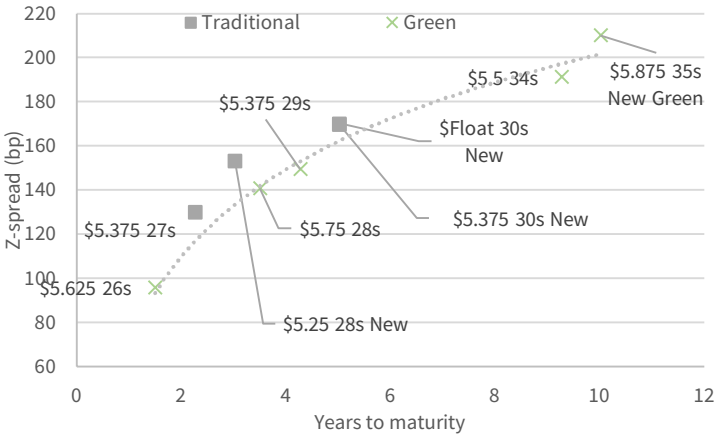
LG Energy Solution- new issues come at a concession

Rose Choy (*)

Figure 1. LGENSO USD bond spreads, including pricing guides for new bonds. Source: Bloomberg, accessed 25 Mar 2025.



LG Energy Solution (ticker: LGENSO), is a leading electrical vehicle (EV) battery manufacturer with an annual production capacity of about 310 GWh as of Dec 2024.[1] LGENSO, rated Baa1/BBB (Moody's/S&P), priced four tranches of bonds on 25 Mar: a $400mn 3yr fixed at T+ 135bps, a $600mn 5yr fixed at T+145bps, a $300mn 5yr FRN at SOFR+ 170bps, and a $700mn 10yr green fixed bonds at T+170bps. The green bonds will be used for projects aligned with the company's Green Financing Framework. Figure 1 shows the current pricing for the LGENSO bonds.

Greenium, the spread between green bonds and traditional bonds issued by the same entity, can offer incentives for issuers to use these instruments. Positive greenium arises when investors accept a lower spread for green bonds vis-à-vis traditional debt. Greeniums can arise due to supply and demand factors. Demand from institutional mandates for green debt could exceed the supply, driving positive greeniums. Issuers with strong credibility and a track record in sustainability may also command a higher greenium than issuers that do not have the same focus.

In this note we examine the pricing of green bonds from LGENSO and other auto-related issuers in the USD market. We offer the following key takeaways:

- LGENSO has tapped the green bond market frequently in the last two years, and has four green USD bonds and seven green KRW bonds outstanding.
- **The LGENSO USD curve currently shows only a small amount of greenium, while the KRW bond curve shows 5-10bps of greenium depending on the bond maturity.**
- A comparison of Korean automakers and General Motors green bonds versus their non-green counterparts show evidence of shifting greenium in USD green bonds. While in some cases greenium has decreased or even turned negative, there is no obvious pattern. This itself can be a source of investment return.
- **Periods of underperformance of green bonds offer a chance for investors to support green investments at attractive spread levels.**

[1] LG Energy Solution Offering Circular, 10 Mar 2025.

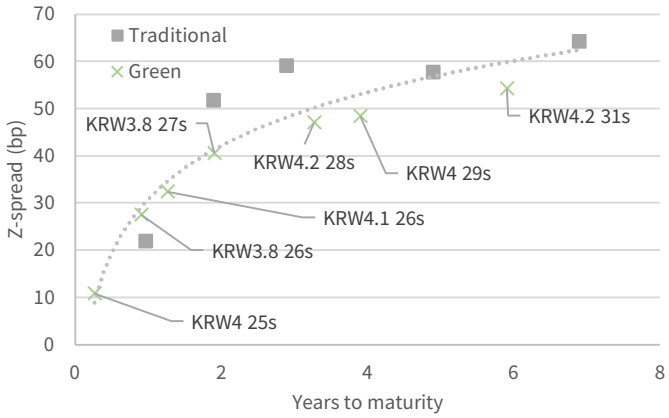
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LGENSO green bonds

LGENSO has been issuing green bonds since 2023 in both KRW and USD and currently has 11 outstanding.

