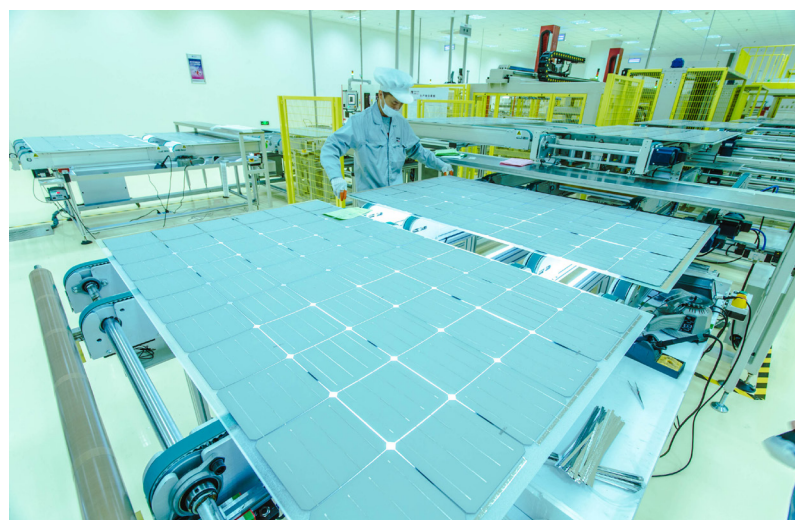


PV ModuleTech Bankability Ratings: Perspectives on reporting accuracy two years after the initial release

Bankability | Finlay Colville, head of research at PV Tech, reviews the PV ModuleTech Bankability Ratings two years after their initial launch, reflects on those manufacturers to have moved up and down the ratings hierarchy since its launch and ponders how the rankings will evolve in the coming quarters.



Credit: LONGi.

LONGi Solar remains the only AAA-rated solar module manufacturer in PV ModuleTech's Bankability Ratings.

of the major changes in the past couple of years at the supplier level. Finally, areas that are under review within the analysis are discussed, including those that may be required to be adjusted going forward in order to keep the benchmarking as accurate and relevant as possible.

Where does the data come from?

Before looking at the output from the ratings reports, it is prudent to address the most common question we receive from report users during early discussion phases: "where do you get all the data from?"

It is not entirely surprising that module users ask this question. The PV industry still has a few hundred companies claiming to make modules (even more when we include companies that simply rebrand products to the end-user), and many of these suppliers are based in China with limited audit trails visible to the global community. Additionally, even when looking at the top 20 module suppliers, only a few of these companies today are reporting quarterly data using 'western' accepted accounting practices. As a point of reference, by early 2022, the only top 10 module supplier that will be listed on a US or European stock exchange will likely be First Solar, with the final US-listed entities (Canadian Solar and JinkoSolar) moving manufacturing activities to Chinese exchanges.

Aside from the lack of readily-available quarterly accounts being available (purely from a debt/profitability perspective), a bigger issue relates to manufacturing metrics. Increasingly, this part of 'reporting' has been taken offline, and at times communicated to the outside world with in-built confusion and a degree of somewhat manipulative data distortion. Simply knowing who made what, where, when and how appears to be a thing of

Following nearly a decade of feedback from the PV sector, PV Tech released its first PV ModuleTech Bankability Ratings report in the second half of 2019. This was accompanied by a host of feature articles on pv-tech.org that explained clearly the methodology used to benchmark module suppliers for supply to large-scale commercial and utility-scale projects globally.

The output from the quarterly updates to the ratings report has now been firmly accepted within the industry as the leading platform to fully understand module suppliers in terms of manufacturing and financial health status. The ratings assigned to each company (AAA-Rated for the highest, down to C-Rated for the lowest) are now used routinely by investors and developers to help de-risk module supplier selection for individual sites and portfolios of projects globally.

When we released the methodology and analysis, we analysed in detail the prior decade of data accumulated for the different module suppliers (from manufacturing and financial perspectives). This was key to ensuring that the ratings assigned to

each module supplier were accurate for any given time period in the industry over the trailing decade, in addition to what was being seen in the market in real time. This was critical in developing the methodology and statistical analysis, and the relationship between quantitative and qualitative inputs.

