Speech

Climate Change and Central Banks

RESERVE BANK OF AUSTRALIA

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Deputy Governor

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Thank you for the invitation to deliver this year's Sir Leslie Melville Lecture.

Melville is of course renowned for his contribution to the establishment of central banking in Australia. On that front it is a challenging time as we seek to return inflation to target in a reasonable timeframe and to preserve gains in the labour market – something that I am sure Melville would have approved of. I will have plenty of opportunities to address these important issues over the months ahead. But in this memorial lecture today, before I take up the position of Governor, I would like to address another critical issue regarding the future – climate change, its impact on the economy and implications for monetary policy.

Right up to the end of his long life, Melville was an avid consumer of news, not only economic and financial news, but also scientific news. He was noted for his preparedness to speak on contemporary policy issues, including those for which solutions were difficult and opinions divided.[1] I therefore think Melville would have been very engaged with the issues I will address in this lecture.

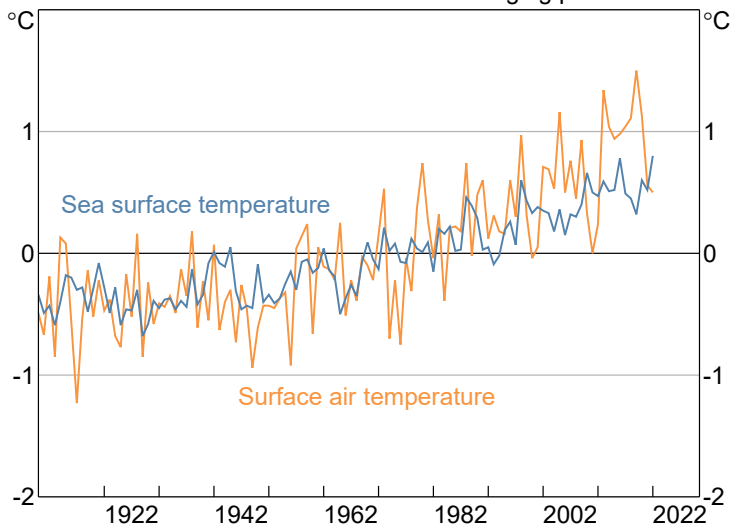
There is another, more personal reason why I feel particularly pleased to be giving this lecture. As you know, I was recently appointed the next Governor of the Reserve Bank of Australia – the first female to hold this position. But from what I know of Sir Leslie Melville, he was ahead of his time in terms of recognising women economists. Soon after he was appointed the Bank's first Economist in 1931, he made the rather progressive move of recruiting (Mary) Willmott Debenham as the Bank's Assistant Economist.[2] In what was standard practice at the time, Debenham had to resign after she married. Nevertheless, I like to think that Melville would be pleased to see that a woman has now become the Governor and that there are many excellent female economists in the Reserve Bank.

Like the rest of the world, Australia's climate is changing. Recent years have been warmer than any multi-year period on record, with more days of extreme heat and intense rainfall events (Graph 1). In coming decades, Australia is projected to experience further increases in temperatures and intense rainfall events, while some parts of the country will receive less rainfall.[3]

Graph 1

Annual Mean Temperature Anomaly in Australia

Deviation from the 1961–1990 averaging period



Source: Bureau of Meteorology.

Policymakers, businesses and households, here and overseas, are increasingly taking actions to reduce greenhouse gas emissions. Around 150 countries have now pledged to reach net zero emissions – whereby emissions produced, and emissions removed from the atmosphere are in balance. These 150 countries make up 92 per cent of global GDP and contribute 88 per cent of total emissions.[4]

Climate change and the actions taken in response will have broad-ranging implications for the economy, the financial system and society at large. As the Review of the Reserve Bank has helpfully reinforced, climate change will have implications for price stability, employment and the stability of the financial system.[5] As such, it is worth discussing how the Bank is considering the impacts of climate change on our policy mandates.

I will start by discussing how more frequent and severe weather events and the global transition to net zero could affect the setting of monetary policy. I will then talk about how we are monitoring the impact of climate change as it relates to financial stability, and the work underway by Australian financial regulators to help financial markets and institutions to manage climate risks and opportunities.

Climate-related economic and financial risks

Navigating uncertainty is an inherent part of the work of a central bank. But the uncertainty around climate change is particularly acute. There is not only uncertainty around exactly how the climate will change but also around how this will affect the economy and financial system. The timing and intensity of effects are uncertain, and these could be severe and irreversible if tipping points are reached.[6] In addition, it is unclear how the policies, preferences and technologies associated with climate mitigation will evolve.

The economic and financial risks arising from climate change are typically divided into two types:

- **Physical risks** – including both the impact of more frequent and extreme weather events such as fires, floods, droughts and cyclones, as well as gradually emerging effects on temperature, rainfall and sea level.
- **Transition risks** – arising from the actions taken in response to climate change. These can include policy actions, technological innovation or people's preferences, here and overseas.

