

Ratings

Green Evaluation

Korea South East Power Co. Ltd.'s US\$300 Million Notes Due 2025

79

81

84

Transaction Overview

Korea South East Power Co. Ltd. (KOSEP) issued US\$300 million in senior unsecured notes on Feb. 3, 2020. The notes mature in 2025 and carry a fixed coupon rate of 2.125%. The company will use the proceeds to finance new projects or refinance existing projects related to renewable energy and green building.

KOSEP is one of the six fully-owned power generation subsidiaries of Korea Electric Power Corp. (KEPCO), which is 51% owned by the Korean government. The company is the sole power transmission and distribution company in Korea and accounts for 70%-80% of the country's power generation. KOSEP contributes more than 10% to the country's total electricity supply. It has a total capacity of 10,376 megawatt (MW), which includes coal-based power plants (9,189MW), LNG-based power plants (922MW), and renewable energy (265MW). In our opinion, this transaction is aligned with the Green Bond Principles 2018 (GBP).

Entity: Korea South East Power Co. Ltd.

Subsector: Utilities

Location (HQ): South Korea

Financing value: US\$300 million

Amount evaluated: 100%

Evaluation date: Aug. 7, 2020

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Green Evaluation Overview

Transaction's transparency

- Use of proceeds reporting
- Reporting comprehensiveness

Transaction's governance

- Management of proceeds
- Impact assessment structure

Mitigation

Sector → Net benefit ranking → Hierarchy adjustments

Green Energy Solar & wind power

Green Buildings New commercial buildings

Adaptation

Carbon



Project Description

KOSEP will use the proceeds of the issuance to finance or refinance green energy projects and green buildings. Green energy covers eight renewable power generation projects, including ongoing construction of a solar photovoltaic (PV) power project in Chile with generation capacity of 50MW, and expansion of an offshore wind power project in Korea with capacity of 30MW. Green building funds will cover construction of two commercial buildings in Korea.

The investments are in line with KOSEP's plans to increase the share of low-carbon power generation capacity in its energy mix. This will help the company to meet tightening environment requirements as part of the government's plan to lower reliance on coal and nuclear power.

In March 2019, KOSEP published its sustainability finance framework, which sets out the basic principles that apply to the company's issuance of green/social debt instruments. The framework includes the eligible projects, allocation processes, and reporting principles. Green, eligible projects covered in the sustainability finance framework and relevant to the bond under consideration include:

- Renewable energy (86% of bond proceeds): Technology and related infrastructure supporting the production of energy from renewable sources such as solar, hydro (<25MW), wind, and biomass.
- Green buildings (14% of bond proceeds): Construction and renovation of green buildings that meet recognized Green Building Standards.

KOSEP used 32% of the issuance proceeds to refinance six existing projects (two solar PV projects, one offshore wind, two onshore wind, and one green building), while the rest will be used to finance four new projects (one solar PV, one offshore wind, one onshore wind, and one green building).

At this stage, S&P Global Ratings is unable to provide an opinion of the resilience of the projects/ assets to extreme weather and climate change as part of this Green Evaluation.

Scoring summary

This transaction achieves an overall score of 82 out of 100, equivalent to a Green Evaluation score of E1, on our scale from E1 (highest) to E4 (lowest). We determined the E1/82 score by taking a weighted total of the transaction's solid Governance (81) and Transparency (79) scores, as well as its strong environmental impact and the resulting Mitigation score (84). The Mitigation score is primarily driven by the position of the above-mentioned projects at the top of our carbon hierarchy. The assessment reflects the projects' systemic carbon benefits and the

carbon displaced in Chile's high and Korea's medium-high carbon intensive grids. In our opinion, this transaction is aligned with GBP.

Rationale

- The very strong Mitigation score (84) reflects the proceeds being mainly used to fund renewable energy projects (solar and wind power) in Korea. The projects will help to offset emissions in the country's medium-high carbon intensity grid. In 2019, two thirds of electricity generation in Korea came from fossil fuels, about 26% from nuclear, and less than 7% from renewables (source: KEPCO). In our view, renewable energy supports systemic decarbonization, and we adjust upwards the net benefit score based on the position of this technology group in the highest tier of our carbon hierarchy. We expect KOSEP's green building project (14% of proceeds) to also bring environmental benefits by reducing energy consumption. This is because the buildings will meet high standards (LEED Gold and above, BREEAM Excellent and above, for instance).
- The robust Governance score (81) reflects the procedures that KOSEP has set to ensure the transaction complies with its sustainable finance framework. These include tracking the use of proceeds to eligible projects in a dedicated sustainable finance register, measuring the related environmental impact, and certifying green building projects against high industry standards.
- The solid Transparency score (79) reflects the strong level of disclosure of KOSEP's sustainability finance framework. The company is committed to report annually the allocation of proceeds and the environmental impact of the eligible projects.
 The environmental impact is assessed using advanced indicators such as estimated reduction in carbon emissions.