LGENSO has strategic plans to expand production and grow market share in the US despite policy uncertainties affecting the EV industry under the Trump administration. EV battery makers have been investing in manufacturing in the US since the passage of the Inflation Reduction Act (IRA) under President Biden.[2] It is anticipated that LGENSO could become a more frequent issuer in the USD market due to its high dollar funding needs.

Figure 2. LGENSO KRW bond curve. Source: Bloomberg, accessed 25 Mar 2025.



As seen in Figure 1 and Figure 2, the company's green bonds have a greenium relative to their traditional bonds on the KRW bond curve. However, a similar greenium is not as apparent on the USD curve. One explanation could be the lack of USD traditional bonds for LGENSO versus USD green bonds, meaning there is no real USD bond curve for traditional bonds. A second possible explanation is that auto makers and auto industry green bonds' greenium depends on the time frame and issuer, as well as supply and demand dynamics.

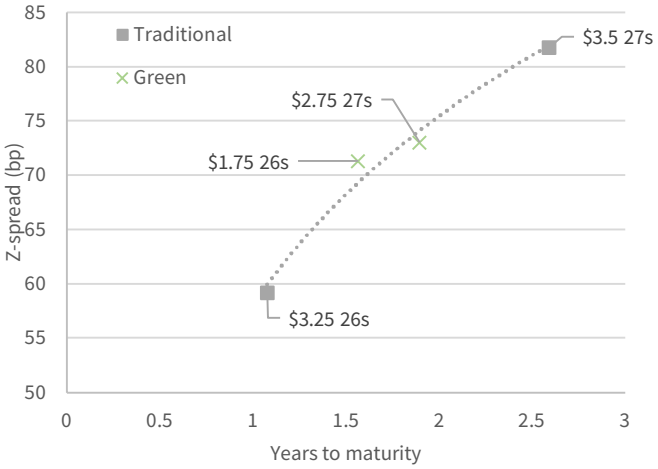
Korean automakers – both positive and negative greenium exists

Hyundai and Kia Motors, two Korean automakers, have also issued green bonds.

Hyundai Motors issues most bonds, including green bonds, out of its captive financing arm Hyundai Capital America (ticker HYNMTR). Kia Motors (ticker KIAMTR) only issues bonds out of Kia Corp, the operating company.

Currently, Hyundai's only USD green bond is maturing in June this year. For the purposes of this analysis, therefore, we focus on the current USD bond curve of Kia Corp.

Figure 3. Kia Corp (KIAMTR) USD bond curve. Source: Bloomberg, accessed 24 Mar 2025.



The pricing of Kia Motors' bonds are given in Figure 3, which show that the green USD bonds are relatively short dated, and that there is a small greenium present in the 2027 green bonds.

[2] "How The Inflation Reduction Act Is A Victory For U.S. EV Battery Manufacturers", 26 Jul 2023.

Historical analysis

Historical details of select bond pairs are shown below. Figure 4 shows a pair of 2027 KIAMTR bonds, while Figure 5 shows the single HYNMTR green bond minus its closest traditional comparison.

What is interesting is the variation; the HYNMTR pair shows a negative greenium, while KIAMTR shows a positive albeit varying greenium.

Figure 4. KIAMTR 3.5% 27 z-spread – KIAMTR 2.75% 27 z-spread. Source: Bloomberg, accessed 24 Mar 2025.

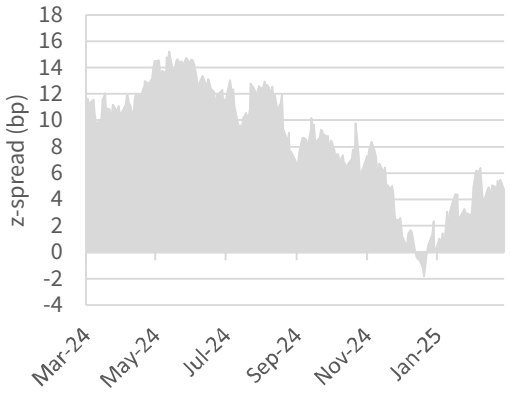
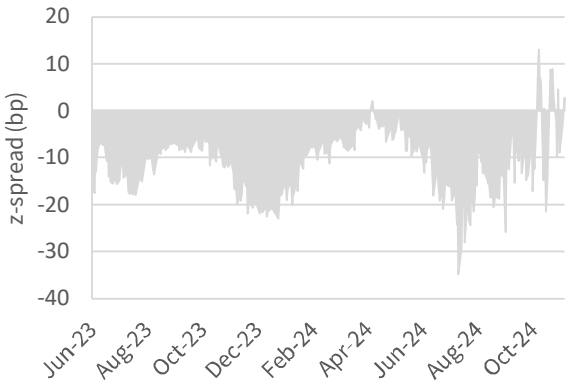


