

Japan Credit Rating Agency, Ltd. (JCR) announces the following credit rating.

Hanwha Japan CO., LTD. (security code: -)

<Affirmation>

Long-term Issuer Rating: A-
Outlook: Stable

Rationale

- (1) Hanwha Japan CO., LTD. (the Company) is a consolidated subsidiary wholly owned by Hanwha Corporation, a core company of the Hanwha Group (the Group), the seventh-largest conglomerate in Korea, which is responsible for Hanwha Corporation's Japanese business. In March 2023, the Company changed its name from Hanwha Q CELLS Japan to its current name. In recent years, the Company has expanded its business with solar module sales as a growth driver, but it intends to focus its management resources on the electric power business as its future core while maintaining stable operations in the existing businesses such as chemicals and solar energy-related businesses. JCR holds that the Group's creditworthiness is equivalent to A, reflecting its profitability based on a strong business foundation in Korea and diversified business portfolio. The rating on the Company is one notch below the Group's creditworthiness, mainly in view of the degrees of the Group's control and involvement as well as management importance. Hanwha Corporation is engaged in trading, construction, and other activities. JCR believes the roles that the Company plays in sales, funding, and electric power business in Japan are reasonably importance to Hanwha Corporation's business development, and the Company is highly integrated with Hanwha Corporation in terms of human resources, capital relationship, and credit enhancement.
- (2) The Hanwha Group consists of Hanwha Life Insurance, Hanwha Solutions, Hanwha Aerospace and Hanwha Hotels & Resorts under Hanwha Corporation. The Group has built a strong business foundation in Korea focused on finance, explosives, chemicals and solar energy. In finance business, Hanwha Life Insurance and Hanwha General Insurance are in leading positions, ranking second and seventh, respectively, in the industry and contributing to the Group's stable revenues. In explosives business, business is focused on aerospace and defense, and it boasts the biggest market share in the defense sector. The Company spun off its cluster bomb manufacturing business and sold off all its shares to a third party in December 2020, completely withdrawing from this business. In chemicals business, Hanwha Solution, a vertical integrated petrochemical company, has a high market share in its main product groups such as polyethylene, Chlor-Alkali and etc. Its solar business is driven by Hanwha Solution's Qcells division, which is expanding globally and has world-class capabilities to deliver high-quality solar products and services. Maintained top share in both residential and commercial solar module market in the United States for over 4 years, Qcells is recognized as a top brand quality in Europe and Australia, and has an extremely strong competitive advantage, establishing a solid global business foundation.
- (3) The Group's performance has been growing over a long term, supported by the entry into the insurance business in 2002, the acquisition of Qcells in 2012 and the acquisition of integrated chemical and defense businesses from the Samsung group in 2015. Its annualized average growth rate from 2001 to 2022 was 10% each for revenues and operating profit. Its 2022 revenues (excluding consolidated adjustments) broke down into 48% for finance, 13% for explosives, 15% for solar energy and 10% for chemicals, showing that its business portfolio is well diversified. Geographically, Korea accounted for 79%, the Americas for 7%, Asia for 6% and others for 8%. The share of domestic revenues is still high, but the percentage of overseas revenues is gradually increasing thanks to the expansion of its global business. Its revenues in 2022 totaled KRW 62.3 trillion (up 17.9% from 2021), with its final profit amounting to KRW 2.2 trillion (down 1.7%). The reduced profit mainly came from a significant profit setback in the chemicals business due mainly to higher raw material and fuel prices, a reduced demand for major products amid the global inflation and narrowed spreads for major petrochemical products as well as in the finance business due mainly to a worsened investment income of Hanwha Life Insurance brought by rising global interest rates. The Group's interest-bearing debt totaled KRW 23.5 trillion at the end of 2022 (up 9.2% from the end of 2021), with the shareholders'

equity standing at KRW 5.2 trillion (down 4.9%). Its net debt-equity ratio was 3.23 times and equity capital ratio was 2.5%, indicating that its financial structure has room for improvement.