Actions taken to address climate change will ultimately reduce physical risks, but their timing and sequencing could increase some transition risks associated with a move to a lower emissions economy.

These climate risks will affect the economy through several channels. Hotter temperatures and more extreme weather will disrupt businesses, damage property and lower productivity growth. Actions taken to reduce emissions may present adjustment costs, but they will also present opportunities. Indeed, while there is much uncertainty in this area, there is general agreement that a timely and orderly transition will be the less costly approach in the long run.

Impact on the economy and relevance to monetary policy

The Bank sets monetary policy according to a flexible inflation target of between 2 and 3 per cent. To consider the implications of climate change for monetary policy, the Bank needs to understand how the physical effects of a changing climate and the transition to a lower emissions economy will affect inflation and its determinants. Many of the physical and transition impacts of climate change affect the supply side of the economy. While monetary policy works primarily by influencing the level of demand and expectations of inflation, supply-side developments also need to be considered. As well as short-term effects on supply, climate change may also have an impact on longer run concepts like potential output and the neutral real interest rate, which can help to inform assessments on the appropriate stance of monetary policy.

To illustrate these points, I'll step through some examples of how physical and transition risks are affecting the economy, and how we might think about these from the perspective of monetary policy.

Physical risks

In the short run, many of the physical effects of climate change can be treated as a negative supply shock. The standard view is that monetary policy should largely look through short-term supply shocks. For example, inclement weather might disrupt production or supply chains, resulting in a temporary increase in prices. But then weather conditions improve, production recovers and the impact on prices wanes. If inflation expectations remain anchored, inflation should return to target when the shock dissipates. However, if these disruptions become more frequent, severe or protracted due to climate change, prices could become more volatile, or if there are persistent adverse effects on productive capacity, remain higher for longer. The longer inflation is allowed to remain high, the greater the risk that expectations will drift higher, and the greater the real economic costs will be of bringing inflation back down.

At the Bank, we are familiar with thinking about the impact of natural disasters on the economy and the implications for monetary policy. The *Statement on Monetary Policy* has included boxes on the impact of flooding in 2011 and 2022, and the impact of droughts and bushfires in 2020.[7] These boxes document the effects of these events on the farm sector and the production of commodities, on transport and logistics, as well as the destruction of homes, businesses and infrastructure.

Looking at past episodes for agricultural production, as an example, shows that some supply shocks dissipate quickly, while others can be more persistent. In general, agricultural production is well diversified across Australia, production cycles are short or there are alternative sources to be drawn upon. As a result, it is rare for a single commodity to suffer a prolonged large loss of supply and to have a persistent impact on prices.

That said, the spike in banana prices observed following Cyclone Larry in 2006 and Cyclone Yasi in 2011 temporarily boosted measured inflation by around 0.7 percentage points on each occasion. This happened because bananas are mostly grown in only a few areas in North Queensland, have a relatively long production cycle and are not imported. On a longer and more widespread scale, drought conditions between 2018 and 2020 saw many parts of the country experience high temperatures and well below average rainfall. This reduced the domestic supply of some food items, placing upward pressure on cereal, milk and meat prices (Graph 2).[8]

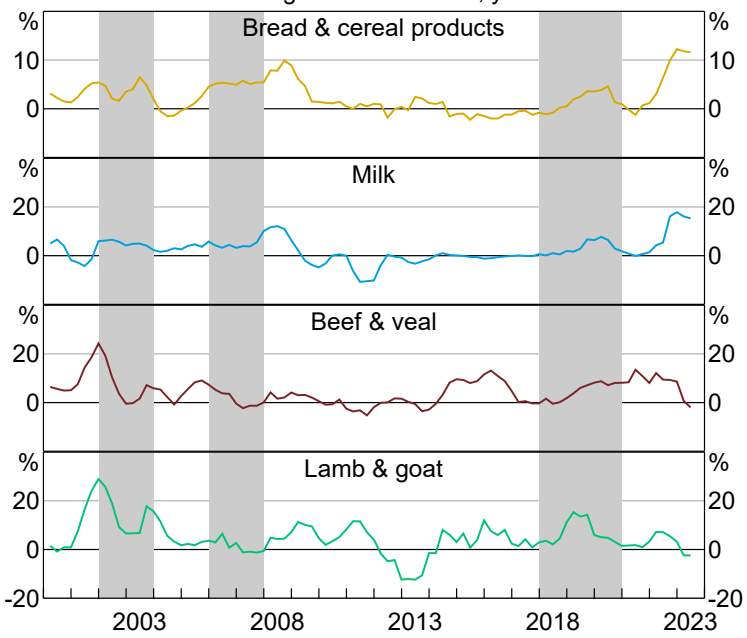
These examples are about cycles in the weather. Climate change, however, is a trend change. Longer run shifts in temperature and changes in water availability are likely to have implications for the viability of agriculture in

some regions and for some crop types. Physical risks may, therefore, lead to structural changes in industry composition.

