

Australian Financial Markets and Climate Change



RESERVE BANK OF AUSTRALIA

Carl Schwartz^[*]

Head of Domestic Markets (Acting)

Risk Australia

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It is a pleasure to be here with you at the Risk Conference.

Last week, the Reserve Bank released its latest *Statement on Monetary Policy*. As usual, it went through some of the key risks currently facing the Australian economy, with a focus on the forecast horizon of the next two to three years.

Today, however, I will focus on some Australian financial market developments that are responding to risks that extend well beyond that time frame – the risks from climate change.

The Reserve Bank seeks to understand the implications of climate change, and the efforts being made to address it, as these are relevant to our objectives around the economy, financial stability and the welfare of the Australian people. Our understanding of climate-related issues has benefited enormously from the work of others, as well as from feedback provided on our own work. In that spirit, today I will be sharing some material from an upcoming *Bulletin* article on 'Green and Sustainable Finance in Australia'.

In considering Australian financial markets and climate change, I will focus on three main areas:

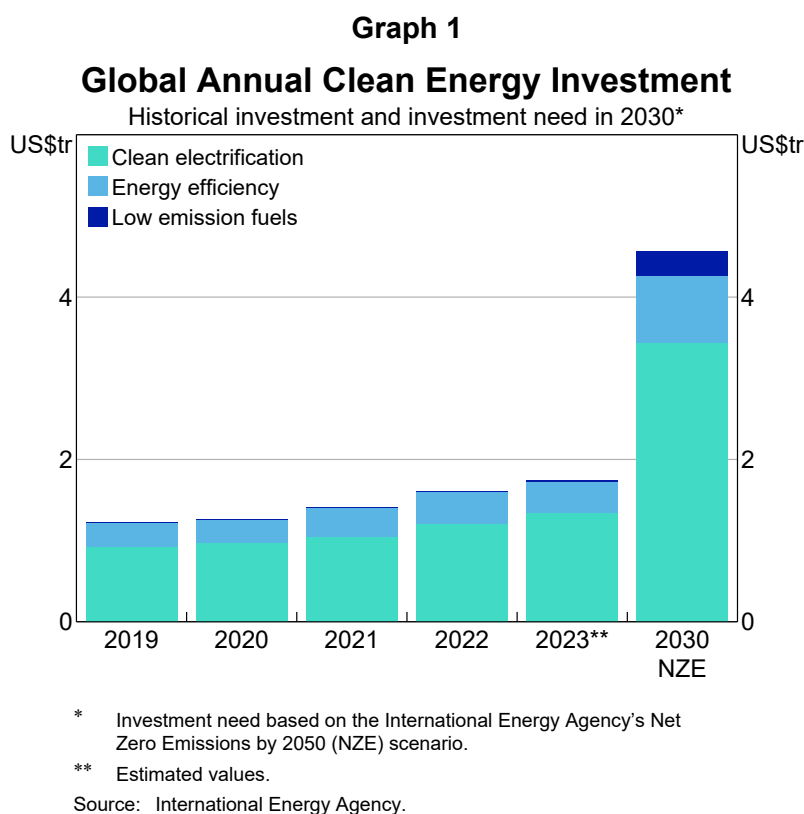
1. why financial markets have an important role to play in addressing climate risk
2. how some Australian financial market activity has responded to date
3. the outlook for green and sustainable finance in Australia and measures being taken to support it.

The global task ahead

Climate scientists warn that carbon emissions are heating the planet and the rise in global temperatures is already having profound effects on our climate and weather patterns. World leaders agree that emissions must be reduced. And so, many countries, Australia included, have agreed to meet a target of net zero emissions by 2050.

Globally, massive investment is required for the necessary structural changes to meet this target. A sense of the scale of this challenge can be taken from estimates in the latest International Energy Agency (IEA) report.^[1] For clean energy alone, by 2030 annual investment will have to be running at around three times the current pace – which has already increased substantially in recent years (Graph 1). Furthermore, earlier IEA work has highlighted that this elevated pace will need to be substantially maintained from 2030 through to 2050 to meet the net zero

commitment.^[2] While the investment needed to transition to a low carbon energy system globally is huge, inaction on climate change will be far more costly in the long run.



