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Japan Climate Transition Bonds: greeniums in evidence

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SUMMARY

- November's 5-year JCTB auction cleared with a 2.1bps indicative greenium, the fourth consecutive auction to exhibit a positive greenium this year.
- Secondary-market greeniums turned positive in 2026, with all 11 outstanding JCTBs quoted at lower yields than matched conventional JGBs as of 11 November.
- FY2026 potential use of proceeds includes grid batteries, hydrogen hubs, and industrial conversions, alongside a new JPY387.3bn physical-AI programme.

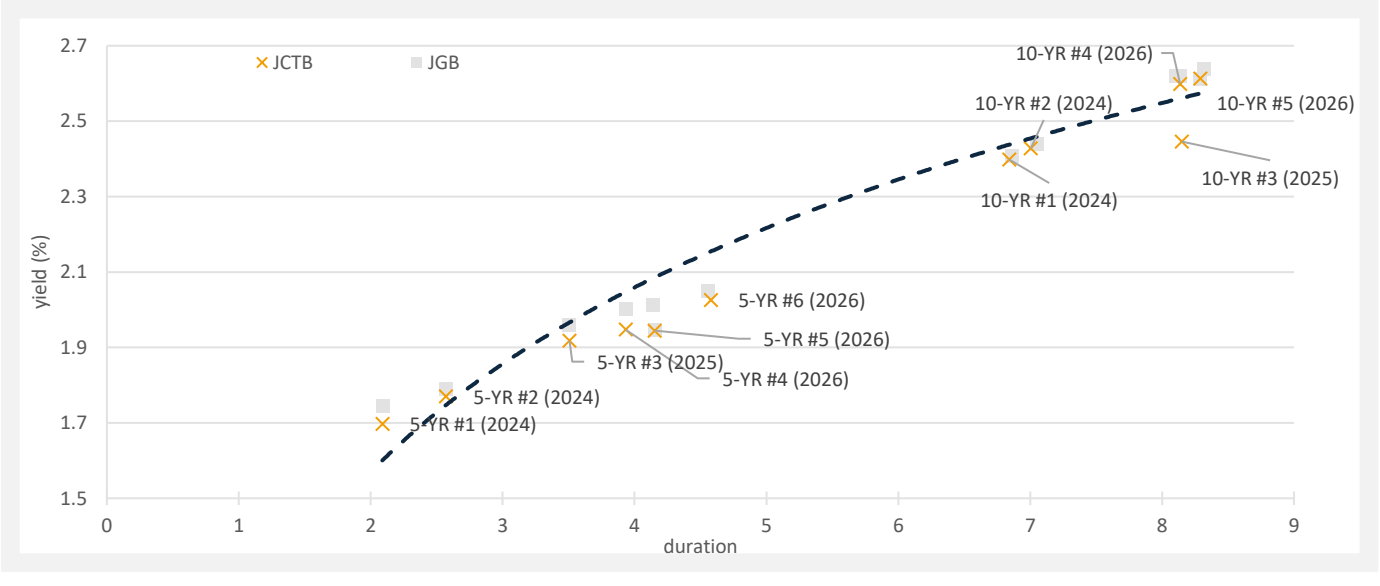
Recent Japan Climate Transition Bond (JCTB) auctions have exhibited clear positive greeniums over conventional Japanese government bonds (JGBs). The sixth 5-year Japan Climate Transition Bond (JCTB) cleared at par to yield 2.200% on 2 November 2026, an indicative 2.1bps below the yield quoted for a matched JGB.[1] The auction extends the run of positive greeniums seen since March.

Secondary market quotes show all 11 outstanding JCTBs at lower yields than maturity-matched conventional JGBs at the time of writing, as shown in Figure 1. Stronger relative demand, reduced issuance, and the Bank of Japan's climate financing facility all may have supported pricing.

In January, the government reported full allocation of FY2023 JCTB proceeds, and 88.8% of FY2024 proceeds as of November 2025. Potential FY2026 projects point to greater funding for energy infrastructure and industrial conversion, alongside support for emerging technologies.

This note examines JCTB pricing development and unpacks what available proceeds disclosures indicate about the programme's transition-financing role.

Figure 1. Secondary-market yields of JCTBs and maturity-matched conventional JGBs by duration. Source: Bloomberg Finance L.P., accessed 11 Nov 2026.



[1] "Auction Result of 5-year Climate Transition JGBs on November 2, 2026", Ministry of Finance Japan, 2 Nov 2026.

