# Australia's Sovereign 'Green' Labelled Debt

Katie Alexander and Shan Jayawardhana*

Photo: francescosgura – Adobe Stock

## Abstract

A significant amount of investment is required to transition to lower emissions in Australia, and financial markets are evolving to facilitate this. The inaugural Green Treasury Bond issued by the Australian Office of Financial Management in June 2024 marked a milestone in the Australian Government's Sustainable Finance Strategy. This article reviews pricing of Australian sovereign and semi-sovereign labelled debt. There is some evidence of a decline in the historically positive price differential – the 'greenium' – between labelled and conventional bonds domestically. The evolution of this greenium has likely been influenced by the low initial supply of labelled bonds in Australia relative to demand but heterogeneity in these products and the relatively small sample size of labelled bonds complicates the identification of the greenium.

# Introduction

A global transition to lower emissions is vital for mitigating the risks from climate change. A significant amount of investment is needed to achieve that transition, and financial markets will play an important part in facilitating this investment. While climate and other sustainability-related factors are increasingly being incorporated into investors' decisions, significantly more development is required across financial markets to effectively direct investor funds to the projects that will help to achieve the necessary transition.

The Australian Government's Sustainable Finance Strategy aims to increase the capability of financial markets to meet the funding task at hand, in part by supporting the growth of sustainable finance products, including labelled debt. 'Labelled debt' refers to any bond or debt program for which the issuer has identified a specific purpose. In this article, we focus on bonds that have been labelled as 'green' or 'sustainability' bonds. A significant milestone in the strategy was the issuance of the Australian Office of Financial Management's (AOFM) inaugural Green Treasury Bond in June 2024. The AOFM expects that a 'credible sovereign green bond program will mobilise additional climate-aligned capital, deepen sustainable finance markets and signal the Government's commitment to climate, energy and other environmental goals' (AOFM 2023). This view is consistent with research findings that sovereign green bond programs can spur development in private sustainable debt markets (Cheng *et al* 2024).

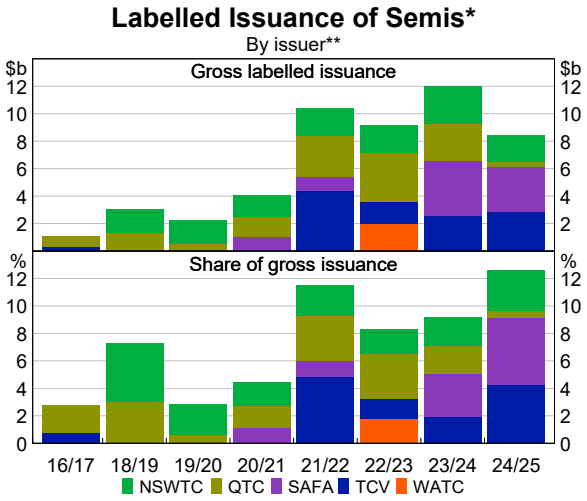
In light of the AOFM's milestone issuance, this article provides an overview of Australia's sovereign and semi-sovereign labelled debt markets, building on previous work covering green and sustainable finance (Armour, Hunt and Lwin 2023). We compare the pricing of conventional and labelled bonds to investigate whether there is a premium to issuing labelled debt and discuss the factors that may drive the evolution of this premium, such as an imbalance between high demand and low supply in the market that allows issuers to issue labelled debt at a higher price. The term 'greenium' is used to refer to the lower yield (and inversely, higher price or 'premium') investors are willing to accept for securities labelled as 'green', or the broader pool of labelled securities, relative to comparable conventional bonds from the same issuer.

We supplement our quantitative data analysis of the pricing of labelled debt with qualitative market intelligence, gathered through liaison with market participants. In nascent markets like those for sustainable finance, pricing may be volatile and require more time for accurate price discovery, making it difficult to draw conclusions from the data alone. Liaison also helps overcome significant data limitations, provides RBA staff with a range of alternative perspectives to better inform our understanding of these markets, and allows us to properly assess how access to finance is changing for different sectors of the economy.