Australia is very much part of the global increase in investment required to facilitate these changes. We currently have carbon-intensive electricity generation. But we also have large natural endowments that can help facilitate the transition ahead. This includes wind and solar renewable energy – where investment has already grown strongly in recent years.

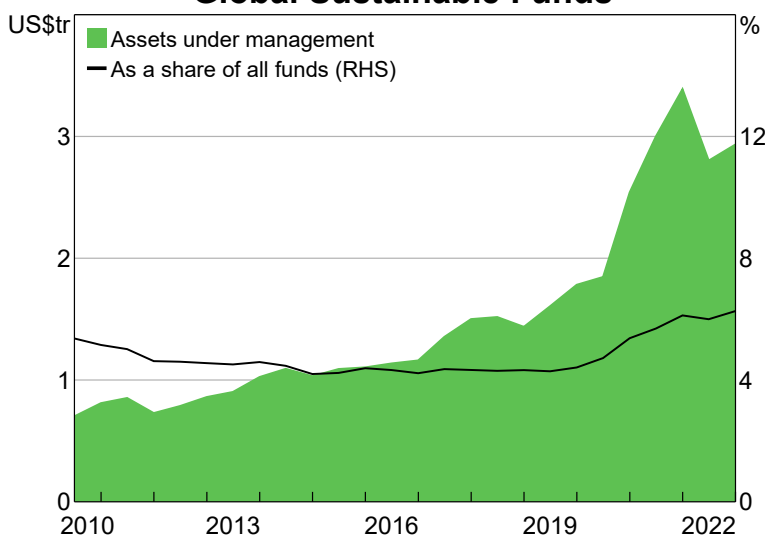
So, how will this massive increase in global investment be financed?

Positively, there is large and growing interest from investors in the opportunities afforded by green and sustainable investment. Investors are attracted by the broader welfare benefits of addressing the risks of climate change, as well as the fact that they can be a smart financial decision. The transition presents both risks and opportunities and investors want to be on the right side of this equation.

A tangible sign of this interest is the big increase in global flows to investment funds that are mandated to invest in green or sustainable investments. Data compiled by the OECD show global assets under management for ‘sustainable funds’ totalled around US\$3 trillion in 2022 – a roughly fourfold increase since 2010 (Graph 2).^[3] While this is a fairly small share – only 6 per cent – of total assets under management, many investors outside of sustainable funds also have considerable interest in investments with sustainable characteristics.

Graph 2

Global Sustainable Funds*



* Classification based on name and prospectus according to Morningstar definition.

Source: OECD based on Morningstar.

Financial markets will be critical for mobilising funds from savers to finance the massive increase in investment required. Against that backdrop, let us consider some recent financing trends in Australia.

Some developments in Australian financial markets

Over the past decade, there has been considerable growth in Australian green and sustainable financing markets. My focus today is primarily on ‘green’ finance – a subset of the broader ‘sustainable’ finance category, which also encompasses social projects. I will discuss four green areas of financial markets in particular – green bonds, green loans, green securitisations and ethical funds.

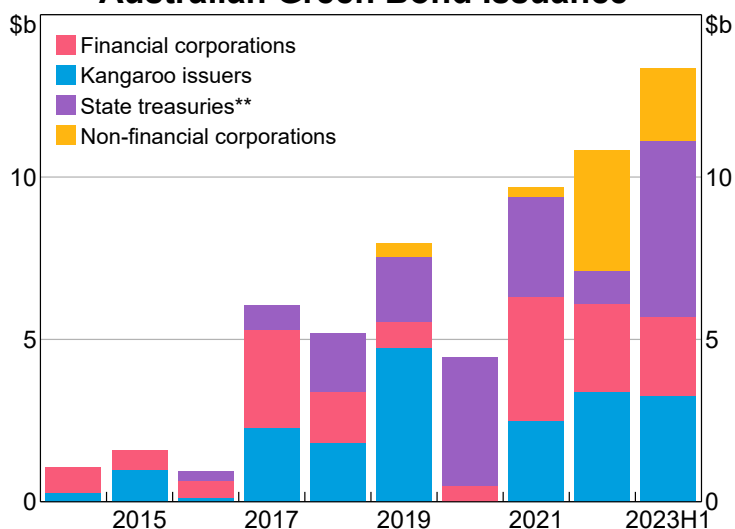
Green bonds

Broadly speaking, green bonds are bonds issued to fund projects that are beneficial to the environment or climate. Some examples include clean transportation projects, energy efficiency projects and green construction and/or green modifications to buildings – in fact, these have been the main uses of green bonds in Australia. For classification as ‘green’, issuers and investors have tended to rely on voluntary guidelines developed by international not-for-profit organisations, such as the International Capital Market Association’s ‘Green Bond Principles’ and the Climate Bonds Initiative’s ‘Climate Bond Standard’.

