

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

Hamburger Hochbahn AG's Green Finance Framework

March 31, 2026

Location: Germany

Sector: Ground transportation

Alignment Summary

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

- ✓ Green Bond Principles, ICMA, 2025
- ✓ Green Loan Principles, LMA/LSTA/APLMA, 2025

See [Alignment Assessment](#) for more detail.

Primary contact

Elene Parulava
Frankfurt
+49 1755812617
elene.parulava
@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

Eligible investments support public transportation's transition to zero direct emissions and align with Hamburger Hochbahn AG's strategic sustainability goals.

These goals include climate neutrality across Scope 1 and Scope 2 emissions by 2030 and transitioning to a zero direct (tailpipe) emission bus fleet by the early 2030s.

Hochbahn's incorporation of sustainability criteria in its procurement processes mitigates material climate and environmental risks within its supply chain.

These criteria focus on suppliers' energy efficiency, greenhouse gas (GHG) emissions (including those related to battery production), recyclability, and the use of recycled content. This can help reduce material Scope 3 emissions associated with infrastructure projects. The progress is tracked through established key performance indicators.

Weaknesses

No weaknesses to report.

Areas to watch

Ticketing, service centers, passenger guidance systems, depots, and other aspects of operations will serve the whole public transport network, including nongreen vehicles.

We think the risk is mitigated by the issuer's objective to phase out diesel buses and switch its fleet to zero-emission vehicles (battery and hydrogen) by the early 2030s.

Shades of Green Projects Assessment Summary

Hamburger Hochbahn AG expects to allocate approximately 70% of proceeds to metro-related projects, 25% to buses, and 5% to services related projects under the clean transportation project category. It expects that until 2030, the refinancing share probably will not exceed 10% of the financed amount.

Based on the project category's Shades of Green detailed below, the expected allocation of proceeds, and consideration of environmental ambitions reflected in Hochbahn's financing framework, we assess the framework Dark green.

Clean transportation (metro: refurbishment and automation of the existing metro network)

 Dark green

Acquisition of rolling stock

Construction, refurbishment, and partial automation of the metro infrastructure (tracks and depots)

Clean transportation (bus: expansion and refurbishment of bus network; transformation to a driver-driven and autonomous zero-emission bus fleet)

 Dark green

Acquisition of electric buses (battery and fuel-cell, including autonomous vehicles)

Investments in charging infrastructure, construction of new and refurbishment of depots for electric buses

Clean transportation (services: refurbishment and improvements of stations, equipment, and installations for urban public transport)

 Dark green

Ticketing, traffic information, passenger guidance systems, ticketing-terminals, service centers, and digital ticketing and services

Integration of on-demand services and construction of mobility hubs

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.

Issuer Description

Hamburger Hochbahn AG, a public transport company, provides local public transportation services in Germany. It offers subway, bus, and rolling stock maintenance services. The company was founded in 1911 and is based in Hamburg, Germany. Currently, it operates four metro lines and 119 bus lines in Hamburg and transported approximately 496 million passengers in 2024, providing about half of all local transport services in the Hamburg Transport Association (HVV).

Material Sustainability Factors

Climate transition risks

Transport is a major contributor to global GHG emissions. In Hamburg, the transport sector accounts for about 25% of the city's total carbon dioxide (CO₂) emissions. To align with the International Energy Agency's Net Zero Emissions by 2050 Scenario, the sector's CO₂ emissions need to decrease by over 3% annually through 2030. Achieving this will depend on rapid electrification of vehicles, operational and technical energy efficiency, and investment in infrastructure projects to support zero-emission vehicles. At the same time, infrastructure development can generate significant emissions due to land-use change and the use of carbon-intensive materials such as steel and cement.

The City of Hamburg aims to achieve a 70% reduction in emissions by 2030 compared to 1990 levels and reach net CO₂ neutrality by 2040 following a referendum. Within this context, the transport sector is expected to deliver a 53% reduction in annual CO₂ emissions (2,806 thousand tons) in that time. Enhancing local public transportation through expanded mobility services, increased electrification, higher quality and safety standards, and greater automation is intended to encourage Hamburg residents to shift to public transportation from car use.