## Australian sovereign and semi-government labelled bonds

Australia's state treasury corporations have issued labelled debt since 2016. Victoria was the first state to issue a semi-government bond (semi) with a 'green' label. Labelled debt issuance has grown in aggregate and as a share of total semis issuance as other states have implemented their own labelled debt programs (Graph 1). Notably, the South Australian Government has recently signalled its intention to issue all future debt under a 'sustainability' labelled program.

**Graph 1**

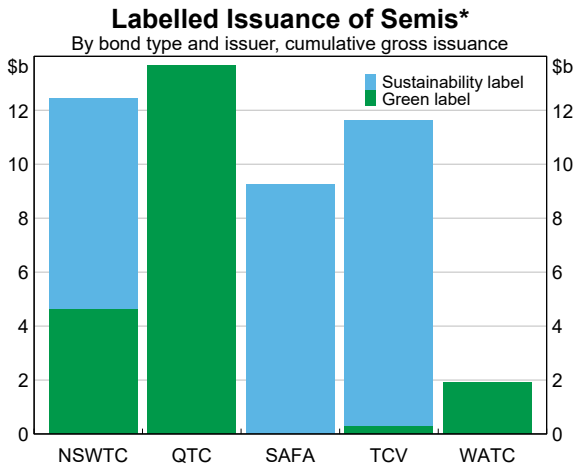



* Data as at 31 December 2024. Includes taps of bond lines.
** NSWTC = New South Wales Treasury Corporation. QTC = Queensland Treasury Corporation. SAFA = South Australian Government Financing Authority. TCV = Treasury Corporation of Victoria. WATC = Western Australian Treasury Corporation.

Sources: Bloomberg; RBA.

Semis typically use a 'green' or 'sustainability' label for labelled debt, though the specific definition of each label varies across issuers (Graph 2). The former is broadly defined as being used to fund environmental projects, such as clean transportation and water infrastructure projects. The latter has typically been used to fund projects that advance both environmental and social outcomes. Funds raised from the AOFM's Green Treasury Bonds are used to finance 'Eligible Green Expenditures' that are aligned with the Australian Government's climate goals as outlined in the Green Bond Framework (Treasury 2023). The disparity in definitions and use of each label across states and the AOFM partly reflects different policy agendas and perceptions of investor demand. Some liaison contacts consider this lack of consistency to be a challenge when making investment decisions and suggested it may be leading to differences in the price premium observed for bonds with a 'green' label compared with a 'sustainable' label.

**Graph 2**

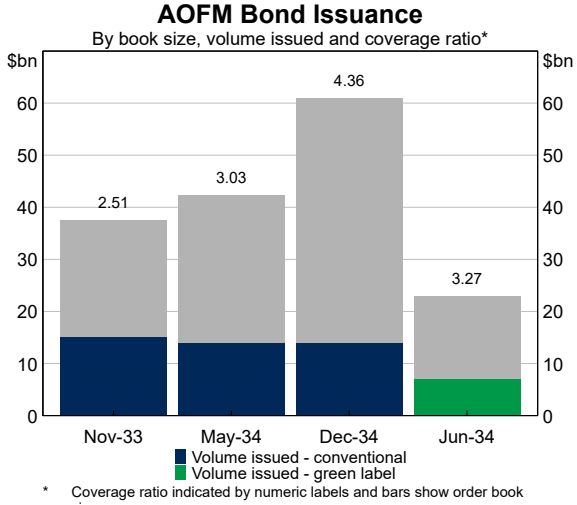



* NSWTC = New South Wales Treasury Corporation. QTC = Queensland Treasury Corporation. SAFA = South Australian Government Financing Authority. TCV = Treasury Corporation of Victoria. WATC = Western Australian Treasury Corporation.

Sources: Bloomberg; RBA.

In June 2024, the AOFM issued $7 billion of its inaugural 10-year Green Treasury Bond. The final deal size was around half that of a typical AOFM non-labelled syndication, although the AOFM has since tapped the bond line and indicated that it intends to both increase the bond issue size further over time and issue more bonds under the Green Bond Framework, including at different maturities to develop a 'curve'. Demand was within a similar range for the AOFM's recent bond issuance of a similar tenor, relative to the volume issued (Graph 3).