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Latest JCTB auction continued positive auction greenium trend

Japan's sixth 5-year JCTB (No.6) priced in JPY at an indicative greenium of 2.1bps on 2 November 2026. This was the third of four JCTB auctions planned for FY2026, which runs from 1 April 2026 to 31 March 2027. The Ministry of Finance accepted JPY249.8bn out of JPY959.9bn competitive bids, giving a bid-to-cover ratio of 3.84x, down from 4.62x at the previous 5-year auction in May.[2] The fourth auction, for a 10-year JCTB, is planned for February 2027.[3]

Auction greenium is calculated as the quoted market yield on a matched-maturity conventional JGB minus the JCTB's highest accepted auction yield, expressed in basis points. JCTB No.6 cleared at par at 2.200%, compared with 2.221% for a conventional JGB with the same September 2031 maturity. A positive greenium means the JCTB priced at a lower yield than its comparator.[4]

As Table 1 shows, indicative auction greeniums have been positive since March 2026, following five consecutive negative readings. November's 2.1bps premium was narrower than the 4.1bps at the previous 5-year auction in May.[5]

Table 1. JCTB auction results and indicative greeniums, February 2024 to November 2026. Source: Ministry of Finance, Bloomberg Finance L.P., AFII calculations.

Tenor	Series	Auction Date	Amount (JPY bn)	Bid/Cover (x)	JCTB	Matched JGB	Matched JGB market yield (%)	Auction JCTB yield (%)	Auction Greenium (bps)
10-yr	1	14 Feb 2024	799.5	2.9	JGB 0.7 12/20/33	JGB 0.6 12/20/33	0.756	0.74	1.60
5-yr	1	27 Feb 2024	799.8	3.39	JGB 0.3 12/20/28	JGB 0.3 12/20/28	0.35	0.339	1.10
10-yr	2	28 May 2024	349.6	3.15	JGB 1 03/20/34	JGB 0.8 03/20/34	1.031	1.04	-0.90
5-yr	2	18 Jul 2024	349.6	4.04	JGB 0 1/2 06/20/29	JGB 0.6 06/20/29	0.587	0.595	-0.80
5-yr	3	15 Jul 2025	299.8	3.98	JGB 1 06/20/30	JGB 1 06/20/30	1.074	1.098	-2.40
10-yr	3	21 Oct 2025	299.8	3.56	JGB 1.6 09/20/35	JGB 1.7 09/20/35	1.644	1.68	-3.60
5-yr	4	26 Jan 2026	299.9	3.49	JGB 1.6 12/20/30	JGB 1.6 12/20/30	1.675	1.684	-0.90
10-yr	4	13 Mar 2026	299.9	3.42	JGB 2.1 12/20/35	JGB 2.1 12/20/35	2.203	2.195	0.80
5-yr	5	25 May 2026	250	4.62	JGB 1.9 03/20/31	JGB 2 03/20/31	1.982	1.941	4.10
10-yr	5	24 Aug 2026	249.9	3.5	JGB 2.8 06/20/36	JGB 2.7 06/20/36	2.875	2.863	1.20
5-yr	6	2 Nov 2026	249.8	3.84	JGB 2.2 09/20/31	JGB 2.4 09/20/31	2.221	2.2	2.10

Note: Figures refer to the initial auction of each JCTB series and exclude subsequent reopenings. Indicative auction greenium is calculated as the quoted yield on a maturity-matched conventional JGB less the JCTB's highest accepted auction yield. Positive values indicate lower JCTB yields. Matched JGB yields are Bloomberg-derived and have not been independently reverified for this review.