When we released the analysis in 2019, we emphasised that the strength of the model was in being able to identify risk factors (or 'red flags') on a forward-looking basis. In fact, two years down the line, this has been the most common factor discussed each quarter with the users of the report; for example, knowing which companies are at risk from a lack of in-house manufacturing, are aligned with a non-mainstream industry technology, or have growing debt/profitability concerns.

This article reflects upon the report output over the past couple of years, using some of the leading ranked module suppliers to illustrate the accuracy of the PV ModuleTech Bankability Ratings output during this time. The results of the latest report (the Q3 2021 release) are then shown, with a discussion on some

the past to many module suppliers in the PV industry today, and something that has truly come back to bite the industry in 2021 as scrutiny has moved to country and region of raw materials production and related supply chains.

The best way to answer the question of “where does the data come from?” is illustrated by way of the flow chart shown in Figure 1. Instead of discussing each of the boxes shown in this figure, it is perhaps more important to note that the three main routes for data collection are as follows: reported or audited filings in any form (quarterly, etc. or ad-hoc) from public-listed entities; direct inputs from PV Tech’s network of industry stakeholders going back 15 years; understanding of the business models operated by all the companies, specific to PV manufacturing and module sales.

It turns out that the final pillar of the methodology/analysis cited above (understanding each company’s business operations) outranks everything else, including data released legally by way of stock market listings. It goes without saying that, when analysing data, all numbers must make sense in the first instance, and this turns out to be essential in PV where module margins are notoriously thin and being seen as a leader in renewables

tends to dominate over running a prudent business unit.

The best way to illustrate this is by way of some examples. If a company’s PV revenues are, say, US\$50 million annually, module shipments cannot be at the gigawatt-level. If retained earnings are diminishing and debt is building up, operating margins cannot be healthy. If marketing-prone companies go radio-silent or spend excessive time highlighting a 100kW rooftop delivery, it is unlikely multiple gigawatts of product are shipping in stealth mode elsewhere. And finally, if a company has known declining module shipments (market share) with underutilised fabs, it is unlikely the company will be adding additional gigawatts of new capacity in the coming months.

Make no mistake though. Tracking PV module suppliers today is a massive challenge, constantly needing a firm dose of reality-checking in the process, while understanding that no model is 100% perfect at any given time and constantly under review as market conditions evolve going forward. With this in mind, it should be somewhat clearer now why there was such a need in the market for comprehensive third-party analysis of PV module suppliers globally, and why the data-sourcing question is asked so much by report users when they are first introduced to the PV ModuleTech Bankability Ratings reports.

example, financial health is obviously more than just company turnover (favouring module suppliers that are part of large entities with other significant revenue streams), profitability (that can be transitory in nature) or market capitalisation (which is highly variable based on investor whim and/or country of listing). On the flip side, manufacturing health is not just based on (claimed) module shipment volumes or ‘announced’ capacity expansion plans.

However, establishing separate financial and manufacturing benchmarking (scoring all module suppliers across these categories, quarterly, pro-rated to a 0-10 scale) was just one part of the overall goal; ultimately, the key thing is combining these to form an overall bankability ratings score (again 0-10, industry pro-rated quarterly) that allowed the final AAA to C ratings assignment.

The ability to combine module suppliers’ individual financial and manufacturing health scores (into a single module bankability score each quarter) is what makes the PV ModuleTech Bankability Ratings analysis truly unique within the PV industry today.

Therefore, with two years of reference material available now since we released the first rankings pyramid hierarchy in 2019 (showing A-Grade to C-Grade module suppliers), it makes sense to review how accurate the findings have been: for example, are there any leading indicators that can ‘predict’ which module suppliers will be at ‘risk’ as suppliers in the coming quarters/years; what aspects of the analysis need tweaked going forward to keep the reporting as close to market conditions as possible?

Figure 2 (overleaf) shows abridged versions of the PV ModuleTech Bankability Ratings pyramids (hierarchy ranking with AAA-Rated at the top) taken from the first release of the report (October 2019) and the latest release (from August 2021). Here, we have listed just the A and B-Graded module suppliers (AAA to B-Rated), as this subset is by far the most important in the sector today, in particular for global utility-scale supply contracts.