**Graph 3**




* Coverage ratio indicated by numeric labels and bars show order book size.

Source: RBA.

There were 105 investors involved in the deal, 17 of which had not previously participated in syndication, indicating possible new sources of demand for the labelled bond. The AOFM noted that only 30-year bond syndications have attracted more investors (Hughes 2024). Investors from Europe accounted for most of the offshore interest. There was also significant interest from fund managers, both domestically and internationally, who accounted for a larger-than-usual share of final allocations.

## Factors influencing the greenium in labelled debt markets

In the international literature, the greenium has been found to be small and variable over time and there are, at times, conflicting views on its drivers (Pietsch and Salakhova 2022; Harrison, Partridge and Tripathy 2020). In addition, estimates of the greenium in sovereign debt markets tend to be smaller than those found in corporate bond markets (Liberati and Marinelli 2021; Doronzo, Siracusa and Antonelli 2021). This may arise due to the unique challenges for sovereign debt issuers, including explicit requirements for publicly issued debt to be fungible regardless of the decision to label specific bond lines (Cheng, Ehlers and Packer 2022).

One school of thought suggests the greenium is an anomaly because labelled and conventional bonds from the same issuer should be priced equivalently given that they bear the same credit risk (Bahra and Zhu 2024). However, there may be other risk premia that arise in the relatively nascent market for labelled bonds that prevent this equilibrium from being realised. For example, uncertainty over the long-term risks from climate change may lead investors to accept lower yields on labelled bonds in the short term (Buchmuller, Reder and Wein 2023).

Further, investor perceptions on the credibility of specific labelled bonds or issuers may affect pricing outcomes for those bonds. Overseas research has found that the certification of labelled bonds, or the industry sector of the issuer, can affect whether issuers are able to achieve a greenium (Agliardi and Agliardi 2021; Pietsch and Salakhova 2022). To date, there has been limited focus in the literature on whether bonds are funding projects that would not have proceeded without the opportunity to issue labelled debt – this idea that labelled bonds should be 'additive' could also influence the size of the greenium.

An imbalance in the demand and supply for labelled debt should also contribute to some green bonds attracting a premium. This was frequently cited as a driver of greeniums by liaison contacts.
These imbalances may be driven by investor mandates that specify targets for holdings of labelled securities, as well as restricted supply due to the high costs of setting up a labelled debt program and the legal or reputational risks associated with greenwashing.[1]
However, some liaison contacts suggested that a shortfall in supply can negatively affect liquidity in secondary markets and that this may attach a discount to labelled debt that can partly offset the greenium.

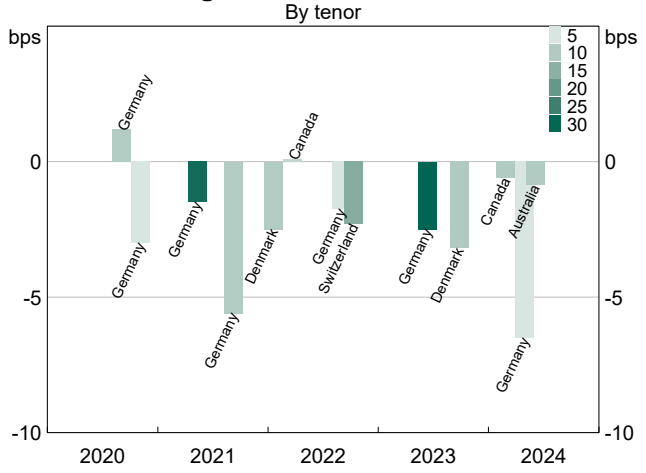
## Analysing the greenium in sovereign and semi-sovereign labelled bonds

The AOFM's Green Treasury Bond was estimated to be issued at a greenium of around 2 basis points, representing an $11 million saving for the taxpayer on this issuance (Hughes 2024; Parry 2024). This is towards the smaller end of the range compared with peer economy sovereign bonds (Ando *et al* 2023; Graph 4).[2] In addition to the factors directly impacting the greenium, various factors that affect the pricing of any bond at issuance (e.g. tenor, coupon, bond issue size, and labelled program design) obscure comparisons across labelled and conventional bonds, or labelled bonds issued by other sovereigns. These comparisons are further complicated by the relatively small sample size of peer economies and labelled bond lines.