Graph 2

Drought and Food Inflation*

Selected drought-affected items, year-ended



* Shaded areas represent selected periods associated with drought events; adjusted for the tax changes of 1999–2000.

Sources: ABARES; ABS; RBA.

Extreme weather events can also affect aggregate demand. Temporary disruptions or related uncertainty might lead to lower investment or household spending for a time, although spending could rebound if there is a need to rebuild infrastructure or residential or commercial property. This in turn, however, could divert investment from potentially more productive opportunities that could have been pursued in the absence of the disruption.

More extreme weather events could lower employment if physical assets are destroyed and the capital stock is reduced. Higher temperatures could adversely affect the health of workers, particularly those working outdoors, and so weigh on productivity.[9] Unemployment could be persistently higher if people are unable or unwilling to leave a region that has suffered from extreme weather and related job losses. Climate impacts vary significantly across regions – an impact may be small in aggregate, but extreme for a local community.

Transition risks

Turning to transition risks, mitigating climate change by putting in place policies to reduce emissions will impact the prices faced by households and businesses. This will lead to structural shifts in output and employment as some carbon-intensive economic activities become unprofitable and others eventually take their place. How smoothly these changes occur will be important context for monetary policy.

It is important to note that monetary policy is not a *driver* of this transition. Fiscal and regulatory policies are better suited to the task of facilitating the transition to a low-emissions economy. The most helpful contribution monetary policy can make is to focus on maintaining stable long-term inflation expectations. This approach recognises the flexibility embedded in the inflation target, which means that monetary policy need not overreact to short-lived price shocks.

The implications of the transition for the economy will depend on the specific policy measures put in place, changes in consumer preferences, the availability of technologies, and the timing and speed of the process. The

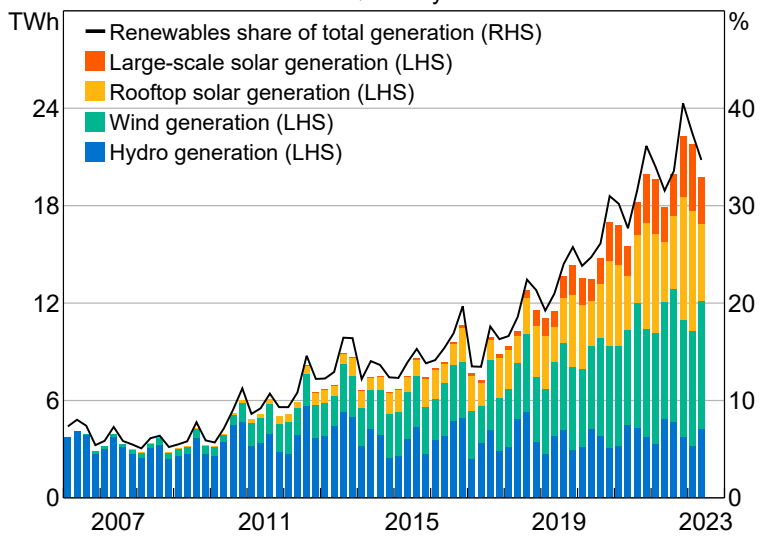
phase-out of carbon-intensive production may reduce aggregate supply temporarily. But investment in alternative production methods will boost aggregate demand. Depending on how this transition plays out, if the net effect is to temporarily lower aggregate supply, this would put upward pressure on inflation.

To illustrate the possible economic impacts of the transition, let us consider developments in electricity generation. Globally, policies are being put in place to lower emissions which will make it more expensive to use fossil fuels to produce electricity. In addition, costs of wind- and solar-generated electricity have decreased markedly over the past decade. As a result, renewables generation is growing rapidly, though from a low base. In Australia, electricity generated by renewables – hydro, wind and solar – has increased almost sixfold since 2006 (Graph 3). The share of electricity generated from fossil fuels has declined from around 90 per cent in 2010 to around 65 per cent today.