Physical climate risks

Acute physical risks such as storms, wildfires, and floods can impair, disrupt, or even destroy assets, limiting the availability of essential infrastructure, including roads and mass transit systems. Both acute and chronic risks--changing temperature, precipitation patterns, and rising sea levels--can shorten the useful life of vehicles and infrastructure. Many service interruptions are regional, but the key role of access to transport in communities and economies means these disruptions can have significant consequences that extend beyond the region. The increasing frequency and severity of acute physical risks combined with the assets' long-term nature and fixed locations point to rising materiality. Hamburg faces growing physical climate risks from heat stress, heavier rainfall and flooding, rising sea levels, and storm surges along the Elbe, which are expected to place increasing adaptation demands on sectors such as transport and urban infrastructure.

Other environmental factors

Transport infrastructure can place pressure on biodiversity through noise, land take, resource use, and pollution, which might fragment habitats and degrade environmental quality. Modifications, upgrades, and network expansions can further generate construction and demolition waste as well as increase temporary ecological disturbances, making alignment with the waste hierarchy and careful site management important to limit impacts on local ecosystems. In addition, biodiversity-related risks can arise in transport supply chains, including material sourcing and infrastructure components, highlighting the need for environmental safeguards that consider both direct operational impacts and their indirect effects on nature.

Issuer And Context Analysis

The framework's eligible projects aim to address the company's most material sustainability factors. Investments in buses and rail stock with zero tailpipe CO₂ emissions, alongside related public transport infrastructure and services, contribute to the mitigation of climate transition risks. These investments also address air pollution risks by promoting electrification and enabling a shift toward lower-emission transport modes. Furthermore, the issuer's application of sustainability criteria in procurement--including recyclability, energy efficiency, and GHG emissions--can mitigate climate and other environmental risks within the upstream supply chain.

Hamburger Hochbahn is taking steps to decarbonize its activities and aims to achieve climate neutrality in its own operations by 2030. This target translates into reductions in market-based Scope 1 and 2 emissions 90% by 2030 from a 2019 baseline. These emissions primarily come from bus operations (77%) and fell 10.2% year over year in 2024. The decline is attributable to the electrification of the bus fleet, as well as reduced heating demand and lower district heating consumption in 2024. Key efforts in achieving the climate neutrality target include procurement of GHG emission-free powered buses and the purchase of 100% certified green electricity. While the purchased electricity (Guarantees of Origin) confirms that consumption is contractually matched with renewable generation, there is no fixed physical link between the electricity consumed and the renewable generation source. As a public company subject to the requirements set by the City of Hamburg, Hochbahn must pursue a net-zero emissions target by 2040. In response, the company is extending its climate strategy to include scope 3 emission reduction target and measures. These efforts focus on reliably quantifying scope 3 emissions, procuring products with lower global warming potential, and cutting embodied emissions from infrastructure projects. These measures will target the largest emission sources, in our view.

Hochbahn performed a physical climate risk and vulnerability assessment to enhance its adaptive capacity. The assessment, carried out with third-party support, examined climate scenarios and their potential impacts on the city that could affect the issuer's operations and infrastructure. Key risks identified for both Hamburg and Hochbahn include coastal and inland flooding, heavy rainfall, and severe storms. Measures to mitigate these risks include the creation of green roofs and rainwater retention facilities for heavy rainfall events, measures to safeguard subway access points from flooding, and maintaining vegetation. Physical and transitional risks associated with climate change are incorporated into the groupwide risk management system.

The issuer is exposed to environmental risks, particularly in terms of pollution, resource use, and the circular economy, and has a strategy to address them. Hochbahn is adopting policies to ensure compliance with the circular economy law and the Hamburg Waste Management Act. Adherence to relatively stringent regulatory requirements in Germany can somewhat mitigate the associated risks. In addition, the application of sustainability criteria in tenders, including the use of recycled materials and recyclability, and green electricity use, can help further mitigate the negative impact in the supply chain. With regards to pollution, the issuer's procurement policy promotes regular bus fleet renewal to mitigate emissions of nitrogen oxide, particulate matter, and sulfur dioxide. Consequently, absolute emissions of these pollutants decreased 18.7%, 7.3%, and 7.8%, respectively, year over year in 2024. In parallel, Hochbahn is working to minimize noise pollution in accordance with the EU Environmental Noise Directive, with noise levels monitored under the Lärmaktionsplan (Noise Action Plan). All relevant activities are subject to an environmental impact assessment.

