

# Risk and Reward

Getting more from  
Australia's specialist  
investment vehicles



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## Acknowledgements

In developing this brief, we consulted experts from across the Commonwealth Departments of Finance, and Climate Change, Energy and Water, the Treasury, and the Australian Bureau of Agricultural and Resource Economics and Sciences.

## Executive summary

For Australia to remain competitive as the world shifts to a low-carbon economy, it must invest adequately in new industry development. Escalating geopolitical instability has made even more clear the need for economic decarbonisation to address issues of national security.

Previous work from the Centre for Policy Development, such as the 2024 report *Ideas to Industries*, found that much of the funding from the government's industry development specialist investment vehicles (SIVs) currently skews towards technologies that have already or are close to achieving commercial viability. Their mandates push them towards safe bets and guaranteed commercial returns—the kinds of investments that private capital is already willing to make.

Less funding is available for developing new technologies at earlier stages of innovation. Of the \$3.18 billion deployed by the Commonwealth Government for low-carbon industry development in Australia in FY2024, only \$1 billion (31%) was for programs focused on R&D and technology scale-up and demonstration.

Since then however, Australia has seen some progress towards *Ideas to Industries'* recommendations, with the government outlining a lower return mandate and higher risk profile for the Net Zero Fund, a sub-fund of the National Reconstruction Fund (NRF). This is a great first step that will give the fund room to make crucial investments in earlier stage projects—but we argue it should not be the last. The Net Zero Fund only accounts for

a small portion of the overall funds provided by the Commonwealth Government. When the government uses its balance sheet to support new industries, more of this capital should be allocated to early-stage innovation, and the Clean Energy Finance Corporation (CEFC) and NRF, as key investors of government capital, should play a leading role.

A key barrier to reform has been a concern that lowering the return mandate and raising the risk appetite of SIVs could leave the government fiscally worse off. This brief demonstrates that fiscal measures of SIVs are complicated and obscure the true fiscal impact that would result from the mandate change recommended in *Ideas to Industries*. Indeed, such reform may improve some measures of Australia's fiscal position and set us up for the long-term—even while looking negative in key budget forecasts.

For example, the CEFC's venture capital arm (the Clean Energy Innovation Fund) has outperformed its general portfolio by between 1.5 to 3 times. Much of this value is captured through unrealised capital gains that bolster the government's net worth – but these returns are not included in the main budget metrics which tell us whether the budget is in surplus or deficit. The fiscal aggregates used in budget analysis do not tell the whole picture.

Giving these funds a license to take calculated and strategic risks is essential for kickstarting the industries we need to build a stronger, more resilient economy that will benefit all Australians.

## Australian economic resilience requires changing SIV investment mandates

**Key takeaway: The Net Zero Fund's design is a good start, but it only covers a fraction of SIV dollars. Similar changes should be made across the government's portfolio.**

The Future Made in Australia legislation and Strategic Examination of R&D clearly signals the Australian government's willingness to pursue modern forms of industry policy, based on a hands-on approach, clear directions from government and a diverse policy mix. The design of the Net Zero Fund as part of the National Reconstruction Fund (NRF) is a further welcome step to equipping Australia to build competitive and sustainable industries for the future. Its low mandated return target—of 1% below the 5-year government bond rate—means it can provide valuable support for first-of-a-kind projects.

And yet we argue the design of the Net Zero Fund should be just the start of fundamental changes across the government's specialist investment vehicles (SIVs). The Net Zero Fund only accounts for around 8% of the total amount the Commonwealth Government allocates to specialist investment vehicles for Australia's net zero and Future Made in Australia goals.<sup>1</sup>

Alongside the Australian Renewable Energy Agency (ARENA), the Clean Energy Finance Corporation (CEFC) and the NRF are the SIVs with key policy goals to support the development and expansion of new industries. In contrast to ARENA, the CEFC and NRF both focus mainly on later stages of innovation and:

Invest mainly in debt and equity assets, with a preference for debt assets (e.g., loans and advances) over equity assets;

The majority of debt assets are offered at or close to market terms, meaning the CEFC and NRF provide little concessionality.