Graph 3

Electricity Generation by Renewables in Australia

Quarterly



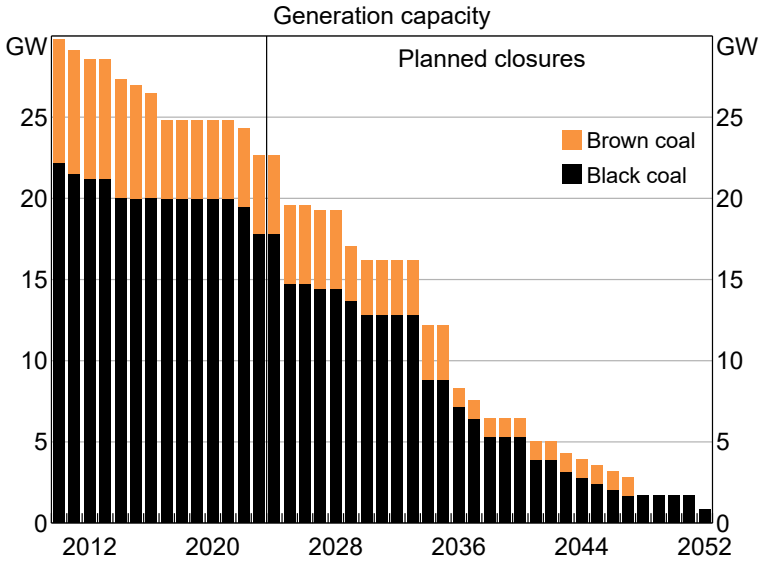
Sources: OpenNEM; RBA.

Coal-fired power plants are scheduled to be shut down over the next three decades (Graph 4). This could put upward pressure on energy prices if coal plant closures are not matched by renewables supply and storage. There is much uncertainty here. In recent years, some plants have brought forward their planned closure dates. Looking forward, coal plant closures may be delayed to ensure electricity generation is sufficient to meet demand. But this comes with other risks – for example, coal plants may be more prone to outages as the infrastructure ages. Furthermore, slower coal plant closures would require more rapid reductions in emissions in other sectors to meet national emissions targets.

Shifting the mix of energy generation towards a higher share of renewables also has flow-on effects. Renewable energy generation in Australia is weather dependant and is often best located in more remote parts of the country. So, alongside the large amount of investment required to generate electricity from wind, solar and hydro energy, investment and innovation will also be needed in energy storage and other firming capacity, and to upgrade, extend and adapt the transmission network in Australia. This investment will require a large workforce and a range of specialist skills.

Graph 4

Coal Power Plant Closures in Australia



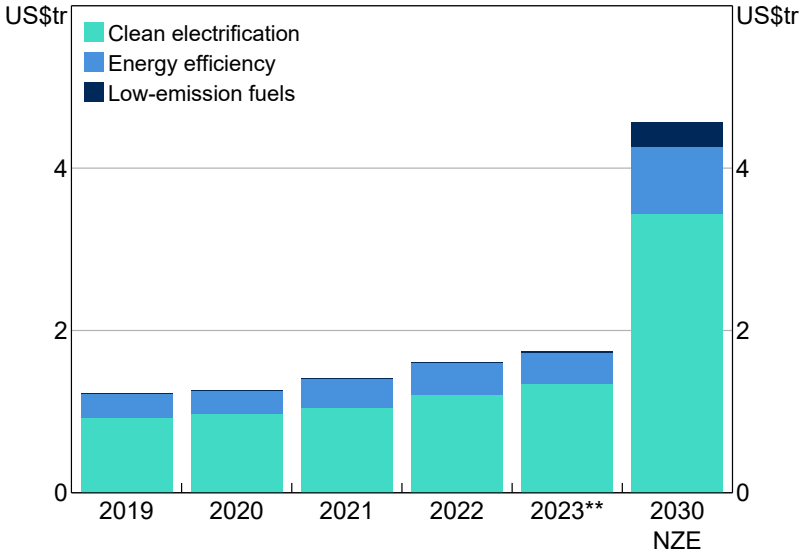
Sources: AEMO; OpenNEM; RBA; Synergy.

The extent of investment required is uncertain because it depends on the pace and ambition of Australia's transition path and because the costs for inputs could change considerably over time. New technologies will also likely emerge that could reduce costs and increase efficiencies. The public estimates for the investment needed in Australia over coming decades vary – but are all large. It is important to note that Australia's transition will occur in the context of the global transition – with all countries drawing on similar materials and labour skills – and at an increasing pace. To achieve net zero emissions globally, the International Energy Agency (IEA) estimates that by 2030 annual investment in clean energy will have to be running at around three times the current pace – which has already increased substantially in recent years (Graph 5).[10] If realised, this is expected to have some sizeable and possibly volatile effects on overall inflation.

Graph 5

Global Annual Clean Energy Investment

Historical investment and investment need in 2030*



* Investment need based on the International Energy Agency's Net Zero Emissions by 2050 (NZE) scenario.

** Estimated values.

Source: International Energy Agency.

On the other hand, the argument can be made that rapid adoption of renewables or faster-than-expected improvements in clean technologies could push energy costs down even more quickly than anticipated.[11] While renewable power plants have quite high fixed costs, their operating costs are very low owing to the zero cost of fuel (e.g. wind and sunlight). The costs of wind- and solar-generated electricity have decreased markedly over the past decade, driven by technological innovation as well as falling manufacturing and installation costs.[12]

Whatever the outcomes, trends in energy prices have significant effects on overall inflation. This is because energy prices have a sizeable direct impact on inflation, with retail electricity and gas prices accounting for around 3 per cent of the CPI basket. There are also indirect effects, as businesses can be expected to gradually pass on higher energy costs to the prices consumers pay for goods and services. So how the transition plays out for energy prices is going to be an important consideration for monetary policy over coming years.

