

Shandong Hi-Speed Group Co., Ltd

Green Bond Allocation and Impact Report

Contents

1. Introduction	2
2. Overview of Shandong Hi-Speed Group	2
3. The Green Finance Framework (“GFF”)	5
4. SDHG’s Green Bonds	7
5. Allocation of Proceeds	8
6. The Green Finance Working Group	8
7. Summary of Asset Impacts.....	9

Shandong Hi-Speed Group Co., Ltd

1. Introduction

Shandong Hi-Speed Group Co., Ltd (“**Shandong Hi-Speed**”, the “**Company**” or “**SDHG**”) is committed to integrating sustainability into its financing programme. In 2022, SDHG established a Green Finance Framework (the “**Framework**”) under which SDHG and/or direct or indirect subsidiaries within the SDHG Group (the “**Group**”) may raise bond, loan or related financing for specific assets, projects and investments that it believes will improve positive environmental impact (such financing, a “**Green Finance Transaction**”).

SDHG worked with Sustainalytics, an independent third-party reviewer with recognised expertise in environmental and social matters, to (i) assess the Framework for alignment with relevant green finance market guidelines; and (ii) obtain and make publicly available a second-party opinion review document with respect to such alignment (the “**Second-Party Opinion**”).

In June 2022, SDHG issued a USD 500 million green bond due 2025, SDHG’s debut green finance transaction.

2. Overview of Shandong Hi-Speed Group

Shandong Hi-Speed was established by the People’s Government of Shandong province (“**Shandong Government**”) as a wholly state-owned enterprise under the direct supervision of the State-owned Assets Supervision and Administration Commission of Shandong province (“**SSASAC**”). SSASAC on behalf of Shandong Government, acts as the Company’s majority shareholder and holds the shares of the Company together with Shandong Guohui Investment Holding Group Co., Ltd. (山東國惠投資控股集團有限公司) (“**Shandong Guohui**”) and Shandong Caixin Asset Operation Co., Ltd (山東省財欣資產運營有限公司) (“**Shandong Caixin**”).

Leveraging its advantages in its core expressway and railway businesses, the Group has grown into a modernised, international and efficient transportation and infrastructure conglomerate. The Company, through its subsidiaries and affiliates, is principally engaged in the investment in, and construction, operation and management of various transportation and infrastructure facilities. The Group’s businesses can be divided into the following segments:

- expressway;
- railway;
- construction;
- logistics and trading;
- financial investment; and
- others.

The Group is the largest provincially supervised state-owned enterprise in Shandong province and the largest infrastructure developer in Shandong province in terms of total assets as at 31 December 2020. It is also an industry leader in terms of total assets as at 31 December 2020. As at and for the years ended 31 December 2019 and 2020, the Group’s total assets ranked first and profits ranked among the top, respectively, among all state-owned enterprises directly supervised by Shandong Government.

Shandong Hi-Speed Group Co., Ltd

The Company was originally established in 1997 and was converted into a wholly state-owned enterprise by the Shandong Government under the direct supervision of SSASAC in 1999. The Company officially commenced its business in 2001 under the name of Shandong Province Hi-Speed Expressways Limited Liability Company (山東省高速公路有限責任公司) (“SPHEL”) and subsequently in 2002, the Company was recognised as a large wholly state-owned enterprise by the Shandong Province Economic and Trade Commission (山東省經貿委) and the Shandong Province Statistics Bureau (山東省統計局) .

In 2005, SSASAC became the sole shareholder of the Company, and the Company’s name was changed to Shandong Province Expressways Group Co., Ltd (山東省高速公路集團有限公司) . In 2008, with the approval of SSASAC, the Company’s name was further changed to its current name, Shandong Hi-Speed Group Co., Ltd (山東高速集團有限公司) . In 2018, pursuant to the Notice of SSASAC and Shandong Social Security Fund regarding Amendment to the Articles of Association of Shandong Hi-Speed Group (《省人民政府國有資產監督管理委員會、山東社保基金理事會關於修訂〈高速集團有限公司章程〉的通知》) published by Shandong Government, Shandong Guohui and Shandong Social Security Fund became minority shareholders of the Company, holding 20 per cent. and 10 per cent. of the equity interest in the Company, respectively.

