



# Second-Party Opinion

## Shandong Hi-Speed Group Green Finance Framework

### Evaluation Summary

Sustainalytics is of the opinion that the Shandong Hi-Speed Group Green Finance Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 and the Green Loan Principles 2021. This assessment is based on the following:



**USE OF PROCEEDS** The eligible categories for the use of proceeds – Renewable Energy, Clean Transportation, Energy Efficiency, Pollution Prevention and Control and Green Buildings – are aligned with those recognized by the Green Bond Principles 2021 and the Green Loan Principles 2021. Sustainalytics considers that investments in the eligible categories are expected to lead to positive environmental impacts and advance the UN Sustainable Development Goals, specifically SDGs 7, 9 and 11.



**PROJECT EVALUATION / SELECTION** Shandong Hi-Speed Group has established the Green Finance Working Group (GFWG), which is comprised of senior representatives from several departments to oversee the project evaluation and selection process. Shandong Hi-Speed Group has processes in place to identify and mitigate common environmental and social risks associated with the eligible projects, which are applicable to all allocation decisions made under the Framework. Sustainalytics considers Shandong Hi-Speed Group’s risk management system to be adequate and the project selection process to be in line with market practice.



**MANAGEMENT OF PROCEEDS** The GFWG will also oversee the management of proceeds and track the proceeds using a portfolio approach via a green finance register. Shandong Hi-Speed Group intends to fully allocate net proceeds within two years of issuance. Pending full allocation, unallocated proceeds will be held in cash instruments. This is in line with market practice.



**REPORTING** Shandong Hi-Speed Group intends to report on allocation of proceeds on its website annually until full allocation. Allocation reporting may include the amount of allocated proceeds by eligible category, the description of eligible green projects and the share of financing versus refinancing. Impact reporting may include relevant environmental impact indicators. Sustainalytics views Shandong Hi-Speed Group allocation and impact reporting as aligned with market practice.

<b>Evaluation date</b>	May 04, 2022
<b>Issuer Location</b>	Shandong, China

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## Introduction

Shandong Hi-Speed Group Co., Ltd. (“Shandong Hi-Speed Group” or the “Company”) is a state-owned capital investment company by the Shandong Government, mainly engaged in the investment in, and construction, operation and management of various transportation and infrastructure facilities. Established in 1997 and headquartered in Jinan, the Company operates approximately 7,745 km of expressways across China and has a registered capital of CNY 45.9 billion (USD 7.21 billion) employing 6,064 people.

Shandong Hi-Speed Group has developed the Shandong Hi-Speed Group Green Finance Framework (the “Framework”) under which the Company and its subsidiaries intend to issue green bonds and loans and use the proceeds to finance and refinance, in whole or in part, existing and future projects that are expected to generate positive environmental benefits through facilitation of renewable energy and low-carbon transportation in Shandong Province and China broadly. The Framework defines eligibility criteria in five areas:

1. Renewable Energy
2. Clean Transportation
3. Energy Efficiency
4. Pollution Prevention & Control
5. Green Buildings

Shandong Hi-Speed Group engaged Sustainalytics to review the Shandong Hi-Speed Group Green Finance Framework, dated April 2022, and provide a Second-Party Opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2021 (GBP)<sup>1</sup> and the Green Loan Principles 2021 (GLP).<sup>2</sup> The Framework has been published in a separate document.<sup>3</sup>

### Scope of work and limitations of Sustainalytics’ Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent<sup>4</sup> opinion on the alignment of the reviewed Framework with the current market standards and the extent to which the eligible project categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework’s alignment with the Green Bond Principles 2021, as administered by ICMA, and the Green Loan Principles 2021, as administered by LMA, APLMA and LSTA;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.11.2, which is informed by market practice and Sustainalytics’ expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of Shandong Hi-Speed Group’s management team to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of the Framework. Shandong Hi-Speed Group’s representatives have confirmed (1) they understand it is the sole responsibility of Shandong Hi-Speed Group to ensure that the information provided is complete, accurate or up to date; (2) that they have provided Sustainalytics with all relevant information and (3) that any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics’ opinion of the Framework and should be read in conjunction with that Framework.

<sup>1</sup> The Green Bond Principles are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>.