The impact on Australia of global developments

When we think about the economic impacts of the transition to a lower emissions economy for Australia, we also need to consider the global dimension. Fossil fuels account for over one-third of the value of Australian exports – and most major Australian export markets have announced commitments to transition to net zero emissions. While the policies and technology required to achieve these goals are in many cases still being developed, in scenarios where net zero emissions is achieved by mid-century, there is a significant decline in demand for fossil fuels, including Australian coal exports (Graph 6). The 2023 Intergenerational Report shows that in a scenario where global action limits temperature risks to 1.5°C, the associated reduction in global demand for thermal coal could reduce Australia's exports to less than 1 per cent of current levels by 2063.[13]

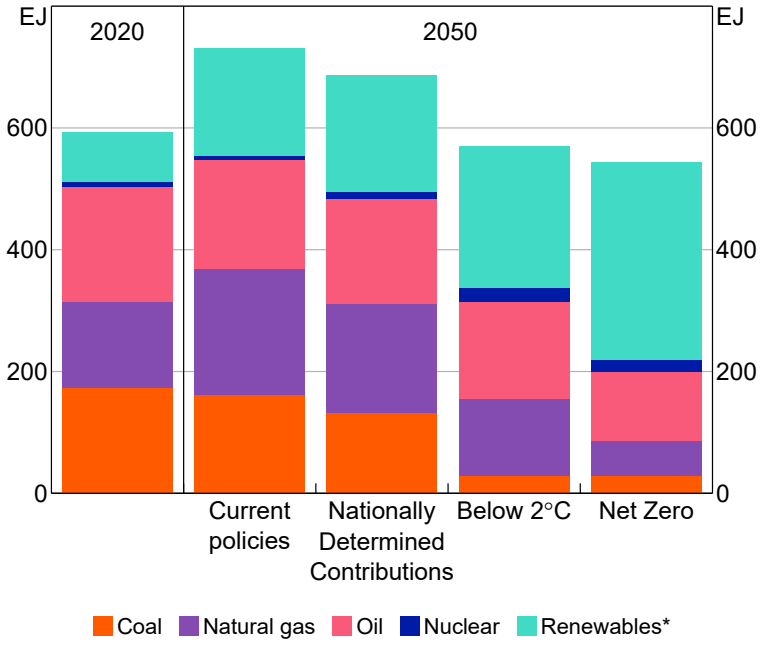
As discussed earlier, there is significant uncertainty associated with these scenarios – including around the speed and the means by which countries make progress towards their net zero targets, and future technological developments. Indeed, across the key benchmark scenarios developed by the Intergovernmental Panel on

Climate Change, the IEA, the Network for Greening the Financial System and others, there is significant variation in the speed and extent of coal phase out.

Graph 6

Global Primary Energy Consumption

Annual



* Includes solar, hydro, wind, geothermal and biomass.

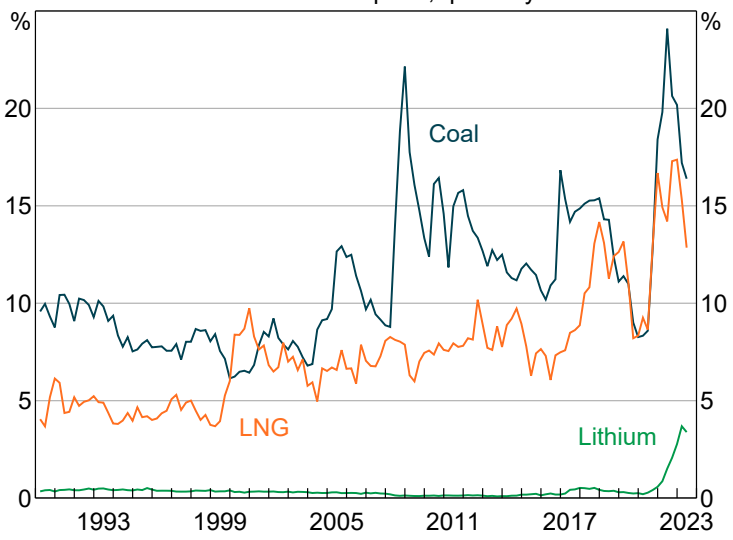
Sources: NGFS; RBA.

The impact of declining global demand for fossil fuels on Australia's exports could also be partly offset by opportunities in new low-emissions industries (Graph 7). For example, Australia has significant endowments of several of the minerals identified by the IEA as important inputs for the energy transition – including cobalt, lead, lithium, nickel, vanadium and zinc, which are used in products like batteries, solar panels and wind turbines.[14] Global demand for lithium is projected to increase significantly over the next 40 years, expanding Australia's potential export market.[15]

Graph 7

Selected Australian Resources Exports*

Share of total exports, quarterly



* Non-seasonally adjusted.

