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Limited Warranty for Solar Modules

Shinefar New Energy (Zhejiang) Co., Ltd.(hereinafter referred to as“Shinefar”) generally provide the Warranties set forth herein to the original purchaser and its successors and permitted assigns (hereinafter referred to as“Customer”) with respect to any solar photovoltaic module (hereinafter referred to as“Module”) set forth herein sold by Shinefar under purchase agreements subject to the terms and conditions herein (hereinafter referred to as “Limited Warranty”). Shinefar and Customer may hereinafter be referred to each as a“Party” and collectively as the“Parties”.

Types of Modules covered by this Limited Warranty					
Module Type	Limited Product Warranty Period (Years)	Limited Power Warranty Period (Years)	First Year Degradation Rate	Annual Degradation Rate	Pmin At The End Of Power Warranty Period
Poly Module	15	25	2.5%	0.60%	83.10%
PERC Module	15	25	2.0%	0.55%	84.80%
PERC Double Glass Module	15	30	2.0%	0.45%	84.95%
N-TYPE Module	15	30	1.5%	0.50%	84.00%
N-TYPE Double Glass Module	15	30	1.0%	0.40%	87.40%

Table 1. Types of Modules covered by this Limited Warranty

Types of Modules covered by Annual decay rate					
Module Type	N-TYPE Double Glass Module	N-TYPE Module	PERC Double Glass Module	PERC Module	Poly Module
First-year decay rate	1.00%	1.50%	2.00%	2.00%	2.50%
Annual decay rate	0.40%	0.50%	0.45%	0.55%	0.60%
1st year	99.00%	98.50%	98.00%	98.00%	97.50%
2nd year	98.60%	98.00%	97.55%	97.45%	96.90%
3rd year	98.20%	97.50%	97.10%	96.90%	96.30%
4th year	97.80%	97.00%	96.65%	96.35%	95.70%
5th year	97.40%	96.50%	96.20%	95.80%	95.10%
6th year	97.00%	96.00%	95.75%	95.25%	94.50%

7th year	96.60%	95.50%	95.30%	94.70%	93.90%
8th year	96.20%	95.00%	94.85%	94.15%	93.30%
9th year	95.80%	94.50%	94.40%	93.60%	92.70%
10th year	95.40%	94.00%	93.95%	93.05%	92.10%
11th year	95.00%	93.50%	93.50%	92.50%	91.50%
12th year	94.60%	93.00%	93.05%	91.95%	90.90%
13th year	94.20%	92.50%	92.60%	91.40%	90.30%
14th year	93.80%	92.00%	92.15%	90.85%	89.70%
15th year	93.40%	91.50%	91.70%	90.30%	89.10%
16th year	93.00%	91.00%	91.25%	89.75%	88.50%
17th year	92.60%	90.50%	90.80%	89.20%	87.90%
18th year	92.20%	90.00%	90.35%	88.65%	87.30%
19th year	91.80%	89.50%	89.90%	88.10%	86.70%
20th year	91.40%	89.00%	89.45%	87.55%	86.10%
21th year	91.00%	88.50%	89.00%	87.0%	85.50%
22th year	90.60%	88.00%	88.55%	86.45%	84.90%
23th year	90.20%	87.50%	88.10%	85.90%	84.30%
24th year	89.80%	87.00%	87.65%	85.35%	83.70%
25th year	89.40%	86.50%	87.20%	84.80%	83.10%
26th year	89.00%	86.00%	86.75%	/	/
27th year	88.60%	85.50%	86.30%	/	/
28th year	88.20%	85.00%	85.85%	/	/
29th year	87.80%	84.50%	85.40%	/	/
30th year	87.40%	84.00%	84.95%	/	/

Table 2. Types of Modules covered by Annual decay rate

1. LIMITED WARRANTY

1.1 Definitions and Table Description

Actual Power Output.

Actual Power Output means the power output of the Module, expressed in Watts, measured at STC at a given point in time in a year after the Warranty Start Date, corrected for any measurement error, as per IEC 61215.

Annual Degradation Rate.

For each year after the first year following the Warranty Start Date until the end of the applicable Limited Power Warranty Period, Shinefar warrants that the Degradation Rate of Modules shall not exceed the applicable Annual Degradation Rate set forth at Table 1 applicable for each Module Type.

Degradation Rate.

Degradation Rate means any positive amount calculated in accordance with the following formula, expressed as a percent:

$$\text{Degradation Rate} = (\text{Nominal Power Output} - \text{Actual Power Output}) / \text{Nominal Power Output} \times 100\%$$

First Year Degradation Rate.