<sup>2</sup> The Green Loan Principles are administered by the Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications and Trading Association and are available at <https://www.lsta.org/content/green-loan-principles/>

<sup>3</sup> The Shandong Hi-Speed Group Green Finance Framework is available on Shandong Hi-Speed Group’s website at: [www.csfg.com.hk](http://www.csfg.com.hk).

<sup>4</sup> When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and Shandong Hi-Speed Group.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond and loan proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner. Upon twenty-four (24) months following the evaluation date set stated herein, Shandong Hi-Speed Group is encouraged to update the Framework, if necessary, and seek an update to the Second-Party Opinion to ensure ongoing alignment of the Framework with market standards and expectations.

In addition, the Second-Party Opinion opines on the potential allocation of proceeds but does not guarantee the realized allocation of the bond and loan proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that Shandong Hi-Speed Group has made available to Sustainalytics for the purpose of this Second-Party Opinion.

## Sustainalytics' Opinion

### **Section 1: Sustainalytics' Opinion on the Shandong Hi-Speed Group Green Finance Framework**

Sustainalytics is of the opinion that the Shandong Hi-Speed Group Green Finance Framework is credible and impactful, and aligns with the four core components of the GBP and GLP. Sustainalytics highlights the following elements of the Framework:

- Use of Proceeds:
  - The eligible categories – Renewable Energy, Clean Transportation, Energy Efficiency, Pollution Prevention and Control and Green Buildings – are aligned with those recognized by the GBP and GLP. Sustainalytics notes that investments in the eligible categories are expected to facilitate the achievement of the environmental goals set out by the Shandong Government and the Chinese government, and advance its efforts in promoting low-carbon transportation and increasing the installed capacity of renewable energy.
  - Shandong Hi-Speed Group has defined a look-back period of 36 months for refinancing activities, which Sustainalytics considers to be in line with market practice.
  - Under the Renewable Energy category, Shandong Hi-Speed Group may finance or refinance projects for the production, transmission and storage of renewable energy, including solar photovoltaic, concentrated solar power (CSP) plants and wind projects. Sustainalytics notes the following thresholds and requirements:
    - Regarding CSP, a large majority of electricity (greater than 85%) will be generated from solar energy sources.
    - Electrical grid development will be dedicated to connecting renewables to the power grid or supporting the transmission of at least 90% renewable electricity.
    - Energy storage systems will be limited to battery storage linked to renewable energy systems.
  - The Clean Transportation category may include investments in the construction, development and operation of electrified rail transit systems, including the manufacture, purchase and maintenance of electrified rolling stock, such as locomotives, wagons and coaches. Expenditures may also include the construction of associated infrastructure, such as railway lines, tracks, tunnels, train stations, signalling equipment, network interfaces, inspection and traction maintenance depots and backup electricity generators. Additional expenditures may also include financing other low-carbon rail transit systems that are not fully electrified. Sustainalytics considers investments in low-carbon transportation and the construction and

development of infrastructure dedicated to electrified railways to be in line with market practice, noting the following:

- Eligible low-carbon rail transit systems will meet the following criteria: (i) freight rail with a direct emissions threshold lower than 25 gCO<sub>2</sub>/tkm up to 2030, to be reduced to 21 gCO<sub>2</sub>/tkm by 2050 and (ii) passenger rail with a direct emissions threshold lower than 50 gCO<sub>2</sub>/tkm up to 2025.
  - Exclusion of investments in infrastructure and assets dedicated to the transportation of fossil fuel as well as the financing of road infrastructure, parking facilities and fossil fuel backup solutions.
- Under the Energy Efficiency category, Shandong Hi-Speed Group may finance or refinance the manufacture and installation of energy-efficient systems, products and technologies related to the eligible electric and low-carbon rail systems defined under the Clean Transportation category. In addition, such expenditures will result in a GHG emissions reduction or energy efficiency improvement of at least 20% compared to the baseline. Examples of systems, products and technologies being considered include LED lighting, energy meters and energy and building management systems. Sustainalytics highlights Shandong Hi-Speed Group's inclusion of a defined energy improvement threshold, which ensures meaningful energy savings. Additionally, Sustainalytics notes that Shandong Hi-Speed Group excludes financing of technologies that may contribute to fossil fuel lock-in. Sustainalytics considers these investments to be aligned with market practice.
  - The Pollution Prevention and Control category may include the financing or refinancing of technologies that improve air quality, such as air filtration and circulation measures, and noise reduction technologies, such as noise barriers, modification of turnouts, rail dampers and insulation booths. Sustainalytics recognizes that the prevention of noise pollution can be considered to have more evident links to health and social impacts and is classified as an environmental issue in China according to the Environmental Protection Law of the People's Republic of China.<sup>5</sup> Given the contextual relevance of noise pollution as an environmental issue in China, projects related to noise pollution have been included under the Framework's eligibility criteria. This is in line with market practice.
  - Under the Green Buildings category, Shandong Hi-Speed Group may finance or refinance the acquisition, development, construction and refurbishment of buildings that have received or are expected to receive one of the following certifications: LEED (Gold or above),<sup>6</sup> Hong Kong BEAM Plus (Gold or above),<sup>7</sup> Chinese Green Building Evaluation Label (2 stars or above),<sup>8</sup> BREEAM (Excellent or above),<sup>9</sup> and BCA Green Mark (Gold or above).<sup>10</sup> Sustainalytics considers the standards to be robust and credible and the levels selected to be in line with market practice.
    - For refurbishments, Shandong Hi-Speed Group intends to improve the energy efficiency of existing buildings which have already achieved eligible certifications levels. While Sustainalytics considers market practice to ensure that retrofits achieve emission or energy performance improvements of at least 30% or reach a higher level of eligible green building certification, Sustainalytics still notes positively the issuer's commitments to continuously improve the performance of its already green assets.
- Project Evaluation and Selection:
    - Shandong Hi-Speed Group has established the Green Finance Working Group (GFWG), which is comprised of senior representatives from the Finance Department, Management Department and Investment, to manage the internal process for evaluating and selecting eligible projects. When necessary, the GFWG will be supported by representatives from other relevant teams.
    - The GFWG will be responsible for reviewing and approving nominated green projects in line with the eligibility criteria specified in the Framework, ensuring compliance with the Company's internal environmental and risk management policies.

<sup>5</sup> Nation Public Compliant and Proposals Administration, "Environmental Protection Law of the People's Republic of China", 2014, available: <https://www.gjxfj.gov.cn/gjxfj/xxgk/fgwj/flfg/webinfo/2016/03/1460585589834370.htm>

<sup>6</sup> LEED: [www.usgbc.org/LEED](http://www.usgbc.org/LEED)

<sup>7</sup> BEAM Plus: [https://www.beamsociety.org.hk/en\\_beam\\_assessment\\_project\\_1.php](https://www.beamsociety.org.hk/en_beam_assessment_project_1.php)

<sup>8</sup> Green Building Standards of China:

<https://www.worldgbc.org/sites/default/files/Introduction%20to%20China%20Green%20Building%20Assessment%20Standard%203rd%20Edition.pdf>

<sup>9</sup> BREEAM: <https://www.breeam.com/>

<sup>10</sup> Green Mark: <https://www1.bca.gov.sg/buildsg/sustainability/green-mark-certification-scheme>

- Shandong Hi-Speed Group has in place processes for identifying and evaluating environmental and social risks associated with eligible projects, which are applicable to all allocation decisions made under the Framework. Sustainalytics considers these environmental and social risk management systems to be adequate and encourages the Company to disclose its internal environmental and social risk management processes for increased transparency. For more detail, please refer to Section 2.
- Based on the clear delegation of responsibility and the presence of adequate risk management systems, Sustainalytics considers this process to be in line with market practice.
- **Management of Proceeds:**
  - The GFWG will oversee the management of proceeds using a portfolio-based approach. Shandong Hi-Speed Group will monitor and track the use of proceeds via a Green Finance Register. The register will detail information on the green financing instruments, such as the pricing and maturity date, and information regarding the allocation of proceeds, such as a description of the eligible projects and amount of proceeds allocated.
  - The Company commits to fully allocating net proceeds within two years from the date of issuance. Pending allocation, unallocated proceeds will be temporarily held in cash or cash equivalent.
  - Based on the existence of internal tracking mechanisms to allocate proceeds in a timely manner and the disclosure of temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.
- **Reporting:**
  - Shandong Hi-Speed Group intends to report on the allocation and impact of eligible projects on an annual basis until full allocation. Allocation and impact reporting will be made publicly available on the Company's website.
  - Allocation reporting will include the amount of allocated proceeds by eligible category, the description of green projects, the share of financing versus refinancing and the remaining balance of unallocated proceeds.
  - Impact reporting will include environmental impact indicators where relevant, such as annual renewable energy generation (MWh/GWh/GT/TJ), annual GHG emissions reduced or avoided (tCO<sub>2</sub>e), length of tracks built (km) and amount of waste reduced or avoided (tonnes). For the full list of impact indicators, please refer to Appendix 1.
  - Based on Shandong Hi-Speed Group's commitment to allocation and impact reporting on an annual basis, Sustainalytics considers this process to be in line with market practice.