- (4) The Company plays a central role in Hanwha Corporation's business in Japan. In business aspects, it is the group's sole operation in Japan that is indispensable as a trading base for high value-added Japanese products and as a sales network for the solar energy business. Its strategic importance is high. In personnel aspects, it has strong relations with Hanwha Corporation as its president, auditors and other senior managers are seconded from the parent company. In terms of capital, the Company is a wholly-owned subsidiary of Hanwha Corporation which guarantees most of its interest-bearing debt. JCR believes that the Company can expect to have support from its parent when necessary, given its track records of capital injection in the past. The Company's revenues in 2022 broke down into 55% for chemicals, 36% for solar energy, 6% for product solution and 2% for security. By region, Japan accounted for 61%, Korea for 19%, China for 19% and others for 1%. In its chemicals business, the Company sells petrochemical raw materials, petrochemical auxiliary materials, synthetic resins and other products in cooperation with its affiliated companies. In the solar energy business, the Company forayed into the solar module sales business in 2011. It has a good reputation for high-quality products and is competitive with a domestic market share of over 10% for residential and industrial solar power generation system. In January 2023, six affiliated subsidiaries were transferred to Q.ENEST Holdings to further expand the electric power business, including new energy solutions using renewable energy. Product solution division has been focusing on trading between Japan and Korea since its establishment in 1984. Its security division sells surveillance cameras and other products independently developed and manufactured with its world-class optical designs. The Company's performance in 2022 saw both revenues and profit decline as a slowdown of the solar energy-related business made a negative contribution. The Company managed to retain its financial structure by keeping its equity capital ratio in the 30% range and net debt-to-equity ratio at 1 times at the end of 2022. JCR holds that it may take time for the Company to improve its financial structure as it has made investments and M&As exceeding its cash flows through concentration of management resources in the electric power business.

Atsushi Masuda, Michihisa Ueno

Rating

Issuer: Hanwha Japan CO., LTD.

<Affirmation>

Long-term Issuer Rating: A- Outlook: Stable

Rating Assignment Date: October 12, 2023

The assumptions for the credit ratings and the definitions of the rating symbols are published as "Types of Credit Ratings and Definitions of Rating Symbols" (January 6, 2014) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

Outline of the rating methodology is shown as "JCR's Rating Methodology" (November 7, 2014), "Chemicals" (June 15, 2022) and "Rating Methodology for Group Companies of Corporate Group" (September 1, 2022) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

The rating stakeholder participated in the rating process of the aforementioned credit ratings.

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JCR publishes its press releases regarding the rating actions both in Japanese and in English on the same day. In case that it takes time to translate rating rationale, JCR may publicize the summary version, which will be replaced by the full translated version within three business days. (Regarding Structured Finance products, JCR only publicize the summary version in English.)



INFORMATION DISCLOSURE FORM

Japan Credit Rating Agency, Ltd.

Disclosure Required by Paragraph (a)(1)(ii) of Rule 17g-7

Issuer:	Hanwha Japan CO., LTD.
Rating Publication Date:	October 17, 2023

1

The Symbol, Number, or Score in the Rating Scale used to Denote Credit Rating Categories and Notches and, the Identity of the Obligor or the Identity and a Description of the Security or Money Market Instrument as Required by Paragraph (a)(1)(ii)(A) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

2

The version of the procedure or methodology used to determine the credit rating; as Required by Paragraph (a)(1)(ii)(B) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

3

The Main Assumptions and Principles used in Constructing the Procedures and Methodologies used to Determine the Credit Rating as Required by Paragraph (a)(1)(ii)(C) of Rule 17g-7

- The credit rating methodology assumes, in principle, to be applied to assess the likelihood of a given debt payment in light of its issuer's condition and business environment, etc. in the relevant future. There is certain limitation, however, in the time horizon that the rating foresees.
- The credit rating methodology assumes, in principle, that the factors posted in the below are particularly important for such likelihood to be determined, and that the rating determination is made by evaluating each of them not only quantitatively but also employing qualitative analyses.

A) Business Bases

The likelihood of a given debt payment is highly conditional to its issuer's business bases - how they can be maintained/ expanded into the future and thereby secure earnings and cash flows in adequacy and in a sustainable way.

B) Financial Grounds and Asset Quality

The likelihood of debt payment is highly dependent on the degree of the issuer's indebtedness and loss absorption capacity in terms of equity capital. Also notable is that a financial institution might see a significant loss of financial grounds as a result of changes in value of the assets under its possession.

C) Liquidity Positions

The likelihood of debt payment is highly dependent on the adequacy of the issuer's cash and other sources of repayment (liquidity positions).

