

Nissan: Shift expectations with an SLB?

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Japanese carmaker Nissan published its Sustainable Finance Framework in July 2022. In January 2023, it issued its second sustainability bond under this framework, (alongside a green syndicated loan), where proceeds were ringfenced for sustainable projects, including electric vehicles.¹

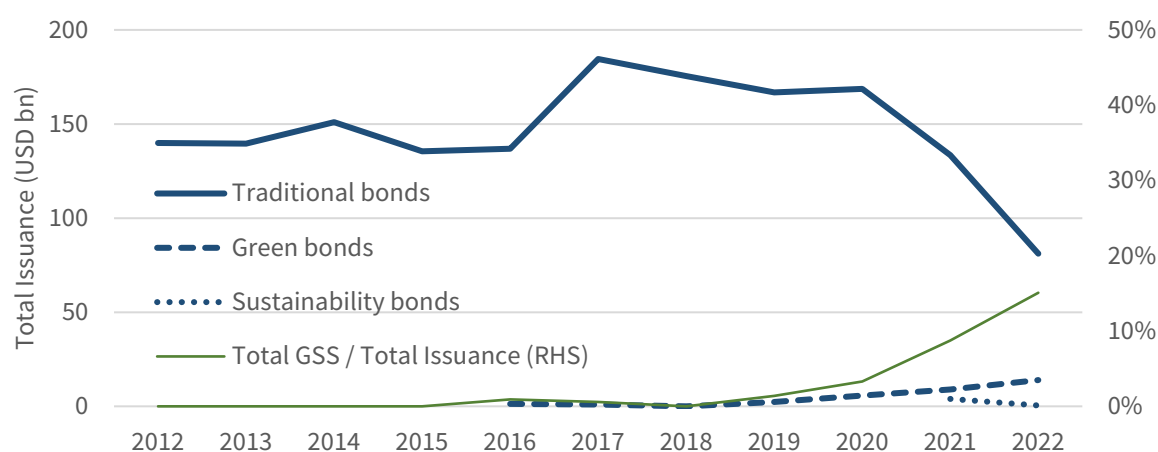
This is part of a market trend of increasing issuance of green, social and sustainability bond (GSS) by the auto industry. Figure 1 shows that 15% of new auto issuance in 2022 was GSS, accounting for one in five of all corporate GSS issues.²

These products have been successful at raising capital for sustainable investment in the sector. However, the pricing benefit to issuers has been minimal.

Sustainability-Linked Bonds (SLB), where the coupon depends on performance against a sustainability target, but the use-of-proceeds is not restricted, have yet to be used by auto manufacturers. A key benefit of SLBs is that they offer a way for issuers to reduce financing costs.

To demonstrate this, we propose an SLB for Nissan based on its existing sustainable finance framework. We provide hypothetical pricing, **which shows that Nissan could achieve an estimated discount of 14bp on its 5y financing spreads.** In a capital-intensive sector, successful use of such a product could provide a tangible financial advantage and help auto manufacturers to invest for the clean transition.

Figure 1. Bond Issuance in Automobile Manufacturing. Source: Bloomberg, accessed 30 Jan 2023.



¹ [“Nissan announces Terms and Conditions of its Sustainability Bond to raise 200 billion yen”](#), Nissan, 20 Jan 2023.

² [“Boom in auto sustainable bond market”](#), ESG Clarity, 19 Jan 2023.

Auto manufacturers are critical to the green transition

Carbon emissions from cars, trucks and other road vehicles represent a large share of global emissions. The International Energy Agency estimates that cars and vans accounted for 8% of global direct CO₂ emissions in 2021.³ The reduction in fuel consumption has only had a limited effect in reducing this. Although the efficiency of new engines is slowly improving, conventional gasoline-powered engines remain the norm (92% of all light-duty vehicle sales globally) and there is a long-term trend of increased vehicle size, with 46% of new vehicles sold being SUV.