#### **Alignment with Green Bond Principles 2021 and Green Loan Principles 2021**

Sustainalytics has determined that the Shandong Hi-Speed Group Green Finance Framework aligns with the four core components of the GBP and GLP. For detailed information please refer to Appendix 1.

## **Section 2: Sustainability Strategy of Shandong Hi-Speed Group**

### **Contribution of the Framework to Shandong Hi-Speed Group's sustainability mandate**

As a state-owned company, Shandong Hi-Speed Group operates under the direct supervision of the State-owned Assets Supervision and Administration Commission of Shandong Province (SSASAC) and shares applicable environmental goals and strategies of the Shandong Government. This includes the "Shandong Province's 14th Five-Year Ecological Environmental Protection Plan". The Plan defines key areas of focus to advance ecological and environmental protection in Shandong Province, such as establishing a carbon reduction action plan, improving environmental air quality, particularly through the control of fine particulate matter and ozone emissions, protecting water resources and promoting the prevention and control of groundwater and soil contamination.<sup>11</sup>

In relation to transportation, the Plan includes a target to reduce the carbon intensity (carbon emissions per transport volume) of operating vehicles by 4% and ships by 3.5% in 2025 compared to 2020 levels. In 2021, the Province also released a new round of its environmental three-year action plan (2021-2023),<sup>12</sup> which sets

<sup>11</sup> Shandong Government, Shandong Province's 14th Five-Year Ecological Environmental Protection Plan (2021) (Chinese only), at: <http://www.shandong.gov.cn/attach/0/f2a44e1473c44011b097a0c6e8be3d42.pdf>

<sup>12</sup> Shandong Government, "Shandong Province's new round of "four reductions and four increases" three-year action plan (2021-2023)", (2021) (in Chinese), at: <http://www.scio.gov.cn/xwfbh/gssxwfbh/xwfbh/shandong/Document/1716097/1716097.htm>

various targets for 2023, including: i) increasing renewable energy installed capacity from 45.42 GW in 2020 to 60 GW; ii) increasing railway and waterway freight transport volume by 10%; iii) to ensure greener modes of transport, including the use of public transportation, reach 70% coverage of green transportation in 50% of city centres, and iv) increasing the share of electric vehicles from 5% in 2020 to 30% by 2023.

Sustainalytics is of the opinion that the Shandong Hi-Speed Group Green Finance Framework is aligned with the Shandong Government's overall sustainability strategy and initiatives and could further the provincial government's action on its key environmental priorities. However, Sustainalytics encourages Shandong Hi-Speed Group to formalize its sustainability commitments through a company-wide sustainability strategy with time bound targets that are publicly disclosed.

### Approach to managing environmental and social risks associated with the projects

While Sustainalytics recognizes that the net proceeds from the bonds and loans issued under the Framework will be directed towards eligible projects that are expected to have positive environmental impact, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks associated with the eligible projects, could include occupational health and safety, land use and biodiversity issues associated with large-scale infrastructure development, effluents and waste generated in construction.

Sustainalytics is of the opinion that Shandong Hi-Speed Group can manage and mitigate potential risks through implementation of the following:

- As a fully state-owned company, Shandong Hi-Speed Group operates under the direct supervision of the State-owned Assets Supervision and Administration Commission of Shandong Province (SSASAC), which has established the Guideline for Comprehensive Risk Management of Enterprises Managed by Shandong Province,<sup>13</sup> requiring all companies under the province management to establish an internal risk management system with specific risk management process and procedures regarding human resource management, production safety and environmental protection.
- Shandong Province has established Measures of Investigation and Treatment of Risks in Production Safety,<sup>14</sup> which requires companies within the province to conduct safety and emergency response training for all employees participating in manufacturing or construction activities. In addition, companies are required to implement measures to avoid accidents and emergency response plans to ensure employee safety.
- To address land use and biodiversity issues associated with large-scale infrastructure development, Shandong Hi-Speed Group's infrastructure projects will comply with China's Environmental Impact Assessment Act,<sup>15</sup> which requires companies to perform an environmental risk assessment for all projects (construction, reconstruction, expansion or refurbishment) during the initial phase of project design and feasibility analysis. The Act stipulates that the evaluation must include the identification of key risk factors related to air, water, soil pollution or human health. Moreover, the Act requires all companies to undergo an independent environmental impact assessment.<sup>16</sup> Environmental protection measures eventually proposed in the EIA or required by China's Environmental Protection Law<sup>17</sup> must be integrated into the project's initial design and budget and implemented in construction and operation. In addition, SSASAC has established a reform and development plan for state-owned assets and enterprises in Shandong Province in the 14th Five-Year Plan (2021-2025),<sup>18</sup> which requires enterprises to have risk prevention and control mechanisms with environmental protection infrastructure to minimize risk of environmental pollution.
- Regarding waste management during construction, the Housing and Urban-Rural Development of Shandong Province has established the Plan for Construction Waste Reduction in Shandong

<sup>13</sup> State-owned Assets Supervision and Administration Commission of Shandong province, "Guideline for Comprehensive Risk Management of Enterprises Managed by Shandong Province" (2008) (Chinese only), at: <http://gzw.shandong.gov.cn/articles/ch06086/201208/eb461379-2894-4bcf-ac46-51add64b05a3.shtml>

<sup>14</sup> Shandong Province Government, "Measures of Investigation and Treatment of Risks in Production Safety" (2022) (in Chinese), at: [http://www.shandong.gov.cn/art/2022/3/18/art\\_107851\\_117959.html](http://www.shandong.gov.cn/art/2022/3/18/art_107851_117959.html)

<sup>15</sup> Zhengzhou Foreign-funded Enterprise Service Center, "Environmental Impact Assessment Law of the People's Republic of China" (in Chinese), at: <https://www.waizi.org.cn/law/11686.html>

<sup>16</sup> The National People's Congress of the People's Republic of China, Environmental Impact Assessment Law of the People's Republic of China (2019) (in Chinese), at: <http://www.npc.gov.cn/npc/sjxflfg/201906/5e47c4866d5b44ff8b338997e37ee2cc.shtml>

<sup>17</sup> China.Org.Cn, "Environmental Protection Law of the People's Republic of China", at: <http://www.china.org.cn/english/environment/34356.htm>

<sup>18</sup> Shandong Province Government, "Reform and Development Plan of State-owned Asset and State-owned Enterprise in Shandong Province During the 14th Five Year Plan" (2021) (in Chinese), at: [http://www.shandong.gov.cn/art/2021/8/13/art\\_100043\\_10301688.html](http://www.shandong.gov.cn/art/2021/8/13/art_100043_10301688.html)

Province.<sup>19</sup> The Plan requires companies in the province to reduce waste from construction sites through processes such as on-site sediment separation and slurry dehydration pretreatment to reduce discharge waste. In addition, the Plan requires sorting and management and recycling of construction resources and waste.

Based on these policies, standards and assessments, Sustainalytics is of the opinion that Shandong Hi-Speed Group has implemented adequate measures and is well-positioned to manage and mitigate environmental and social risks commonly associated with the eligible categories. However, Sustainalytics encourages Shandong Hi-Speed Group to publicly disclose its internal corporate-level environmental and social risk management policies for increased transparency when available.

### Section 3: Impact of Use of Proceeds

All five use of proceeds categories are aligned with those recognized by the GBP and GLP. Sustainalytics has focused on two below where the impact is specifically relevant in the local context.

#### Importance of clean transportation in reducing emissions in China

The transport sector is the second-largest source of emissions in China, accounting for 9% of the country's CO<sub>2</sub> emissions in 2019.<sup>20</sup> In addition, energy consumption in China's transportation sector has been growing faster (9% annual average) than the 7.9% annual average growth rate of energy consumption in all of China since 2000.<sup>21</sup> Recognizing railway as a key area for decarbonization in the transportation sector, the Chinese government has committed to increasing the proportion of railway and waterway freight transport volume by 2025,<sup>22</sup> promoting the electrification of railways, and has established targets to develop 165,000 km of railway lines and construct 5.5 million km of highways by 2025.<sup>23</sup>

Sustainalytics recognizes Shandong Hi-Speed Group's role as Shandong Province's primary rail operator in helping to achieve the above targets. Sustainalytics is of the opinion that the clean transportation projects financed under the Framework are expected to facilitate low-carbon transportation in China and contribute to China's emissions reduction commitments.

