

# **BNEF Tier 1 Power Inverter Methodology**

**March 18, 2026**

**BloombergNEF**

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# Section 1. Introduction

BloombergNEF maintains a tiering system for solar and battery storage inverter manufacturers based on bankability, to create a transparent differentiation between the numerous players in the market. The BloombergNEF Tier 1 Power Inverter Makers list is intended to inform buyers about which inverters are being used in recently financed projects, but should never replace a proper due diligence process in product selection. This document explains the tiering criteria and its limitations. The latest inverter maker list can be found here: ([web](#) | [terminal](#)). Only the latest list is relevant, though historical lists can be found in the BNEF PV Market Outlook series [here](#).

Document Version Control	
<b>Date of issue</b>	March 18, 2026
<b>Reason for update</b>	BNEF Tier 1 badge explanation added. Text tightened in several places.
<b>Date of Issue</b>	August 05, 2025
<b>Date of Update (including the reason for update)</b>	Documentation moved to new template structure for consistency with other Bloomberg products. Some clarifications added but no changes to methodology.

## Section 2. Objective and user guide

### 2.1. Why divide the inverter market into tiers?

BloombergNEF is frequently asked by clients for a list of 'major' or 'bankable' suppliers – in common industry parlance, tier 1 suppliers – for use in manufacturing forecasts, preliminary competitor analysis, and other internal comparisons. It is very common for industry players to refer to 'tier 1' players, but these terms are seldom defined or described, which is unhelpful for firms outside the solar and storage industries trying to get a basic overview.

### 2.2. User guide

The Tier 1 Power Inverter Makers list by BNEF is a list of companies whose inverters have recently been selected for use in projects that have closed non-recourse debt finance. The list is published quarterly and is intended to help participants in the power industry understand which inverter makers have been deemed 'bankable' by banks. It should not be understood as a recommendation from BNEF, as we do not undertake technical or financial due diligence on the products and companies involved.

We strongly recommend that product purchasers and banks do not use the list as a measure of quality, but instead consult a technical due diligence firm such as **RINA, ATA Renewables, RETC LLC, Wood Plc, KIWA PVEL, Black & Veatch, DNV, TUV, E3, STS Certified, Clean Energy Associates, PI Berlin, Pvbuyer, Enertis, Leidos Engineering, Sinovoltaics, the Austrian Institute of Technology (AIT) or Phoventus**. These would usually consider what factory the inverter comes from and the bill of materials, and probably conduct accelerated degradation tests on a sample, and give an informed opinion on whether the inverters will perform as expected.

#### Accessing the list

Only BloombergNEF clients can access the list. To get a quote for a BloombergNEF subscription, which includes the quarterly Tier 1 list, please contact [sales.bnef@bloomberg.net](mailto:sales.bnef@bloomberg.net). Versions released on the internet may be in breach of license terms and may have been doctored.

The list of Tier 1 manufacturers is available to BloombergNEF subscribers as part of the [quarterly BloombergNEF PV Market Outlook](#) and here: ([web](#) | [terminal](#)). Note that a Tier 1 listing is not a recommendation for the company or its products.

The BloombergNEF Tier 1 Power Inverter Makers list is not a service to manufacturers who are on the list. Manufacturers should not subscribe to BNEF with the intention of influencing Tier 1 assessment.

A company may be removed from the Tier 1 list in any quarter, so only the list for the most recent quarter is valid. Press releases, and claims from the company, do not constitute evidence that a firm meets BloombergNEF's Tier 1 criteria.

## 2.3. BNEF Tier 1 badges

All companies which manufacture own-brand products are considered for the relevant Tier 1 list, and BNEF client status plays no role in list inclusion. The tiering teams are not aware of the BNEF client status of the firms under consideration.

A BNEF client account grants firms access to the list, to the full dataset of projects used to calculate tiering, and to the Tier 1 badge if they are included in the list. The badge can be used on marketing materials, under Bloomberg terms and conditions. Firms which are on the tier 1 list but are not BNEF clients will not be issued with a badge on request, as we cannot confirm tier 1 status to non-clients. The badges are each timestamped with the relevant quarter.

Please contact [bnef\\_t1badge@bloomberg.net](mailto:bnef_t1badge@bloomberg.net) for enquiries about the BNEF Tier 1 badges.