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The likelihood of debt payment is affected one way or the other by the issuer's related parties such as parent company, subsidiary, guarantor, and the government of the issuer's business domicile, etc. - by their own conditions and/ or position of support/ assistance for the issuer.

E) Order of Seniority in Debt Payment

The likelihood of debt payment can be different between given debts of the same issuer. The likelihood of debt payment for an individual debt is dependent on the issuer's discretion, and/ or its rank relative to other debts of the same issuer in the order of seniority in principal/ interest payment which is determined by design as financial product or by laws, etc.

4 The Potential Limitations of the Credit Rating as Required by Paragraph (a)(1)(ii)(D) of Rule 17g-7

- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- The objective of the credit rating herewith presented does not include any concerns other than the likelihood of debt payment, such as risks of price changes, market liquidity, etc.
- The credit rating herewith presented is necessary to be reviewed along with possible changes of the issuer of rated objects in its business performance and/ or circumstances which include regulatory environment, and hence subject to possible alteration.

5 Information on the Uncertainty of the Credit Rating as Required by Paragraph (a)(1)(ii)(E) of Rule 17g-7

- The information used for the determination of credit rating as herewith presented is obtained by JCR from the issuer of rated objects and other sources that JCR trusts in terms of accuracy and reliability but possibly contains errors due to human, non-human or other causes. Consequently, the credit rating determined on the grounds of such information does not constitute, explicitly or implicitly, any representation or warrant of JCR on the information itself or any consequences of its use in terms of accuracy, relevance, timeliness, wholeness, market value, or usefulness for any specific purposes.

6 Use of Due Diligence Services of a Third Party in Taking the Rating Action as Required by Paragraph (a)(1)(ii)(F) of Rule 17g-7

- There is no use of any third-party due diligence service in the determination of the credit rating herewith presented.

7 Use of Servicer or Remittance Reports to Conduct Surveillance of the Credit Rating Required by Paragraph (a)(1)(ii)(G) of Rule 17g-7

- There is no use of any servicer or remittance report to conduct surveillance of the credit rating herewith presented.

8 The Types of Data Relied Upon for the Purpose of Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(H) of Rule 17g-7

- The information posted in the below, which includes data, is used for the determination of the credit rating herewith presented.

A) Audited financial statements presented by the rating stakeholders

B) Explanations of business performance, management plans, etc. presented by the rating stakeholders

9 Overall assessment of the Quality of Information Available and Considered in Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(I) of Rule 17g-7

- JCR holds its basic policies for securing the quality of information as a base of due diligence for the determination of credit ratings. The information used as a base for the determination of credit rating herewith presented satisfies such policies, which include the audit by an independent auditor, the warranty made by the issuer, the publication by the issuer, some independent media or, otherwise, JCR analyst's scrutiny, etc.
- JCR sees no particular weakness in the quality of information used for the determination of the credit rating herewith presented as compared to the information used in other cases of the credit rating for comparable issuers or ratable objects.
- If the credit rating is an Indication, please see the report for Indication.

10 Information Relating to Conflicts of Interest as Required by Paragraph (a)(1)(ii)(J) of Rule 17g-7

- JCR receives payment of compensation for the determination of the credit rating herewith presented from either one of those parties who are issuer, underwriter, depositor or sponsor.
- JCR did not receive in the last fiscal year in the past payment of compensation from the same party for any kind of JCR's service other than the determination of public or private credit rating, such as one in the ancillary business.

11 Explanation or Measure of the Potential Volatility of the Credit Rating as Required by Paragraph (a)(1)(ii)(K) of Rule 17g-7

A) Business Bases

The credit rating is subject to alteration if there is improvement or deterioration of the issuer's business bases, since its revenue, etc. may improve or deteriorate by the change in its business management policies, clients' preferences, competitive situation, or a technological innovation. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the business bases is large.

B) Financial Grounds and Asset Quality

The credit rating is subject to alteration if the issuer increases/ decreases its debt/ capital or vice versa and thereby makes its individual debt payment liability less or more bearable and its loss absorption capacity into the future decreased or increased. Also, the changes in the quality of asset under the issuer's holding may affect the credit rating, since such changes could raise or lower the likelihood of future loss of the issuer's financial grounds. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the financial grounds and/ or asset quality is large.