The Group has, since its inception in 1997, firmly established its position as an industry leader in the investment in, and construction, operation and management of roads, expressways, bridges and tunnels in Shandong province. The Group has built up a strong and stable asset portfolio of quality expressway and railway and an established operational track record. As at 31 December 2021, the Group had operated expressways with a total length of approximately 7,779 kilometres, of which 6,170 kilometres are in Shandong province.

The Group is also a main railway operator in Shandong province. As at 31 December 2021, the Group operates and manages railways in a total length of approximately 390 kilometres.. The Dajiawa-Laizhou-Longkou Railway is an important part of the building of the “four vertical and four horizontal” hi-speed passenger access network in Shandong province.

Expressway Business Segment

The Group is primarily engaged in the investment in, and operation and management of, roads, expressways, bridges, tunnels in Shandong, Sichuan, Henan, Yunnan, Hunan and Hubei provinces. The Group has, since its inception in 1997, firmly established its position as an industry leader in the investment in, and construction, operation and management of roads, expressways, bridges and tunnels in Shandong province.

Railway Business

In terms of railways, the Group is primarily engaged in the investment in, and construction and operation of railways and rail transit infrastructure in Shandong province and other regions of the PRC. The railway business serves as a complement to the Group’s expressway business and is an important part of the Group’s integrated transport infrastructure network. The Group’s railway business originated from Shandong Local Railway Bureau. Hence, the Group has received substantial governmental support over the years in undertaking construction projects. It is actively

Shandong Hi-Speed Group Co., Ltd

participating in the investment in, and construction and management of railway projects in the PRC on behalf of Shandong Government.

The Group's railway business is conducted through SDHS Rail Transit, one of its key subsidiaries, which engages in the investment in, and construction and operation of, regional and urban light and inter-city rail transit infrastructure in Shandong province. Besides, Shandong Railway Investment, a subsidiary of the Company, also engaged in the development, management and operation of railways in Shandong province and other regions that are part of the PRC railway network.

Through SDHS Rail Transit, the Group engages in the investment in, and construction and operation of regional railways, repairing of cargo facilities, maintenance and sales of spare parts of shipping facilities. It is also involved in the construction of regional railroads and operation of railway lines, operation of storage facilities for non-hazardous materials and provision of freight solutions.

Contribution to Sustainability

As a major state-owned enterprise of the Shandong Government, Shandong Hi-Speed Group plays an important role in implementing the mission of infrastructure construction in Shandong province.

Through the development of railways and rail transit infrastructure in Shandong province and other regions of the PRC, the Company is able to contribute to the development of diversified and multi-modal transportation for the public. In particular, low-carbon transport has a key role to play in facilitating a modal transportation shift, enabling the transition to a low carbon economy and to support future climate change mitigation efforts.

Shandong Hi-Speed Group adopts proactive environmental protection policies which establishes sound policies to minimize negative environmental impacts brought by expressway, road, bridges and railway construction and operation. At the same time, the Company actively promotes energy conservation and emission reduction to put forth the concept of environmental protection to every work detail.

A prominent example is that the Company has gone beyond Business-as-Usual activities to install solar panel-powered lighting on its expressways.

Shandong Hi-Speed Group Co., Ltd

3. The Green Finance Framework (“GFF”)

SDHG published its Green Finance Framework (the “Framework”) in June 2022 as the basis to raise bond, loan or related financing for specific assets, projects and investments (“Green Financing Instruments”). The Green Financing Instruments will finance projects that are aligned with:

- respect to bonds, bonds issued under GFF will be in alignment with the International Capital Market Association (“**ICMA**”) Green Bond Principles (“**GBP**”) 2021¹ and *Green Bond Guidance, National Development and Reform Commission (NDRC)*; With respect to loans, loans issued under GFF will be in alignment with the Loan Market Association (“**LMA**”) Green Loan Principles (“**GLP**”) 2021² (together “the Principles”).

Instruments issued under this Framework may take the form of Green Bonds, or Green Loans, which will be used to finance and/or refinance eligible assets.

In aligning with the above principles and guidelines, the SDHG’s GFF is presented through the four core components of the Principles.