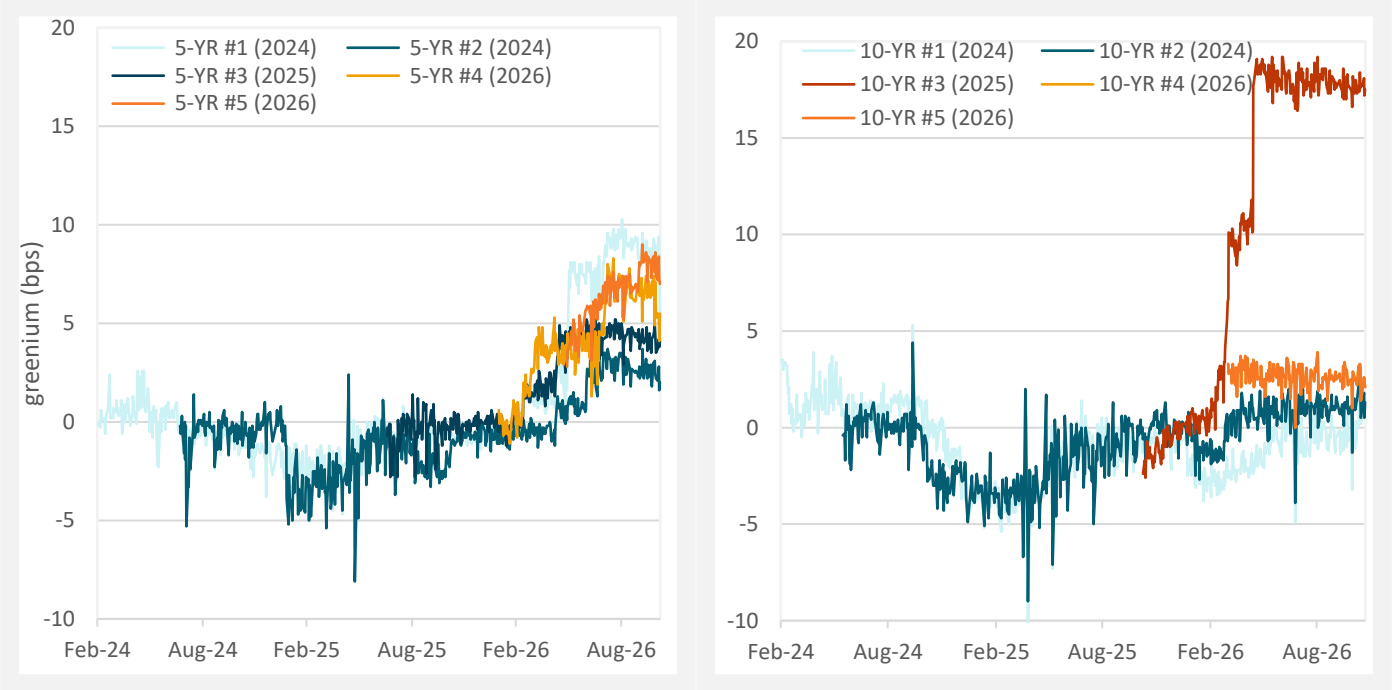
The return of positive greeniums at auction has coincided with a broader shift in the secondary market, where more JCTBs now trade at tighter yields than matched conventional JGBs.

[2] "Auction Result of 5-year Climate Transition JGBs on May 25, 2026", Ministry of Finance Japan, 25 May 2026.
[3] "Highlights of FY2026 JGB Issuance Plan", Ministry of Finance Japan, 26 Dec 2025.
[4] Note the matched JGBs usually have slightly different coupons to the JCTBs and so are not true twin bonds, despite having identical maturities. For further analysis on twin bonds please see "Twin bonds: recap ahead of Denmark's EuGB issuance", AFII, 19 Sep 2025.
[5] "JCTB: latest auction shows greenium is back", AFII, 6 Jun 2026.

Secondary greeniums turn positive in 2026

In AFII's February review, most JCTBs traded broadly in line with their conventional JGBs. Two 10-year issues stood out, yielding 1–2bps more than their maturity-matched comparators.[6] By 5 November 2026, all 11 outstanding JCTBs were quoted at lower yields than their matched conventional JGBs. Figure 2 shows how that pattern played out since 2024.

Figure 2 Historical greeniums of 5-year and 10-year JCTBs. Source: Bloomberg Finance L.P., accessed 11 Nov 2026.



Several issues with negative monthly median greeniums in January had moved into positive territory by June. Greeniums on the 5-year issues ranged from 1.6bps to 8.3bps, with the newly issued No.6 near the lower end at 1.8bps. Four of the five 10-year issues had greeniums of 1.7bps to 3.7bps. The exception was the 10-year No.3, the 1.6% September 2035 bond, which yielded 2.586% against 2.763% for its matched JGB, a greenium of 17.7bps.

The 10-year No.3 stands out. This bond was issued in October 2025 at a negative greenium, indeed the most negative of all issues so far (see Table 1 on previous page). At the start of this year, when greeniums in general were moving positive, this JCTB significantly outperformed, moving to a greenium just under 20bps, by far the widest seen.

A greenium can be influenced by many things, and it is important to note that the JCTB/JGB pairs are not true 'twin' bonds, where all characteristics are matched. While the pairs share maturities, they have different coupons. Ultimately, a greenium is a measure of the relative supply/demand between the pair of bonds.

It is also therefore reasonable to expect varying supply/demand between the different JCTB/JGB pairs, which would drive the variance in greeniums between issues. Differences in coupon, liquidity, and the availability of individual bonds in the repo market can influence these spreads even when maturities match. The large

[6] "Japan transition bonds", AFII, 24 Feb 2026.