The Australian green bond market has grown quickly since its inception in 2014, though it remains a modest share of the overall bond market (Graph 3). Over \$10 billion of green bonds were issued in 2022 – the highest annual amount on record to that point. And then, in the first half of 2023 alone, that amount was exceeded as new issuers continued to enter the market.

Graph 3

Australian Green Bond Issuance*



* The data only include bonds specifically identified as 'green bonds' and do not include other sustainable issuance types.

** Includes taps of bond lines.

Sources: Bloomberg; RBA; Refinitiv.

The volume is made up of a broad range of issuers.

Kangaroo green bonds – Australian dollar bonds issued into the Australian market by a non-resident organisation – have comprised around one-third of total issuance since 2014.^[4] These issuers are largely supranational organisations that have been early issuers in green bond markets around the world, including in Australia.

Australian state treasury corporations have also been large issuers of green bonds.^[5] Some of the projects funded by these bonds include the Parramatta Light Rail, the Sunshine Coast Solar Farm and Melbourne Water's Western Treatment Plant.

Australian banks have been consistent green bond issuers over the past decade, both domestically and offshore. Non-financial corporations have also issued in these markets, though to a lesser extent.

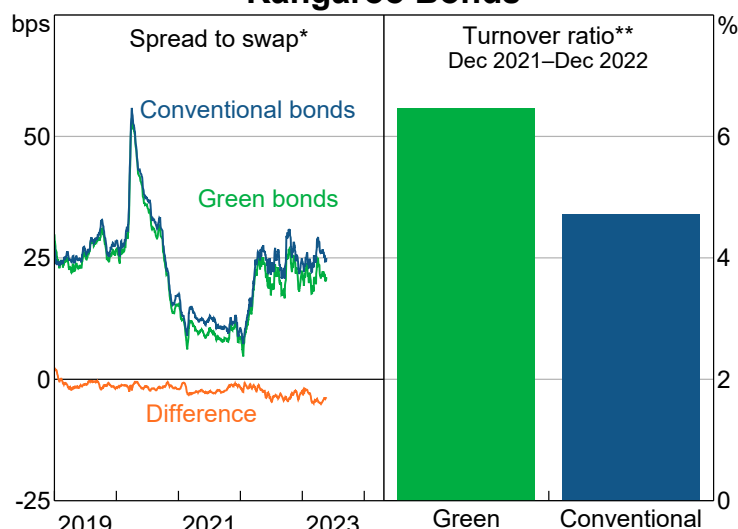
Looking ahead, the Australian Government has announced plans for an inaugural sovereign green bond issuance in 2024 and work on this is well underway.^[6]

The strong growth in the market reflects strong interest from both issuers and investors. Pricing and liquidity of green bonds relative to conventional bonds is clearly an area of keen interest for both groups.

There is some evidence from international markets that green bonds can attract investors at lower yields than their non-green counterparts – a so-called 'greenium'.^[7] Previous research has explained this as reflecting investor preference for socially responsible investments.^[8]

Some indication of relative pricing can be taken from the kangaroo market, which has enough bonds to support such a comparison (Graph 4).^[9] If we treat the AAA-rated kangaroo bond pools as broadly comparable and account for differences in tenor and face values, we do find some indication of a mild 'greenium' for green kangaroo bonds.^[10] However, this may reflect their European orientation – given that many of the supnationals are from Europe and a greenium has been found to apply in some European markets – rather than a broader phenomenon across the Australian market.

**Graph 4
Kangaroo Bonds**



* Lines represent a seven-day moving average.

** A security's turnover ratio is defined as the value of the security traded over a given period divided by the total value outstanding for that security.

Sources: ASX Information Services; Bloomberg; RBA; Refinitiv.

