PNYX

Statutory Review of the Government Superannuation Fund Authority 2026

Prepared for the New Zealand Treasury

June 2026

Strictly Confidential

Introduction

PNYX is pleased to have been selected by the Treasury to conduct this Independent Review of the Government Superannuation Fund Authority (GSFA) and the Government Superannuation Fund. In carrying out the review, we have addressed the specific terms of reference outlined by the Treasury. We have also sought to elevate views and observations we hope are useful to GSFA in continuing to strengthen its governance, investment, and operating effectiveness.

We are very appreciative of the level and quality of engagement we have had with the Treasury, GSFA's Board, and Annuitas. All parties have been highly cooperative, open, and responsive throughout the review process and engaged genuinely with our external challenge.

Slides 3 – 9	**Introduction** Background on the review process · Our interpretation of the Terms of Reference · Our approach to undertaking this review · Brief background on GSFA
Slides 10 – 24	**Key Findings and Forward-Looking Recommendations** Overview of findings · PNYX perspective on GSFA · Evolution of GSFA and SIPSP since 2021 · Prior review responses · General Commentary · Recommendations summary · PNYX Fundamental Investment Perspectives
Slides 25 – 46	**SIPSP (Statement of Investment Policies, Standards and Procedures) Appropriateness and Compliance** Executive summary · Benchmarking · Top-down view · Governance · Investment beliefs · Investment objective · Reference Portfolio · Investment strategy · Investment framework · Responsible Investing · Risk management · Review and monitoring
Slides 47 – 72	**Investment Performance Review: 2021 – 2025** Executive summary · Investment Framework · Attribution · Asset class performance · Fund risk · Costs
Slides 73 – 78	**Investment Performance Review: Since Inception** Actual vs Reference Portfolio · Attribution · Risk
Slides 79 – 85	**Additional Considerations to Maximise Returns Without Undue Risk (PNYX Total Portfolio Fund Analysis)** Forward-looking analysis · Stress and scenario tests · Non-traditional factors · New asset classes · Club deals · DAA
Slides 86 – 92	**ToR 3 & 4, and Supporting Materials** ToR 3 & 4 · Glossary · Benchmark selection · Agreed Terms of Reference

About GSFA and why this review exists

GSFA is a closed, employee funded, Crown-backed fund in structural transition

THE FUND AND THE AUTHORITY

Establishment. The Government Superannuation Fund Authority (GSFA or the Authority) was established in October 2001 under the Government Superannuation Fund Act 1956 (the Act). It is an autonomous Crown entity for the purposes of the Crown Entities Act 2004. Its functions are to manage and administer the Government Superannuation Fund (the Fund) and the GSF Schemes in accordance with the Act.

A closed, maturing fund. The Fund has been closed to new members since 1992 with total members in structural decline. The Fund carries a substantial unfunded deficit. Section 95 of the Act requires the Minister of Finance to appropriate funds from public money to ensure member entitlements can be paid as they fall due, making the Crown the effective backstop. This is important as GSFA does not operate as a self-contained entity, implying a unique governance and investment context relative to other funds.

Execution through Annuitas. Day-to-day management is provided by Annuitas Management Limited (Annuitas), a joint venture company formed by GSFA and the Board of Trustees of the National Provident Fund (NPF). Annuitas provides investment management, custody oversight, and schemes administration under a Management Services Agreement. The shared structure across GSFA and NPF creates cost efficiencies but also governance interdependencies that warrant ongoing attention, including the appropriate maintenance of GSFA's identity as an independent entity with a defined purpose.

Strategic context. The current growth-fund investment strategy remains appropriate given GSFA's ability to fund a significant deficit and its long-time horizon. However, the Fund's closed and maturing profile will eventually necessitate a transition in investment strategy. Anticipating and planning this transition, before urgency compels it, should be a key strategic priority.

Statutory basis. Section 19B of the Act requires the Authority to maintain a SIPSP and to have it independently reviewed at intervals not exceeding five years. A key purpose of this review is to assess whether the SIPSP is appropriate to the Fund and whether the Authority has complied with it in all material respects. The terms of reference extend to governance, investment strategy, and the investment framework. The idea of an independent review represents strong governance in its own right. This systematic process supports accountability and enables more valuable feedback to emerge to help with the development of the organisation.

Prior review and continuity. The previous independent statutory review was conducted by WTW in 2021 and identified several areas for improvement. This review builds on that foundation, assesses the Authority's response to prior findings, and provides a fresh independent assessment of the current state. The 2021 WTW review represents our primary baseline for evaluating progress.

DISTINCTIVE GSFA CONTEXT

Closed fund
No new members since 1992; contributor and annuitant base in structural decline.

Defined Benefit, employee funded, Crown-backed
Unfunded deficit supported by statutory Crown funding obligation.

Shared execution model
Management through Annuitas, creating efficiency and governance interdependence.

Transition horizon
Growth strategy defensible today; maturity will eventually require strategic adjustment.

Framing this 2026 GSFA Review

Providing independent assessment and practical recommendations

SCOPE

This review covers the statutory SIPSP review required under the Act and broader governance and investment terms of reference specified by the Treasury. Our focus is on the appropriateness of the SIPSP, whether it has been complied with in practice, and the investment performance of the Fund; however, we have considered the Authority's governance, investment strategy, and investment framework in our analysis. (see slide 5)

CONTEXT-SENSITIVE RECOMMENDATIONS

As practising and former Chief Investment Officers focused on institutional asset owners, we bring independent, CIO-level experience to our assessment of GSFA's governance, portfolio, and fiduciary responsibilities. We bring our practitioner's perspective and expertise to identifying best practices and the material risk areas, including non-traditional risks. Our recommendations and suggestions are to be considered in light of the size, structure, and context of GSFA. Namely, a fund that is structurally shrinking in size as its membership declines. What is right for a large accumulation fund is not necessarily right for GSFA, and we have calibrated our suggestions accordingly.

TWO INTERCONNECTED GOALS

ASSESSMENT

Provide Treasury and the Authority with an independent view of how well GSFA is equipped to fulfil its statutory purpose, including whether the SIPSP remains appropriate and has been complied with in all material respects, as well as the Fund's investment performance.

DEVELOPMENT

Surface observations and recommendations that help the Authority maintain and build on its standard of governance, investment oversight, and organisational capability over the next review cycle.

Accountability creates the basis for improvement;
development strengthens future accountability.

SPECIAL CONSIDERATIONS FOR REVIEWING GSFA

GSFA sits at the intersection of several compounding assessment challenges. Under- or out-performance does not necessarily reflect poor or strong decisions, so the assessment needs to take both the outcome and the decisions that led to it into account. Within this review period GSFA has undergone significant change and continues to evolve materially at this moment. It operates in a multi-stakeholder environment with a concentrated team managing a complex portfolio. This review reflects those constraints: it draws on a wide range of evidence and weighs process quality heavily alongside outcomes. Process quality is largely reflected in GSFA's extensive documentation and frameworks; however, engagement with the Board and team at large is required to gauge implementation in the real world.

THE PNYX ASSESSMENT LENS

In this evaluation, the quality of decision-making processes is central. We follow the terms of reference and apply an assessment framework that has four dimensions (see slide 6), which are then paired with the Four Pillars of Good Governance framework (see slide 7) when assessing the governance of the broader organisation.

1. LEGAL SUFFICIENCY
2. INTERNAL COHERENCE AND DECISION-UTILITY
3. FIT TO GSFA'S SPECIFIC CONTEXT
4. COMPARATIVE GOOD PRACTICE

\+ FOUR PILLARS OF GOOD GOVERNANCE

2026 GSFA Review Terms of Reference (ToR)

Commissioned by the Treasury as per the Act requirements; agreed ToR available in Appendix

The Act requires that an independent performance review of GSFA be carried out at no more than 5-yearly intervals. The last independent review was carried out by WTW in 2021. The Terms of Reference for this review require us to at a minimum:

1. Form an opinion on the appropriateness and compliance of the Statement of Investment Policies, Standards and Procedures (SIPSP) of the Authority.
    - In assessing appropriateness of the SIPSP, we are asked to focus on any changes to it since the date of the last statutory review, and to consider the appropriateness of the GSFA's responses to any recommendations made on the SIPSP in that review.
    - Where there have been any material changes or additions to the SIPSP, we are asked to opine on whether those are appropriate and complete both in relation to GSFA's capabilities, including human and technology needs, and with regard to GSFA meeting its requirements to invest the Fund as set out above.
    - In assessing whether the SIPSP has been complied with, we are asked to focus on testing this since the date of the last statutory review and to leverage off existing assurance inputs.
2. Evaluate the ex-post performance of the Fund since inception. This is expected to incorporate a time period analysis, including performance since the last statutory review.
    - We are asked to form an opinion on the drivers of these returns over these time periods, commenting on appropriateness of the contribution from these drivers relative to the risk taken.
3. In the process of undertaking this we should be satisfied as to the effectiveness and efficiency of GSFA in undertaking its functions in relation to the above terms of reference.
4. We should also make general observations on the review; noting the engagement and transparency of GSFA towards the statutory review process

Responses to the Terms of Reference are addressed in detail throughout this report.

Slides 11 – 13 give a summary overview of findings, and directions to further slides going into detail on each topic.

Key Recommendations are presented on slides 20 – 23.

ToR 1:	Detailed analysis underpinning our assessment is provided on slides 25 – 46
ToR 2:	Detailed analysis underpinning our assessment is provided on slides 47 – 85
ToR 3 & 4:	Detailed analysis underpinning our assessment is provided on slides 13 and 87

Additional suggestions, points to consider, views and comparative best practices are layered throughout the detailed analysis of this review.

TWO KEY DEFINITIONS FOR THIS REVIEW

"Fit for purpose" is defined for this review as the Authority's investment policies, governance, and execution being undertaken in a way that is well-suited to achieving GSFA's purpose, as contained within the Government Superannuation Fund Act 1956, which is to invest the Fund on a prudent, commercial basis. This fitness is assessed under the requirements of Section 19B of the Act which requires the reviewer to form an opinion on the appropriateness of the SIPSP, GSFA's compliance with it in all material respects, and the Fund's investment performance against mandate and peers.

"Appropriateness" is considered for this review as the SIPSP and associated investment standards and procedures being designed in a way that is well-suited to GSFA's profile as a closed, maturing scheme and consistent with the Authority's statutory duty to invest the Fund on a prudent, commercial basis: reflecting best-practice portfolio management, maximising return without undue risk to the Fund as a whole, and avoiding prejudice to New Zealand's reputation as a responsible member of the world community.

Review Methodology & Assessment Framework (1/2)

Our assessment dimensions, evidence architecture, and the rating approach applied in this review

1 LEGAL SUFFICIENCY

To what extent do the GSFA SIPSP and the surrounding practices/procedures meet legally required standards

Assessment dimensions
- The SIPSP's compliance with and design relative to the mandatory content requirements of the Act
- If the treatment is substantive or formal (the extent to which a reasonable regulator applying purposive interpretation would be satisfied)

2 INTERNAL COHERENCE & DECISION-UTILITY

Does the SIPSP meaningfully inform investment strategy construction and implementation, and is this reflected in the choices that the Fund has made?

Assessment dimensions
- The precision with which objectives and constraints can be understood and acted upon
- The interpretability of the investment beliefs and the corresponding links to investment strategy
- The structural integrity of the SIPSP
- The robustness and logical flow of internal documentation that exist to support the SIPSP towards implementation
- The degree to which decisions made align with the foundational principles of the SIPSP

3 FIT TO GSFA'S SPECIFIC CONTEXT

Do the investment objectives/constraints, investment beliefs, organisational design, and other foundational pieces accurately reflect GSFA's identity?

Assessment dimensions
- The link between the SIPSP's investment objectives and the Fund's underlying purpose
- The accuracy of the Fund's identified comparative advantages (and disadvantages)
- The degree to which operating decisions align with GSFA's circumstances (e.g. in-house vs outsourced investment management)
- The degree to which (i) unnecessary constraints are being self-imposed; and (ii) constraints should be imposed that are currently not there

4 COMPARATIVE GOOD PRACTICE

Does GSFA meet or exceed the practices seen by similar Funds, and does it (and can it) follow best practices from aspirational benchmarks?

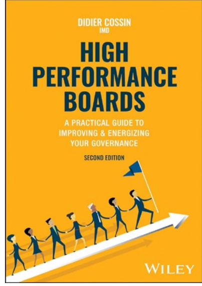
Assessment dimensions (relative to peers)
- The comprehensiveness of the SIPSP and surrounding documentation
- The structure and coherence of the SIPSP and surrounding documentation
- Organisational design and governance models
- Investment strategy and benchmarking models
- Investment costs (in the context of the chosen investment model)
- Gaps that are genuinely additive in the GSFA context (for the aspirational benchmarks)

EVIDENCE SOURCES & DATA ARCHITECTURE

Document / Source	Scope
Dataroom review (300+ documents)	Investment policy, governance, board materials, performance data, RI disclosures
Board and leadership team interviews; In person and via video conference	Governance culture, decision quality, beliefs alignment, strategic intent
SIPSP compliance assessment	the Act – appropriateness and compliance review
Investment performance analysis	Dec 2015–Jun 2025; value-add by driver; active risk budget allocation
Annual Reports 2021–2025	Public commitments, service performance, financial position
Board & IC minutes (2021–2025)	Quality of challenge, decision documentation, governance culture
SIPSPs 2019–2025	Understanding what has been changed and the direction of change
Prior statutory reviews	2021 WTW and earlier reviews for longitudinal context

Methodological note: This review draws on both qualitative and quantitative evidence. Investment performance analysis is assessed in the context of risk adopted, active decisions made, and governance budget available, not in isolation. Process and culture are weighted alongside outcomes.

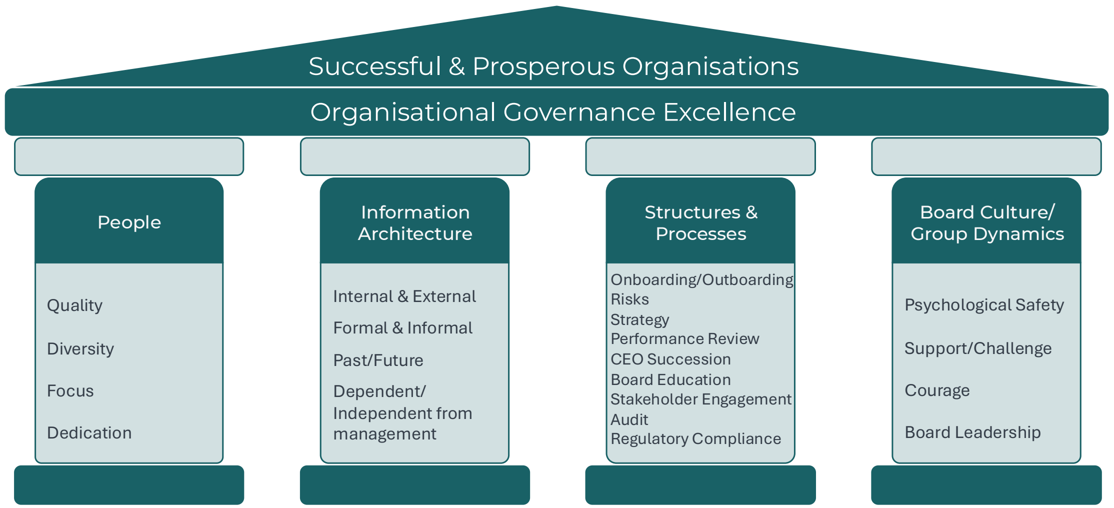
The four chosen dimensions have deliberate overlap and provide a meaningful sequence in evaluating the SIPSP and the organisation. Our approach builds up from sufficiency relative to statutory obligations to an evaluation of whether the choices embedded in the organisation are the right ones for this fund and whether the current setup can realise them in practice. The comparative element supplements this analysis by understanding best practice in contexts that are very similar to GSFA, as well as contexts that are more aspirational but still relevant.



Review Methodology & Assessment Framework (2/2)

PNYX's Governance Evaluation Methodology

PNYX's Four Pillars of Good Governance



Four Pillars Explained

- The Four Pillars provide a structured, comprehensive view of board effectiveness across four dimensions:
  - **People:** the quality, diversity, skills, and dedication of Board members, and whether composition supports the Board's fiduciary mandate
  - **Information Architecture:** the quality, timeliness, and format of information reaching the Board, and whether it supports sound decision-making
  - **Structures and Processes:** the charters, policies, and procedures defining how authority is held and exercised, benchmarked against current leading fiduciary practice
  - **Group Dynamics and Culture:** the behavioural and cultural dimensions of how the Board operates together; the layer of governance that formal documents alone cannot address
- This four-pillar approach ensures that our assessments covers both documented governance dimensions and the subtler structural and cultural factors that shape institutional effectiveness over time.

Focus for GSFA

- We first evaluated the Governance section of the SIPSP.
- We then assessed broader governance elements through internal document review and discussions with Board members and the leadership team, applying the four-pillar methodology in the following ways:
  - People: evaluation of all Board members and the leadership team through secondary research, with additional analysis based on our direct interactions with certain individuals
  - Information Architecture: review of the board packs, reviews, and reports provided to management, plus an analysis of the work done to close the information gap between Annuitas and the Board
  - Structures and Processes: analysis of the ways in which authority is defined versus applied in practice and a short analysis on the various procedures
  - Group Dynamics and Culture: minimal analysis as no Board or IC meeting was directly witnessed; commentary on cultural elements provided where possible

2026 GSFA Snapshot – Organisation and Governance Structure

GSFA operates a lean, externally managed model across a predictably declining fund. Its governance structure is appropriate for the current period but requires active management of skills, succession, and operating cost calibration as the run-off progresses.

STRUCTURAL FRAMEWORK

Fund status:	Closed to new entrants since 1992 (currently in run-off); manages assets supporting existing pension obligations; Crown responsible for funding any shortfall
Statutory Oversight:	**Crown/Finance Minister** sets the legislative framework and public accountability context
Governance and Strategy:	**GSFA Board** owns investment policy and risk oversight
Day-to-day Management:	Implementation is fully externally managed via **Annuitas Management Ltd**

Note: see slide 34 for more details.

TOTAL MEMBERS vs. CONTRIBUTORS (in '000s)

June 2020

51,347 Total members
4,512 contributors · 2,941 deferred
43,894 annuitants

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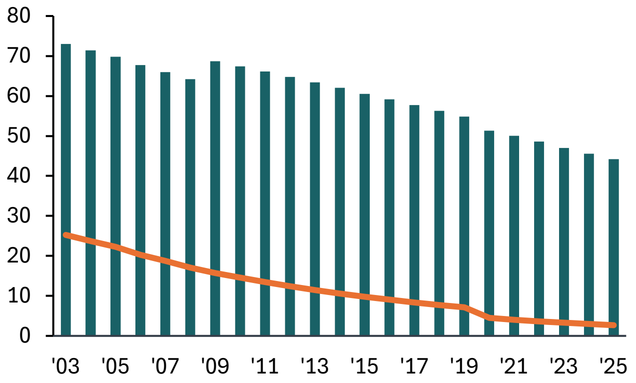
June 2025

44,198 Total members
2,674 contributors · 1,560 deferred
39,964 annuitants



Board of Directors (7 directors as at Jan 2026, "new" directors)*
Anne Blackburn Chair, Jul 2018 Banking, governance, strategic advisory
Louise Edwards Deputy Chair, ARRC, Jan 2026 CA, financial services, CE experience
Murray Brown IC Chair, Jul 2018 Funds management
Hugh Stevens ARRC, May 2023 Banking, Funds management
Rebekah Swan IC, Jul 2024 Funds management, Responsible Investment
Michelle Tsui ARRC Chair, Jan 2026 Actuary, investment consulting
Sarah Park IC, Jan 2026 Corporate finance, capital markets, venture capital
Key Committees: Investment Committee (IC) · Audit & Risk Review Committee (ARRC)

***Note:** As of Jan 2026 all GSFA directors simultaneously serve on the National Provident Fund and Annuitas boards

CFI Ecosystem Position: GSFA vs. ACC · NZSF · National Provident Fund

- Unique CFI managing a closed, defined-benefit run-off fund
- Unlike NZSF: finite horizon, no new contributions
- Unlike ACC: no ongoing contribution flows, levies, appropriations, etc;
- Board shared with NPF (governance efficiency but attention/bandwidth risk)

Management (Annuitas)	
16 FTEs	
Tim Mitchell	CE (Jan 2023)
Will Durham	CIO (Sep 2025)
Fiona Morgan	CFO
Hadyn Hunt	CRO
Ireen Muir	GM Schemes

Run-off Trajectory

- Annuitant-to-contributor ratio ~15:1 and rising
- Net cash flows negative; Crown contributions and investment returns are the primary mechanisms for benefit coverage
- Fund Share of Benefits: 38.2% (2024 valuation) → 42.0% (2025 valuation)
- In 2024 a long-term strategic options review was commissioned by the GSFA Board and performed by Annuitas. It projected that within 20 years GSFA will have no remaining employee contributors, the number of pensioners will decline by more than 70%, and Fund assets will fall from $5.5B to $2.0B. In this projection, keeping investment assumptions constant, as the Fund shrinks expenses are forecast to increase from approximately 66 bps to 90 bps driven entirely by schemes administration and operating costs rising with inflation.
- **Note**: this is a projection, and used here to be directionally informative. The key point is that over the long-term AUM is falling, and as AUM falls, portfolio complexity and governance costs will require periodic recalibration.

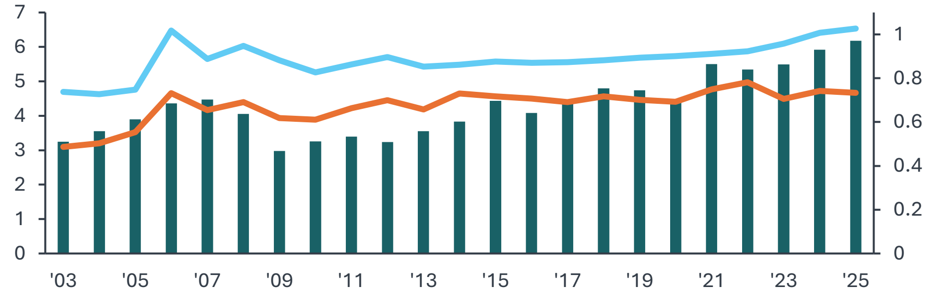
2026 GSFA Snapshot – Investment Performance

INVESTMENT REQUIREMENTS

The Authority must invest the Fund on a prudent, commercial basis and, in doing so, must manage and administer the Fund in a manner consistent with:

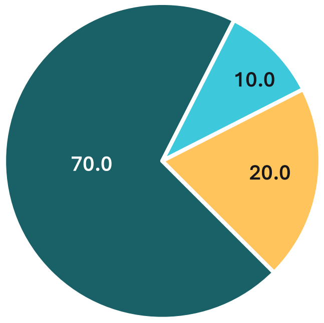
1. best-practice portfolio management; and
2. maximising return without undue risk to the Fund as a whole; and
3. avoiding prejudice to New Zealand's reputation as a responsible member of the world community.

TOTAL ASSETS (lhs), BENEFITS PAID (rhs), and CROWN CONTRIBUTIONS (rhs) (in NZD Billions)

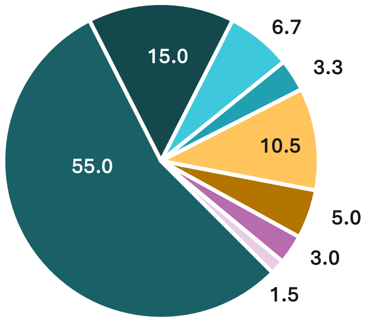


ASSET ALLOCATION (31/12/2025)

- Global Public Equities
- Global Private Equities
- NZ Public Equities
- NZ Private Equities
- Global Fixed Interest
- NZ Sovereign Bonds
- Catastrophe Risk
- Life Settlements



REFERENCE PORTFOLIO



TARGET PORTFOLIO

PERFORMANCE OVER REVIEW PERIOD

	2021	2022	2023	2024	2025	2021-25
Actual Return	22.08%	-10.20%	15.17%	17.56%	12.80%	10.86%
Reference Portfolio (RP)	14.54%	-14.53%	16.42%	19.43%	14.08%	9.20%
Excess Return vs RP	7.53%	4.33%	-1.25%	-1.87%	-1.27%	1.66%
NZ Gov't Bonds Return	-6.17%	-9.14%	5.42%	4.66%	4.97%	-0.25%
Excess Return vs NZ Bonds	28.25%	-1.06%	9.75%	12.90%	7.83%	11.11%

Active sources: Private equity, catastrophe risk assets, dynamic asset allocation, active external manager selection

LONG-TERM PERFORMANCE AND RISK

	3 Year	5 Year	10 Year	Since Inception
Annualised Returns				
Actual Return	15.16%	10.86%	9.53%	7.92%
Reference Portfolio (RP)	16.62%	9.20%	9.79%	8.00%
Excess Return vs RP	-1.46%	1.66%	-0.26%	-0.08%
Portfolio's risk and performance ratios				
Actual Volatility	5.56%	7.38%	7.82%	7.87%
Tracking Error	2.56%	3.07%	2.68%	2.20%
Sharpe Ratio	1.87	1.02	0.90	0.50
Information Ratio	-0.57	0.54	-0.10	-0.03
Reference Portfolio's risk and performance ratios				
Volatility	7.80%	9.47%	9.39%	8.95%
Sharpe Ratio	1.52	0.61	0.78	0.45

Note: Performance data shown annualised, net of fees.

Key Findings and Forward-Looking Recommendations

This section summarises conclusions and cross-cutting themes; the supporting analysis follows on Slides 25 – 85.

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Overall Findings

The Authority is fit for purpose, with a strong foundation for further advancement, but faces growing run-off challenges

- ✓ Complied with the SIPSP in all material respects since the 2021 statutory review
- ✓ Generated investment returns that adequately reward the Fund relative to the risk profile adopted
- ✓ Operated effectively and efficiently in performing its investment management functions
- ✓ Demonstrated appropriate engagement and transparency with the statutory review process
- ✓ Established SIPSP appropriate to the Fund's context and consistent with the prudent, commercial investment duty in Section 15J(2)
- ✓ SIPSP covers all elements required under Section 15M of the Act
- ✓ Appropriately considered and addressed recommendations made on the SIPSP in the 2021 review, with material changes that are largely capability-appropriate

✓ APPROPRIATENESS

GSFA's SIPSP is fit for purpose and translates the mandate into a coherent framework of objectives, beliefs, portfolio design, and monitoring disciplines. Its responsible investment and risk management framework is consistent with the requirement of the Act to avoid prejudice to New Zealand's reputation as a responsible member of the world community. Governance is sophisticated for a fund of this size, with strong documentation and material improvement since 2021. This governance framework and a skilled executive team allow GSFA to employ comparatively complex strategies, including private markets, active management, and DAA, with a lean investment team.

The current model is sound but has elevated key person risk and would benefit from stronger multi-asset portfolio investment skills at the oversight level. Governance budget for a smaller Fund is a constant question: the standing test remains whether the net risk-adjusted value add continues to justify the associated complexity, cost, and governance burden as the fund's assets structurally run off.

✓ COMPLIANCE

The compliance record is strong and well-documented, supported by layered assurance mechanisms: quarterly CIO attestations, annual investment manager compliance certification, independent SIPSP compliance review, and regular Board oversight. We note four consecutive independent reviews, active breach monitoring, CRO escalation, and quantitative limits remaining within prescribed ranges. The 2023 move to a stepped three-year review cycle, where different parts of the SIPSP are reviewed externally each year, is practical and sound in principle.

The three-year gap as a result of the stepped SIPSP review programme demands tight interim oversight and ongoing confirmation it remains sufficient.

✓ INVESTMENT PERFORMANCE

GSFA delivered strong investment outcomes over the 2021–2025 review period, returning 10.86% p.a. and outperforming its Reference Portfolio (RP) by 1.66% p.a., with superior risk-adjusted performance. Excess return was primarily driven by target allocation choices, thanks to the contribution of its diversifying exposures, and by active manager selection in Global Listed Equities. The main detractor was Global Private Equity, which requires closer scrutiny, particularly given recent benchmark underperformance, fund-of-funds costs and manager selection concentration.

The primary objective (outperform NZGBs) is met across all time periods. Over the full period since inception, the actual portfolio has performed broadly in line with the Reference Portfolio: 0.08% p.a. below benchmark, compared with its stated target of 1.0% p.a. above benchmark.

Overall, the portfolio appears well managed, but the next cycle should focus on the updated DAA programme, Private Equity performance, diversification, and full look-through cost transparency.

PNYX Opinion: Current SIPSP Appropriateness and Compliance

REF	ELEMENT: STATUTORY TEST	OPINION	ASSESSMENT	COMMENTS	ADDRESSED
			TOR 1.1: SIPSP APPROPRIATENESS | SECTION 19B(4)(A)		
1.1a	**Changes to SIPSP since 2021:** Have SIPSPs been updated to reflect material developments since the prior statutory review?	SATISFIED	Complete overhaul in 2021, iterative improvements subsequently, overall materially better SIPSP and supporting documents/policies. Much more logically structured document; strong foundation to implement further recommendations.	Ongoing annual review and evolution is the standard, including current initiatives; this needs to remain. SIPSP/Investment Framework alignment required; Refreshed Investment beliefs communicated as incoming to 2026 SIPSP.	Slides 15, 29
1.1b	**Responses to 2021 WTW recommendations:** Has the Authority responded appropriately to prior review recommendations?	PARTIALLY SATISFIED	5 of 11 WTW 2021 recommendations substantially addressed; 6 partially addressed. No items with limited or no progress.	SP2, KC2, KC3 remain partially open five years after the 2021 review; partially due to bigger overhauls in favour of better structures, but potentially reflecting governance budget constraint.	Slides 15, 16
1.1c	**Appropriateness and completeness of SIPSP changes:** Are material changes to the SIPSP appropriate and complete as policy instruments?	SATISFIED	SIPSP v6 (Aug 2025) is internally coherent and meets s15M content requirements. Key additions since 2020 are appropriate to Fund mandate. Higher levels of appropriateness can be easily achieved with reference to other documentation.	The opinion is formed on the SIPSP dated August 2025. Positive on-going SIPSP and governance adjustments under consideration were noted but cannot be opined on until applied. SIPSP and Investment Framework not yet fully aligned at review date.	Slides 11, 25 – 46
1.1d	**Authority capabilities; human:** Does the Authority have human capability appropriate to its statutory functions, including succession depth?	PARTIALLY SATISFIED	Positive: New CE (Jan 2023) and CIO (Sep 2025) materially strengthen executive function; board refreshed Jan 2026. Adverse: ~5–6 FTE managing 27 mandates across 8 asset classes; no formal risk second-line at Annuitas; internal management risk committee not yet established; IC is Board-only.	Succession planning documentation is mature but practical resilience remains limited. Potential areas of development: (i) review governance budget vs. technology tools newly available; (ii) establish management risk committee; (iii) formalise board education programme.	Slides 17, 19, 31 – 33
1.1e	**Authority capabilities; technology:** Does the Authority have technology and analytical capability appropriate to its statutory functions?	PARTIALLY SATISFIED	Additional systems and technology asks discussed as underway. Primary risk metrics are VaR and probability-of-underperforming-NZGBs. (VaR non-sub-additive; no tail risk capture). CVaR value acknowledged in interviews; no commitment to inclusion. Further systems would help estimate CVaR.	Potential areas of development: (i) assess new technology and AI tools to upgrade systems and increase efficiency; (ii) consider adding CVaR risk metric; (iii) establish framework with de-risking triggers (e.g. net assets below NZ$4.0bn; net outflow exceeds 6%); (iv) replace cat bond Swiss RE benchmark with global bond + premium benchmark.	Slides 14, 17 – 19, 31 – 33
1.1	**Overall:** Does GSFA meet the requirements set out in the Act?	SATISFIED	Aug 2025 SIPSP assessed against all content requirements; all required elements present. Independent Asset Mix Review (see slides 79-85) suggests GSFA could further optimise risk/return of the portfolio (reduce risk for similar performance).	Potential areas of development: (i) incorporate new asset classes; (ii) forward-looking optimisation; (iii) non-traditional factors (see slide 82). Updated risk appetite statement described as in progress at review date.	Slides 11, 25 – 46
			TOR 1.2: SIPSP COMPLIANCE | SECTION 19B(4)(B)		
1.2a	**Independent compliance testing:** Has the reviewer independently assessed SIPSP compliance since the 2021 review?	SATISFIED	This review independently: confirmed triennial compliance cycle achieves full SIPSP coverage; reviewed QIR data (Q4 2025, Q1 2026) – no allocations outside SIPSP-permitted bands; confirmed breach register carries no material SIPSP breaches; reviewed key policy provisions against available portfolio data.	Scope limitation: This review's compliance opinion relies on existing assurance inputs assessed as fit for purpose; this review did not independently audit individual transactions, verify custodian records, or re-perform external compliance reviewers' portfolio-level testing. Proportionate to ToR's treatment of compliance; consistent with 2021 WTW approach.	Slides 11, 17, 26
1.2b	**Leverage of existing assurance inputs:** Does the review appropriately leverage existing assurance, assessed as fit for purpose?	SATISFIED	Four years of compliance reviews relied upon: Russell (FY2022, FY2023) and Mercer (FY2024, FY2025), all reported no material non-compliance. Shift to triennial external review Board-approved August 2023; supplemented by quarterly CIO attestation. Triennial design assessed as proportionate given compliance history.	Note: Consulting firms have held both advisory and compliance roles. Structural independence is adequate for compliance purposes; where robust selection processes are run, the same firm holding both mandates is not itself a governance failure. However, as a general practice, the Authority may wish to monitor the risk of over-reliance on a single advisory firm across multiple functions.	Slides 11, 17, 26, 32
1.2	**SIPSP Compliance; statutory verdict:** Has the Authority complied with its SIPSPs in all material respects since the 2021 review?	SATISFIED	No material SIPSP non-compliance identified. Four consecutive compliance reviews (FY2022–FY2025) confirm consistent adherence. Breach register clean. Portfolio allocation confirmed within policy bands. Triennial structure assessed as adequate.	Note: Compliance verdict considers designed scope limitation from 1.2a	Slides 11, 17, 26, 32

PNYX Opinion: Investment Performance, Effectiveness & Transparency

REF	ELEMENT: STATUTORY TEST	OPINION	ASSESSMENT	COMMENTS	ADDRESSED
			TOR 2: INVESTMENT PERFORMANCE | SECTION 19B(4)(C)		
2.1a	**Performance since inception** Has the Fund delivered performance consistent with its investment objectives since inception (October 2001)?	SATISFIED (primary objective) NOT SATISFIED (active return)	Primary objective, outperform NZ Government Bonds is met. Since-inception return +7.92% p.a. exceeds NZGB equivalent by +3.37% p.a. Despite the excess return of the last 5 years, the Actual and Reference Portfolios show very similar long-term returns (7.92% vs 8.00%), as the underperformance in 2016–2020 (-2.17%) continues to weigh on since-inception results.	The primary objective (outperform NZGBs) is met across all time periods. The active programme has not delivered its +1.0% p.a. target vs the reference portfolio over the full since-inception period (-0.08% vs. RP).	Slides 73 – 78
2.1b	**Performance since 2021 review** Has the Fund delivered performance consistent with its investment objectives in the 2021–2025 review period?	SATISFIED	Over the 2021–2025 period, GSFA's investment portfolio achieved a strong average performance of 10.86% per annum (the strongest 5-year return since inception), generating an excess return of 1.66% over its Reference Portfolio (9.20%), while significantly outperforming New Zealand government bonds, whose returns were negative over the same period (-0.25%).	Despite weaker contributions from Private Equity over the last three years, the Fund achieved both of its objectives over the 2021–2025 period, outperforming New Zealand Government Bonds by 11.11% and the Reference Portfolio by 1.66%. Both excess returns represent the strongest 5-year outperformance since inception.	Slides 9, 11, 47 – 72
2.1c	**Drivers of returns** What are the key the drivers of returns over the review periods?	ADEQUATE	The Target Portfolio choices (i.e. the inclusion of Private Equity within the Global and New Zealand Equity allocations, as well as Catastrophe Bonds and Life Settlements within the Global Fixed Income allocation) proved beneficial, contributing 1.23% of the total excess return. DAA delivered limited and inconsistent results (the programme is currently finalising its redesign), while manager selection added value overall, contributing 0.44% of the excess return.	The excess return primarily driven by the Global Listed Equity (55% of the Target Portfolio) which has consistently performed through active management (Information Ratio 0.8). Global Private Equity has been the main driver of underperformance of GSFA over the past 3 years, as despite delivering a 17.19% absolute return, it lagged its benchmark (listed equities +3%) over both the three-year period and the full review horizon.	Slides 47 – 72, 80
2.1d	**Appropriateness of driver contribution relative to risk** Are return contributions appropriate relative to risk and cost incurred?	ADEQUATE	GSFA's risk-return profile remains superior to the Reference Portfolio, with a higher Sharpe ratio (1.0 vs. 0.6). Its information ratio (0.5) signals value added through active management, driven by Global Equities (0.8), while Global Private Equity (-0.1) detracted despite higher active risk. Although Annuitas shows cost discipline, total investment costs (~100 bps) remain elevated, especially as full Global Private Equity look-through costs are not fully captured.	Potential areas of development: (i) Revisit the Fund-of-Funds (FoF) implementation of Global Private Equity by gradually increasing direct investments, co-investments, and selective club deals to reduce layered fees and improve cost efficiency over time. (ii) Reduce manager selection concentration in Global PE by adding additional managers to diversify risk, enhance governance and accountability.	Slides 55 – 65, 68 – 69, 71 – 72
			TOR 3: EFFECTIVENESS & EFFICIENCY OF THE AUTHORITY		
3	**Effectiveness and efficiency of the Authority** Has the Authority been effective and efficient in undertaking its functions in relation to ToR 1 and 2?	POSITIVE	The Authority has managed the Fund through a materially challenging five-year period without a major governance failure. All 2021 WTW recommendations addressed or in active progress. SIPSP transformed; leadership renewed; RI and climate frameworks materially advanced. Three structural constraints limit the rating: (i) common board across GSFA, NPF and Annuitas creates a principal-agent conflict with no structural firewall; (ii) Annuitas operates without a formal second-line function; (iii) governance budget (~5–6 Investment FTEs, 27 mandates) remains structurally tight.	Potential areas of development on three structural items: (i) manage potential common board conflict through structural review or explicit management protocol; (ii) establish Annuitas risk committee and independent second-line function; (iii) explore further technology and tools to reduce governance budget and enable new analysis	Slides 11, 14, 87
			TOR 4: ENGAGEMENT & TRANSPARENCY		
4	**Engagement and transparency of the Authority** What general observations can be made on the engagement and transparency of the Authority towards the statutory review process?	POSITIVE	The Authority engaged fully and constructively. Dataroom was complete and well-organised. Senior board members participated in extended interview sessions (March 16–18, 2026 offsite); management sessions were substantive. CE and Board Chair proactively identified open governance issues without prompting. Management under current CE characterised by multiple participants as materially more transparent than prior period. No instances of information withholding or selective disclosure identified.	No qualifications on GSFA's transparency. Note: Treasury's oversight function as the Crown's primary accountability mechanism is exposed to staff turnover, potentially impacting institutional memory due to their small team. The existing strong review process and regular engagement helps to minimise this risk.	Slides 11, 31 – 32, 87

PNYX Perspective on GSFA Context and Size

GSFA must balance: complexity and size; and immediate objectives while planning for the future

GSFA's complexity can be justified given its context and the size of the GSFA and Annuitas team, primarily owing to the changes they have made and the capabilities they house. Looking forward, it would be beneficial to the NZ ecosystem to preserve and ideally grow these capabilities.