The transition to electric vehicles is firmly underway and many large auto manufacturers have announced ambitious plans for EV production.⁴ The need for investment is significant. Bloomberg estimates that automakers could borrow as much as \$28bn in green bonds globally, twice as much as last year, as \$132bn of the sector's bonds will mature this year.⁵

The green bond market has been an attractive source of capital for auto makers, whereas SLBs have only been used by auto parts providers. General Motors, Ford, Toyota and Honda have issued large green bond transactions, which have been well received by international investors, but earlier AFII analysis⁶ concludes that any positive greenium has been hard to identify.

Table 1. Examples of SLBs/SLLS in the auto industry sector. Source: AFII, issuers' websites.

	ISIN	Issuance	Size / Tenor	KPIs	Coupon step (observation)
Valeo	FR0014004UE6	Aug-2021	€700m 7-yr	Scope 1, 2 and 3	Up 37.5bps (2025-28)
Autonom	ROQJ7UBXL253	Nov-2021	€48m, 5-yr	Carbon intensity	Up 30bps (TBC)
Europcar	FR0012789949	Sep-2021	€500m, 5-yr	Carbon intensity	2 x 12.5bps
Mercedes-Benz	SLL	Oct-2022	€11bn, 2025	ESG criteria	N/C
Ford ⁷	SLL	Sep-2021	\$15.5bn, 3- to 5-yr	Scope 1, 2 and 3	N/C
Faurecia ⁸	XS2405483301	Apr-2021	€890m, 2027	Scope 1 & 2	Up 25bps (2025)
Faurecia	XS1963830002	Jul-2022	€400m, 2028	Scope 1 & 2	Up 25bps (2025)
Faurecia	XS1785467751	Nov-2022	€700m, 2026	Scope 1 & 2	Up 25bps (2025)
Nemak ⁹	USP71340AD81	Jun-2021	\$500m, 2031	Scope 1 & 2	Up 25bps (2022)
Nemak ¹⁰	XS2362994068	Jul-2021	€500m, 2028	Scope 1 & 2	Up 25bps (2026)

³ “[Cars and Vans](#)”, IEA, Sep 2022.

⁴ “[Here are the main electric vehicle goals set by automakers and major markets](#)”, Protocol, 14 Oct 2022.

⁵ “[Green bond sales from automakers could double in global EV push](#)”, Bloomberg, 24 Jan 2023.

⁶ “[Auto bonds – Any colour so long as it is green](#)”, AFII, 17 Aug 2022.

⁷ “[Ford renews \\$15.5bn in revolving corporate credit lines](#)”, Ford website, 29 Sep 2021.

⁸ “[Faurecia presses accelerator for short SLB](#)”, IFR, 7 Nov 2022.

⁹ “[Nemak announces successful placement of inaugural sustainability-linked bond](#)”, Nemak press release, 23 Jun 2021.

¹⁰ Ibid.

Should Nissan consider an SLB as part of its financing?

Nissan’s sustainable finance framework sets the stage for ambitious targets.¹¹ The company has committed to achieving zero emissions by 2050. Its interim targets include the reduction of absolute scope 1 and 2 GHG emissions by 30% by 2030, from a 2018 baseline, and its scope 3 emissions from the use of the products sold by 32.5% by 2030, from 2018.