Sources: ABS; RBA.

Climate change and the setting of monetary policy

Finally, the climate-related economic effects discussed may affect the Bank's ability to assess the stance of monetary policy. This is because climate change might have important effects on an economy's capacity to produce goods and services – that is, on potential output. It might also affect the neutral interest rate and, therefore, the stance of monetary policy. These concepts are difficult enough to assess in real time in the normal course, let alone when climate change is introducing additional variability and uncertainty.

When demand and supply in the economy are in balance there is no pressure on inflation to rise or fall. As I have discussed, extreme weather and higher temperatures could reduce the level or growth in the capital stock and labour productivity, lowering supply. The impact of transition to net zero emissions is less clear. The relative price changes due to mitigation policies could make parts of the capital stock economically obsolete, reducing supply at least until it is replaced. On the other hand, these same relative price changes will support capital accumulation and technological innovation associated with low-emission activities, adding to potential output.

The neutral interest rate is the interest rate at which monetary policy is neither expansionary nor contractionary – and so it provides a conceptual benchmark for assessing the stance of policy.[16] The impact of climate change on the neutral interest rate is not clear cut.[17] In a world where significant climate risks materialise, households may be more likely to accumulate savings and firms may be less willing to invest, putting downward pressure on the neutral rate, and limiting the effective monetary policy space available to policymakers where interest rates are still positive. On the other hand, the extra investment required to replace capital stocks destroyed by more frequent natural disasters or to transition to a lower emissions economy could put upward pressure on the neutral rate.

On a broader scale, there is a question about whether climate-related trends could cause central banks to re-examine the relative merits of flexible inflation targeting. The RBA Review considered this question but found that flexible inflation targeting had served the Bank well and recommended its continued use. Nevertheless, I expect that debate will continue.

Impact on the financial system and risks to financial stability

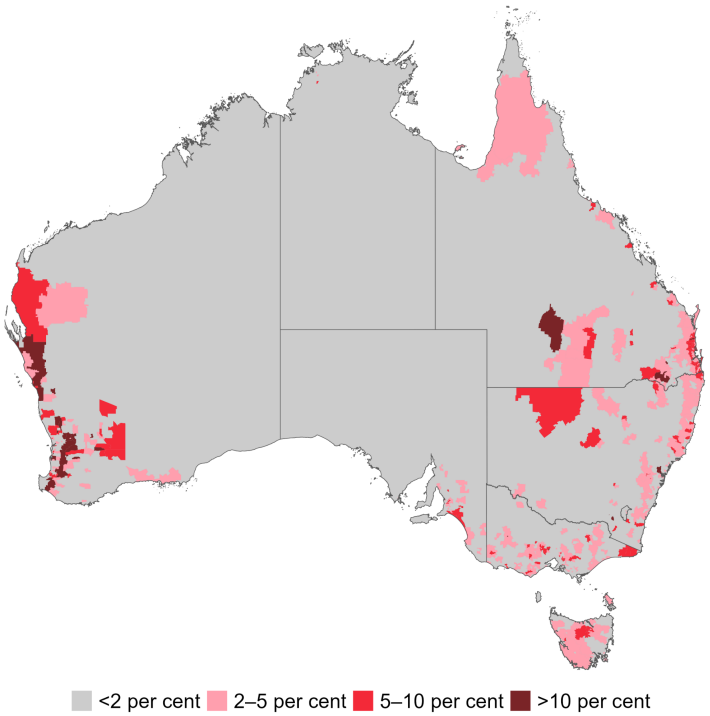
The physical and transition risks of climate change introduce both risks and opportunities for financial institutions. More intense weather events and higher average temperatures are likely to reduce the value of some assets and income streams. This could result in unexpected credit losses for banks, increased claims on insurers and write-downs to the value of financial investments. If not adequately managed, there could be implications for the stability of the financial system.

As part of the Bank's mandate to contribute to the stability of the financial system, we are monitoring the build-up of climate-related risks. We are also working with other members of the Council of Financial Regulators (CFR) to create a framework for financial system participants to manage their climate-related risks and opportunities.

Early analysis on climate-related risks to financial institutions by Australian financial regulators has focused on banks. Australian banks face climate risks primarily through their extensive exposure to residential mortgages. If climate change makes a home's location less desirable and significantly reduces its value, banks would then have less protection against default. Banks could also experience losses from transition risk associated with their exposure to carbon-intensive industries, through their lending to businesses in these sectors.

In analysis conducted by Reserve Bank staff, a macrofinancial stress-testing model was used to estimate how climate change might affect the banking sector, using two scenarios – one with severe physical risks, another with significant transition risks.[18] To capture the physical climate risks to residential housing, climate hazard data were used to measure the expected increase in insurance costs due to climate-related damage – such as more frequent flooding and more damaging cyclones – which were translated into housing price falls. As shown in Figure 1, around 7.5 per cent of properties are in postcodes that could see property prices decline by 5 per cent or more due to climate change by 2050.