SIZE VS COMPLEXITY – GSFA IS A HIGH-QUALITY AND VALUABLE CROWN ASSET

GSFA's closed, run-off profile is a defining constraint: the Fund is expected to be half its current size in 20 years and completely run off in 60 years. While an assessment of GSFA's structure must consider the risk of building unnecessary complexity around a shrinking base, the Fund's current complexity appears to be supported by genuine organisational capability rather than process for its own sake. Within GSFA and Annuitas, institutional knowledge and capabilities have been accumulating, and preserving them within the Crown Financial Institution ecosystem should be a long-term priority.

A team model depends on individual quality throughout. The current team appears strong, with a culture oriented towards professional development. This is a meaningful indicator of sustained organisational capability. GSFA is undergoing significant change, with ongoing developments in governance and strategy; the pace of evolution is appropriate given current constraints, though improvements in board expertise could accelerate the progress. At the Annuitas level, the leadership is particularly strong (both in terms of technical and non-technical skills), with a drive to ensure there is a long-term future for a structurally declining asset. The current CE's leadership, communication, and trust across Annuitas, the Board, and Crown Financial Institutions (CFIs) are material institutional assets. His leadership style of team-building has largely facilitated an organisation that can continue to develop capabilities.

Moving to a more lightweight or passive model may reduce some investment complexity, but it would not remove the need for capable people. Even a passive structure requires governance, monitoring, rebalancing decisions, manager/provider oversight, and more.

We have reviewed the move to common membership across the GSFA and NPF Boards as of Jan 1, 2026 in the context of GSFA's closed, maturing profile and view this favourably. Over the longer term, we believe it is important GSFA retain its identity as an independent entity with a defined purpose.

In our recommendations, we consider the implications of the GSFA structure, including the balance of complexity and fund size/available resources and positioning the Fund for the long-term. Important to this analysis is the emergence of low-cost tools that were unavailable until recently, particularly through the use of AI.

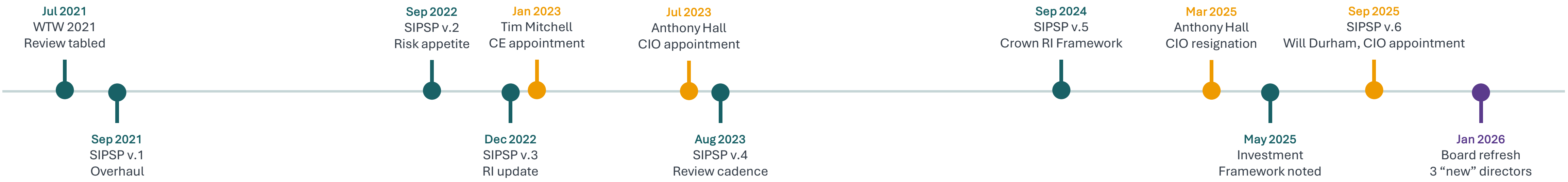
PLANNING FOR THE FUTURE – CONSIDERATIONS AND POTENTIAL AMBITIONS

Given GSFA's strong current positioning, it is worthwhile to think about how their capabilities can be further developed to benefit the overall New Zealand investment ecosystem. From the Crown's perspective, having GSFA exist as a hub for differentiated investment skills that must work through its own investment strategy results in the development of new skills, talent, and overall innovation. In this lens, it is very reasonable to see GSFA/Annuitas taking on more complexity, leaning on the aforementioned low-cost tools to free up budget for more analysis; indeed, the industry is now seeing analyst work increasingly replaced or augmented by AI, which can often perform the same tasks at much higher efficiency and quality. This would enable GSFA to analyse their portfolio in more complex but increasingly important ways, including through the exposures to traditional and non-traditional factors and implement a total portfolio DAA.

The main matter to address would be the preservation of this valuable asset beyond its current lifespan. A natural step would be to engage with the Crown to develop a long-term path for Annuitas that preserves its core capabilities and institutional knowledge beyond the run-off of the GSFA and NPF capital, including consideration of measured expansion into, or combination with, adjacent CFI or private capital pools where appropriate. Letting Annuitas manage smaller funds, which struggle to manage the size vs complexity balance compared to GSFA, gives them better expected outcomes. From a Crown perspective, Annuitas/GSFA could increase its complexity amidst an overall reduction of system complexity. This would thus be prudent from a cost-benefit perspective, and it is worth exploring how this could be implemented from a legislative perspective.

Evolution of GSFA & SIPSP Since 2021

Institutional development, governance maturation, and policy evolution across the review period



SIPSP Amendment Record 2021–2025

Ver.	Date	Major change(s) (if any)
v.1	Sep 2021	Post-review update; beliefs framework refreshed; policy links strengthened
v.2	Sep 2022	Fund-level and strategy-level investment risk appetites; material TP change
v.3	Dec 2022	Responsible Investment section update
v.4	Aug 2023	Report/review cadence relaxed, triennial external cycle
v.5	Sep 2024	Addition of Crown Responsible Investment Framework (CRIF)
v.6	Aug 2025	Annuitas’s role set out in more detail

Assessment: The most significant change was in the September 2021 SIPSP, which overhauled the 2020 SIPSP. As detailed in the evaluation of the SIPSP appropriateness, these changes were very positive and set the foundation for future improvement. Changes after 2021 were mainly incremental, with several changes directly addressing the 2021 WTW Review recommendations, considerations, and suggestions.

Governance budget: 2+ FTEs added, two senior leadership appointments and a board overhaul to common structure. Investment team via Annuitas remains small relative to portfolio complexity.

Climate leadership: Progress on RI/climate is the most visible transformation post-2021. GSFA moved to NZ CRIF structure, alignment with other CFI, and sharing of resources to manage implementation.

Maturity Matrix: 2021 → 2026

Domain	2021 State	2026 State	Assessment
Investment beliefs	Many beliefs; harder to operationalise	Sub-beliefs documented; Board/exec alignment ongoing	Substantially improved
Risk appetite framework	Concept of risk appetite not formalised	IF with a robust risk appetite framework (tbc); further alignment with IF needed	Substantially addressed
Decision-making frameworks	Few captured; governance budget constrained	Investment Framework; DAA, manager selection, RI in SIPSP	Substantially improved
SIPSP architecture	Followed statutory order (not logical flow); not a clear taxonomy of ideas	Complete redraft; further alignment with internal policies ongoing	Substantially addressed
IC role	Did not formally endorse recommendations	IC ToR revised; endorses recommendations to Board	Addressed
Board education	Ad hoc; not comprehensive	Induction strengthened; formal programme developing	Partially addressed
Portfolio management depth	Limited scenario analysis; thesis not documented	Manager review formalised; scenario analysis developing	Partially addressed
Climate / RI	Early stage; "steep learning curve"	Paris Aligned signatory; TCFD → CRIF; climate policy in SIPSP	Substantially advanced
CE capability	*out of scope*	New CE brings WTW governance & NZSF strategic experience	Strengthened
CIO succession	Succession risk a recurring theme	New CIO (Sep 2025); watch knowledge transfer	Addressed (watch)
Board composition	6 directors; IC investment concentration	7 directors; Jan 2026 adds actuarial, capital markets, RI expertise	Strengthened

Review of Responses to Prior Review

Assessment of GSFA's implementation of 2021 Willis Towers Watson recommendations

GSFA has made substantial changes since the 2021 WTW Review, moving in a direction that is more robust and framework-oriented. To this end, several of WTW's recommendations appear only partially addressed primarily due to more foundational changes to the structure, shifting to a "first-principles and build up" approach that will enable these recommendations to be implemented within an overall more coherent framework. SP2, SP3, KC4 are impacted by this intentional foundational re-development; and we suggest for KC2, KC3, KC5 to continue further development in our recommendations.

■ Substantially Addressed (5) ■ Partially Addressed (6) ■ Ongoing Development (0) SP = Strategic Priority · KC = Key Consideration · S = Further Suggestion

Ref	WTW 2021 Recommendation	Status	Key Evidence
Strategic Priorities			
SP1	Evaluate governance budget relative to portfolio complexity; expand resource, increase outsourcing, or simplify portfolio	Substantially Addressed	Additional FTEs, New CE (January 2023) and CIO (September 2025); SIPSP restructured; IC ToR revised. IC remains Board-only; governance budget a constraint at portfolio level.
SP2	Revisit investment beliefs; develop sub-beliefs; define and document comparative advantage	Partially Addressed	Beliefs refreshed; sub-beliefs included. Investment Framework produced, which contains comparative advantages. Coherence and unifying logic of investment beliefs to be further developed. Statement of Intent (SoI) updated; subsequent update underway, not published yet. Beliefs to be removed from latest SoI; connections to investment strategy now in Investment Framework.
SP3	Develop risk appetite framework: risk appetite statement; active tracking error range; value-add categories	Partially Addressed	Total fund risk, active risk, and other elements of risk are (mostly) well-defined. Risk appetite setup in Investment Framework is logical and robust. Full risk appetite framework flagged as an item to be completed in the Investment Framework.
Key Considerations			
KC1	Capture investment decision-making in clear frameworks: risk, DAA, asset class construction, manager selection, RI	Substantially Addressed	GSFA Investment Framework document (May 2025); DAA and manager selection frameworks in SIPSP; RI framework integrated
KC2	Strengthen Board induction; develop ongoing education programme (internal, external speakers, industry events)	Partially Addressed	Induction strengthened; external speakers introduced. Formal structured ongoing programme still maturing though not yet comprehensive. Board skills to be further developed.
KC3	Deepen portfolio management: risk/capital exposure processes; systematic idea generation; scenario analysis; sub-strategy evaluation	Partially Addressed	Manager review process formalised; good understanding of previously disregarded opportunities and structural reasons for their current absence. Tools still limited for total portfolio look-throughs (some in-house tools built); request for new tools made
KC4	Redraft SIPSP: clearer policy/standard/procedure distinction; climate policy; liquidity, credit, leverage policies	Partially Addressed	Complete redraft Sep 2021; 6 revisions through Aug 2025. Missing policy directly or indirectly addressed (and in other documents). Still gaps in policy/standard/procedure distinction, but new structure is coherent and a strong foundation for improvement.
KC5	Strengthen IC role: IC formally endorses key investment recommendations before Board consideration	Partially Addressed	IC ToR revised to require formal endorsement. IC has been delegated limited authority in specific matters; IC role clarity established. Items requiring Board approval generally sent straight to Board, utility and decision-making power of the IC to be further explored.
Further Suggestions			
S1	Improve SIPSP policy links; restore excess return wording; align benchmark for Life Settlements	Substantially Addressed	SIPSP policy architecture improved; cross-references to procurement and operations manual strengthened; benchmark matters resolved.
S2	Formal manager review triggers; portfolio screening for unintended exposures; performance through an active risk lens	Substantially Addressed	Formal manager review triggers adopted; securities screening in place; active risk performance lens incorporated
S3	Deepen ESG integration; develop voting and engagement policy; align to TCFD; continue climate strategy development	Substantially Addressed	Paris Aligned Asset Owners signatory; TCFD-aligned disclosures; voting policy developed; ESG integration deepened across manager selection

Comments on Governance Evolution, Compliance and Board Capacity

Governance foundation is sound; compliance record is clean; board capacity gap is narrowing but requires active management

GOVERNANCE EVOLUTION

GSFA's governance was substantially restructured effective January 2026; moving to common membership of the GSFA, NPF and Annuitas Boards; while updating the Investment Committee (IC), and Audit and Risk Review Committee (ARRC), following joint realignment of GSFA and NPF governance arrangements.

Any newly constituted board requires time to establish working rhythms. The transition creates genuine opportunity: fresh perspectives, clearer mandates, and momentum to address longer-term structural questions. We view this evolution favourably, however note it also warrants active management to ensure the structure operates as intended from the outset.

Common Board

The common board membership decision effectively unified 3 boards into one; the same seven directors across GSFA, NPF, and Annuitas, with the IC and ARRC following the same structure. The logic is straightforward: entities sharing an investment manager and execution partner benefit from common decision thresholds, reporting standards, escalation triggers, and implementation priorities, and the governance overhead of maintaining separate boards with different compositions is hard to justify.

At the same time, directors owe separate fiduciary duties to each entity and the same people must navigate that tension without the structural check that distinct boards provide. Groupthink is another exposure; any blind spot is now shared across all three entities simultaneously.

COMPLIANCE & ASSURANCE

The compliance record is strong and well-documented, supported by layered assurance mechanisms: quarterly CIO attestations, annual investment manager compliance certification, triennial independent SIPSP compliance review, and regular Board oversight.

The 2023 shift to triennial external SIPSP compliance review is sound in principle. The extended gap between external reviews requires active interim oversight to confirm that the triennial cycle remains adequate as the Fund matures.

Statutory Assessment

The SIPSP meets all requirements of Section 15M of the Act. Four consecutive independent compliance reviews (2022–2025) by Russell Investments and Mercer found no material non-compliance. All quantitative SIPSP limits (asset allocation, DAA, risk, liquidity, leverage) appear within prescribed ranges at the most recent reporting date.

SIPSP Evolution

The SIPSP has been comprehensively restructured since 2021. All WTW recommendations from the 2021 review have been addressed to varying degrees. The refinement of investment beliefs requires further development; the leadership team plans a comprehensive reframing exercise. The risk appetite framework is documented, though further development remains.

BOARD-LEVEL CONSIDERATIONS

A governance deficit remains between portfolio complexity and Board-level technical capacity, though the gap appears narrower than prior to the leadership team's bridging efforts. Directors and management agree GSFA would benefit from deeper Board-level investment capability.

Consulting support and expanded IC delegation are the primary available levers in the immediate term. The current consultant is helpful but likely not sufficient alone given limited contracted hours.

Longer-term remedies (not mutually exclusive): increasing investment-related education, new members at rotation, and expanding IC authority.

Governance Communication & Coordination

Communication between the leadership team and the Board appears excellent and materially improved since the previous review. The common membership GSFA-NPF-Annuitas Board structure is receiving favourable early feedback; streamlined processes, better preparation, and closer alignment are reducing governance budget concerns raised previously.

RESPONSIBLE INVESTMENT EVOLUTION

The responsible investment policy has been substantively rewritten over the review period and is consistent with the requirements stipulated in the Act. GFSA has achieved its first interim CRIF target.

Comments on Investment Capability

Investment practice ranks strongly among peers; targeted upgrades suggested for philosophy and risk framework

INVESTMENT

By our assessment, GSFA's SIPSP and investment practice rank among top tier global pension fund peers across Oceania, Asia, Europe (Scandinavia, Switzerland), Canada, Latin America, and the US.

The DAA programme was paused, restarted, and is evolving into a new process under final review. This is positive as we consider institutional-quality DAA is a core capability for asset owners in today's environment.

PNYX believes that there is room for improvement in terms of expected risk and returns by the inclusion of new asset classes and club deals. (See slides 79 – 85 on maximising returns without undue risk.)

EXECUTION

Annuitas applies consistent discipline in sourcing and executing investment solutions across asset classes, with appropriate governance controls, in pursuit of the Fund's return objective (maximising returns without undue risk). Extensive documentation on total portfolio (Reference Portfolio reviews, Target Portfolio reviews) and individual asset classes demonstrates this rigour.

RISK

Risk management is institutional in quality across operational and investment dimensions. Extending the framework to address tail risk explicitly (using CVaR instead of VaR alone) and further incorporating non-traditional risk factors would be useful additions. The Fund tracks the probability of underperforming NZ bonds over 10 years, which is unique and itself forms another risk metric that is central to portfolio construction and performance review.

PORTFOLIO ANALYSIS & RISK VISIBILITY

GSFA may not have full visibility into the underlying factor exposures across its portfolio, potentially leaving material risks and opportunities unidentified. This need not require an expensive software platform; open-source and AI-enabled tools could provide a cost-effective top-down total portfolio view of the most material exposures.

REFERENCE PORTFOLIO & STRATEGIC ASSET ALLOCATION

GSFA is institutionally mature in its use of the Reference Portfolio, putting significant effort into its construction to facilitate the construction of the Target and Actual Portfolios. The Board's approach to an 80% equity allocation is well-constructed, with the resulting ceiling appropriate given their view that marginal returns beyond this point do not justify incremental risk.

INVESTMENT PHILOSOPHY & FORWARD-LOOKING FRAMEWORK

Institutional asset owners are evolving beyond purely valuation-based frameworks. Incorporating structural shifts and forward-looking scenarios alongside the existing Reference Portfolio and risk budget approach would provide additional analytical depth and reduce anchoring to historical trends that may not hold in the future. For example, stress-testing the investment framework against geopolitical and non-traditional scenarios, and across private markets, could be material near-term additions. Over time, GSFA could consider evolving towards a Total Portfolio Approach or broader objectives-based framework. This could also support more systematic incorporation of non-traditional factors such as governance and geopolitics into portfolio management and asset manager oversight. Related to this, GSFA might also consider whether some of the classical academic pillars of investing such as mean reversion, Markowitz optimisation, the efficient frontier etc. still hold reliably in today's more complex markets, and whether there is room to enhance their approach by revisiting these assumptions with fresh data and broader, non-traditional factors.

STRATEGIC FRAMING FOR MATURATION

The SIPSP is designed for a long-horizon growth fund, though GSFA is a closed fund. The current growth-fund framing remains appropriate given GSFA's ability to fund a significant deficit, but there will eventually be a point at which this no longer holds. As the fund matures, the following additions could be established before necessity forces urgency:

- A documented framework for how investment strategy evolves as the Fund matures.
- A dynamic liquidity test scaled to projected net outflows.
- A formal reference to how the Crown's shortfall funding policy influences investment strategy.
- Documentation of whether and when a formal de-risking plan will be initiated.

Comments on Human Capital and Technology Considerations

Key-person concentration, run-off pressures, and strategic maturation gaps require deliberate planning

STRATEGIC REASSESSMENT AND ECOSYSTEM VALUE

While appropriate today, as the maturity profile shifts, comparative advantages underpinning the current strategy (time horizon, fund stability) will require reassessment. At some point in the future, for the current mandate, simplification of portfolio complexity may add more value than current sophistication; periodic portfolio complexity reviews more specifically articulating the comparative advantage thesis and governance cost for each strategy will help to elevate if this point arrives.

Relationships with NZ Super, ACC, and global peers (IPCM, TAI) are a genuine asset, delivering material analytical capacity with minimal FTE and systems cost; e.g. GSFA benefits from NZ Super's leadership on Responsible Investing and DAA. Deliberate effort should be made to maintain and improve these resources.

INSTITUTIONAL CAPABILITY IN A CONTRACTION SCENARIO

The run-off profile creates structural talent retention and cost challenges over the medium term: the minimum people, systems, and oversight needed to manage a complex, multi-asset portfolio are largely fixed, while the asset base is declining. GSFA's internal cost base of approximately 7.6 bps suggests it is managing this balance reasonably well today and has not overbuilt its platform; however, maintaining the same style of portfolio at $6 billion and $3 billion requires a similar level of internal capability, meaning the cost per dollar managed will rise materially as assets decline. Early planning is required despite the absence of acute pressure today, as the operating model must be periodically recalibrated relative to Fund AUM. Long-term capability mapping against the Fund's projected size at 5- and 10-year horizons, with trigger AUM levels identified would help ensure the Fund is prepared well in advance.

To be clear, taking steps to avoid the eventual contraction scenario is the ideal outcome in our view, as GSFA and Annuitas already represent a quality Crown asset. Regardless of size, new technology tools and AI-driven efficiency will allow smaller funds like GSFA to scale up their level of sophistication and risk management and play an increasingly meaningful role on current and long-term resource needs.

KEY-PERSON RISK & LEADERSHIP

The CE's leadership, communication, and trust across Annuitas, the Board, and Crown Financial Institutions are material institutional assets. New CE (Jan 2023) and two CIO (Jul 2023, Sep 2025) appointments represent the most significant leadership change since establishment; the investment team via Annuitas remains small, and the 2021 WTW finding on continuity vulnerability applies with equal force today. Key-person risk cannot be fully mitigated by frameworks and succession planning alone. Senior roles such as the CE, CIO and CRO warrant deliberate succession and capability planning; Annuitas has created and documented this planning.

HUMAN CAPITAL AND TECHNOLOGY

The adequacy of the governance budget relative to portfolio complexity warrants regular attention, particularly given the impact of any staff departures and the ongoing reliance on a small number of individuals. While sufficient now, we view the success of the current environment reliant on the quality of the individuals. We also recognise newly available technology tools and systems may be able to bridge any potential gap cheaper and easier than at the time of the previous review and could substantially alter how to approach this factor.

BOARD AND ANNUITAS CONSULTANTS

GSFA and Annuitas have a sound consultant structure in principle: separate retainers with different scopes for Board and management support, plus project-based specialist advice where needed. The management retainer appears effective, adding technical depth and bandwidth to a team. The Board retainer has been more limited, focused mainly on SIPSP compliance and IC attendance, and may not provide a sufficient level of independent investment challenge. The Board should clarify what effective challenge requires and consider whether to refine the mandate or adopt another model such as an independent IC member.

Recommendations

High Priority

Governance Related

Investment Related

01 Align the SIPSP and Internal Policies

Operational documents (principally the Investment Framework and Statement of Intent) are more developed and appropriately exceed the SIPSP in specificity; this granularity is necessary to translate Board intent into executable strategy. The risk is that the more developed document becomes the de facto reference in practice, inadvertently displacing the SIPSP as the highest authority in the policy hierarchy. The SIPSP should have a clearly defined purpose beyond its legal sufficiency and can leverage the existing frameworks to achieve this purpose.

This rationale is discussed further in slides 29 – 34.

> ***Recommendation:*** *Continue developing the policy hierarchy to ensure that there is consistency between the SIPSP and other core documents and establish explicit cross-references from the SIPSP to subordinate documents.*

02 Revisit the Fund-of-Funds (FoF) Implementation of Global Private Equity

Private Equity FoF provide diversification, access and implementation support, particularly for investors with limited internal resources (see slide 57). However, these benefits come with additional fee layers, reduced transparency and less control over underlying exposures. While effective for building and diversifying a programme, their relevance should be reassessed given the fund's current capabilities. Limited look-through also makes it harder to assess hidden risks, such as leverage and embedded private credit exposures, requiring closer analysis of sector, geographic and other factor exposures. The reduced control of investment entry and exit leaves FoF implementations prone to unwanted secondary or continuation investments. The Global PE portfolio underperformed its benchmark and as the second-largest allocation in the portfolio (15% weight), this asset class has been the primary driver of the GSFA's overall relative underperformance over the last three years. This outcome reflects broader challenges faced by PE globally post 2020, but is amplified by the exclusive use of a FoF structure which introduces a second layer of fees (NZD 6M p.a.). Internalising the capabilities required for selecting private equity managers and direct investments, as is done by many institutional funds, does not require a significant governance budget increase.

This rationale is discussed further in slides 57 – 58.

> ***Recommendation:*** *Revisit the exclusive FoF implementation of Global PE. Gradually increase direct investment in PE funds, co-investments, and club deals, selected to align with GSFA's investment identity and long-term objectives – with a fraction of the FoF budget, GSFA could internalise manager selection and PE portfolio construction, supported by a small number of senior private market specialists. This would optimise cost, as no additional fees would be paid on top of the underlying funds fees, and would thus improve performance over time.*

03 Explore the Inclusion of New Asset Classes in the Target Asset Allocation

GSFA's current Target Asset Allocation (TAA) is well structured and provides added value to the Reference Portfolio. This is in line with GSFA's investment beliefs, namely that different sources of return improve portfolio quality. As shown on slides 83 and 84, the addition of new assets and club deals materially shifts the portfolio's efficient frontier, meaning that the ability to maximise returns without undue risk could be improved further. While the current Target Portfolio composition has served the Fund well, the evolving investment landscape and GSFA's long-term horizon suggest that additional asset classes could be explored to enhance diversification, resilience, and risk adjusted returns.

This rationale is discussed further in slides 79 – 85.

> ***Recommendation:*** *Explore the potential inclusion of new asset classes within the Target Asset Allocation. This assessment should explicitly consider expected risk adjusted returns, diversification benefits, liquidity implications, governance requirements, and consistency with GSFA's investment beliefs, risk appetite, and sustainability objectives.*

04 Reduce Manager Selection Concentration in Global Private Equity

The Investment Framework states that "manager concentration risk arises from a single manager (or group of managers following a similar style) dominating the Fund's AUM or active risk budget." Global PE uses a concentrated manager approach (albeit at the FoF level, which provides underlying PE funds diversification). However, the selection of these underlying funds remains highly concentrated and dependent on the skills of a single manager, which currently manages 81% of the allocation. This creates a type of network diversification risk, since the relationships of private equity managers are a key value-adding factor that drive deal sourcing, access to capital and ultimately performance. The ability to co-invest or to be exposed to privileged club deals is greatly diminished in a highly concentrated FoF implementation (see slide 58). At ~NZD 929M, the size of the Global PE allocation is sufficient to support more than one manager, and doing so would improve governance, accountability, and performance assessment.

This rationale is discussed further in slides 57 – 58.

> ***Recommendation:*** *Introduce additional Global PE managers to reduce manager selection concentration risk.*

Recommendations

High Priority

Governance Related

Investment Related

05 Align all asset classes funded by fixed income with the funding source benchmark

The lack of an investable benchmark reduces the effectiveness of performance oversight and risk assessment, reducing the ability to determine whether the level of risk assumed has been adequately rewarded. For Catastrophe Risk, the Swiss Reinsurance Catastrophe Bond Total Return Index is not directly investable and is difficult to replicate, while Life Settlements rely on actual return series due to the absence of a recognised investable benchmark.

This rationale is discussed further in slides 62 – 65.

> ***Recommendation:*** *Align all asset classes funded by fixed income with the funding source benchmark, (Bloomberg Barclays Global Aggregate Index hedged to NZD). to enable a more consistent assessment of risk-adjusted returns and to better highlight the value added by Target Portfolio choices relative to the funding sources of the Reference Portfolio.*

Medium Priority

06 Strengthen the Board's Investment Technical Capability

There is consensus across Board members and Annuitas leadership that technical investment capability at Board level could be stronger, enabling more effective challenge of investment proposals. This may be a difficult gap to close, as CIO-level multi-asset expertise is among the hardest capabilities for a board to recruit, particularly for a smaller Fund.

This rationale is discussed further in slides 17 – 19, 31 – 33.

> ***Recommendation:*** *(i) Prioritise appointment of at least one member with direct CIO or multi-asset class portfolio management experience at the next Board rotation. (ii) Implement a structured investment education programme covering PE, derivatives, and DAA especially. (iii) Consider appointing an external IC member with investment execution experience. Any adjustment of IC authority (Recommendation 12) should inform this decision.*

07 Ensure Internal Consistency of Investment Beliefs and Board Values

The SIPSP defines investment beliefs as "the Authority's views about the sources of investment return and risk and how these can be captured cost effectively". GSFA's stated investment beliefs clearly connect to the stated investment objective & strategy, affect real decisions, and are stable principles, so they are all useful and are worth retaining. However, several statements are not directly related to sources of investment return and risk. E.g. the belief that 'climate change presents significant investment risks and opportunities' is an investment belief. The corollary that 'the Authority has a responsibility to help limit global warming' is a Board value, not an investment belief. Board values and investment beliefs could therefore be further distinguished. Moreover, the underlying theoretical framework behind investment beliefs and to what extent concepts such as the Markowitz framework, mean reversion and market efficiency is questioned by today's complex markets.

This rationale is discussed further in slides 18, 24, 35 – 36.

> ***Recommendation:*** *Either (i) relocate these statements to more appropriate sections (e.g., ethical/responsible beliefs moved to the Responsible Investment section) and/or rephrase to align with the stated definition; or (ii) clarify upfront the dual purpose of the investment beliefs section, distinguishing return/risk beliefs from broader Board principles (similar to how it's set up in the Investment Framework).*

Recommendations

Medium Priority

Governance Related

Investment Related

08 Optimise Cost Further

Although Annuitas clearly demonstrates strong cost awareness, regularly adjusting the portfolio and taking cost optimisation into account (recent examples include the manager rotation within fixed income and catastrophe bonds), the overall investment cost level of approximately 100bps (including performance fees but excluding look-through costs of PE FoF) appears relatively high.

This rationale is discussed further in slides 71 – 72.

> ***Recommendation:*** *Address the overall investment cost level of approximately 100bps (excluding the look-through costs of PE FoF), which is largely driven by the PE allocation. Addressing this issue could involve reorienting the Global PE structure, which could contribute meaningfully to overall cost reduction while maintaining portfolio efficiency.*

09 Refine the Board's Role in Setting Objectives and Constraints

The Act requires the Fund to maximise returns without undue risk to the Fund, however it is the responsibility of the Board to interpret and operationalise this statement. The current SIPSP converts this into portfolio-level objectives and constraints, but the parameters are ambiguous in places. For example, the constraint on the probability of outperforming government bonds is effectively defined by the Reference Portfolio, creating a moving target rather than a fixed limit.

The Board faces a structural choice: distil risk appetite into a single decision (the Reference Portfolio) or set discrete limits against each objective. Both approaches are defensible; the current SIPSP does not clearly choose one, and Annuitas recognises this tension.

This rationale is discussed further in slides 37 – 39.

> ***Recommendation:*** *Resolve this ambiguity explicitly in the SIPSP. Define the Board's role in setting objectives/risk limits, and document how performance against these will be tracked.*

10 Continue Developing the Policy-Standard-Procedure Architecture

The SIPSP follows a policy/standard/procedure structure for most sections, but there are some areas in which statements may fit better in different sections (e.g. a standard is sitting in the policy section) and in which a few additional sentences would make the SIPSP more complete.

This rationale is discussed further in slide 29.

> ***Recommendation:*** *Rigorously define the terms "Policy", "Standard", and "Procedure" at the onset of the SIPSP, which will enable a mutually exclusive and collectively exhaustive implementation of the Policy-Standard-Procedure architecture. In particular, each Procedures section could benefit from having (implicitly or explicitly) a sub-section on governance. A structured delegation map (visual or tabular) showing who decides, recommends, implements, and reviews at each stage of the investment process would support this (similar to NPF).*

11 Include CVaR Among GSFA's Core Risk Measures

GSFA already uses a comprehensive set of quantitative risk measures to monitor both asset-class and total-portfolio risk, including volatility, tracking error, expected drawdown, 5% VaR, performance relative to New Zealand Government Bonds, equity beta, and information ratio. A useful enhancement would be to incorporate 5% Conditional Value at Risk (CVaR), which is in line with best practice and provides a clearer view of tail-risk severity, especially for portfolios with illiquid, asymmetric, or non-linear exposures. Inclusion of CVaR would also permit more robust risk measurement for DAA, which along with the inclusion of new asset classes, would allow GSFA to maximise returns while having tail risk managed in a way that more clearly avoids undue risk.