#### Contribution of renewable energy to climate change mitigation in China

Fossil fuel sources account for the vast majority of China's power generation, standing at 66.5% of the total in 2020.<sup>24</sup> This resulted in China being the world's largest emitter of carbon in the same year, responsible for 30.7% of global emissions.<sup>25</sup> To mitigate its impact on climate change, the Chinese government released a strengthened set of Nationally Determined Contribution (NDC) goals in 2021 to peak CO<sub>2</sub> emissions before 2030 and achieve carbon neutrality before 2060.<sup>26</sup> Given that emissions associated with heat and electricity production remain the main source of GHG emissions in the country,<sup>27</sup> investments in renewable energy are expected to play a fundamental role in achieving China's climate neutrality target.

In that regard, government policies supporting cleaner fuel use and energy efficiency measures have resulted in a gradual increase in China's share of renewable energy. In 2020, China was the world's largest producer of renewable electricity, largely from solar and wind power and contributed 27.4% to renewable power generation globally.<sup>28</sup> In the same year, renewables accounted for 41% of the nation's total installed electricity power

<sup>19</sup> Housing and Urban-Rural Development of Shandong Province, "Plan for Construction Waste Reduction in Shandong Province" (2021) (in Chinese), at: [http://zjt.shandong.gov.cn/art/2021/3/29/art\\_103756\\_10290153.html](http://zjt.shandong.gov.cn/art/2021/3/29/art_103756_10290153.html)

<sup>20</sup> WRI China, "Toward Net Zero Emissions in the Road Transport Sector in China", (2019), at: [https://www.wri.org.cn/en/publication/toward\\_net\\_zero\\_emissions\\_road\\_transport\\_sector\\_china\\_EN](https://www.wri.org.cn/en/publication/toward_net_zero_emissions_road_transport_sector_china_EN)

<sup>21</sup> Energy Research Institute of National Development and Reform Commission, "Study on the 13th FYP and 2030 Energy Conservation Targets by 2030 (Chinese only)" (2017), at: <https://www.efchina.org/Attachments/Report/report-20170301-1-zh/report-20170301-1-zh>

<sup>22</sup> The State Council of the People's Republic of China, "14<sup>th</sup> Five-year Energy Saving and Emission Reduction Workplan", (2021) (in Chinese), at: [http://www.gov.cn/zhengce/content/2022-01/24/content\\_5670202.htm](http://www.gov.cn/zhengce/content/2022-01/24/content_5670202.htm)

<sup>23</sup> National Railway Administration of the People's Republic of China, "14<sup>th</sup> Five-Year Railway Science and Technology Innovation Plan", (2021) (in Chinese), at: [http://www.gov.cn/zhengce/zhengceku/2021-12/24/content\\_5664357.htm](http://www.gov.cn/zhengce/zhengceku/2021-12/24/content_5664357.htm)

<sup>24</sup> BP, "Statistical Review of World Energy 2021", (2021), at: <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>

<sup>25</sup> Ibid.

<sup>26</sup> UNFCCC, "China's Achievements, New Goals and New Measures for Nationally Determined Contributions" (2021), at: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/China%20First/China%E2%80%99s%20Achievements,%20New%20Goals%20and%20New%20Measures%20for%20Nationally%20Determined%20Contributions.pdf>

<sup>27</sup> China Power, "How is China Managing its Green House Gas Emissions", at: <https://chinapower.csis.org/china-greenhouse-gas-emissions/>

<sup>28</sup> BP, "Statistical Review of World Energy 2021", (2021), at: <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>

capacity and 27% of total power generation.<sup>29</sup> To ensure continued efforts in advancing China's clean energy transition and facilitate the road to climate neutrality by 2060, the Chinese government has set interim targets to raise its non-fossil fuel share of primary energy to 20% by 2025 and 25% by 2030; and increase the total installed capacity of wind and solar power to over 1,200 GW by 2030.<sup>30</sup>

In this context, Sustainalytics is of the opinion that Shandong Hi-Speed Group's renewable energy investments are expected to contribute to the Chinese Government's goal of advancing the clean energy transition and thus achieving GHG emissions reductions.