Figure 5. HYNMTR 5.875% 25 z-spread (traditional) – HYNMTR 5.8% 25 (green) z-spread. Source: Bloomberg, accessed 24 Mar 2025.

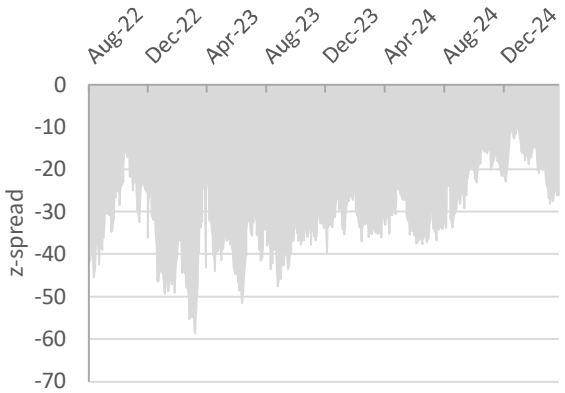


General Motors – evolution of greenium

General Motors (GM) issued its two USD green bonds in 2022, raising $2.25bn. The green bonds were issued out of the entity General Motors Co (rated Baa2 Moody's/BBB S&P) which has debt of about $14.7 billon. Most of GM's bonds are issued out of General Motors Financial Co Ltd (rated Baa2 Moody's/BBB S&P). The time series analysis nevertheless captures the relationship over time between the green and traditional bonds.

In this analysis, we compare GM's green bonds with similar maturity bonds issued from the operating entity, General Motors Co. For GM's 5.4% 2029 bonds, we compare the historical z-spread with GM's 5% 2028 bonds. GM's green bonds were issued in late July 2022, and the initial z-spread differential of the 28 and 29 bonds stood at over 40bps, evidencing a "negative" greenium, as explored in our earlier analysis.[3] (For reference, the 2yr to 3yr bond curve on GM's non-green bonds is currently at around 15bps). In Figure 6, we note that this negative greenium has drifted over time, with the spread differential as wide as 58bps and as tight as 8.5bps, with periods of positive greenium as recently as Dec 24. On the chart, the less the

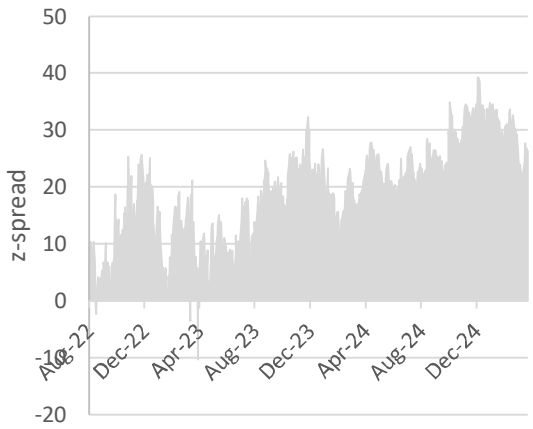
Figure 6. GM 5.4% 29 z-spread (green)-GM 5% 28 z-spread (traditional) z-spread. Source: Bloomberg, accessed 24 Mar 2025.



[3] "Auto bonds- Any colour so long as it is green", AFII, 17 Aug 2022.

differential between the two bonds, the more the likelihood of some greenium when comparing 2028 with 2029 bonds.

Figure 7. GM 5% 2035 (traditional) z-spread – GM 5.6% 32 (green) z-spread. Source: Bloomberg, accessed 24 Mar 2025.



In Figure 7, the GM 5.6% 2032 green bond is compared with the nearest maturity traditional bond, GM 5% 2035. When the 2032 green bond was issued, the initial z-spread differential was at around 7-8bps, reflecting a large "negative" greenium, given similar spreads with the 2035 traditional bond. However this relationship gradually changed over time, and the 2035 traditional bonds started trading at a much wider z-spread than the 2032 green bonds, with the peak differential at almost 40bps. In other words, the negative greenium dissolved gradually and the 2032 green bonds outperformed the 2035 traditional bonds on a spread basis over time.