This rationale is discussed further in slides 18, 37, 44 – 45, 66.

> ***Recommendation:*** *Include CVaR (Expected Tail Loss) in the SIPSP and Board reporting framework to improve transparency around tail-risk exposure and support clearer Board-level risk-appetite discussions across asset classes and the total portfolio.*

Recommendations

Low Priority

Governance Related

Investment Related

12 Consider Strengthening and Further Delegating Powers to the IC

The GSFA Board currently holds responsibility from supervisory roles such as strategy-setting to setting the risk appetite to execution roles (e.g., agreeing terms with managers). This alone is a significant amount of work and responsibility. Furthermore, as a general rule, authority should reside where expertise resides, and the IC could be better positioned to discharge a meaningful portion of the Board's current investment responsibilities.

This rationale is discussed further in slides 17, 30 – 34.

> ***Recommendation:*** *To further solidify the IC's distinct role from the Board, the following measures could be taken:*
> 1. *Consider appointing an independent member with institutional multi-asset investment skills to the IC*
> 2. *Expand the responsibilities delegated to the IC, continuing the evolution already underway. We recommend expanding to the limit of the current statutory limitations, and potentially exploring if the current limits remain aligned with emerging practice for institutions of this nature and complexity. Ultimately, we believe the IC would be best suited to have some investment related decision-making authority to better support the Board.*

13 Refine the DAA Nomenclature

GSFA's DAA programme (both in its current form and anticipated future form) does not follow the traditional model of tactically overweighting or underweighting existing asset classes, though GSFA's approach has precedent among large asset owners. The current DAA label may imply a level of tactical discretion and complexity that may not reflect actual practice and invite unfavourable comparison to higher-risk forms of DAA. This is solely a recommendation about nomenclature, and we believe that performing what is conventionally defined as DAA is prudent practice, as portfolios should adjust as new information is realised. Annuitas shows robust analytics in their reviews of the Reference and Target Portfolios, and this analysis could be formalised into a conventional DAA programme.

This rationale is discussed further in slides 52 – 54.

> ***Recommendation:*** *Either rename the programme to more accurately reflect its mechanics or define it explicitly at the SIPSP level to avoid inappropriate comparisons.*

14 Define Valuation Risk as a Standalone Risk Category

23% of the Fund is invested in PE and insurance-linked assets, which are subject to valuation uncertainty due to infrequent pricing, model-based inputs, and limited observable market data. The Investment Framework notes parts of this risk, but valuation risk is not explicitly articulated. Large asset owners often address this through a fair value hierarchy, distinguishing between assets valued using quoted market prices, observable inputs, and non-observable inputs. This makes valuation uncertainty more transparent, particularly for private equity, private debt, infrastructure, and other illiquid assets.

This rationale is discussed further in slides 44 – 45

> ***Recommendation:*** *Add Valuation Risk as an explicit, named risk category within the Fund's risk framework, with reference to the proportion of assets subject to model-based or non-observable valuations (e.g. Level 3 assets under a fair-value hierarchy). This should be cross-referenced to existing independent valuation, assurance and governance processes, rather than creating new valuation requirements.*

4 FUNDAMENTAL PNYX PERSPECTIVES

1 SCIENTIFIC INVESTING IN AN INCREASINGLY COMPLEX WORLD REQUIRES REVISITING

The classical tenets of academic finance are being revisited. Market efficiency is challenged, classical assets (defined in the sense of groups of highly correlated assets) get redefined, and portfolio optimisation must weigh more factors at once and span ideas that were previously treated separately. A simple Markowitz framework has now become obsolete and links between assets are more complex than simple correlations.

The pre-eminence of private assets as well as the rise of passive investments have also affected the dynamics and correlations in complex ways.

A true scientific approach regularly revisits past results with new data to ensure that past links between factors remain valid.

IN DETAIL

The importance of non-traditional factors and portfolio look-throughs – beyond asset classes

Since these traditional notions are being challenged, "non-traditional" factors such as geopolitics, climate, inequalities, etc. are emerging as the true drivers of risk/return. GSFA recognises non-traditional risks but, given the size of the team, cannot fully track them. As with traditional factors, these cut across and within asset classes, so having a top-down look-through of a portfolio is critical. As it pertains to GSFA, the following items would be important to track:

- Hidden private credit exposure within PE exposure
- Any exposure to continuation funds (single-asset vs multi-asset)
- Governance exposures with asset managers and within investments.
- The model risk associated with insurance-linked instruments
- Company stages within PE allocation (e.g. venture vs growth vs mature)
- Inflation linkage within portfolio assets
- Sector and geography breakdowns
- Exposure to mean reversion, momentum, etc., both at the Fund strategy level (DAA programme) and in the quantitative equity managers, to understand long-term durability
- USD weakening and knock-on economic effects
- Basic geopolitical exposures

2 DAA HAS BECOME A STRONG SOURCE OF PERFORMANCE AS WELL AS OF RISK MITIGATION IN A TOTAL PORTFOLIO APPROACH

Given the rate of change in the world, it is prudent for asset owners to adjust their allocations with updated expectations of risk, return, and correlations/co-dependencies, and they often need to make these adjustments faster than traditional strategic asset allocation review cycle times. Asset owners with long horizons, such as NZ Super, have demonstrated how DAA has become a strong source of portfolio resilience and overall returns.

This speaks to a broader point about asset owners having more control over their portfolios; even with small teams, it is feasible to take on more direct exposures rather than over-relying on outsourcing, which enables more targeted exposures and a more deliberate DAA. This is pertinent to GSFA as Annuitas is already performing the analysis required to perform DAA in this capacity.

3 GOVERNANCE IS A DRIVER OF PERFORMANCE WORTH EXPLOITING FURTHER

Risk thinking typically focuses on external or exogenous risks, but equally if not more important is the quality of decision-making at the organisation-level, both of the asset owner and of its managers and holdings. Good governance reduces the downside of distributions while increasing the upside, thus acting as long call options on underlying assets, including the portfolio itself.

Good governance is forward looking and heavily tied to stewardship, the act of safeguarding and enhancing the capability of the organisation to create economic and social value over time. Better-governed companies perform better in all scenarios, but particularly in times of high volatility or stress.

GSFA expresses a strong belief in governance, and can exercise this belief more, both internally and in the way they engage their managers.

IN DETAIL

How governance contributes to an updated view of ESG & source of capital thinking

ESG is often treated as three separate sources, with governance reduced to mechanical board metrics and E/S judged through noisy disclosures or third-party ratings. In our view of governance, the G shapes strategy, risk appetite, stakeholder treatment, environmental choices, and social outcomes. Therefore, we would say that G drives E and S, determining whether environmental and social commitments are credible.

In the context of asset owners such as GSFA, we also believe that it is prudent to understand the true effect of their investments, particularly on their primary stakeholders. This moves the exercise away from checklists to fundamentally questioning what impact the act of making an investment will have. For New Zealand, an investment not only provides financial returns but also returns in terms of other sources of capital, which capture a truer sense of "wealth":

Financial Capital	Natural Capital	Manufactured Capital
Human Capital	Intellectual Capital	Social Capital

4 GSFA HAS A TRUE POTENTIAL ROLE AS AN INVESTMENT HUB IN THE NZ ECOSYSTEM

Given GSFA's quality as an organisation, it is overall beneficial for them to exist as a hub for differentiated investment skills, bringing their own approach relative to funds such as NZ Super. Having another organisation work through the creation of its own investment strategy will result in the development of new skills, talent, and overall innovation for the country.

To support this endeavour, it could also be worthwhile to explore the consolidation of smaller funds into the GSFA organisation, solidifying GSFA's role as a high-skilled outfit that is contributing to the development of new investment best practice in New Zealand.

ToR 1:
SIPSP Appropriateness & Compliance

Detailed Commentary and Assessments

Strictly Confidential

SIPSP Appropriateness & Compliance: Executive Summary

GSFA is fit for purpose and well-governed with institutional sophistication that exceeds its size

Compliant and well-assured

Four consecutive assurance reviews; layered three-tier assurance is sound. Triennial external review cycle is pragmatic but requires ongoing monitoring to confirm sufficiency.

High governance standard; key-person resilience is the central risk

Genuine governance maturation since 2021. Board investment expertise and executive team depth remain the primary forward-looking vulnerabilities.

Sophisticated investment framework; some points of specification and internal consistency needed

Beliefs, strategy, and framework are rigorous and well-constructed. Some parts of the investment beliefs and objectives could use refining to be unambiguous.

SIPSP COMPLIANCE

The SIPSP is fit for purpose and has been materially strengthened since the 2021 WTW Review.

Compliance record
Four consecutive independent reviews (2022–2025, Russell Investments and Mercer) found no material non-compliance. The breach register evidences active monitoring, appropriate CRO escalation, and a ‘no surprises’ discipline. All quantitative limits (asset allocation, DAA risk, liquidity, leverage) within prescribed ranges at latest reporting date.

Three-tier assurance framework
Quarterly CIO attestation (~180 statements), annual warrant and auditor reviews, and triennial staged independent SIPSP review. The 2023 shift to a triennial external cycle is pragmatic but demands tight interim oversight; this should remain under active review.

GOVERNANCE

High standard of documentation and information quality for a fund of this size. Governance evolution since 2021 is genuine, deliberate, and responsive to prior findings.

Strengths
Board Charter, committee structures, and delegation architecture are well-developed. CE–Chair relationship and Board-only time are functioning well. The organisation’s willingness to openly document areas still developing (governance gaps, unresolved strategic issues, in-progress practices) is an unusually mature institutional quality.

Key risks
Investment expertise is concentrated in a small number of Board/IC members. Executive key-person risk is elevated: the CIO role is critical to programme continuity and an investment team of 5–6 people manages 27 mandates across 8 asset classes. Succession planning documentation is mature but practical resilience remains limited. The Annuitas–GSFA delegation boundary warrants continued evolution (the delegation framework appears relatively conservative, potentially limiting executive agility).

INVESTMENT BELIEFS, STRATEGY & FRAMEWORK

Investment beliefs: Well-grounded and logically constructed. Most beliefs connect directly to the objective, affect real decisions, and read as stable principles. Unifying logic to be further developed.

Investment objective: In accordance with the Act; unique and logical distillation of GSF mandate into distinct objectives/constraints; some clarification needed.

Reference Portfolio: Used in a sophisticated manner as an effective anchor for investment strategy, with a clear and defensible construction logic.

Investment Strategy: Systematically built ground-up via the Investment Framework, aligning with GSFA’s beliefs. Structured approach through various portfolios (Reference, Target, Actual). Risk appetite is flagged as in-progress.

Investment Framework: Exceptional foundational document. The use of ‘in progress’ labelling is engineered epistemic honesty – rare in sovereign fund frameworks and reflective of a governance culture that prioritises pragmatism.

Benchmarking Framework and Comparator Selection (1/2)

Methodology

OVERVIEW

- Assessing comparative good practice requires a clearly defined and defensible reference group. Rather than selecting comparators on the basis of name recognition or asset size alone, we designed a two-tier framework that distinguishes between funds whose structural characteristics are genuinely comparable to GSFA and those that represent the global frontier of investment governance, regardless of scale.
- This distinction matters. A comparison between GSFA and CalPERS or NBIM, taken at face value, would risk producing findings that are intellectually interesting but operationally unhelpful, since the differences in internal capability, team size, and resourcing make certain governance features simply unavailable to a fund of GSFA's structure. At the same time, anchoring the analysis only to structural peers would set the ambition too low and fail to signal where the long-term direction of travel should point. The two-tier approach resolves this tension:
    - Structural peers define what is immediately achievable and where gaps are inexcusable;
    - Aspirational benchmarks define what best-in-class looks like and where GSFA should be heading over time.
- The comparator selection criteria were derived directly from GSFA's most defining institutional characteristics, as documented in the August 2025 SIPSP. There are several dimensions that materially shape the nature, scope, and appropriate ambition of an investment policy document.

TIER 1 CRITERIA (MUST-MATCH)

- These are structural features whose absence makes a direct SIPSP comparison misleading.
- A valid structural peer should be a closed or mature defined benefit fund, no longer open to new members and in net payout mode or approaching it. It should:
    - Operate a fully or predominantly outsourced investment model, where a governing board delegates day-to-day investment management to an external manager or management company rather than maintaining an internal investment team; and
    - Carry a public or sovereign mandate, meaning it is subject to a public interest test, government oversight, and associated responsible investment or transparency obligations.

TIER 2 CRITERIA (SHOULD-MATCH)

- These dimensions improve comparability but admit some variation. An ideal peer operates within an AUM range of approximately USD 2 to 20 billion, reflecting GSFA's current fund size of approximately NZD 5 to 6 billion.
- It should:
    - Have a return-seeking mandate benchmarked against a market reference portfolio rather than a pure liability-driven investment approach;
    - Be domiciled in a developed market jurisdiction where governance expectations and disclosure norms are broadly equivalent;
    - Have an investment horizon of ten years or more, consistent with GSFA's long-dated liability profile; and
    - Hold a diversified, multi-asset portfolio that includes alternatives, generating the governance challenges around private market benchmarking, illiquidity management, and dynamic asset allocation that are central to GSFA's own strategy.
- Aspirational benchmarks were selected on the basis of their recognised status as global leaders in investment governance, policy document quality, or specific thematic areas such as responsible investment, risk management, or investment beliefs articulation, even where they differ materially from GSFA on size or operating model.

Benchmarking Framework and Comparator Selection (2/2)

Comparator Overview Table – see Appendix for further Fund description

Fund	Country	AUM (approx.)	Fund Type	Operating Model	Mandate	Policy Document
Tier 1: Structural peers, immediate benchmark						
NPF	New Zealand	USD 1.5B	Closed DB	Fully outsourced (Annuitas)	Return vs. NZ Gov Bonds	SIPSP (Dec 2025)
GESB	Australia	USD 22B (DB: USD 2.2B)	Partly closed DB	Outsourced	Return seeking	Treasurer's Prudential Guidelines + SCI
PPF	United Kingdom	USD 40B	Closed sovereign DB	Predominantly outsourced	CPI + premium over 10 years	Statement of Investment Principles (Feb 2024)
Brunel/LGPS	United Kingdom	USD 44B	Maturing public DB	Fully outsourced (Brunel)	Return seeking	Investment Strategy Statement per fund
Tier 2: Aspirational Peers, long-term benchmark						
NZSF	New Zealand	USD 50B	Sovereign wealth	Hybrid internal/external	Maximise return, prudent commercial	SIPSP (2024)
Future Fund	Australia	USD 170B	Sovereign multi-mandate	Hybrid internal/external	Return vs. CPI + target	Statement of Investment Policies
VFMC	Australia	USD 57B (multi-client)	Multi-mandate outsourced manager	Internal (as manager)	Client-specific	Annual Report + DTF Guidance
PSP Investments	Canada	USD 195B	Closed federal public DB	Hybrid internal/external	Maximise return without undue risk	SIPSP
CalPERS	USA	USD 560B	Open public DB	Large internal team	Maximise funded status	Total Fund Investment Policy
NBIM	Norway	USD 2.2T	Sovereign wealth	Large internal team	Maximise return within mandate	Mandate + Strategy + Policy Suite
ABP	Netherlands	USD 560B	Open public DB (shifting to become DC)	Outsourced (APG)	Maximise return, liability aware	Investment Beliefs + Investment Plan

Top-Down View of the SIPSP

The Aug 2025 SIPSP has a coherent and comprehensive structure, underpinned by robust internal frameworks

APPROPRIATENESS OF THE NEW STRUCTURE

- The 2025 SIPSP has significantly evolved its table of contents from the 2020 SIPSP:

2020		2025
1. Introduction 2. The Fund Management Structure and Governance 3. Statement of Investment Philosophy 4. Asset Classes and Selection Criteria 5. The Balance of Risk and Return	6. Benchmarks 7. Standards for Reporting 8. Responsible Investment 9. Risk Management 10. The Use of Derivatives 11. Investment Constraints 12. Valuation	1. Introduction 2. Governance 3. Investment beliefs 4. Investment objective 5. Investment strategy 6. Responsible Investment 7. Risk management 8. Review and monitoring processes

- **We view this updated structure very positively**, as it has a logical order and taxonomizes the ideas more coherently.
  - Logical order: The 2020 document follows statutory order rather than investment logic, whereas the 2025 version re-sequences around how a fund actually operates.
  - Taxonomy: The consolidation of sections (e.g. bringing derivatives and constraints into Risk Management and Investment Strategy respectively) moves towards a structure where statements sit where they belong conceptually.
- The promotion of Investment Beliefs to its own section captures both these changes well, as its position near the front of the document reflects its foundational nature (in that it justifies decisions to follow), and encompasses an idea such as the balance of risk and return
- **Our view is that the SIPSP is not missing a major statutory section**, but the structure still has areas that could be improved, and the leadership team has expressed its continuous efforts to do so. For example, a section such as Investment Strategy focuses more on the operational constraints, so further consolidation and/or the repurposing of the Investment Strategy to reference the deep work within the Investment Framework may be appropriate.

POLICY-STANDARD-PROCEDURE STRUCTURE

- While global peers use a range of titles for their investment policy documents, GSFA's SIPSP is distinctive because the title is meant to be implemented in the document itself: the intended structure is that the document sets out policies, crystallised by standards, and operationalised by procedure. **This intention reflects a dedication to meaningful structure, which will be a recurring theme throughout this review.**
- With that said, the rigour with which it implements the above structure has not yet been established, which is understandable given the significance of changes from the 2020 SIPSP. There are some areas in which statements may fit better in different sections (e.g. a standard is sitting in the Policies section), in which one section combines another, or in which the standards do not necessarily flow from or provide a qualification of the policies. A suggestion may be to have definitions of policies, standards, and procedures at the onset of the SIPSP, as this would naturally lead to an easier and more structured implementation of the Policy-Standard-Procedure template.
- Several of the Procedures sections discuss the relationship with governance structures; this inherently makes sense, as a procedure to implement the standards would organically include the process for decision-making. Accordingly, a governance sub-section within each Procedure section may benefit the document. This would potentially (but not necessarily) require more consolidation in the overall taxonomy, as previously discussed.

LEGAL SUFFICIENCY VS DECISION-UTILITY

- The SIPSP is legally sufficient, satisfying the conditions of s15M. Some sections go well beyond legal sufficiency, while others primarily contain what would be required from a legislative/compliance standpoint.
- Taken alone, the document may not have sufficient depth to be the backbone of an investment organisation, but **the depth of work exists in the extensive surrounding documentation**, particularly the Investment Framework. A suggestion is therefore to clarify the exact purpose of the SIPSP beyond its legal sufficiency, as **appropriateness at higher levels can quickly be achieved through reference to these other documents**. With this in mind, our analysis covers this other documentation, gauging the appropriateness of the SIPSP in the context of their existence.

High level Governance Findings and Commentary (1/4)

GSFA's governance processes are well-documented; a structured delegation map would unify the documents

SIPSP GOVERNANCE EVALUATION

The Governance section of the SIPSP adequately covers what would be required from a legislative/compliance standpoint. Emphasis is placed on the roles of the different players in the decision-making process (Board, Annuitas, investment managers, custodian, investment advisors). A structured delegation map (visual or tabular) showing who decides, recommends, implements, and reviews at each stage of the investment process would support this (similar to NPF), and an example of such a map is shown in a subsequent slide.

To an extent, enumerating (in bullet point form) the various roles that each party has at the onset of the document is somewhat reductive of the depth of thinking that GSFA has put into their pursuit of best practice and good governance. The Investment Framework showcases an alternative approach that better suits this thinking; the investment strategy is effectively built from axiomatic beliefs, and as each piece is built, the decision-making bodies are specified. Compared to the 2020 SIPSP, the 2025 SIPSP has a much more logical and ground-up structure; accordingly, having a governance sub-section in each Procedures section may be useful. Reference to the Investment Framework would further supplement this.

DOCUMENTATION AND FRAMEWORKS

Board governance documentation is comprehensive. The materials include a Board Charter, Board self-assessment, Board work programme, membership records, and a detailed September 2025 Board Induction pack. The Board Induction pack and meeting materials evidence regular education and deep engagement with investment matters. However, the 2021 Review's observation about the benefit of additional investment expertise and skills development on the Board remain relevant. We understand that a Governance Manual is under construction to help tie these abundant governance materials together, which will help the Board (and other relevant parties) navigate them. We view this evolution very positively, and this document may also benefit from the aforementioned structured delegation map.

BOARD CHARTER

This newly created document has notable positives (tailored board views, reference to a skills matrix, a dedicated section on the Chair's active role, biennial board reviews, explicit CE accountability provisions).

A structural challenge in smaller markets is finding experienced board members with both broad and specialist skill sets (particularly CIO/Multi-asset portfolio manager experience). As such board member training should be a key element of forward planning. The board charter could benefit from detailing board training and education and guidance on the blend of information a board should seek. There is also limited mention of investment, and limited detail on how the common board membership structure is governed beyond a brief conflict reference.

IC CHARTER

The IC duties are relatively thin, which is internally consistent given that the Board responsibilities range from setting overall strategy down to approving manager selection. The IC is correspondingly given an assistance role, reviewing materials and making recommendations rather than taking decisions. PPF is an example of a natural cascade of the Board, IC, and executive teams: PPF's Board is responsible for the funding objective and risk appetite, whereas the IC is responsible for the asset mix consistent with this objective and appetite and for overseeing its implementation by the CIO and executive team.

ARRC CHARTER AND INVESTMENT RISK

The Audit and Risk Review Committee charter is substantial, going into far more specificity than a document such as the IC charter, in particular around audit and financial statements and control environment. It is also quite thorough in its references to enterprise risk. Importantly, though, in paragraph 1.3, it is stated that the Committee is not responsible for investment risk, which means that investment risk is not covered in the Board/Committee charters.

High level Governance Findings and Commentary (2/4)

Board holds significant authority despite internal gaps & heavy reliance on Annuitas; improvement in progress

ACCOUNTABILITY AND DELEGATION

Formal accountability remains heavily concentrated at full Board level despite operational reliance on Annuitas expertise. The delegation framework appears relatively conservative, potentially limiting executive agility (the Management Services Agreement is restrictive in this regard). This is particularly notable as, in practice, Annuitas drives all investment decision-making even if it does not have ultimate control. The clearest representation of the practical delegation of roles is in the Investment Framework.

Ongoing evolution suggests the board and leadership are exploring ways to improve this. A clear example is the IC. The Board members with the most investment expertise make up the IC. As a result, in the past some non-IC board members have perceived discussions routed through the IC as effectively decided by the time they reach full board level, even if the IC hasn't formally resolved anything. Steps have been taken to improve this – notably clarifying the IC's role - and, as a general rule, the organisation aims for things that go to the IC to be resolved at the IC. Considerations requiring a full board decision for approval go directly to the Board, which has the benefit of IC member's expertise. This has a double benefit of streamlining the governance budget of the organisation and helping alleviate the perception of decisions being "pre-baked".

INFORMATION QUALITY

Information quality and documentation is appropriate, if not advanced for an organisation of this size. The common board structure and streamlined board commitments since the last review reduce the governance budget required to produce the documentation slightly; the depth and quality of board packs, IC memos, QIR, and other key documents continues to improve since the last review. Internal materials could evolve, from the current performance summary of existing investments, to include more on the current state of markets and the risks and exposures within asset classes to which the Fund is exposed. The relationship between the CE and Chair now appears very good (addressing a point of concern from the 2021 WTW Review), and there is direct access between committee members and senior team members as needed (compared to a forced hierarchy).

GOVERNANCE MATURITY HAS IMPROVED; APPEARING GENUINE, DELIBERATE, AND RESPONSIVE TO PRIOR FINDINGS

GSFA has made visible progress in formal governance architecture over the past several years. Board charters, committee structures, governance policies, review processes, and strategic planning disciplines have all become materially more structured and institutionalised. Board Only Time is institutionalised; Chair takes individual member input before each meeting; structural mechanisms for independent board voice exist and are used.

The observed governance changes do not appear reactive or cosmetic. Rather, the evidence suggests a sustained and deliberate governance modernisation effort over multiple years.

Examples include: formalisation of Board and committee charters; strengthening of governance workplans; expansion of governance review processes; improved role clarity; investment framework refinement; more structured Board-only sessions; behavioural and effectiveness initiatives following prior reviews.

BOARD DYNAMICS

The Board has a high-quality chair: experienced, well respected, inclusive, with excellent communication skills and dynamism. However, the overall level of investment expertise across the board can lead to consensus-based decision making as members rely on a small number of experts in technical investment related areas. Strengthening investment capabilities at the board or committee level would improve this dynamic.

UNUSUALLY HIGH INSTITUTIONAL SELF-AWARENESS FOR A FUND OF ITS SIZE

One of the strongest recurring observations across documents, interviews, and governance reviews is the organisation's willingness to openly acknowledge areas still developing. This is evident in:

- explicit identification of governance gaps;
- transparent treatment of unresolved strategic issues;
- governance review responsiveness;
- acknowledgement of evolving practices within formal documentation.

The Investment Framework's use of clearly identified "in progress" areas is particularly notable and reflects a governance culture that prioritises realism over performative completeness.

High level Governance Findings and Commentary (3/4)

Concentrated technical expertise; use of external consultants well considered; further refinements needed

BOARD AND COMMITTEE TECHNICAL INVESTMENT EXPERTISE

Board investment expertise appears concentrated in a few directors, potentially limiting independent scrutiny of complex portfolio decisions, including the ongoing equities restructuring. The IC is concentrated in 3 of 7 directors, with investment depth at the Board thinner across remaining membership.

Additional directors with direct Investment Committee and/or complex multi-asset portfolio management experience would materially strengthen Board capability. Increasing IC responsibilities and broadening the IC with independent members bringing more technical investment expertise could further help bridge these gaps.

RETAINED EXTERNAL CONSULTANTS

GSFA and Annuitas have structured separate consultant relationships for the Board and the management/investment team, a sound governance practice. In principle, the board receives independent assurance, a second opinion on major proposals, and additional technical expertise to challenge the investment team; the investment team receives technical depth, peer review, and specialist access that a small team cannot maintain internally.

The two retainers are delivering unevenly. The management/Annuitas relationship appears to be functioning as intended: the consultant provides technical support, bandwidth, and training that supplements an investment team. The board relationship is more limited. The consultant's role has operated primarily as an assurance programme (triennial SIPSP compliance reviews and IC attendance). Board members and the executive acknowledge the arrangement is not fully meeting the Board's needs, and further evolution is underway.

We encourage the Board to be explicit about what challenge of the investment team should look like in practice, and to assess whether that is best achieved by restructuring the current mandate, requiring the board consultant to be sourced from a different firm, or adopting a different model altogether, including the appointment of an independent member to the Investment Committee.

STRUCTURAL INDEPENDENCE OF RETAINED EXTERNAL CONSULTANTS

The retainer structure warrants closer scrutiny on two points.

Same firm, two roles. Following a 2024 selection process, one firm was appointed to both the Board-facing and management-facing retainers. This was the unintentional outcome of a competitive process, not a governance design choice, but it creates a structural independence question that a deliberate design would have avoided. The Board's assurance function and management's technical support function are now provided by the same organisation, with all instructions flowing through the CIO as agent for all three clients. This potentially limits the degree to which the board consultant can operate as a genuinely independent check on management. Independent of this analysis, in their recent review of arrangements the Board and Annuitas have emphasised that the Board consultant's key relationship is with the IC Chair. The CIO (or CEO) role is to ensure that IC Chair instructions are properly specified to the consultant and to logistically manage the relationship.

Capture dynamic. Earlier review feedback noted a perceived lack of independence between the Board's consultant and management. The 2024 appointment of separate Board and management consultants was intended to correct this, but Board members have indicated the dynamic has not fully resolved. The intention is clear, further refinement (already underway given the acknowledgement noted here) should be explored to eliminate this point of discussion entirely.

PROJECT-BASED ENGAGEMENTS

Beyond the standing retainers, GSFA has demonstrated a healthy pattern of engaging external consultants for specific technical projects. The 2022 alternatives asset class review (awarded following a competitive RFP from nine respondents) is a good example of the investment team seeking specialist expertise it did not have internally and running a rigorous process to source it. This project-based model, scoped, competitive, and fit for purpose, is an effective complement to the retainer structure.

High level Governance Findings and Commentary (4/4)

GSFA's inherent risks as a small-team are partially mitigated by its framework-oriented culture

CURRENT GOVERNANCE EFFECTIVENESS REMAINS SOMEWHAT DEPENDENT ON SPECIFIC INDIVIDUALS

Several aspects of current governance effectiveness appear strongly associated with particular individuals, including management continuity; investment expertise; governance leadership; institutional memory; and cultural tone.

This is not unusual in relatively small investment organisations. Smaller institutions often rely disproportionately on a handful of experienced individuals during periods of institutional development. However, concentrated institutional dependence creates governance resilience risk over longer horizons.

LEADERSHIP SUCCESSION PLANNING

Annuitas is institutionally mature in its use of forward planning documentation. The skills matrix, contingency mapping, and use of the framework for both downside risk management and capability development are genuine strengths and notable for an organisation of only 16 people, but the practical vulnerability of a small team managing a complex portfolio persists. The further reality of a small team is that natural succession is hard to achieve as there isn't the same depth within the organisation; nonetheless, laying out short term coverage and hiring with organisational skill gaps in mind speaks to the forethought of leadership in general.

ORGANISATIONAL STRUCTURE

Key-person risk is elevated. The investment team managing 27 external mandates across 8 asset classes numbers approximately 5–6 individuals (CIO, Manager Equities & Alternatives at 0.8 FTE, Manager Fixed Income and Currency, Manager Investment Operations, and two Senior Investment Analysts; one departing March 2026). The CIO role appears critical to investment programme continuity. The 2021 WTW Review flagged team fragility and the risk of senior staff departures; this remains a live concern, albeit a structural reality of leaner organisations.

The adequacy of the governance budget relative to portfolio complexity should be re-examined, particularly given staff departures and the ongoing reliance on a small number of individuals. Newly available technology tools and systems may be able to bridge any potential gap cheaper and easier than at the time of the previous review and could substantially alter how to approach this factor.

CULTURAL TRANSFORMATION

The culture cultivated by leadership at Annuitas is a powerful governance asset: appearing transparent, outcomes-oriented, psychologically safe. For example, all board papers (except CE performance evaluation) are shared with all 16 Annuitas staff; an unusual and deliberate signal of institutional trust that reinforces a non-siloed operating environment.

CULTURE OF REVIEW AND IMPROVEMENT AT BOARD AND LEADERSHIP LEVELS

GSFA Board members were consistently open and frank during interviews; discussions suggested a culture of awareness and willingness to address weaknesses where possible; corroborated through third parties. GSFA's multi-year evaluation trajectory (IoD 2020 → self-assessment 2022 → Poole 2025 → Board Effectiveness Plan 2026) indicates active institutional self-awareness and ongoing governance improvement at a Board level.

Detailed annual objectives for each team member at Annuitas indicate considerable thought around team development.

CURRENT CE LEADERSHIP STYLE

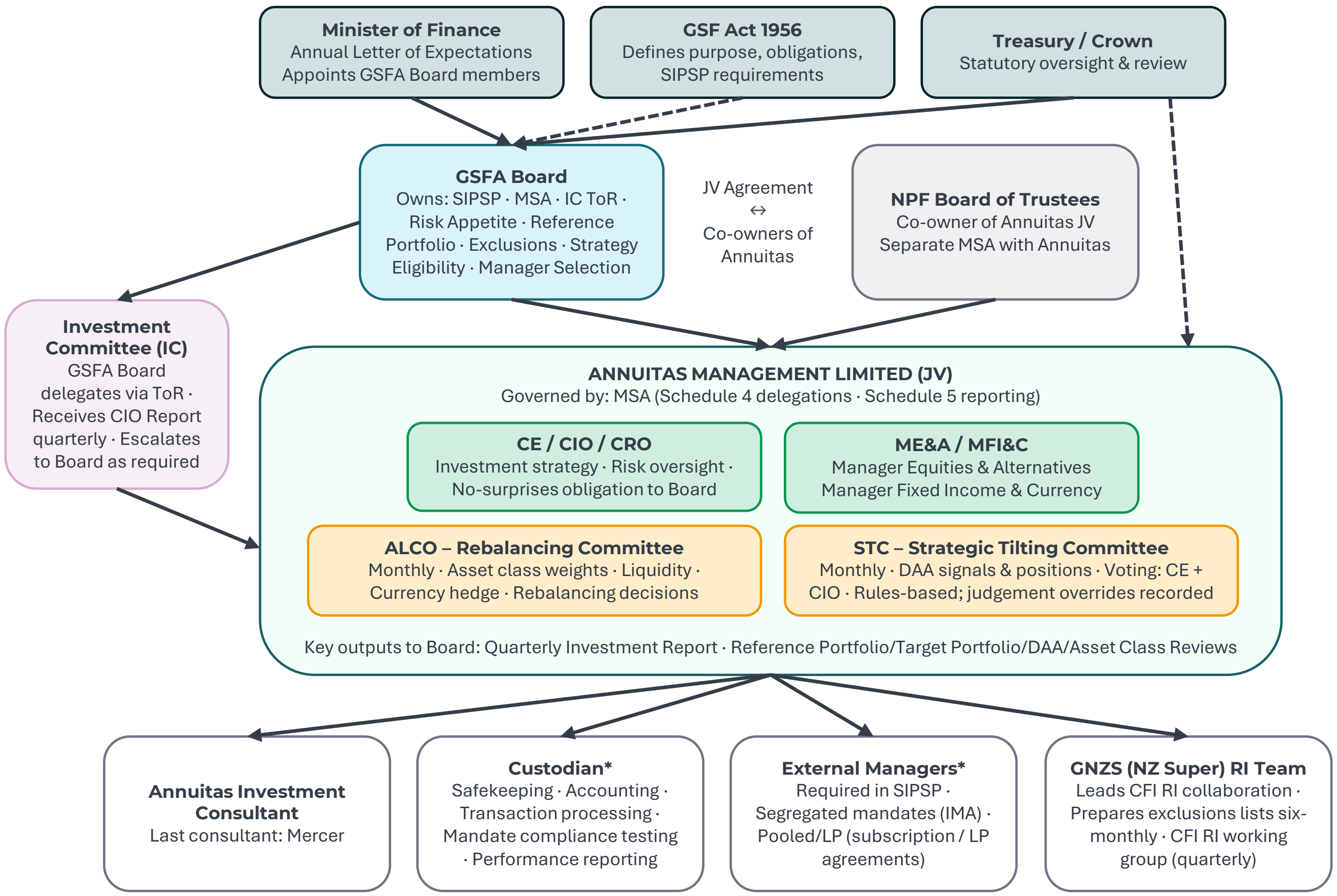
CE is a high quality team builder with a focus on ensuring quality and team cohesion; team first orientation strengthens the overall organisation, and willingness to marginally sacrifice performance for organisation harmony shows long-term thinking. This personal leadership and deliberate actions to increase GSFA's appeal allows the organisation to recruit talent above the standard for an organisation of its size. These capabilities are specific to the individual, not the role, and have a large impact on current and long-term success (key for succession planning).

