

Second-Party Opinion

KORAIL Green, Social and Sustainability Bond

Evaluation Summary

Sustainalytics is of the opinion that the KORAIL Green, Social and Sustainability Bond Framework is credible and impactful, and aligns with ICMA's Green Bond Principles, Social Bond Principles and Sustainability Bond Guidelines 2018. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds are aligned with those recognized by the Green and Social Bond Principles and the Sustainability Bond Guidelines 2018. Sustainalytics considers the range of eligible categories to have the potential to create significant environmental and social benefits, by promoting low-carbon and inclusive growth, as well as to advance key UN Sustainable Development Goals and the country's sustainability commitments.



PROJECT EVALUATION / SELECTION KORAIL's CFO will review and approve the issuances based on the recommendation from the Treasury Department. Eligible projects are vetted by the Environment Management Department or Innovation Strategy Department to ensure that the projects lead to clear environmental or social impacts. Allocation of funds is reviewed by the CEO on an annual basis. This governance structure is in line with market practice. KORAIL outlines sufficient oversight and management over social and environmental risk mitigation. Additionally, Sustainalytics acknowledges that KORAIL is a government-owned entity which strictly follows the Government of the Republic of Korea's environmental and social regulations, such as the Environmental Impact Assessment Act. As such, Sustainalytics is of the opinion that relevant environmental and social risks are mitigated as part of KORAIL's risk mitigation process.



MANAGEMENT OF PROCEEDS KORAIL's processes for management and tracking of proceeds are in line with market practice. Net proceeds from the issuance will be allocated to Eligible Green and Social projects only, and any unallocated amount will be invested in cash or cash equivalent as per KORAIL's liquidity management policy.



REPORTING KORAIL intends to report on the allocation of proceeds on an annual basis. The report will include allocation of funds to eligible project categories, the amounts allocated, and the portion of financed and refinanced projects. Where feasible, quantitative environmental and social performance indicators will be provided. In Sustainalytics' view reporting on these metrics is in line with market practice.

Evaluation date	August 29, 2018
Issuer Location	Daejeon, South Korea

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Introduction

Korea Railroad Corporation (KORAIL) is the nation's sole government-owned railroad operator, providing transportation services to approximately 3.5 million passengers daily as of 2017. KORAIL provides railroad transportation services nationwide connecting major cities, ports and regions, as well as subway rail services encompassing the Seoul metropolitan area, and tourist railways to popular tourist destinations.

KORAIL has developed the KORAIL Green, Social and Sustainability Bond Framework (the "framework") under which it is issuing sustainability bonds and using the proceeds to finance or refinance, in whole or in part, existing or future projects that support its sustainable development plan and initiatives. The framework defines eligibility criteria in the following areas:

Green Eligibility Categories:

1. Clean transportation
2. Energy efficiency
3. Renewable energy
4. Pollution prevention and control
5. Climate adaptation

Social Eligibility Categories:

1. Access to basic infrastructure
2. Employment generation including through the potential effect of SME financing
3. Socioeconomic Advancement and Empowerment

KORAIL engaged Sustainalytics to review the KORAIL Green, Social and Sustainability Bond Framework and provide a second-party opinion on the alignment of the green, social or sustainability bond¹ with the Green Bond Principles (GBP), the Social Bond Principles (SBP) and the Sustainability Bond Guidelines 2018 (SBG), as administered by the International Capital Market Association (the "ICMA"),² and the framework's environmental and social credentials. This framework has been published in a separate document.³

As part of this engagement, Sustainalytics held conversations with the lead underwriter of the bond to understand the sustainability impact of KORAIL's business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of KORAIL's green, social or sustainability issuance. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics' opinion of the KORAIL Green, Social and Sustainability Bond Framework and should be read in conjunction with that framework.

¹ Sustainability Bonds are aligned with the four core components of both the Green Bond Principles and Social Bond Principles, with the former being especially relevant to underlying Green Projects and the latter to underlying Social Projects.

