

Mexico struggles to thaw solar market chill

Emerging markets | Mexico remains a market of undoubted potential, but there's a growing opinion that it will struggle to live up to its hype amid regulatory uncertainty. Liam Stoker asks if last year's sweeping energy reforms will continue to hold the market back, or result in a solar explosion by 2018

With an approved project pipeline totalling 3GW, enticing irradiation rates and an energy market that's expected to be in considerable need of new generation capacity in the coming years, Mexico is an international market on many solar developers' lips. Analyst firm GTM Research expects Mexico's solar capacity to soar from last year's 66.7MW to as much as 3.3GW over the course of the next three years, and all without the support of government subsidies.

But this is a market not without its problems and solar, despite being almost custom-built for Mexico's arid conditions, has yet to take off. Sweeping energy reforms enacted last year in the country are still coming into force, resulting in what GTM Research analyst Adam James refers to as a "chilling of the market", but the problems preventing a much-anticipated solar explosion in Mexico may be deeper rooted.

In June 2014 Mexico's government looked to reform its ailing electricity sector, opening the market to competition with the state-owned utility Comisión Federal de Electricidad (CFE). While CFE might still own and operate more than 80% of the country's energy generation, anybody is able to build generation capacity and sell it into Mexico's wholesale market, named the Mercaro. "It's a totally level playing field and there are no advantages for renewable energy compared to anything else, apart from very low impact clean energy certificates," James says. Stefan Blum of German development bank KfW subsidiary KEG Investment says this liberalisation of the market has opened the floodgate for "a lot of catch-up investment" that Mexico has missed out on for decades.

It's hoped that more competition in the market will drive high energy prices in the region down. There are 40 separate tariffs in the country but prices are generally high across the board, even more so in remote locations such as Baja California, which



Source: Isofoton.

suffer at the hands of constrained grid issues and sky-high diesel prices. Sebastian Schierenbeck of renewable energy advisory firm Apricum says it's little wonder the lion's share of solar projects to get off the ground so far in Mexico are located within the western peninsula state.

And James says these tariff prices are a key reason as to why solar PV is now considered to have reached grid parity, at least in part, in Mexico. "There are plenty of customers for whom PV makes economic sense if you don't have the capital to purchase the systems up front," he says.

But solar has yet to take off. It may have reached grid parity with specific tariffs but Schierenbeck says solar PV cannot currently compete on a wholesale level in most of the

Relatively few of the projects from Mexico's 3GW pipeline have reached completion.

country, a fact which he says is preventing almost 95% of the approved project pipeline from being constructed.

A lack of support

Unlike other markets across the world, Mexico's government offers no meaningful subsidy programme for renewable energies. Clean energy certificates are available but have very little impact, and Blum says his own firm considers them merely as a "potential upside" rather than of any tangible value, stating their current value to be "basically zero".

Unfortunately for solar and indeed the entire renewables market, Schierenbeck says this is unlikely to change in the foreseeable future. "When we talk to government-related agencies or the government itself, we didn't get the feeling there would be any additional subsidy aside from the certificate market," he says.

James adds that solar is also being restricted by demand charges on electricity bills paid for by commercial and industrial firms, which are calculated between the hours of 7pm and 9pm when there is no solar production. As a result, solar cannot offset those particular charges. "That's a big

Mexico's energy reforms

In June 2014 Mexico enacted sweeping reforms of its energy sector, aimed at driving investment in the country and revitalising what had become an ailing electricity market. The old regime was a vertically integrated model with CFE as the sole, state-owned utility. The reforms opened up Mexico's energy market and now any company is free to build power and sell into the wholesale market. The only subsidies or advantages open to renewable energies are government-issued clean energy certificates, however these are very low impact.



Source: SolarGIS.

Mexico's arid, sunny conditions offer the ideal conditions for solar power.

growth rates. Free of the wider regulatory uncertainties that have led to private off-takers being unwilling to engage in long-term PPAs, Schierenbeck the situation is almost the complete reverse for distributed generation, which stuck far quicker than other sectors.