WELL-CONSIDERED STRUCTURES AND PROCESSES

GSFA's governance structures are in the most active period of reform in the fund's recent history. Despite this, the structure remains sound with decision rights comprehensively mapped: IC retains investment recommendation authority; Board retains all strategic decisions; Delegations Policy covers operational authority; no material gaps in formal delegation architecture were found. There remains room for improvement, examples include: the QIR (see slide 46) doesn't provide sector, geographic exposure, FX exposures – more detail could lead to more informed decisions; the manager traffic light system could have a sharper rating scale to more proactively highlight potential concerns.

Governance and Investment Relationship Map

GSFA operates in a complex, multi-stakeholder environment



*Contracted directly by GSFA, day to day relationship with Annuitas

From	To	Governing / Defining Document	Frequency	Decision Held By
Minister of Finance	GSFA Board	GSF Act 1956 Board appointment powers	As required	Minister
GSFA Board	Minister of Finance	GSF Act 1956 · SIPSP	Annual	GSFA Board
Minister	Treasury	GSF Act 1956 Statutory review obligation	5 Yearly (statutory)	GSFA Board
GSFA Board + NPF Board	Annuitas (JV)	JV / Shareholder Agreement Creates Annuitas Management Limited	As required	Both Boards jointly
GSFA Board	Annuitas	Management Services Agreement (MSA) Schedule 4: decision rights. Schedule 5: reporting standards	Ongoing / as required	GSFA Board
GSFA Board	Investment Committee	IC Terms of Reference Delegation of authority from Board to IC	Quarterly meetings	GSFA Board
GSFA Board	Annuitas (Investment Framework)	MSA · SIPSP prevail over Investment Framework where conflicted	As updated	Annuitas owns; Board notes/consults
Annuitas	GSFA Board	MSA Schedule 5 Mandatory reporting standards	Quarterly / Annual	Annuitas (reporting obligation)
Annuitas	Investment Committee	IC Terms of Reference · MSA	Quarterly / Annual	IC (Annuitas reports)
ALCO	Annuitas	Investment Framework Rebalancing process	Monthly	Annuitas (delegated)
STC	CE, CIO, CFO (voting members)	Investment Framework DAA rules and governance	Monthly	CE + CIO (voting members of STC)
Annuitas	Annuitas Investment Consultant	Retainer + Project Hours Agreement (reviewed at least every 5 years via RFP)	Monthly WIP + project-by-project	Annuitas selects its own consultant
GSFA	Custodian	Custodian SLA	Monthly	GSFA Board
GSFA	External Managers (segregated)	Investment Manager Agreements (IMAs) – mandate parameters, authorised securities, restrictions, fee schedule (Board approves key terms; Annuitas finalises minor terms)	Monthly reports; regular meetings	Board: strategy eligibility & manager selection. Annuitas: day-to-day oversight
GSFA	External Managers (pooled / PE)	Subscription Agreements / LP Agreements	Quarterly / as required	Board: strategy eligibility. Annuitas: execution
GNZS (NZ Super)	GSFA via Annuitas	Portfolio Exclusions	Six-monthly	GNZS prepares lists; GSFA Board approves exclusion policy
GSFA + ACC + GNZS	CFI RI Working Group	Formal RI Collaboration Contract	Quarterly	GNZS leads working group

PNYX

Investment Beliefs

GSFA's investment beliefs are grounded, and the leadership team is taking steps for further improvement

BACKGROUND AND OVERVIEW

- The 2021 WTW review focused very heavily on the investment beliefs, claiming them to be a "cornerstone of good fund governance". One of WTW's key priorities was to rewrite the investment beliefs to be more succinct and simultaneously provide a "tighter link" between the Board's preferences and beliefs and GSFA's investment strategy, adding the possibility of principles or sub-beliefs to provide this link. This would more closely align with the ABP Investment Beliefs structure.
- There has been a substantial change in the structure and content of the investment beliefs between the 2020 and 2025 SIPSPs.

2020	2025
• 20 investment beliefs over 4 broad categories • Listed the corresponding implications for the investment strategy	• Separates investment beliefs from the investment strategy and puts the link in the Statement of Intent* • Fewer investment beliefs (9), but for some investment beliefs, statements encompass several of those found in its 2020 counterpart • No longer extra layer of broad categories → each belief maps directly to one or several implications for investment strategy

- The last point on the 2025 side helps address WTW's comments on the clarity of the link; however, as we address in our evaluation of the current investment beliefs, there are instances in which an investment strategy output is a function of two or more investment beliefs as input, so the forced one-to-many relationship between belief and strategy (rather than many-to-many) sometimes limits accuracy.

** Updated Statement of Intent will no longer have a Beliefs section*
Connection between beliefs and investment strategy now exists in the Investment Framework

ON THE PREMISE OF INVESTMENT BELIEFS

- The purpose of a set of investment beliefs, according to GSFA, is that it provides the foundation for the investment strategy, effectively establishing certain premises about investing that define the rules under which an investment strategy can be constructed.
- In doing so, one must be wary of the tendency to make claims that are
    1. Not necessarily true in the present;
    2. Will not necessarily be true in the future; and/or
    3. Add constraints where they are not necessary
- GSFA's investment beliefs have been framed such that it is unlikely that the statements will be outright wrong, using language such as "usually", "on average", or "selective"; however, considering the intent of the investment beliefs is to guide decision-makers (the investment team), adding these qualifiers likely makes only a limited practical difference.
- For PNYX, a stronger foundation lies in investment principles that, instead of making statements about the market or investing, provide a guideline on how to make such statements at any given moment on a forward-looking basis.
- The leadership team confirmed they are completely aligned that investment beliefs should not be dogmatic and should be framed as hypotheses about how they see the world working, meaning they should be tested against evidence and experience and updated accordingly. They are in the process of working towards this goal, and **we view this very favourably.** To this end, a suggestion we would make is to take ABP's "Argumentation" aspect of the belief that justifies why they have this belief.
- The leadership team is also clear that the investment beliefs are a governance tool to bridge the board and executive functions, and they are keen that statements will be brief, interpretable, and front-of-mind.
- The next slide evaluates the most recently published investment beliefs. Late in the process of this review the GSFA Board updated its beliefs and the leadership team is currently updating their management principles to ensure they are fully aligned.

Investment Beliefs – Evaluation

Investment beliefs are thoughtfully and rigorously constructed and tractably inform the investment strategy

METHODOLOGY AND OVERALL EVALUATION

- Investment beliefs must be evaluated as a stand-alone and in their totality. We evaluate investment beliefs on the following basis:
  - Do the beliefs clearly connect to the stated investment objective and strategy?
  - Is it clear how the beliefs affect real decisions (e.g. asset allocation, use of active management, risk-taking)?
  - Are the beliefs stable principles, or do they read like descriptions of the current portfolio?
- Most investment beliefs in the SIPSP, accompanied with the corresponding implications for investment strategy, **pass these criteria, which is a testament to the thoughtfulness and rigour that went into their construction**. We focus on the few areas where there is still ambiguity.

DIVERSIFICATION BELIEF

- The belief that *"on average [...] spreading investments among different sources of return improves the quality of our portfolio"* **accurately portrays diversification in terms of underlying risk/return drivers** rather than a number of different asset classes. The challenge is connecting them with the investment strategy
  - Claim: the Fund should therefore "seek diversified exposures to rewarded non-traditional factors"
  - Challenge: that these rewarded non-traditional risk factors exist is itself an investment belief
- **Other investment beliefs skilfully make claims at a similar level of abstraction.** E.g. the Time Horizon belief makes a forward-looking claim about the evolution of volatility (i.e. that short-term volatility is higher than long-term on a scaled basis). There could be a similar belief about the risk premia for non-traditional factors. Seeking "diversified exposures to rewarded non-traditional factors" would then be an implication of the two beliefs. Defining non-traditional factors would make this clearer and help guide the investment team.
- The 2025 SIPSP made the modification that diversification improves a portfolio's "quality" rather than "ratio of return to risk" (from 2020 SIPSP). "Quality" encompasses a broader range of outcomes, but the SIPSP would also benefit from a more specific definition.

IMPLEMENTATION BELIEF

- The belief discusses the alignment of interests and costs as a key part of implementation, but the link to investment strategy only discusses performance measurement as net of fees → somewhat redundant (net of fees measurement covered in Active Management) and does not discuss the implications of managing the alignment of interests

CLASSIFICATION AS INVESTMENT BELIEFS

- GSFA defines investment beliefs as "the Authority's views about the sources of investment return and risk and how these can be captured cost-effectively".
- With few exceptions, **all of the investment beliefs are sensible, represent an underlying belief from the Board, and tractably inform the investment strategy,** so they should all exist in the SIPSP in some form.
- However, several statements (on ethical/responsible investment, climate-related risk, and oversight) are not directly related to investment return and risk.
  - E.g. the climate belief that "climate change presents significant investment risks and opportunities" is an investment belief. The corollary that "the Authority has a responsibility to help limit global warming" is a Board value, not an investment belief.
- Having a rigorous implementation of this investment belief definition is also helpful for decision-makers, as they can clearly distinguish the beliefs that fundamentally drive their investment assumptions from more general board values. **The Investment Framework follows this structure well**, so the SIPSP could refer directly to the Investment Framework.

Investment Objective

GSFA's objectives are logical and in accordance with the Act

OVERVIEW

- The explicit investment objective is to ***"maximise excess returns relative to New Zealand Government Bonds (before NZ tax) without undue risk of underperforming bonds, measured over rolling ten-year periods"***.
- In itself, this statement is not precise, as "undue risk" is not well-defined, and it is the responsibility of the GSFA Board to interpret the statement; the Authority uses its risk appetite to address this ambiguity, and in doing so, creates several objectives/constraints against which the Fund can be materially benchmarked. These objectives/constraints are:
  - Total fund risk: based on a 1-year drawdown risk
  - Fund risk versus NZ government bonds: based on
    - Probability of underperforming these bonds over 10 years
    - 5% cumulative 10-year Value-at-Risk (VaR) relative to these bonds
  - Active risk: standard deviation of excess returns relative to the Reference Portfolio (RP)
- Each of these metrics is calculated on both an ex-ante and ex-post basis, and the inclusion of a forward-looking probabilistic approach is in line with best practice. Conditional Value-at-Risk (CVaR) is typically a preferred measure compared to VaR, though, as it accounts for the risk associated with extreme adverse events. **The Annuitas team recognises this and is looking to work with the Board to introduce this concept, which we view very favourably**.
- Other than a few minor points of ambiguity (e.g. Table 2A – no definition of drawdown risk; conflating VaR and a probability of underperformance), **these objectives are logical, reasonably trackable, and impressive for a fund of this size.**

INTERPRETING THE OBJECTIVES AND CONSTRAINTS

- In Table 2A of the SIPSP, the Authority is, in essence, looking to define risk as probabilities of performance outcomes relative to government bonds – this is a central piece to the portfolio construction approach and the quarterly investment reviews.
- The nuance is that the risk limits are not exact numbers that the Board sets but are instead implied by the RP.
  - Rather than limiting the probability of underperforming government bonds over 10 years to be less than a pre-determined level (e.g. 40%), the Authority instead limits the probability of the Fund underperforming to be less than the probability of the Reference Portfolio underperforming. This creates a moving target rather than a fixed limit.
  - Minor inconsistencies would need to be addressed, such as the fixed limit that exists in the Statement of Intent but not the SIPSP or Investment Framework.
  - Defining these probability limits in terms of the RP has strengths and weaknesses:
  - Main weakness: diminishes the informational value of the probability-of-underperformance risk metric – because the acceptable probability is implicitly determined by the design of the RP, the Board cannot explicitly set a limit.
  - Main strength: The Board effectively has a single decision to make to translate its risk appetite into its risk tolerance, which is the defining RP, and all 10-year period total fund risk limits are implied.
- Annuitas has recognised that the Board will likely have an absolute limit mentally even if one is not specified. A suggestion would therefore be to explore the extent to which risk limits should be defined outside of the RP – in our view, **both routes are appropriate, and stating the chosen approach more explicitly would clear up some ambiguities currently in the SIPSP and Investment Framework**.
- In the 2021 review, WTW noted that the term "excess return" was not sufficiently specific since the Fund should have a much riskier return profile than NZ government bonds and suggested that the link between excess returns and the RP be included. GSFA implements this, though the link could still be clearer.
  - Considering the objective is maximise excess returns over bonds, merely stating that excess returns are estimated through the RP is not directly relevant, since the goal is to maximise the figure regardless.
- The main problem that should be solved is the disconnect between the hurdle rate of bond returns vs the target return of the portfolio, which are not necessarily aligned. A suggestion would be to explore ways of minimising this misalignment.
  - E.g., the SIPSP could state that in light of the low hurdle rate represented by NZ government bonds, a RP is used and calibrated to accurately portray the Fund's target risk/return, and the probability of the RP underperforming NZ bonds is included in the RP calibration; this would tie together all of the concepts and help reduce the confusion about the low hurdle rate.
- Since the RP is so central to the investment objectives, a dedicated section on the RP is included in subsequent pages.

Reference Portfolio (1/2)

GSFA uses the concept of a Reference Portfolio in an appropriate and sophisticated manner

OVERVIEW

- GSFA uses the Reference Portfolio (RP) to express its investment objectives, and the RP plays a key role in subsequent portfolio construction steps. In general, a reference portfolio serves two related purposes:
    - Serves as a low-cost, liquid, passive, easy-to-implement portfolio, where any active investments are funded from the instruments within the reference portfolio
    - Expressing the fund's total fund risk appetite

BACKGROUND FROM THE 2021 WTW REPORT

- In the previous review, Willis Towers Watson noted that there is a "lack of common understanding as to the primary purpose of the RP"
    - WTW claimed that some saw the RP as a way to set the risk profile and any deviations from the RP were with the intent of generating higher returns for the same risk, whereas others saw it as a way of setting the desired return level and any deviations from the RP were with the intent of lowering the risk for the same return.
- In line with the first investment belief in the SIPSP, higher returns usually require higher risk, so these two interpretations do not meaningfully affect active decisions around the RP. However, given that the Fund's objective is to maximise returns subject to a risk level, it makes most sense that the RP would be used to set risk rather than return. Based on the recommendations from WTW, GSFA has made it explicit in the SIPSP that the RP is meant to reflect the Authority's risk appetite, adding quantitative risk measures to more rigorously define this in terms of the RP. **We view these additions in precision and clarity positively**.

BENEFITS AND CHALLENGES OF USING A RP

- A RP is a relatively sophisticated concept used by prominent asset owners, most notably NZ Super Fund, but also members of the Maple 8 (Canada's 8 largest public pension organisations) and GIC (a Singaporean SWF).
- The RP has several advantages over exclusive asset class benchmarks, as it recognises the full scope of active decisions available to produce excess returns, most notably the addition of different sources of return (in line with the third investment belief in the SIPSP); this enables a more free use of asset allocation and security selection from top-down and bottom-up views to target and diversify different exposures across a full range of asset classes.
    - Having an investment objective anchored to asset class benchmarks (from a pre-defined target asset allocation) limits active decisions to be within asset class silos, and this can lead to overlapping or cancelling exposures in the total portfolio, which can damage overall risk and returns.
- GSFA's use of the RP and its framing of investment decisions around the RP **shows a level of sophistication that is impressive given its size**.
    - Its size also implies practical advantages to the use of an RP, as it provides a default decision when there may be a lack of active investment opportunities, easing the burden of decision-making and ensuring the Fund is always invested with its underlying objective in mind.
- The main challenge of the RP, which is agnostic to GSFA, is the success with which it can reflect a risk appetite, as doing so relies on estimations of stock and bond risk/return levels and their correlations/interdependencies.
    - In one regime, stocks and bonds can diversify one another, and in another, they behave as a similar asset scaled differently, offering minimal diversification. Accordingly, the same RP can have very different risk levels depending on the regime.
- In its RP reviews, **GSFA explicitly acknowledges and handles this reality**.
    - E.g. 2024 review notes the potential instability of stock-bond correlations, citing inflation shocks and risk-off shocks as periods where correlations can flip.
    - The document shows the use of stress tests scenarios based on historical events that would incorporate such correlation shifts.
- Additionally, in light of changing risk/return expectations, the decision for the Board was framed as a choice between raising the desired absolute risk level to keep the same RP or reducing the RP's equity allocation to keep the absolute risk level the same or slightly lower at the expense of a higher risk of underperforming NZ Government Bonds. **The Fund putting this much thought/effort into constructing the RP and framing the decisions for the Board in an easily digestible way reflects the quality of Annuitas' work**.

Reference Portfolio (2/2)

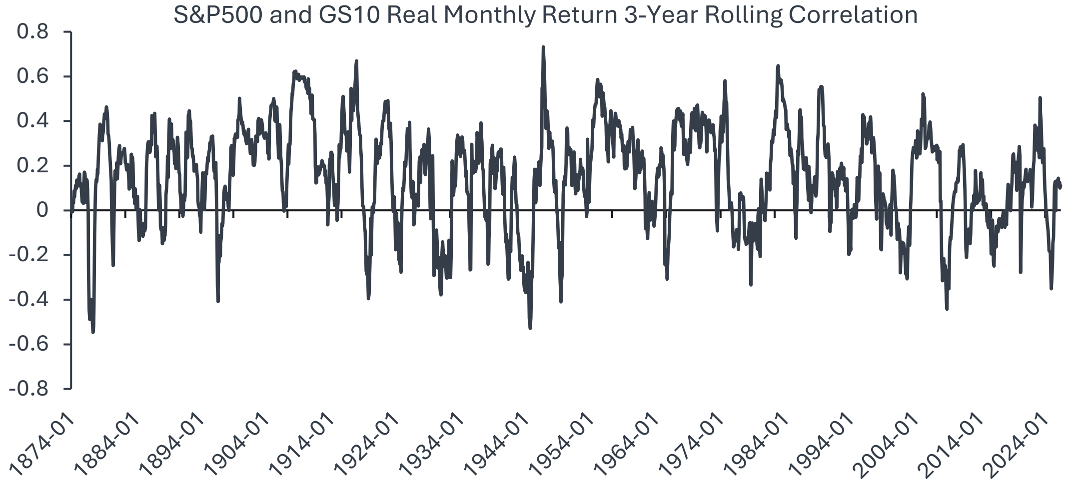
GSFA uses the concept of a Reference Portfolio in an appropriate and sophisticated manner

GSFA has successfully implemented WTW's recommendations regarding its Reference Portfolio and shows the diligence and sophistication needed to both capture the value from the RP's added flexibility and address/overcome the main challenges associated with the RP. The RP's centrality to the interpretation of the objectives makes sense given the size and nature of GSFA, and GSFA's objectives are impressive in how they distil the overarching purpose statement from the Act into tractable objectives and constraints.

ALTERNATIVES TO THE RP

- For the sake of completeness, it is worth highlighting other approaches that do not face this same challenge as the RP.
- The primary example comes from Future Fund's SIP, which only specifies an inflation-linked absolute return target (CPI + 4.5% to 5.5%) without a reference portfolio or asset class benchmarks. This setup enables a full total portfolio and dynamic approach. In line with this, Future Fund also uses dynamic risk limits, setting ranges for risk measures as a way of acknowledging that the relationship between risk and return changes in different environments.
    - Future Fund's SIP indicates that given a stated risk profile, "there may be times when conditions are such that the Board wishes to deliberately depart from the risk profile" (e.g. hedging risk exposures away when markets appear to offer a poor reward vs increasing overall risk exposures when there is excess reward available).
- This approach would remove a layer between the desired risk appetite and the implemented portfolio, as well as the constraints that come with it. However, given the additional value that the RP has as an easily implementable alternative for a small team, **it is advisable that GSFA keep its current approach**.

HISTORICAL STOCK-BOND CORRELATION



Data retrieved from Prof. Robert Shiller's Database; real total monthly return using US CPI; data from January 1871 to May 2026

Investment Strategy

GSFA's investment strategy is systematically built from the ground up using its Investment Framework

INVESTMENT STRATEGY SECTION REVIEW

- The SIPSP section on Investment Strategy is among the shorter sections of the SIPSP and is a section that was not present in the 2020 SIPSP. As mentioned in the Investment Beliefs section, the 2020 SIPSP opted to connect the beliefs to the investment strategy, whereas this connection is now present in the Statement of Intent*. Accordingly, the Investment Strategy section instead sets out various constraints around the investment strategy, such as eligible asset classes, media of ownership, and implementation of DAA.
- This section therefore fundamentally serves a different role than similar sections of the investment policies within the peer group. Some of these other Funds use their investment policy as a way to explain the rationale behind their asset allocation, expected value-add from active management, and the relationship between the strategy and the Fund's specific characteristics. **GSFA does all of this in a very detailed fashion, but the text primarily sits within the Investment Framework.**
- With this in mind, the material within the Investment Strategy section of the SIPSP is necessary and appropriate but may misguide readers to falsely think that the GSFA's investment strategy is unsubstantiated. This is somewhat expected given that the Investment Framework is a document that is relatively new to the organisation and did not exist at the time of the 2021 review. Potential misunderstandings could be ameliorated by making it more explicit that there is surrounding documentation that fills this gap.
- Given the depth and importance of the Investment Framework for the organisation and its ability to interpret and operationalise the SIPSP, we dedicate a separate section to the Investment Framework.

** Updated Statement of Intent will no longer have a Beliefs section*
Connection between beliefs and investment strategy now exists in the Investment Framework

HOW PEERS USE THEIR INVESTMENT STRATEGY (OR SIMILAR) SECTION

Fund	Primary Content
NZ Super	States purpose of reference portfolio; active management rationale
PPF	Strategy rationale linked to liability profile and funding objective
Brunel client funds	Asset allocation rationale; how fund characteristics drive strategy
PSP	Allocation of Assets under Policy Portfolio → states the strategic asset allocation with brief commentary
NPF	Mirror of GSFA structure – constraints and asset class eligibility
CalPERS	Asset Allocation Strategy section in Total Fund Investment Policy → more detailed constraints on asset class eligibility criteria and implementation

Investment Framework

An effective foundational document that shows the depth and rigour of GSFA's processes and thinking

BACKGROUND AND OVERVIEW

- The Investment Framework details "how Annuitas approaches managing the Government Superannuation Fund in accordance with the agreed policies and strategies of the GSFA."
- Whereas the SIPSP performs a statutory compliance function, recording policies, standards, and procedures at the level of generality the Act requires, the Investment Framework does the harder and more important intellectual work. It provides the operational depth that turns governance intent into investment practice (which has been a point of focus for the leadership team).
- Accordingly, we believe it is necessary to evaluate this document given its depth and importance. For the purposes of assessing GSFA's overall investment governance, **the Investment Framework warrants separate and very positive treatment**.
    - Moreover, this document addresses elements that were flagged in our assessment of the SIPSP

STRUCTURE AND INTELLECTUAL COHERENCE

- **The document's well-defined and logical structure is notable**. It moves from organisational characteristics (elements of GSFA's identity) to beliefs to risk management to implementation to monitoring, with each section grounded in those that preceded it.
- The three-tier belief structure is particularly well-executed: Board beliefs set the governing principles, comparative advantages translate those principles into GSFA-specific context, and management investment principles (i.e. coming from Annuitas) operationalise them. This hierarchy means that when a decision is made relating to one of the later sections, the reasoning can be traced back to explicit beliefs. **This traceability is rare in organisations, let alone in a form that is laid out in a document, and this reflects genuine thoughtfulness and discipline**.
    - The decision-rights table also permits one to trace back accountability for decisions, which is important for continuous learning and improvement.

TONE AND EPISTEMIC HONESTY

- **The language in the Investment Framework is quite honest and self-aware.** In particular, the mechanism of including text in red that is aspirational or in progress provides a specific, engineered way of maintaining honesty. The limited labelling indicating what is owned by the board, though a small item, is also indicative of a commitment to role clarity.
- The most significant item flagged in red is the risk appetite statement; it is commendable that the document makes it so clear that this is a gap. This is especially important as the definition of risk appetite is not apparent in the SIPSP.
- The epistemic honesty is most apparent in the competitive advantages and its implications. The active management section acknowledges that Annuitas has no special market insight advantage, and the DAA section notes that the strategy works because of time horizon rather than informational edge. Statements of this nature are relatively uncommon in such documents (when they exist, which is already somewhat uncommon) and **reflect well on the team**.
    - A suggestion would be to explore the extent to which the hierarchy of statements in the Investment Framework (and in GSFA/Annuitas's broader practice) are truly logical conclusions. E.g. there is an aversion to the notion of "forward views" on the basis that the organisation has no informational edge, but forward views can still be useful for portfolio construction even in the absence of an edge.
    - The leadership team also acknowledges that portfolio optimisation techniques have limitations under a set of assumptions but is still useful as a tool to understand portfolio trade-offs and communicate this to the Board. This does not preclude the inclusion of forward views, which we view as necessary for building resilient portfolios in an increasingly complex world. The suggestion would therefore be to explore ways in which forward views could be included with the same rigour and discipline that the Investment Framework sets out.

RELATIONSHIP WITH THE SIPSP

- **The Investment Framework is the better-organised, more analytically rigorous, and more specific document relative to the SIPSP**, it is more likely to be the operational touchstone than the SIPSP (effectively substituting it rather than supplementing it). The two documents should be connected.

Responsible Investment (1/2)

A credible, proportionate RI framework with evidenced follow-through

OVERVIEW AND STATUTORY CONTEXT

- The RI section addresses the Act's requirements beyond maximising return, namely to avoid prejudice to New Zealand's reputation as a responsible member of the world community and to maintain an ethical investment policy.
- The RI policies extend beyond illegality and international agreements to severe environmental damage, bribery and corruption, and human rights abuses. They record the PRI signatory obligations and the CRIF commitment (carbon neutral by 2050, with interim targets).
- **The framework is well-proportioned to GSFA's fully outsourced model**: ESG integration sits with managers (consistent with each manager's style), and the CFI collaborative agreement with NZ Super and ACC provides policy development, engagement, and exclusions capability without replicating the internal infrastructure of much larger peers. Nevertheless, GSFA remains an independent entity and is able to formulate its own views and RI-related actions.

POLICY-STANDARD-PROCEDURE IMPLEMENTATION

- The RI section implementation of the Policy-Standard-Procedure architecture has room for improvement. Although, the actual policies can be derived from the statements within the Policy section, they are never explicitly stated. The Standards section does not set out any actual standards that can be applied to or by asset managers. The Procedures section often reads more like policy statements.
- Examples of statements that sit imperfectly include: the sovereign bond sanctions exclusion reads as a policy commitment but sits in Standards, the seven exclusion criteria seem closer to a decision procedure, and the proxy voting statements are somewhat ambiguous in terms of what the manager is actually expected to do. Consistent with our Recommendation #10, defining the three categories at the onset of the SIPSP would make these allocations more rigorous.
- The premise that financially material ESG factors will be reflected in share prices is an investment-belief-type claim sitting in a Policies section. Per our Investment Beliefs assessment, making the split between investment content and values-based commitments explicit would sharpen both sections.

EVOLUTION OVER THE REVIEW PERIOD

- The RI policy has been substantively rewritten over the review period. The RI section moved from a statutory-compliance and proxy-voting orientation in 2020 to a climate-led, financially-framed policy with hard, time-bound decarbonisation targets by 2025.
- Particularly important was the September 2021 revision which reintroduced the preamble, anchored in the Act and elevated climate considerations. The December 2022 revision introduced the ESG pricing premise, the role of proxy voting in RI, and replaced "help limit global warming" with the net zero 2050 NZ government policy anchor. Later revisions refined the implementation machinery: the 2024 SIPSP embedded the CRIF and the 2025 SIPSP added interim carbon targets (June 2030) and the annual CRIF update to the Minister (replacing TCFD/XRB-aligned reporting).

DELIVERED COMMITMENTS

- **GSFA's follow-through on its commitments is backed by substantial evidence rather than merely asserted**: the first interim CRIF target was achieved (portfolio carbon intensity reduced by more than 50% versus the 2019 baseline, with both listed equity measures met), the 2030 target (65% reduction) and 2050 Net Zero commitment are set, and exclusions have had a negligible impact on returns.
- The CFIs meet quarterly, supplemented by regular email exchange and ad hoc meetings on emerging issues. NZ Super leads the analytical work on exclusions and policy development, but GSFA has a genuine voice in the process. Where NZ Super is leading a workstream, they keep GSFA informed and appear responsive to suggestions and views from both GSFA and ACC.
- The initial allocation to a dedicated climate solutions strategy (StepStone, selected after a review of approximately 40 funds in 2024) demonstrates the Fund can allocate through positive channels of impact rather than relying on exclusions and proxy voting engagement alone.
- GSFA engages in the Global Equities portfolio using Columbia Threadneedle's Responsible Engagement Overlay (reo®) service. For NZ equities, the CFIs engage directly with target NZX companies on climate change. For GSFA, this work is currently led by NZ Super and ACC.
- All managers are encouraged to exercise the Fund's voting rights and voting records are monitored and published. Annuitas staff meet with managers at least annually to review RI integration. Treasury receives investment performance quarterly and reports on a 6-month basis to the Minister on Fund performance and significant operational issues.

Responsible Investment (2/2)

A more challenging environment might require specific RI framework refinements and governance clarification

2019	2021	2025	2030	2050
Baseline set	CRIF issued	Both carbon targets met	Established target: 65% reduction relative to 2019 baseline	Established target: Net zero

A MORE DEMANDING EXTERNAL ENVIRONMENT

- The external environment has become more demanding since the 2021 review. In *Nazzal v Guardians* (NZ High Court, April 2026*), parts of NZ Super's RI framework were found not to identify standards and procedures with sufficient clarity to enable consistent application and review. The judgment goes to the heart of the SIPSP's Policy-Standard-Procedure ambition: the test is no longer whether commitments exist but whether policy intent is traceable into manager mandates, voting expectations, and evidenced outcomes. Documentation changes are anticipated across all CFIs to reflect this development.
- Furthermore, recent geopolitical developments, including the war in Ukraine, renewed defence-policy debates, strategic competition between major powers and a more fragmented policy environment, have widened the scope of issues now being considered within Responsible Investment.
- For public funds, this has increased attention not only on defence exposure, strategic asset ownership and supply-chain resilience, but also on how geopolitical instability and shifts in government commitment can affect long-term return assumptions and portfolio resilience.
- For GSFA, this suggests value in considering whether the existing RI framework should more explicitly address how such exposures are identified and monitored over time, and when they should trigger escalation. In practice, this could mean an annual sovereign-security review of relevant holdings, with any material concerns reported through the normal Board and CRIF governance channels.

KEY POINTS ON RESPONSIBLE INVESTING

- PNYX's view is that **Responsible Investment should be understood as governance-led**. Governance is what gives environmental and social commitments operational credibility: it determines whether beliefs are translated into policy, whether standards are embedded in manager mandates, whether stewardship is directed consistently, and whether commitments can be evidenced over time.
- **That governance perspective should also be situated within a broader sovereign-wealth lens.** For a public fund, long-term wealth is not defined only by financial returns, but by how financial capital is allocated in ways that protect and build wider sources of long-term value, including natural, human, social, intellectual and manufactured capital.

CONSIDERATIONS FOR THE NEXT REVISION

- This review finds that GSFA's RI approach is sound; the priority is to make the existing framework clearer, more documented, more explicit and more institutionally distinctive by tailoring it to GSFA's situation while building on its existing strengths.
- GSFA's smart-follower model has been proportionate and effective to date, but new legal standards, a more geopolitically fragmented world, where investment influence increasingly matters, and rising expectations of best-practice public fund governance mean that relying primarily on larger Crown peers, government frameworks or external managers may need to evolve further. GSFA should therefore periodically test whether its RI positioning remains sufficiently active, decision-oriented and clearly attributable to its own Board accountability.
- **Traceability of RI decision making should be the organising principle of the next RI policy update, coordinated within CRIF.**

**https://www.courtsofnz.govt.nz/cases/nazzal-v-guardians-of-new-zealand-superannuation-*

Risk Management (1/2)

GSFA's risk management approach is meticulous and fits well into their overall framework

OVERVIEW

- As seen in the Investment Objective section, many of the performance-related risk limits are defined by the Reference Portfolio, and **GSFA constructs its RP prudently**. The analysis presented in the Investment Objective section evaluated these risk limits and their definitions, identifying areas of ambiguity.
- The Investment Framework also correctly notes that investment risk is multi-faceted (volatility, tail, concentration, active, etc.) and looks to incorporate this into its risk appetite.
- The Authority's Risk Policy also clearly states the different roles and responsibilities for risk management, as well as the communication channels and the hierarchy among the different parties. There are several committees at both the management and board levels, which is somewhat surprising given the size of the team.
- Procedures are outlined in the document as well; this includes the maintenance of a risk register with inherent and residual risk ratings, quarterly monitoring by management, reporting to the Audit and Risk Review Committee, and Board-level approval requirements for high residual risks.
- The operational risks are largely covered in the Authority's Risk Policy, which we believe to be more than adequate.
- In their 2021 review, WTW noted that there was missing policy with regards to credit limits, leverage, and securities lending. The 2025 SIPSP now includes:
    - A rigorous liquidity test in the Appendix
    - A statement about securities lending risk management in the Procedures section
    - A schedule of operational reviews that include securities lending, liquidity policy, and the Quarterly Investment Report (QIR)
- The Quarterly Investment Report contains the maximum leverage for each of the asset classes/managers. We would consider GSFA's existing setup to be sufficient.

PORTFOLIO RISK APPETITE

- The Investment Framework outlines a sequential approach to setting out desired portfolio risk; it first starts with the risk capacity—the maximum amount of risk that the Fund could take, then uses the Reference Portfolio to set the total portfolio risk appetite. From here, secondary risk appetite outcomes are addressed; in order, these are: active risk, illiquidity, risk concentration, and other financial risks.
- Having a well-defined sequence of (simpler) board decisions to set the overall risk appetite is, in our view, an effective governance tool, and **so we view the effort to set up this structure positively**. The Investment Framework also openly recognises that the decisions made at one level will have an impact at another level.
- The Reference Portfolio section covers the nuances of its use in setting the total portfolio risk appetite, we focus on the secondary risk appetite outcomes. The active risk budget framing makes sense and accurately portrays the degrees of freedom that exist to take active risk (rather than limiting the discussion to security selection). It is especially reassuring that the figure is not a single point estimate and instead has sensitivities to "regime-varying active risk correlations". The preference for bottom-up active risk budget construction over a top-down outperformance target is well-reasoned.
- On the illiquidity side, GSFA accounts for smoothed private asset volatility through a public markets proxy, which is common and accepted practice.
- On concentration risk, GSFA discusses various types of concentration, including asset class, manager, sector, holding, and credit rating exposures. This is a strong list, and we would encourage the Fund to continue (even if informally) considering concentration to other factors such as geography, vintage, and factors (value, size, or non-traditional factors such as geopolitics).
    - This addresses WTW's comment that there was some missing policy around manager concentration (assuming there are adequate links from the SIPSP to the Investment Framework).
    - **On the non-traditional side, it is notable that the Fund monitors climate risk as well.**

Risk Management (2/2)

GSFA's risk management approach is meticulous and fits well into their overall framework

EVALUATION METHODOLOGY OF THE RISK MANAGEMENT SECTION OF SIPSP

- Both the 2020 and 2025 SIPSPs take the structure where the Standards explain the risk and the Procedures explain how the risk will be managed.
- For such a Risk Management section, the most important outcome is that the list of risks is reasonably comprehensive. One cannot anticipate every type of risk ex-ante as risk is, by definition, a statement about future uncertainty; the aim is that GSFA is aware of the ways in which their portfolio and operation can be affected and the steps that can be taken to mitigate bad outcomes.
- **In this regard, we believe GSFA's 2025 SIPSP is in line with if not better than many prominent asset owners**; e.g., GSFA enumerates and explains more risks than peers such as NZ Super Fund.
- If possible, a list of risks should avoid:
    1. significant overlap among risks; and
    2. risks that are too broad (to the point that writing a corresponding mitigant in the Procedure becomes too difficult).
- For the most part, **GSFA does not exhibit this issue**, as most risks are mutually exclusive. The first two risks are the most challenging, namely the risk that the Fund's investment objectives will be compromised over time and market risk.

