S&P Global
Ratings

Powered by Shades of Green

An S&P Global Second Party Opinion (SPO) includes S&P Global Ratings' opinion on whether the documentation of a sustainable finance instrument, framework, or program, or a financing transaction aligns with certain third-party published sustainable finance principles. Certain SPOs may also provide our opinion on how the issuer's most material sustainability factors are addressed by the financing. An SPO provides a point-in-time opinion, reflecting the information provided to us at the time the SPO was created and published, and is not surveilled. We assume no obligation to update or supplement the SPO to reflect any facts or circumstances that may come to our attention in the future. An SPO is not a credit rating, and does not consider credit quality or factor into our credit ratings. See Analytical Approach: Second Party Opinions.

Second Party Opinion

Hanwha Energy USA Holdings Corp. Green Bond Framework

June 9, 2025

Location: United States **Sector:** Renewable Electricity

Alignment Summary

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

See Alignment Assessment for more detail.

Primary contact

Joyee Lam
Hong Kong
+852-2912-3057
joyee.lam
@spglobal.com

Dark green

Activities that correspond to the long-term vision of a low-carbon climate resilient future.

Our Shades of Green Analytical Approach >

Strengths

Hanwha Energy USA's core activities within the photovoltaic (PV) value chain support the transition to a low-carbon economy. Additionally, the framework's eligible activities contribute to improving the electricity grid's efficiency and its capacity to support the growth of the solar energy market.

The issuer is committed to engaging a third party for annual post-issuance review on both allocation and impact reporting. This adds transparency to its green finance undertakings.

Weaknesses

No weakness to report.

Areas to watch

Data centers are highly energy-intensive and will likely grow under the expansion of AI and other technologies. Eligible data centers' power usage effectiveness (PUE) ratio must not exceed 1.30, but actual emissions depend on the local grid's energy mix. Hanwha Energy USA's data centers will connect to the Texas's grid, which remains largely fossil fuel reliant.

The extraction and processing of the metals in batteries create substantial environmental and social risks. Hanwha Energy USA mitigates biodiversity, resource use, safety, and labor issues through compliance-based risk assessments and due diligence during its projects' design stage.

Hanwha Energy USA and its parent, Hanwha Corp., have not yet assessed their scope 3 emissions. This limits the visibility into the company's overall carbon impact across the entire value chain.

Shades of Green Projects Assessment Summary

Over the two years following issuance of the financing, Hanwha Energy USA expects to allocate most of the proceeds to renewable energy, specifically solar energy projects. The issuer has not provided an expected allocation of proceeds between new projects and refinancing.

Based on the project categories' Shades of Green detailed below, the expected allocation of proceeds, and consideration of environmental ambitions reflected in Hanwha Energy USA's Green Bond Framework, we assess the framework Dark green.

Renewable energy	**Dark green**
Solar energy	
Energy storage system and grids	
Green hydrogen	

Energy efficiency	**Light green**
Energy-efficient data center	

See Analysis Of Eligible Projects for more detail.

Issuer Sustainability Context

This section provides an analysis of the issuer's sustainability management and the embeddedness of the financing framework within its overall strategy.

Company Description

Hanwha Energy USA, established in 2013 and based in Irvine, California, is a holding company that primarily operates in the downstream PV value chain. The company develops, designs, builds, manages, and sells solar power projects. It also provides other PV products, such as solar cells and modules, and operates in the solar retail power business in Texas.

Hanwha Energy USA currently operates across various U.S. states, including California and Texas, as well as in Mexico. In 2024, the company sold PV power plants totaling 1.6 gigawatts (GW) in capacity and 0.1GW of energy storage systems (ESS). That year, it recorded revenue of Korean won (KRW) 520 billion (US$382 million). It has a pipeline of 7.0GW of PV and 5.5GW of ESS projects.

The company is a part of the Hanwha Group, a diversified group headquartered in Seoul, Korea. Established in 1952, Hanwha Corp. (the core entity of the Hanwha Group) operates in a diverse range of industries. It started off as a manufacturer of explosives for defense weaponry use, and over time expanded its business portfolio. In 2024, Hanwha Corp. recorded KRW55.6 trillion (US$42.8 billion) in revenue and KRW2.4 trillion (US$1.9 billion) in operating profit. Its main operations include life insurance (27% of total revenue), defense (25%), solar (13%), petrochemical (11%), non-life insurance (11%), with other businesses rounding up the remaining 13%. The chairman S.Y. Kim and his family own 56% of the company as of 2024.