## Section 3. Input data

The BNEF Power Inverter Tier 1 list relies on publicly disclosed information about solar and storage projects and their financing deals. It does not take into account product quality information or environmental, social and governance criteria.

### 3.1. Sources of input data

The BNEF Power Inverter Tier 1 list is based on BNEF's database of renewable energy and storage assets and asset financing, which is mainly sourced from public information in the form of press releases and filings. Banks may provide supplementary information as part of the data collection methodology for other BNEF products. Data on large projects is likely to be checked by several different sources.

#### Data submissions

Power inverter manufacturers can help us tier them accurately by sending us data (at [inverter\\_t1@bloomberg.net](mailto:inverter_t1@bloomberg.net)) on the projects they have provided inverters for, and the financing used to support these projects. This data must include enough information to identify the project uniquely – project size, location (street address or coordinates), developer name, bank which provided financing, type of financing, construction and financing dates. This information will be published to BloombergNEF clients in its database.

For solar projects, the template [here](#) can be used (downloads in Excel).

The template for energy storage projects is [here](#) (downloads in Excel). Note that the energy storage project template does not require financing information to be included, but to be classified as a Tier 1 inverter maker, the firm needs to have supplied products to projects with non-recourse finance from at least two commercial banks. It is therefore recommended that storage project submissions by inverter makers include financing information.

We strongly prefer well organized and complete information. Where confirmation is required in the form of a bank document, please try to send the confirmation with the full project details.

Submitting incomplete or inaccurate project details may result in an entire submission being rejected without notice. Submission of incorrect data may result in blacklisting.

Emails with data received before the first day of a calendar quarter (January 1, April 1, July 1, October 1) will be processed for the Tier 1 list appearing in the PV Market Outlook about 50 days later. Data received in later emails may only appear in the database and be used for the Tier 1 list for the following quarter.

### 3.2. Updates to input data

The [BNEF Renewable Asset Financing Database](#) and the [BNEF Energy Storage Assets database](#) (BNEF client access only) are continually updated with new information as it becomes available. The inverter Tier 1 list is calculated and published quarterly, based on a two-year period before the beginning of the quarter, and the earlier of financing or commissioning date. The list is usually published in the week following the 18<sup>th</sup> day of the second month of the calendar quarter, ie February 18, May 18, August 18, November 18.

BloombergNEF clients have access to the full database, enabling them to look at the asset finance deals in the database [here](#) and the BNEF energy storage database [here](#) and count the banks themselves. If you are a BloombergNEF client, please ask your client service representative for details of how to do this.

For legal compliance reasons, BNEF cannot disclose any substantial information about upcoming research prior to publication. Consequently, whether a manufacturer will or will not be on the Tier 1 list in the next quarter cannot be confirmed until the list is published.

## Section 4. Calculation methodology

'Bankability' – whether projects using the inverter products have been offered non-recourse debt financing by banks – is the key criterion for tiering. Banks, and their technical due diligence providers, are typically unwilling to disclose their whitelists of acceptable products. BloombergNEF therefore bases its criteria on what deals have been closed in the past, as tracked in its proprietary databases. These databases have over 80,000 records of photovoltaic and storage project financing worldwide as of March 2025.

### 4.1. Calculation

Tier 1 power inverter manufacturers are those which have provided own-brand, own-manufacture products to at least **four** different projects, all of which have been financed non-recourse, by at least **two** different commercial (ie not development, not export-import) banks, in the past two years. The earlier of financing or commissioning date counts for tiering, ie refinancings of old projects do not count.

### 4.2. Evaluation criteria and key performance indicators

Only solar, standalone battery storage or hybrid project financings for 5 megawatts (MW) or more of inverter capacity are relevant to inverter tiering. These 5MW+ deals must be tracked by our database, ie the project location (sufficiently to identify the project uniquely, ie street address), capacity, developer, bank and inverter maker must be in the public domain.

Portfolio financings count toward tiering for an inverter maker if the total portfolio is 5MW or greater and the inverter maker supplies at least 5MW across the portfolio. For such portfolio financings to count, the individual projects must have defined locations, and the debt must be secured on all the assets together, ie, if one project in the portfolio underperforms the bank has a claim on the rest of the portfolio. Regardless of project size, when a financing is for a portfolio, it must be disclosed as such.

We only tier manufacturers which own production facilities and sell under their own brands. Companies which outsource production under brand names are not tiered.

