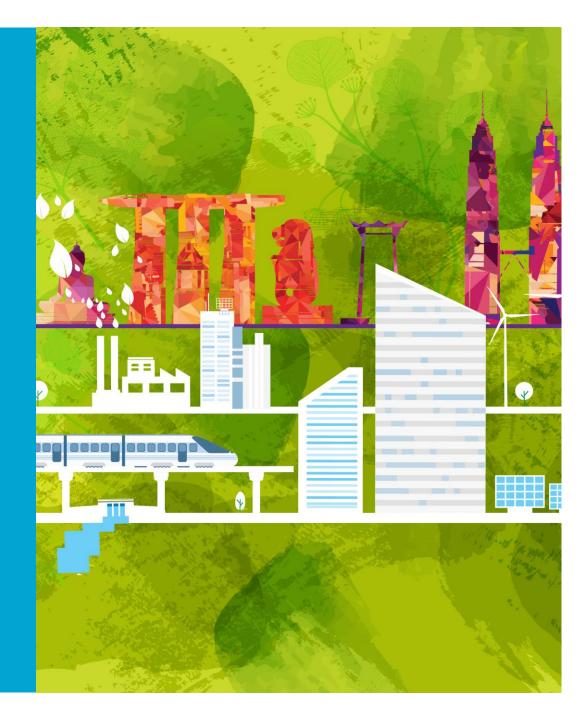
Green Bond Market Survey for Japan: Insights on The Perspectives of Institutional Investors and Underwriters

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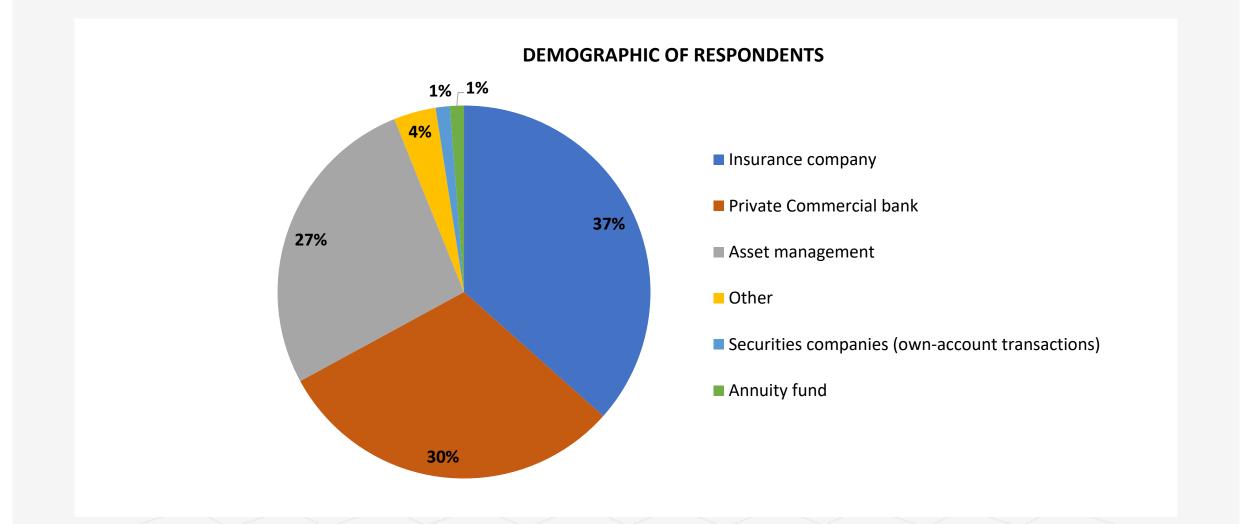






- to assess institutional investors' interest in green bonds issued in Japan, also the perspectives of local arrangers and underwriters
- identify market drivers, impediments, and development priorities





- The majority of the respondents indicated interest to invest in green bonds with an action plan, followed by those with limited recognition and resources, while others have already established a specific green bond fund and portfolios.
- 11% are not interested to invest in green bonds as of now. This result shows further promotion and incentivization for green bond investment seem necessary.