Alignment Assessment

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

Alignment Summary

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

✓ Green Bond Principles, ICMA, 2025

✓ Green Loan Principles, LMA/LSTA/APLMA, 2025

✓ Use of proceeds

We assess all the framework green project categories as having a green shade. Refer to the [Analysis of Eligible Projects](#) section for more information on our analysis of the environmental benefits of the expected use of proceeds.

The issuer commits to allocating an amount equivalent to the net proceeds of green debt instruments to finance or refinance, in whole or in part, new or existing eligible clean transportation projects in Hamburg. Expenditure under the green finance framework is limited to capital expenditure, with a look-back period of three years before issuance. In addition to green loans and bonds, eligible financing instruments will include green Schuldscheindarlehen and green Namensschuldverschreibungen (registered bonds) under the framework.

✓ Process for project evaluation and selection

The framework sets out a project evaluation and selection processes. The company has a dedicated green finance committee, which is responsible for reviewing and approving the combined pool of green capital expenditure for alignment with the framework's eligibility criteria, overseeing the management of proceeds and facilitating green bond reporting. The committee is chaired by an executive board member responsible for finance and sustainability and further consists of the heads of finance, control, and sustainability management. Hochbahn identifies and manages environmental and social risks by conducting risk assessments for operations and suppliers, integrating environmental, social, and governance (ESG) criteria into procurement and investment processes. The company established a policy for occupational safety and health, in line with the German occupational safety and health Act and German social accident insurance. Identified risks are addressed through formal risk management and due-diligence mechanisms.

✓ Management of proceeds

The allocation of the net proceeds will be tracked to ensure that they finance eligible projects exclusively, with oversight by the finance and control departments. The balance of the tracked proceeds will be adjusted quarterly to match allocations to eligible projects during the time the instrument is outstanding. If a green project loses its eligibility as assessed by the committee, it will be replaced by another green project, as soon as an appropriate substitution option has been identified. The unallocated proceeds will be temporarily managed by Hochbahn's treasury team and may be invested in marketable (preferably ESG) instruments or otherwise deposited in a Deutsche Bundesbank account by the City of Hamburg or any bank with a rating of 'AA' or better. The issuer does not enter any loan facility with multiple tranches and, therefore, the respective criteria from Green Loan Principles is not applicable.

✓ Reporting

Hochbahn commits to reporting annually on the allocation of proceeds and the impact of the green financing instruments until full allocation of the net proceeds. The allocation report will include, among other factors, information on the green debt instrument, breakdown of allocated amounts, and a description of eligible green projects. The report will also include information on the environmental and other sustainability impacts of eligible projects, including updates and status reports, as

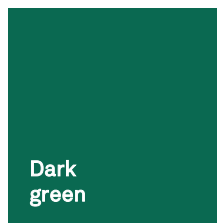
well as relevant impact metrics, wherever feasible. Hochbahn will appoint an external independent auditor to review the allocation of proceeds in line with the framework and publish it as part of the annual allocation report on its website.

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 Hamburger Hochbahn AG's Green Finance 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

Clean transportation (metro: refurbishment and automation of the existing metro network)

Assessment

 Dark green

Description

Acquisition of rolling stock; construction, refurbishment and automation of metro infrastructure (tracks and depots)