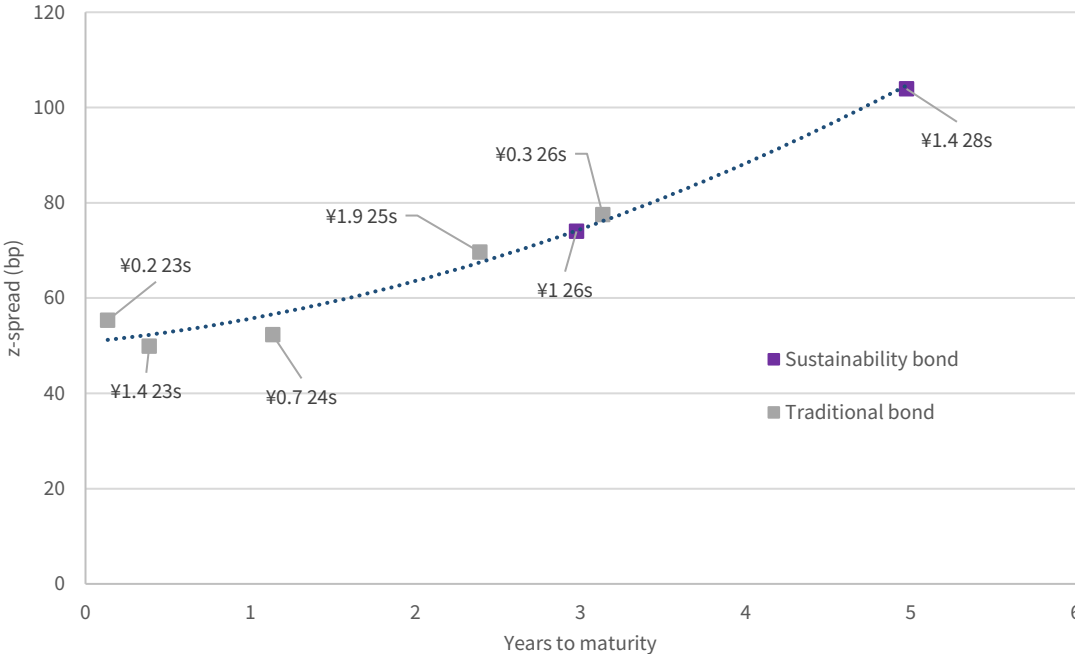
So far, Nissan is using a “use of proceeds” framework, allocating the capital it raised through its sustainability bonds to the promotion of renewable energy in its facilities, adopting measures against water pollution and for the processing of recycled water, as well as waste management systems and the use of recycled parts in its models.

To finance this activity **Nissan has issued two thematic bonds and a green loan under its existing framework**, and they appear to have been very well received by investors. The JPY200bn (\$1.4bn) syndicated green loan (BBG01BVTMFK6) includes 5- and 7-year maturities.¹² The latest sustainability bond includes a JPY140bn retail tranche (JP367240AP28) with a 3-yr maturity, as well as a JPY60bn wholesale tranche with a 3- and 5-yr maturity (JP367240AP10, JP367240BP19).

There appears to be good domestic appetite for automaker debt; for example, Nissan’s parent Renault Group issued a JPY210bn/USD1.6bn retail Samurai bond due 2026 with a 2.8% coupon (JP525019ANC9) in December 22, the second Samurai bond offering since its first foray in July 2022.¹³

Figure 2 shows the curve of JPY issuance from Nissan Motor Co. The sustainability bonds look to spot on the curve, indicating little evidence of a “greenium” so far.

Figure 2. Spreads of Nissan Motor Co JPY bonds. Source: Bloomberg, accessed 26 Jan 2023.



¹¹ “[Nissan and Nissan Sales Finance affiliates – Sustainable Finance Framework](#)”, Nissan statement, Jul 2022.
¹² “[Nissan signs \\$1.4bn green loan for zero emission mobility investments](#)”, Green Car Congress, 30 Nov 2022.
¹³ “[Renault Group successfully issues a JPY210bn Samurai retail bond](#)”, Renault Group press release, 22 Dec 2022.

Table 2. Sustainable Finance Framework. Source: Nissan.