#### Alignment with/contribution to SDGs

The Sustainable Development Goals were adopted in September 2015 by the United Nations General Assembly and form part of an agenda for achieving sustainable development by the year 2030. The bonds and loans issued under the Shandong Hi-Speed Group Green Finance Framework are expected to help advance the following SDGs and targets:

Use of Proceeds Category	SDG	SDG target
Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Clean Transportation	11. Sustainable Cities and Communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
Energy Efficiency	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
Pollution Prevention and Control	11. Sustainable Cities and Communities	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
Green Buildings	9. Industry, Innovation, and Infrastructure	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

<sup>29</sup> China Energy Portal, "2020 Electricity and Other Energy Statistics (preliminary)" (2021), at: <https://chinaenergyportal.org/en/2020-electricity-other-energy-statistics-preliminary/>

<sup>30</sup> UNFCCC, "China's Achievements, New Goals and New Measures for Nationally Determined Contributions" (2021), at: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/China%20First/China%E2%80%99s%20Achievements,%20New%20Goals%20and%20New%20Measures%20for%20Nationally%20Determined%20Contributions.pdf>

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## Conclusion

Shandong Hi-Speed Group has developed the Shandong Hi-Speed Group Green Finance Framework under which it may issue green bonds and loans and use the proceeds to finance projects in the following categories: Renewable Energy, Clean Transportation, Energy Efficiency, Pollution Prevention and Control and Green Buildings. Sustainalytics considers that the projects funded by the green finance proceeds are expected to provide positive environmental impact and advance the Shandong Government's efforts in promoting low-carbon transportation in Shandong Province.

The Shandong Hi-Speed Group Green Finance Framework outlines a process by which proceeds will be tracked, allocated, and managed, and commitments have been made for reporting on the allocation and impact of the use of proceeds. Furthermore, Sustainalytics believes that the Shandong Hi-Speed Group Green Finance Framework is aligned with the overall sustainability strategy of the company and that the green use of proceeds categories will contribute to the advancement of the UN Sustainable Development Goals 7, 9 and 11. Additionally, Sustainalytics is of the opinion that Shandong Hi-Speed Group has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the proceeds.

Based on the above, Sustainalytics is confident that Shandong Hi-Speed Group Co., Ltd. is well-positioned to issue green bonds and that the Shandong Hi-Speed Group Green Finance Framework is robust, transparent, and in alignment with the four core components of the Green Bond Principles 2021 and Green Loan Principles 2021.

## Appendix

### Appendix 1: Green Bond / Green Bond Programme - External Review Form

#### Section 1. Basic Information

<b>Issuer name:</b>	Shandong Hi-Speed Group Co., Ltd.
<b>Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:</b>	Shandong Hi-Speed Group Green Finance Framework
<b>Review provider's name:</b>	Sustainalytics
<b>Completion date of this form:</b>	May 04, 2022

#### Section 2. Review overview

##### SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarize the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBP:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds        | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting                                    |

##### ROLE(S) OF REVIEW PROVIDER

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 <sup>nd</sup> opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification   | <input type="checkbox"/> Rating        |
| <input type="checkbox"/> Other ( <i>please specify</i> ):                       |  |

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

##### EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW (*if applicable*)

Please refer to Evaluation Summary above.

#### Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

## 1. USE OF PROCEEDS

Overall comment on section (if applicable):

The eligible categories for the use of proceeds – Renewable Energy, Clean Transportation, Energy Efficiency, Pollution Prevention and Control and Green Buildings – are aligned with those recognized by the Green Bond Principles 2021 and the Green Loan Principles 2021. Sustainalytics considers that investments in the eligible categories are expected to lead to positive environmental impacts and advance the UN Sustainable Development Goals, specifically SDGs 7, 9 and 11.