Analytical considerations

- Metro systems play a key role in sustainable urban development by providing a high-capacity, low-emission alternative to private car travel, reducing traffic congestion, GHG emissions, and air pollution in densely populated areas such as Hamburg.
- We assign a Dark green shade to this project category, because the proceeds finance the acquisition of rolling stock with zero tailpipe emissions, which we consider in line with a low-carbon future. In addition, investments allocated to construction, refurbishment, and semi-automation projects will lead to increased energy efficiency, reduced operational emissions, and greater attractiveness of public transport over private car ownership. The Dark green shade also reflects the issuer's considerations of physical climate and other environmental risks in the value chain.
- Construction and refurbishment of metro infrastructure can be emissions-intensive. The production and installation of materials such as steel, concrete, and tunnelling works can result in significant embodied carbon. The company is aware of this challenge and, in response, considers the use of low GHG construction materials, as well as circularity features and energy use, in tenders and contract awards. It is also exploring other CO₂ reduction options, such as carbon capture and storage and steel fiber reinforced concrete segments, which can reduce the amount of traditional steel required while enhancing durability.
- To address physical climate risks associated with the financed projects, Hochbahn systematically monitors relevant climate parameters and evaluates potential impacts on its operations and assets. It implements adaptation measures across both existing and new infrastructure, prioritizing flood protection and safeguards against water ingress at subway access points.

Complementary measures, including green roofs and rainwater retention systems, further enhance the network's capacity to manage heavy precipitation and strengthen long-term operational resilience.

- The issuer confirmed that fossil fuel-based heating or other fossil fuel infrastructure will not be financed under the framework.

Clean transportation (bus: expansion and refurbishment of the bus network; transformation into a driver-driven and autonomous zero-emission bus fleet)

Assessment

Description

 **Dark green**

Acquisition of electric buses (battery and fuel-cell, including autonomous vehicles), charging infrastructure, and the construction of new and refurbishment of bus depots for electric buses

Analytical considerations

- Zero tailpipe emission buses and the supporting network infrastructure play an important role in achieving climate goals in cities, while automated operations can lead to improved service efficiency and quality.
- Investments in battery electric and hydrogen fuel cell buses, which only run on green hydrogen, and the related infrastructure are in line with the low-carbon future and are shaded as Dark green.
- The proceeds under this category will mostly finance fully electric buses. This is part of the company's goal to replace all diesel buses--about 1,100 vehicles in total--with zero-emission buses by the early 2030s. Depending on operating conditions, the financed vehicles can cover distances of more than 250 kilometers. Compared to a diesel bus, the average annual emissions savings amount to 72 tons of CO₂e per standard bus and 92 tons of CO₂e per articulated bus, taking into account all energy-related emissions, including those within the supply chain. However, due to the inherent sensitivity of lithium-ion batteries to low temperatures and associated performance challenges, buses procured under the framework could be equipped with diesel-burning auxiliary heaters as an option in winter. To the issuer, this ensures operational stability while it continues to pursue the strategic objective of phasing out diesel-fired heating systems in its bus fleet. Notably, the timeline of full electrification is strongly influenced by the availability of funding instruments and crisis-prevention requirements.
- A minority of proceeds under this project category will finance the acquisition of hydrogen fuel cell buses. For its very small fleet (five in total), the issuer intends to use 100% green hydrogen, produced from renewable sources. However, due to current market availability, Hochbahn's suppliers cannot guarantee the provision of 100% green hydrogen. While we see green hydrogen as Dark green, Hydrogen produced from natural gas, including with insufficient carbon capture rates, is not considered part of the 2050 solution.
- The production of batteries and the sourcing of their raw materials can have substantial climate and environmental impacts within the upstream supply chain. In response, Hochbahn integrates sustainability criteria into its e-bus procurement processes and evaluates bidders accordingly. We view positively that the company is extending its efforts beyond direct suppliers, placing particular emphasis on the early stages of the battery value chain. Manufacturers participating in tenders are required to demonstrate transparency on their GHG emissions performance, energy use, and due diligence in their supplier management systems, including tracing the sourcing and extraction of raw materials through to cell production. Embedding these requirements into procurement processes can help mitigate associated risks, in our view.
- Although infrastructure investments under this project category primarily target assets supporting electric buses, such as charging infrastructure, some general investments in depots could indirectly service existing fossil fuel buses. These investments should be viewed in light of Hochbahn's fleet decarbonization strategy, whereby the company avoids creating redundant infrastructure, ensuring that once the fleet is fully decarbonized, existing facilities can accommodate zero emissions buses efficiently without surplus capacity. Furthermore, the issuer systematically evaluates and integrates low-carbon and renewable energy products into building design, renovation, and retrofit projects. These vary by project but mostly include solar photovoltaic systems, heat pumps, and waste-heat and battery storage systems.
- Physical climate risks, such as heatwaves, heavy rainfall, and flooding, could affect electric bus performance, depot operations, and charging infrastructure. Hochbahn's broader strategy to climate change adaptation is also applicable to activities financed under this category.