Concessionality is finance that is offered on better-than-commercial terms, such as loans that offer lower than market-rate interest rates or longer repayment periods; and

Provide relatively less funding in the form of equity investments such as joint ventures or venture capital (VC) in start-up companies.

Developing new industries requires investment across the entire cycle of innovation, from early-stage R&D to piloting of new ideas and eventually onto mass adoption.<sup>2</sup> The problem is that many of the technologies needed to underpin emerging industries—such as to decarbonise currently emissions-intensive processes—are less mature and currently have high costs that make these technologies more expensive overall than their alternatives, particularly in the absence of a credible price on carbon pollution. Once these new technologies are developed and deployed at scale, their costs are likely to fall rapidly, following a learning curve.<sup>3</sup>

But ensuring this happens in the first place means that governments must shift more funding towards earlier stages of innovation, providing innovative forms of finance such as concessional loans, financial guarantees and venture capital to fund high-risk, high-reward projects that are not yet attracting private finance. Some Commonwealth Government programs do focus on earlier stages of innovation, such as the Industry Growth Program and the Future Made in Australia Innovation Fund. Nevertheless, over two-thirds of funding to support industry development for reducing emissions in Australia was spent on scale-up and mass adoption of new technologies in FY2024.<sup>4</sup> In particular, there is a pronounced funding gap for projects progressing between proof-of-concept and early commercialisation: they are too mature for SIVs like ARENA but also too risky for SIVs like the CEFC and NRF.

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Enabling the CEFC and NRF to more effectively catalyse new economic activities will require fundamental changes across their investment mandates and risk appetites:

Investment mandates: Currently, the CEFC and NRF are mandated to pursue a return of 2-3% above the 5-year Australian Government bond rate for their general portfolios. However, this is not aligned with the purpose of these SIVs, which is to develop new industries. More funding through the SIVs should have a return rate target of no more than 0-3% above the cost of capital,

and ideally mandates should be at the lower end of this range.

Risk appetites: The CEFC and NRF mandates currently refer to an "acceptable but not excessive level of risk". Updating this to specify an "acceptable level of risk in pursuit of catalysing new economic activity" would distinguish the approach of these SIVs from conservative investment bankers. Changes are also needed to enhance the capabilities of management and staff to take more calculated risks in their investment decisions

## SIV investments make positive returns

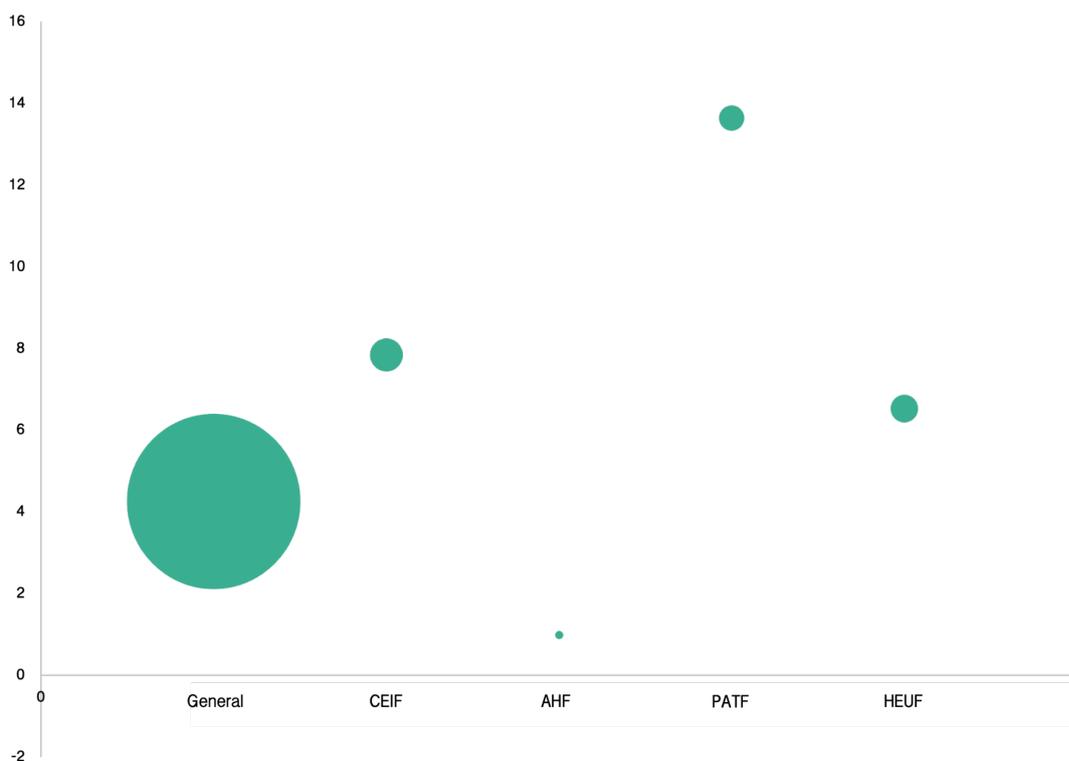
**Key takeaway:** Government investment in different asset types – e.g., commercial or concessional loans or venture capital – can all have positive expected returns compared with the situation in which the government does not invest.

