A majority of Sunpower has recently been acquired by Total, a major oil company. At the same time, other oil companies seem to continue their solar commitments with limited scope, or are standing on the sidelines. What was it that the management of Total saw that other oil industry managers do not see?

Total has a very clear view of the future of oil and natural gas. They speak very confidently about a plateau in oil production, and they recognize that in order to continue to grow their company in a time of flattening oil supply, they need to look at other opportunities. That is an industry-wide effect. But they have taken a position that is a little different from the one that some of the other oil companies have about the future of energy, and their CEO, Christophe de Margerie, clearly explains his view of the world. They concluded that they were going to invest in both biofuels and solar, and took several years to really do their research and participate in the industry. They

were always focused on vertical integration and in fact have investments in a series of solar companies that they have essentially used as learning vehicles for what was happening in the solar industry and what the drivers of success were going to be. They spent a couple of years looking for the right company to make a major investment, and at the same time we were looking for the opportunity for strategic partnerships as well. At the end, we concluded that we had a very similar view of the world, in terms of the power of technology differentiation, vertical integration, and geographic portfolio management. So it was a very logical link between us.

Would you say other oil companies are just closing their eyes in front of the future of oil and gas?

Historically, the oil companies who did invest in solar, and that goes back for decades, were interested in what solar could do, but they certainly were not manufacturers. That is not what their companies do, they are oil exploration and production folks, they are retail delivery folks, they are refiners, but they are not manufacturers. Solar is absolutely a mass production, manufacturing industry now, and it is becoming even more so in the future. So some of the oil companies have made very rational decisions in that is just not their competency to be large-scale manufacturers, and they have taken appropriate action. If you conclude that you are going to be an energy company in the future, different energy companies will decide to take different portfolio strategies. I think in the long run you will see other major energy companies conclude that solar should be part of their portfolio, similar to the way that some of the utilities have looked at the changes in the electric power industry. Several utilities concluded that they would take a portfolio approach to renewable energy projects globally, which looks very different to their original business that may be more specific to the political and market dynamics of their home territory.

So you think we might be positively surprised by some of the oil companies?

It is hard to tell, and I am loath to point to any particular kind of energy company, whether it is the oil companies or the gas companies or the utility companies. But certainly solar is going to become the number one or number two new power resource in the next decade in most of the developed world and possibly in some of the developing world, so you will not

going to be able to ignore it. I would point out that when you think through what an energy company is you could argue that GE and Siemens are energy companies. They are energy equipment companies, and certainly we have seen a lot of those sorts of companies be deliberate, but very serious about solar.

Siemens recently announced that they would exit from the nuclear industry. Was that an important event for the solar industry from your perspective?

I think that is a clear signal to the rest of the power industry who are evaluating what the viability is of nuclear going forward. To have someone of Siemens' stature, and their depth of participation in nuclear in the past, pull out is a really important statement about the risk and the return opportunities that they see for new investments in nuclear.

The solar industry is still largely in the hands of engineers. What is attractive about working in this industry for Stanford MBAs like yourself, and for marketing managers?

The nicest thing about it is that everybody loves solar... (laughing) It is great to work on something where you are fundamentally offering an opportunity that people want to say yes to. I was taking my kids to the doctor the other day, and going to the doctor is not something that most people are really fond of, all you think about is the shots. You can have a really nice doctor and still you think about the shots. – When you talk about solar, people just have a very, very positive reaction and it is a pleasure to work with customers, or policymakers, or stakeholders, who want to be able to say yes. And even if you work with very committed environmentalists who are concerned about the environmental impact of a new power plant, they are not usually concerned about solar in general, they may simply be concerned about an endangered species on a particular piece of land. This is a very different situation from the rest of the power industry. And the other thing is that the solar industry is populated – not entirely, there are also people who are just here to make money – with a lot of people who recognize that there is a need to fundamentally shift the way the world gets our power. And that is a group of highly motivated, dedicated, energized people, and it is a pleasure to be part of that community. So when you think about getting up in the morning, heading off to do your early-morning computer work, you are basically getting to work on something that you

know people want and that people are motivated to help you achieve. It is a very positive situation – which is worth remembering as we work our way through the next couple of years and we rationalize the industry down from some of its early, wildly fragmented beginnings to something which is more stable: larger company sizes, and ready to really move from the scale where we are today to the scale where we will be by the end of this decade, which will be several times as large as we are today.

Another feature of the solar industry, perhaps correlating with its engineering-driven nature, is that there are not a lot of women working there yet. Would solar firms, or energy firms in general, become more successful if they had a better gender balance?

I think most businesses benefit from a diverse work force and from paying close attention to a diverse customer base. Certainly in the solar industry there is a huge influx of youth and enthusiasm, and you find both men and women in those. To the extent that we are operating in the power industry, that industry has been dominated by the engineers, and to some extent the financiers and lawyers, in the past. It has been progressing towards a more balanced work force in the past, but at the management level, it is still heavily male. It is not unusual for me in senior executive meetings to be the only woman in the room and I am used to it after doing it for years. I benefit from having an engineering background and being able to converse with them usually, but I also think that in the future if you watch the power industry become more customer-oriented, and the solar industry be a part of that, that the connections to the customer base, where a lot of purchasing decisions are made by women, will be well supported by a diverse management team.

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