

# In it for the long run: weathering the challenges of a rapidly growing industry

In an exclusive dispatch for PES, Upsolar's Enrico Carniato shares why 'staying lean,' 'being green,' and 'venturing downstream' represent the cornerstones of sustainable growth in the PV industry.

In the not-so-distant past, solar PV was a nascent market with few technology providers and customers who primarily turned to renewables for the environmental good. Today, PV represents a global industry predicted to top \$134 billion in revenue by 2020. In 2012 alone, the global installed PV capacity rose by 41 percent.

All evidence points to solar as one of the most versatile and promising sources of clean power. Yet amid rapid growth and high public approval ratings, solar technology providers are experiencing a painful consolidation process, with analysts predicting that the number of solar supply chain companies will shrink 70 percent in 2013, from around 500 to 150.

Indeed, solar's rapidly evolving regulatory and economic landscape makes it increasingly difficult for manufacturers to anticipate future demand for their products. Under these challenging conditions, how can companies in the industry contribute to the consistent growth that we all know is possible?

Today, simply offering a quality product and meeting market demand isn't sufficient to stand up against the effects of retroactive tariffs or a weak economy. Drawing on lessons we have learned weathering the turmoil of the market, Upsolar has identified a few key cornerstones that underlie sustainable growth in today's solar industry. Regardless of geographic location or placement along the solar supply chain, success in the solar industry will come down to a company's ability to adapt to challenges by staying lean, being green, and venturing downstream.

## Staying lean

In July 2012, Europe-based solar manufacturers filed a formal complaint with

the European Commission against China-based competitors, alleging product dumping and illegal subsidies. Despite reports predicting that tariffs could cost the EU as many as 242,000 jobs, the European Commission set provisional tariffs of 11.8 percent initially, to be raised as high as 47.6 percent. A decision was then reached in the summer of 2013 to curb EU imports of solar panels from China in exchange for exempting shipments from tariffs.

This trade war has caused uncertainty and stifled innovation across the value chain. China-based companies have responded by limiting investments in their growth, from R&D to sales and marketing. Though many agree that unilateral penalties are counterproductive to the long-term growth of the solar industry, companies caught in the middle have had no choice but to find a way to continue to operate and bring modules to market.

Companies that maintain lean business operations can more easily absorb shocks to global demand caused by the ongoing trade war. At Upsolar, we have developed a lean, flexible business model that has made us more resilient. Because we work with existing manufacturing partners, we avoid the risk of massively expanding our production capacity and then running idle or shuttering factory lines when demand is low.

By basing our production on demand, we can remain in good financial health, without the need for subsidies or offloading excess inventory. Furthermore, we can develop products that are forward-looking and incorporate some of the most innovative technology solutions on the market without making risky upfront investments in new technology.



Enrico Carniato, Europe Managing Director for Upsolar

*“Upsolar has found that we have not only thrived, but have been able to use challenges to our advantage”*



### Being green

As solar has become mainstream, so too has awareness of its potential life cycle impact. From hazardous chemicals used in solar manufacturing to improper disposal of solar panels at end of life, the public has become more conscious of solar’s full impact on the environment. At the same time, the EU has implemented stringent environmental standards and goals for products that are sold within its borders. While products imported from China are not legally required to meet these goals, growing public pressure on Chinese companies in all industries has forced Chinese importers to examine their entire lifecycle and meet stringent European standards.

This pressure has actually been an opportunity in disguise for the industry as a whole. By pushing companies toward higher lifecycle standards and requiring that their products maintain these standards as prerequisite to qualifying for project tenders, the industry has moved toward

becoming more sustainable from cradle to grave. Furthermore, enhancing sustainability requirements in manufacturing operations will help companies become more resilient to resource shocks in the future.

Companies like Upsolar have been able to use the pressure to “go green” as an opportunity to move their businesses forward. Upsolar pioneered a Life Cycle Assessment (LCA), which reported the environmental impact of each step of our module development process. Upsolar was one of the first China-based module suppliers to undertake a comprehensive study on the environmental impact of our business.

