



Financing larger projects may prove difficult however the rooftop market is growing.

Big Greek PV plans

Greece: With plenty of sunshine, generous and uncapped feed-in tariffs (FITs) and many islands relying on expensive diesel for electricity, Greece would seem to provide fertile grounds for photovoltaic (PV) growth. Based on these conditions, Lux research recently named it as one of the top-three most attractive countries for residential PV. However, regulatory bottlenecks and an almost-complete financial meltdown have cast a shadow over the Greece's PV progress.

At last month's 26th EU PVSEC conference in Hamburg, Germany, the Greek Energy Minister George Papaconstantinou graced the stage at the opening proceedings. He announced a major development for the PV industry in Greece. Going by the name Project HELIOS it amounted to a government supported PV installation program and schedule that would see ten gigawatts (GW) of installed PV in the archipelago nation by 2050.

"Project HELIOS, the Greek Solar Energy Project, represents the unique op-

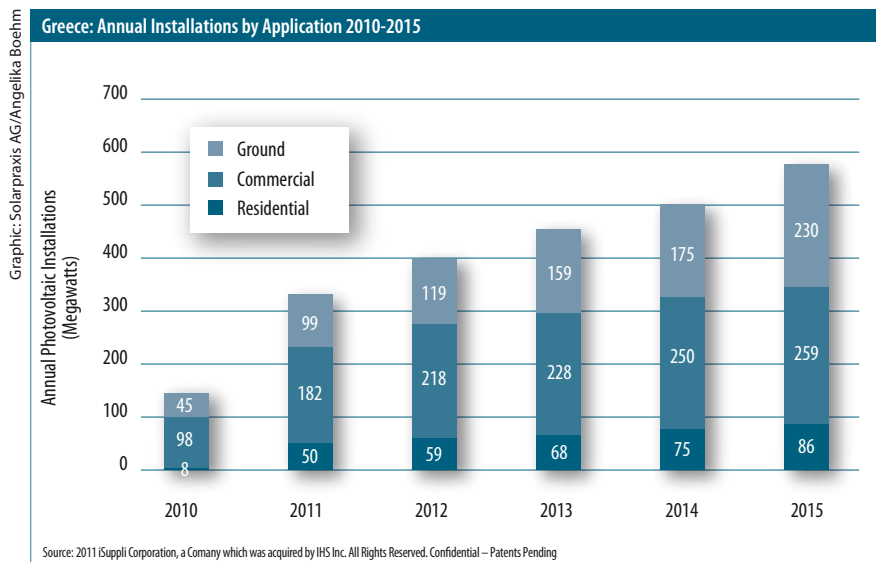
portunity to use the abundant solar resources of Europe's south and export clean energy to the north of Europe," announced Papaconstantinou. "It has clear technological, economic and political advantages for whole Europe."

Papaconstantinou's presentation at EU PVSEC was the first time many had heard of the plan, although some earlier rumors and speculation had been reported in Greek and industry press.

As such, the Greek PV industry association, HELAPCO, received details on the proposed plan at the same time as

those in the EU PVSEC audience. "Project HELIOS is just a concept at the moment, there is nothing concrete yet actually and the presentation in Hamburg was the first ever document that we've seen about this project," remarked the Hellenic Association of Photovoltaic Companies' (HELAPCO) Stelios Psomas. HELAPCO has since had discussions with the energy ministry about the plan.

With Germany and other European states as financial partners, the project envisages Greece exporting PV electricity both in real terms, via the grid that



runs north from Greece through the Balkans and into central Europe, and also in a virtual sense.

“This is still a question as to [...] how much of it [PV produced electricity from Greece] will be physically exported to Germany or other countries and which part of it would be statistically exported if you like,” said Psomas. “This is in the

sense that according to European legislation member states can exchange Green Energy among them, in order to reach the renewable targets.”

At present, Psomas estimates that there is grid capacity to handle PV electricity exports of up to three GW. However, to develop the grid further to allow more real, electricity exports, considerable in-

vestment into the grid would have to be made. And in this respect, Greece faces a special set of circumstances.

Since encountering serious problems in reducing public spending, debt and then a liquidity crisis that has intensified in 2011, free-flowing finance is not something that abounds in Greece. That is why, if such a large and ambitious project as HELIOS is to be successful, Germany and other European governments would have to be willing to provide capital. But within Greece, while banks have proven reluctant to provide funds in many sectors, it appears that the financing of PV is continuing.

Finance

Aris Polychromopoulos is the General Manager of Greece’s largest EPC contractor Biosar and he explained: “Financing is still a problem, but seeing that all other aspects of the Greek economy are getting worse, all the money from the banks are going to solar investments.” He reported that Biosar will have connected more than 100 megawatts (MW) by the end of the year and that continued growth is expected.

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Photo: Phoenix Solar



Phoenix Solar's Douneika plant enjoys good irradiation levels under the Greek sun.