Material Sustainability Factors

Climate Transition Risk

Power generation is the largest direct source of greenhouse gas emissions globally, making this sector highly susceptible to the growing public, political, legal, and regulatory pressure to accelerate climate goals. Public awareness of the urgency for climate action has reached a turning point. In turn, policymakers and regulators are more often pushing for faster transition to lower carbon energy, especially as these technologies become more mature and cost competitive. Over the past decade, there have been multibillion-dollar impairments for most polluting assets, reflecting their weaker economics as taxes increase and as they are displaced by new, cleaner technologies. In addition, more stringent decarbonization rules may sometimes restrict their license to operate.

The number of countries announcing pledges to achieve net zero emissions over the coming decades continues to grow. With no direct emissions, renewable energy technologies will be vital for preventing the global temperature rise from consistently staying above 1.5C. The U.S. has introduced climate regulations and clean energy targets, including the Inflation Reduction Act's $370 billion in clean energy incentives, proposed EPA rules to limit fossil fuel emissions, expanding state-level renewable portfolio standards, and a national goal to achieve a carbon-free power sector by 2035.

Physical Climate Risk

With sizable, fixed assets, the power sector is more exposed to physical climate risks than other industries and severe weather events can result in power outages for large populations of users. In turn, these dynamics, coupled with regulatory pressure to preserve security of supply, are driving players to enhance the resilience of assets. The physical climate risks generally involve significant financial losses for operators due to repairs, but more importantly from exposure to extreme power price spikes or claims due to business disruption. These dynamics are likely to continue but vary regionally depending on regulatory responses. In the U.S., generation assets face region-specific risks such as prolonged droughts, record heatwaves, and wildfires in the West,

hurricanes along the coasts, and extreme cold in the Midwest and Texas. Solar and wind assets are also increasingly exposed to weather variability and water stress in drought-prone regions.

Biodiversity and resource use

Power generation projects can affect ecosystems through land use, habitat disruption, and water consumption. Infrastructure like solar farms contribute to biodiversity loss and resource stress, especially in sensitive regions. In the U.S., developments often intersect with protected habitats and water-scarce zones, prompting the need for environmental safeguards under regulations like the Endangered Species Act and Clean Water Act. Operators are adopting site-specific measures to mitigate ecological impact and ensure regulatory compliance.

Workforce and community health and safety

Renewable energy projects are typically situated in secluded areas, often rural or indigenous. While construction of renewable energy projects can promote job creation, improve economic conditions, energy access, and reduce air pollution, they could also affect communities as they compete for land with other vital activities that are part of traditional land management, which include agriculture and animal rearing. This can lead to community opposition, conflicts over land rights, and resource allocation issues. In the U.S., large-scale developments are subject to Occupational Safety and Health Administration (OSHA) standards, and community engagement is often guided by National Environmental Policy Act (NEPA) requirements, which mandate environmental and social impact assessments, including public consultation. The communities in and around the vicinity of the solar PV facilities could however be impacted by the glare and reflection from the panels.

Issuer And Context Analysis

The framework's project categories align with Hanwha Energy USA's core businesses in the solar PV value chain, which aim to address climate transition risks. The production and operation of renewable energy assets, and associated energy storage and charging systems play a crucial role in facilitating clean energy supplies in the U.S. However, associated issues such as exposure to physical climate risks, waste and pollution, biodiversity loss, resource use, and other social impacts arise. According to the issuer, negative impacts are assessed during each project's early development stage and managed throughout the operation stage.

Hanwha Energy USA and its Korea-based parent, Hanwha Corp., do not publish stand-alone climate disclosures specific to Hanwha Energy USA. Hanwha Corp.'s climate strategy includes reducing scope 1 and 2 emissions by 65% by 2030, compared to a 2019 baseline and reaching net zero in 2040. Currently, Hanwha Corp. reports scope 1 and 2 carbon emissions, without a detailed breakdown for all subsidiaries, including Hanwha Energy USA. Hanwha Corp. is in the progress of monitoring scope 3 emissions and plans to disclose them in the future. Hanwha Energy USA plays a key role in facilitating the clean energy use to reduce fossil fuel reliance, which contributes to Hanwha Corp.'s broader climate goals. For instance, its 2023 green bond impact report states that solar power projects are expected to reduce up to 142,401 tCO2e per year.