### Use of proceeds categories as per GBP:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Renewable energy  | <input checked="" type="checkbox"/> Energy efficiency  |
| <input checked="" type="checkbox"/> Pollution prevention and control  | <input type="checkbox"/> Environmentally sustainable management of living natural resources and land use |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation  | <input checked="" type="checkbox"/> Clean transportation   |
| <input type="checkbox"/> Sustainable water and wastewater management  | <input type="checkbox"/> Climate change adaptation   |
| <input type="checkbox"/> Eco-efficient and/or circular economy adapted products, production technologies and processes                            | <input checked="" type="checkbox"/> Green buildings  |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBP | <input type="checkbox"/> Other (please specify):   |

If applicable please specify the environmental taxonomy, if other than GBP:

## 2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

Shandong Hi-Speed Group has established the Green Finance Working Group (GFWG), which is comprised of senior representatives from several departments to oversee the project evaluation and selection process. Shandong Hi-Speed Group has processes in place to identify and mitigate common environmental and social risks associated with the eligible projects, which are applicable to all allocation decisions made under the Framework. Sustainalytics considers Shandong Hi-Speed Group's risk management system to be adequate and the project selection process to be in line with market practice.

### Evaluation and selection

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Credentials on the issuer's environmental sustainability objectives            | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories               |
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Green Bond proceeds | <input checked="" type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input type="checkbox"/> Summary criteria for project evaluation and selection publicly available                  | <input type="checkbox"/> Other (please specify):  |

### Information on Responsibilities and Accountability

- Evaluation / Selection criteria subject to external advice or verification
  In-house assessment
- Other (please specify):

### 3. MANAGEMENT OF PROCEEDS

Overall comment on section (if applicable):

The GFWG will also oversee the management of proceeds and track the proceeds using a portfolio approach via a green finance register. Shandong Hi-Speed Group intends to fully allocate net proceeds within two years of issuance. Pending full allocation, unallocated proceeds will be held in cash instruments. This is in line with market practice.

#### Tracking of proceeds:

- Green Bond proceeds segregated or tracked by the issuer in an appropriate manner
- Disclosure of intended types of temporary investment instruments for unallocated proceeds
- Other (please specify):

#### Additional disclosure:

- Allocations to future investments only
  Allocations to both existing and future investments
- Allocation to individual disbursements
  Allocation to a portfolio of disbursements
- Disclosure of portfolio balance of unallocated proceeds
  Other (please specify):

### 4. REPORTING

Overall comment on section (if applicable):

Shandong Hi-Speed Group intends to report on allocation of proceeds on its website annually until full allocation. Allocation reporting may include the amount of allocated proceeds by eligible category, the description of eligible green projects and the share of financing versus refinancing. Impact reporting may include relevant environmental impact indicators. Sustainalytics views Shandong Hi-Speed Group allocation and impact reporting as aligned with market practice.

#### Use of proceeds reporting:

- Project-by-project
  On a project portfolio basis
- Linkage to individual bond(s)
  Other (please specify):

**Information reported:**

- Allocated amounts  Green Bond financed share of total investment
- Other (*please specify*): share of financing versus refinancing

**Frequency:**

- Annual  Semi-annual
- Other (*please specify*):

**Impact reporting:**

- Project-by-project  On a project portfolio basis
- Linkage to individual bond(s)  Other (*please specify*):

**Information reported (expected or ex-post):**

- GHG Emissions / Savings  Energy Savings
- Decrease in water use  Other ESG indicators (*please specify*): Capacity of renewable energy plant(s) constructed or rehabilitated (MW), annual renewable energy generation (MWh/GWh/GJ/TJ), length of tracks built (km), number of passengers, waste reduced or avoided (tonnes), level of green building certification by property, energy efficiency gains (MWh or %)

**Frequency**

- Annual  Semi-annual
- Other (*please specify*):

**Means of Disclosure**

- Information published in financial report  Information published in sustainability report
- Information published in ad hoc documents  Other (*please specify*): Issuer's website
- Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review):

Where appropriate, please specify name and date of publication in the useful links section.

**USEFUL LINKS** (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

**SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE**
**Type(s) of Review provided:**

- |  |  |
|--|--|
| <input type="checkbox"/> Consultancy (incl. 2 <sup>nd</sup> opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification / Audit                        | <input type="checkbox"/> Rating        |
| <input type="checkbox"/> Other ( <i>please specify</i> ):            |  |

**Review provider(s):**
**Date of publication:**
**ABOUT ROLE(S) OF INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP**

- i. Second-Party Opinion: An institution with environmental expertise, that is independent from the issuer may issue a Second-Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.
- ii. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.
- iii. Certification: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. Green Bond Scoring/Rating: An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

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