35% 29% 30% 25% 23% 18% 20% 15% 12% 11% 10% 6% 5% 0% Not interested at Interested, and Interested, and Interested, but Interested, and Other have an action we have already with limited in we are obliged this stage recognition and to invest overall established a plan specific green resources bond fund and portfolios

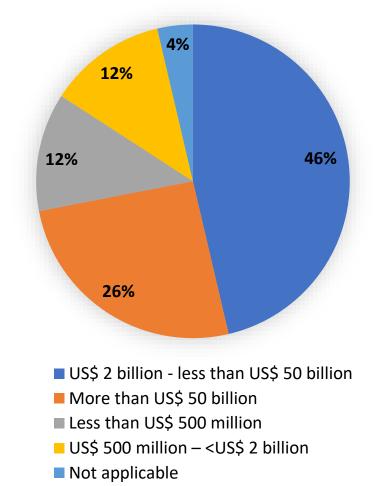
INTEREST IN INVESTING GREEN BONDS





- More than 45% of respondents have a total asset ranging from USD2 billion up to USD50 billion
- 26% of respondents have more than USD50 billion in their total asset

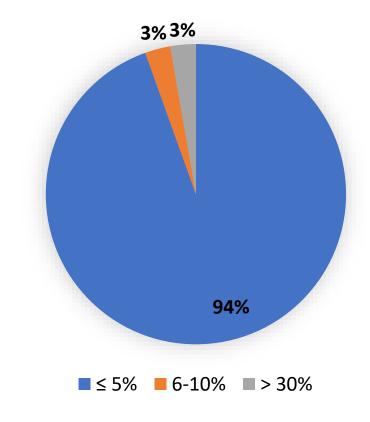
COMPANY'S TOTAL ASSETS UNDER MANAGEMENT





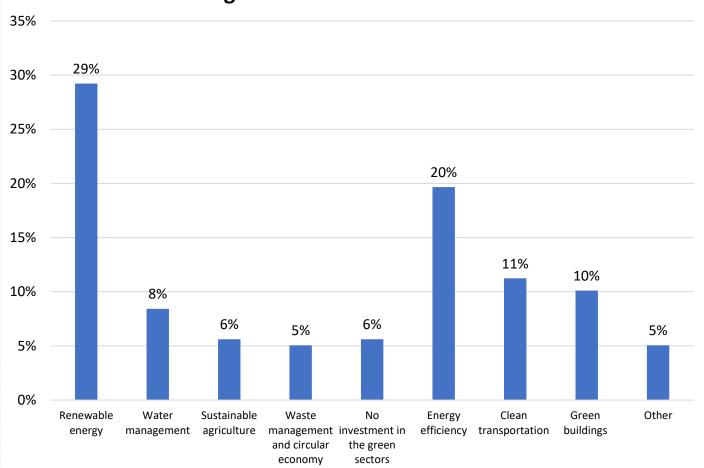
- Around 95% of respondents have less than 5% of their portfolio in green investments
- While 3% of respondents with portfolios ranging from USD500 million to USD50 billion have up to 10% green investments
- Asset managements holds up to 30% of their portfolio in green investments

CURRENT GREEN INVESTMENT IN THE PORTFOLIO





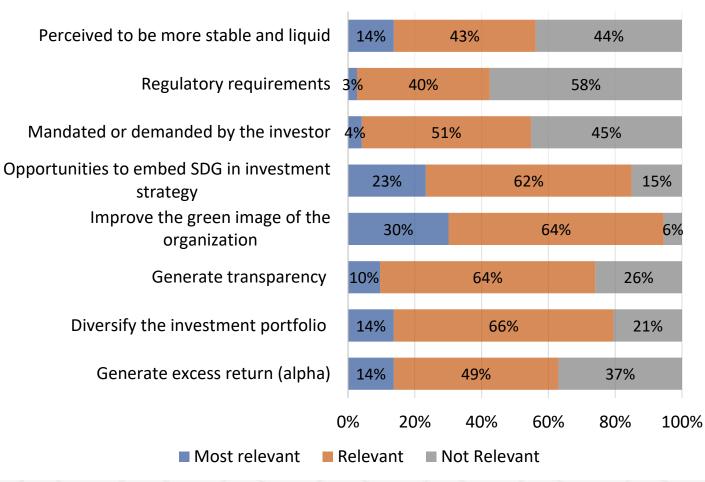
- Renewable energy, energy efficiency and clean transportation are the top 3 most significant sectors in investors' portfolio
- While water management and circular economy and others are not significant in their portfolios