Some in Greece are less positive about the impact a shortage of finance is having. Dieter Schmitt, is Head of Conergy Greece and he believes installed capacity figures for 2012 will be disappointing and may be less than 100 MW. "At the moment, the PV market in Greece is a little bit stuck up [...] so banks are currently very reluctant to give loans and even if they give loan agreements, they delay respective payments."

Conergy reports its pipeline in Greece as being five to six MW to be completed by September with a further eight to ten MW, in Schmitt's words, "right before closing". Also supplying integrators Conergy says it also has a number of projects moving forward. Behind Bisoar and Conergy in Greece in size is Positive Energy, which reports a pipeline of 40 MW. Previously it had realized 32 MW of installed capacity over 100 projects. But this kind of gradual and measured growth exhibited by the leading Greek PV integrators stands in stark contrast to the bold plans proposed in the government's HELIOS announcement.

Steady growth

Greece's steady PV progress is actually a major positive argues industry analyst IHS iSuppli's Stefan de Haan. "The market is developing in a pretty good way right now," he explained, "There are still things in place that will prevent the market from overheating." And overheating is still a threat to Greece's emerging PV market, because of the generous FITs that remain in place.

Greek FITs are structured differently for mainland grid-connected installations and autonomous island grids. On the mainland, 45 euro cents per kilowatt hour (p/kWh) is the tariff for installations smaller than 100 kilowatt/peak (kWp) and 40 euro cents p/kWh for any instal-

lation larger than this. While the tariffs have been reduced by about five euro cents from the initial tariffs introduced in 2006, they are still most generous and attractive to investors.

For rooftop installations, the FIT regime is even more attractive. Biosar's Polychromopoulos outlied just how special it is: "There's an incredible program for rooftops, [for installations] up to 10 kWp the tariff is 55 cents p/kWh. I don't think there's an equivalent tariff anywhere in the world." The General Manager said Biosar is observing strong growth in both the residential and commercial rooftop markets.

The administrative processes for the approval of rooftop installations have also been streamlined said Polychromopoulos. Christos Protogeropoulos, the Managing Director of Phoenix Solar in Greece agrees, reporting that for smaller rooftop applications, the approval processes have been reduced to as little as ten days. This is quite a feat, continued Protogeropoulos, who explained, while talking of the previous PV regulations, simple legislation and regulations is not something Greek officials are known for.

Administrative barriers

"It's a kind of philosophy and mentality of the people. For example a 100 kW system has to be approved by 17 authorities, the fire department, the army, the air force [...], three of four ecological departments [...] it's a mess!" This administrative over complication and burden has previously been both time-consuming and costly, and a major inhibitor of PV installations. The approval bottleneck was so severe in Greece under the first, generous FIT, that many hundreds of megawatts of projects were interminably delayed.

However, since the middle of 2010, this confluence of regulation has cleared. "They have resolved many of the administration issues, the authorization procedures are a lot simpler now, that's why the market is developing in a pretty good way right now," said analyst de Haan.

This progress was triumphed at the EU PVSEC trade fair, at the European Photovoltaic Industry Association's PV Legal seminar. HELAPCO's Psomas spoke at the forum and illustrated the progress being made in Greece in contrast to administrative conditions in the Spanish market, where the opposite has occurred.

Almost in counterpoint to the Greek situation, administrative burdens have increased in Spain, slowing installations there dramatically.

But the Greek PV market differs from the Spanish in another crucial way. While the hot Spanish market of 2009 burnt out in 2010, an overheated or boom-and-bust Greek market has not occurred. Greek FITs have remained generous, yet administrative bottlenecks and now restrictions in the availability of finance have prevented the market from overheating. The regulatory process alone resulted in over one GW of projects awaiting approval, which all agree would have been a financially unsustainable volume.

It is then almost as if by default the Greek market has sustained steady and sustainable growth. Industry representative Psomas doesn't himself disagree. "Well I tend to believe that myself, although I was one of the key persons who wanted to get rid of these barriers. What we need is a healthy market that is developing, but in a way that the market can control the pace of this development."

Jobs

Psomas makes the point also that steady growth assures that jobs aren't created, only to disappear when the market crashes. And in PV, the potential for job creation isn't lost on anyone in the industry and in the Greek government, hence the HELIOS announcements. HELAPCO estimates that as of June 2011 4,250 full-time jobs have been created in PV. Conergy Greece's Schmitt emphasized this point: "There are already a lot of jobs created and the PV sector is one of the most stable sectors right now [...] because the other sectors are going backwards rather than forwards."

It's clear that there is great potential and a clear path for the Greek PV industry. Whether through luck, design or a combination of the two, PV has grown steadily and sustainably, and is on track, despite the many challenges in the future. In this light, the recently announced grand plans and big announcements in the form of HELIOS appear disruptive more than of real value.

Whether Greece can become an exporter of green energy to Europe in the future is not clear, but on rooftops, homes and on fields, PV is being installed and creating growth, jobs and hope for a bright future. ♦ Jonathan Gifford