² Sustainability Bond Guidelines 2018 <https://www.icmagroup.org/green-social-and-sustainability-bonds/sustainability-bond-guidelines-sbg/>

³ www.letskorail.com/ebizbf/EbizBfAboutKORAIL.do

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the KORAIL Green, Social and Sustainability Bond Framework

Summary

Sustainalytics is of the opinion that the KORAIL Green, Social and Sustainability Bond Framework is credible and impactful, and aligns with the four core components of the Green Bond Principles, Social Bond Principles and Sustainability Bond Guidelines 2018. Sustainalytics highlights the following elements of KORAIL's sustainability bond framework:

- Use of Proceeds:
 - The use of proceeds categories of KORAIL's framework are recognized as environmentally and socially impactful by the Green Bond Principles 2018, the Social Bond Principles 2018, and the Sustainability Bond Guidelines 2018. Further, KORAIL will avoid investments in projects that can hinder sustainable development, such as fossil fuel and fossil fuel-related infrastructure. For additional information on impact, please see Section 3.
 - While Sustainalytics recognizes that the prevention of noise pollution can be considered to have clearer links to health and social impacts, noise pollution is often classified as an environmental issue in Korea. Given the contextual relevance of noise pollution as an environmental issue in Korea, projects related to noise pollution have been included under KORAIL's eligibility criteria under pollution prevention and control.
 - With regard to the energy efficiency use of proceeds category, Sustainalytics acknowledges that the market prefers that issuers define a minimum threshold for energy efficiency gains from projects in this category, with 20% generally viewed as the minimum threshold. KORAIL has communicated to Sustainalytics that although a minimum threshold is not defined under its Framework, as a government entity, any projects or large procurements can be scrutinized by its auditor (The Board of Audit and Inspection of Korea) and thus it is KORAIL's interest not to invest in projects or equipment that do not lead to significant energy savings. Additionally, KORAIL is currently proposing to include LED installation under the energy efficiency category. As such, Sustainalytics is under the impression that KORAIL's energy efficiency projects are likely to lead to positive impact.
- Project Selection Process:
 - Eligible projects are identified by the Treasury Department and vetted by the Environment Management Department or Innovation Strategy Department to ensure that the projects lead to clear environmental or social impacts. The project list is reviewed and approved by the CFO and allocation of funds is reviewed by the CEO annually. Sustainalytics assesses this governance process as being in line with market practices.
 - Sustainalytics highlights that since KORAIL is a government-owned entity, it strictly follows the Government of the Republic of Korea's environmental and social regulations which include guidelines to mitigate environmental and social risks, such as the Environmental Impact Assessment Act. Additionally, KORAIL outlines sufficient oversight and management over social and environmental risk mitigation. As such, Sustainalytics is of the opinion that relevant environmental and social risks are mitigated as part of KORAIL's risk mitigation process.
- Management of Proceeds:
 - KORAIL has a transparent earmarking process for the management of proceeds which is overseen by the Treasury Department and includes a bond project register. Net proceeds from the issuance will be allocated to Eligible Green and Social projects only, and any unallocated amount will be invested in cash or cash equivalent as per KORAIL's liquidity management policy.
- Reporting:
 - KORAIL commits to disclose a comprehensive allocation and impact report on its website annually. The allocation report will include the amount of funds allocated to eligible project categories, and the portion of financed and refinanced projects. The impact report will include quantitative and qualitative environmental and social performance indicators where feasible,

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such as GHG emissions avoided and number of benefited people. In Sustainalytics' view, reporting on these metrics is in line with market practice.

- Additionally, KORAIL reports on a variety of environmental KPIs within its sustainability reports and within a separate environmental management report on an annual basis. Considering that KORAIL's green projects cover a wide number of eligible categories, KORAIL's sustainability reports can serve to complement its sustainability bonds reporting.

Alignment with Green Bond Principles, Social Bond Principles and Sustainability Bond Guidelines 2018

Sustainalytics has determined that the KORAIL Green, Social and Sustainability Bond Framework aligns to the four core components of the Green Bond Principles, Social Bond Principles and Sustainability Bond Guidelines 2018. For detailed information please refer to Appendix 1: Sustainability Bond/ Sustainability Bond Programme External Review Form.