Conclusions

LG Energy Solutions new issue bonds were met with decent demand with order books over $8.1 bn on issue size of $2 bn with asset managers representing 86% of demand.[4] All new bonds, including the 10 yr green bond, priced with some concessions to the existing curve.

Green bonds, where the proceeds are ring-fenced for sustainable investment, often trade at tighter spreads due to strong investor demand. This can present challenges for investors, when the bonds themselves are *pari-passu* to traditional instruments from a credit point of view.[5] The auto sector has historically offered negative 'greenium' which can present opportunities for sustainable investors.[3]

From our comparison of Korean automakers and GM's green bonds versus traditional bonds, we observe shifting greeniums in USD green bonds. While greeniums can decrease or even turn negative, these periods of underperformance can be an opportunity for bond investors to support green investments at attractive levels.

[4] "Bookstats: LG Energy gets>$8.1b of orders for $2 b 4-Part bond", Bloomberg, 28 Mar 2025.
[5] "The Forensic Carbon Accountant: green bond carbon footprint", AFII, 28 Jun 2023.

Appendix

Table 1. LGENSO's current total bonds outstanding in USD and KRW. Source: Bloomberg, accessed 26 Mar 2025.

Description	ISIN	Issue Date	Maturity	Currency	Amount Outstanding	ESG Label
LGENSO $5.875 35s	US50205MAJ80	25-Mar-25	2-Apr-35	USD	700,000,000	Green
LGENSO $5.375 30s	US50205MAG42	25-Mar-25	2-Apr-30	USD	600,000,000	
LGENSO $Float 30s	US50205MAH25	25-Mar-25	2-Apr-30	USD	300,000,000	
LGENSO $5.25 28s	US50205MAF68	25-Mar-25	2-Apr-28	USD	400,000,000	
LGENSO $5.5 34s	US50205MAE93	02-Jul-24	2-Jul-34	USD	500,000,000	Green
LGENSO $5.375 29s	US50205MAD11	02-Jul-24	2-Jul-29	USD	800,000,000	Green
LGENSO $5.375 27s	US50205MAC38	02-Jul-24	2-Jul-27	USD	700,000,000	
LGENSO $5.625 26s	US50205MAA71	25-Sept-23	25-Sept-26	USD	400,000,000	Green
LGENSO $5.75 28s	US50205MAB54	25-Sept-23	25-Sept-28	USD	600,000,000	Green
LGENSO KRW2.2 26s	KR6051913939	13-Mar-19	13-Mar-26	KRW	200,000,000,000	
LGENSO KRW4 25s	KR6373221D61	29-Jun-23	29-Jun-25	KRW	125,000,000,000	Green
LGENSO KRW4.1 26s	KR6373222D60	29-Jun-23	29-Jun-26	KRW	370,000,000,000	Green
LGENSO KRW4.2 28s	KR6373223D69	29-Jun-23	29-Jun-28	KRW	505,000,000,000	Green
LGENSO KRW3.8 26s	KR6373221E29	16-Feb-24	16-Feb-26	KRW	180,000,000,000	Green
LGENSO KRW3.8 27s	KR6373222E28	16-Feb-24	16-Feb-27	KRW	660,000,000,000	Green
LGENSO KRW4 29s	KR6373223E27	16-Feb-24	16-Feb-29	KRW	570,000,000,000	Green
LGENSO KRW4.2 31s	KR6373224E26	16-Feb-24	16-Feb-31	KRW	190,000,000,000	Green
LGENSO KRW3.1 27s	KR6373221F28	14-Feb-25	14-Feb-27	KRW	640,000,000,000	
LGENSO KRW3.2 28s	KR6373222F27	14-Feb-25	14-Feb-28	KRW	590,000,000,000	
LGENSO KRW3.2 30s	KR6373223F26	14-Feb-25	14-Feb-30	KRW	310,000,000,000	
LGENSO KRW3.4 32s	KR6373224F25	14-Feb-25	14-Feb-32	KRW	60,000,000,000	

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