While the magnitude of returns differs, government investment can – and generally does – make positive financial returns across a range of different asset types. Figure 1 provides financial return metrics across the CEFC’s funds for FY2025. Remarkably, almost all portfolios (with the exception of the

smallest, the Advancing Hydrogen Fund) made returns above their mandated return targets. As the mandated return targets are all set above the 5-year Australian Government bond rate, this means that the portfolios each at least cover the cost to government of borrowing to finance investment. After subtracting operating costs, this still nets a positive return for the government. This result holds across funds, despite variations in the types of activities and assets the funds invest in, and the amount of concessionality they offer. See Appendix A for a description of the CEFC’s investment funds.

Figure 1: All CEFC funds made positive cumulative returns over the year to 30 June 2025<sup>5</sup>

Cumulative lifetime return (percent)



Source: CEFC FY2025 annual report;<sup>6</sup> and CPD calculations

Notes: The CEFC has four specialised investment funds besides the Rewiring the Nation Fund: the Clean Energy Innovation Fund (CEIF), Advancing Hydrogen Fund (AHF), Powering Australia Technology Fund (PATF), and the Household Energy Upgrades Fund (HEUF). The size of the circles indicates the amount of capital the fund had deployed on 30 June 2025. As relatively new funds, the data for both PATF and HEUF are significantly influenced by matters of timing.<sup>7</sup>

## Budget accounting rules obscure long-term benefits of equity investments

**Key takeaway:** Focusing on the underlying cash balance does not tell the full story of how investment in venture capital and equity can benefit the government.

The underlying cash balance (UCB) is the metric by which the government's fiscal health is most frequently assessed and yet it does not capture the impacts of policy-related investment. The UCB is cited in public commentary and Budget Papers and appears on the cover page for every proposal brought to the Cabinet for decision-making. Simply put, it shows the difference between the government's receipts (incomes) and payments (outflows) for operational activities. The UCB is the bottom-line metric by which the budget is declared to be in surplus or deficit.

In general, the costs of investments for policy-related purposes, such as by the CEFC and NRF, as well as the returns they generate, are excluded from the underlying cash balance. This means that focusing mainly on the UCB obscures the impacts from pursuing different investment strategies, such as more assertive investment in early-stage ideas and technologies. Such investment is likely to come at least in part from a greater use of innovative forms of finance such as concessional loans, joint ventures, and venture capital, and a corresponding lower provision of loans on commercial terms. As long as concessional loans are expected to be repaid (and are therefore not viewed as "grants") and the expected return from a VC investment exceeds the inflation rate, there is generally no impact from investing in these assets on the UCB.<sup>8</sup>

In contrast, the headline cash balance (HCB) adjusts the UCB for investments in financial assets to pursue specific policies. When the government issues a loan or purchases an equity stake in a company, or receives

interest payments and dividends from such investments, this is recorded in the HCB. Nevertheless, important measures of value are not captured by the HCB. For example, unrealised capital growth in an equity stake would not be reported through the HCB.