Eligible green categories	Eligibility criteria
Clean transportation	
Scope 1 and 2 CO ₂ emission reduction	Renewable Energy, Energy Efficiency
Clean manufacturing	Sustainable water, wastewater management
Sustainability projects	
Charging infrastructure	Charging stations, recycling
Vehicle-to-Everything	EV batteries for storage
Autonomous driving technologies	Autonomous driving systems
Mobility as a service	Natural disaster recovery solutions

In contrast to the previous sustainability use-of-proceed bonds, we believe a potentially improved cost-of-capital could be achieved by Nissan by financing its transition through sustainability-linked bonds instead.¹⁴ The building blocks for the bond are already in place:

1. **There are science-based targets available to Nissan to help it decide on its KPIs and SPTs as part of the SLB.** Nissan has reported a carbon intensity of 0.56 t-CO₂/vehicle produced for 2021.¹⁵ According to SBTi's Sectoral Decarbonization Approach method (SDA)¹⁶ for Vehicle Manufacturing (PLDV), which relies on the B2DS scenario of the International Energy Agency (IEA), the 2030 target for Nissan's scope 1 & 2 should be 0.40 t-CO₂/vehicle by 2030 to achieve a zero target by 2050.
2. **Nissan's historical data can also be used as input in our SLB pricing model.** Figure 4 shows the carbon intensity data, as reported by Nissan. On average, the carbon intensity (Scope 1 and 2) per vehicle produced by Nissan has decreased by -2.63% over the 2005-2021 period, with a standard deviation of 5.32%. We can use these numbers in our pricing model for the drift (-2.63%) and for the volatility (5.32%) to price the SLB option.

Figure 3. Carbon intensity (kg CO₂e/vehicle) pathway as per Science-Based Target Initiative. Source: AFII, SBTi.

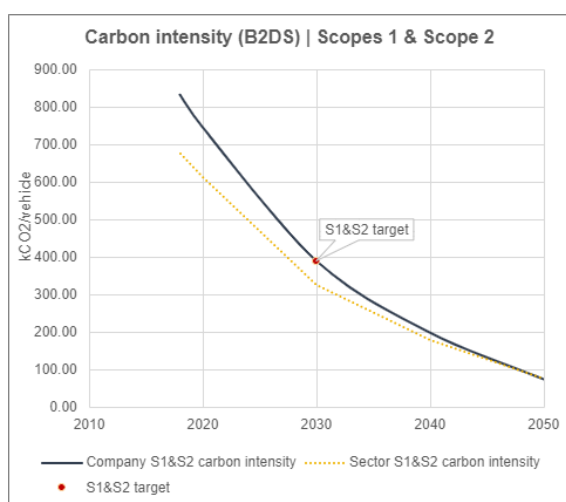
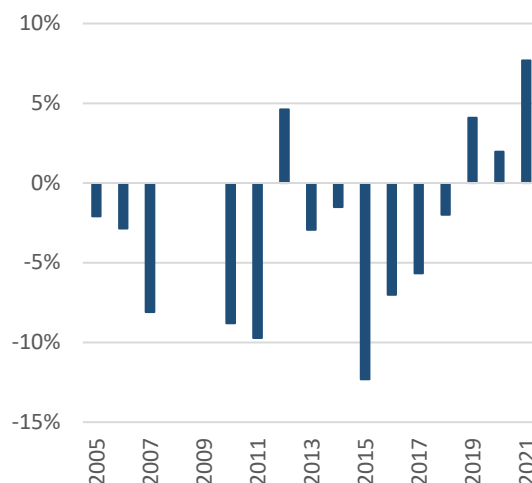


Figure 4. Year-on-year change in carbon intensity (Scope 1 + 2) per vehicle produced by Nissan. Source: Nissan.



¹⁴ Note that we here distinguish between a greenium as referred to in a green/sustainable bond format, and the lower spread/coupon that is possible to achieve in an SLB due to the option premium. See more below.

¹⁵ "Sustainability Report 2022", Nissan website, accessed 30 Jan 2023.

¹⁶ "Transport", SBTi, accessed 30 Jan 2023.