Most Significant Sectors in Investors' Portfolio



- Majority of respondents believe that improvement of the green image of the organization is very important, followed by opportunities to embed SDG in investment strategy.
- Diversification of investment portfolio and transparency are important.
- Less than half of respondents see regulatory requirements as a key motivation.

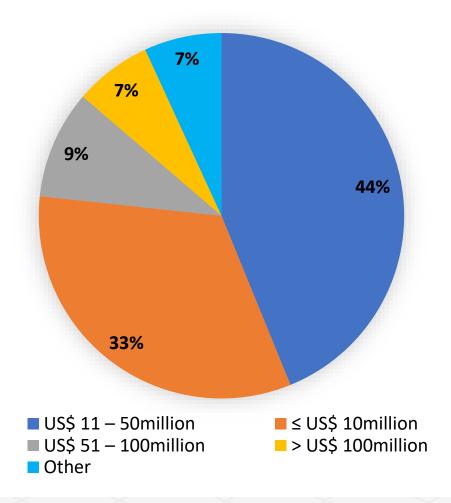


KEY MOTIVATIONS FOR INVESTING IN GREEN BONDS



- Almost 45% of respondents indicated a preference for investment size of USD 11-50 million.
- While 33% indicated a willingness to invest up to USD 10 million.
- Despite large portfolios, majority of respondents still prefer smaller ticket size. This seems to show still prudent and cautious attitude of investors.

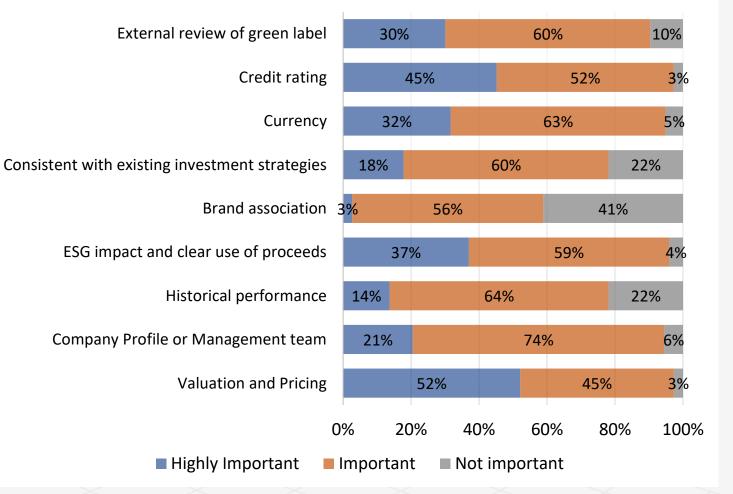
OPTIMAL INVESTMENT SIZE





- When investing in green bonds, the highest consideration is given to Valuation and Pricing followed by Credit rating, then, ESG impact and clear use of proceeds. This seems to show financial risks and returns remain to be the prime concern of investors.
- Majority of respondents viewed Company profile or Management team as important.
- Around 90% of investors see external review is important. Thus, the presence of local green bond verifiers in Japan can further support domestic green bond market development.

KEY CONSIDERATIONS FOR INVESTING IN GREEN BONDS



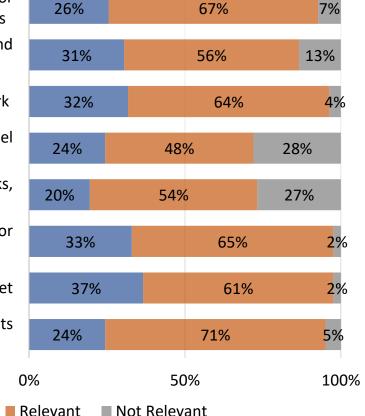


- Respondents believed that a clear definition of green in the market, followed by an increase pipeline of eligible projects and internationally harmonized framework are policy considerations for the green bond market development in Japan.
- Policy clarification from government and regulators are important and will make green bonds investments more attractive.