Being excluded from the UCB, such policy-related investments receive considerably less scrutiny at budget time. The difference between the HCB and UCB was first introduced by then Treasurer, Peter Costello, in 1996 to avoid classifying one-off events like privatisation of government assets as an improvement in the budget.<sup>9</sup> Back then, there was little monetary difference between the HCB and UCB. However, since then, the gap has widened as governments have increasingly structured projects as assets rather than public sector spending, which would be captured through the UCB. Examples abound, from Snowy 2.0 to the NBN and onto the government's SIVs.<sup>10</sup> These investments are often referred to as "off-budget" because they are excluded from the UCB. They are still reported in the government's budget papers, and included in several of the aggregate metrics like the HCB; but not the main metric that really matters for the politics of fiscal policy.

Leaving the distinction between the UCB and HCB aside, the positive benefits from equity investment are mostly excluded from both of these cash balance measures. The largest benefit from investing in equity generally comes when an underlying asset – the equity stake that the government owns in a company – appreciates in value. This is most true for new technologies and VC style investments, where it is unlikely any short-term profits will be returned to owners in the form of dividends. This unrealised capital gain is recorded in the government's financial statements as an "other economic flow" alongside other changes in asset valuation caused by factors like fluctuating interest

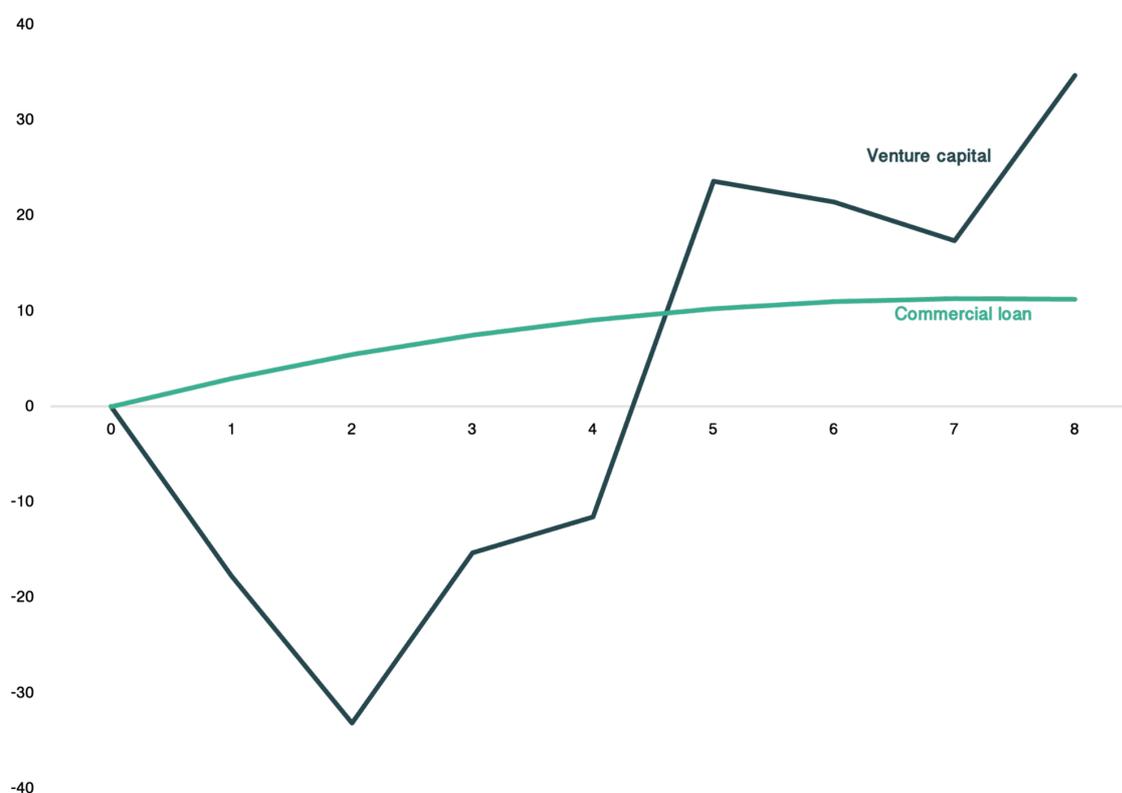
rates. This component is excluded from the HCB and the UCB, but is later summed with the government’s revenues and expenses to arrive at the total change in net worth, which is called the comprehensive result.<sup>11</sup>