There is also some international evidence that green bond markets are less liquid than their conventional counterparts.^[11] An indication of difference in liquidity for kangaroo bonds can be determined by looking at last year's turnover data from Austraclear. These data suggest that green kangaroo bonds are no less liquid than conventional bonds, with the turnover ratio in the period slightly higher in fact.

Green loans

Green loans are offered by some Australian banks and non-bank lenders for finance across a range of products, including residential property, automobiles, commercial property and equipment, and 'personal' expenditure. Though data are hard to come by, numerous reports suggest that interest and activity in green loans has considerable momentum.

To receive a green loan, the asset to be funded must meet eligibility criteria to show it is contributing to an environmental objective. In exchange, borrowers might receive a discount on their interest rate. For the lender, there may be longer term credit benefits – for example, if the energy efficiency of a green residential property reduces ongoing costs it might then increase debt serviceability.

As with green bonds, there is currently no centrally administered definition for what constitutes a 'green loan' in Australia. Classifications can differ between lenders depending on their own sustainability framework. However, Australian lenders have somewhat come together around green loan definitions and use similar criteria. For example, in the case of green mortgages, most lenders require properties to have solar energy systems or to be within a certain age range. In many cases, external certification based on energy usage and efficiency of buildings is also obtained.

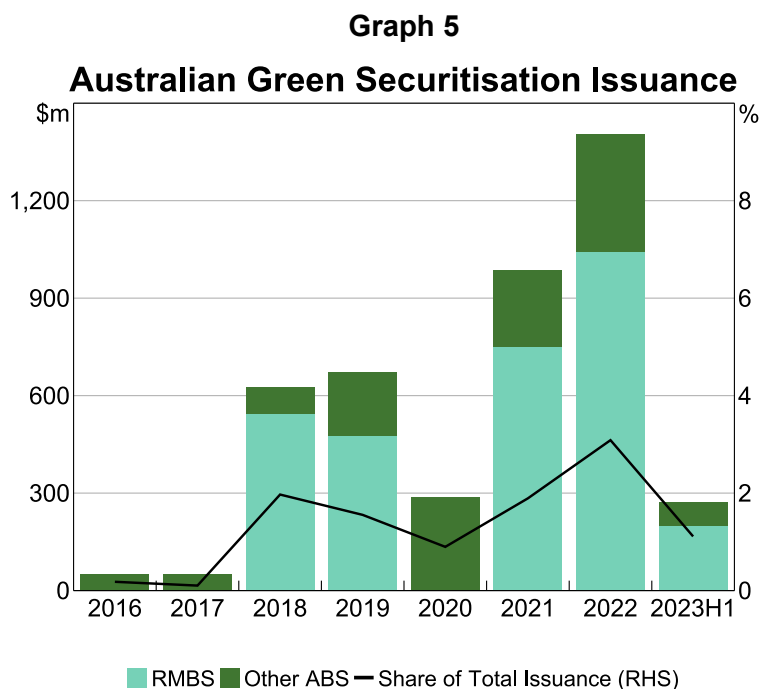
Given the importance of bank lending in the Australian financial system, green loans are an attractive prospect for assisting in the green transition. In particular, given the size of household lending and residential emissions – residential buildings contribute more than 10 per cent of Australia's carbon emissions – there is considerable potential to make a meaningful reduction to overall emissions.^[12] Towards this goal, the Australian Government has recently allocated additional funding to the Clean Energy Finance Corporation to provide discounted consumer finance.^[13] It has also announced plans to expand the Nationwide House Energy Rating Scheme to

provide energy ratings for existing dwellings in addition to new ones. This stands to substantially increase the pool of loans with information relevant for sustainable finance.

Green securitisations

Green loans are the collateral for green asset-backed securities (ABS) – or ‘green securitisations’.

Issuance patterns in the green ABS market have followed a similar trajectory to green bonds, albeit on a smaller scale. Volumes have grown following the first green ABS issuance in 2016, hitting a record \$1.4 billion of green-labelled ABS in 2022. That said, volumes have slowed a little in 2023 to date (Graph 5). As a proportion of total issuance, green securitisations have also grown but remain quite low.



Sources: KangaNews; RBA; Westpac.