POLICY OPTIONS FOR GREEN BOND MARKET DEVELOPMENT FROM THE INVESTORS' PERSPECTIVE

Centralized information platform for regional sustainable bond markets Tax incentives or subsidies for green bond issuers and investors Internationally harmonized framework Subsidies for the cost of trading green-label 24% bonds or loans Preferential purchases by central banks, 20% pension funds, insurance, etc. Increase pipeline of projects eligible for green bond issuance Clear definition of green in the market Clarification of policies from governments 24% and regulators 0%

Most Relevant





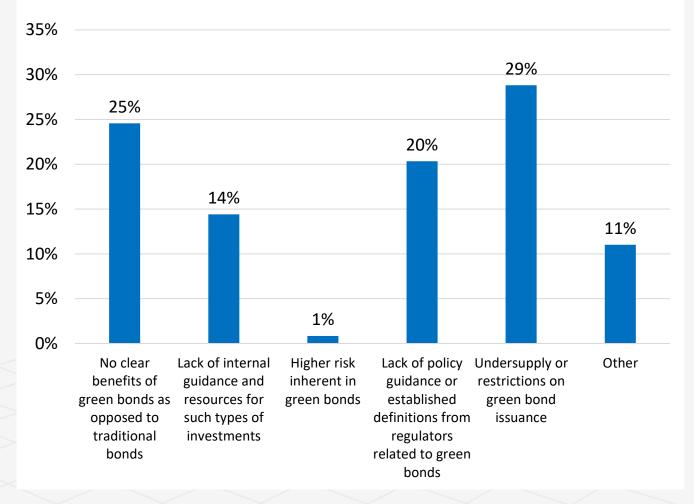
Directors of state-owned banks 5% 67% 28% and state-owned enterprises CFO of large corporations or 17% 73% 10% publicly traded companies Trading teams in investment 15% 71% 15% banks and brokerages **Investors and Asset Managers** 32% 62% 6% 0% 40% 60% 80% 100% 20% ■ Most Relevant ■ Relevant ■ Not Relevant

CAPACITY BUILDING—WHO SHOULD BE TRAINED?

- Respondents agreed that investors and asset managers require additional training followed by CFO or large corporations or publicly-traded companies.
- This could complement their existing knowledge and lead to an increase in the supply of green bonds.

- The biggest obstacle to investing in green bonds is the undersupply or restrictions on green bond issuance (29%).
- No clear benefits of green bonds, as opposed to traditional bonds, ranked second(25%). This may be associated with a prudent and cautious attitude of the investors.
- Lack of policy guidance or established definitions is still regarded as an obstacle (20%). There may be room for policy improvements.

MAIN OBSTACLES TO INVESTING IN GREEN BONDS







tutional investors indicated are most interested in (central government) such as bonds to finance the 25%, followed by financial as at 7%.	Non-financial institution	5%	52%		43%	
	Financial institutions (commercial banks, securities companies, investment banks)	7%		73%		21%
of interest is at 73% for notitutions issuances.	Municipality (Local Governments)	2%	36%		61%	
60% are not interested vernment issuances.	Sovereign (Central Government)	25	%	68	%	7%
	(■ Highly interest	0% :ed ∎I)% 100%

LEVEL OF LOCAL INVESTOR INTEREST BY ISSUER TYPE

- Local institu • that they a sovereign (issuances si country at institutions
- The level of financial ins
- More than to local gov



- The top 3 sectors that are promising for green bonds issuance are as follows:
 - Renewable energy at 29%
 - Energy efficiency at 24%
 - ✤ Water management at 16%
- Energy-related bond issuances are highly regarded. In other ASEAN countries recently surveyed, this has been consistent.