Section 2: Sustainability Strategy of the Issuer

Contribution of framework to issuer's sustainability mandate and targets

KORAIL's mission statement "Devoted to the People, the World, and the Future", underpins its sustainability efforts. As a government-owned entity, KORAIL is also committed to supporting the Government of the Republic of Korea's environmental, social, and economic development priorities, including fulfilling the country's Paris Agreement target of a 37% reduction in emissions by 2030 from a business-as-usual baseline,⁴ and supporting the "harmonized development of the environment, society, and economy."⁵ As a corporate entity, KORAIL has transparently communicated its sustainability performance; since 2008, the company has been publishing an annual sustainability report, with qualitative and quantitative performance indicators related to each priority area, reported to the extent possible.

KORAIL has implemented a thorough company-wide environmental policy and management system ensuring that its environmental footprints are well-monitored and managed, including establishing quantitative KPIs and time-bound targets, whenever feasible. Highlights of the environmental strategy include:⁶

- An integrated pollution management system, including waste management, water pollution management and noise management: Technologies have been put in place to manage and reduce pollution across these areas, such as waste management procedures on trains, limits on particulate emissions from train maintenance, and surveys and remediation of soil contamination.
- Conducting GHG inventory to monitor and reduce its GHG emissions: KORAIL sets its own reduction targets, which are more stringent than the statutory allowances set by government. In 2017, it surpassed the standard by 19.7%, with total emissions 3.5% lower than the 2010 baseline, when monitoring began. KORAIL has been participating in the Climate Disclosure Project (CDP) since 2012 and was awarded with the CDP Special award for excellence in response to climate change in 2013, 2015, 2016, and 2017.
- KORAIL is implementing an energy efficiency strategy in all its facilities and it has a target for 100% LED lighting within all its office buildings by 2020. KORAIL also has plans to install LED lighting systems in an additional 299 stations and facilities by 2023.
- KORAIL is generating renewable energy within its facilities for its own consumption. KORAIL states that it has installed 39 solar energy facilities and 22 geothermal energy facilities in 2017.
- KORAIL is developing and implementing low-carbon, high-efficiency railway vehicles, which contributed to the company being awarded the environmental footprint certification,⁷ a first for the railway industry.

KORAIL's sustainability approach also considers social issues, as highlighted in its 2017 Sustainability Report, focussing on "Common Benefit with Society":

⁴

<http://www4.unfccc.int/ndcregistry/PublishedDocuments/Republic%20of%20Korea%20First/INDC%20Submission%20by%20the%20Republic%20of%20Korea%20on%20June%202030.pdf>

⁵ <https://sustainabledevelopment.un.org/memberstates/republicofkorea>

⁶ KORAIL 2016 Sustainability Report

⁷ Korean government's official certification to verify that thorough GHG and energy management is being carried out for the entire railway service provided by KORAIL

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- Mutual Growth, which includes a policy of supporting SMEs, boosting local economies in rural areas, and engaging in fair overseas trade. Furthermore, KORAIL contributed to the country's balanced economic development by connecting 697 stations.
- Open Employment, which includes commitments to fair and competitive recruitment and employment practices, support for individuals re-entering the workforce, and the recruitment of local workers.
- Constructive Workplace, which includes a renewed focus on ensuring a safe workplace, the expansion of flexible working arrangements, and promotion of a work-family balance. KORAIL has received a "family-friendly company" certification from the Ministry of Gender Equality and Family, and parental leave has increased 31.7% year-over-year.
- Social Contribution, including job creation and job security. As per the government's employment policy, KORAIL has committed to changing around 7,000 employee's contracts to permanent positions by 2022, and it plans to hire 2,000 employees in 2018.

KORAIL's main business supports low-carbon and sustainable development through its direct contribution to promoting clean and inclusive mass transportation. Overall, Sustainalytics views positively KORAIL's sustainability policies, targets, and achievements, and is of the opinion that KORAIL's sustainability bonds will support the fulfilment of these strategies and that the company is well-positioned to issue sustainability bonds.

Well positioned to address common environmental and social risks associated with the projects

Sustainalytics recognizes that potential infrastructure projects, including those relating to railroad transportation networks, may be associated with environmental and social risks such as noise and air pollution, and local community approval. KORAIL follows the Government of the Republic of Korea's environmental and social regulations and complies with all national policies and guidelines to mitigate environmental and social risks associated with its projects. For projects that KORAIL deems to have major environmental and social impacts, KORAIL may engage external experts for thorough reviews and management, in compliance with the Environmental Impact Assessment Act.⁸ Aside from complying with all laws and regulations, the company has implemented the following internal structures for environmental and social risk mitigation:

- KORAIL's Board of Directors participates in decision-making and risk management for the company's management, policies and environmental issues.
- KORAIL's Railway Safety Deliberation Committee reports to the CEO on matters related to safety and risk management. The committee oversees KORAIL's safety management system.⁹
- KORAIL has established an Environmental Management Department dedicated to environmental affairs at its headquarters to oversee the company's environmental management policy and practices.