In some sense, the comprehensive result is the true measure of whether the government runs a surplus or a deficit, but because it includes many things outside of the government’s control (e.g., interest rates and share market returns) it is not as useful as the UCB or HCB for analysing government fiscal policy. That is why the UCB dominates budget analysis. But for the purpose of understanding the fiscal impact of different SIV policies, we must look at the total return beyond the UCB/HCB.

Figure 2 demonstrates the overall impacts from investments in commercial loans and venture capital on the government’s net worth, based on historical CEFC portfolio returns from a hypothetical 8-year \$100 million investment. As assets in a venture capital investment portfolio can appreciate over time, the upside of such investments is essentially uncapped, even if initial years are sometimes bumpy. In Figure 2 this is shown with a total return of 35% over 8 years, which would show up in the government’s net worth and comprehensive result. In contrast, with a loan asset, the upside is capped as the interest rate is fixed and set in advance – in our example this was a total return of only 11% over 8 years.

Figure 2: Equity investments have more volatile return profiles, but have higher expected returns than debt investments

*Cumulative return on investment (percent)*



Source: CPD analysis based on CEFC annual reports<sup>12</sup>

Notes: This is a stylised comparison based on historical data. See Appendix B for more details about CPD’s analysis.

## More risk makes higher returns possible

**Key takeaway: If the Commonwealth Government wants access to higher returns, it needs to have a higher risk appetite.**

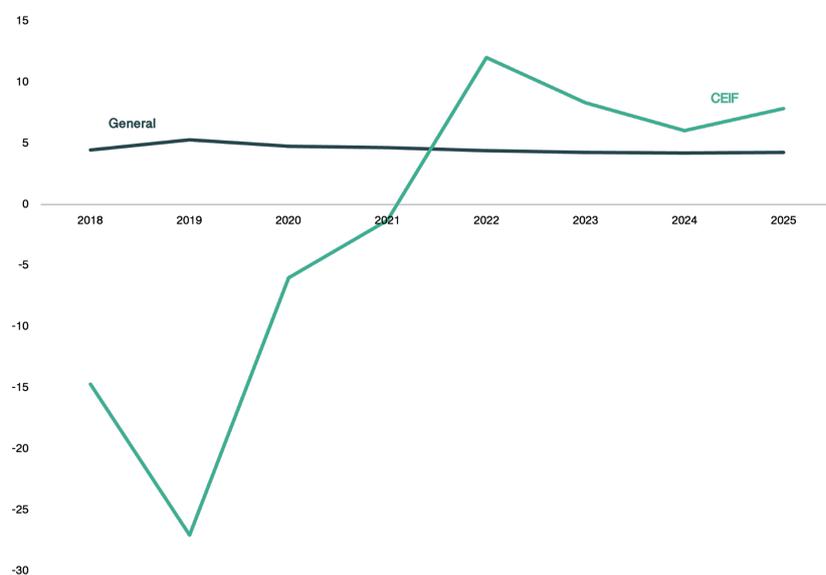
Taking on more risk by investing more heavily in the earlier stages of innovation is vital for the government’s SIVs to be able to satisfy their policy goals and develop new industries. At the same time, it also makes higher returns possible. The risk-return tradeoff is a well-established investment principle that says that potential returns are directly and positively related to risk: if investors want greater returns, they must take higher risks.