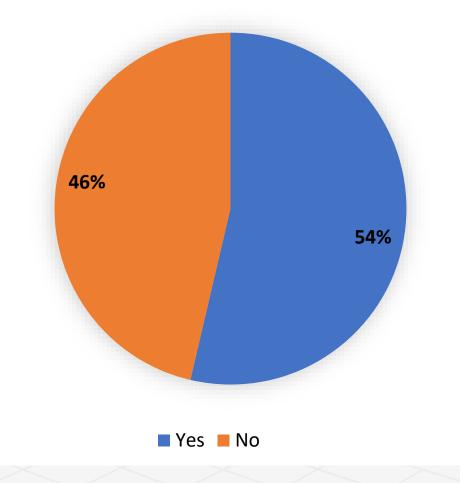
35% 29% 30% 24% 25% 20% 16% 15% 13% 10% 7% 5% 4% 5% 2% 0% Renewable Green Building Water Sustainable Waste Clean Other Energy agriculture Management efficiency transportation Energy management and Circular Economy

MOST PROMISING SECTORS FOR GREEN BONDS ISSUANCE



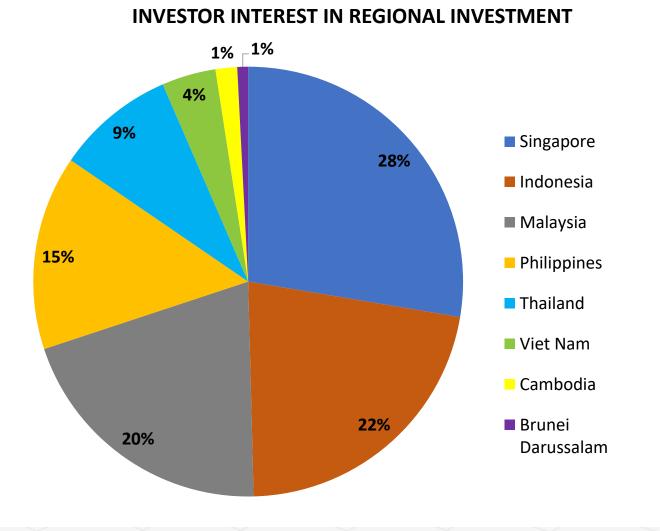
- There are 54% respondents who are investing in ASEAN countries or currently looking for investment opportunities.
- The rest are not investing because of the following reasons:
 - risks: country and credit
 - lacking: capacity and data to support investment analysis. Some respondents also stated the lack of investment mandate
 - Interestingly, some respondents are investing in Japan only, others invest indirectly in ASEAN region
- Some respondents confirmed their interest to invest in the future

INTEREST IN INVESTING IN GREEN BONDS



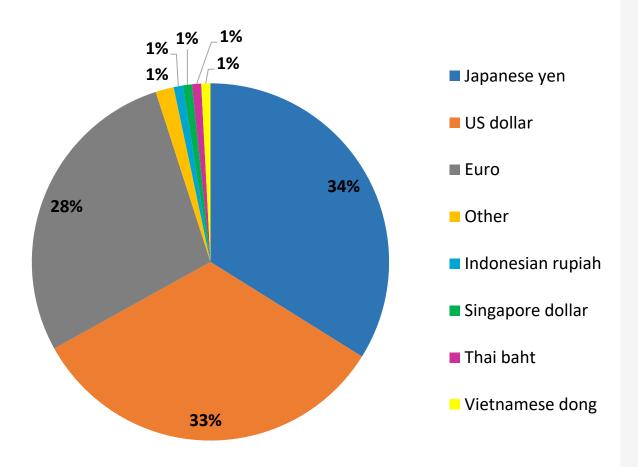


- When asked about investors interest in regional investment, 54% of the respondents expressed interest in investing and are currently looking for investment opportunities in the region.
- Among the respondents who are interested in investing in ASEAN, Singapore, Indonesia and Malaysia are their top investment destinations.