Key Strengths And Weaknesses

KEPCO will allocate all bond proceeds to projects aimed at reducing carbon emissions. These include investments in renewable energy and green buildings. More than 85% of the proceeds will fund renewable energy projects, which we evaluate as the highest in our carbon hierarchy (our assessment of a technology's overall contribution to decarbonization of the economy), and the medium-high carbon intensity of Chile and Korea's electricity grids. The solar PV project in Chile achieved the highest net benefit ranking of 49, given the country's relatively high carbon intensity. The wind projects in Korea (accounting for 44% of proceeds), have a higher net benefit ranking (42) than the Korean solar PV projects (31% of proceeds; rank 30) because they achieve higher capacity factors. However, both technology types fall under the renewable energy category, which supports systematic

decarbonization. This is because decarbonizing electricity affects not only the power sector, but also the entire carbon intensity of economies because electricity feeds through all other economic sectors. Thus, the Environmental Impact score of 85 reflects an upward adjustment from our carbon hierarchy.

KOSEP will use the balance proceeds to construct new green building projects, which the company will use as its office buildings. The medium-high intensity of the regional grid mix in South Korea (compared with more carbon-intense regions globally) limits the Net Benefit ranking of KOSEP's green building project to 51. However, the environmental score of 78 reflects our view that new green building technologies are compliant with a low-carbon economy and, therefore, provide higher carbon benefits than refurbishment technologies.

The Transparency assessment benefits from KOSEP's commitment to report annually on the funds allocation and environmental benefits of its projects over the life of the bond. The company plans to report indicators such as renewable energy capacity, generation, and avoided carbon emissions. However, it is uncertain whether KOSEP will report figures by project, and have independent assurance of its environmental impact data.

Second Opinion On Green Bond Principle Alignment

Based on our Transparency score of 79 and Governance score of 81, and the fact that 100% of proceeds have been, or will be, allocated to green projects, we expect the bond to meet the four pillars of the voluntary GBP given the issuer has committed to:

- Allocating the full amount of the bond proceeds to eligible green projects as defined by the issuer;
- Using clear "green" criteria (as defined by the issuer) to select projects for funding;
- Managing and tracking proceeds (potentially using subaccounts);
 and
- Committing to regular reporting of environmental impact and use of proceeds.

A Green Evaluation is a point in time assessment and is not monitored.

300

Sector-Level Scores

Sector	Location	Technology	Use of proceeds (US\$ mil.)	Use of proceeds treatment	Net benefit ranking
Green Energy	Chile	Solar Power	30	Estimated	49
Green Energy	South Korea	Solar Power	94	Estimated	30
Green Energy	South Korea	Offshore Wind Power	63	Estimated	42
Green Energy	South Korea	Onshore Wind Power	70	Estimated	42
Green Building	South Korea	New build: commercial	43	Estimated	51

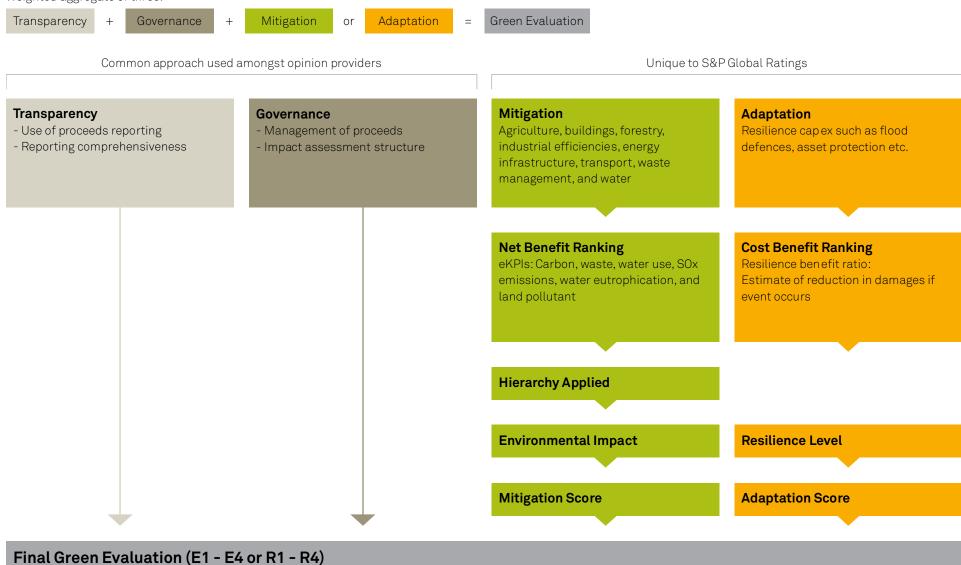
Carbon

Green Evaluation Process

E1/82 84 79 Weighted aggregate of three: Transparency Mitigation (Transparency + Governance + Mitigation) Overall Score Governance Baseline Net benefit Carbon hierarchy Environmental **Proceeds Technology** carbon intensity ranking adjustment impact score (US\$ mil.) Medium-high Korea Wind power 42 Solar power 35 Small hydro Systemic decarbonization 257 85 Large hydro (excluding tropical areas) Energy management and control Unspecified Increasing decarbonization impact Green transport without fossil fuel combustion Significant decarbonization in Green buildings - new build sectors already aligned with a green 51 78 43 economy Unspecified Energy-efficient projects (industrial and appliance efficiencies) Green transport with fossil fuel combustion Alleviating emissions of existing carbon-intense industries Green buildings refurbishment Unspecified Nuclear Decarbonization technologies with Large hydro in tropical areas significant environmental hazards Unspecified Coal to natural gas Cleaner fuel production Improvement of fossil-fueled activities' environmental efficiency Cleaner use of coal Fossil fuel-based cogeneration Unspecified

Our Green Evaluation Approach

Weighted aggregate of three:



eKPI--Environmental Key Performance Indicator.

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