



# Keeping clean solar on track

Balancing the ever-rising cost of raw materials against the rate of return is always precarious and never more so since the pandemic and the resulting logistics issues. PES caught up with Arturo Herrero, Chief BD Officer at GameChange to see how he's using his experience to good effect for EPCs and developers.

**PES:** A very warm welcome back to PES Arturo. We have spoken in the past as many of our readers will no doubt remember and it's great to get your perspective on the solar industry and where you see the market heading. For anyone new to PES though, could you give us a brief overview of GameChange?

**Arturo Herrero:** Thanks again for your interest. GameChange Solar is the top #3 US company in the racking and tracker industry,

and currently top #6 in the world. Our commitment is to expand internationally, to position GameChange also in the top worldwide. We have already passed the threshold of 12 GW of sold and we've built over 24 GW production capacity.

**PES:** On a personal level, you have a great deal of experience in the renewable energy sector don't you? So, you must have witnessed quite a few changes and developments in that time?

**AH:** I began my career as an engineer in BP Solar over 20 years ago, moving from oil to solar in 2001. Castrol was bought by BP Oil a couple of years before and I was a young sales and marketing manager for Castrol, and later at BP Oil, switching to Global Procurement Manager at BP Solar.

In solar, the early 2000s began with generous feed-in-tariff schemes in Germany that spread around Europe, following in Italy, Spain, Czech Republic, Bulgaria and the UK.





Arturo Herrero

unknown company at that time, very local from the Zhejiang province, called Jinko. I was Chief Strategy Officer to lead the international growth.

We were successfully listed on the New York Stock Exchange in December 2010 and from there we started a meteoric international expansion grown market share, revenues and profits to become the #1 module manufacturer, overcoming TrinaSolar, who became number 2.

At that time my most important challenge was to define and implement the right strategy to increase margins, offering higher value added to clients and differentiate from a very commoditized product in a fierce price competition, against most Chinese dominant players. My main contribution was to instill trust in professional support to clients and to advance ourselves as first movers in many markets such as in USA, Mexico, Chile, Australia, South Korea or South Africa, where I had the challenge to arrange the setting up of our Jinko's factory in Cape Town.

In 2016, I left China, moving back to Europe with my new family, based in Zug, Switzerland. Here I established AlterPower AG, a consultancy agency for solar, and I had the chance to work in Los Angeles, for a few months on a project with HST Solar, a promising software start-up with a great product for development and PPA match, for solar utility projects.

**PES: How did your move into the tracker industry come about and how much does it differ from what you had done before?**

**AH:** In 2019 I was invited to New York to join GameChange Solar, thanks to the recommendation from Roth Capital professionals who helped me with Trina and Jinko to raise capital on several occasions.

I became Chief Business Developer and since then it has been non-stop, intensive growth, starting with the setup of our production facility in Wuxi, China, to become more

**PES: No doubt there have been lots of challenges to keep you on your toes during your career so far, but what about the triumphs? What would you class as your biggest challenge and then your biggest success so far?**

**AH:** In my professional career I never shied away from taking on challenges and sometimes, high risks, which most of the time have paid off.

The first challenge was to leave BP Oil, where I had a comfortable position located in my hometown of Barcelona, to move to BP Solar Madrid. This was to a brand new structure with lower budget and less resources while also switching from sales and marketing to procurement functions.

After six years, I had the opportunity to be invited by Merrill Lynch and Good Energies, to join one of my wafer suppliers at BP Solar, an unknown small Chinese

manufacturer called TrinaSolar that at that time was producing only 100 MW of assembly modules.

I decided then to leave BP Solar and take the risk to move to Changzhou, Yiansu in China. That was in 2006 and we prepared the company for IPO and we were successfully listed in Wall Street in May 2006, and from there, we were exceeding quarter after quarter the expectations of investors, growing in market share, revenues and profit, to become the #1 solar module manufacturer globally.

With a lean structure we had presence in over 50 countries, with main developers and EPC companies buying our products. At that time prices were over 3 euro/watt, and modules were multi-crystalline dominant, with maximum 13% efficiency.

In 2010 I was invited by Credit Suisse to do the same as in Trina, but for another



competitive than coming from the USA, and signing contracts for projects for internationally recognized players such as Total, Acciona, Canadian Solar, Iberdrola, Enel, Scatec, Ibexia, Sterling & Wilson, etc and being successfully qualified by FRV, EDF, Engie, Masdar, SolarAccess, BP Lightsource, Shanghai Electric, JinkoPower, TrinaSolar, Celsia, Elecnor, Grupo Ortiz, SolarPack, Negratin and so many more.

The most important difference from sales of modules, is that for trackers and fix tilt structure every project has to be customized and deeply reviewed, analyzing geotech, topography, wind speed, load calculations, size of modules, so a lot of technical support is required to prepare the offers, and also to clarify and optimize the lay-outs and final design for each project. Engineering dedication is crucial.

**PES:** We've touched already on some of the changes you've seen in the renewables industry, but what about in terms of the ever-growing need to focus on cost and rate of return?