17.7bps greenium exhibited by the 10-year No.3 bond seems to reflect high demand for this specific security. It may reflect concentrated ownership among certain investors, which is limiting its availability in the secondary market. As of 30 October 2026, the Bank of Japan (BOJ) held 6.8% of the issue, compared with 24.8% to 42.1% for the other outstanding 10-year JCTBs.[7] This lower relative figure may indicate that a large portion of the security is not available for trading, and influence its high greenium.

Factors that may explain JCTB greeniums

AFII's June paper highlighted two possible influences on JCTB demand.[8] Higher JGB yields may have made shorter maturities more attractive, and the BOJ's climate financing facility may have encouraged eligible banks to hold JCTBs. The BOJ's August review supplies evidence on who bought the bonds and points to lower issuance as another potential factor. As mentioned above, the availability of individual bonds for trading may also help explain why greeniums differ across issues.

Reduced planned issuance

Lower issuance could be a factor in JCTB outperformance. The Ministry of Finance plans to issue JPY1.0trn in FY2026, down from JPY1.2trn in FY2025. Less new supply could support JCTB prices if demand holds up. As we noted in June, higher yields may also have encouraged some investors to favour 5-year bonds, which could help explain demand at the May auction.

JCTBs are eligible for BOJ climate financing facility

JCTBs qualify as climate-related investments under the BOJ's climate financing facility. Eligible banks can count the bonds towards their borrowing allowance and pledge other eligible assets as collateral. The facility generally provides one-year loans that can be renewed subject to the BOJ's terms. By comparison, the BOJ's regular short-term pooled-collateral operations offered two-week loans in FY2025. The climate facility therefore gives banks a way to secure yen funding for longer periods between refinancings. BOJ reported that some participants saw the facility as a means of "*raising stable funding at low interest rates and improving liquidity ratios*".[9] Outstanding loans rose from JPY14.2trn in March 2025 to JPY21.1trn in March 2026 across all qualifying investments and loans.[10]

Before September 2026, banks could lock in the BOJ deposit rate prevailing when the loan was made. New loans are now priced at the average deposit rate over the loan term, so borrowing costs rise or fall with that rate.[11] Existing loans keep their original terms until maturity. The one-year funding term remains available, but whether the facility is cheaper depends on what a bank would pay for comparable one-year yen funding in the market.

[7] "Japanese Government Bonds Held by the Bank of Japan", Bank of Japan, 4 Nov 2026.
[8] "JCTB: latest auction shows greenium is back", AFII, 4 Jun 2026.
[9] Pg 47, "Market Operations in Fiscal 2025", Bank of Japan, Aug 2026.
[10] Pg 63, "Market Operations in Fiscal 2025", Bank of Japan, Aug 2026.
[11] Pg 63, "Amendment to 'Principal Terms and Conditions of the Funds-Supplying Operations to Support Financing for Climate Change Responses", Bank of Japan, 18 Sep 2026.

Demand from banks and overseas investors

The BOJ attributed part of the decline in JCTB yields relative to conventional JGBs in the second half of FY2025 to "*demand from banks and overseas investors, focusing on the relative undervaluation of these bonds*".[12] This buying may have helped narrow the yield gap as investors took advantage of what they saw as attractive relative prices.

JCTB bid-to-cover ratios have risen relative to conventional JGBs

JCTBs trading with tighter yields indicate higher demand for these securities. We use another measure of investor demand, book cover, to gauge demand for each issue.[13] JCTBs had lower average bid-to-cover ratios than conventional JGBs at both tenors in FY2024. That reversed in FY2025, and the gap widened in FY2026 through 4 November, especially at the 5-year tenor, as shown in Table 2.

Table 2. Average bid-to-cover ratios for JCTB and conventional JGB auctions by fiscal year and tenor. Source: Ministry of Finance, AFII calculations.

Fiscal year	5yr JCTB	5yr JGB	10yr JCTB	10yr JGB
FY2023, Feb–Mar 2024	3.39x	3.71x	2.90x	3.44x
FY2024	3.61x	3.81x	3.23x	3.25x
FY2025	3.73x	3.49x	3.49x	3.28x
FY2026, through 4 Nov 2026	4.23x	3.50x	3.51x	3.25x

Note: FY2023 covers February to March 2024. FY2026 figures are through 4 November 2026. Ratios are averages of individual auction bid-to-cover ratios.