Hanwha Energy USA's fixed assets and supply chains are exposed to physical climate risk. The company mainly conducts project-level assessment, relying on industry and geospatial data to identify site with low climate vulnerability, and ensure insurance coverage across its asset portfolio to mitigate potential financial impacts associated with climate-related events. There is limited information on how Hanwha Energy USA uses climate scenarios and integrates long-term resilience into its project designs, beyond its project-level environmental study aimed at managing related environmental impacts.

Hanwha Corp. has conducted a physical climate risk assessment covering its entire value chain, using the Intergovernmental Panel on Climate Change (IPCC)'s Shared Socioeconomic Pathway (SSP) 8.5, 7.0, 4.5, and 2.6 scenarios. The assessment quantified the financial impacts of pluvial flooding, extreme temperatures, wildfire, and tropical cyclone. Hanwha Corp. has subsequently developed strategies for each identified risk. However, it is unclear how this assessment applies specifically to its subsidiaries, including Hanwha Energy USA.

Hanwha Energy USA's solar PV projects are water-intensive and rely on various mined, extracted, and processed raw materials, which introduce biodiversity and resource use risks. The company primarily addresses these issues through the compliance-based environmental study program for every project. For example, it conducts hydrological assessments to study the impacts on surface water bodies and implements setback buffers and erosion control measures to prevent runoff and contamination. It also requires a biological survey during the project design stage to identify protected species and critical habitats. According to Hanwha Energy USA, it will adjust the site layouts to avoid disruption. There is limited transparency with regards to its sourcing strategy and its approach to supplier screening and selection, beyond regulatory requirements.

Hanwha Energy USA has measures to address safety risks and community impacts arising from its financed activities. For instance, it selects only pre-approved contractors, which demonstrate stringent protocols and maintain a strong safety record with lower rates of workplace injuries, measured in lost-time injury frequency rate (LTIFR) or total recordable injury rate (TRIR). The company states that it regularly oversees contractors' safety performance through pre-contract reviews, periodic safety meetings, and site inspections.

In addition, Hanwha Energy USA requires social risk assessment for every project, integrating stakeholder communication channels such as meetings and emails to solicit local community feedback and obtain the authority's approval. It has not experienced material pushbacks or received any formal complaints from the local communities in the past.

Alignment Assessment

This section provides an analysis of the framework's alignment to Green Bond principles.

Alignment Summary

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✕

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

✓ Use of proceeds

All the framework's environmental project categories have a green shade. Hanwha Energy USA commits to allocating the net proceeds issued under the framework exclusively to eligible green projects. Please refer to the Analysis of Eligible Projects section for more information on our analysis of the environmental benefits of the expected use of proceeds.

✓ Process for project evaluation and selection

The company's Investment Committee comprises representatives from development, engineering, operations and maintenance, legal and project finance. Within the Investment Committee, the Pre-Deal Request Committee will evaluate the feasibility of project developments, and the Deal Review Committee will select main contracts, for the final approval from the Global Investment Committee. The company will identify and manage potential environmental and social impacts associated with every financed project based on the environmental assessment programs. These include mapping of socioeconomic and environmental risks, such as water, wildlife, sensitive plants and ecosystems, cultural resources, noise, glare sensitive receptors, and public engagement channels to solicit community feedback. The framework's exclusion criteria cover nuclear energy and fossil fuel related projects and assets.

✓ Management of proceeds

The net proceeds will be managed by the company's business planning and strategy team, under the Investment Committee's oversight. Hanwha Energy USA will maintain a dedicated ledger to track the allocation of net proceeds. The company commits to replacing projects that cease to comply with the framework's eligibility criteria as soon as practicable. Pending allocation, net proceeds will be held in short-term liquid money instruments, such as cash and market securities. The framework's exclusion criteria apply to the management of unallocated proceeds.

✓ Reporting

Hanwha Energy USA commits to reporting annually on the allocation of funds until the full allocation of net proceeds and in case of material changes, and the impact of financed projects until full bond maturity. The information will be disclosed in a standalone green bond report and available on the company's website. The allocation reporting will include projects description, amount allocated to eligible projects, the balance of the unallocated proceeds, the share of financing and refinancing. Impact reporting will include at least the expected or actual environmental impacts of financed projects, depending on the type and status of the green project. The company will also seek independent third-party review of the allocation and impact reporting post-issuance.

Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the "Analytical Approach: Shades Of Green Assessments".

Overall Shades of Green assessment

Based on the project category shades of green detailed below, the expected allocation of proceeds, and consideration of environmental ambitions reflected in Hanwha Energy USA's framework, we assess the framework Dark green.