**AH:** I think everyone in our industry recognizes the good progress and technology improvements in reducing cost and market prices for the last few years, to a point that companies suffered from margin erosion, even losses, and quality was undermined.

Focus should be not only in keeping costs low, but providing a better value proposition.

Reducing CAPEX is important, but more important is to reduce TCOO and LCOE, so OPEX is becoming relatively more critical than in the past. Besides that, there are more demanding contract guarantees and longer product warranties, an on-time local service and an increasing design life of utility scale systems to 40 years.

Last but not least, focus should also be on reaching the goal of all developers in terms of optimizing production yield and ultimately maximizing IRR for the solar PV projects.

**PES:** What's the situation like at the moment in terms of inflation and the increase in cost of raw materials?

**AH:** We are facing an unprecedented rise in the cost of raw materials, especially from metal commodities that affects all solar industries besides other industries. For structures the most important impact is coming from steel cost.

Thanks to our long term suppliers and geographically diversifying the sources of purchase we can cope with the situation.

With our clients, we're committed, even if it means absorbing part of the cost internally.

Business goes on as usual, in most cases, even if profits are reduced, but some projects have been put on hold or delayed waiting for a relaxation of cost to make better economics for projects.

**PES:** Presumably the pandemic has also had an impact on prices, not to mention logistics?

**AH:** Regarding logistics, the price of transportation of containers has more than tripled during the last few months for several reasons, including shortage of containers, several ports in the south of China affected by Covid-19, and the sudden increase of demand after finishing of lockdown in many countries.

We are coping with the situation proactively, by engaging with our logistics partners and setting up a geographic diversified network of suppliers. Recently, we have reinforced our International Operations team and we are seeing already savings and a better control of the situation.

**PES:** What technology is coming through that is helping with relation to cost of production which must be one of the biggest operating expenses in this field?

**AH:** In GameChange, from our R&D center in Massachusetts, our experts have been testing new improvements to facilitate EPC companies to reduce the time and cost of execution of their projects, such as the SpeedClamps and TwistClamps, that increase substantially the speed of installation of the modules onto the tracker or fix structure.

We also count with our own 3D Software called TopoSmart to play with different



lengths of posts, overcoming the slopes of the terrain with the goal to reduce civil works.

Over the last few months, we have launched the Solar Reflector for bifacial modules to increase yield and next month we're launching our DaVinci 2P Tracker, a revolutionary innovation that allows much more competitive tracker with same aerodynamic and aeroelastic stability.

Finally, recently we have introduced our first BOS product, dedicated to simplify management of cables.

We have also been busy in qualifying most of the popular recent higher power solar modules, larger in size, that implies higher loads for the tracker and modules with higher current that helps to increase the number of modules per string, affecting also the need of reinforcement of the structure and precise calculations, but implying interesting savings in BOS.

**PES: Do you take a different approach depending on whether you are working with an EPC or a developer? Can you explain why that might be necessary?**

**AH:** That's definitely an important topic in GameChange Solar, as we approach our developers and EPC clients differently.

As mentioned previously, in our product design we are looking both to reduce costs of the product and installation process for the EPC companies (by for example reaching

a high level of preassemble from our factories) and also to increase energy output, for the benefit of the Developer, IPP companies and Investors.

Differently from EPC companies, Developers and IPP are looking at the long term, and much more concerned about performance of the project, warranties, production yield, availability, performance ratio, O&M costs and ultimately LCOE.

**PES: What are some of the trends you're seeing coming through, what's exciting you at the moment?**

**AH:** We have, in GameChange a lot of interesting innovations of our algorithms for an optimal tracking, and maximizing power production, such as SmartStow or WeatherSmart, to ensure the maximum tracking of the sun without compromising the stability of the tracker, avoiding catastrophic effects, as unfortunately seen in last months in several projects.

There is also the implementation of features to optimize tracking, such as our Smartboost to backtracking individually every single string, or fine-tuning improvements with the alignment with the inverter, to get real time inputs of current and tension to the tracker.

As mentioned before, we are also entering into the BOS offer to deliver solutions to our clients jointly with our tracker and the exciting new launch of our innovative 2P DaVinci Tracker.

**PES: What's your most attractive market at the moment and do you see this changing?**

**AH:** We have already been positioning our trackers and fix tilt structure in over 10 countries including USA, Canada, Spain, Chile, Colombia, India, Mexico, Australia Colombia, Pakistan and Togo. Besides these, other countries with attractive growth we are seeing are in South Africa, Middle East, Japan and Brazil. We have also established three Centers of Technical Customer Service and Warehouse for spare parts, to provide fast reaction to projects, one in Arizona (USA), one in Santiago (Chile) and recently in Madrid (Spain).

**PES: And finally if I may, it would be lovely to get your view on what you think the market for solar and renewable energy will look like over the next few years or so?**

**AH:** There is an exciting growing market for our beloved solar PV industry and specially for our Tracker business as investment keeps attracted to solar photovoltaics in more and more countries.

In many countries now trackers make much more economic sense, after the rise of module prices in recent months. Trackers have also been proven to provide higher returns and have become much more reliable, thanks to continuous improvement on technology and new innovations, such the ones led by GameChange Solar.

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