KORAIL has also conducted, or implemented, the following for the management of environmental and social risks:

- A materiality assessment in 2016 in which KORAIL identified the following as priority areas: "Customer safety and health", "Workplace safety and health", "Indirect economic effect", "Evaluation of labor practice of subcontractors", and "Eradication of human rights violations." These priority areas have associated targets on an annual basis.
- An internal Environmental Information System (EIS) to systemically manage environmental resources, facilities, investments, and information.
- Ongoing environmental management and rigorous internal and external environmental audits to monitor emission pollutants caused by railway operations.

⁸ <http://www.moleg.go.kr/english/korLawEng?pstSeq=52628>

⁹ As per KORAIL, between 2013-2016, KORAIL improved its accident ratio per kilometer by 20% and, in 2016, it achieved the highest level of safety according to the standards set by the European Railway Agency (ERA).

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- KORAIL has been a signatory to the UN Global Compact since May 2007 and has implemented ISO 26000,¹⁰ which are indicative of the priority the company sets to complying with human rights and labor standards.¹¹

Overall, Sustainalytics is of the opinion that KORAIL's oversight related to environmental and social risk mitigation are comprehensive. Furthermore, since KORAIL is a government-owned entity, it strictly follows the Government of the Republic of Korea's environmental and social regulations. As such, Sustainalytics is of the opinion that relevant environmental and social risks are mitigated as part of KORAIL's risk mitigation process.

Section 3: Impact of Use of Proceeds

All use of proceeds categories are recognized as impactful by the GBP and SBP. Sustainalytics has focused on specific areas below where the impact is specifically relevant in the local context.

Importance of KORAIL's environmental initiatives

In 2016, South Korea submitted its Nationally Determined Contribution (NDC) in response to the Paris Agreement. South Korea's NDC included a target to reduce its greenhouse gas emissions by 37% from the business-as-usual level by 2030 across all economic sectors.¹² Given that 16% of the country's carbon emissions came from the transport industry in 2014,¹³ the country must expand its infrastructure for low-carbon public transportation to meet its 2030 NDC reduction targets.

As Korea's only government-owned railroad operator, KORAIL is using its environmental initiatives to redefine its role as an alternative means of transportation that can contribute to reducing up to 70% of GHG emissions from automobiles.¹⁴ KORAIL is developing and implementing low-carbon, high-efficiency railway vehicles, transitioning away from its diesel-powered trains. Between 2011 to 2017, KORAIL's consumption of diesel decreased by 58% while the company's consumption of electricity increased by 113%, signaling a significant transition away from diesel.

In addition to providing clean transportation, KORAIL is also continuously expanding new and renewable energy facilities such as solar light, solar heat, and geothermal heat energy facilities. In 2017, the company installed 38 new solar light energy facilities, one new solar heat energy facility, and 22 geothermal energy facilities.¹⁵

Sustainalytics recognizes the environmental benefits of clean transportation and renewable energy power production stemming from KORAIL's proposed environmental initiatives. Sustainalytics is of the opinion that any extension of KORAIL's clean transport and renewable energy production capacities will have a positive contribution in reducing and replacing South Korea's reliance on fossil fuels over the long-term. In this sense, Sustainalytics highlights that KORAIL's environmental projects will enhance South Korea's sustainability profile and help the country meet its Paris Climate Agreement commitments to reduce its overall CO2 emissions by 37% below BAU levels by 2030.

¹⁰ The ISO 26000 checklist includes performance assessments of seven core themes of social responsibility implementation (organization, governance, environment, human rights, labor practices, consumer issues, community participation and development and fair operating practices). The Korean Standards Association assessed KORAIL's level of social responsibility compliance according to the ISO 26000 checklist. KORAIL 2016 Sustainability Report, p.86.

¹¹ KORAIL 2016 Sustainability Report.