Activities that correspond to the long-term vision of a low-carbon climate resilient future.

Our Shades of Green Analytical Approach >

Green project categories

Renewable energy

Assessment	Description
Dark green	Solar energy: Development, construction, installation, operation, maintenance, or the procurement of components and parts of solar energy production units Energy storage systems (ESS) and grids • Research and development (R&D), construction, manufacturing, installation, operation and maintenance and augmentation of energy storage systems and facilities • Installation and operation of utility-scale batteries Green hydrogen • Production of green hydrogen using 100% renewable energy • R&D, manufacturing, operation and maintenance of hydrogen charging systems to facilitate the development of hydrogen-fueled mobility solutions

Analytical considerations

- Generation projects and investments that facilitate the increased use of renewable electricity are key enablers of systemic decarbonization and climate change mitigation, provided that their embodied carbon emissions, exposure to physical climate risks, and impacts to biodiversity, land, and resources are sufficiently managed. According to the International Energy Agency (IEA), as of 2023, the U.S. electricity mix remains largely dependent on fossil fuels – natural gas (42%) and coal (17%). Nuclear contribute 18%, while renewables such as wind, hydropower, solar, and waste rounded up the remaining 23%. Renewable energy targets vary by state, e.g. California aims to achieve 100% clean energy by 2045, and Texas aims to reach 50% renewable energy by 2030.
- Eligible solar, green hydrogen, and ESS and grids projects provide clear climate benefits, and are Dark green solutions for a low-carbon climate resilient future.
- Hanwha Energy USA plans to allocate the majority of proceeds to solar energy projects in the U.S. Most of the electricity generated will be supplied directly to corporate customers through power purchase agreements (PPAs). For ESS and grids projects, the battery energy storage systems will either be collocated with renewable energy generation, mainly from solar or

wind, or deployed as stand-alone grid-connected systems to support grid stability and reliability. According to the company, it will exclusively utilize renewable energy sources to produce green hydrogen via water electrolysis. Green hydrogen is important due to its low emissions and its use case for industrial processes and transportation sectors that are otherwise difficult to decarbonize. Hanwha Energy USA confirms that there will be no dedicated connections to heavy emitting or fossil fuel related projects and assets. Any fossil fuel powered equipment, such as gas back-up, is also not eligible.

- The construction, operation, and maintenance of renewables and ESS projects can be energy intensive and associated with other environmental risks, such as feedstock and materials extraction, manufacturing, transportation, and the eventual decommissioning of equipment. For example, the production of polysilicon used in solar panels, and the extraction and processing of metals used in batteries, such as lithium, cobalt, and copper, as well as the production of green hydrogen are inherently water and energy intensive, disruptive to the natural habitats or polluting.
- The issuer does not have a defined life cycle emissions threshold for its solar energy and BESS projects. However, it will target a well-to-gate carbon intensity below 0.45 kilograms of CO_2 equivalent per kilogram of hydrogen produced (kg CO_2e/kg H_2), using the 45VH2-GREET model calculation methodology approved by the U.S. Department of Energy. This is well below the 1 kg CO_2e/kg H_2 threshold suggested by the IEA, reflecting the company's ambition.
- The company states that it will mainly rely on due diligence process to monitor supply chain social issues, such as human rights and minerals sourcing. It will require an environmental study program for every project, which includes assessments and mitigation measures addressing associated environmental risks. These risks include exposure to physical climate risks, impacts on water resources, wildlife, sensitive plants and ecosystems, cultural resources, as well as noise and glare effects on sensitive receptors. On the other hand, there is limited information regarding the company's sourcing strategy for upstream minerals, as well as approach to the durability, recyclability, and end-of-life management of equipment and components, besides the project-level assessments and site visits.

Energy efficiency

Assessment	Description
Light green	Energy efficient data center • Development, construction, installation, operation, maintenance, or procurement of energy systems that support new data centers that are designed to achieve an annualized PUE (Power Usage Effectiveness) targets of 1.30 or below. • Development, construction, installation, operation, maintenance, or procurement of energy systems that support existing data centers that have an annualized design PUE of 1.30 or below