"There's a good opportunity on the commercial side to use the net metering scheme that's available and has been well received so far, and you can directly approach commercial customers, or someone needing a system of something between 20 and 50kW on the roof to lower energy consumption," Schierenbeck expands. "This is going forward and there are also a lot of developers active in that region, especially those coming from the US and seeking new opportunities."

James estimates that between 13 and 15 developers are responsible for 80% of the country's distributed generation market, and given its relative immaturity there is no clear market leader. That could change should the US giant Solar City expand into the region as has been anticipated, but for now at least there is ample room for market entrants. Blum considers now to be the prime time for any interested parties to commence any entrance strategy, before it becomes saturated with developers seeking to jump on the bandwagon.

Those who do will have to enter with caution. James says pipeline acquisition will be a key problem for developers, despite the relatively sizeable 3GW of approved projects sat dormant. Schierenbeck estimates that as much as 40% of these projects could be built under the new regime as compared to just 5% under the old one, but acquiring projects that are simply unviable will be a significant risk for new entrants to the market, despite Blum's prediction for some bargains to be had.

Mexico's status as a potentially sizeable market for solar is one currently in flux, hindered by a general lack of government support, regulatory uncertainties stemming from last year's sweeping reforms and the problems these two factors have created in tempting private off-takers into long-term, secure PPAs.

"In general it's a very attractive market that attracts a lot of international players, but we need to see," says Blum. "We don't really see the big utility-scale projects on the debt side because of the insecurity, but what we do see is more on the equity side, players that are betting more generally on the Mexican market not with a one or two-year perspective, but five to ten years." ■

problem because it means the economics for PV are much less attractive for commercial and industrial than they would otherwise be," he says. The Mexican government has been made aware of the issues, but the likelihood of this changing – or the addition of subsidies to compensate for solar's inability to compete on the wholesale market – remains slim, at least in the near term.

This can be attributed to what Schierenbeck says is a lack of concerted and strong lobbying efforts in the country. Other technologies and means of generating energy, particularly the wind and gas industries, have been present in the country for considerably longer than solar and, as a result, have far louder voices.

It's an issue which Schierenbeck believes is changing – a lobbying group set up last April is beginning to make great strides in the country – but he believes there are still deep-rooted misunderstandings within the government. "My personal opinion is that they still believe solar is expensive and not a mature technology," he says. "The mind they have at the moment is to get cheap gas from the US and really lower the electricity costs by relying on more conventional generation and mature renewables, which they consider as only wind."

Cheap gas from the US continues to present its own issues. Southern US states have been proactive in drilling for shale gas and a number of projects are due to come on stream in the next two years. Pipelines into Mexico are also due for completion, which Schierenbeck says is creating volatility in the wholesale price. Blum concurs that the prospect of cheap shale gas being piped into the country presents one of the biggest threats to Mexico's nascent solar market.

And James adds that it only furthers the perception within Mexico that rates will eventually fall, leaving off-takers in the country reluctant to commit to long-term power purchase agreements associated with solar PV projects. Off-takers in the country are scarce with some municipalities unviable, and those off-takers are tending to prefer short-term PPAs which in turn create problems with obtaining financing.

Hope on the horizon

There are mixed views as to what effect the country's energy reforms will have and to what extent they will impact its potential for solar. James is of the opinion that ending CFE's monopoly and opening the country up to competition will eventually result in a market quick to embrace the cheaper generation rates solar can provide, but is understanding of the scepticism from other parties. He expects 2016 to be a crucial year for solar in the country and one that will see the market explode, and GTM is forecasting 1GW of installed capacity. Blum, however, does not share the optimism and says it won't be until mid-2016 at the very earliest until developers embrace Mexico as a legitimate market, and possibly into 2017 until it is considered a "financeable market".

But while utility-scale PV has been slow to take off, the distributed generation market has been experiencing explosive

GTM Research Mexico market predictions 2014-2018

2014	– 66.7MW
2015	– 295MW (cumulative capacity: 361MW)
2016	– 560MW (1GW)
2017	– 940MW (2GW)
2018	– 1.3GW (3.3W)