While a number of the companies have retained ratings positions (or moved marginally between ratings levels) – including here JA Solar, Trina Solar, Canadian Solar, First Solar – the most significant changes can be found across other module suppliers.

LONGi Solar has been the only AAA-Rated module supplier for the past 12 months, and scores so high in the bankabil-

Reflecting on the first two years of PV Tech’s bankability ratings analysis

The PV industry has always had access to rankings and top 10 tables, often disseminated in the public domain: annual shipment tables, categorisation by risk of bankruptcy (absolute Altman-Z scores), corporate parent-entity turnover (revenues), etc.

These lists often get used by companies and media outlets, possibly due to the absence in the past of more credible module supplier benchmarking. For example, rarely have there been rankings across working capital, long-term debt or profitability. In addition, there has certainly been a lack of rankings based on levels of in-house production of key components (ingots, wafers, cells).

In setting up the methodology for the PV ModuleTech Bankability Ratings, it was clear that benchmarking all of the module suppliers for both financial and manufacturing health was essential. Specifically, our reference to the word ‘health’ is critical; for

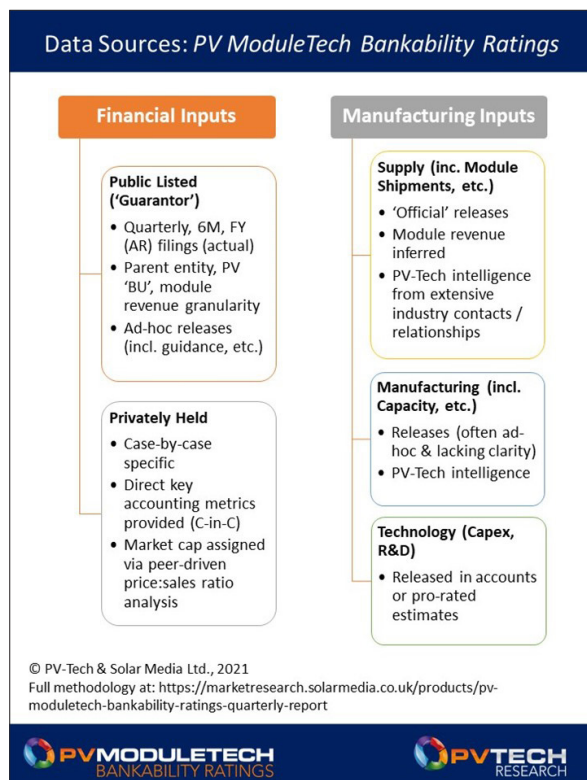
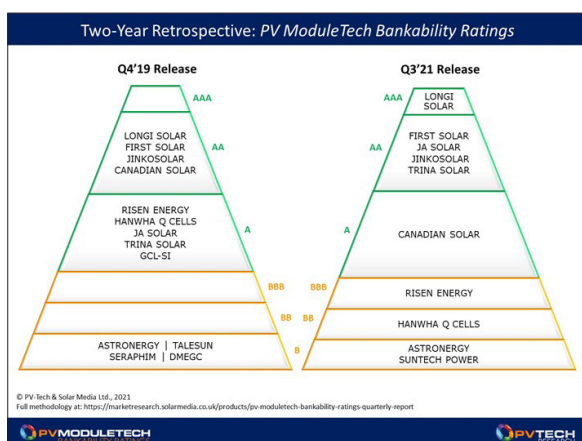


Figure 1: Input data for PV Tech’s PV ModuleTech Bankability Ratings analysis come from a host of different sources, feeding into financial and manufacturing benchmarking for all leading PV module suppliers within the sector.



Retrospective comparison between the releases of the PV ModuleTech Bankability Ratings reports for Q4 2019 and Q3 2021, showing the companies occupying A and B-Grade ratings positions.

ity analysis the company could almost be described as an outlier from a statistical standpoint. Hanwha Q CELLS has fallen several rating places, showing the impact of having almost static shipment volumes at a time the end-market is growing at high double-digit rates. GCL-SI has moved from being a top-ranked module supplier in 2019 to outside the upper A/B grades – a direct result of seeing both financial health (profitability/debt) and manufacturing health (shipments/market-share) decline simultaneously in the space of 12-18 months. Talesun has moved out of the A/B Grade listings (resulting mainly from market share/working capital declines over 2-3 years) and Suntech Power has moved in (largely due to exiting the ailing Shunfeng holdings structure).