Compared to debt finance, equity investments enable the government to have more skin in the game while supporting the development of first-of-a-kind technology. Joint ventures could see the government working directly with the private sector on a common goal, such as creating thriving industries for critical mineral processing. Investments in common use infrastructure

could enable novel projects, such as green steel in the Pilbara. Venture capital involves the government investing in startups typically through an intermediary. It is inherently riskier, with around 65% of VC-backed companies returning less money to investors than they initially invested, while a small percentage of investments perform exceptionally well.<sup>13</sup>

Over the medium to long term (e.g. 5-20 year time periods), investments in equity can outperform investments in many other asset classes.<sup>14</sup> As an example, the CEFC’s venture capital-style offering, the Clean Energy Innovation Fund (CEIF), has produced considerably higher returns than the CEFC’s general portfolio over the past four years from 2022-2025. Equity investments may not have as smooth a return profile as debt, but they can turn profitable fairly quickly (in the case of the CEIF, four years). Indeed, the CEIF outperformed the CEFC’s general portfolio by between 1.5 to 3 times in cumulative terms in recent years.

Figure 3: Returns from the Clean Energy Innovation Fund have exceeded the CEFC’s general portfolio  
*Annualised cumulative return on investment (percent)*



Source: CEFC annual reports; and CPD calculations

## Conclusion

The Australian Government should play a key role in supporting the development of early-stage, first-of-a-kind projects that the private sector is unwilling or incapable of funding itself. One of the key ways to do this is by the government investing through its specialist investment vehicles (SIVs) in asset classes such as concessional loans and venture capital for emerging firms and projects.

Switching from the current focus on commercial loans to concessional loans and venture capital will likely be recorded as a negative in terms of the government's underlying cash balance.

However, this should not dissuade the government from aggressively pursuing catalytic progress through its SIVs:

Commercial loans are insufficient for supporting the development of early-stage industries; other types of investments are also needed, such as concessional finance, guarantees, venture capital, and funding for common user infrastructure to enable novel projects.

Experience through the CEFC has shown that the investment returns can be considerably higher for venture capital than for other forms of government investment.

With equity investments, the government has an asset that can appreciate in value over time, particularly in the medium-to-long run.

## Appendix A

Table A.1. Overview of CEFC general portfolio and specialised investment funds

Fund name	Investment priorities	Types of assets	Concessionalality	Cumulative return FY2025	Mandated return FY2025
General portfolio	Clean energy technologies broadly	Mainly loans and receivables, followed by equity	Limit to \$300 million total (apart from RTN and HEUF)  FY2025: \$20 million for General	4.25%	3.88-4.88%
Clean Energy Innovation Fund	Emerging clean energy technology projects and businesses	Equity/venture capital, either direct or through a third party	Limit to \$300 million total (apart from RTN and HEUF)  FY2025: \$0 for CEIF	7.84%	2.86%
Advancing Hydrogen Fund	Hydrogen industry	Debt and equity	Concessional finance	0.98%	1.66%
Powering Australia	Emerging clean energy	Equity/venture capital,	Limit to \$300 million	13.64%	4.6%

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Technology Fund	technology projects and businesses	either direct or through a third party	total (apart from RTN and HEUF) FY2025: -\$107,000 for PATF		
Household Energy Upgrades Fund	Clean energy technologies for residential dwellings	Loans provided by private sector to households	Concessional finance	6.53%	4.38%

Source: CEFC investment mandate; CEFC website; CEFC annual report FY2025; and CPD analysis

## Appendix B

In Figure 2 (net worth impacts), we assume the following hypothetical investments:

Characteristic	Commercial loan	Venture capital	Rationale
Principal	\$100 million	\$100 million	The average size of a CEFC investment across all portfolios for FY2023 – Q2 FY2025 was \$80 million <sup>1</sup>
Term	8 years	8 years	The CEFC’s Clean Energy Innovation Fund has been operating for eight years, which provides a good overview of fluctuating returns for a VC investment portfolio <sup>2</sup>
Annual loan interest rate	5.95%		Equals the average interest rate for debt investments in the CEFC’s General Portfolio over the last three years (FY2023 – Q2 FY2025) <sup>1</sup>
Principal repayment	Yearly in equal amounts		
Expected annual appreciation of VC portfolio		Annualised returns for the CEFC’s Clean Energy Innovation Fund	Captures variations in financial returns over time
Expected dividends		Assume zero	Start-ups are unlikely to pay dividends

Notes: <sup>1</sup>Based on CEFC Quarterly Investment Reports for the past three years (FY2023 – start of FY2025). See: ‘Compliance’, CEFC, 2026.

<sup>2</sup>CEFC annual reports. See: ‘Statutory reports’, CEFC, 2026.

We assume these investments are financed through the government issuing an Australian Government bond with the following features:

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Characteristic	Australian Government bond
Issue price	\$100 million
Maturity date	8 years from now
Coupon payments	3%; fixed and paid annually  Based on Australian Government bond yields <sup>1</sup>

Notes: <sup>1</sup>[Capital market yields – Government bonds – Monthly – F2.1](#), RBA, 2026.

Further information and calculations are available upon request.

## Endnotes

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<sup>11</sup> IGCC and Mandala Partners estimate the total amount allocated to SIVs for Australia's net zero and Future Made in Australia goals is at least \$64.5 billion. The SIVs are: the Clean Energy Finance Corporation, the Australian Renewable Energy Agency, the National Reconstruction Fund, the Northern Australia Infrastructure Facility, and Export Finance Australia. IGCC and Mandala Partners, [Optimising Australia's specialist investment vehicles for the net zero journey](#), 2025.

<sup>2</sup> M Hammerle, T Phillips and A Dibley, [Ideas to industries: How to get the most out of public money for industrial development](#), 2024.

<sup>3</sup> R Way et al., 'Empirically grounded technology forecasts and the energy transition', *Joule*, 2022.

<sup>4</sup> M Hammerle, T Phillips and A Dibley, [Ideas to industries: How to get the most out of public money for industrial development](#), 2024.

<sup>5</sup> We exclude the CEFC's Rewiring the Nation Fund as it has only very recently started making investments and does not yet have a track record of financial returns.

<sup>6</sup> [Accelerating towards net zero: CEFC annual report 2024-25](#), CEFC, 2025.

<sup>7</sup> In its FY2024 annual report, the CEFC recorded a large 65.75% annualised return for the PATF. The annual report (p. 94) explained that this came from a

single investment in a relatively small asset base, and that this is not necessarily indicative of the longer-term performance for the fund. One of the factors affecting high HEUF returns is that it has only existed for the last two years, during a period of relatively high economy-wide interest rates. Compared to the general CEFC portfolio which has existed for many years under low economy-wide interest rates.

<sup>8</sup> [Frequently asked questions – Concessional loans](#), Department of Finance, 2022; [Frequently asked questions – Equity investments](#), Department of Finance, 2023.

<sup>9</sup> S Eslake, [The two worrying trends revealed in Australia's AAA warning](#), 2025.

<sup>10</sup> [Statement 3: Fiscal strategy and outlook](#), Australian Government, 2025, p. 71.

<sup>11</sup> [Frequently asked questions – Equity investments](#), Department of Finance, 2023; [Budget strategy and outlook: Budget paper no. 1](#), Australian Government, 2025, pp. 271-272.

<sup>12</sup> 'Statutory reports', CEFC, 2026.

<sup>13</sup> R Grieco, 'Why venture capitalists aren't afraid of losing money', IMD, 2023.

<sup>14</sup> Cambridge Associates, [Performance update 2025 Q2: Australia private equity and venture capital index](#), Australian Investment Council, 2025.



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