The Australian Securitisation Forum’s ‘Market Guideline on ESG Disclosure’, released in May 2022, sets out industry-developed, principles-based guidelines to standardise green securitisations. It makes no recommendations on the criteria used for green classification, leaving these to the issuer’s discretion. It does, however, recommend broad disclosure of the attributes of the green loans being securitised, the green lending criteria and the criteria of any external certification used. So, it is a very flexible arrangement.

Ethical funds

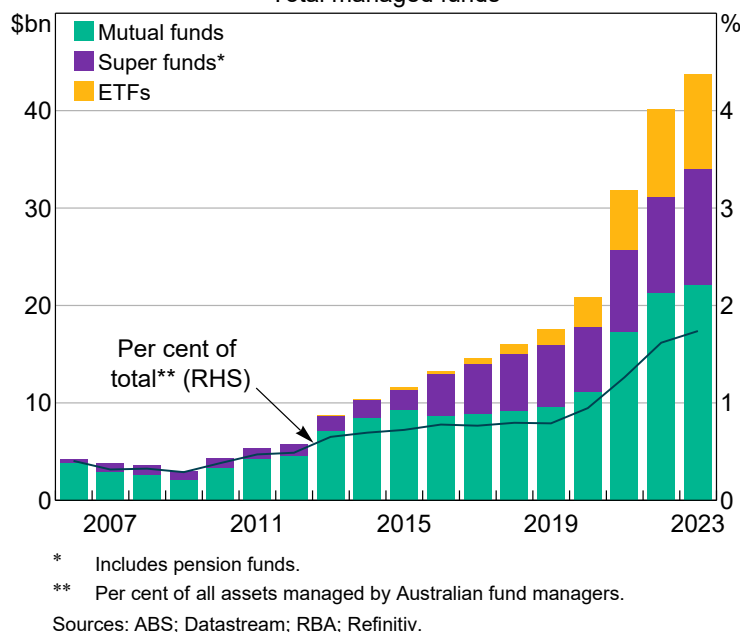
In equities markets, there is no equivalent concept to green bonds and loans that are identified through a direct link to the characteristics of the underlying asset. An equity, by contrast, is a share of a company, which may engage in both green and other activities.

Some broad indication of ‘green’ interest in equities can be taken from ‘ethical funds’. These are managed funds that advertise a broad ethical mandate which usually incorporates green aims and investment strategies. Ethical funds primarily invest in equities, but they also maintain smaller investments in fixed-income, property and alternative assets.

By this measure, ethical funds first appeared in Australia in the 1980s, but growth has been picking up of late (Graph 6). In the past five years, the number of new ethical funds being launched has doubled relative to the previous five years (Graph 6). Ethical Exchange Traded Funds (ETFs) also emerged in the past decade, with about

30 ethical ETFs currently trading on Australian exchanges today. Since 2008, ethical funds have grown significantly both in dollar terms (to around \$45 billion) and as a share of total managed funds, though this share remains modest at less than 2 per cent.

Graph 6
Australian Ethical Funds
Total managed funds



The road ahead in Australia

These developments across a range of markets are positive signs that issuers and investors alike are embracing green and sustainable finance in Australia. Market participants have developed mechanisms by which to identify environmentally beneficial activity and funding has flowed. Both green financing activity and flows to sustainable investment funds have shown strong momentum in recent years.

That said, financing for sustainable activities will need to increase substantially in the period ahead if we are to decarbonise and meet net zero goals. Recognising this, there are various activities underway to further develop Australia's sustainable finance framework. Many of these measures focus on supporting the quality and consistency of sustainability-related information.

The Australian Government has proposed mandatory climate-related financial disclosures for large businesses and financial institutions, with the aim of promoting greater transparency on how firms are responding to climate change and contributing to the net zero transformation. Treasury recently concluded a second consultation on this issue.

Additionally, the Australian Government will support the development of an Australian sustainable finance taxonomy, in partnership with industry through the Australian Sustainable Finance Institute. The taxonomy will provide a set of common definitions for sustainable activities, which can then be used to help guide capital to support the transition to net zero in Australia.