In the first year following the Warranty Start Date, the applicable maximum Degradation Rate of Modules set forth at Table 1.

Nominal Power Output.

Nominal Power Output means the original manufactured nameplate specification of power in the Module (Maximum Power, P_{max}), expressed in Watts, and measured at STC, excluding any specified positive tolerance.

Standard Test Conditions (STC).

- ① Air mass 1.5, ② Irradiance 1000W/m², ③ Cell Temperature 25°C

Warranty Start Date.

Shinefar provides the Limited Warranty set forth herein commencing upon the earlier of one of the following dates:

- A. The date which is one hundred and eighty (180) days following the Module manufacture date.
- B. Delivery date of a Module to the original purchaser thereof.

$P_{1st\ year, \%}$

$P_{1st\ year, \%}$ represents the warranted Actual Power Output of Modules at the end of the first year following the Warranty Start Date.

$$P_{1st\ year, \%} = 100\% * (1 - \text{First Year Degradation Rate})$$

$P_{N\ year, \%}$

$P_{N\ year, \%}$ represents the warranted Actual Power Output of Modules at the end of a year (N) after the first year following the Warranty Start Date until the end of the applicable Limited Power Warranty Period as specified

at Table 1.

$$P_{N \text{ year, \%}} = 100\% * (1 - (\text{First Year Degradation Rate} + \text{Annual Degradation Rate} * (N-1))),$$

With $N, 2 \leq N \leq \text{Limited Power Warranty Period}$

1.2 Limited Product Warranty

Beginning on the Warranty Start Date and for the Limited Product Warranty Period, Shinefar warrants that the Module and its respective DC connectors and cables (hereinafter referred to as the “Products”) will be free from material defects in workmanship which impair the performance of the Products. Material defects shall not include changes in appearance or normal wear and tear of the Products.

1.3 Limited Power Warranty

Beginning on Warranty Start Date and for the first year following the Warranty Start Date, Shinefar warrants that the Degradation Rate of Modules shall not exceed the applicable First Year Degradation Rate; for each year after the first year, the Degradation Rate of Modules shall not exceed the applicable Annual Degradation Rate, as set forth at Table 1.

2. Warranty Claim and Remedies

2.1 Warranty Claim

- a) Customer shall bear the burden of establishing a breach of the Limited Product Warranty or Limited Power Warranty (collectively, “Warranties”), and if Customer believes that there has been a breach of the Warranties, Customer shall promptly and no later than thirty (30) days via email after knowledge thereof, provide notice to Shinefar setting forth the following evidentiary documents or information related to the claim:
- 1) Identifying information of the claimant;
 - 2) A detailed description of the claim;
 - 3) Supporting materials including photos of affected modules or testing reports;
 - 4) Serial number, types, and numbers of affected module;
 - 5) Evidence of purchase of the affected Module and Warranty Start Date;
 - 6) Initial installation location;
 - 7) Other supplementary information required by Shinefar;
 - 8) Upon request by Shinefar, the actual Module(s) allegedly causing the breach.

In the event that Customer fails to notify Shinefar and provide the relevant information of (1)-(8) as described above, Shinefar is entitled to refuse to process the relevant claim without any liability.

- b) Shinefar will review and evaluate alleged claims after receipt of the claim and full information as stipulated herein. If Shinefar at its sole discretion considers it necessary, Shinefar can request the Modules be shipped to the Independent Testing Lab for testing. In the event Customer returns the Modules without written consent from Shinefar, the risks (including but not limited to damage and loss of the Modules) and expenses related to the Modules shall be borne by Customer.
- c) Notwithstanding anything to the contrary herein, Shinefar shall be entitled, in Shinefar’s sole discretion upon written notice to Customer, to require that any breach of the Warranties alleged by Customer be

reviewed by SGS TÜV SAAR or other neutral third party testing laboratory selected by Shinefar and approved by Customer, such approval not to be unreasonably withheld or delayed (“Independent Testing Lab”). The power measurement tolerance of any testing equipment utilized by any Independent Testing Lab in performing tests required by this Section 2.1 (c) shall be disclosed in writing to both Parties prior to performance of any such tests and shall be reflected in any final test results provided by the Independent Testing Lab. The determination by an Independent Testing Lab as to whether a breach has occurred shall be final and conclusive with respect to the matters covered by such determination. In all measurements of Actual Power Output, the effect of test uncertainty needs to be considered as per IEC 61215.