Most of the changes in bankability ratings for the companies in Figure 2 have not been a massive surprise; the factors outlined above, explaining these companies' changing fortunes, were starting to become clear 2-3 years ago, and certainly got exposure in the first release of the report at the end of 2019.

What has been more interesting in the past two years has been JinkoSolar's rather compliant acceptance of no longer being the number one module supplier by annual shipment volume, and loss of market share. The previous drive by JinkoSolar to be number one module supplier appeared to keep the company ahead of its Chinese competitors; without this goal, one wonders what will now shape the company's tactics and strategy that were so powerfully in synch for a number of years.

Finally, the uptick in fortunes at JA Solar were also not foreseen a couple of years ago. JA Solar is now on the verge of being the first Chinese cell technology-leading

proponent to challenge for module supply top 2/top 3 status; noting that previous module supply leaders from China (Yingli, Trina, Jinko) were initially low-cost module assembly companies that added wafer/cell capacity later, mainly to reduce in-house costs (as opposed to boost technology leadership).

Which metrics are potentially over-valued/over-rated by module suppliers?

Benchmarking module suppliers depends critically on knowing what value to put on specific data (from financial and manufacturing sides), or subsets of data/metrics: or put another way, which variables are the most sensitive in determining the outcome of module suppliers in terms of market-share and profitability (ongoing operations).

Each quarter, we scrutinise this question. For example, how important really is it for a PV module supplier's operations to be profitable, if module supply revenues account for less than 30% of the parent entity's turnover? At what point does debt become an unsustainable parameter for Chinese-run operations: is it even an issue for module suppliers that are part of holding companies that are state-owned in China? Can we see long-term trends supporting having in-house technology leadership across the manufacturing value chain, or will there always be scope for a pure-play module supplier to simply outsource cells and become a top 10 module supplier by shipped volume?

At least one thing should be clear to anyone tracking the PV industry for the past couple of decades: being the number one module supplier by shipped volume is definitely not a strong leading indicator when it comes to financial health and longevity within the industry! Currently, our attention mostly centres around the level of importance afforded to two metrics, often perceived as key factors by many: market cap and capex.

Market cap is one of the major contributors to Altman-Z scoring (the starting point within our financial health analysis of module suppliers), but its importance is possibly overrated and can either fluctuate hugely month-to-month or merely be a trailing indicator of doom and gloom 'after the event'. It is rare for an uptick in share price to be aligned with any real mid- to long-term strategic changes at the company level. Currently, there is an open question as to the level of importance to

assign to each company's market cap, and whether more weighting should be placed on short-term cash flow or working capital metrics.

At the manufacturing level, it is also debatable whether having high capex allocations is a good or a bad thing. In some ways, high capex (like R&D allocations) ought to be a strong indicator of continued market leadership; but there is an argument for talking about prudent capex, not absolute capex. Just how one determines 'prudent capex' (or indeed R&D spending return-on-investment) is far from clear. It may simply be easier to decrease the relevance of these terms (lower than existing values), rather than try to conjure up some new metrics that are hard to fully quantify.

Finally, the issue that is most pressing today relates to in-house capacity, technology type and location of manufacture. Thankfully, these parameters were identified at the start of the report releases as heavily-weighted within the manufacturing health scoring methodology. However, the new variable in the mix of recent is coming from US/China trade issues. Somehow, winners and losers from this are likely to be based on the levels of in-house manufacturing control on offer across different (Chinese) module suppliers; the details here however are just not known for now.

As the industry moves into 2022, the percentage of market supply coming from the top 10 module companies to global utility projects is likely to reach the 90% mark. When this happens, purely benchmarking these companies will take on a new level of importance. At this point, differences in companies all occupying, for example, AA-Rated positions will become more relevant than doing any side-by-side comparison between A-Grade and C-Grade companies. Capturing this next phase of the PV ModuleTech Bankability Ratings analysis will surely be a key topic two years from now, when we reflect on the next phase of activities across module suppliers to the PV industry. ■

Author

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