**Graph 4**

**Sovereign Greenium at Issuance***

By tenor




* Greenium is calculated as the difference between the issue yield on the labelled bond and the closest conventional bond comparator.

Sources: Bloomberg; RBA.

The existence of a small greenium in the AOFM Green Treasury Bond at issuance reflects reasonably strong investor demand for what was a relatively small issuance. This is despite some investors lowering their bid size after pricing guidance was revised tighter, dampening demand during the order book build, including among offshore investors (KangaNews 2024). Other liaison contacts asserted that the greenium achieved was proportionate when considering the high costs associated with setting up and maintaining a labelled debt program.

Liaison contacts indicated that the greenium for the AOFM's bond declined to less than 1 basis point by August 2024 and the bond was trading with a higher yield than its conventional counterpart by October 2024 when the AOFM also issued a further $300 million of the Green Treasury Bond. In December 2024 when the AOFM issued another $300 million tranche of the Green Treasury Bond, the bond price had recovered to be slightly higher than its conventional counterpart. These moves may be the result of an ongoing illiquidity premium for a bond that has a smaller stock of issuance than other AOFM bonds despite the increasing supply, or it may be a more general reflection of the volatility in a nascent market.[3]

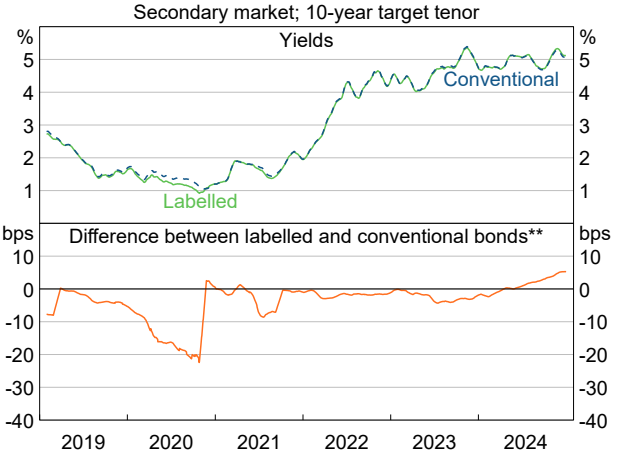
Over the longer term, greeniums have generally declined following an approximate global peak in 2021. Some liaison contacts suggested this had occurred alongside a decrease in the growth in demand for labelled bonds and an increase in the supply of labelled bonds.

Consistent with this, labelled semis traded at a premium to their conventional counterparts on average between 2017 to 2021, before the price premium was eroded and the labelled semis began consistently trading with higher yields to their conventional counterparts by 2024 (Graph 5).[4] This is likely to be an example of greeniums declining as supply increases to meet demand in the market (Graph 1). The inaugural Green Treasury Bond has further added to the overall supply of labelled sovereign or semi-sovereign bonds in Australia, and this could account for its lower greenium.

**Graph 5**

**Semi Government Bond Pricing***

Secondary market; 10-year target tenor




* Lines represent a thirty-day moving average.
** Includes bonds with green or sustainability labels.

Sources: Bloomberg; RBA.

## Conclusion

Labelled debt issuance in Australia has been increasing in recent years as supply from state governments has grown and the AOFM has now issued its inaugural Green Treasury Bond. In the semis market, there is evidence of a decline in the price differential between labelled and conventional semis over time. A similar decline has been observed for the Green Treasury Bond since it was issued in June 2024. Liaison contacts suggest this could be evidence of an illiquidity premium for labelled bonds. There are also pricing differentials across labelled bonds domestically and internationally that are likely influenced by other factors such as investors' assessments of the issuers of labelled debt, the extent to which assets backing these bonds lead to sustainable outcomes and the alignment of debt programs to international standards.