RISK THAT THE FUND'S INVESTMENT OBJECTIVES WILL BE COMPROMISED

- The first risk has two issues that can easily be addressed with one fix:
    1. The risk that the Fund's investment objectives will be compromised over time is tautological in a Risk Management section, as this is what defines the notion of risk;
    2. The description reflects a risk that is very different than the risk title, as the description discusses the effects of asset allocation drift and rebalancing costs and timing.
- Accordingly, the simple fix would be to rename the title of the risk, perhaps to "Asset allocation and rebalancing risk", and one could potentially include a drawdown risk (specifically, that the Fund has a short-to-medium-term drawdown and the Fund rebalances at a suboptimal time – this is especially pertinent to liquidity management in preparation for capital calls into illiquid products).
- Correspondingly, the Procedure would likely remove the bullet point on "the investment strategy, the Reference Portfolio and the target allocation", which we believe would be more appropriate in the Market risk section.

MARKET RISK

- Market risk can be considered too broad, as it encompasses all lack of certainty around market prices without drilling down into the drivers of this uncertainty.
    - Other funds adopt a similar statement in their investment policy statements, so **from a peer benchmarking perspective, this statement can be considered sufficient**.
- Future Fund takes things one step further, separating macro risks and market risks and adding (but not explaining) sub-risks within each category. Within macro risks, it includes the high-level macro factors of growth, inflation, real interest rates, and risk premia, as well as geopolitical and regulatory risks. For market risk, it includes equity risk, credit risk, currency risk, interest rate risk and the risk of price movements in supply-constrained resources.
- We would not suggest this exact approach, as, even in the sub-risks, there are cases where the focus is on the outcome rather than the underlying risk driver (e.g. equity risk and credit risk are heavily correlated since they are both fundamentally dependent on the performance of the underlying assets). The main point to highlight was that more specificity can be added in a way that still preserves comprehensiveness.
- Future Fund's inclusion of geopolitics is important, and we generally favour the inclusion of non-traditional risk factors including governance, inequalities, social unrest, and more, as they fundamentally address that complexity of risk drivers and serve as a guide for risk management. The essence of keeping the broader notion of "Market risk" would still be captured on the quantitative side, as risk limits are defined in terms of the Reference Portfolio, which reflects market risk without delving into the more specific underlying risk drivers.

Review and Monitoring Procedures

GSFA's review process complements its well-developed internal skills and reporting practices

OVERVIEW

- The Review and Monitoring Procedures section of the SIPSP largely sets out the timings and roles for tracking Fund performance against the objectives and constraints, for updating the investment programme. Accordingly, gauging appropriateness is largely dependent on the appropriateness of the prior sections, and as we have presented, the SIPSP in conjunction with supporting internal documentation is exemplary.
- The Quarterly Investment Report (QIR) is the most important document that tracks this element of the SIPSP, and in many ways, **it goes beyond the SIPSP's requirements, which were already adequate from a statutory perspective**.
- The other portfolio elements have strong documentation as well, with Reference Portfolio Reviews, Target Portfolio Reviews, Dynamic Asset Allocation Reviews, and minutes for Board and IC meetings.
- Table 8 of the SIPSP outlines the frequency with which these reports and reviews should be conducted. The quantity of reports/reviews far exceeds what would be considered appropriate and further reinforces the systematic nature of GSFA's practice. The cycle term for each of these reports/reviews is also appropriate given the operational self-sufficiency that exists within the organisation.
    - As noted previously in this review the yearly review of compliance with the SIPSP is broken into five different components that are grouped into three categories, each of which are reviewed triennially (meaning there is still an annual review but with less material each year). This speaks to GSFA's ability to manage their bandwidth and ensure that reviews have the right scope to be meaningful.
- On valuation policy, the section uses a standard hierarchy (independent valuation where available, manager valuation using accepted industry standards where not, custodian as tiebreaker in disputes) that is defensible and broadly consistent with industry practice.

QUARTERLY INVESTMENT REPORT (QIR)

- Returns are reported across since inception, 10-year, 5-year, 3-year, 1-year, and quarter periods, with the 10-year rolling return chart showing the Fund, Reference Portfolio (RP), and performance expectation – this performance expectation includes a risk premium that changes over time, which clears the ambiguity around the "excess return" term found in the SIPSP. Ideally, the SIPSP would make it known that this premium is computed internally.
- The risk metrics are directly tied to the objectives set out in the SIPSP, including DAA limits, with ex-ante and ex-post measurements that are well-defined. Fund tracking error and Fund and RP tracking error are decomposed by asset class, adding unrequired but useful analytical depth. The inclusion of leverage limits, private assets liquidity management, manager monitoring through the weighted traffic light table are all well-constructed, relevant, and board-digestible.
- However, the QIR does not provide aggregated sector, geographic, or currency exposures.
- **In general, the design of the monitoring apparatus is more than sufficient** – the question is whether the outputs, particularly those that require subjective input, reasonably accurately characterise the Fund. This is discussed in the Performance Review section.

REVIEWS

- The Reference Portfolio Review is discussed in the Reference Portfolio section, but in summary, we noted the impressive level of insight and Board direction that went into its construction.
- The Target Portfolio and Dynamic Asset Allocation Reviews contain this same rigour and show effective use of the Investment Framework and the SIPSP, confirming that the frameworks are operationalised. For the Target Portfolio Review, this includes analysis asset class by asset class, explaining the rationale behind its inclusion or lack thereof and the alignment with organisational beliefs. The Dynamic Asset Allocation Review also shows awareness of changes that would be necessary to the SIPSP to implement the new elements of the DAA programme that they are looking to add.
- Asset class reviews map directly to the Investment Framework sections and contain ex-post and ex-ante analysis.
- **The reviews are comprehensive and show a strong ability to operationalise the SIPSP and Investment Framework**.

PNYX

ToR 2: Investment Performance Review 2021-2025

Detailed Commentary and Assessments

Strictly Confidential

Performance Review 2021-2025

Executive Summary

KEY POINTS OF THE INVESTMENT ASSESSMENT

- ✓ Over the 2021–2025 period, GSFA's investment portfolio achieved a **strong average performance of 10.86% per annum (net of fees)**, generating an **excess return of 1.66% over its Reference Portfolio**, while **significantly outperforming New Zealand government bonds**, whose returns were negative (-0.25%) over the same period.
- ✓ **The Target allocation choices**, (i.e. the inclusion of Private Equity within the Global and New Zealand Equity allocations, as well as Catastrophe Bonds and Life Settlements within the Global Fixed Income allocation) **proved beneficial, contributing 1.23% of the total excess return**. The excess return contribution was **positive in each calendar year over the review period.**
- ✓ **Dynamic Asset Allocation delivered limited and inconsistent results, reflecting structural shortcomings** and was paused in 2023 before being reintroduced. Annuitas is reviewing the overall approach, with the DAA programme being redesigned as a diversifying source of alpha.
- ✓ **Manager selection added value overall, contributing 0.44% of the total 1.66% excess return, primarily driven by the strong performance of the Global Listed Equity allocation, which represents approximately 55% of the Target Portfolio and has consistently generated excess returns through active management.**
- ✓ While most asset classes delivered strong results, the performance and cost profile of the **Private Equity allocations warrant further attention.**
  - ✓ **Global Private Equity has been the primary driver of GSFA's relative underperformance over the last three years.** The allocation is largely structured through a fund-of-funds model, significantly increasing costs through an additional layer of fees. Although the asset class delivered a satisfactory absolute return of 17.19%, outperforming listed equity markets (16.28%), it underperformed its benchmark (global listed equities +3%) over both the last three years and the full review period. The asset class's exclusive fund-of-funds structure provides a high degree of diversification across underlying private equity funds. However, **the selection of these underlying funds remains highly concentrated and dependent on the skills of a single manager**, which manages 81% of the allocation. This highlights the need for further manager diversification within the allocation.
  - ✓ **The New Zealand Private Equity portfolio**, while also experiencing relative underperformance versus its benchmark (NZ listed equities +3%) over the last three years, has outperformed over the full review period. Continued monitoring of this recent underperformance nevertheless appears warranted.
- ✓ Despite these challenges, **GSFA's overall risk-return profile remains superior to that of the Reference Portfolio**, as reflected by a higher Sharpe ratio (1.0 versus 0.6). Furthermore, **the portfolio's valuation (0.5) indicates that active management has added value over time**.
- ✓ On the cost side, although Annuitas demonstrates strong cost awareness through regular portfolio adjustments and cost optimisation initiatives, **the overall investment cost level of approximately 100 basis points** (including performance fees of 32.7 bps for public equities) **appears relatively high**, particularly considering that the complete look-through costs of Global Private Equity are not fully reflected in this figure.
- ✓ **GSFA's currency policy**, which targets 20% net foreign currency exposure at total Fund level, reduces the risk of FX movements dominating overall Fund outcomes while retaining measured exposure to potential foreign currency upside against the NZD. In this sense, the approach remains consistent with the objective of managing downside risk and volatility without taking undue risk.
- ✓ **Overall, the portfolio appears well managed and actively monitored, with underperforming managers replaced when necessary and portfolio adjustments implemented appropriately. Particular attention should nevertheless continue to be given to the Private Equity allocations, both from a performance and cost optimisation perspective.**

Key Aspects of Investment Framework

Investment Objectives, Reference Portfolio and Target Portfolio definitions

INVESTMENT OBJECTIVES

The Government Superannuation Fund Authority (GSFA) aims to:

- **Maximise returns without undue risk**
- **Minimise the Crown's contribution to the scheme**
- Maintain **best-practice portfolio management**

GSFA's stated **Investment Objective** is to "to maximise excess returns relative to New Zealand Government Bonds (before NZ tax) without undue risk of underperforming bonds, measured over rolling ten-year periods." [source: GSFA Statement of Investment Policies, Standards and Procedures -19 August 2025]

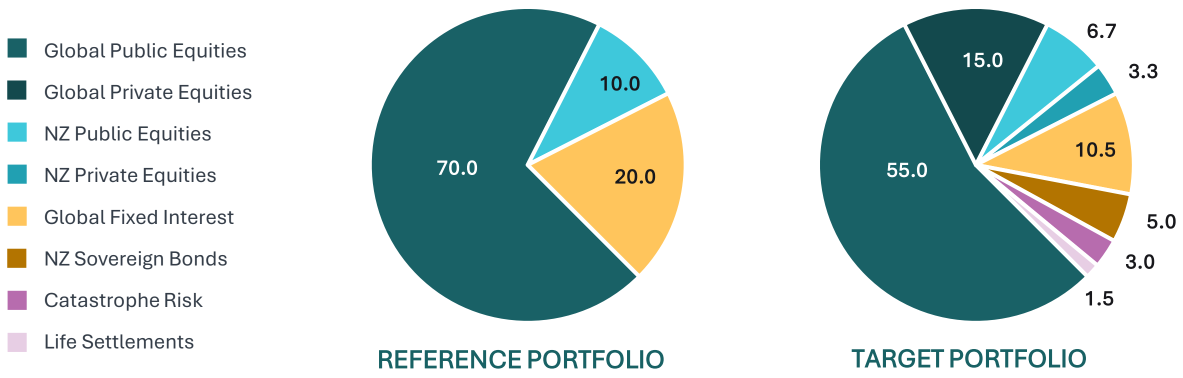
REFERENCE AND TARGET PORTFOLIO DEFINITIONS

The **Reference Portfolio** acts as **GSFA's performance benchmark**. It is set by matching the GSFA risk appetite that is in turn determined by five factors: 1) GSFA's **statutory purpose and limitations**; 2) GSFA's **stated investment objective**; 3) GSFA's **comparative advantages, beliefs and principles**; 4) **risk capacity** and 5) **sensitivity to downside outcomes**.

The **Target Portfolio** is the **strategic long-term, value-seeking portfolio** that is constructed relative to the Reference Portfolio in order to generate higher expected returns for the same overall risk. The Target Portfolio accounts for the current Board-approved asset classes and investment strategies that are actually available to GSFA.

The **Actual Portfolio** refers to the actual positions held by the Fund. The Actual Portfolio may differ from the Target Portfolio while changes are implemented over time.

ASSET ALLOCATION (31/12/2025)



Performance Review 2021-2025 Summary Results: 1.66% Excess Return

GSFA Outperformed the Reference Portfolio Despite Global Private Equity Lagging Over the Last Three Years

Actual Fund vs Benchmarks	2021	2022	2023	2024	2025	2021-25
Actual Fund Return	**22.08%**	**-10.20%**	**15.17%**	**17.56%**	**12.80%**	**10.86%**
Reference Portfolio Return	14.54%	-14.53%	16.42%	19.43%	14.08%	9.20%
Excess Return vs Reference Portfolio	7.53%	4.33%	-1.25%	-1.87%	-1.27%	1.66%
NZ Gov't Bonds**Return	-6.17%	-9.14%	5.42%	4.66%	4.97%	-0.25%
Excess Return vs NZ Gov't Bonds	28.25%	-1.06%	9.75%	12.90%	7.83%	11.11%

Individual Asset Classes vs Benchmarks	2021	2022	2023	2024	2025	2021-25	Excess Return
Global Equities (Target Weight : 55%)	**26.10%**	**-10.72%**	**24.13%**	**35.49%**	**20.18%**	**17.87%**	**1.59%**
MSCI All Country World Low Carbon Target Index	24.47%	-11.76%	21.74%	34.46%	18.23%	16.28%	
Global Private Equities (Target Weight : 15%)	**59.93%**	**8.03%**	**2.44%**	**18.68%**	**5.23%**	**17.19%**	**-1.88%**
MSCI All C World Low Carbon Target +3%	27.58%	-9.76%	25.02%	35.74%	22.27%	19.07%	
NZ Equities (Target Weight : 6.7%)	**4.34%**	**-12.31%**	**4.62%**	**14.08%**	**-0.17%**	**1.74%**	**0.42%**
S&P/NZX50 Gross Index	0.05%	-11.39%	3.36%	12.07%	3.95%	1.32%	
NZ Private Equity Return (Target Weight : 3.3%)	**21.65%**	**21.44%**	**-4.25%**	**11.24%**	**4.85%**	**10.53%**	**6.27%**
S&P/NZX50 Gross Index +3%	3.28%	-9.07%	6.55%	15.15%	6.95%	4.27%	
Style Premia# (Terminated)	**29.42%**	**1.93%**				**14.85%**	**11.68%**
ICE BofA 3-Month US Treasury Bill Index#	5.21%	1.18%				3.17%	
Global Fixed Interest (Target Weight : 10.5%)	**-0.73%**	**-11.25%**	**7.45%**	**2.46%**	**5.69%**	**0.50%**	**0.74%**
Bloomberg Barclays Global Aggregate hedged NZD	-1.33%	-11.83%	6.49%	2.93%	3.63%	-0.24%	
NZ Sovereign Fixed Interest (Target Weight : 5.0%)					**-1.39%**	**-1.39%**	**-0.15%**
Bloomberg NZ Bond Govt 0+Yr Index					-1.24%	-1.24%	
Catastrophe Risk (Target Weight : 3.0%)	**6.17%**	**4.77%**	**15.01%**	**31.44%**	**9.28%**	**12.94%**	**-1.30%**
Swiss Reinsurance Catastrophe Bond Total Return	8.79%	4.58%	18.28%	31.12%	10.26%	14.24%	
Life Settlements (Target Weight : 1.5%)	**17.80%**	**8.68%**	**20.07%**	**13.06%**	**5.14%**	**12.81%**	**0.00%**
Own Performance	17.80%	8.68%	20.07%	13.06%	5.14%	12.81%	

All performance figures are net of management and performance fees and costs

** S&P/NZX NZ Government Bond Total Return Index # including currency impact *Figure in red means underperformance vs benchmark

Review of Reference Portfolio vs Target Portfolio (Allocation Effect)

Funding Sources and Individual Asset Class Benchmarks

	Reference Portfolio	Weight	Target Portfolio	Weight as of 31/12/2025	Individual Asset Class Benchmarks
Growth Assets	Global Listed Equities	70.0%	Global Listed Equities	55.0%	MSCI All Country World Low Carbon Target Index
	Funding Source 1.1		Global Private Equity	15.0%	MSCI All Country World Low Carbon Target Index + 3%
	NZ Equities	10.0%	NZ Equities	6.7%	S&P/NZX50 Gross Index including imputation credits
	Funding Source 1.2		NZ Private Equity	3.3%	S&P/NZX50 Gross Index including imputation credits + 3%
Defensive Assets	Global Fixed Interest	20.0%	Global Fixed Interest	10.5%	Bloomberg Barclays Global Aggregate Index hedged to NZD
	Funding Source 2		NZ Fixed Interest	5.0%	Bloomberg NZ Bond Govt 0+Yr Index
			Catastrophe Risks	3.0%	Swiss Reinsurance Catastrophe Bond Total Return Index
			Life Settlements Risk	1.5%	Actual Return
FX Exposure		20.0%		20.0%	MSCI All Country World Low Carbon Target Index unhedged minus hedged

SEEKING OUTPERFORMANCE BY DEVIATING FROM THE REFERENCE ALLOCATION

The three components of the Reference Portfolio serve as **funding sources** to establish a Target Portfolio allocation, seeking to generate outperformance by deviating from the reference allocation:

1.1. **Global Listed Equity** funds Global Listed Equity and Global Private Equity allocations of the Target Portfolio

1.2. **NZ Listed Equity** funds NZ Listed Equity and Global Private Equity allocations of the Target Portfolio

2. **Global Fixed Interest** funds Global Fixed Interest, NZ Fixed Interest, Catastrophe Risks, and Life Settlements Risk allocations of the Target Portfolio

Review of Reference Portfolio vs Target Portfolio (Allocation Effect)

Including Catastrophe and Life Settlement Risk in Global Fixed Income Adds Value Relative to the Reference Portfolio

Reference vs Target	2021	2022	2023	2024	2025	2021-25
Reference Portfolio	14.54%	-14.53%	16.42%	19.43%	14.08%	**9.20%**
Target Portfolio (Before DAA)	15.23%	-13.50%	18.33%	20.76%	15.29%	**10.43%**
Excess Return	0.69%	1.02%	1.92%	1.33%	1.21%	1.23%
Individual Asset Classes vs Benchmarks	**2021**	**2022**	**2023**	**2024**	**2025**	**2021-25**
Global Listed Equities (Unhedged)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Global Private Equity	0.22%	0.27%	0.41%	0.14%	0.52%	0.31%
NZ Equities	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NZ Private Equity	0.13%	0.08%	0.10%	0.09%	0.09%	0.10%
Style Premia	0.15%	0.33%				0.10%
Global Fixed Interest	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NZ Fixed Interest					-0.12%	-0.02%
Catastrophe Risk	0.49%	0.52%	0.33%	0.76%	0.19%	**0.46%**
Life Settlements Risk	0.49%	0.71%	0.35%	0.26%	0.00%	**0.36%**

The Target Portfolio return has been reconstructed using the component benchmarks and historical weights reported in the Quarterly Investment Reports. Contribution figures have been adjusted for portfolio weights. Please also note that, due to the underlying calculation methodology, a small residual component of excess return cannot be fully explained.

ASSESSMENT OF THE TARGET PORTFOLIO ADDED VALUE

- The added value of the Target Portfolio is assessed by measuring the excess return generated through the inclusion of asset classes that deviate from the three Reference Portfolio benchmark assets. The analysis compares the benchmark return of each Target Portfolio asset class with the corresponding funding source within the Reference Portfolio.
- Over the 2021–2025 period, the Target Portfolio (before DAA) generated an annualised return of 10.43%, outperforming the Reference Portfolio return of 9.20%, resulting in excess returns of 1.23% p.a. **The excess return contribution was positive in each calendar year over the review period**, demonstrating the consistent benefit derived from the broader opportunity set and alternative asset class exposures embedded within the Target Portfolio construction.
- No excess return is attributed to the three funding sources within the Reference Portfolio themselves.
- For Style Premia, the benchmark funding source consists of 20% equities and 80% fixed income.
- **The largest contributors to excess return are Catastrophe Risk and Life Settlement Risk**. The benchmarks for these asset classes closely track realised returns, making the estimated excess return contribution relatively robust.
- By contrast, the benchmarks for Global Private Equity and NZ Private Equity are defined as the corresponding listed equity benchmarks plus 3%. **These asset classes are therefore structurally expected to outperform their funding sources over time, making the comparison less informative from an analytical perspective.**

The role and Impact of Dynamic Asset Allocation

2021-2025 Historical Performance, Framework and Commentary

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
Dynamic Asset Allocation	0.37%	0.59%		-0.09%	0.24%	**0.22%**
Active Risk	0.74%	0.83%		0.51%	0.65%	**0.60%**
Information Ratio	0.5	0.7		-0.2	0.4	**0.4**

OVERVIEW & COMMENTS

- GSFA's Dynamic Asset Allocation ("DAA" or "Strategic Tilting") is implemented as a **rules-based overlay using liquid futures** on both existing exposures (equities, bonds, NZD FX, volatility) and exposures not held in the portfolio (non-NZD FX).
- A gain of 0.96% was achieved in 2021–22, or 0.50% per year, driven by FX strategies, corresponding to an information ratio of 0.89. **The programme was paused in 2023 due to resourcing constraints following the departure of key members of the investment team**. It was restarted in February 2024 after a review of the models and signals. Since then, a gain of 0.15% has been recorded, or 0.08% per year. Performance has been mixed: FX strategies have performed well, but this has been offset by losses on short equity positions, as markets have remained at elevated valuations for an extended period.

2026 REVISION

- The DAA programme is being redesigned as a **diversifying source of alpha**. The new programme, which is not yet operational, will ultimately see active risk increased from1% to 2%, targeting higher additional returns.
- The upgrade reflects historical shortcomings: early negative performance (Information Ratio – 0.6), subsequent inconsistent and cycle-dependent results, structural weaknesses (mean-reversion applied to trending markets), and operational constraints (including a pause in 2023).
- The revised framework introduces:
  - New strategies introduced (credit spreads, volatility, agriculture), with enhancement of existing exposures (Equity, Bonds, FX)
  - Improved strategy selection (focus on high-IR, fast mean-reversion markets)
  - Stronger risk framework (2% Tracking Error budget, 0.5% strategy limits, stress testing)
  - Enhanced governance and execution efficiency, with the CFO also joining the STC

EXISTING PROGRAMME DESCRIPTION

STRATEGIC ROLE

- Exploits GSFA's long-horizon advantage over short-term participants
- Rules-based tilts towards assets at valuation extremes
- **Relies on mean-reversion**; medium-term horizon
- Uncorrelated with other strategies; zero avg. incremental Fund volatility
- Consumes active risk; net effect on total vol expected to be neutral

SIGNAL & PROCESS

- Fair value estimated using fundamental factors per asset class
- Signal triggered at >0.5 SD from fair value
- Half-max position at >1 SD; full max at >2 SD
- Default: accept model output; judgement overrides recorded and measured
- **Signals and implementation ranges pre-approved by Board**

GOVERNANCE

- **Board sets active risk sub-limit for DAA programme**
- Strategic Tilting Committee (STC, composed of CE + CIO) makes all tilt decisions
- DAA total & active risk reported to Board quarterly
- STC operates within Board-set limits; no case-by-case Board approval at execution
- STC meeting frequency: As required but at least monthly

EXECUTION & RESOURCING

- Futures and FX forwards execution via State Street, acting as implementation manager
- Senior Investment Analyst (SIA) monitors DAA programme; reports to STC monthly
- Annuitas team; model maintenance and validation not explicitly resourced
- **Low-cost relative to other active strategies**

Review of Target Portfolio After DAA vs Actual Fund (Selection Effect)

Positive Selection Effect Led by Global Equities, Partially Offset by Global Private Equity

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
Target Portfolio (After DAA)	15.75%	-13.49%	18.33%	20.74%	14.69%	**10.41%**
Actual Fund	**22.08%**	**-10.20%**	**15.17%**	**17.56%**	**12.80%**	**10.86%**
Excess Return	6.32%	3.29%	-3.16%	-3.18%	-1.89%	0.44%

Individual Asset Classes Contributions to Excess Returns	2021	2022	2023	2024	2025	2021-25
Global Listed Equities (Unhedged)	0.81%	0.58%	1.06%	0.40%	0.88%	**0.74%**
Global Private Equity	2.31%	1.89%	-3.35%	-2.21%	-2.44%	-0.75%
NZ Equities	0.19%	-0.04%	0.08%	0.12%	-0.27%	0.01%
NZ Private Equity	0.65%	1.02%	-0.42%	-0.14%	-0.08%	0.21%
Style Premia	1.41%	0.04%				0.29%
Global Fixed Interest	0.03%	0.06%	0.14%	-0.07%	0.27%	0.09%
NZ Fixed Interest					-0.01%	0.00%
Catastrophe Risk	-0.11%	0.00%	-0.10%	0.01%	-0.03%	-0.04%
Life Settlements Risk	0.45%	0.21%	0.57%	0.22%	0.07%	0.30%

The Target Portfolio return has been reconstructed using the component benchmarks and historical weights reported in the Quarterly Investment Reports. Contribution figures have been adjusted for portfolio weights. Please also note that, due to the underlying calculation methodology, a small residual component of excess return cannot be fully explained.

ASSESSMENT OF THE MANAGERS SELECTION ADDED VALUE

- The value added through Asset Manager selection is assessed by measuring the excess return between the Target Portfolio (after DAA) and the Actual Fund, as well as at the individual asset class level through comparison against the respective benchmarks.
- Over the 2021–2025 period, the Actual Fund generated an annualised return of 10.86%, outperforming the Target Portfolio return of 10.41%, resulting in an excess return of 0.44% p.a. **While relative performance was strong in 2021 and 2022, the Fund experienced headwinds during the 2023–2025 period, primarily driven by weaker relative performance within Global Private Equity.**
- **Global Listed Equities represented the largest positive contributor to excess return over the period, supported by both its significant portfolio allocation and consistent outperformance relative to benchmark.** Additional positive contributions were generated by Life Settlements Risk, Style Premia, NZ Private Equity, and Global Fixed Interest, each delivering modest but additive excess returns over the measurement horizon.
- Catastrophe Risk recorded a marginally negative contribution. This mainly reflects benchmark limitations, as the Swiss Re Index is not directly investable and is difficult to replicate in practice.
- **The most material detractor from relative performance was Global Private Equity, particularly between 2023 and 2025, where performance lagged benchmark expectations and offset part of the gains generated in other asset classes.**

Performance Attribution Summary

Reference Portfolio vs Actual Fund: Positive Overall Allocation Impact Penalized by Global PE Selection Impact

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
Reference Portfolio	14.54%	-14.53%	16.42%	19.43%	14.08%	9.20%
Allocation Effect *Target Portfolio Impact*	0.69%	1.02%	1.92%	1.33%	1.21%	1.23%
Dynamic Asset Allocation	0.37%	0.59%		-0.09%	0.24%	0.22%
Selection Effect *Manager Selection*	6.32%	3.29%	-3.16%	-3.18%	-1.89%	0.44%
Residual effects *Unexplained by the 3 above factors*	0.16%	-0.57%	0%	0.07%	-0.84%	-0.23%
Actual Fund	22.08%	-10.20%	15.17%	17.56%	12.80%	10.86%

PERFORMANCE ATTRIBUTION COMMENTARY

- Over the full 2021–2025 period, the Target Portfolio (before DAA) generated an annualised return of 10.43%, compared with 9.20% for the Reference Portfolio.
- **The allocation effect consistently added positive value, averaging 1.23% per annum.** This persistent source of performance reflects the structural benefits of the Target Portfolio design relative to the Reference Portfolio.
- Beyond the allocation impact (which was the main driver of excess return), **DAA contributed a positive 0.22% p.a.** to the overall performance over the 5-year period. This average impact was primarily driven by successful tactical results during 2021 and 2022.
- The Actual Fund achieved 10.86% p.a., delivering an **additional 0.44% p.a. in alpha through asset manager selection (selection effect).** This layer of performance was more cyclical, with strong results in 2021 to 2022 partially offset by weaker Global Private Equity performance from 2023 to 2025. Despite this, Global Listed Equities consistently contributed positive alpha.
- Overall, **asset manager selection added value but was more volatile and concentrated in its contributions compared with the stable allocation effect.**

Total fund performance: Global Equity

2021-2025 Historical Performance & Risk versus Benchmark / **Target allocation 55%**

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
Global Equities Return	26.10%	-10.72%	24.13%	35.49%	20.18%	17.87%
MSCI All Country World Low Carbon Target Index	24.47%	-11.76%	21.74%	34.46%	18.23%	16.28%
Excess Return	1.62%	1.04%	2.38%	1.03%	1.95%	1.59%

Individual Funds vs Benchmarks	2021	2022	2023	2024	2025	2021-25
Arrowstreet Reduced Carbon		-0.58%	26.23%	24.43%	27.13%	18.70%
MSCI World Climate Paris Aligned PAB USD		-6.66%	25.07%	17.88%	18.12%	12.91%
Hyperion Global Growth Companies	13.20%	-46.01%	69.49%	40.24%	10.27%	9.88%
MSCI ACWI Growth Index	16.93%	-28.72%	33.02%	24.04%	22.30%	10.96%
Lazard Global Managed Volatility	19.00%	-10.31%	16.34%	15.47%	22.31%	11.89%
MSCI ACWI Net Total Return USD Index	19.97%	-16.29%	22.08%	17.37%	22.24%	11.96%
Pzena Global Focused Value	19.29%	-8.18%	20.78%	5.82%	25.07%	11.85%
MSCI ACWI Value Index	19.44%	-7.69%	11.64%	10.60%	21.84%	10.65%
Qtron – *(phased exit by Mar 2026)*	19.42%	-16.61%	21.07%	17.88%	23.07%	11.83%
MSCI ACWI Net Total Return USD Index	18.36%	-18.49%	22.02%	17.31%	22.19%	11.03%
Robeco					22.43%	22.43%
MSCI ACWI Net Total Return USD Index					22.01%	22.01%
Arrowstreet - *fully exited Mar 2025*	34.13%	-9.78%	22.41%	22.34%	6.74%	14.10%
MSCI ACWI IMI	17.99%	-18.57%	21.34%	16.14%	2.33%	6.74%
T.Rowe - *terminated Nov 2025*	10.07%	-27.49%	25.64%	17.45%	17.12%	6.64%
MSCI ACWI Growth Index	16.93%	-28.72%	33.02%	24.04%	20.14%	10.56%
Ardevora – *terminated Nov 2023*	11.87%	-23.93%	8.39%	7.30%		-0.26%
MSCI ACWI Net Total Return USD Index	18.36%	-18.49%	16.66%	0.72%		3.19%

2021-25 Asset Class vs Benchmark	Return	Volatility	Sharpe Ratio	Information Ratio
Global Equities	17.87%	10.49%	1.4	0.8
MSCI All Country World Low Carbon Target Index	16.28%	10.58%	1.2	

*Figure in red means underperformance vs benchmark

OVERVIEW & COMMENTS

RETURN

Global equities, which represent the **largest allocation** in both the target and current portfolios, **have consistently generated excess returns relative to their benchmark**, the MSCI All Country World Low Carbon Target Index, **in every year and over the full period 2021–2025.** The mix of 7 managers has **successfully fulfilled its objective of generating alpha**. The managers are actively monitored and **underperforming or redundant funds are terminated**. The objective is to reduce the number of managers from 7 to 5 while maintaining the portfolio's return-risk profile and **improving cost efficiency**.

RISK

The **Global Equity portfolio exhibits a stronger risk-return profile** (Sharpe ratio) than its benchmark, with higher returns achieved for an equivalent level of volatility over the 2021–2025 period. In addition, an information ratio of 0.8 indicates that **Annuitas has delivered consistent and effective outperformance relative to the benchmark.**

COST

The weighted average base fee of **29 bps**, as reported in the Q4 2025 GSF Quarterly Investment Report, is well **aligned with the average cost for institutional investors for this asset class** given the mix of higher-cost active and lower-cost passive managers.

CONCLUSION

Our assessment confirms that this essential building block for the Fund's overall performance is both **well managed and cost efficient.**

INDIVIDUAL FUNDS' CHARACTERISTICS

- ***Arrowstreet:*** *quantitative core, top performer, Low base fee + performance fee – initiated May 22*
- ***Hyperion:*** *quality growth, solid performer, base fee + performance fee – initiated October 22*
- ***Lazard:*** *low volatility, moderate performer, medium cost – initiated November 2012*
- ***Pzena:*** *deep value, strong long-term performer, high cost – initiated April 2009*
- ***Qtron:*** *quantitative core, modest performer, high cost – (phased exit by March 2026)*
- ***Robeco:*** *quantitative (enhanced passive), no track record yet, low cost – initiated March 25*
- ***T Rowe Price:*** *quality growth, underperformer, high cost – terminated November 2025*

Total fund performance: Global Private Equity

2021-2025 Historical Performance & Risk versus Benchmark / **Target allocation 15%**

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
Global Private Equities Return	**59.93%**	**8.03%**	**2.44%**	**18.68%**	**5.23%**	**17.19%**
MSCI All C World Low Carbon Target +3%	27.58%	-9.76%	25.02%	35.74%	22.27%	19.07%
Excess Return	32.36%	17.61%	-22.58%	17.06%	17.04%	-1.88%

Individual Funds	2021	2022	2023	2024	2025	2021-25
Makena NZD - legacy diversified PE	35.34%	8.13%	-4.25%	9.21%	-4.91%	**7.79%**
Makena 1 - legacy diversified PE	75.30%	-43.67%	-31.79%	7.21%	-9.60%	**-8.17%**
Makena 2 - legacy diversified PE	82.24%	-15.07%	-16.40%	-5.48%	11.43%	**6.39%**
Makena 3 - legacy diversified PE	56.97%	-0.02%	-7.50%	5.83%	4.00%	**9.83%**
Makena VC - VC/ technology	62.73%	-1.75%	-7.84%	5.33%	14.82%	**12.25%**
StepStone Primaries II - BO, SM cap	38.48%	8.01%	7.40%	6.12%	9.17%	**13.23%**
StepStone Primaries IV - BO, SM cap	10.81%	-1.28%	5.01%	3.17%	10.29%	**5.50%**
StepStone Secondaries III diversified	43.70%	-5.39%	4.71%	3.84%	-3.44%	**7.38%**
StepStone Secondaries IV diversified	73.03%	0.97%	5.88%	0.83%	1.77%	**13.68%**
StepStone Secondaries V -diversified				32.28%	16.71%	**24.25%**
StepStone Co-investments IV	64.92%	-1.81%	3.20%	7.31%	-2.99%	**11.71%**
StepStone Co-investments V		-8.69%	11.68%	13.62%	22.24%	**9.09%**
StepStone Climate Solutions					16.65%	**16.65%**

2021-25 Asset Class vs Benchmark	Return	Volatility	Sharpe Ratio	Information Ratio
Global Private Equity	17.19%	14.38%	1.0	-0.1
MSCI All C World Low Carbon Target +3%	19.07%	10.22%	1.5	

*Figure in red means underperformance vs benchmark

OVERVIEW & COMMENTS

RETURN

Over the 2021–2025 period, the Global Private Equity portfolio underperformed its benchmark (MSCI All Country World Low Carbon Target +3%) by -1.88%. **Although the 5-year annualised return of 17.19% can be considered satisfactory in absolute terms**, what stands out is that the **underperformance is largely driven by the last three years,** during which all funds except one (StepStone V) underperformed, **erasing the strong performance of 2020-2021.** While this underperformance reflects the broader post-2020 challenges faced by global PE relative to strong public markets, the asset class warrants close attention going forward.