Use of Proceeds: Shandong Hi-Speed Group and its subsidiaries will allocate an amount at least equivalent to the net proceeds of the Green Financing Instruments issued under this Framework to finance and/or re-finance, in whole or in part:

- Green Assets which meet the eligibility criteria of the following Eligible Green Project categories (“**Eligible Green Projects**”), as defined as below.

Process for Project Evaluation and Selection: The Project Evaluation and Selection Process will ensure that the proceeds of any SDHG Green Financing Instrument are allocated to finance or refinance eligible green assets that meet the criteria and objectives set out in the Framework.

SDHG’s Green Finance Working Group (the “GFWG”) will be responsible for governing and implementing the initiatives set out in the Framework.

Management of Proceeds: SDHG has established a Green Finance Register (the “Register”) to track the use of proceeds for the Green Financing Instrument.

The Register will contain information on the Green Bond issuance, such as the issuance amount, pricing date and maturity date, along with other necessary information, and the allocation to eligible green assets.

Any proceeds temporarily unallocated will be invested according to the SDHG’s standard liquidity policy in cash or cash equivalents.

Reporting: Until full allocation of the Green Financing Instrument, the SDHG shall report the information on the allocation of proceeds on an annual basis. The allocation reporting shall include the following information:

- Allocation amount by eligible green asset categories
- Amount of unallocated Proceeds





¹ In alignment with ICMA Green Bond Principles, June 2021, <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

² In alignment with LMA Green Loan Principles, February 2021, <https://www.lsta.org/content/green-loan-principles/#>

Shandong Hi-Speed Group Co., Ltd

- Selected examples of projects financed, subject to confidentiality

Eligible Green Categories

GBP Category	Eligibility Criteria
<p>Renewable Energy</p> 	<p>Projects related to the production, transmission and storage of energy from the following renewable sources:</p> <ul style="list-style-type: none"> Solar (PV and Concentrated Solar Power with a minimum 85% of power generation derived from solar sources) Wind energy
<p>Clean Transportation</p> 	<p>Investment, construction, development and operation of electrified rail transit facilities, as well as expansions, maintenance and upgrades of these infrastructures that result in improved service levels or extended asset lifespan with preserved carrying capacity. This includes:</p> <ul style="list-style-type: none"> Manufacture, purchase and maintenance of electrified rolling stock (including locomotives, wagons, coaches and all other attachments propelled through such electrified rolling stock, as well as associated equipment) meeting the below criteria Construction of the related rail transport infrastructure (networks and lines), including lines, tracks and tunnels <p>For rail transit that is not fully electrified, the following criteria has to be met</p> <ul style="list-style-type: none"> freight transportation (under 25gCO₂/t-km up till 2030, 21gCO₂/tkm from 2030 up to 2050) passenger / public rail transportation (under 50gCO₂/p-km up to 2025, and 0gCO₂/km thereafter) <p>Construction of infrastructure that directly supports low carbon transportation (as defined above), such as ground preparation, stations, signalling equipment, network interfaces including passenger access, ancillary passenger services, facilities required for the safe, clean and efficient operation of the network, utilities and other enabling infrastructure</p> <p><u>Exclusion</u> For avoidance of doubt, infrastructure dedicated to the transportation of fossil fuel will be excluded</p>
<p>Energy Efficiency</p> 	<p>Investment, manufacture and installation of energy-efficient systems, products and technology associated with low carbon transportation systems (as defined above) that reduce energy consumption or improve operational energy efficiency by at least 20%, including:</p> <ul style="list-style-type: none"> Modernization of lighting systems such as upgrades to LED Investment in energy meters, energy and building management systems <p><i>For the avoidance of doubt, improvement activities that result in the lock in of fossil fuel technologies will be excluded</i></p>
<p>Pollution Prevention and Control</p> 	<p>Investment in technologies related to:</p> <ul style="list-style-type: none"> Enhancing air quality such as to increase air circulation and air filtration Noise reduction technologies such as noise barriers, modification of turnouts, rail dampers and insulation booths