¹² Submission by the Republic of Korea, Intended Nationally Determined Contribution; <http://www4.unfccc.int/ndcregistry/PublishedDocuments/Republic%20of%20Korea%20First/INDC%20Submission%20by%20the%20Republic%20of%20Korea%20on%20June%2030.pdf>

¹³ <https://data.worldbank.org/indicator/EN.CO2.TRAN.ZS?end=2014&locations=KR&start=1971&view=chart>

¹⁴ KORAIL 2016 Sustainability Report, p.69

¹⁵ KORAIL 2017 Sustainability Report, p.37

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Importance of KORAIL in fostering inclusive growth

Approximately 20% of South Korea's population (10 million people out of South Korea's total population of 51 million people) lives in Seoul¹⁶ and 48.9% of South Korea's total population lives in the Seoul Metropolitan area.¹⁷ This concentration of population leads to imbalanced economic development which makes South Korea's public transportation network a crucial factor for sustainable development throughout the country. KORAIL connects 697 stations and has significantly reduced physical distance between the Greater Seoul Metropolitan Area and other major cities through its high-speed train system. KORAIL's network has provided those living in non-metropolitan areas with access to education, healthcare and employment options, contributing to community upliftment, increased mobility, and development across the country.

Furthermore, KORAIL uses its business model to assist small and medium-sized enterprises (SMEs) expand their sales channels through the KORAIL railway network. In 2016, KORAIL's partnerships with SMEs led to an average of 21% increase in sales for the SMEs that it supported. KORAIL also seeks to boost the local economy of communities through increased tourism with programs such as the Andong Seonbi Village Stay, Railway Culture Festival at Mongtan Station, and the Buncheon Santa Village.¹⁸ The Santa Village at Buncheon Station was selected as a "Rising Star" by Korean Tourism in 2016, which drew 172% more tourists to the station than the previous year.¹⁹

Overall, Sustainalytics is of the opinion that KORAIL's extensive railway network, and its community and SME revitalization initiatives will foster inclusive growth throughout South Korea.

Importance of KORAIL's R&D initiatives

South Korea is the OECD country with the second largest share of GDP allocated to research and development²⁰ and is largely considered by the financial community as a world leader in innovation.²¹ South Korea has created public and private economic incentives to enhance its national research and development capabilities, with R&D being typically carried out by large public and private companies, along with academia. Sustainalytics views KORAIL's efforts to deploy R&D financing towards the South Korean SMEs as a positive development, which is aligned with the company's larger strategy to support the local SMEs' competitiveness.

Additionally, with over 100 fulltime in-house researchers, KORAIL is using its R&D programme to develop and implement green railway systems, introduce low-carbon electric vehicles, and operate environmentally friendly high-speed vehicles and eco-friendly railway systems. After suspending operations of the diesel vehicle PMC, KORAIL expanded low-carbon high-efficiency railway vehicles by utilizing its ITX-Saemul Electric vehicle. As of 2017, the company had 10.45 times more electric vehicles than it did diesel, with a ratio of 4,494 to 430.²²

Sustainalytics is of the opinion that KORAIL R&D initiatives will (i) positively contribute towards expanding the country's high-value added R&D capacities for SMEs, (ii) enhance South Korea's technological competitiveness and bolster the local network of SMEs, and (iii) increase investment towards clean transportation infrastructure development in South Korea.

¹⁶ <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=KR>

¹⁷ http://www.scag.ca.gov/programs/Documents/Partners/001_SeoulMetroRegion.pdf

¹⁸ KORAIL 2016 Sustainability Report, p.5

¹⁹ <https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>

²⁰ <https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>

²¹ Bloomberg, 2018 <https://www.bloomberg.com/news/articles/2018-01-22/south-korea-tops-global-innovation-ranking-again-as-u-s-falls>

²² KORAIL 2016 Sustainability Report, p.77

Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. This sustainability bond advances the following SDG goals and targets:

Use of Proceeds Category	SDG	SDG target
Clean transportation	11. Sustainable cities and communities 9. Industry, innovation and infrastructure	11.6 Reduce the adverse per capital environmental impact of cities. 9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.
Energy efficiency	7. Affordable and clean energy	7.3 By 2030, double the global rate of improvement in energy efficiency.
Renewable energy	7. Affordable and clean energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.
Pollution prevention and control	3. Good health and well-being 12. Responsible consumption	3.9 substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
Climate adaptation	13. Climate action	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters.
Access to basic infrastructure	1. End poverty in all its forms everywhere	1.4 Ensure that all men and women, in particular, the poor and the vulnerable have equal rights to economic resources, as well as access to basic services.
Employment generation including through the potential effect of SME financing	8. Decent work and economic growth	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services. 8.9 Devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.
Socioeconomic advancement and empowerment	11. Sustainable cities and communities	11.2 Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, with a special attention to the needs of those in vulnerable situations, women, children etc. 11.6 Reduce the adverse per capital environmental impact of cities.

Conclusion

Korea Railroad Corporation (KORAIL) has developed the KORAIL Green, Social and Sustainability Bond Framework under which it intends to issue bonds. As a government-owned entity, KORAIL is also committed to supporting the Government of the Republic of Korea's environmental, social, and economic development priorities. As such, proceeds of the bonds will be used to finance or refinance expenditures that support its sustainable development plan and initiatives, including: (i) Renewable energy, (ii) Energy efficiency (iii) Clean transportation, (iv) Climate adaptation, (v) Pollution Prevention and Control, (vi) Access to basic infrastructure, (vii) Employment generation including through the potential effect of SME financing, and (viii) Socioeconomic advancement and empowerment.

By adhering to strong eligibility criteria, demonstrating a structured and transparent project selection and management of proceeds process, and reporting on relevant Key Performance Indicators to measure the impact of the allocated proceeds, Sustainalytics considers the framework to be fully aligned with the Sustainability Bond Guidelines 2018. Overall, Sustainalytics considers the KORAIL Green, Social and Sustainability Bond Framework to be robust, credible and transparent.

Appendices

Appendix 1: Sustainability Bond / Sustainability Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	Korea Railroad Corporation (KORAIL)
Sustainability Bond ISIN or Issuer Sustainability Bond Framework Name, if applicable: <i>[specify as appropriate]</i>	KORAIL Green, Social and Sustainability Bond Framework
Review provider's name:	Sustainalytics
Completion date of this form:	August 29, 2018
Publication date of review publication: <i>[where appropriate, specify if it is an update and add reference to earlier relevant review]</i>	

Section 2. Review overview

SCOPE OF REVIEW

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

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

- | | |
|--|--|
| <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 nd 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 Executive 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 category for the use of proceeds are aligned with those recognized by the Green and Social Bond Principles and the Sustainability Bond Guidelines 2018. Sustainalytics considers the range of eligible categories to have the potential of creating significant environmental and social benefits, by promoting low carbon and inclusive growth, as well as advancing key UN Sustainable Development Goals and the country's sustainability commitments.

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 checked="" type="checkbox"/> Climate change adaptation |
| <input type="checkbox"/> Eco-efficient and/or circular economy adapted products, production technologies and processes | <input 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 GBPs | <input type="checkbox"/> Other <i>(please specify)</i> : |

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

Use of proceeds categories as per SBP:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Affordable basic infrastructure | <input type="checkbox"/> Access to essential services |
| <input type="checkbox"/> Affordable housing | <input checked="" type="checkbox"/> Employment generation (through SME financing and microfinance) |
| <input type="checkbox"/> Food security | <input checked="" type="checkbox"/> Socioeconomic advancement and empowerment |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with SBP categories, or other eligible areas not yet stated in SBPs | <input type="checkbox"/> Other <i>(please specify)</i> : |

If applicable please specify the social taxonomy, if other than SBPs:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

KORAIL's CFO will review and approve the issuances based on the recommendation from the Treasury Department. Eligible projects are vetted by the Environment Management Department or Innovation Strategy Department to ensure that the projects lead to clear environmental or social impacts. Allocation of funds is reviewed by the CEO on an annual basis. This governance structure is in line with market practice. KORAIL outlines sufficient oversight and management over social and environmental risk mitigation. Additionally, Sustainalytics acknowledges that KORAIL is a government-owned entity and it strictly follows the Government of the Republic of Korea's environmental and social regulations, such as the Environmental Impact Assessment Act. As such, Sustainalytics is of the opinion that relevant environmental and social risks are mitigated as part of KORAIL's risk mitigation process.