Analytical considerations

- Data centers are among the most energy-intensive building types. with their global electricity consumption estimated at around 415 terawatt-hours (TWh) in 2024, accounting for approximately 1.5% of total global electricity demand, according to the IEA. Currently, the U.S. accounts for the largest share of global data center electricity consumption (45%), followed by China (25%), and Europe (15%). The rapid growth of U.S. data centers is expected to significantly increase electricity demand by 150 to 250 TWh annually by 2030 (see "Data Centers: Rapid Growth Creates Opportunities and Issues," published Oct. 30, 2024), boosting revenues for power generators, utilities, and gas suppliers, but also posing challenges related to grid capacity, rising carbon emissions, and sustainability goals.
- Data centers utilizing renewable electricity can partially help alleviate their contribution to climate change, provided the actual energy consumption and associated emissions, exposure to physical climate risks and resource use are well managed. Hanwha Energy USA intends to allocate proceeds to investments linked to the distribution of energy management systems and services to collocation providers, such as Amazon, Microsoft, and Equinix.
- Eligible financing will cover the development, procurement, construction, installation, operation, maintenance of energy systems. These systems can draw power from a mixed of energy sources from onsite solar and BESS systems, virtual PPAs (vPPAs) from nearby operational solar projects, or direct grid connections paired with renewable energy certificates (RECs). Hanwha Energy USA will prioritize onsite solar projects where sufficient land is available and resort to vPPAs or grid supplied electricity backed by RECs when land is limited. Hanwha Energy USA requires all eligible data centers to achieve a design

PUE of 1.3 or below and will use documentary evidence to ascertain eligibility before entering into contracts. PUE is the ratio of the total amount of power entering a facility divided by the power consumption of IT equipment. The closer the PUE ratio is to 1, the more energy efficient the data center is.

- The issuer is targeting a PUE better than the global industry average of 1.56, according to the Uptime Institute Global Data Centre Survey 2024. This category is Light green, reflecting limited visibility around the energy sources, between solar and BESS systems, virtual PPAs and RECs, and the associated uncertainty regarding the actual carbon footprint. Actual emissions depend not only on the data center's energy efficiency, but also on the local electricity grid profile, which remains largely reliant on natural gas. Additionally, the rapid expansion of AI workloads is likely to drive significant increases in capacity and hence energy demand, potentially offsetting gains from efficiency improvements.
- There is limited information regarding how Hanwha Energy USA's will manage water resources for cooling purposes within the data centers, beyond compliance with regulatory requirements. The company mainly relies on its project-level environmental study to identify and implement mitigation measures addressing potential negative environmental impacts and physical climate risks.

S&P Global Ratings' Shades of Green

Assessments	Dark green	Medium green	Light green	Yellow	Orange	Red
Description	Activities that correspond to the long-term vision of an LCCR future.	Activities that represent significant steps toward an LCCR future but will require further improvements to be long-term LCCR solutions.	Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term LCCR solutions.	Activities that do not have a material impact on the transition to an LCCR future, or, Activities that have some potential inconsistency with the transition to an LCCR future, albeit tempered by existing transition measures.	Activities that are not currently consistent with the transition to an LCCR future. These include activities with moderate potential for emissions lock-in and risk of stranded assets.	Activities that are inconsistent with, and likely to impede, the transition required to achieve the long-term LCCR future. These activities have the highest emissions intensity, with the most potential for emissions lock-in and risk of stranded assets.
Example projects	Solar power plants	Energy efficient buildings	Hybrid road vehicles	Health care services	Conventional steel production	New oil exploration

Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

LCCR--Low-carbon climate resilient. An LCCR future is a future aligned with the Paris Agreement; where the global average temperature increase is held below 2 degrees Celsius (2 C), with efforts to limit it to 1.5 C, above pre-industrial levels, while building resilience to the adverse impact of climate change and achieving sustainable outcomes across both climate and non-climate environmental objectives. Long term and near term--For the purpose of this analysis, we consider the long term to be beyond the middle of the 21st century and the near term to be within the next decade. Emissions lock-in--Where an activity delays or prevents the transition to low-carbon alternatives by perpetuating assets or processes (often fossil fuel use and its corresponding greenhouse gas emissions) that are not aligned with, or cannot adapt to, an LCCR future. Stranded assets--Assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities (as defined by the University of Oxford).

Related Research

- Analytical Approach: Second Party Opinions, March 6, 2025
- FAQ: Applying Our Integrated Analytical Approach For Second Party Opinions, March 6, 2025
- Data Centers: Rapid Growth Creates Opportunities and Issues, Oct. 30, 2024
- Analytical Approach: Shades Of Green Assessments, July 27, 2023

Analytical Contacts

Primary contact

Joyee Lam
Hong Kong
+852-2912-3057
joyee.lam
@spglobal.com

Secondary contacts

Ji Cheong
Hong Kong
+852-2533-3505
ji.cheong
@spglobal.com

Bertrand Jabouley
Singapore
+65-6239-6303
bertrand.jabouley
@spglobal.com

Research contributor

Aditya Padhy
Pune
Crisil Global Analytical Center, an S&P affiliate

Standard & Poor's Financial Services LLC or its affiliates (collectively, S&P) receives compensation for the provision of the Second Party Opinions product and the European Green Bond External Review product (separately and collectively, Product).

