

## “Mobilising Finance for the Green Transition in Korea”

### Introduction

The Korean government has committed to reducing greenhouse gas emissions by 40% in 2030 compared to levels in 2018 and reach net zero by 2050. This will require major adjustments by Korean companies to develop and use renewable energy, adapt production processes and product development. The funding of the green transition is well underway with a rapidly growing bond market as a key plank. Currently KRW 252.8 trillion of ESG bonds are listed on the Korea Stock Exchange, about USD 172 billion. Close to 60% of all ESG bonds issued by Korean entities are local currency bonds. In this brief we will examine the development of ESG finance in Korea, how it compares globally and points to some challenges ahead.

### Recent Global and Korean Developments

Financing the green transition is estimated to require about \$2 trillion in annual investments (Ananthakrishnan et al 2023). Green bonds have become a growing market since the start in 2007 and by 2024 about \$700 billion worth of green bonds was issued globally (Demski et al 2025). Adding social bonds, sustainability bonds and sustainability-linked bonds the total reached US\$1.05 trillion (CBI 2025). Of all these ESG (environment, sustainability and governance) bonds almost half were issued in Europe and a quarter in Asia in 2024. The rapid growth of ESG bonds globally is typically explained by demand for finance from corporations needing to raise funds for ESG projects, demand from institutional investors for ESG investments, as well as more streamlined guidelines for issuers which provide more clarity about ESG to investors.

Green bonds outnumber the other ESG bonds by far and that follows from the purpose of the bonds which is to use the proceeds to finance projects related to renewable energy or environmentally friendly infrastructure. Social bonds, as the name suggests, are for projects such as social housing and support for vulnerable populations. These started to grow during the Covid-19 pandemic when social issues gained more attention. Sustainability bonds can finance more broadly environmentally friendly businesses than green bonds.

Not only were most ESG bonds issued in Europe in 2024, euro was the preferred currency ahead of the US dollar. These two currencies accounted for almost 70% of the total. The Chinese renminbi was the third largest currency at 7 % of issues ahead of the Korean won and British pound at 3% each. This number gives an illustration of the size of the Korean ESG bond market.

The first Korean green bond was issued internationally in 2015 by the Korean Export-Import Bank. Three years later, the first green bonds denominated in Korean won were issued by the Korea Development Bank (KDB) and the Export-Import Bank. Both are government financial institutions that in a sense lead the way for local currency issuance by rising funds to be lent to green projects. Korea Development Bank also issued a social bond in 2018 paving the way for social bonds in won. Since then, the Korean ESG bond market has grown rapidly and by 2025 won issues accounted for 59% of all ESG bonds issued by Korean entities, suggesting a substantial domestic demand both from corporations that invest in renewable energy, greener and cleaner production processes as well as a demand from investors for ESG compliant investment products.

In 2024, about two thirds of all ESG bonds globally issued were green bonds according to data from the Climate Bonds Initiative (CBI 2025). European issuers dominated ahead of Asia-Pacific issuers. The United States was the source for most issues on a country level ahead of Germany and China. Private sector entities issued more than half of green bonds and financial institutions and the power sector companies dominate. Financial institutions are keen to raise dedicated funds for green projects and major emitters look to finance their green transition. Sustainability bonds were the second largest category issued globally, and this category is dominated by supranationals like the World Bank and European Investment Bank. Social bond issuance was dominated by Korean government financial institutions dedicated to housing finance and small- and medium sized enterprise funding. Other major issuers were government-linked housing finance institutions like Fannie Mae and Freddie Mac in the United States and the Hong Kong Mortgage Corporation.

### **Financial Institutions Lead the Way in Korea**

253 trillion won worth of ESG bonds are listed on the Korean Stock Exchange as of October 2025. A mapping exercise shows that the major issuers fall into three groups: financial institutions, non-financial corporations and public sector entities. Government-owned financial institutions make up a subset of financial institutions. Financial institutions issue bonds of all three types, but green and sustainability bonds dominate. These choices reflect financial institutions fund-raising for lending to ESG projects or companies. Card companies issue more social bonds which suggest they target certain customer segments. Government-linked financial institutions predominantly issue social bonds.

The Korea Housing Finance Corporation is a prime issuer, raising funds for social housing. In 2024, KHFC was the largest issuer globally of social bonds and another Korean entity, the Korean small and medium sized company development agency (KOSME) was the ninth largest issuer of social bonds globally. On the Korea Stock Exchange, KHFC account for 52 % of all listed ESG bonds in value and KOSME for 8 %. Other government-linked financial institutions that issued social bonds include Korea credit guarantee agency, Korean student aid and Korean Land and Housing agencies. The substantial issuance of social bonds suggest

that the government has opted to raise funds from the market to expand the activities of these agencies, and the uptake indicate an investor appetite for the same causes. Financial institutions, both government and private, often use securitisation as means to isolate the ESG bonds from other flows and use special-purpose vehicles to limit credit risk to that SPV. The pattern is similar in Korea with several government financial institutions and asset management companies using securitisation techniques for their ESG bonds.