Figure 1: Housing Price Effects of Physical Risk



* Estimated effect of increased climate hazard risk on housing values in 2050, by postcode, relative to current climate hazard risk.

Sources: ABS; RBA; XDI-Climate Valuation

This analysis was done as a complement to a Climate Vulnerability Assessment (CVA) led by the Australian Prudential Regulation Authority (APRA), which was conducted for the five largest banks over 2021 and 2022.[19]

Participating banks were provided with a high physical risk and a high transition risk scenario and assessed the implications for themselves and their counterparties using internal models and processes. The CVA results showed that losses on bank lending would increase in the medium-to-long term in both scenarios, but this would not cause severe stress. This was largely because lending losses were concentrated in specific regions and industries that represent only a small proportion of banks' overall lending exposures.

Do these results mean that we do not need to worry about the impact of climate change on financial stability? Unfortunately, no. These are early exploratory exercises that covered only some aspects of climate risk and were subject to a number of limitations. Firms and policymakers will need new and detailed data, capturing the varying effects of climate change across geographic locations and economic environments. Better reporting of climate risks will help. In addition, understanding climate risks has a forward-looking element, requiring the use of scenarios. More can be done to understand the range of possible outcomes, including looking at the distribution of outcomes as well as the central tendency, using a wider range of models and finding ways to capture second-round or 'spillover' effects.

While the early work has focused on banks, other participants in the financial system will also feel the impacts of climate change and require consideration. The insurance sector is of particular interest here. Insurers are most directly affected by climate change because they offer protection to customers against natural disasters. Australian insurance payouts have been rising in real terms over the past few decades (Graph 8). This increase is less apparent when claims are adjusted for the cost of rebuilding and the geographic distribution of population across Australia. However, more frequent or more severe weather events are expected to increase claims on damaged property and other assets.

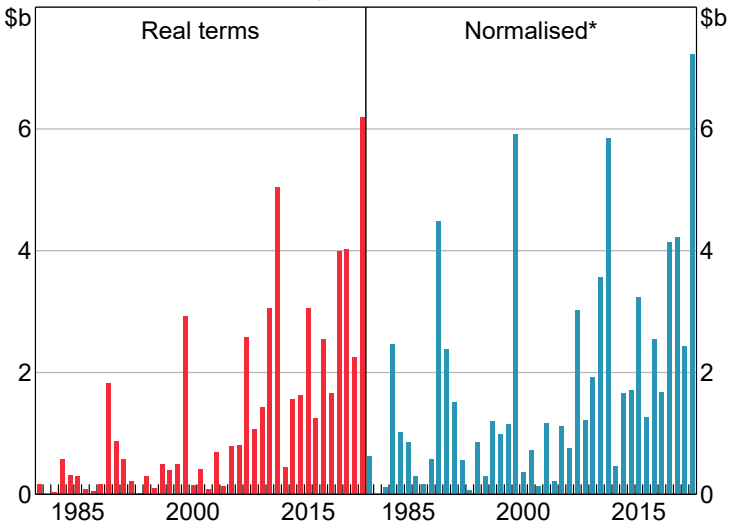
In contrast to banks, insurance contracts are typically renewed annually, so insurers can adapt their business more quickly to climate risks. They can pass on increased costs to their customers in the form of higher premiums. Or they may simply withdraw coverage from high-risk regions. While this manages the risk to the insurer, it passes it back to the household or business, or to the lenders in the case of loan defaults where affected assets are used as collateral. Indeed, the availability of insurance will influence the ability of businesses and households to recover from natural disasters, and hence could amplify the overall economic impact of these events.

To better understand the risks to the financial system that could occur due to changes in the cost and coverage of insurance, starting this year, APRA, on behalf of the CFR, will conduct a climate scenario analysis with insurers.

Graph 8

Insurance Catastrophe Payouts

Annual, in 2017 dollars



* Normalised to account for changes in building codes, costs, population and demographics.

Sources: Insurance Council of Australia; RBA.

More broadly, members of the CFR are working together to create a framework to enable participants in the financial system to manage their climate-related risks and opportunities, which will support the transition to a lower emissions economy. Current priorities include:

- supporting the Australian Government in the implementation of standardised, internationally aligned climate-related financial disclosure requirements for large businesses and financial institutions
- overseeing the development of an Australian sustainable finance taxonomy and coordinated strategies to prevent greenwashing
- strengthening international engagement on sustainable finance.[20]

Conclusion

Climate change has macroeconomic implications that are relevant for the setting of monetary policy and the Reserve Bank's financial stability remit. There are some familiar elements – monetary policy has always had to grapple with supply shocks, structural changes and uncertainty. But some are new – in particular, the heightened uncertainty around how the climate will change and how this will impact the economy and financial system. Furthermore, these changes are occurring over a prolonged timeframe, not just a normal business/policy cycle. And there is uncertainty around the evolution of technology and the speed with which climate, economic and social systems can adapt.