S&P may also receive compensation for rating the transactions covered by the Product or for rating the issuer of the transactions covered by the Product.

The purchaser of the Product may be the issuer.

The Product is not a credit rating, and does not consider credit quality or factor into our credit ratings. The Product does not consider, state or imply the likelihood of completion of any projects covered by a given financing, or the completion of a proposed financing. The Product is a statement of opinion and is neither a verification nor a certification. The Product is a point in time evaluation reflecting the information provided to us at the time that the Product was created and published, and is not surveilled. The Product is not a research report and is not intended as such. S&P's credit ratings, opinions, analyses, rating acknowledgment decisions, any views reflected in the Product and the output of the Product are not investment advice, recommendations regarding credit decisions, recommendations to purchase, hold, or sell any securities or to make any investment decisions, an offer to buy or sell or the solicitation of an offer to buy or sell any security, endorsements of the suitability of any security, endorsements of the accuracy of any data or conclusions provided in the Product, or independent verification of any information relied upon in the credit rating process. The Product and any associated presentations do not take into account any user's financial objectives, financial situation, needs or means, and should not be relied upon by users for making any investment decisions. The output of the Product is not a substitute for a user's independent judgment and expertise. The output of the Product is not professional financial, tax or legal advice, and users should obtain independent, professional advice as it is determined necessary by users.

While S&P has obtained information from sources it believes to be reliable, S&P does not perform an audit and undertakes no duty of due diligence or independent verification of any information it receives.

S&P and any third-party providers, as well as their directors, officers, shareholders, employees, or agents (collectively S&P Parties) do not guarantee the accuracy, completeness, timeliness, or availability of the Product. S&P Parties are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, for reliance of use of information in the Product, or for the security or maintenance of any information transmitted via the Internet, or for the accuracy of the information in the Product. The Product is provided on an "AS IS" basis. S&P PARTIES MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDED BUT NOT LIMITED TO, THE ACCURACY, RESULTS, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO THE PRODUCT, OR FOR THE SECURITY OF THE WEBSITE FROM WHICH THE PRODUCT IS ACCESSED. S&P Parties have no responsibility to maintain or update the Product or to supply any corrections, updates, or releases in connection therewith. S&P Parties have no liability for the accuracy, timeliness, reliability, performance, continued availability, completeness or delays, omissions, or interruptions in the delivery of the Product.

To the extent permitted by law, in no event shall the S&P Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence, loss of data, cost of substitute materials, cost of capital, or claims of any third party) in connection with any use of the Product even if advised of the possibility of such damages.

Some of the Product may have been created with the assistance of an artificial intelligence (AI) tool. Published Products created or processed using AI is composed, reviewed, edited, and approved by S&P personnel.

S&P maintains a separation between commercial and analytic activities. S&P keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P may have information that is not available to other S&P business units. S&P has established policies and procedures to maintain the confidentiality of certain nonpublic information received in connection with each analytical process.

For PRC only: Any "Second Party Opinions " or "assessment" assigned by S&P Global Ratings: (a) does not constitute a credit rating, rating, sustainable financing framework verification, assessment, certification or evaluation as required under any relevant PRC laws or regulations, and (b) cannot be included in any offering memorandum, circular, prospectus, registration documents or any other document submitted to PRC authorities or to otherwise satisfy any PRC regulatory purposes; and (c) is not intended for use within the PRC for any purpose which is not permitted under relevant PRC laws or regulations. For the purpose of this section, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

For India only: Any "Second Party Opinions" or "assessments" assigned by S&P Global Ratings to issuers or securities listed in the Indian securities market are not intended to be and shall not be relied upon or used by any users located in India.

Australia: S&P Global Ratings Australia Pty Ltd provides Second Party Opinions in Australia subject to the conditions of the ASIC SPO Class No Action Letter dated June 14, 2024. Accordingly, this Second Party Opinion and related research are not intended for and must not be distributed to any person in Australia other than a wholesale client (as defined in Chapter 7 of the Corporations Act).