<p>Green Buildings</p> 	<p>Projects related to acquisition, development, construction and refurbishment of new or existing commercial or residential buildings that have received, or expect to receive based on its design, construction and operational plans, certification according to third-party verified green building standards, such as:</p> <ul style="list-style-type: none"> ○ U.S. Leadership in Energy and Environmental Design (LEED) – minimum certification of Gold; or ○ BEAM Plus – minimum certification level of Gold; or ○ Chinese Green Building Evaluation Standard – minimum certification level of 2 stars; or ○ BREEAM – minimum certification level of Excellent; or ○ BCA Green Mark – minimum certification level of Gold
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4. SDHG's Green Bonds

Issuer³	Coastal Emerald Limited
Issuer Rating⁴	Moody's: A3 (Stable) Fitch: A (Stable)
Issue Date	15 June 2022
Issue Rating	Moody's: A3 Fitch: A
Type	Regulation S
Listing	SGX-ST
Tenor	3 years
ISIN	XS2480876254
Issue Size	USD 500 mn
Maturity Date	15 Jun 2025
Coupon	4.1%

³ Guaranteed Medium Term Note Programme unconditionally and irrevocably guaranteed by China Shandong Hi-Speed Financial Group Limited with the benefit of a Keepwell Deed and a Deed of Equity Interest Purchase Undertaking or unconditionally and irrevocably guaranteed by Shandong Hi-Speed Group Co., Ltd.

⁴ These ratings are only correct as at the date of this issuance.

5. Allocation of Proceeds⁵

ISIN	Issued Amount	Issued Amount (HKD million)
XS2480876254	USD 500 million	3,924.95
Total		3,924.95

Conversion rates used as per bond's respective issuance date, from Bloomberg.

Project Category	Allocated Amount (HKD million)	% of Allocated Funds
Renewable Energy	3,924.95	100%
Total	3,924.95	100%

	Allocated Amount (HKD million)	Outstanding Sustainable Financing Instrument Proceeds Allocated (%)
Total Green Bonds	3,924.95	100%
Total Allocated Green Assets	3,924.95	

6. The Green Finance Working Group

Shandong Hi-Speed Group's Green Finance Working Group (the "GFWG") will be responsible for governing and implementing the initiatives set out in the Framework.

The GFWG is comprised of senior representatives from the following departments for the selection and evaluation of the Eligible Green Projects: Finance Department, Management Department and Investment.

The GFWG may be supplemented from time to time, or expanded, by the inclusion of representatives from other relevant teams.

The GFWG will:

- Meet at least two times each year, endeavoured to be distributed evenly throughout the year
- Ratify Eligible Green Projects, which are initially proposed by the constituent team members
- Ensure that projects comply with Shandong Hi-Speed Group's internal environmental and risk management policies as well as applicable local governmental regulations

⁵ As of 30th June 2024.

Shandong Hi-Speed Group Co., Ltd

- Undertake regular monitoring of the asset pool to ensure the eligibility of Green Projects with the criteria set out in Shandong Hi-Speed Group's GFF, Use of Proceeds, whilst replacing any ineligible Green Projects with eligible new Green Projects
- Facilitate regular reporting on any Green issuance in alignment with our Reporting commitments
- Manage any future updates to this Framework
- Ensure that the approval of Eligible Green Projects will follow the Company's existing credit/loan/investment approval processes

The Group's operations are subject to various laws and regulations in the jurisdictions in which it operates. The Group's properties are subject to routine inspections by government officials with regard to various safety and environmental issues. The Company believes that the Group is in compliance in all material respects with government regulations currently in effect in the jurisdictions in which it operates.

7. Summary of Asset Impacts⁶

Eligible Green Asset Categories	Project Locations	Description and Expected Impact
Renewable Energy	China	<ul style="list-style-type: none"> • The total annual renewable energy generation of which SDHG's attributed share is 5,232,945.88 MWh, of which the solar energy represents 3,326,139.75 MWh and the wind energy represents 1,906,806.14 MWh.

Note: Unless otherwise stated, the impact figures calculated are reflective of the portion of total impact from bond pricing date that is attributable to the green bond issuances.

⁶ As of 30th June 2024.

Shandong Hi-Speed Group Co., Ltd.

Shandong, China