C) Liquidity Positions

The credit rating is subject to alteration if there is a change in the issuer's financial management policy or in the relations with fund procurement sources and the change thereby makes its liquidity positions improve or deteriorate. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is large.

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The credit rating is subject to alteration if there is a change in the issuer's parent company or subsidiary, guarantor or other provider of credit enhancement, or the government of the issuer's business domicile, or other related parties' own conditions and/ or position of support/ assistance for the issuer, and the change thereby makes its business bases, financial grounds and/ or liquidity positions improve or deteriorate, and/ or making the effectiveness of guarantee and other credit enhancement improve or deteriorate. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large.

E) Order of Seniority in Debt Payment and Non-Payment Forgiven by Contract

The credit rating is subject to alteration if there is a change in the rated debt's status in the order of seniority relative to other debts caused by the improvement/ deterioration of the issuer's financial condition. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large. Also, in case of the financial products for which non-payment of interest/ principal is contractually permissible, the credit rating is subject to alteration if and when the likelihood of such non-payment is projected to increase or decrease. The resultant alteration of the credit rating could be by a notch but often as much as a few notches.

F) Rise and Fall in General Economy and Markets

The credit rating is subject to alteration if there is a rise/ fall in the general economy and/ or the markets inducing the issuer's revenues/ expenses to increase/ decrease and vice versa, etc. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is exceptionally large.

G) Various Events

The credit rating is subject to alteration on occurrence of various events, such as change in the issuer's major shareholders, M&A and other organizational change, accident, violation of the law, litigation, legal/ regulatory change, natural disaster, etc., which are unforeseeable at the time when the credit rating is determined, causing a significant change on the issuer's business bases, financial grounds, etc. The resultant alteration of the credit rating could be by a notch but more often than not as much as a few notches.

12

Information on the Content of the Credit Rating, Including the Historical Performance of the Credit Rating and the Expected Probability of Default and the Expected Loss in the Event of Default as Required by Paragraph (a)(1)(ii)(L) of Rule 17g-7

- Historical records of the credit rating herewith presented are posted in the end of this paper.
- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- Facts of the probability of default are posted as Form NRSRO Exhibit 1 on the JCR website under the URL:

<https://www.jcr.co.jp/en/service/company/regu/nrsro/>

13

Information on the Sensitivity of the Credit Rating to Assumptions Made as Required by Paragraph (a)(1)(ii)(M) of Rule 17g-7

A) Business Bases

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's business bases and powers of earning or cash flow generation, etc. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's business bases on some drastic change in the operational environments, etc.

B) Financial Grounds and Asset Quality

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's financial grounds and asset quality. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but

possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's financial grounds and/ or asset quality on some drastic change in its business bases.

C) Liquidity Risks

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's liquidity positions. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's liquidity positions on some drastic change in its financial management policy or relations with fund procurement sources, etc.

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's parent company or subsidiaries, guarantor or other providers of credit enhancement, the government of the issuer's business domicile or other related parties' status and stance of support/ assistance for the issuer. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if there is a major change on the part of related parties, such as replacement, disappearance, some drastic improvement/ deterioration of financial grounds/ balances, etc.

E) Rise and Fall in General Economy and Markets

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the prospects of general economy and markets. JCR expects the change should be most likely by a notch but could be as much as a few notches, should the economy or the markets change so greatly.

14

Information on the Representations, Warranties, and Enforcement Mechanisms of an Asset-backed Security as Required by Paragraph (a)(1)(ii)(N) of rule 17g-7

- The credit rating herewith presented is not for an ABS product, and hence no relevant issue.

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The Historical Performance of the Credit Rating

Issuer Name	Issue Name	Publication Date	Rating	Outlook/Direction
Hanwha Japan CO.,LTD.	Issuer(Long-term)	July 15, 2022	A-	Stable

Attestation Required by Paragraph (a)(1)(iii) of Rule 17g-7

I, Kiichi Sugiura, have responsibility to this Rating Action and to the best of my knowledge:

- A) No part of the credit rating was influenced by any other business activities.
- B) The credit rating was based solely upon the merits of the obligor, security, or money market instrument being rated.
- C) The credit rating was an independent evaluation of the credit risk of the obligor, security, or money market instrument.

杉浦 輝一

Kiichi Sugiura
General Manager of International Rating Department

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