Manufacturers which have filed for bankruptcy or a form of insolvency protection, or are in default of major financial obligations as stated in court documents or established without reasonable doubt by BloombergNEF, are removed from the tier 1 list until further notice. If a company goes through bankruptcy or substantial restructuring, it is likely to be required to meet the project criteria in its new incarnation to be included on the list.

Additional evidence is required that some deals, including those in China, India, Poland, Austria, Hungary, Switzerland or Turkey, are non-recourse, in order to include them in the BNEF database. This is because non-recourse financing is not the norm in these markets, and a bank may not require full technical due diligence on inverters if the financing is not secured on the project.

Non-recourse financing is where the bank has agreed to take the risk of the inverters failing and will not be repaid from the balance sheet of the developer or equity holder if the project does not

This classification is purely a measure of industry acceptance, and there are many documented examples of quality issues or bankruptcy of tier 1 manufacturers.

service the debt. Lease financing may be considered non-recourse. This evidence must be in the form of either a public document like a press release from one of the companies involved, or an article about the project published by a recognized media firm, or a copy of the agreement with the bank. The agreement with the bank will be kept strictly confidential and only used to confirm the non-recourse nature of the financing to ensure database accuracy. Emails or statements from developers are not counted as sole evidence that finance is non-recourse. BNEF reserves the right to reject any deal if there is no public evidence that it exists.

The companies are reviewed every quarter based on information added to BloombergNEF's database.

The Tier 1 classification is purely a measure of industry acceptance and does not directly account for product quality or financial strength of manufacturers. There are many documented examples of quality issues or bankruptcy of tier 1 manufacturers.

We reserve the right to change these criteria in line with the approach outlined in Section 6 below.

### 4.3. Assessment categories

BNEF maintains a Tier 1 list only. We do not publish a Tier 2 or 3 list.

### 4.4. Time horizon

The Tier 1 list is published quarterly and reflects companies whose inverters have been used in projects receiving non-recourse financing in the two years prior to the quarter in which the list is published.

### 4.5. Coverage

All power inverter manufacturers which own their own capacity and sell under their own brand are considered. BNEF client status is not relevant and the tiering team is not aware of client status.

## Section 5. Methodology limitations

The Tier 1 classification is purely a measure of industry acceptance and does not directly account for product quality or financial strength of manufacturers. It also does not account for environmental, social and governance criteria.

BNEF is not responsible for the operations of inverter manufacturers on its Tier 1 list. However, public evidence that a Tier 1 inverter manufacturer is in default of significant financial obligations may be grounds for removing it from the next edition of the list. BNEF's inverter tiering team is open to receiving relevant information on this topic by email to [inverter\\_t1@bloomberg.net](mailto:inverter_t1@bloomberg.net).

It is often impossible to be certain that a market participant is submitting accurate information, particularly in low-transparency markets. The BNEF inverter tiering team attempts to verify information, for example by requesting to see bank documentation or by requiring a public release of information. Submission of incorrect data by manufacturers, even if through carelessness rather than intent, is likely to result in the manufacturer being blacklisted from the Tier 1 list for one or more quarters.

## Section 6. Methodology review and updates

### 6.1. Methodology review

This methodology is reviewed periodically and, if necessary, updated to keep pace with the evolution of the solar and storage industry. Any changes apply to the list published in the *next* quarter and future lists.

If there are methodology changes, this document will be updated and republished at [this location](#), with an updated change log (see below). We will publish an updated version of this document well before the data submission deadline for the next list.

This methodology document may also be updated on an ad hoc basis (outside of the timings above) to provide clarifications. Such clarifications are usually to explain how BloombergNEF tiering team is assessing project submissions, but will not include changes to methodologies, thresholds or criteria.

### 6.2. Change log

This document was first published in July 2025, based heavily on the previous inverter methodology document published in June 2024. The structure has been amended to align with other Bloomberg product methodologies.

In March 2026, the BNEF Tier 1 badges were launched. This does not affect the list methodology.

## **Section 7. Restatements, output updates, cessation**

### **7.1. Restatements and other output updates**

If we make a mistake in calculating the currently valid Tier 1 list, we will issue a correction as soon as possible and indicate this as a correction in the document. We will not make changes to historical lists because these are no longer valid.