Table 3. Assumptions for a hypothetical 5-year sustainability-linked bond. Source: AFII

KPI: reduce carbon intensity per vehicle from 0.56 t-CO ₂ /vehicle in 2021 to 0.49t-CO ₂ /vehicle in 2025
Observation date: 31 st December 2025
Coupon step-up: 50bps (accruing from Mar-2026)
Settlement: March-2023
Final maturity: March-2028
Annual reduction in carbon intensity per vehicle: -2.62% (drift)
Annual volatility in carbon intensity per vehicle: 5.32% (volatility)

Using this data, we can price the value of the option of a 5-year sustainability-linked bond to be issued by Nissan,¹⁷ using as a KPI a reduction in its carbon intensity from 0.56 t-CO₂/vehicle produced (vp) in 2021 to 0.40 t-CO₂/vp in 2030, with an interim observation date interpolated at 0.49 t-CO₂/vp in 2025, which would trigger a coupon step-up of 50bps over the 2026-2028 period.¹⁸ Parameters of this structure are presented in Table 3.

A sustainability-linked bond compares favourably to the sustainability bonds that Nissan has issued to date, which exhibit a lower “greenium” than the SLB option value.

According to Bloomberg pricing data, the sustainability bonds issued by Nissan have a z-spread lower by 3-4bps, compared to traditional bonds (in JPY). By contrast, a hypothetical JPY SLB would have an option value of 14.1bps on a running basis. Looking at other currencies, the option premium reduces slightly (13.6bp in USD and 13.7bp in EUR) due to higher rates. It may be, though, that international currencies have deeper investor bases which are more receptive to SLBs. If the SLB is priced at a spread higher than 14.1bps less than traditional bonds, it would represent a new issue premium that would make the SLBs more attractive than the traditional bonds.

Figure 5. Pricing of a hypothetical 5y SLB for Nissan. Source: AFII.

Option Pricing KPI	
Observation Date KPI1	31-Dec-2025
First Accrual Date KPI1	02-Mar-2026
Step Direction	Up
Coupon Step KPI1	0.500%
Current level of KPI	0.56
Strike	0.49
Volatility	5.32%
Drift	-2.63%
Forward	0.52
Upfront Value of Option	0.706%
Running Value of Option	0.141%

Table 4. Comparison of vanilla, sustainability, and sustainability-linked bonds (25th Jan 2023). Source: AFII

ISIN	Coupon	Ccy	Maturity	Type	z-spread
JP367240CL79	1.9%	JPY	20-Jun-2025	Vanilla	69.6bps
JP367240AP10	1.015%	JPY	20-Jan-2026	Sustainability	74bps
JP367240CG43	0.33%	JPY	19-Mar-2026	Vanilla	77.5bps
JP367240BP19	1.45%	JPY	20-Jan-2028	Sustainability	103.9bps
	TBC	JPY	01-Mar-2028	SLB	Market spread – 14.1bps

¹⁷ For full details of the methodology, please see “[An option pricing approach for sustainability-linked bonds](#)”, AFII, 8 Nov 2022.

¹⁸ When considering the materiality of this SLB, it must be recognized that it is only a 5y bond (chosen to mirror the original sustainability bond issuance), where the increased coupon is paid for 2 years. We have suggested a 50bp step up to increase the materiality, but the total PV of step is still only 0.87%.

Conclusions

Automakers are an attractive sector for global investors looking for SLBs. The contribution to the reduction in carbon emissions from auto manufacturing is very significant and the transition to electric vehicles will lower the contribution to GHG emissions globally.

Nissan has the opportunity to build on its track record as an issuer of sustainability bonds by issuing a sustainability-linked bond, using its existing sustainable finance framework, as it already includes some specific KPIs on the reduction of Scope 1 and 2 emissions.

Nissan can lower its cost of capital by linking its KPIs to a reduction in the coupon of its SLBs.

It is typical to offer a coupon step-up of 25-50bps to investors, in the event that the KPIs are not met. In the case of Nissan, these targets are expected to be achieved by 2030. The option value for a SLB linked to a reduction of Nissan's carbon intensity per vehicle produced is, with a 50bps step-up assumed, in the order of 14.1bps for a five-year maturity with an observation date in three years. We would expect strong interest from investors for a SLB issued by Nissan in the global markets.

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