As a result, we have for some time been building the Bank's capacity to conduct analysis and research into how climate change will affect the structure and operation of the economy and the implications for monetary policy. This has included analysis to understand the likely direction of structural change in the Australian economy and developments in energy markets. The Bank's liaison program has complemented our data analysis, by providing information on firms' views on the likely directions of structural change and how this will impact firms and households. We are also developing our capacity to model the macroeconomic implications of different types of climate risk for the economy and the setting of monetary policy.

In addition, we are increasing our understanding of how climate risks might translate into financial stability risks. And, as part of the CFR, the Bank is seeking to improve the ability of companies and investors to understand and

price climate-related risks. We are also monitoring and analysing climate-related investment trends and their implications for the cost and availability of green and sustainable finance in Australia.[21]

Finally, we are examining and managing our own climate-related risks and opportunities. In line with APS Net Zero requirements, the Bank has set a target to reduce our scope 1 and scope 2 emissions to net zero by 2030. We are also considering what sustainability and climate-related financial disclosures we can make, starting with operational emissions reporting in the 2022/23 Annual Report.

Thank you for listening. I am happy to answer any questions.

Endnotes

[*] I would like to thank members of the Reserve Bank's Climate Analysis and Policy Team for their work on this speech, particularly Julie Guo, Kate McLoughlin, Anna Park, Geordie Reid, Andrew Staib and Faye Wang.

[1] See RBA Unreserved (2021), 'Research Guide: Sir Leslie Melville KBE'.

[2] Cornish S (2021), 'The Central Bank's First Economist', RBA *Bulletin*, December.

[3] Bureau of Meteorology (2022), 'State of the Climate 2022', November.

[4] Net Zero Tracker, 'Data Explorer'. Available at <https://zerotracker.net/#data-explorer>.

[5] Australian Government (2023), 'Review of the Reserve Bank of Australia – An RBA Fit for the Future', March.

[6] See Trust C, S Joshi, T Lenton and J Oliver (2023), 'The Emperor's New Climate Scenarios', Institute and Faculty of Actuaries and University of Exeter, July.

[7] RBA (2022), 'Box A: Insights from Liaison', *Statement on Monetary Policy,* November; RBA (2020), 'Box B: Macroeconomic Effects of the Drought and Bushfires', *Statement on Monetary Policy,* February; RBA (2011), 'Box A: The Impact of the Recent Floods on the Australian Economy', *Statement on Monetary Policy,* February; RBA (2011), 'Box B: An Update on the Impact of the Natural Disasters in Queensland', *Statement on Monetary Policy,* May.

[8] RBA (2020), n 7.

[9] See Australian Treasury (2023), 2023 Intergenerational Report.

[10] International Energy Agency (2023), 'World Energy Investment 2023', May.

[11] See Americo A, J Johal and C Upper (2023), 'The Energy Transition and its Macroeconomic Effects', BIS Paper No 135.

[12] de Atholia T, G Flannigan, S Lai (2020), Renewable Energy Investment in Australia, RBA *Bulletin*, March.

[13] See Australian Treasury (2023), n 9. Earlier work from the RBA also examined this issue, see Kemp J, M McCowage and F Wang (2021), 'Towards Net Zero: Implications for Australia of Energy Policies in East Asia', RBA *Bulletin,* September.

[14] Geoscience Australia, 'World Rankings'. Available at <https://www.ga.gov.au/digital-publication/aimr2021/world-rankings>.

[15] See Australian Treasury (2023), n 9.

[16] Ellis L (2022), 'The Neutral Rate: The Pole-star Casts Faint Light', Keynote address to Citi Australia and New Zealand Investment Conference, Sydney, 12 October.

[17] See Breitenfellner A and W Pointner (2021), 'The Impact of Climate Change on Monetary Policy', Oesterreichische Nationalbank *Monetary Policy and the Economy*, Issue Q3; Mongelli FP, W Pointner and JW van den End (2022), 'The Effects of Climate Change on the Natural Rate of Interest: A Critical Survey', ECB Working Paper Series No 2744.

[18] Kurian S, G Reid and M Sutton (2023), 'Climate Change and Financial Risk', RBA *Bulletin*, June.

[19] Australian Prudential Regulation Authority (2022), 'Information Paper – Climate Vulnerability Assessment Results', November.

[20] Council of Financial Regulators (2022), 'Quarterly Statement by the Council of Financial Regulators', Media Release No 2022-05, 15 December.

[21] Schwartz C (2023), 'Australian Financial Markets and Climate Change', Speech at the Risk Australia Conference, Sydney, 8 August.