- 95% of respondents prefer the hard currencies: the US dollar, Japanese yen and Euro.
- Indonesian rupiah and Singapore dollar are preferred as well. This is consistent with the preferred investment destinations as stated in the previous slide.



PREFERRED UNDERLYING CURRENCIES

Key Takeaways



- Japanese investors remain to be prudent and cautious in investing in green bonds. They are still testing the water. Their green investment sizes are relatively small (between USD11 mn and USD50 mn), compared to their asset size.
- The undersupply or restrictions on green bond issuance and no clear benefits of green bonds, as opposed to traditional bonds, are seen as obstacles. Further policy support for creating more bankable green projects may be necessary.
- Investors viewed the valuation and pricing, credit rating, and company profile of the management team are the key considerations for investing in green bonds.
- The lack of policy guidance or established definitions from regulators related to green bonds is still regarded as a major impediment. Further clarification and establishing standardized market practices would be necessary.
- Investors believed that green bond investment would diversify the investment portfolio, improve corporate governance by increasing disclosure requirements, and Improve the corporate image of the organization.

Supply

- It is desirable to have enough green bond issuances to meet the investment demand of investors.
- If Yen-denominated bonds are issued, we would like to consider investing more aggressively.
- Climate change is a pressing concern in the ASEAN region, which consists of numerous islands and coastlines; it may be possible to issue green bonds to address this issue.
- The transition to renewable energy is a global challenge, and we think green bonds are crucial to filling the funding gap.

Demand

- Investors prefer hard currency bonds over the local currency of each ASEAN country.
- Fund managers still prioritize returns over the environmental and social impacts of their investments. If investors' appetite for green bond investments grows and environmental and social impacts are incorporated into investment strategies, the market will become more active.
- In addition to green bonds, we prioritize investing in themes related to gender, human rights, and biodiversity. We encourage you to create bonds that support social, environmental, and marine protection, such as blue bonds and social bonds.

Market Development

- The incompatibility of ESGs and SDGs hinders development of green bonds market in the region. A clear definition of green and centralized information platform from the government and regulators are vital to make green bonds investments more attractive to local investors.
- Due to massive infrastructure investment needs, it is anticipated that green bonds will have a greater development impact in emerging countries than in developed economies.
- We believe that it is essential to expand the secondary market after issuance, which can secure the fair price of green bonds and maintain liquidity.
- Sovereign green bond issuances, as in the case of Europe, can support market development.
- Information disclosure, price stability, and enhanced transparency are vital in the development of green bonds in the region.



ADB

....continuation on Market Development

- The development of the green bond market in the ASEAN region, where green finance is developing, will accelerate the transition to decarbonization in Asia and lead to the realization of carbon neutrality throughout the world, so we expect further market development.
- In order to achieve net-zero carbon emissions, government efforts in the ASEAN region will be very crucial. With
 increasing attention, ESG demands from investors will increase, and this can be an opportunity for local
 companies to raise funds and expand their businesses, as well as a catalyst for the growth of the regional green
 bond market.
- We hope that both issuers and investors will increase their issuance and investment because we believe that economic development and environmental issues are challenging issues that are closely related.

Role of Development Partners

- Many investors are prohibited from investing in bonds rated below investment grade. However, investors can create environmental and social impacts by investing in thematic bonds issued by development banks such as ADB.
- We believe that policy cooperation with international organizations such as ICMA and regional industry groups is essential in the development of green bond market in the region.
- Green bonds have become the standard in the region, development partners such as the Asian Development Bank (ADB) can potentially assist interested entities with technical assistance, capacity building and could contribute to the development of the local green bond market by investing in green bonds issued by their clients.

ACKNOWLEDGMENTS



We would like to express our heartfelt gratitude to all the respondents and industry associations for their assistance with and participation in the survey.

Industry associations includes the General Insurance Association of Japan, Investment Trusts Association of Japan, Japan Investment Advisers Association, Japan Securities Dealers Association, Life Insurance Association of Japan, Pension Fund Association, and Regional Bankers Association of Japan

THANK YOU

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Insights on The Perspectives of Institutional Investors and Underwriters

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