With this expertise in hand, Upsolar can now offer support on sustainability-related issues to other companies through consulting and audits. By sharing our knowledge and experience, Upsolar grows the PV market while turning corporate social and environmental responsibility into a profitable part of the business.





Solrif-framed 20 kWp installation on residential rooftop in Italy

**Venturing downstream**

Facing a challenging environment for doing business, module suppliers like Upsolar have increasingly made strategic decisions to diversify their business offerings by “venturing downstream”. Combining our expertise in developing high-quality modules and the relationships we’ve built with trusted installers, Upsolar has been able to introduce new offerings that grow the solar market. Our recently introduced project development and financing services build on our experience to bring projects online that may have otherwise gone undeveloped.

The ability to offer financing and project development services ourselves is particularly critical given the challenge of obtaining financing in a struggling economy. During the financial crisis, banks became more risk-averse, limiting lending and slowing down projects. Upsolar repeatedly saw potential customers fail to obtain financing for projects, despite having completed the paperwork and permitting processes. In particular, our customers in developing economies often struggled to obtain financing due to lack of investment infrastructure.

On top of slowing down the pace of financing, a struggling economy has led many countries to reduce or eliminate incentives for solar. Feed-in-tariffs in Europe were essential for boosting solar’s rapid growth, but unexpected cuts threw many projects off track. Decreased FITs in Germany and France in 2010 and 2011, followed by FIT restraints to residential systems, have reduced average order sizes significantly over the past three years.

By diversifying our downstream offerings, Upsolar has been able to fill a critical role in facilitating numerous projects – from the smallest home install to a utility-scale project. Upsolar’s project development efforts throughout Europe have expanded the region’s renewable energy portfolio while generating jobs. In Italy, Greece and Romania, Upsolar has completed nearly 7.5 MW of new projects in recent months. These projects have raised approximately €10M in equity and were conducted with providers and local subcontractors, representing a full-time equivalent of approximately 70 jobs per year. Upsolar has also committed to investing in project development by forming partnerships with downstream providers and component suppliers.

Another important component of moving downstream is offering financing solutions directly to customers to free up capital for projects. Third party financing has been a key part of growing the residential solar market in the US and UK, but has been slower to catch on in Europe. To increase the momentum of our residential projects, Upsolar has started offering a rooftop lease program – where homeowners receive an income to essentially rent out the space on their roof for the system, which is financed by Upsolar. Through a newly developed turnkey solution, for residential and commercial projects home and business owners can go directly to Upsolar, rather than to the bank, for a loan provided at favorable rates.

In Europe, this strategy has helped Upsolar to contribute to a second wave of solar growth. By supporting residential and commercial projects, local governments are

able to pursue their renewable energy targets, and by working only with installers who have been meticulously qualified, we avoid irreversible damage caused by unprofessional installs. Rather than waiting idly for more favorable industry conditions, or chasing lower prices or higher volumes to compensate for a slow economy, Upsolar has pushed the industry forward by continuing to support project growth. We encourage all companies to re-imagine their products and service offerings and utilize their full range of expertise to grow the global solar industry and encourage local economic growth.

**In it for the long run**

While the global economy has presented many challenges to the solar industry, these challenges can also be taken to represent progress. For the industry to truly thrive, it must be mature enough to survive without subsidies and government support, while fully accounting for its impact on the environment.

All of these challenges were potential opportunities for companies nimble enough to face them and forward thinking enough to anticipate and proactively respond to them. By staying lean, being green, and venturing downstream, Upsolar has found that we have not only thrived, but have been able to use challenges to our advantage. With a flexible manufacturing model, project development branch, financing programs, and environmental responsibility services, Upsolar has remained a step ahead of challenges in the market. Technology companies that can adapt, whether through downstream offerings or innovations in manufacturing, will be poised to succeed as well as the industry continues to mature. ■