### Case KHFC – the dominant issuer

**Korea Housing Finance Corporation** was set up in 2004 with a mandate to support the government’s housing policy by supplying long-term and stable housing finance. This includes long-term fixed rate amortized mortgage loans, housing finance credit guarantees and reverse mortgage guarantees. The government owns 64% of KHFC and the Bank of Korea 36%. KHFC launched the first covered social bond in Asia in 2018 and introduced its framework for covered social bonds the same year. In 2019, a framework for Social Financing was presented. More bond issued followed and in 2023, KHFC presented its framework for ESG finance, specifying the types of projects that can be financed by green and social bonds respectively. Furthermore, each issue will be rated and a second-opinion will be sought pre-issuance and project developments will be reported annually for the bonds and be shared on the KHFC website. KHFC publishes its double materiality assessment showing both financial and material impacts of the initiatives for its customers and for the organisation itself. Their bonds are A-rated by global rating agencies, and the agency noted that KHFC has full government financial support. KHFC has also tapped the international market by issuing both social and sustainability bonds in US dollars, euros and Swiss francs listed in Singapore and Luxemburg.

Non-financial corporations in Korea mainly issue green bonds and among the major issuers are POSCO (steel), energy companies, logistics firms, automobile and construction companies. Green bonds reflect these firms’ investments in greener production and move towards cleaner energy supply. Korea Hydro and Nuclear has also issued all three types of bonds for different segments in their portfolio.

Public sector companies (including regional and government-linked companies) overwhelmingly issue green bonds rather than any other type. This group of companies range from airports, ports, railway companies to regional power and transportation companies. They may not be wholly government owned but are treated as one group since they have some public sector ownership, and all provide infrastructure akin to public sector goods. The power and transportation sectors are the main emitters where substantial funds are required for the transition. Globally these entities are the main issuers of ESG bonds.

The Korean ESG bond market differs from the global market in that social bonds rather than green bonds account for the vast majority of listed ESG in terms of amounts issued. Social bonds account for close to 83 % of all bonds listed, green bonds follow with 11 % while sustainability bonds and sustainability-linked bonds make up the rest. That is in sharp contrast to the global picture where green bonds account for about two-thirds the total. The large share of social bonds follows from the extensive social bond program launched by the Korean Housing Finance Corporation and other government linked agencies. This is also reflected in the amounts issued where government-linked financial institutions account for almost 80% of the total amount issued.

### **Listing and Trading**

In order to list ESG bonds on the Korean Stock Exchange issuers must submit an external review to examine if the proposed bonds meet the requirements set forth by the International Capital Markets Association (ICMA) for green bonds, social bonds, sustainability bonds and sustainability-linked bonds, as well as the Green Taxonomy Framework. The K-taxonomy mirrors taxonomies in the EU and the United States but has been adapted for Korean needs (Guidelines 2022) and the Korea Stock Exchange require compliance with the K-taxonomy for issuers that want to list. Some Korean issuers use second-party opinions for their bonds and publish these opinions as well as periodic reviews on their websites.

The vast majority of ESG bonds in Korea are listed on the exchange but secondary trading is mostly done over the counter. It is thus difficult to access sufficient data to analyse market developments. That is one of the key challenges ahead, to not only see periodic reporting on the use of proceeds but to assess how markets respond to the information in these reports. Nevertheless, the rapid growth of the ESG bond market shows that finance is mobilised for social projects and non-financial corporations can probably tap the market for funds in the coming years for investments in energy transition and new technology.

### **Concerns and Challenges**

The rapid growth of green finance has raised two questions globally. The first is what differentiates an ESG bond from a regular bond financially. Research on the so called greenium, a lower yield than conventional bonds, in is inconclusive. A 2022 study of Korean corporate bonds found that a greenium existed before and after the pandemic (Kim and Ahn 2022). Studies on municipal, sovereign and supranational bonds give slightly different results depending on the sample, time-period and whether they assess primary or secondary markets. Studying the corporate bond market, Alves et al found (2023) no difference between green and conventional bonds issued in US dollars or euros. More recently Berdiev (2025) found selective greenium for Japanese corporations but that the effect disappeared after 2022.

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Since markets have developed so much after 2022 further research could shed more light on the greenium.

Perhaps some investments would have been made in any case but perhaps it is the knowledge that ESG bonds do fund specific projects that attract investors, especially institutional investors that have ESG expectations and targets. The rapid growth of the global market suggests that there is investor interest in dedicated ESG finance. However, that leads us to the next question about so called green washing. That is using the proceeds from green bonds for projects that are not necessarily sustainable. One response has been for issuers to get ESG ratings provided by independent agencies. A number of rating agencies issue ratings for the bonds but the criteria and evaluation processes differ between agencies. The ratings are thus not comparable and may confuse rather than inform investors (Billio et al 2021). Another response is to have more stringent requirements for issuers such as requirements to show that taxonomy guidelines are followed. Certifications and second-party opinions on the issues are voluntary options to communicate that ESG bonds are indeed ESG. Several companies provide second-party opinions but there is no set criteria that they should follow. There are calls for set criteria for ESG ratings and second-opinions to facilitate for investors. Some of the studies cited above regarding the greenium point to the need for better disclosures and investors make a case for global criteria for ratings and second-opinions.

The Korean ESG market has grown rapidly, in particular the market for social bonds. The government's ambitious goal for reducing emissions and reaching net zero indicate that much more needs to be done by power companies and other large emitters to reach those goals. The current market development suggests that there is a strong demand from investors for ESG bonds and that there thus is scope for more green bonds to be issued that can finance the green transition.

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***Acknowledgements:***

This research was made possible by the generous support of the Korea Foundation.