Clean transportation (services: refurbishment of and improvements to stations, equipment, and installations for urban public transport)

Assessment

 **Dark green**







Description

Ticketing, traffic information, passenger guidance systems, ticketing-terminals, service centers, and digital ticketing and services (for instance, hvv switch); integration of on-demand services and construction of mobility hubs)

Analytical considerations

- Refurbishing and modernizing public transport stations, facilities, and equipment is central to the city's decarbonization objectives, promoting greater use of integrated, low-carbon public transport.
- We see projects in this category as Dark green, because Investments in modernization of stations, service centers, digital solutions, and mobility hubs enhances user experience, improves operational efficiency, and strengthens connectivity, thereby encouraging greater public transport use. These solutions will also contribute to energy savings through refurbishment initiatives.
- The issuer informed us that the mobility hubs financed under this category represent relatively small-scale infrastructure projects. Typically, they incorporate shared mobility options such as parking spaces for car-sharing, bike-sharing, and ride-sharing. These primarily constitute signage, charging infrastructure, and digital sensor systems, and generally do not necessitate building construction or substantial civil engineering interventions. Due to their limited scope and environmental impact, no additional project-specific environmental standards apply to these mobility hubs.
- Projects related to improving the ticketing and passenger information systems will benefit the entire public transport network, not just the zero emission vehicles. Indeed, Hochbahn has an ambitious goal to fully decarbonize the bus fleet by the early 2030s, but the fleet still represented a minority (27.2%) of the total fleet in 2024. While we do not consider diesel buses green vehicles, we account for the environmental benefits tied to public transport versus private options.
- Hochbahn informed us that investments do not include shopping malls and areas, or parking spaces for private vehicles.

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

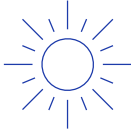

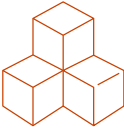


Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

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).

Mapping To The U.N.'s Sustainable Development Goals

Where the financing documentation references the Sustainable Development Goals (SDGs), we consider which SDGs it contributes to. We compare the activities funded by the financing to the International Capital Markets Association (ICMA) SDG mapping and outline the intended linkages within our SPO analysis. Our assessment of SDG mapping does not affect our alignment opinion.

This framework is intended to contribute to the following SDGs:

Use of proceeds	SDGs				
Clean Transportation					
	7. Affordable and clean energy	8. Decent work and economic growth	9. Industry, innovation and infrastructure	11. Sustainable cities and communities*	13. Climate action

*The eligible project categories link to these SDGs in the ICMA mapping.

Related Research

- [Analytical Approach: Climate Bonds Initiative External Reviews](#), Dec. 9, 2025
- [Analytical Approach: Second Party Opinions](#), March 6, 2025
- [FAQ: Applying Our Integrated Analytical Approach For Second Party Opinions](#), March 6, 2025
- [Analytical Approach: Shades Of Green Assessments](#), July 27, 2023
- [Analytical Approach: Taxonomy Assessments](#), Oct. 15, 2025
- [Analytical Approach: EU Taxonomy Assessment](#), Oct. 31, 2024
- [Analytical Approach: European Green Bond External Reviews](#), Oct. 31, 2024
- [FAQ: Applying Our Analytical Approach For European Green Bond External Reviews](#), Oct. 31, 2024

Analytical Contacts

Primary contact

Elene Parulava
Frankfurt
+49 1755812617
elene.parulava
@spglobal.com

Secondary contacts

Luisina Berberian
Madrid
+ 34 91 788 7200
luisina.berberian
@spglobal.com

Research contributor

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

Second Party Opinion: Hamburger Hochbahn AG's Green Finance Framework

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).

Copyright © 2026 by Standard & Poor's Financial Services LLC. All rights reserved.