- d) Shinefar shall first bear reasonable testing costs incurred by the Independent Testing Lab pursuant to Section 2.1(c) hereto, including but not limited to shipping, testing services, and insurance. However, Customer shall promptly upon receipt of notice indemnify Shinefar for all such costs on a dollar-for-dollar basis in the event that the Independent Testing Lab is unable to confirm a breach of the Warranties or, if no Independent Testing Lab was utilized, Customer is otherwise unable to establish a breach of the Warranties.
- e) Notwithstanding anything to the contrary in this Limited Warranty, Shinefar shall not be liable to the successors and permitted assigns of the Limited Warranty for the portion of warranty benefits that arising from the similar root cause and has already been processed and/or enjoyed prior to the transfer of this Limited Warranty. For the avoidance of doubt, the benefits of the successors and permitted assigns of the Limited Warranty shall exclude the portion claimed by the previous Customer.

2.2 Remedies for Claims

a) Remedies Option

In the event that the Module(s) breaches the Warranties, then Shinefar shall, at its sole discretion, provide one of the following remedies:

- 1) Repair the defective Modules. In such case, Shinefar shall prepare the repair project plan and carry out the repair project for the affected modules; or
- 2) Replace the defective Modules. In such case, the replacement modules’ Actual Power Output shall be no less than the Theoretical Minimum Residual Warranty Power Output of the replaced Module(s)
Theoretical Minimum Residual Warranty Power Output= Nominal Power Output * (1 -(First Year Degradation Rate + Annual Degradation Rate * (N-1))
Note: year N, $0 \leq N \leq$ Limited Power Warranty Period; or
- 3) Refund the Residual Value of the defective modules or refund the Value Equivalent of the Output Gap (Gap between the Theoretical Minimum Residual Warranty Power Output and the Actual Power Output of the defective Module(s))

Residual Value = Current Price (price-per-watt) * Nominal Power Output * (Left-over Limited Power Warranty Period / Limited Power Warranty Period)

Value Equivalent of Output Gap = Current Price (price-per-watt) * (Theoretical Minimum Residual

Warranty Power Output – Actual Power Output)

The Current Price (price-per-watt) is determined by Shinefar ; or

- 4) Provide additional Module(s) to compensate for the power output loss for any Module which causes a breach of the Warranties.

b) Remedies Description

Unless otherwise agreed in writing, additional, repaired or replacement Modules shall be delivered to the same destination and on the same INCOTERMS 2020 delivery basis that the original Module causing breach of the Warranties was delivered under the purchase agreement to which this Limited Warranty applies. Replaced Modules received by Shinefar pursuant to Section 2.2 shall be the sole property of Shinefar. Shinefar shall be solely responsible for all shipping costs incurred performing its additional supply, repair or replacement obligations under this Section 2.2(b). For avoidance of doubt, it is expressly stated here that any costs incurred due to dismantling, repacking, installation or re-installation the Module(s) and other related expenses shall be borne by the Customer. Additional or replacement Modules shall be of the same type and physical form as the original Module, electrically compatible with the original Module, and have an electrical output of not less than the warranted power output of the original Module at the time of supply or replacement, based on the warranted degradation rates set forth at Section 1 hereto. Notwithstanding the foregoing, if Shinefar no longer supplies Modules meeting the foregoing criteria, then additional or replacement Modules provided under this Section 2.2(b) shall be those Modules then supplied by Shinefar most substantially meeting the foregoing criteria. Shinefar's performance of any repair, replacement or additional supply pursuant to this Section 2.2(b) shall not extend the term of any Warranties.

Unless otherwise agreed upon in the underlying purchase agreement, Customer shall dispose of out-of-use Module (s) in accordance with applicable regulations on electronic waste treatment and disposal at its own cost and the same shall not be reworked, re-sold or re-used in any way. If Shinefar determines to retrieve such Modules, the ownership of same is deemed to belong to Shinefar, and Shinefar shall bear the transportation costs related with delivery of the Module(s) from their original place to the destination location designated by Shinefar.

c) Exclusions

This Limited Warranty is subject to the exclusions set forth in this Section 2.2(c). The Warranties shall not apply to any Module or Products which have been:

- 1) Altered, repaired or modified without the prior written consent of Shinefar or otherwise inconsistent with Shinefar's written instructions; or
- 2) Used in a manner inconsistent with the version of Shinefar Installation Manual available; or
- 3) Removed and re-installed at any location other than the physical location in which it was originally installed following purchase by Customer or receipt from Shinefar as a replacement Module; or
- 4) Subject to misuse, abuse, neglect, or accident except as may be caused by Shinefar in the course of storage, transportation, handling, installation, application, use or service; or
- 5) Subject to power surges, lightning, floods, fires, natural disasters and other force majeure or module damage due to war, tampering, vandalism, accidental breakage, or other events beyond Shinefar's control, resulting in material damages to the Module; or
- 6) Installed on mobile platforms (other than single or dual-axis trackers) or in a marine environment;

or

- 7) Subject to direct contact with corrosive agents or salt water, pest damage, or malfunctioning PV system components; or
- 8) Exposure to voltage in excess to the maximum system voltage or power surges; or
- 9) Use of the Products in such a manner as to infringe Shinefar's or any third party's intellectual property rights (including but not limited to patents, trademarks, etc.).

The Warranties shall not apply to any Module (and/or Product if applicable) for which the labels thereon indicating type or serial number have been altered, removed or made illegible. The Warranties shall not apply to any Module and Product for which full and final payment has not been received by Shinefar or for Modules which are purchased through unauthorized sales channels or for Modules which are not genuine and are found to be counterfeit.

3. LIMITS OF LIABILITY

Notwithstanding anything to the contrary in this limited warranty, except as expressly provided herein, Shinefar makes no warranties, guarantees or conditions, express or implied, arising from or relating to the modules and Shinefar disclaims any warranty or guarantee implied by law, including implied warranties of performance, merchantability or fitness for a particular purpose and implied warranties of custom or usage, arising from or relating to the modules. The remedies for breach of this warranty are customer's sole and exclusive remedies arising from or relating to any breach of the warranties. In no event shall Shinefar be responsible pursuant to this warranty for any performance analysis, inspection, diagnosis, removal, customs, import duties, export duties, taxes, reinstatement costs, special, indirect, incidental, punitive, exemplary or consequential damages of any nature whatsoever, including losses or damages caused by reason of loss of use, loss of profits or revenue, interest charges (except as expressly provided herein), loss of bonding capacity, cost of capital or claims of customer damages, whether liability arises as a result of breach of contract, tort liability (including negligence), strict liability, by operation of law or in any other manner. Except as set out in this limited warranty, Shinefar shall have no responsibility or liability whatsoever for damage or injury to persons or property, or for other loss or injury resulting from any cause whatsoever arising out of or related to this limited warranty.

4. ASSIGNMENT

Notwithstanding anything to the contrary herein, this Limited Warranty is for the sole and exclusive benefit of Customer and there are no third party beneficiaries hereof; provided, however, subject to written notice to Shinefar and Shinefar's receipt of full and final payment for the Modules, this entire Limited Warranty may be assigned in whole but not in part to any person or entity. Any permitted assignee of this Limited Warranty shall execute such agreements as may reasonably be requested by Shinefar to confirm the applicability of any term hereof as a condition to assignment.

5. LAW AND FORUM

Any dispute related to or arising out of this Limited Warranty, including without limitation any question regarding its existence, validity, breach, or termination, shall be referred to and finally resolved pursuant to the governing law clauses and dispute resolution procedures under the purchase agreement between the original

purchaser and Shinefar. As a condition to any obligation of Shinefar hereunder, Shinefar may require any Customer seeking to enforce this Limited Warranty to execute such additional agreements as may reasonably be required to enforce the terms of this Section 5.

6. MERGER CLAUSE

This Limited Warranty sets forth the entire agreement and understanding of the Parties relating to the subject matter herein and supersedes all prior or contemporaneous discussions, understandings and agreements, whether oral or written, between them relating to the subject matter hereof.

7. SEVERABILITY

If one or more provisions of this Limited Warranty are held to be unenforceable under applicable law, the Parties agree to renegotiate such provision in good faith. In the event that the Parties cannot reach a mutually agreeable and enforceable replacement for such provision, then (a) such provision shall be excluded from this Limited Warranty, (b) the balance of this Limited Warranty shall be interpreted as if such provision were so excluded and (c) the balance of this Limited Warranty shall be enforceable in accordance with its terms.

8. MISCELLANEOUS

The terms of this Limited Warranty are conditioned upon their incorporation in a contractual agreement between Shinefar and Customer, and when incorporated to such contractual agreement, this Limited Warranty shall be subject to the terms thereof and subject to modification when incorporated therein. Shinefar reserves the right to modify or update this Limited Warranty at any time, with or without notice.

[END OF LIMITED WARRANTY]