RISK

The Global Private Equity portfolio exhibits a weaker risk-return profile (Sharpe ratio) than its benchmark, with lower returns achieved for a higher level of volatility. Besides, the information ratio of -0.1 indicates that **the manager has not added value relative to the benchmark**.

COST

We consider that **the exclusive use of a fund-of-funds structure is not cost-efficient**, as it introduces a **second layer of fees totalling 65 basis points** (approximately NZD 6m annually) **on top of the underlying fund costs** *(see recommendations).*

CONCLUSION

GSFA's Global Private Equity allocation has **not fully fulfilled its intended role, not delivering the illiquidity premium expected relative to listed markets**, a shortfall that is not justified given its high management fees, long lock-ups and operational complexity.

INDIVIDUAL MANAGERS' CHARACTERISTICS & ALLOCATIONS

- ***Makena**: global fund-of-funds private equity strategy focused on primaries (~50%, currently a **legacy manager in run-off / 9.3% allocation**) and venture capital (~50% / **9.5% allocation**),*
- ***StepStone**: global fund-of-funds strategy investing in primaries (~50%), secondaries (~15%), co-investments (~30%) and climate solutions (~5%) / **81% allocation***
- *The current **reliance on a single manager for the Fund's second-largest allocation creates concentration risk** and should be diversified through additional managers (see recommendations).*

Total fund performance: Global Private Equity – PNYX Recommendations

Developing PNYX's Recommendations to Improve Global PE Performance and Cost Efficiency

Recommendation 02 — Revisit the Fund-of-Funds Implementation of Global Private Equity

WHY

- GSFA's Global Private Equity allocation has delivered a satisfactory absolute return but has not achieved its intended role as a return-enhancing illiquidity premium. Over 2021–2025, the portfolio returned 17.19% p.a., but **underperformed its benchmark** by 1.88% p.a., with a negative information ratio of -0.1 and the **highest realised volatility among all asset classes** at 14% (compared with 5% for NZ Private Equity which is implemented through direct PE investments). **The earlier WTW review also identified since-inception underperformance of 1.4% p.a., suggesting that the issue is not purely cyclical**.
- The exclusive fund-of-funds model also introduces a **second layer of fees**, of 65 bps on NZD 929 million, or around NZD 6 million per annum, reinforcing the cost challenge already identified in the cost review. The CEM Investment Benchmarking Analysis, covering the five-year period ending 31 December 2024, also identifies the fund-of-funds model as more expensive.
- The Q4 2025 PitchBook analysis also shows that **PE funds of funds generated lower 1-, 5-, 10- and 15-year annualised returns than the direct Private Equity Investments**, reinforcing the case for reassessing whether an exclusive FoF structure remains the most efficient implementation model for GSFA's Global Private Equity allocation.

Private Capital Indexes annualised returns

Index	1-year	5-year	10-year	15-year
Private equity	**6.9%**	**11.7%**	**14.4%**	**14.2%**
Venture capital	14.1%	7.9%	12.9%	13.5%
Real estate	3.1%	5.8%	7.1%	8.6%
Real assets	7.6%	11.5%	8.3%	7.3%
Private debt	5.4%	8.7%	8.2%	8.4%
Fund of funds	8.5%	9.7%	12.1%	11.8%
PE FoFs	**4.9%**	**9.3%**	**11.8%**	**11.6%**
VC FoFs	16.7%	10.2%	13.6%	14.0%
Secondaries	6.9%	13.5%	12.5%	12.8%
Private capital	7.0%	10.6%	11.9%	12.0%

Source: Pitchbook Q4 2025 Private Capital Indexes

HOW

- Move progressively from an exclusive FoF model towards a hybrid Global PE implementation model, combining selected direct fund commitments, co-investments and club deals, while retaining external support where it adds access or specialist due diligence value. This should not be framed as a sudden internalisation of the full PE programme, but as a staged review of implementation options. A practical route would be to allocate only a fraction of the current FoF fee budget to strengthen internal oversight and manager selection capability, supported by selective external advice where needed. The Board and IC could then compare the current FoF structure against realistic alternative scenarios, including direct fund commitments and limited co-investment exposure, to assess whether net returns can be improved without adding undue risk.

Recommendation 04 — Reduce Manager Selection Concentration in Global Private Equity

WHY

- Although the FoF structure provides diversification across underlying funds, GSFA's Global PE allocation remains highly concentrated from a manager selection perspective, with StepStone representing 81% of the portfolio. This creates a significant dependency on one dominant manager's access, investment judgement, governance approach and relationship network. In private equity, this dependency is more material than in liquid asset classes, because manager selection, access to high-quality underlying funds and investment choices have a direct impact on long-term outcomes. The current structure also limits GSFA's ability to compare independent PE implementation approaches, distinguish manager skill from style exposure or market effects, and hold managers accountable through internal performance comparison.
- Expanding GSFA's direct manager relationships would strengthen access to market insight and private-market opportunities, including co-investments, direct investments and club deals. This is increasingly relevant as in public markets, investors can just choose what to buy; in private markets, the investments have to also select you back.

HOW

- Introduce at least one additional Global PE manager or implementation partner with a differentiated strategy, access profile or co-investment capability. This would reduce single-manager dependency, improve accountability and create a stronger basis for internal performance comparison and governance oversight.

Total fund performance: New Zealand Equities

2021-2025 Historical Performance & Risk versus Benchmark / **Target allocation 6.7%**

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
NZ Equities	**4.34%**	**-12.31%**	**4.62%**	**14.08%**	**-0.17%**	**1.74%**
S&P/NZX50 Gross Index	0.05%	-11.39%	3.36%	12.07%	3.95%	1.32%
Excess Return	**4.29%**	**-0.92%**	**1.26%**	**2.01%**	**-4.12%**	**0.42%**

Individual Funds	2021	2022	2023	2024	2025	2021-25
Harbour (Growth oriented)	5.46%	-17.28%	6.06%	16.66%	-2.09%	1.11%
Devon (Value oriented)	3.24%	-7.30%	3.29%	11.52%	1.74%	2.32%

2021-25 Asset Class vs Benchmark	Return	Volatility	Sharpe Ratio	Information Ratio
NZ Equities	1.74%	10.86%	-0.2	0.2
S&P/NZX50 Gross Index	1.32%	10.50%	-0.2	

*Figure in red means underperformance vs benchmark

OVERVIEW & COMMENTS

RETURN

New Zealand equity markets have largely underperformed global equity markets during the period 2021-2025 (1.31% vs 16.28%). GSFA's New Zealand Equities allocation has generated **excess returns of 0.42% relative to their benchmark**, the S&P/NZX50 Gross, over the period 2021–2025. However, unlike global equities, **overperformance has not been consistent** each year, and the 4.12% underperformance in 2025 erased much of the strong outperformance achieved in the post-Covid year 2021.

RISK

The **New Zealand equities portfolio exhibits** a **similar risk-return profile to its benchmark**, with an equivalent Sharpe ratio. While returns are slightly higher, this is achieved with marginally higher volatility. However, the positive information ratio of 0.2 indicates **modest value creation** through active management over the period.

COST

The total cost base fee of **26 bps**, as reported in the Q4 2025 GSF Quarterly Investment Report, is well **aligned with the average cost for institutional investors for this asset class** given the mix of active managers.

CONCLUSION

The excess return generated by this complementary style approach has not been consistent over time. Given the limited manager universe, **reviewing the 6.7% allocation and/or introducing a passive manager may help smooth excess returns**.

INDIVIDUAL FUNDS' CHARACTERISTICS & ALLOCATIONS

- ***Harbour**: growth-oriented, underperforms the benchmark over the period 2021-2025 mainly due to the 2022 return, low cost but performance fees – initiated Dec.16*
- ***Devon:** value oriented, underperforms the benchmark over the last 3 years, medium cost - initiated January 2008*
- *The strategy aims to provide diversification through the combination of two complementary investment styles.*

Total fund performance: New Zealand Private Equity

2021-2025 Historical Performance & Risk versus Benchmark / **Target allocation 3.3%**

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
NZ Private Equity Return	21.65%	21.44%	-4.25%	11.24%	4.85%	10.53%
S&P/NZX50 Gross Index +3%	3.28%	-9.07%	6.55%	15.15%	6.95%	4.27%
Excess Return	18.37%	30.51%	-10.80%	-3.91%	-2.10%	6.27%

Individual Funds	2021	2022	2023	2024	2025	2021-25
Direct Capital V	25.66%	25.06%	-3.01%	19.33%	9.06%	14.68%
Direct Capital VI	49.53%	67.89%	19.34%	-5.99%	1.19%	23.30%
Direct Capital IV (matured August 2025)	78.48%	9.00%	52.44%	7.93%	39.72%	34.93%
Movac Growth 6	0.00%	0.00%	-84.01%	-7.77%	37.19%	-41.30%
Pencarrow IV	4.14%	46.69%	-0.07%	-6.00%		9.45%
Pencarrow Bridge	26.31%	47.85%	5.00%	2.64%	-19.03%	10.26%
Pencarrow V	59.89%	4.59%	-7.99%	0.83%	-1.71%	8.81%
Pencarrow VI			-29.65%	-20.04%	-11.50%	-20.75%
Morrison & Co PIP II	12.11%	16.69%	-2.76%	27.14%	6.98%	11.59%
Pioneer II	29.22%	-9.10%	-38.43%	6.78%	9.11%	-3.37%
Pioneer III	-15.24%	-0.43%	-16.95%	7.22%	10.10%	-3.72%

2021-25 Asset Class vs Benchmark	Return	Volatility	Sharpe Ratio	Information Ratio
NZ Private Equity Return	10.53%	5.52%	1.3	0.5
S&P/NZX50 Gross Index +3%	4.27%	10.16%	0.1	

*Figure in red means underperformance vs benchmark

OVERVIEW & COMMENTS

RETURN

Over the 2021–2025 period, the NZ Private Equity portfolio performed better than its global PE counterpart, generating an **excess return of 6.27% over its benchmark, the S&P/NZX 50 Gross Index**. However, this **outperformance has not been consistent over time, with the last three years showing relative underperformance**. That said, this trend appears to reflect the broader challenges faced by private equity globally in the post-2020 environment particularly relative to public markets.

RISK

The **New Zealand Private Equity portfolio displays a stronger risk-return profile than its benchmark**, as reflected in a higher Sharpe ratio. In addition, a positive information ratio of 0.5 indicates that **Annuitas has added meaningful value relative to the benchmark through active management.**

COST

The **total cost of 196 bps**, as reported in the Q4 2025 GSF Quarterly Investment Report, **appears relatively high** and could be reduced through the introduction of co-investments and direct deals.

CONCLUSION

Despite the excess return generated over the last five years, the long-term nature of the allocation and the underperformance observed over the last three years suggest that **continued close monitoring and particular attention remain warranted.**

INDIVIDUAL MANAGERS' CHARACTERISTICS & ALLOCATIONS

Mid-market Buy Out / expansion capital

Direct Capital V	21.3%	
Direct Capital VI	22.3%	
Direct Capital VII	0% (new vintage)	
Movac Growth 6	Early-stage / tech	3.5%
MCO PIP II	Infra PPP	23.7%

Small / mid-market Buy Out / growth capital

Pencarrow Bridge	5.5%
Pencarrow V	6.3%
Pencarrow VI	1.4%

NZ companies with a strong global orientation

Pioneer II	2.6%
Pioneer III	13.3%

Total fund performance: Style Premia – Discontinued

2021-2025 Historical Performance & Risk versus Benchmark

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
Style Premia#	29.42%	1.93%				14.85%
ICE BofA 3-Month US Treasury Bill Index#	5.21%	1.18%				3.17%
Excess Return	**24.20%**	**0.75%**				**11.68%**

Individual Funds vs Benchmark	2021	2022	2023	2024	2025	2021-25
AQR	29.42%	1.93%				14.85%

including currency impact

2021-25 Asset Class vs Benchmark	Return	Volatility	Sharpe Ratio	Information Ratio
Style Premia	14.85%	23.64%	0.5	0.6
ICE BofA 3-Month US Treasury Bill Index	3.17%	10.19%	-	

BACKGROUND AND MOTIVATION FOR DISCONTINUING STYLE PREMIA

- The decision to terminate the AQR Style Premia Fund was formally recommended in December 2021, following the annual review presented to the Board on 8 December 2021
- The strategy was originally introduced in September 2016 with the objective of providing an alternative return source uncorrelated to equities and bonds, targeting equity-like returns with diversified risk drivers.
- A key trigger for termination was a significant wave of senior management departures at AQR in November 2021, affecting portfolio management, research, implementation, and risk functions, which raised concerns about organisational stability.
- Performance was a central issue, with returns since inception materially below expectations, including negative performance for GSFA since inception (-6.4% USD) and broadly disappointing outcomes across multiple styles (value, carry, momentum).
- The strategy also exhibited structural issues, including higher-than-expected exposure to the value factor, high contribution to total active risk, increased correlation with global equity managers, reducing diversification benefits.
- More broadly, the review highlighted a trend decline in returns and Sharpe ratios across the style premia industry, suggesting that factor premia had become more commoditised and harder to capture.
- As a result, GSFA decided not only to exit the manager but also to reassess conviction in the asset class itself and therefore did not seek a replacement manager for style premia exposure.

OVERVIEW & COMMENTS

RETURN

The Style Premia asset class was terminated in February 2022 following negative performance since its 2016 inception (-6.4% in USD). Despite this, the class performed particularly well in its final 14 months, achieving an absolute return of 14.85% and an excess return of 3.17%. This strong finish resulted in a positive impact over the 2021–2025 period, contributing positively to the excess return of the Target Portfolio.

RISK

The Style Premia allocation showed a stronger risk-return profile than its benchmark in its last 14 months, as reflected in a higher Sharpe ratio, while the information ratio of 0.6 indicates meaningful value added relative to the benchmark.

COST

Style Premia's base fee for GSFA was reduced in February 2021, with a performance fee of 10% applied to excess returns above cash. **The discontinuation of the asset class has contributed to a reduction in the Fund's overall cost base.**

CONCLUSION

During its final 14 months, the asset class successfully fulfilled its expected role as a diversifying return generator, a function it had failed to achieve since its inception.

INDIVIDUAL MANAGERS' CHARACTERISTICS

- AQR's approach to style premia is based on systematically capturing factor returns (value, carry, defensive, momentum) across multiple asset classes using long/short strategies designed to isolate these premia from underlying market exposures.
- The strategy targets equity-like returns (cash + 4%) with high volatility (12%), using diversified factor exposures and significant leverage to achieve the desired risk profile.
- The portfolio construction relies on offsetting long and short positions across asset classes, aiming to generate returns independent of traditional market direction, though in practice correlation and factor concentration emerged over time.
- Base fee: (reduced in 2021) + Performance fee on excess returns above cash

Total fund performance: Global Fixed Interest

2021-2025 Historical Performance & Risk versus Benchmark / **Target allocation 10.5%**

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
Global Fixed Interest	**-0.73%**	**-11.25%**	**7.45%**	**2.46%**	**5.69%**	**0.50%**
Bloomberg Barclays Global Aggregate Index hedged to NZD	-1.33%	-11.83%	6.49%	2.93%	3.63%	-0.24%
Excess Return	**0.60%**	**0.58%**	**0.97%**	**-0.47%**	**2.06%**	**0.74%**

Individual Funds	2021	2022	2023	2024	2025	2021-25
PIMCO	-1.21%	-11.73%	7.32%	3.69%	5.59%	**0.49%**
PGIM (inception 31 August 22)		-1.77%	8.46%	3.65%	5.46%	**3.88%**
Brandywine (termination Nov. 2025)	-1.15%	-10.11%	7.48%	-2.62%	5.85%	**-0.31%**

2021-25 Asset Class vs Benchmark	Return	Volatility	Sharpe Ratio	Information Ratio
Global Fixed Interest	0.50%	5.15%	-0.6	0.7
Bloomberg Barclays Global Aggregate Index hedged to NZD	-0.24%	4.86%	-0.7	

*Figure in red means underperformance vs benchmark

OVERVIEW & COMMENTS

RETURN:
Global Fixed Interest has generated **excess returns of 0.74%** relative to its benchmark, the Bloomberg Barclays Global Aggregate Index hedged to NZD, over the period 2021–2025. Brandywine, the higher cost manager that drove the underperformance of the asset class in 2024, has been terminated in late 2025, to fund the new allocation into New Zealand Sovereign Bonds.

RISK
The Global Fixed Interest portfolio demonstrates a slightly better risk-return profile relative to its benchmark, delivering higher returns with marginally higher volatility, resulting in a modestly higher Sharpe ratio. The positive information ratio of 0.7 indicates that **the manager has generated meaningful value through active management** over the period.

COST
The **average cost of 22 bps**, as reported in the Q4 2025 GSF Quarterly Investment Report (taking also into account the PIMCO Revised Fee Schedule for GSFA), is slightly **above average** compared with other institutional investors, although this asset class remains a **minor contributor to the Fund's overall cost level**.

CONCLUSION
The global fixed income portfolio is **overall well managed**, delivering **quasi-consistent excess returns** while **fulfilling its core role as a diversifier and risk reducer**, providing stable, low-volatility returns, maintaining a low correlation with equities, and ensuring liquidity and protection in downside scenarios.

INDIVIDUAL MANAGERS' CHARACTERISTICS & ALLOCATIONS

PIMCO (Pacific Investment Management Company LLC) – Allocation 51%
Style: *Active management with a macroeconomic focus.*
Approach: *Top-down analysis to forecast economic trends, strategic duration management, sector rotation. Based on our experience to date, much of PIMCO's value-add comes from country allocations.*
Objective: *Outperform benchmarks while managing risk through tactical allocations and dynamic bond strategies.*

PGIM (Prudential Global Investment Management) – Allocation 49%
Style: *Diversified, multi-sector expertise.*
Approach: *Combine top-down macro analysis with bottom-up security selection across various fixed income segments. PGIM rely on allocations to credit more than Brandywine / PIMCO.*
Objective: *Deliver consistent performance by leveraging global research and managing risk prudently across market cycles.*

Total fund performance: NZ Sovereign Fixed Interest

2021-2025 Historical Performance & Risk versus Benchmark / **Target allocation 5.0%**

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
NZ Fixed Interest					**-1.39%**	**-1.39%**
Bloomberg NZ Bond Govt 0+Yr Index					-1.24%	-1.24%
Excess Return					**-0.15%**	**-0.15%**

Individual Funds	2021	2022	2023	2024	2025	2021-25
Amova					-1.39%	-1.39%

*Figure in red means underperformance vs benchmark

OVERVIEW & COMMENTS

- Given that the New Zealand Sovereign Bonds asset class was **only implemented in November 2025**, it **is still too early to draw conclusions**.

DECISION, BACKGROUND AND MOTIVATION

- On 11 February 2025, the Board formally approved the introduction of a New Zealand sovereign bond allocation within a target range of 0–10%, with an initial implementation level of approximately 5%.
- This decision was taken as part of a broader Target Portfolio Review, meaning that it reflects a strategic reassessment of the Fund's asset allocation rather than a short-term tactical adjustment.
- The new allocation was designed to be funded by a reduction in the existing global fixed income allocation, implying a reallocation within defensive assets rather than an increase in overall bond exposure.
- In May 2025, the Board approved the termination of the Brandywine mandate, in part to release capital for the implementation of the New Zealand sovereign bond allocation.
- Prior to this decision, the Fund held a significant allocation to global bonds but had no dedicated exposure to New Zealand sovereign bonds.
- New Zealand sovereign bonds were identified as offering superior diversification and risk reduction characteristics compared to global bonds, particularly in relation to their behaviour in stressed market conditions.
- A central motivation for the allocation was to ensure that the Fund has access to a reliable and immediate source of liquidity, especially during periods of market stress or funding pressure.
- The allocation is intended to provide liquidity that can be used to meet obligations such as collateral calls, private equity capital calls or portfolio rebalancing during adverse market conditions.
- New Zealand sovereign bonds were also viewed as particularly effective because of their "flight to safety" properties, which typically lead to price appreciation and strong liquidity during periods of financial stress.
- The specific size of the allocation (around 5%) was determined based on an analysis of the Fund's potential liquidity needs under stressed scenarios, ensuring that the portfolio remains resilient without materially reducing expected returns.

Total fund performance: Catastrophe risk

2021-2025 Historical Performance & Risk versus Benchmark / **Target allocation 3.0%**

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
Catastrophe Risk	6.17%	4.77%	15.01%	31.44%	9.28%	12.94%
Swiss Reinsurance Catastrophe Bond Total Return Index	8.79%	4.58%	18.28%	31.12%	10.26%	14.24%
Excess Return	-2.62%	0.19%	-3.27%	0.32%	-0.99%	-1.30%

Individual Funds	2021	2022	2023	2024	2025	2021-25
Elementum					15.10%	15.10%
Nephila	-5.43%	-3.18%	-8.52%	12.81%	8.51%	0.50%
Fermat	10.19%	4.63%	17.45%	31.65%	8.65%	14.14%

2021-25 Asset Class vs Benchmark	Return	Volatility	Sharpe Ratio	Information Ratio
Catastrophe Risk	12.94%	10.47%	0.9	-0.6
Swiss Reinsurance Catastrophe Bond Total Return Index	14.24%	10.57%	1.0	

*Figure in red means underperformance vs benchmark

THE TRANSITION FROM FERMAT TO ELEMENTUM

The Fund transitioned from Fermat to Elementum in the second half of 2025 to improve the quality and alignment of the catastrophe bond allocation with its long-term goals. The shift to Elementum was driven by three main objectives:

- *Improving liquidity and portfolio flexibility: Elementum invests exclusively in publicly listed catastrophe bonds, which provide greater liquidity.*
- *Enhancing expected risk-adjusted returns: The strategy places a stronger emphasis on peak perils, which are considered to offer more attractive risk-adjusted returns than the secondary perils that were more prevalent in the previous implementation.*
- *Reducing implementation costs: Elementum offers materially lower fees than the previous strategy, resulting in a significant reduction in costs.*

While Fermat delivered moderate long-term performance, slightly below its benchmark, the move to Elementum reflects a higher-conviction, more cost-efficient and more actively managed approach.

OVERVIEW & COMMENTS

RETURN

Over the 2021–2025 period, the catastrophe risk portfolio **underperformed its benchmark**, the Swiss Reinsurance Catastrophe Bond Total Return Index, **by 1.30%.** However, **the absolute return of 12.94% represents an important contribution, allowing the Target Portfolio to outperform the Global Aggregate Bond benchmark of the Reference Portfolio**. However, it is worth noting that the benchmark is not directly investable and remains difficult to replicate in practice, given that exact constituent weightings and pricing inputs are not publicly disclosed, while many of the underlying bonds trade infrequently or are unavailable in sufficient size.

RISK

The **Catastrophe Risk class demonstrates a slightly weaker risk-return profile than its benchmark**, as reflected in a marginally lower Sharpe ratio. In addition, the negative information ratio (-0.6) indicates that **the manager has not added value performance relative to its (non investable) benchmark.**

COST

By transitioning from the Fermat funds to the more competitively priced Elementum option, Annuitas has generated **significant savings, bringing the total annual cost significantly lower.** The exact cost is not disclosed due to commercial sensitivity, given that there is only one manager. However, we consider the revised cost to be in line with expectations for this asset class.

CONCLUSION

Despite trailing its non-investable benchmark, the cat bonds asset **class successfully provides diversified returns and reduces overall portfolio risk**. It remains uncorrelated with equity markets, and **the transition to a lower cost structure positions the asset class for better net returns moving forward**. Changing the benchmark to the funding source's (global fixed income) benchmark could be more adequate.

INDIVIDUAL MANAGERS' CHARACTERISTICS & ALLOCATIONS

Elementum	*Global catastrophe risk - focuses on peak perils exposures (lower cost)* ***98.3% allocation***
Nephila	*Global catastrophe risk -* ***legacy fund in run-off*** *- very small remaining balance*
Fermat	***Terminated*** *- global catastrophe risk (high cost)*

Total fund performance: Life settlements risk

2021-2025 Historical Performance & Risk versus Benchmark / **Target allocation 1.5% - discontinued**

Asset Class vs Benchmark	2021	2022	2023	2024	2025	2021-25
Life Settlements Risk	17.80%	8.68%	20.07%	13.06%	5.14%	12.81%
Actual Return	17.80%	8.68%	20.07%	13.06%	5.14%	12.81%
Excess Return	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Individual Funds	2021	2022	2023	2024	2025	2021-25
Apollo	4.51%	5.58%	8.05%	-3.15%	13.76%	5.61%
Apollo III	7.74%	4.98%	9.14%	3.24%	1.51%	5.29%
Credit Suisse	25.19%	-9.05%	57.05%			21.38%

2021-25 Asset Class vs Benchmark	Return	Volatility	Sharpe Ratio	Information Ratio
Life Settlements Risk	12.81%	11.76%	0.8	-
Actual Return	12.81%	11.76%	0.8	

*Figure in red means underperformance vs benchmark

INDIVIDUAL MANAGERS' CHARACTERISTICS & ALLOCATIONS

- **Credit Suisse (swap structure, 2013–2023):** The initial investment was implemented through a bespoke swap where GSFA paid premiums and received payouts linked to mortality outcomes, but the structure suffered from poor alignment as Credit Suisse was compensated upfront, resulting in limited active management and weak incentives, ultimately leading to underperformance (IRR ≈ -1.87%) before the position was exited in 2023.
- **Apollo Financial Credit Investment II (FCI II):** This closed-end fund introduced a more conventional private markets structure with aligned incentives through a base fee and performance fee, and active portfolio management, but performance remained moderate (IRR ≈ 5.38%) due to underestimated longevity assumptions in the underlying insured population **(48% of the allocation).**
- **Apollo Financial Credit Investment III (FCI III):** Building on experience from earlier vintages, this closed-end fund applied improved underwriting and portfolio construction, resulting in significantly stronger performance (IRR ≈ 10.55%), while maintaining the same aligned fee structure and demonstrating the benefits of enhanced mortality modelling and active management **(52% of the allocation).**

OVERVIEW & COMMENTS

RETURN

- Over the 2021–2025 period, **the life settlements risk portfolio delivered an absolute return of 12.81%, representing an important contribution to the Fixed Income portfolio** (similar to the role played by the Catastrophe Risk allocation) **in allowing the Target Portfolio to outperform the Global Aggregate Bond benchmark of the Reference Portfolio.**

RISK

- The Life Settlements portfolio demonstrates a risk-return profile identical to its benchmark, **as both the portfolio and the benchmark are based on the same actual return series.** In this case, using the funding-source benchmark (the fixed income benchmark) would better highlight the risk-return benefits of including this asset class in the Target Portfolio.

COST

- The average base cost, as reported in the Q4 2025 GSF Quarterly Investment Report, corresponds to the average asset class cost for institutional investors. This asset class remains a marginal contributor to the Fund's overall cost level, as it weight is only 1.5%

CONCLUSION

- Over the 2021–2025 period, this asset class successfully fulfilled its role as a diversifier within the portfolio, delivering strong absolute returns compared to traditional fixed income, contributing positively to the overall portfolio's resilience and enhancing non correlated return generation.

BACKGROUND AND MOTIVATION FOR DISCONTINUING LIFE SETTLEMENTS

- The February 2025 Target Portfolio Review confirmed a **decision to exit the Life Settlements asset class, with no further capital to be allocated going forward.**
- The primary driver of this decision is deteriorating forward return expectations, as increased competition and compressed discount rates have reduced the attractiveness of new investments.
- The market has evolved into a more fragmented secondary market, with fewer large transactions and greater participation from smaller investors, reducing pricing efficiency and opportunities.
- Improved longevity assumptions have increased uncertainty and reduced expected returns, highlighting the sensitivity of the strategy to underlying actuarial assumptions.
- **Existing investments are being managed in run-off, with capital returned over time and reallocated to Global Bonds, reinforcing the Fund's liquidity and defensive asset allocation.**

Total Fund Risk: Framework & Measures

Managing Risk in Pursuit of Long-Term Returns

RISK FRAMEWORK

- GSFA's risk approach is anchored in the pursuit of long-term performance relative to New Zealand Government Bonds, with **the Fund structured to absorb short-term volatility in order to achieve superior outcomes over the full investment horizon**.
- The GSFA risk framework is built around an overall risk perspective, reflecting both the **Fund's ability to bear risk and its tolerance for risk**, within the constraints of its statutory objective.
- The **Reference Portfolio provides the central risk anchor**, defining the core exposure to market risk, setting the baseline volatility profile, and serving as the primary benchmark for both performance and risk calibration,
- Risk-taking beyond this baseline is explicit and controlled, with **active risk capturing all deviations from the Reference Portfolio**, including strategy selection, asset allocation tilts, and manager decisions.
- The magnitude and allocation of active risk are determined by a combination of return objectives, tolerance for relative underperformance, conviction in value-added strategies, and practical governance and implementation constraints.
- The framework is complemented by clear secondary risk dimensions (notably liquidity, concentration, and downside risk), alongside stress testing and ongoing monitoring, ensuring that total portfolio risk remains consistent with the Fund's long-term risk appetite.
- However, a notable omission from the risk framework is Conditional Value at Risk or CVaR. CVaR extends VaR by quantifying the severity of tail losses rather than merely their threshold. As a coherent risk measure, CVaR better accounts for portfolio diversification making it a more robust basis for risk-adjusted decision-making.

Measure	Function / Interpretation
Volatility	Volatility is the **primary measure of risk** and drives the Reference Portfolio design. It defines the Fund's tolerance for return variability and ensures the overall risk level remains aligned with the stated risk appetite. Differences in volatility reflect the impact of active positioning relative to the Reference Portfolio.
Sharpe Ratio	The Sharpe ratio assesses **how efficiently the Fund converts risk into return**. It links strategy to long-term objectives by indicating whether the level of risk taken is appropriately rewarded. Higher values signal more effective use of risk within the portfolio.
Information Ratio	The information ratio measures the **effectiveness of active management** by relating excess return to active risk. It supports asset allocation and manager selection by highlighting where active risk delivers value. At the Fund level, it reflects the contribution of strategies relative to the Reference Portfolio.

Total Fund Risk: Rolling 3-Year Volatility

Diversification Contributes to Lower Actual Portfolio Volatility Relative to the Reference Portfolio

REFERENCE VS TARGET VS ACTUAL PORTFOLIO

- **The volatility of the Reference Portfolio is structurally higher**, reflecting its limited diversification and strong concentration in listed equities (around 80%), which increases sensitivity to equity market cycles. This was particularly apparent in 2022, when the simultaneous drawdown in equities and bonds removed the usual diversification benefits and amplified overall volatility.

- In contrast, the **Target Portfolio is more diversified across asset classes and return drivers, which naturally results in lower realised volatility.** However, it is important to note that private equity benchmarks in the Target portfolio, proxied by listed markets +3%, remain inherently volatile and do not capture the valuation lag and smoothing effects of private asset classes.

- Finally, the **Actual Portfolio shows a clear shift in volatility dynamics over time**, with realised volatility slightly above the Target Portfolio prior to 2022, but clearly below thereafter, largely reflecting valuation-driven movements in Global Private Equity. This asset class experienced an exceptional return environment in 2021 (around 60%), followed by a sharp normalisation to low single-digit returns, before reverting to a more uneven and volatile pattern.