### **7.2. Cessation of product**

If the BNEF Power Inverter Maker Tier 1 List is no longer useful to BNEF clients, it will be discontinued.

## Section 8. Communication channels

All communication about data used to calculate the inverter Tier 1 list should go through [inverter\\_t1@bloomberg.net](mailto:inverter_t1@bloomberg.net). We do not take calls or meetings about tiering as we must have an email trail for all communication. The names of tiering team members are confidential.

The BloombergNEF sales and client service teams may be able to advise on accessing information but cannot influence decisions on tiering.

The published Tier 1 list for each quarter is final. Assessments will not be influenced by taking a BNEF/Bloomberg subscription, in-person visits, or sending specification sheets, testimonials, or confidential information. The only thing that influences Tier 1 inclusion is on-the-record data about financed –projects. Please see ‘data submissions’ under Section 3.

Please read this document carefully before sending questions already answered here, as we receive a high volume of queries and cannot enter into detailed correspondence.

A Chinese translation of this document is available [here](#).

Queries about the BNEF Tier 1 badges should go to [bnef\\_t1badge@bloomberg.net](mailto:bnef_t1badge@bloomberg.net).

## Appendices

### Appendix A. Frequently asked questions

**Does the tiering team answer hypothetical questions?**

No. We will make decisions based on real situations only.

**What are the rules on corporate name changes?**

The BNEF database will attempt to keep up with changes to the corporate name of a company. This takes precedence over branding, though we will include the brand where space allows. Complex ownership structures, name changes, and new branding may require public statements to explain in the company's own words. We do not want to be involved in discussion of corporate structure.

**Is it worth sending emails following up on data?**

BNEF clients can log in to their BNEF platform and use BNEF database to check what projects we track using certain equipment providers. If the submission appears accurate, we pass the data to the data entry team at BNEF to include the projects in the database. To reduce correspondence volume we do not confirm receipt, only query irregularities.

A manufacturer client may follow up with us if a submitted project is not included in the database after 4 weeks of submission, and there has been no query.

**Can a Tier 1 firm make an announcement of Tier 1 status?**

We cannot prevent this, but would strongly prefer such an announcement link to this methodology document for important context about what this status means.

If a firm makes an incorrect claim of Tier 1 status, public or otherwise, we may widely publicize that the claim is incorrect and also blacklist the firm from future Tier 1 lists.

**What about when an inverter maker only provides part of the project capacity?**

When an inverter maker provides only part of the project capacity, we require this to be noted in the submission along with the total project capacity. This is so that we can correctly align the whole-project information with other sources. The inverter maker needs to supply at least 5MW of product to the project for it to be relevant to tiering.

When a project financing covers both a solar and a storage project, the full scope of the project should be disclosed. This means disclosing the capacities of both the solar component and the storage component. This is for completeness and to match with other data disclosure surrounding the project. It makes no difference to the relevance of the project financing to the inverter manufacturer.

**What does 'in default of major / significant financial obligations' mean?**

We exclude an inverter maker from the tier 1 list if it is in default of major or significant financial obligations. This includes any case where a plaintiff has taken the inverter manufacturer to court about a debt, and the court has ruled in favor of the plaintiff and ordered the manufacturer to pay, if the debt remains outstanding at the time of publication. If the debt is settled, the inverter

manufacturer is eligible for the tiering list in the following quarter. It will not be retroactively added to the list if the debt is cleared after publication.

## Appendix B. Glossary of terms

Table 1: Definitions

Acronym	Detail
Inverter manufacturer	A company which owns manufacturing capacity for making inverters for either solar or energy storage projects and sells under its own brand.
Non-recourse debt	A form of finance where a bank lends to a project on a long term (>5 year) basis with no collateral except for the project itself.
Commercial bank	A debt provider with a primarily for-profit remit, ie: not a development or export-import bank.
Portfolio financing	Nonrecourse debt where the security is a pool of assets, not a single asset. These may be relevant to tiering if the assets are in a similar geographic location and the total is over the tiering threshold, or more definitely if individual assets are over the threshold. However information about the whole deal should be submitted by manufacturers for completeness purposes.

Source: BloombergNEF

## About us

### Contact details

#### Client enquiries:

- Bloomberg Terminal: press <Help> key twice
- Email: [support.bnef@bloomberg.net](mailto:support.bnef@bloomberg.net)

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BNEF inverter tiering team

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