



Interview with Solar Ventures' Michele Appendino

by Leoncio Montemayor

In light of our upcoming 'Solar Market Parity Europe' conference, we interviewed Michele Appendino, the Chairman and CEO of Solar Ventures, an Italy-based, but internationally operating, independent power producer. They developed, built and operated a large portfolio of solar assets in Italy, but also own and operate utility-scale solar plants in markets as diverse as France, Turkey, Thailand and Jordan.

Michele himself has had an impressive and equally diverse career. After working with Andersen Consulting in Spain and FMC in the US, he moved on to becoming Senior Engagement Manager at McKinsey & Company in Italy. He then co-founded Net Partners Ventures, the first European venture capitalist firm exclusively focused on internet start-ups. He moved on to found A.M.E. Ventures, which is an investment holding on start-ups in the internet and renewables sector. Under the A.M.E. flag, Solar Ventures came into being.

Pleasure to have you here Michele. First of all, how did you got into the solar field? What made you say "You know what, solar is the future. I'll dedicate (most of) my time to it"?

I have a degree in Electronics Engineering. I first looked at solar energy when I was still in University, but it was really too early at that point. When I seriously considered it again in 2005, it seemed quite obvious to me that solar panels would follow the same trend as silicon-based semiconductors. And that solar energy was abundant and free in most of the world. A bit more than 10 years after, with the price of solar systems having come down 10 times and solar being the main source for new energy plants worldwide, I guess I was not too wrong...

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We all know that solar boomed in Europe between the years 2007-2011. What do you remember from that time and what difference do you see in the field now?

At the time government incentives were driving the business. The perception that solar was a very simple technology dominated, along with the notion that it was basically almost a free lunch. All that drove lots of people into solar. Later they found out that it was not so easy and that not everybody did so well. The other main aspect was that incumbents were fighting solar strongly; there was continuous bad press about solar and solar operators. Today it is a given that solar is among the most viable energy technologies and utilities/oil companies are all very active in the field. There is a deep understanding of the technology and expected returns are more realistic. It is much more an industrial business.

“ *“Nobody is fighting solar anymore and this is the most important aspect.”*

Governmental incentives were the norm back then. As we know, solar costs have fallen dramatically over the last decade and market parity has been reached in several places. However, solar is still a minor part of electricity mixes in most countries. What are the next steps that should be taken to make solar a mainstream and major electricity source in the future?

In Italy, the new energy strategy issued by the Government calls for approximately 40 GWp of new solar before 2030, but the implementation plan is still missing. Governments should remove barriers particularly at permitting level and grid operators should plan improvements (energy storage solutions and so on) to allow for the new massive capacity to come on board properly. But in my view we are getting there. Implementation plans will eventually come. Nobody is fighting solar anymore and this is the most important aspect.

What do you think of the "solar paradox" that the more solar we bring online, the less value it provides to the grid? Thus, the first solar panels provided a lot of value but now, with intermittency issues, the grid might be facing some problems with more solar. Do you think there is a maximum level of solar that we can have?

Every innovation to a static environment needs to be "digested". Grid operators and utilities have been living with few programmable plants, now they need to shift to distributed and intermittent sources of energy. There are several technological improvements possible and with storage soon becoming cost competitive all these issues will go away. We already see some countries which are starting transforming their grid and the overall electricity system to allow this radical transformation (i.e. Germany).

“ *"All this together means that solar can be economically viable without government incentives, This represents an enormous opportunity that we fully want to capture in the next years."*

You've recently announced that you are returning to Italy and Spain with over 1 GW planned for the next five years. Impressive! What made you make this decision?

After we sold our portfolio of feed-in tariff driven solar plants in Italy we have only been active in solar in the Middle East and Southeast Asia. Three factors have convinced us to come back in a big way to our home markets:

- 1 - New energy strategies pushing for wider solar adoption.
- 2 - A significant drop in system costs and improvement in producibility.
- 3 - The willingness of traders to sign long term PPAs.

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We've seen market parity and subsidy-free projects popping in distinct markets: Italy, Spain, Portugal, UK, Germany and France. In my view, market parity is a function of two inputs: solar costs and electricity prices. Do you see any major market reaching parity as well?

Apart from solar costs and electricity prices, it is also a function of access to energy. So market parity will also arrive in markets outside Europe, particularly in areas where access to energy for large consumers is not guaranteed. India, for example, and other markets in Asia, but also markets in Africa and Latin America. Of course some areas of the US will also follow. Let's not forget that even today subsidies for fossil fuels are huge. If those are reduced or removed (or simply reflected in the actual prices), many more areas will have solar at market parity.

“ | “There are no more deadlines to get tariffs, so one can work according to a business plan and make it fit to the best timing of the project.”

As a large-scale developer, does market parity represent a new way of doing business? What are some of the most common issues that you have encountered while developing projects?

Most importantly, the changing landscape leads to two major differences:

- 1 - There are no more deadlines to get tariffs (or similar incentives), so one can work according to a business plan and make it fit to the best timing of the project.
- 2 - Margins are slim and therefore each aspect needs to be optimized.

For example; we are turning down several projects in one the most sunny areas of Italy - Sardinia - because in industrial areas, land where solar can be developed is too expensive

There are many new developments in the field such as digitalization (blockchain and AI), solar + storage, aggregation, perovskite solar cells and more. Do you see any of them impacting your business?

Blockchain and Artificial Intelligence can improve O&M and asset management. Solar + storage applications we follow closely. All our new developed projects will be storage ready. Perovskite cells are potentially much cheaper but we have seen many new materials in the last 10 years and they all more or less failed, so it will take some time before it can be (proven to be) applied to large scale solar

What are the next steps for Solar Ventures? What's in the pipeline?

We are working along several axis in parallel: early stage development in Italy and late stage development in Spain; discussions with EPC, PPA and debt providers to arrive at mutually agreed term sheets; discussion with equity investors. We have already committed the initial equity but for the scale we want to reach we of course need large equity partners.

Fill in the blank. Solar energy will represent ... of the electricity mix by 2030.

25%

Michele Appendino will take the stage during Solar Market Parity Europe, the platform aimed at connecting the right players on the verge of a solar (r)evolution. This new conference will bring together developers, financiers, traders and utilities, to discuss the future of large-scale solar development in Europe, beyond incentive-driven horizons.