Total Fund Risk: Sharpe Ratio Actual versus Reference Portfolio

2021-2025 Actual Portfolio Demonstrates Consistently Higher Sharpe Ratios with Lower Realised Volatility

Actual Fund	2021	2022	2023	2024	2025	2021-25
Return	22.08%	-10.20%	15.17%	17.56%	12.80%	10.86%
Volatility	5.65%	10.51%	6.66%	4.72%	5.57%	7.38%
Sharpe Ratio	**3.8**	**-1.2**	**1.5**	**2.6**	**1.7**	**1.0**
Reference Portfolio	**2021**	**2022**	**2023**	**2024**	**2025**	**2021-25**
Return	14.54%	-14.53%	16.42%	19.43%	14.08%	9.20%
Volatility	5.87%	13.69%	9.89%	6.21%	7.50%	9.47%
Sharpe Ratio	**2.4**	**-1.2**	**1.1**	**2.2**	**1.4**	**0.6**

RISK–RETURN COMPARISON: ACTUAL VS REFERENCE PORTFOLIO

- Over the 2021–2025 period, the **Actual Portfolio exhibits a superior risk–return profile relative to the Reference Portfolio**, as reflected in a higher Sharpe ratio (1.0 vs 0.6), indicating more efficient use of risk and consistent with the construction of the Reference Portfolio, **which is less diversified and therefore structurally more volatile.**
- This **return/risk outperformance is consistent across all five individual years**, with the Actual Portfolio delivering a higher Sharpe ratio in each year, highlighting the robustness of the risk-adjusted performance rather than reliance on a single favourable period.
- The stronger profile is **primarily driven by the Global Equity allocation**, which over the period achieves a high Sharpe ratio (around 1.4), combining higher returns with increased volatility relative to the Reference Portfolio benchmark, but delivering superior compensation for risk.
- In contrast, **2022 represents a period of convergence, where both Actual and Reference Portfolios experienced similar risk–return dynamics** amid the simultaneous drawdown in equities and bonds, limiting the benefit of diversification.
- Over the **most recent three years,** although the Actual Portfolio lags in absolute returns, it maintains a higher Sharpe ratio, as realised volatility remains consistently lower than the Reference Portfolio, preserving overall risk-adjusted efficiency

Total Fund risk: Information Ratio Actual versus Reference Portfolio

2021-2025 Active Risk Most Efficiently Deployed in Global Equities and Fixed Income risk

	Global Equities	Global Private Equities	NZ Equities	NZ Private Equities	Global Fixed Interest	NZ Fixed Interest	Catastrophe Risk	Life Settlements Risk	Dynamic Asset Allocation	Actual Portfolio
Active Risk (ex-ante)	2.00%	6.00%	2.00%	6.00%	2.00%	0.40%	2.00%	0.00%	1.00%	2.50%
Active Risk (ex-post)	1.97%	15.80%	1.84%	12.44%	1.07%	0.32%	2.03%	0.00%	0.60%	3.07%
Excess Return	1.59%	-1.88%	0.42%	6.27%	0.74%	-0.15%	-1.30%	0.00%	0.22%	1.66%
Information Ratio	**0.8**	**-0.1**	**0.2**	**0.5**	**0.7**	**-0.5**	**-0.6**	**-**	**0.4**	**0.5**

ACTIVE MANAGEMENT ADDED VALUE 2021-2025

- **Global equities (0.8) and global fixed income (0.7) stand out as the most efficient contributors of active return**, indicating consistent value-add per unit of active risk in core liquid exposures. NZ Private Equities (0.5) and dynamic asset allocation (0.4) also deliver positive risk-adjusted contribution, suggesting that active positioning and manager selection in these segments have been effective, albeit less strongly than in global liquid markets. NZ equities (0.2) show modest but positive efficiency, indicating limited but still positive contribution from active risk. Global private equities (-0.1) present a slightly negative outcome over the period, reflecting underperformance relative to benchmark expectations despite higher active risk. NZ fixed income is negative (-0.5) but as it has been implemented only for two months the figure is not informative. Catastrophe risk (-0.6) exhibits also a negative information ratio against the Swiss Re Cat Bond Index, but as the index is un-investable the information ratio should be calculated against the global bond benchmark (and in this case it would be largely positive). Finally, the calculation of the information ratio for Life settlements is impossible, since the benchmark is its actual return.
- Across asset classes, **realised active risk has remained below ex-ante targets in most cases, with the notable exception of Global and NZ Private Equity**, where realised active risk exceeds targets, reflecting the observed tracking error of these allocations (for example global equity realised volatility over the last 5 years is 10.5% versus 14% for the PE) .
- **The Actual Portfolio information ratio (0.5) reflects a good level of active return efficiency at the total portfolio level**, consistent with the weighted contribution of underlying asset classes.
- Overall, the dispersion highlights that **active risk has been most effectively deployed in global liquid assets**, while returns in more specialised or alternative exposures have been more uneven and, in some cases, detracted from performance.

FX Hedging

Currency Hedging Supports Risk Control Without Undue Risk

- **GSFA manages FX risk through a formal currency overlay framework.** The Fund targets a **20% net foreign currency exposure** at total Fund level, meaning that the remaining non NZD denominated assets are hedged so that residual NZD exposure is 80% at Fund level.
- **The Fund uses three-month forward contracts to hedge foreign assets.** These hedges are sensitive to the spread between 90-day interest rates in New Zealand and other foreign currencies.
- GSFA is mainly exposed to the US dollar, the Euro, and the Japanese Yen.
- **FX hedging has a dual effect: positive or negative carry can coexist with negative total overlay returns.** For example, to the extent NZD short-term rates exceed the relevant foreign currency rates, hedging foreign currency exposure back into NZD through forwards may generate positive carry, as forward pricing reflects interest-rate differentials. However, the total hedge result also depends on spot FX movements. If the NZD weakens, the hedge can generate a negative mark-to-market / cash-flows impact because the Fund has effectively sold foreign currency forward.
- **Over the last five years, the currency overlay produced a negative annualised return of around -1.2%.** Over this period, the NZD weakened against major currencies such as the USD and EUR, meaning that unhedged foreign currency exposure would have supported NZD-based returns. GSFA's hedging therefore reduced participation in those currency gains, contributing to the negative reported currency overlay return.
- **The negative overlay result should not be interpreted mechanically as a policy weakness.** The purpose of GSFA's FX hedging is to **reduce currency-driven volatility** and **support the Fund's objective of maximising returns without undue risk**. The hedge therefore represents the opportunity cost of reducing exposure to FX volatility during a period in which foreign currencies appreciated against the NZD.
- **The 20% residual foreign currency exposure introduces directional flexibility to the portfolio**. By not fully hedging the Fund, GSFA retains exposure to foreign currency movements, capturing gains when the foreign currencies strengthen against the NZD, while accepting the corresponding risk if they weaken. **This approach balances volatility reduction with the potential for currency driven returns.**
- **Overall, the approach appears consistent with a risk-controlled institutional framework.** GSFA's currency policy reduces the risk that FX movements dominate total Fund outcomes, while still leaving a measured level of foreign currency exposure. In this sense, the negative currency overlay return reflects the adverse ex-post outcome of hedging during a period of NZD depreciation, but **the policy remains aligned with the objective of managing downside risk and volatility without undue risk.**

Total fund performance: Global Portfolio - Costs (1/2)

Low internal but above-average external costs result in relatively high overall investment costs

PNYX'S GENERAL PRINCIPLES

- Investment costs depend largely on the **asset mix** (illiquid assets are generally more expensive than liquid ones) and the **investment style** (active management is more expensive than passive).
- **Higher** portfolio management **fees** may be **acceptable only if** they result in demonstrably **higher performance**.
- Nevertheless, as costs are certain while performance is uncertain, it is generally preferable to minimise costs wherever feasible: **cost reduction is the only certain source of alpha**.

GSFA INVESTMENT COSTS – PNYX'S OPINION

- **Internal costs are low and stable**, which is consistent with the relatively small size of the Annuitas team and the fact that investment management is almost entirely outsourced to external managers (with the exception of Dynamic Asset Allocation).
- **External costs appear to be above average**, even after considering GSFA's relatively cost-intensive asset mix (18.7% invested in illiquid Global and NZ Private Equity; and 61.7% in Global and NZ Equities, which are actively managed). While volatile public equity performance fees explain part of the elevated cost level, the overall figure remains relatively high, particularly given that the full look-through costs of the underlying global private equity funds are not reflected in the reported figures (it is worth noting that, although full look-through costs are not reflected, GSFA has partial look-through transparency, as the main PE manager has provided data on underlying fund base fees, but not on performance fees).

Fiscal Year	2025	2024	2023	2022	2021
Net Assets in $000	**5,839,380**	**5,504,211**	**5,145,956**	**4,961,996**	**5,218,160**
Investment Management and Custody Expenses in $000	50,768	52,177	33,879	63,128	56,428
Base Management Fees (bps)	50	43	41	44	45
Performance Fees (bps)	37	46	16	64	52
Total External Cost in bps	87	89	57	108	97
Operating Expenses in $000	4,446	4,455	4,346	4,339	4,231
Internal Costs in bps	7	7	7	7	7
Total Costs in $000	**55,214**	**56,632**	**38,225**	**67,467**	**60,659**
Total Cost in bps	**94**	**96**	**64**	**115**	**104**
Calendar Year	**2025**	**2024**	**2023**	**2022**	**2021**
CEM Analysis Estimated Investment Costs (excluding PE performance fees)	*85**	100.7	86.5	96.4	87.9

* Provisional estimate . Sources: Annuitas, GSFA Reports and Financial Statements for the year ended 30 June 2021-2025, CEM Investment Benchmarking Analysis (for the 5-year period ending December 31, 2024)

CEM INVESTMENT BENCHMARKING ANALYSIS (for the 5-year period ending 31/12/2024)

GSFA has mandated CEM to perform an annual cost analysis to compare investment costs relative to global and peer groups. According to CEM, the most relevant cost comparison is the custom peer group, comprising 18 global funds with assets ranging from USD 1.7bn to USD 13.0bn, with a median size of USD 5.2bn, close to GSFA's USD 5.5bn. **The analysis focuses on investment costs excluding transaction costs and private asset performance fees.** The key takeaways include:

- **GSFA's headline investment costs are above peers and benchmark**, but the excess is highly concentrated. Total investment costs were 100.7 bps for the calendar year 2024 versus a benchmark cost of 67.0 bps, implying an excess cost of 33.7 bps, of which 32.7 bps is **attributable to global active equity performance fees.**
- **On a like-for-like basis, GSFA meets its cost benchmarking expectation**. After adjusting for more active management and global active equity performance fees, GSFA is 2.8 bps below the peer median, which means it achieved the Statement of Performance Expectations measure that costs should be comparable when assessed by size and risk
- Higher costs need to be assessed alongside strong net outcomes. **GSFA's 5-year net total return was 9.4% p.a., above both the global median of 5.3% and the peer median of 3.8%,** while 5-year net value added was 0.8% p.a., also above the global median of 0.4% and peer median of 0.2%.
- Implementation choices remain an important cost driver. CEM notes that **"implementation style impacts your costs, because external active management tends to be more expensive than internal or passive (or indexed) management and fund-of-funds usage is more expensive than direct fund investment",** for GSFA, implementation style added 3.5 bps relative to peers, driven mainly by more active management and greater fund-of-funds usage.

Total fund performance: Global Portfolio - Costs (2/2)

Investment costs comparison with international pension and sovereign wealth funds and endowments

Fund	Fund Size in USD (B)	Total Cost (bp)	Internal Cost (bp)	External Cost (bp)	Total Equity	Public Equity	Private Equity	Public Fixed Income	Private Credit	Real Estate	Infra	Alternatives	Cash	Report Date
GSFA	**3.75**	**94.7**	**7.6**	**86.9**	**76.0%**	**58.0%**	**18.0%**	**19.4%**	**0.0%**	**0.0%**	**0.0%**	**4.6%**	**0.0%**	**Jun-25**
NBIM GPFG	1856	4.1	2.4	1.7	71.4%	71.4%	0.0%	26.6%	0.0%	1.8%	0.1%	0.0%	0.0%	Dec-24
NZ Super Fund	47	24.2	16.5	7.7	59.0%	54.0%	5.0%	18.0%	0.0%	5.0%	4.0%	13.0%	1.0%	Jun-25
CPPIB	460	100.8	24.6	76.2	58.0%	29.0%	29.0%	15.0%	11.0%	7.0%	9.0%	0.0%	0.0%	Mar-25
Future Fund	150	143.5	26.5	117.0	55.6%	42.3%	13.3%	5.3%	3.6%	4.4%	11.4%	14.7%	5.1%	Jun-25
AK Permanent Fund	81	103.0	3.0	100.0	50.0%	33.0%	17.0%	20.0%	9.0%	11.0%	0.0%	8.0%	2.0%	Jun-25
CDPQ	316	67.0	23.0	44.0	46.6%	27.5%	19.1%	30.9%	0.0%	8.9%	13.6%	0.0%	0.0%	Dec-24
Alberta Heritage Fund	17	74.4	28.1	46.3	46.0%	37.7%	8.3%	11.8%	8.0%	16.9%	10.5%	2.7%	4.1%	Mar-25
AIMCo	125	65.8	26.4	0.0	41.7%	33.3%	8.4%	18.9%	8.1%	12.6%	13.1%	4.1%	1.5%	Dec-24
OTPP	190	80.0	34.0	46.0	41.0%	14.0%	27.0%	30.0%	14.0%	17.0%	11.0%	30.0%	0.0%	Dec-24
PSP	193	82.4	28.4	54.0	40.2%	26.6%	13.6%	22.1%	10.1%	8.9%	10.7%	6.5%	1.6%	Mar-25
OMERS	101	49.4	43.5	5.9	40.1%	20.5%	19.6%	21.2%	12.1%	13.3%	22.5%	0.0%	0.0%	Dec-24
HOOPP	90	64.0	40.0	0.0	38.0%	28.0%	10.0%	42.0%	6.0%	18.0%	7.0%	0.0%	-11.0%	Dec-24
BCI	167	71.1	17.5	53.6	37.0%	23.6%	13.4%	33.6%	7.9%	25.4%	12.8%	0.0%	0.5%	Mar-25

- Although GSFA is not a typical pension fund, comparing its costs with those of pension funds, endowments and sovereign wealth funds provides a useful reference point for **assessing the cost efficiency of its investment management,** while acknowledging the much larger AUM of these institutions.
- **GSFA's internal costs are among the lowest** in this comparative table. However, its **external costs are among the highest**. This can be explained by the high equity allocation, the use of 100% active management, but most importantly by the Private Equity allocation.
- By contrast, NBIM, the Norwegian sovereign wealth fund ranks among the lowest in terms of external costs, reflecting its passive management approach and the absence of private assets, which significantly reduces costs. At the other extreme, the Future Fund of Australia exhibits the highest external costs, largely reflecting its significant allocation to alternative and private assets.
- From a cost optimisation perspective, we recommend **revisiting the exclusive fund-of-funds approach in Global Private Equity** and progressively increasing direct investments, co-investments and club deals aligned with GSFA's long-term objectives. This would reduce fee layering and improve performance over time.

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ToR 2:
Investment Performance Review Since Inception

Detailed Commentary and Assessments

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Performance Since Inception

Recent Performance Gains Drive Outperformance vs Bonds and Narrow Gap vs Reference Portfolio

PERFORMANCE OF GSFA ACTUAL PORTFOLIO VERSUS BENCHMARKS SINCE INCEPTION

- Since inception, **the Actual Portfolio has delivered a strong excess return over New Zealand Government Bonds (+3.37%)**, supported in part by the structural decline in bond returns over the period. Looking ahead, outperforming the NZ bonds benchmark may prove more challenging than in the past, particularly if inflationary pressures, including those linked to energy prices, contribute to higher bond yields
- Over the full period, **the Actual and Reference Portfolios show very similar long-term returns (7.92% vs 8.00%),** as the underperformance in 2016–2020 (-2.17%) continues to weigh on since-inception results.
- **The strongest absolute performance is observed over the most recent five-year period (2021–2025, +10.86%),** achieved despite weaker contributions from Private Equity over the last three years, highlighting the strength of the Target Portfolio diversification and the active management.
- As a result, **outperformance versus Government Bonds is most pronounced over this recent period (+11.11%),** driven by the combination of negative bond returns and strong actual portfolio performance.
- The **Actual Portfolio also delivers its most significant outperformance relative to the Reference Portfolio over the latest period (+1.66%),** marking a clear shift compared to earlier periods and suggesting that active positioning and diversification have recently added value after periods of underperformance.

	2001-2005*	2006-2010	2011-2015	2016-2020	2021-2025	Since Inception
Actual Fund	8.25%	3.40%	9.07%	8.22%	10.86%	7.92%
NZ Gov't Bonds	6.54%	6.39%	5.75%	4.78%	-0.25%	4.55%
Excess Return (vs. NZ Gov't Bonds)	1.71%	-2.99%	3.32%	3.45%	11.11%	3.37%
Reference Portfolio	8.18%	3.48%	8.88%	10.39%	9.20%	8.00%
Excess Return (vs. RP)	0.07%	-0.08%	0.19%	-2.17%	1.66%	-0.08%

*Period 2001-2005 begins in Oct 2001. Other periods begin in Jan.

Performance Since Inception: Actual vs Reference Portfolio

Rolling 1Y return

PERFORMANCE OF GSFA ACTUAL PORTFOLIO VERSUS REFERENCE PORTFOLIO

- Over the full period, **the Actual Portfolio broadly tracks the Reference Portfolio**, with deviations remaining relatively contained, indicating that active positions have generally been taken within a controlled risk framework.
- **Historically**, during major market downturn events (e.g. Global Financial Crisis, COVID-19 downturn, inflation shock), **the Actual Portfolio has tended to perform broadly in line with the Reference Portfolio, indicating limited downside protection at the total portfolio level**.
- **More recently, the Actual Portfolio has shown a tendency to outperform or recover more quickly following market drawdowns,** as a result of the Target Portfolio diversification and the active management.

Performance Since Inception: Individual Asset Classes

Listed Equities Drive Positive Excess Returns Since Inception, Global Private Equities Lag

	Global Equities	Global Private Equities	NZ Equities	NZ Private Equities	Global Fixed Interest	NZ Fixed Interest	Catastrophe Risk	Life Settlements Risk
*Reference Portfolio Average Weight**	*57.32%*		*10.91%*		*25.09%*			
*Target Portfolio Average Weight***	*52.94%*	*8.64%*	*9.41%*	*0.18%*	*16.18%*	*0.29%*	*4.41%*	*2.14%*
Target Portfolio Current Weight	*55.00%*	*15.00%*	*6.70%*	*3.30%*	*10.50%*	*5.00%*	*3.00%*	*1.50%*
Asset Class Return	9.90%	15.96%	10.09%	12.09%	5.65%	-1.39%	6.10%	4.89%
Asset Class Benchmark Return	9.19%	17.92%	9.38%	10.94%	5.22%	-1.24%	8.06%	4.89%
Excess return	**0.71%**	**-1.96%**	**0.70%**	**1.15%**	**0.43%**	**-0.15%**	**-1.96%**	**0.00%**

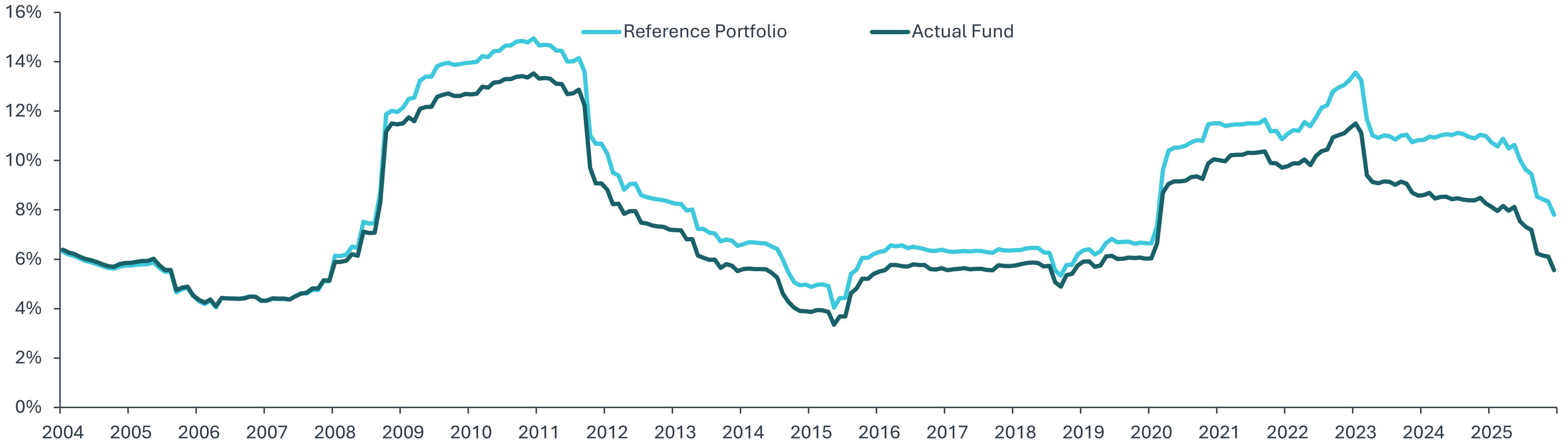
**Reference portfolio historical average weight since inception also include : Commodity Futures 1.45%, Real Estate 2.41%, Absolute Return 0.64%, Multi-asset 0.32%, NZ Fixed Interest 1.86%*
*** Target portfolio historical average weight since inception also include : Style Premia 3.65%, Real Estate (Property) 1.00%, Commodities 1.16%*

PERFORMANCE OF GSFA ACTUAL PORTFOLIO VERSUS BENCHMARKS SINCE INCEPTION

- Since inception, **Global equities and NZ equities have delivered consistent positive excess returns (+0.71% and +0.70%),** confirming that core listed equity exposures have been reliable contributors to relative performance over the long-term,
- **Despite its modest allocation, NZ Private Equity stands out as the strongest relative performer (+1.15%),** indicating that manager selection and exposure to domestic private markets have added meaningful value over benchmarks.
- **Although the 15.96% return achieved by Global Private Equity since its inception in August 2017 is satisfactory in absolute terms, the asset class has been the largest detractor relative to its benchmark (-1.96% vs MSCI ACWI +3%).** This underperformance is particularly notable given its position as the second largest allocation in the portfolio (15%), suggesting that the weaker results observed over the past three years may be more structural in nature and warrant consideration of a strategic reorientation of the allocation (see recommendations).
- While catastrophe risk is one of the largest contributors within the fixed income allocation, it has materially underperformed its benchmark (-1.96%). However, as the benchmark is not directly investable and remains difficult to replicate in practice. In this context, replacing the current benchmark with the global fixed income benchmark could be more adequate.
- Global fixed income has generated a modest positive excess return (+0.43%), whereas no meaningful conclusions can be drawn for NZ fixed income given its recent introduction in November 2025 and the limited observation period.
- Life settlements risk delivers no excess return, as both the portfolio and the benchmark are based on the same actual return series.

Risk since inception: rolling 3-year volatility

The Actual Fund Exhibits Lower Volatility Than the Reference Portfolio Through Diversification



RISK OF GSFA ACTUAL PORTFOLIO VERSUS REFERENCE PORTFOLIO SINCE INCEPTION

- **The Reference Portfolio exhibits structurally higher volatility over the full period**, reflecting its limited diversification and high concentration in listed equities (approximately 80%), which increases sensitivity to equity market cycles. This is particularly visible during major stress periods such as the Global Financial Crisis and the 2022 inflation shock, when the traditional equity–bond diversification benefit weakened significantly.

- By contrast, **the Actual Fund has generally experienced lower realised volatility, with the difference becoming more pronounced since 2020**, as Actual Fund volatility declined faster than that of the Reference Portfolio. This suggests that the Fund's broader diversification and portfolio construction have reduced overall portfolio volatility relative to the equity-heavy Reference Portfolio, although both portfolios continue to react similarly during major risk-off events.

Risk Since Inception: Volatility and Sharpe Ratio

Actual Portfolio Delivers Comparable Returns with Lower Volatility and Higher Sharpe Ratio

RISK METRICS COMPARISON: ACTUAL VS REFERENCE PORTFOLIO SINCE INCEPTION

- Since inception, **the Actual Fund exhibits structurally lower realised volatility than the Reference Portfolio** (7.87% vs 8.95%), reflecting the impact of diversification and implementation choices relative to the more equity-concentrated Reference Portfolio. This lower volatility suggests that the Fund has been able to reduce overall variability without materially sacrificing long-term returns.
- As a result, the **Actual Fund achieves a higher Sharpe ratio since inception (0.50 vs 0.45), indicating a more efficient conversion of risk into return**. This improvement in risk-adjusted performance is primarily driven by the reduction in volatility, rather than superior absolute returns.
- Taken together, these metrics imply that **the Actual Fund has delivered a comparable level of return with a more favourable risk profile**, consistent with a portfolio that benefits from diversification across asset classes and return drivers while remaining broadly aligned with the Reference Portfolio.
- This improved efficiency is observed over the full period despite varying market environments, suggesting **that the Fund's diversified Target Portfolio construction has, particularly since 2011, contributed to a more efficient risk–return profile relative to the Reference Portfolio.**
- The **risk-adjusted return of GSFA since inception**, as measured by a Sharpe ratio of 0.50, indicates that the return achieved per unit of risk **is broadly in line with that of large asset owners such as NZ Super**. This is further supported by the CEM analysis for the 10 years ending 31/12/2024, which shows GSFA's Sharpe ratio at 0.73, above both the peer average of 0.49 and the universe average of 0.58, placing GSFA in the 71st percentile versus peers and the 66th percentile versus the broader universe.

*The **Sharpe ratio is a risk-adjusted performance measure** that evaluates the excess return earned above the risk-free rate relative to the volatility of those returns. By dividing the portfolio's excess return by its standard deviation (volatility), the Sharpe ratio **assesses how efficiently a strategy converts risk into return**, helping to distinguish investment skill from performance driven primarily by market fluctuations. A higher Sharpe ratio indicates that a portfolio has generated greater excess return per unit of risk assumed and provides a clear and comparable framework for assessing the risk-adjusted performance of a portfolio relative to its Reference Portfolio and peer group.*

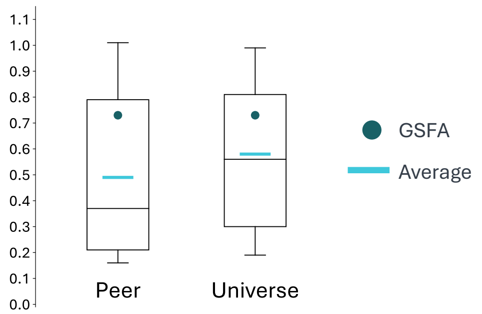
Actual Fund	2001-2005*	2006-2010	2011-2015	2016-2020	2021-2025	Since Inception
Return	8.25%	3.40%	9.07%	8.22%	10.86%	7.92%
Volatility	5.53%	11.02%	5.61%	8.28%	7.38%	7.87%
Sharpe Ratio	0.39	-0.25	1.10	0.80	1.02	0.50
Reference Portfolio						
Return	8.18%	3.48%	8.88%	10.39%	9.20%	8.00%
Volatility	5.47%	12.05%	6.53%	9.38%	9.47%	8.95%
Sharpe Ratio	0.88	0.01	0.85	0.75	0.62	0.45

*Period 2001-2005 begins in Oct 2001. Other periods begin in Jan.

Realised Sharpe Ratio	Since Inception	Inception Date
GSFA Actual Portfolio	0.50	Oct'01
GSFA Reference Portfolio	0.45	Oct'01
NZ Super Fund Actual Portfolio	0.61	Dec'03
NZ Super Fund Reference Portfolio	0.52	Dec'03

	Peer	Universe
90th %	1.01	0.99
75th %	0.79	0.81
Median	0.37	0.56
25th %	0.21	0.30
10th %	0.16	0.19
Average	0.49	0.58
Count	15	174
GSFA	**0.73**	**0.73**
GSFA Percentile	**71%**	**66%**

10-Year Sharpe Ratio (realised) (at December 31, 2024 - Global)



Source: CEM Investment Benchmarking Analysis (for the 5-year period ending 31/12/2024)

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Additional Considerations to Maximise Returns Without Undue Risk

Total Portfolio Fund Analysis (TPFA)

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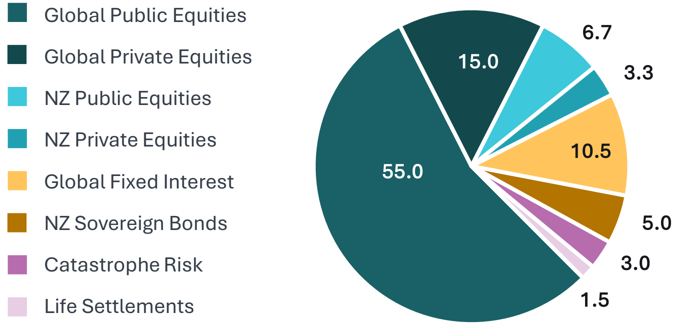
Forward-Looking Analysis

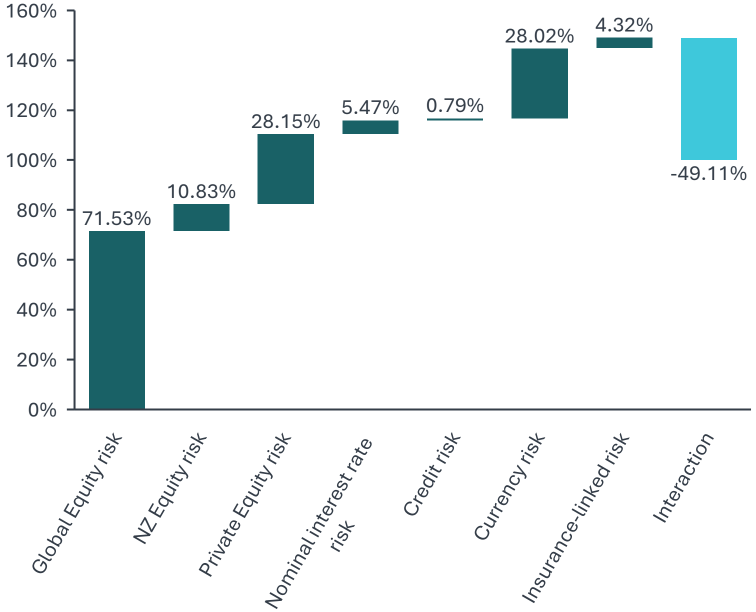
Strong historical returns do not guarantee future resilience

- The Actual Fund delivered higher returns while carrying lower risk than the Reference Portfolio over the period 2021–2025. The question is whether this favourable performance would be expected to hold in the future. Answering this requires **forward-looking, scenario-based views**.
- Forward-looking simulations are an essential component of prudent portfolio management because they allow asset owners to assess how a portfolio may behave across a wide range of plausible future environments rather than relying solely on historical averages or static assumptions. By modelling key factors such as inflation, interest rates, growth, currencies, credit spreads, public (and private) equity markets and their effect on the assets (and/or liabilities) within a portfolio, asset owners such as GSFA can better understand the distribution of potential outcomes, including downside risks and the probability of meeting long-term objectives. Critical is the internal consistency of the modelling across these factors and across time horizons so that the components of the modelled portfolio in a particular scenario behave in a realistic and not mutually contradictory manner.
- When possible, it is important to use a stochastic economic scenario generation engine that incorporates stylized facts such as: the non-normality of return distributions (particularly negative skew and excess kurtosis); time-varying volatility and volatility clustering; shifts in correlations (notably the increase in correlations during bad economic and financial times); and the term structure of risk and return (accounting for mean-reversion, trending behaviour, correlations over different horizons, etc.). This allows for realistic projections and meaningful results, helping GSFA test whether the portfolio remains resilient under different macroeconomic regimes (see next slide), which ultimately supports more disciplined asset allocation.
- Ortec Finance's GLASS is a leading example of such a software. Using the Ortec model, our simulations show that the current Target Portfolio could deliver a 10-year return of 6.9%, but with meaningful downside worth keeping in view: 12.6% volatility, -20.3% CVaR and a 31.9% probability of underperforming NZ Government Bonds.
- To better understand risk and return drivers, one can employ a forward-looking risk factor decomposition, which bundles portfolio movements into underlying factors and computes how each factor contributed to average tail risk, accounting for diversification effects among factors. A first consideration could be concentration: the portfolio remains **heavily equity-driven (~80% of the Target Portfolio)**, with pure equity and private-equity risk dominating tail risk and underlining the limited exposure to differentiated risk drivers.

TARGET PORTFOLIO



CURRENT TARGET PORTFOLIO 5% CVAR RISK WATERFALL



Source: PNYX Group and Ortec Finance

Stress Testing & Forward Scenario Analysis

How does the current portfolio behave under adverse conditions?

STRESS TESTING

- A useful lens to look at portfolio performance and resiliency is to ask how a portfolio behaves under **specific adverse environments.** A **stress test** examines a subset of all scenarios that correspond to certain extreme events. Because there can be many underlying causes of this event, applying the same stress tests to different scenario sets results in different outcomes and insights, and, ultimately, preparedness. The charts shown on the right show the **Target Portfolio's probability of underperforming NZ bonds, mean return and 5% CVaR** in different stress test environments.

METHODOLOGICAL NOTES

Stress tests were performed using the Ortec Mar-26 economic set (returns in NZD). For the highest inflation, lowest GDP growth and weakest USD stress tests, we take the top 10% of the scenarios exhibiting those conditions. For the stagflation test, we take the 20% of scenarios with the highest inflation and lowest GDP growth. For the equity crash test, we take the scenarios in which MSCI AC has a yearly return below -40% within the first three years of the simulation period.

FORWARD VIEWS AND NEW SCENARIO SETS

- To fully capture the complexity of markets going forward, it is worthwhile to create entirely new scenario sets that fundamentally challenge traditional assumptions about markets and incorporate non-traditional factor analysis (see also next slide). Each scenario set carries a narrative about how the world can unfold that is **encoded consistently across hundreds of asset classes** in Ortec GLASS, so the same forward views apply coherently portfolio-wide. Importantly, these forward views do not require an information edge to be useful; the point is to fundamentally consider how a portfolio responds to potential future outcomes, which does not require novelty in the range of outcomes considered. Accordingly, such analysis would fit well into GSFA's current framework.
- PNYX has developed four narrative-based scenarios sets: Central, AI Crisis, Weak Dollar and Oil & Gas Crisis. The Target Portfolio's behaviour under these scenarios is shown by the chart on the right.

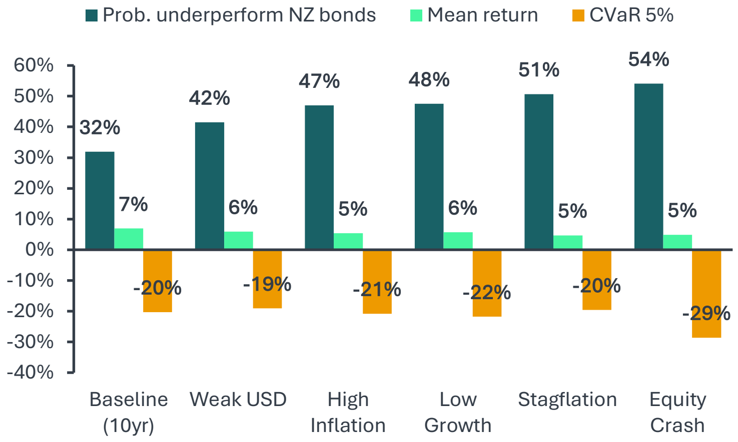
Central
PNYX baseline: Temporary U.S. strength, margins restored by mid-2026; selective AI, more upbeat Europe; inflation up H2 2026; one Fed cut; higher US long rates.

AI Crisis
Tech confidence crisis → market slump → Fed liquidity → inflation risk; Fed governance crisis → sharp USD fall; US equities worst, EM more resilient.

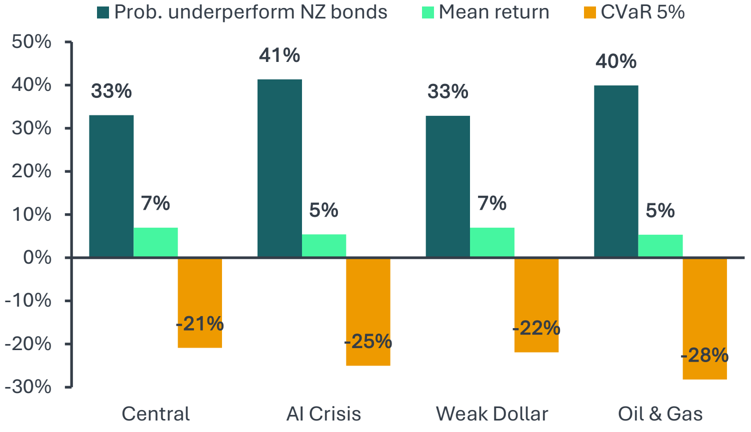
Weak Dollar
Deliberate USD weakening (tariffs, lower rates) plus lower oil as inflation buffer; more U.S. manufacturing/exports; inflation up H2 2026; one Fed cut; higher US long rates.