JCTB auctions tend to be smaller than conventional JGB auctions, so they can have higher cover even when they attract fewer bids in total. The formats also differ. Successful JCTB bids clear at a single yield, while successful competitive bidders at conventional 5- and 10-year JGB auctions pay the prices they offered. These rules can affect how investors bid. Bid-to-cover is therefore only one measure of auction demand, alongside the total amount bid and the yield at which the bond priced.

JCTB use of proceeds and changing allocation priorities

AFII's February 2026 paper examined approximately JPY4.65tn of actual and planned GX (Green Transformation Strategy) spending across FY2022–FY2025, finding that funding prioritised industrial supply chains and technology development — particularly batteries, semiconductors, and manufacturing decarbonisation.[14]

Japan's January 2026 allocation report provides a clearer picture of how JCTB proceeds have been deployed.[15] The JPY1,594.7bn raised in FY2023 was fully allocated by end-FY2024. Of the JPY1,392.0bn raised in FY2024, JPY1,235.8bn, or 88.8%, had been allocated as of November 2025, leaving JPY156.2bn unallocated.

[12] Pg 20, "Market Operations in Fiscal 2025", Bank of Japan, Aug 2026.
[13] Book cover is the ratio of total investor interest in a given bond divided by the final size. For a deeper investigation into this please see "Sustainable labelling and EUR-denominated primary book cover", AFII, 9 Sep 2026.
[14] "Japan's transition bonds", AFII, 23 Feb 2026.
[15] "Allocation and Impact Report for FY2023 Issuance / Allocation Report for FY2024 Issuance", Government of Japan, Japan, Jan 2026.

FY2024 allocations remained concentrated in industrial supply chains. Battery manufacturing received JPY495.8bn, followed by JPY280.6bn for power semiconductor production and JPY120bn for the GX Acceleration Agency. Together, these accounted for approximately 73% of allocated FY2024 proceeds.

These allocations broadly reinforce AFII's earlier finding that JCTBs initially prioritised funding domestic industrial capabilities. The next question is how this emphasis evolves under the government's subsequent policy.

FY2026 planned spending indicates changing priorities: energy systems and AI

The government's potential allocation projects for FY2026 indicate greater planned spending on selected energy infrastructure and industrial decarbonisation programmes, alongside continued support for emerging technologies, as shown in Table 3.[16,17]

Table 3. Selected programmes in the FY2025 and FY2026 potential allocation lists. Source: Government of Japan.

Programme	FY2025 (JPY bn)	FY2026 (JPY bn)	Change
Grid-scale batteries	15.0	43.0	+187%
Low-carbon hydrogen hubs	5.7	41.5	+628%
Industrial process conversion	25.6	41.7	+63%

The largest new programme is JPY387.3bn for multimodal foundation models targeting AI robotics and physical AI. The government links the programme to the aim of advancing decarbonisation through the development and use of energy-efficient AI foundation models. The FY2026 programme focuses on models for robotics and other physical applications, while FY2025's potential allocations covered a broader mix of AI foundation models, advanced semiconductors, post-5G communications, and edge AI chips. This difference in scope limits direct year-on-year budget comparisons. The FY2026 plans also include JPY128bn for advanced nuclear reactor development and related technology and supply-chain support.

The increases for grid batteries, hydrogen infrastructure, and industrial conversion suggest greater planned support for the deployment of energy-system and industrial transition technologies. At the same time, the JPY387.3bn earmarked for a potential AI project illustrates the continued importance of industrial and technological development to Japan's GX spending priorities. Subsequent reporting could provide more detail on the AI programme's specific contribution to decarbonisation.

The FY2026 figures represent potential project allocations rather than confirmed JCTB spending. The Ministry of Finance explicitly notes that actual allocations may differ. Additional reporting will therefore be needed to establish how these changing priorities translate into the use of bond proceeds and measurable outcomes.

[16] "Potential Allocation Projects (FY2025)", Government of Japan.
[17] "Potential Allocation Projects (FY2026)", Government of Japan.

Conclusions

The return of positive greeniums strengthens the case for JCTBs as a financing instrument for Japan's GX strategy. While the funding cost advantage remains modest, and its persistence uncertain, sustained investor demand could support continued issuance as Japan finances its long-term transition objectives.

The programme's contribution to decarbonisation, however, depends on more than favourable funding conditions. With proceeds supporting both near-term emissions reductions and longer-term industrial and technological development, the timing and measurability of climate benefits will vary across projects. More granular allocation and impact reporting would help investors assess whether the financing is translating into tangible decarbonisation outcomes.

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