The role and effectiveness of the labelled debt market in funding Australia's transition to lower emissions may be affected by the fungibility of proceeds raised and whether these bonds are additive, funding projects that would not have proceeded without the opportunity to issue labelled debt. Further work is needed to explore these concepts and their impact. Regardless, the wide range of definitions for labelled bonds adds to the complexity of these products for investors and indicates that the Australian labelled debt market remains in the relatively early stages of development.

# Endnotes

* The authors are from Domestic Markets Department. They would like to thank Iris Chan, Ben Jackman, Sharon Lai, Anna Park and Claudia Seibold for their help with this article. All graphs in this article include data to 31 December 2024.

1 'Greenwashing' refers to when an entity misrepresents its activities or products as more sustainable than they in fact are.

2 Our sample of peer economies is comprised of sovereigns that have issued labelled debt, have a Fitch rating of AA+ or higher and have a closely comparable (i.e. similar tenor, maturity date and coupon) conventional bond for a given labelled bond.

3 It should also be noted the closest conventional counterpart to the Green Treasury Bond – the May 2034 bond – likely exhibits a positive liquidity premium due to its inclusion in the 10-year futures basket.

4 These estimates are highly uncertain given the small number of labelled bonds outstanding towards the beginning of the sample period and should be viewed as illustrative rather explicit estimates of the greenium. For more information on the aggregation method, see Arsov, Brooks and Kosev (2013).

# References

Agliardi E and R Agliardi (2021), 'Corporate Green Bonds: Understanding the Greenium in a Two-Factor Structural Model', *Environmental and Resource Economics,* 80(2), pp 257–278.

Ando A, C Fu, F Roch and U Wiriadinata (2023), 'How Large is the Sovereign Greenium?', IMF Working Paper No 2023/080.

AOFM (2023), 'Australian Government Green Bond Framework', December.

Armour C, D Hunt and J Lwin (2023), 'Green and Sustainable Finance in Australia', RBA *Bulletin*, September.

Arsov I, M Brooks and M Kosev (2013), 'New Measures of Australian Corporate Credit Spreads', RBA *Bulletin*, December.

Bahra B and Q Zhu (2024), 'O 'Greenium', Where Art Thou?', JP Morgan Portfolio Insights.

Buchmuller P, S Reder and A Wein (2023), 'The Greenium. The Pricing of Green Bonds', Frankfurt School of Finance and Management Blog.

Cheng G, T Ehlers and F Packer (2022), 'Sovereigns and Sustainable Bonds: Challenges and New Options', BIS *Quarterly Review*, September.

Cheng G, T Ehlers, F Packer and Y Xiao (2024), 'Sovereign Green Bonds: A Catalyst for Sustainable Debt Market Development?', IMF Working Paper No 2024/120.

Doronzo R, V Siracusa and S Antonelli (2021), 'Green Bonds: The Sovereign Issuers' Perspective', Bank of Italy Markets, Infrastructures, Payment Systems Working Paper No 3.

Harrison C, Cartridge and A Tripathy (2020), 'What's in a Greenium: An Analysis of Pricing Methodologies and Discourse in the Green Bond Market', *The Journal of Environmental Investing*, 10(1), pp 64–75.

Hughes A (2024), '50 Shades Greener', Speech at Australian Business Economists Luncheon, Sydney.

KangaNews (2024), 'AOFM's Green Debut Achieves Greenium but Book Size Fails to Excite'.

Liberati D and G Marinelli (2021), 'Everything You Always Wanted to Know About Green Bonds (But Were Afraid to Ask)', Bank of Italy Occasional Paper No 654.

Parry B (2024), 'Green Treasury Bonds: Financing Australia's Net-zero Transition', CEDA, July.

Pietsch A and D Salakhova (2022), 'Pricing of Green Bonds: Drivers and Dynamics of the Greenium', European Central Bank Working Paper Series No 2728.

Treasury (2023), 'Sustainable Finance Strategy', Consultation Paper, November.