In other work, the Australian Securities and Investment Commission (ASIC) is actively working against 'greenwashing' – the practice of misrepresenting the extent to which a financial product or investment strategy is environmentally friendly, sustainable or ethical. ASIC is addressing this by promoting awareness of the regulatory expectations, undertaking surveillance and, where necessary, taking action to enforce standards

The Australian Prudential Regulation Authority (APRA) is seeking to ensure that APRA-regulated institutions manage the risks and opportunities that arise from a changing climate, just as they would with other types of risks. This reinforces banks, insurers and superannuation funds' own interest in assessing, measuring and managing the various risks and opportunities arising from climate change and Australia's shift to net zero.

For our part, the Reserve Bank is closely following these developments and contributing through our role on the Council of Financial Regulators Working Group on Climate Change. We continue to increase our understanding of the implications of climate change for the Australian economy and financial system, via internal analysis and external engagement. We are also committed to improving the environmental performance of our own operations. And we are also considering what sustainability and climate-related financial disclosures we can make, starting with operational emissions reporting in line with Department of Finance guidelines in our 2022/23 Annual Report.

Conclusion

Addressing climate change by transitioning to net zero emissions is a massive challenge requiring profound and sweeping changes across the globe. Australian financial markets have taken some steps to help facilitate flows of capital to sustainable investment, although the financing task ahead looms large. Improving data and transparency around climate risks and sustainability will support efforts in financial markets to align investment with climate goals for the net zero path ahead.

Thanks for your time.

Endnotes

- [*] Thanks to members of the Reserve Bank's Climate Analysis and Policy team for valuable assistance, particularly Cameron Armour, Declan Hunt and Jeremy Lwin. I draw heavily from their forthcoming article: Armour C, D Hunt and J Lwin (2023), 'Green and Sustainable Finance in Australia', *RBA Bulletin*, September.
- [1] International Energy Agency (2023), 'World Energy Investment 2023', May. Note that clean energy investment needs do not necessarily represent additions to investment in the energy sector that would otherwise be required without the transition to a lower emissions world. For example, investment in renewables will replace investment in fossil fuels.
- [2] International Energy Agency (2021), 'Net Zero by 2050: A Roadmap for the Global Energy Sector', May.
- [3] OECD (2023), 'Towards Orderly Green Transition: Investment Requirements and Managing Risks to Capital Flows'.
- [4] A kangaroo issuer is defined as a non-resident organisation issuing a bond denominated in Australian dollars into the Australian market. For further details, see Bergmann M and A Nitschke (2016), 'The Kangaroo Bond Market', *RBA Bulletin*, June.
- [5] In recent years, they have also been active in 'sustainability bonds' – a broader category encompassing green and social projects. For some states, sustainability issuance exceeds green issuance.
- [6] See Hughes A (2023), 'A Break in the Weather', Speech to Australian Business Economists Luncheon, Sydney, 15 June.
- [7] See Ando S, F Chexu, F Roch and U Wiradinata (2023), 'How Large is the Sovereign Greenium?', International Monetary Fund Working Paper No 2023-080.
- [8] See Löffler, K.U., Petreski, A. & Stephan, A. Drivers of green bond issuance and new evidence on the "greenium". *Eurasian Economic Review* 11, 1–24 (2021). <https://doi.org/10.1007/s40822-020-00165-y>
- [9] There are two main approaches to identifying the presence of a greenium: i) comparing the yields on green and non-green 'pairs' of bonds by the same issuer, where the two bonds share similar characteristics and are issued at the same time; or ii) through model-based approaches. There has yet to be an example of a 'pair' of green and non-green bonds in Australia and, given the still small number of green bonds issued here, model-based approaches would warrant some caution.
- [10] For the method of aggregation used, see Arsov I, M Brooks and M Kosev (2013), 'New Measures of Australian Corporate Credit Spreads', *RBA Bulletin* December.
- [11] Fender I, M McMorrough, V Sahakyan and O Zulaica (2019), 'Green Bonds: The Reserves Management Perspective', *BIS Quarterly Review*, September.

- [12] See Department of Climate Change, Energy, the Environment and Water (2022), 'Residential Buildings'. Available at <<https://www.energy.gov.au/government-priorities/buildings/residential-buildings>>.
- [13] See Clean Energy Finance Corporation (2023), 'Household Energy Upgrades Fund'. Available at <<https://www.cefc.com.au/where-we-invest/special-investment-programs/household-energy-upgrades-fund/>>.