Evaluation and selection

- | | |
|---|--|
| <input checked="" type="checkbox"/> Credentials on the issuer's social and green 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 Sustainability Bond proceeds | <input type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input checked="" type="checkbox"/> Summary criteria for project evaluation and selection publicly available | <input type="checkbox"/> Other (<i>please specify</i>): |

Information on Responsibilities and Accountability

- | | |
|--|---|
| <input checked="" type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input checked="" type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

3. MANAGEMENT OF PROCEEDS

Overall comment on section (*if applicable*):

KORAIL has a transparent earmarking process for the management of proceeds which is overseen by the Treasury Department and includes a bond project register. Net proceeds from the issuance will be allocated to Eligible Green and Social projects only and any unallocated amount will be invested in cash or cash equivalent as per KORAIL's liquidity management policy.

Tracking of proceeds:

- | |
|---|
| <input checked="" type="checkbox"/> Sustainability Bond proceeds segregated or tracked by the issuer in an appropriate manner |
| <input checked="" type="checkbox"/> Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| <input type="checkbox"/> Other (<i>please specify</i>): |

Additional disclosure:

- | | |
|--|---|
| <input type="checkbox"/> Allocations to future investments only | <input checked="" type="checkbox"/> Allocations to both existing and future investments |
| <input type="checkbox"/> Allocation to individual disbursements | <input type="checkbox"/> Allocation to a portfolio of disbursements |
| <input type="checkbox"/> Disclosure of portfolio balance of unallocated proceeds | <input type="checkbox"/> Other (<i>please specify</i>): |

4. REPORTING

Overall comment on section (if applicable):

KORAIL intends to report on the allocation of proceeds on an annual basis. The report will include allocation of funds to eligible project categories, the amounts allocated, and the portion of financed and refinanced projects. Where feasible, quantitative environmental and social performance indicators will be provided. In Sustainalytics' view, reporting on these metrics is in line with market practice.

Use of proceeds reporting:

- | | |
|--|--|
| <input type="checkbox"/> Project-by-project | <input checked="" type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input type="checkbox"/> Other (<i>please specify</i>): |

Information reported:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Allocated amounts | <input type="checkbox"/> Sustainability Bond financed share of total investment |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

Frequency:

- | | |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (please specify): | |

Impact reporting:

- | | |
|--|--|
| <input type="checkbox"/> Project-by-project | <input checked="" type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input type="checkbox"/> Other (please specify): |

Frequency:

- | | |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (please specify): | |

KORAIL Green, Social and Sustainability Bond

Information reported (expected or ex-post):

- | | |
|---|---|
| <input checked="" type="checkbox"/> GHG Emissions / Savings | <input type="checkbox"/> Energy Savings |
| <input type="checkbox"/> Decrease in water use | <input checked="" type="checkbox"/> Number of beneficiaries |
| <input checked="" type="checkbox"/> Target populations | <input type="checkbox"/> Other ESG indicators (please specify): |

Means of Disclosure

- | | |
|---|--|
| <input type="checkbox"/> Information published in financial report | <input type="checkbox"/> Information published in sustainability report |
| <input type="checkbox"/> Information published in ad hoc documents | <input checked="" type="checkbox"/> Other (please specify): KORAIL's website |
| <input type="checkbox"/> 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.)

<http://info.korail.com/mbs/english/index.jsp>

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

Type(s) of Review provided:

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

Review provider(s):

Date of publication:

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- i. Consultant Review: An issuer can seek advice from consultants and/or institutions with recognized expertise in environmental and social sustainability or other aspects of the issuance of a Sustainability Bond, such as the establishment/review of an issuer's Sustainability Bond framework. "Second Party Opinions" may fall into this category.
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- iii. Certification: An issuer can have its Sustainability Bond or associated Sustainability Bond framework or Use of Proceeds certified against an external green and social assessment standard. An assessment standard defines criteria, and alignment with such criteria is tested by qualified third parties / certifiers.
- iv. Rating: An issuer can have its Sustainability Bond or associated Sustainability Bond framework rated by qualified third parties, such as specialised research providers or rating agencies. Sustainability Bond ratings are separate from an issuer's ESG rating as they typically apply to individual securities or Sustainability Bond frameworks / programmes.

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