Oil & Gas Crisis
Brent ~$150 (180–120), easing to $100 by 2028; inflation elevated, growth strained despite higher US shale; long rates ~4.1%; tech most exposed.

STRESS TESTS — CURRENT TARGET PORTFOLIO



PNYX SCENARIOS — CURRENT TARGET PORTFOLIO



Source: PNYX Group and Ortec Finance

Non-Traditional Factors

What risks, that are sometimes not directly considered, could the GSFA portfolio be exposed to?

WHAT ARE NON-TRADITIONAL RISKS AND WHY SHOULD THEY BE CONSIDERED?

- Alongside the stress test and scenario analysis, it is worth trying to consider a more specific set of **non-traditional risks,** which could be structural, slow-building forces of a geopolitical, behavioural or technological nature that can fundamentally shape long-horizon returns differently from the rates, inflation and equity-market factors most risk models are built around.
- For a fund measured over rolling ten-year periods, these are relevant because the Target Portfolio's **concentration in developed-market, equity-like assets** can leave it more sensitive to such forces, while the current opportunity set offers limited means to diversify them. The themes in the boxes below illustrate where that sensitivity could be most relevant.

Geopolitics & DM Concentration

Heavy developed-market (DM) exposure leaves the Fund vulnerable to geopolitical fragmentation and shifting trade and capital flows.

Illiquidity Premium Erosion

Crowding into private markets is compressing the illiquidity premium, reducing the reward for locking up capital.

Cascade & Contagion Effects

Rising cross-asset correlations mean shocks can cascade across holdings, undermining assumed diversification benefits.

AI-Driven Disruption

A rapid AI transition (or an AI-led crisis) could reprice large parts of the equity complex the portfolio depends on.

FROM RISKS TO OPPORTUNITIES: NON-TRADITIONAL RETURN DRIVERS

- With non-traditional risks come non-traditional sources of return. Hence analysing secular trends and their potential effect on a portfolio, in a top-down way that cuts across traditional asset classes should reveal both risks and opportunities. The ultimate goal of such analysis is to protect the portfolio against emerging risks while deliberately maintaining or targeting exposure to specific upside drivers created by developing or foreseeable trends and events.
- For PNYX, a key non-traditional return driver is governance, both when considered internally and externally. As noted in previous reviews, “the soft stuff is the hard stuff”. We note GSFA already makes an active effort to engage with their stakeholders at both the Board and Annuitas level. But our belief that governance drives performance encourages us to push GSFA for further engagement. In particular, developing and using more top-down portfolio views would allow for more informed active engagement with asset managers to optimise performance and targeted exposure, as well as aid in a more rigorous manager selection process.

POTENTIAL ACTIONS IN RESPONSE TO NON-TRADITIONAL FACTORS

- Total portfolio look-through capability and the availability of granular underlying position data are key to understanding how both traditional and non-traditional factors drive portfolio performance. GSFA could consider how it leverages such capability, including when engaging with external managers (both in selection and in ongoing performance/risk evaluation).
- The themes mentioned above also point towards the inclusion of different asset classes, in line with our Recommendation #3. In PNYX’s view, introducing new asset classes and/or club deals is a natural way to make a portfolio perform better and be more resilient under the various stress tests, scenarios and non-traditional factor forces. Potential new asset classes and club deals are analysed in the next two slides.

New Asset Classes and Portfolio Optimisation

A broader opportunity set increases the sources of risk/return

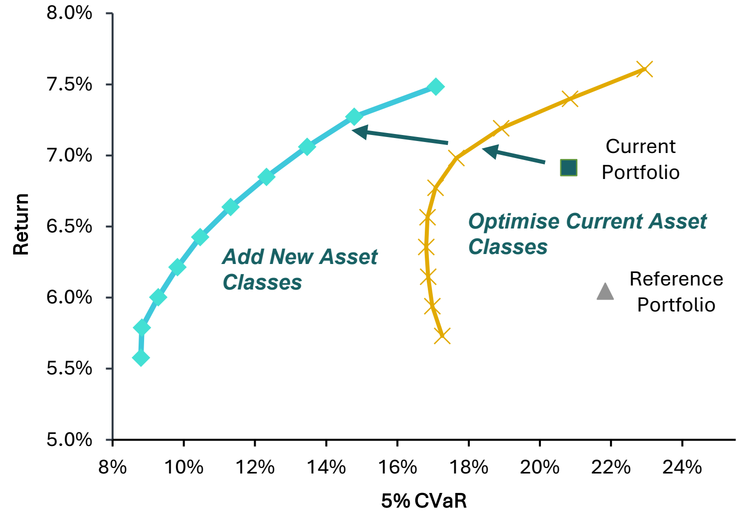
NEW ASSET CLASSES

- The current Target Portfolio meaningfully provides diversification over the Reference Portfolio and enhances the risk-return trade-off, as seen in the chart on the right. To further this endeavour, introducing new assets that provide **genuinely new risk drivers** can further enhance portfolio outcomes, specifically reducing dependence on developed-market equities. As seen previously, equity risk was dominating total portfolio risk, and bonds may not reliably diversify in inflationary or rate-shock environments (which Annuitas recognises in their portfolio reviews).
- In the context of Annuitas, a small but sophisticated actor, the key is to selectively enhance portfolio efficiency, adding return streams in a way that is feasible to implement within the existing investment framework. Accordingly, in our analysis we have included asset classes such as infrastructure, productive land, governance/engagement funds, CTAs, thematic private equity, and emerging-market champions which are all strong candidates for GSFA to include in an optimisation.

PORTFOLIO OPTIMISATION

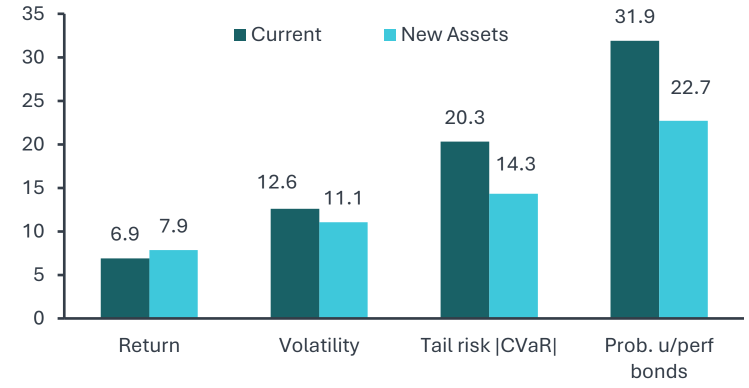
- With the addition of these several new asset classes, each with unique and complex risk/return drivers and correlation profiles, portfolio optimisation becomes an increasingly useful exercise in aiding asset allocation decisions. Taking the Monte Carlo simulation approach discussed earlier, one can employ stochastic CVaR optimisation, a numerical approach that optimises a portfolio's 5% CVaR for various target returns. From here, GSFA can select the optimal portfolio that corresponds with the Board's risk appetite.
- One can conduct this optimisation exercise on both the existing asset classes and the selectively expanded asset universe to see the impact of introducing these new asset classes. As seen in the chart to the right, optimising with the broadened asset pool offers **higher return with lower risk on every measure**, thus shifting the efficient frontier and making a strong case for GSFA to consider broadening the Fund's target allocation.
- To perhaps more tangibly illustrate the potential impact of adding new asset classes see the above chart on efficient frontiers: if one selects one of the 10 optimal portfolios, one can see the potential to lift the projected 10-year return by ~1% while reducing volatility by ~1.5%. Critically, tail risk measures also improve.

RISK VS RETURN AND EFFICIENT FRONTIER



3-Year Stochastic CVaR Optimisation, 3-Year figures, Ortec Mar26 Economic Set, returns in NZD

10-YEAR PORTFOLIO METRICS: CURRENT VS NEW ASSETS (%)



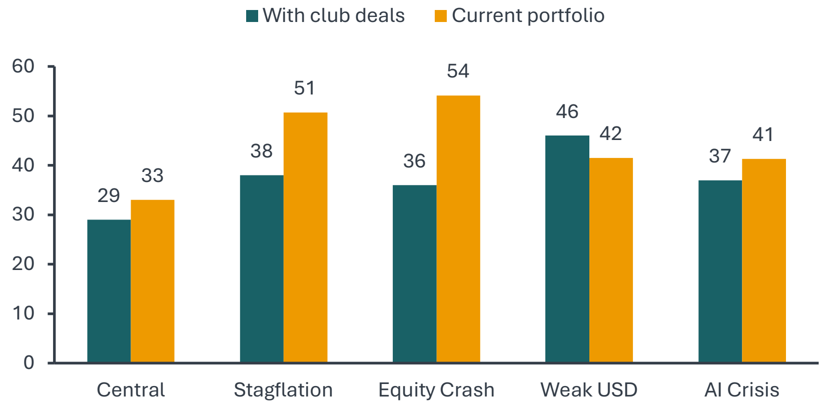
Club Deals & Direct Co-Investments

Giving Annuitas further control over the portfolio

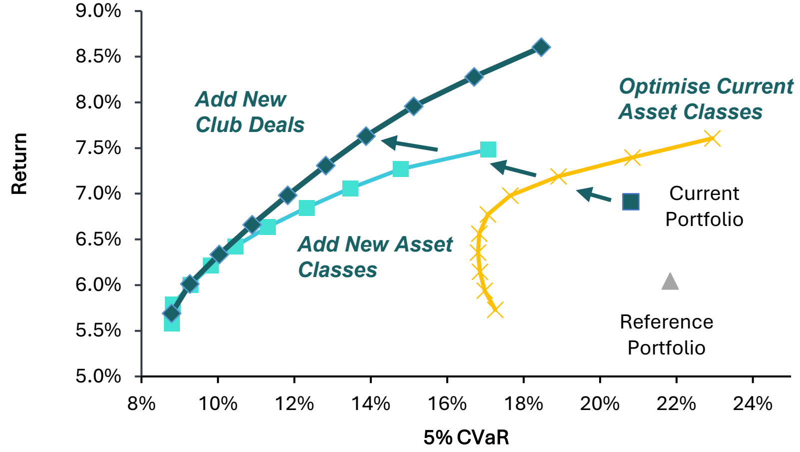
CLUB DEALS & DIRECT CO-INVESTMENTS

- Club deals and direct co-investments let the Fund hold differentiated assets directly, rather than only through pooled funds, a route that can suit a long-horizon investor that is considering scenarios and exposure to specific traditional or non-traditional factors.
- Held directly and for the long-term, such positions may add various types of **resilience:** lower fee drag, greater control over timing and exit, and exposure to assets whose returns need not move in step with listed equity markets.
- In the PNYX analysis, reoptimising the portfolio including club deals tends to **reinforce the gains from the broader asset class expansion**, supporting a higher expected return while keeping volatility and the probability of underperforming NZ Government Bonds contained.
- These benefits would come with **practical resourcing demands** for GSFA in deal sourcing, governance, illiquidity and currency management. Any case for considering club deals or direct investments rests on GSFA's capacity to select and oversee such positions.
- However, as mentioned previously, PNYX believes that these demands are not insurmountable. Especially in the case of club deals, where GSFA would be part of a “club” of trusted partners and where GSFA could piggy-back on (but verify) the due-diligence of these partners.
- A potential avenue to explore in this vein is the fact that GSFA already actively engages with the close-knit community of CFIs in NZ, which strengthens the overall NZ finance eco-system and ultimately the Crown as the actual asset owner. The GSFA investment team could broaden that relationship to include cooperating on sourcing and shared due-diligence of direct deals and co-investments, leveraging the pre-existing close relationships and overlapping identities, investment styles and desired outcomes. A club of such partners would also allow it gain more privileged access to special deals, unlocked by their shared identity, as well as increasing influence when engaging with one shared voice on governance matters.

PROB. OF UNDERPERFORMING NZ BONDS WITH CLUB DEALS (%)



RISK VS RETURN AND EFFICIENT FRONTIER



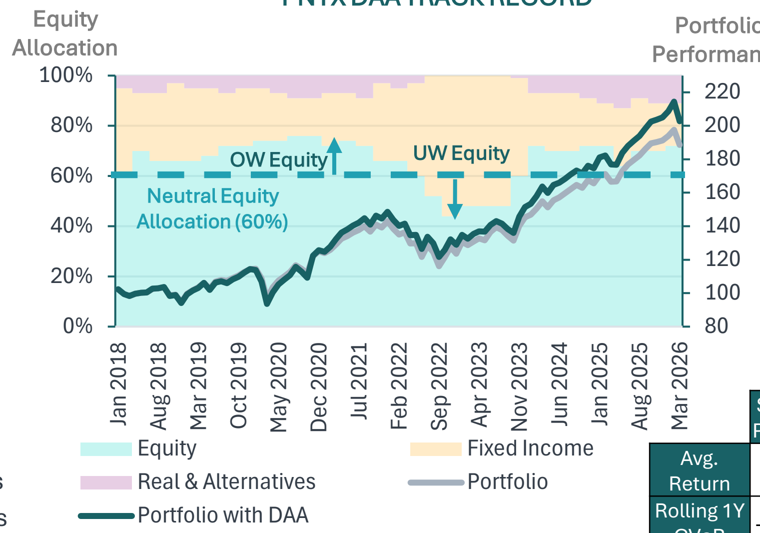
3-Year Stochastic CVaR Optimisation, 3-Year figures, Ortec Mar26 Economic Set, returns in NZD

TPFA Concluding Remarks

Towards a more efficient, more resilient Target Portfolio

- Forward-looking portfolio analysis through Monte Carlo simulations are a useful tool for GSFA to understand potential portfolio outcomes and support resilient asset allocation. The current Target Portfolio meets its return objective, but it carries **meaningful downside risk**. The chance of underperforming NZ Government Bonds is 31.9%, and it climbs above 50% under stress, driven largely by concentrated equity exposure.
- Given the skills within the Annuitas team, there is capacity to generate well-developed forward views and scenario sets that provide meaningful insight into portfolio behaviour in different future settings. Certain tools may be needed to support this analysis, which corresponds with our broader suggestion that Annuitas continue to build out its capabilities in support of its already strong foundation.
- The same logic applies to new asset classes: the options largely fall within Annuitas's current capabilities, while Annuitas could gradually build the additional expertise required to execute club deals and direct co-investments directly, following a path similar to that taken by other funds as they moved into club-style investing. The analysis showed that broadening the opportunity set with **new asset classes and club deals** significantly shifts the efficient frontier, as expected return rises, while volatility, tail risk and the probability of underperformance remain under control or improve. Thus, it is worthwhile for Annuitas to explore an expanded investable universe.
- GSFA could therefore move towards a **probability-weighted Target Portfolio** that builds in these differentiated return drivers and reduces its reliance on developed-market equity. This sits comfortably with the Investment Framework and with the Annuitas team's move to adopt CVaR, which the report also supports.
- Furthermore, a total portfolio **dynamic asset allocation** would complement this, letting the Fund adjust exposures as conditions change. It would need to sit alongside disciplined currency, liquidity and governance oversight, which matters most for club deals. PNYX has back tested an example DAA programme based on quantitative, forward-looking CVaR-Sharpe ratios, with the results shown on the right. The PNYX DAA backtest shows +1% average additional performance.
- Dynamic Asset Allocation is a key element of modern portfolio success and top tier performance. One example is NZ Super's Strategic Tilting, which is similar to a total portfolio DAA implemented via overlays, and which has achieved strong results, also contributing an additional ~1% of extra performance. GSFA could consider further evolution of their DAA programme to include total portfolio readjustment in addition to mean reversion harvesting strategies.

PNYX DAA TRACK RECORD

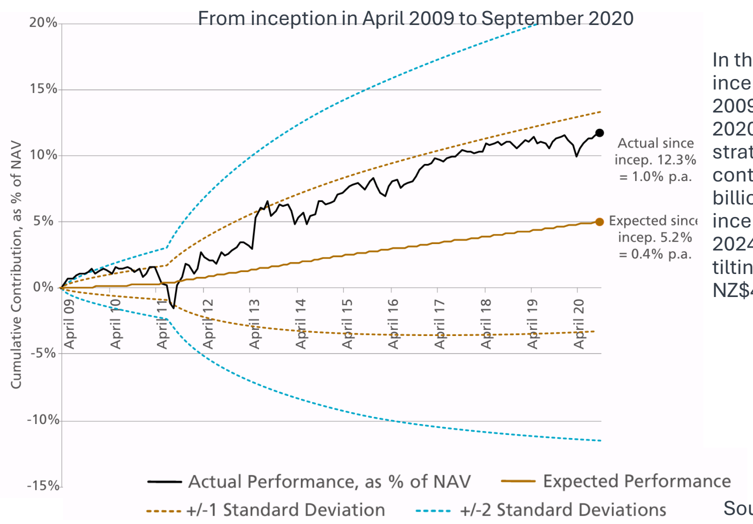


We illustrate the performance of a quantitative DAA signal using a standard global portfolio with a base 60% equity allocation. For specific portfolios, individual asset allocations and geographical constraints must be taken into account.

	Sample Portfolio	Portfolio + DAA	Diff.
Avg. Return	8.53%	9.59%	1.06%
Rolling 1Y CVaR	-12.85%	-12.24%	0.61%

Source: PNYX Group and Ortec Finance

NZ SUPER STRATEGIC TILTING TRACK RECORD



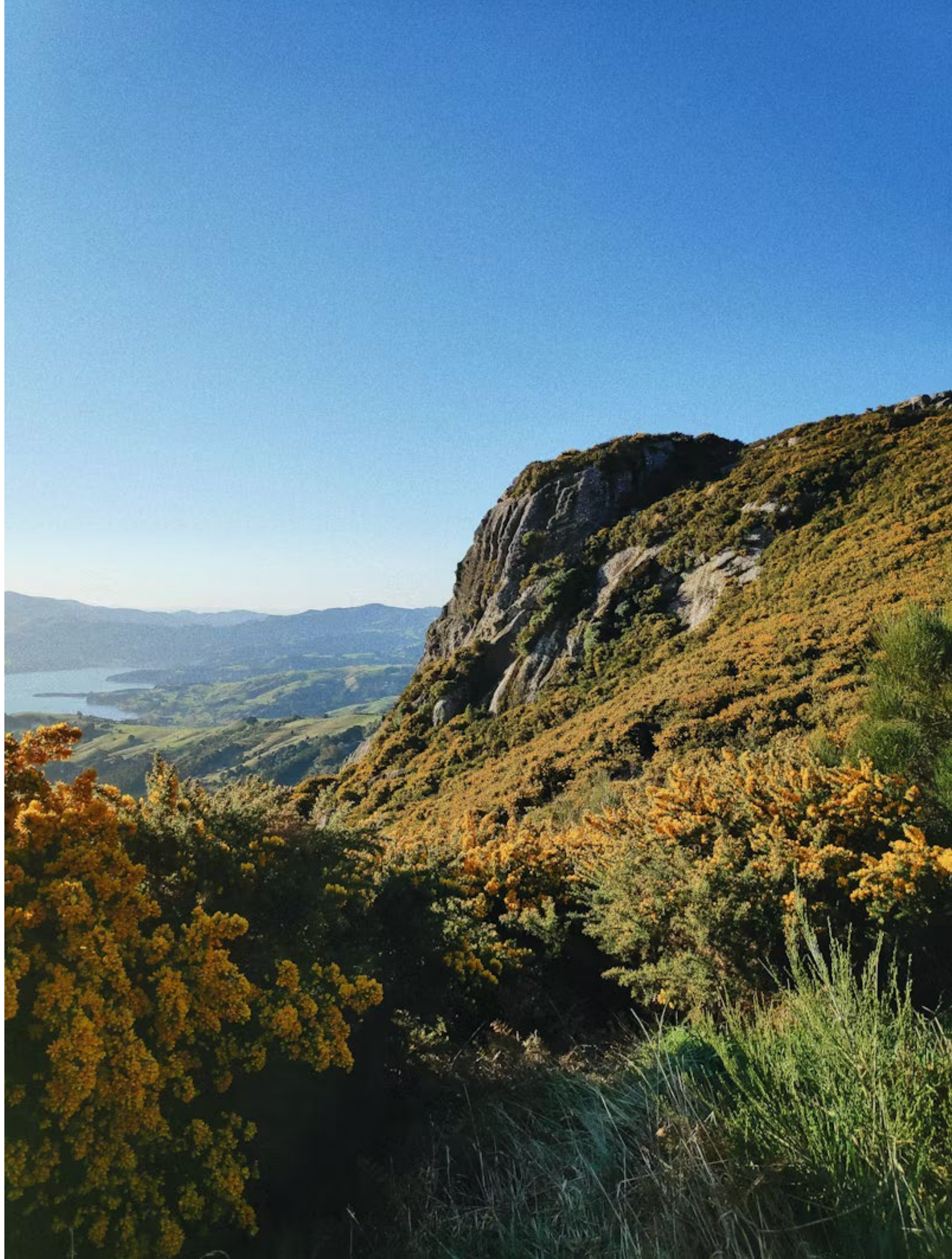
In the period since inception (April 2009) to September 2020, NZ Super's strategic tilting contributed NZ$3 billion. Since inception to June 2024, strategic tilting contributed NZ$4.5 billion.

Source: NZ Super

ToR 3 & 4

And Supporting Materials

Strictly Confidential



ToR 3 & 4

Our key comments

ENGAGEMENT AND TRANSPARENCY: GENERAL OBSERVATIONS	
Engagement: Authority	The Authority (GSFA Board and senior management) engaged constructively and completely with this review. No request for information was declined, all requested documents were provided through the secure dataroom and no area of the Authority’s investment programme was identified as restricted or unavailable. Written questions were answered promptly. The March 2026 on-site visit (16–18 March 2026) provided access to Board members, the CE, CIO, and Annuitas investment team across two days of structured interviews and working sessions.
Engagement: Annuitas Management	Annuitas Management Limited co-operated fully. The CIO, CRO, and investment team provided detailed briefings throughout the review period. Attribution data and asset-class-level performance information were provided with the transparency expected of a manager operating under a public accountability framework.
Engagement: Treasury	The New Zealand Treasury, as commissioning party, provided the Terms of Reference in a form that was clear and complete. Treasury's engagement with the review process has been proportionate and professional.
Transparency: public disclosure	GSFA's public accountability documents (Annual Reports, Statements of Intent, and Statements of Performance Expectations) are complete and consistently formatted. No instances of disclosure that was misleading, incomplete, or inconsistent with underlying evidence were identified in this review.
Areas for Development	The transition from annual to triennial external SIPSP compliance review (Board-approved August 2023) is reasonable given the history of reviews, but the public accountability value of annual external compliance certification should be weighed against the administrative savings of the triennial cycle as the Fund matures and the review comes under greater public scrutiny.

EFFECTIVENESS AND EFFICIENCY OF THE AUTHORITY	
ToR question	Is the Authority effective and efficient in undertaking its functions under the Act?
Effectiveness: investment mandate	The Authority has delivered positive risk-adjusted returns over the 2021–2025 review period, with the investment programme generating active value in global equities and fixed income. The Investment Framework is analytically sophisticated and well-adapted to the Fund's mandate. The governance transition (January 2026 board refresh) is a constructive development. The Authority is effective in the core investment mandate.
Effectiveness: governance	Governance documentation has improved materially since 2021. Board charters, IC ToR, ARRC ToR, and the overall governance framework are all in place or development. The IC's advisory-only status and the concentration of investment expertise in a small number of Board members remain structural limitations. Investment risk has no formal committee charter mandate (a gap in governance effectiveness to be addressed, though covered in practice).
Efficiency: resource use	The Fund's cost ratio (~100bps of AUM) is relatively high for its scale and external management structure. The CFI collaborative model (shared research, shared RI capabilities) is efficient and is a genuine structural advantage at GSFA's scale. The JV operating model through Annuitas introduces efficiency on the investment side but the cost-allocation basis between GSFA and NPF is not disclosed in public documents and has not been independently reviewed for this assessment.
Potential Areas of Development	Increase formal role of the investment-risk committee (improvement suggested); (2) completion of the formal risk-appetite statement (currently aspirational); and (3) as noted throughout this report, the governance budget constraint remains the binding constraint for the next cycle.

Glossary of Key Terms

Term	Definition
Actual Fund / Actual Portfolio	The investments the Fund actually holds at a point in time, after manager selection and short-term positioning.
Annuitas Management Ltd	The external manager that runs day-to-day investment, custody oversight and administration for GSFA; a joint venture owned by GSFA and the National Provident Fund.
ARRC / IC / ALCO / STC	GSFA/Annuitas committees: Audit & Risk Review Committee; Investment Committee; Asset-Liability (rebalancing) Committee; Strategic Tilting Committee (sets DAA tilts).
Catastrophe (cat) bonds / Catastrophe Risk	Bonds whose payout depends on whether major insured natural disasters occur; they pay a premium for taking that risk and diversify away from markets.
CFI (Crown Financial Institution)	A government-owned investment body (e.g., GSFA, NZ Super, ACC); these collaborate on responsible investment.
Club deals / Co-investments	Investing directly alongside other investors in a specific private asset, rather than only through a pooled fund, reducing fees and increasing control.
Continuation funds	Vehicles that let a private-equity manager hold an asset longer by moving it into a new fund; a source of hidden concentration to monitor.
CRIF (Crown Responsible Investment Framework)	The shared framework (Measure, Reduce, Influence) requiring NZ Crown investors to manage climate and responsible-investment commitments.
CVaR (Conditional Value-at-Risk) / Expected Tail Loss	The average loss in the worst cases (the 5% of outcomes beyond VaR); it captures the severity of extreme losses beyond VaR.
Dynamic Asset Allocation (DAA) / Strategic Tilting	Adjusting the investment mix as market conditions change, within Board-set limits, to add value or reduce risk.
Excess return	The amount by which the Fund's return is above (positive) or below (negative) a benchmark such as the Reference Portfolio or government bonds.
Fund of Funds (FoF)	Investing through a manager who in turn picks underlying funds; adds diversification and access but a second layer of fees.
Fund Share of Benefits	The share of member benefits met by the Fund itself rather than by the Crown; higher is better.
Information ratio	Extra return from active decisions per unit of active risk taken; higher means active management is adding value efficiently.
Life Settlements Risk	Investments linked to the timing of life-insurance payouts; returns depend on longevity outcomes rather than markets.
MSA (Management Services Agreement)	The contract setting out what Annuitas does for GSFA and the limits of its delegated authority.

Term	Definition
NPF (National Provident Fund)	A separate closed New Zealand scheme that co-owns Annuitas with GSFA and shares its board.
NZGB (NZ Government Bonds)	New Zealand government bonds, used as the Fund's primary performance hurdle: the Fund aims to beat them over rolling ten-year periods.
Paris Aligned / PAB (Paris-Aligned Benchmark)	An equity benchmark constructed to meet Paris Agreement decarbonisation pathways.
Reference / Target Portfolio "funding source"	The part of the Reference Portfolio sold down to pay for a Target Portfolio holding, used to measure each holding's added value.
Reference Portfolio (RP)	A simple, low-cost mix of listed shares and bonds that represents the level of risk the Board is willing to take. It is the benchmark the actual Fund is measured against.
Sharpe ratio	Return earned per unit of total risk taken; higher is better.
SIPSP (Statement of Investment Policies, Standards and Procedures)	The Authority's master investment policy document, required by the Act and reviewed independently at least every five years. It sets the rules the Fund must be invested under.
Six Capitals	A way of measuring "wealth" beyond money — financial, manufactured, human, social, intellectual and natural capital.
Style Premia	A strategy seeking returns from factors such as value, momentum and carry across markets; GSFA terminated it in 2022.
Target Portfolio (TP)	The Fund's intended long-term mix of investments, built by adding other asset classes to the Reference Portfolio to aim for higher return at the same overall risk.
TCFD	An international standard for disclosing climate-related financial risks; GSFA has moved from TCFD-aligned reporting towards the CRIF.
TPFA (Total Portfolio Fund Analysis)	PNYX's forward-looking modelling of the whole portfolio under stress scenarios, used to test resilience and optimise the mix.
Tracking error / Active risk	A measure of how much the Fund's returns differ from its benchmark; higher means the Fund is positioned further from the benchmark.
VaR (Value-at-Risk)	An estimate of the loss that should not be exceeded in a set percentage of cases (here, 5%) over a period; it does not describe how large losses become beyond that point.
Volatility	How much returns move up and down over time; a standard measure of risk.

Benchmarking Framework and Comparator Selection Details (1/3)

Tier 1 – Structural Peers

These structural peers define what is immediately achievable and where gaps are inexcusable

NATIONAL PROVIDENT FUND (NPF), NEW ZEALAND

NATIONAL PROVIDENT

- NPF is the single most controlled comparable available.
- NPF is a collection of DB, DC and cash accumulation schemes in which the Crown has an interest as guarantor and is managed day-to-day by Annuitas Management Limited, the same joint venture entity that manages GSFA. It publishes a SIPSP using identical terminology and structure.
- Any differences in policy document quality between GSFA and NPF reflect governance choices, not differences in operating model or resourcing. NPF's most recent SIPSP was published in December 2025.

PENSION PROTECTION FUND (PPF), UNITED KINGDOM

Pension Protection Fund

- PPF is a sovereign-mandated fund that absorbs the pension liabilities of insolvent UK defined benefit schemes.
- With approximately GBP 31 billion in assets, a closed membership by definition, and a return-seeking objective benchmarked against CPI plus a premium over rolling 10-year periods, it shares GSFA’s key structurally distinctive features.
- The PPF publishes a Statement of Investment Principles (the UK statutory equivalent of a SIPSP) that is regarded as one of the most sophisticated governance documents produced by any closed DB sovereign fund globally. Investment management is predominantly outsourced.

BRUNEL PENSION PARTNERSHIP, UNITED KINGDOM

Brunel Pension Partnership

- Brunel is one of eight asset pooling vehicles created for the Local Government Pension Scheme (LGPS).
- Each participating LGPS fund publishes an Investment Strategy Statement under the LGPS Regulations 2016, and Brunel as the pooling vehicle publishes its own investment principles and responsible investment framework.
- The governance model, where individual trustee boards retain strategic ownership and delegate implementation to a specialist pooling entity, is structurally analogous to GSFA's Board and Annuitas arrangement.
- Brunel's responsible investment and stewardship framework is widely recognised as best in class for outsourced public pension governance in the UK.

GESB, WESTERN AUSTRALIA

GESB SUPERANNUATION

- GESB manages retirement savings for Western Australian public sector employees, including legacy closed DB products under the Gold State Super & State Super schemes.
- Its investment framework is structured around the Treasurer's Prudential Guidelines for Investments, a statutory document issued by the WA Treasurer that functions as the policy equivalent of a SIPSP, and an annual Statement of Corporate Intent tabled in Parliament.
- The DB component of approximately AUD 3.4 billion within a broader AUD 36.9 billion fund limits direct comparability somewhat, but GESB's governance documents are well developed and publicly available.

Benchmarking Framework and Comparator Selection Details (2/3)

Tier 2 – Aspirational Benchmarks

These aspirational benchmarks define what best-in-class looks like and where GSFA should be heading over time.

NZ SUPER FUND (NZSF), NEW ZEALAND

- NZSF is the most directly relevant aspirational peer, sharing GSFA's Crown mandate, Crown Responsible Investment Framework obligations, and NZ regulatory context.
- With approximately NZD 80 billion in assets and a hybrid internal and external management model, NZSF sits well above GSFA in scale and capability. Nevertheless, its SIPSP architecture, including its Reference Portfolio framework, proxy system for evaluating active strategies, risk budgeting approach, DAA programme, and modular policy suite, represents the clearest benchmark for what GSFA's own SIPSP could evolve towards within the NZ Crown Financial Institution ecosystem.

FUTURE FUND, AUSTRALIA

- Future Fund manages Australia's sovereign wealth and future liability fund with approximately AUD 230 billion across multiple mandates.
- Its Statement of Investment Policies is distinguished by its use of Equivalent Equity Exposure as a primary risk measure, its explicit naming of inflexibility risk and sequencing risk, and its formal adoption of a Three Lines of Defence governance model. These features are particularly relevant to GSFA given its maturing liability profile and growing private market allocations.

VICTORIAN FUNDS MANAGEMENT CORPORATION (VFMC), AUSTRALIA

- VFMC is the investment manager for multiple Victorian government closed DB mandates, including ESSSuper, managing approximately AUD 87 billion across all clients.
- VFMC does not publish client investment policy statements publicly, but its annual report and the DTF Standing Directions Framework that governs its client relationships provide a useful window into how a sophisticated outsourced investment manager structures mandate governance. VFMC is GSFA's closest analogue to Annuitas in terms of its role and operating model.

PSP INVESTMENTS, CANADA

- PSP manages the closed and legacy DB obligations of federal public sector employees in Canada, including the RCMP and Canadian Armed Forces, with approximately CAD 264 billion in assets.
- Importantly, it uses the same SIPSP terminology as GSFA and structures its policy document around a "reference portfolio" and "policy portfolio" architecture directly analogous to GSFA's Reference Portfolio and Target Portfolio framework.
- PSP's SIPSP is widely regarded as one of the most technically sophisticated closed public sector DB investment policy documents in the world.

Benchmarking Framework and Comparator Selection Details (3/3)

Tier 2 – Aspirational Benchmarks (cont.)

These aspirational benchmarks define what best-in-class looks like and where GSFA should be heading over time.

CALPERS, USA

- CalPERS manages approximately USD 560 billion in assets for California public employees and retirees.
- While its scale and internal team dwarf GSFA, CalPERS's Total Fund Investment Policy is referenced as a global benchmark for governance formalisation, delegation framework design, leverage policy, active management accountability, and cost transparency.
- Specific provisions, such as its General Pension Consultant independent review process, its staff authority limit tables, and its annual programme-level performance review requirements, offer concrete and adaptable precedents for GSFA regardless of scale.

ABP, NETHERLANDS

- ABP is one of Europe's largest pension funds (approximately EUR 550 billion in assets managed for Dutch public sector workers).
- Its Investment Beliefs document states each belief, then accompanies it with a formal argumentation section and a consequences section that maps directly to portfolio construction decisions.
- ABP's approach to sustainable investment, including its integration of SDG alignment, biodiversity risk, and energy transition policy into its investment framework, is a useful comparator for responsible investment thinking.

NORGES BANK INVESTMENT MANAGEMENT (NBIM), NORWAY

- NBIM manages the Norwegian Government Pension Fund Global, the world's largest sovereign wealth fund at approximately USD 2.2 trillion.
- NBIM does not publish a single SIPSP; instead, its governance is structured across a Management Mandate issued by the Ministry of Finance, a published Strategy document, a suite of Executive Board policies, and an annual Responsible Investment Report. Collectively, these documents set the global benchmark for sovereign fund transparency, investment belief articulation, and ethical exclusion frameworks.
- NBIM's responsible investment governance, including its Council on Ethics and the public exclusion list, is the reference standard for any fund with a public mandate.

Agreed Terms of Reference (ToR)

ToR for the 2026 Independent Review of the Government Superannuation Fund Authority

OVERVIEW

Section 19B of the Government Superannuation Fund Act 1956 (the Act) requires periodic independent performance reviews of the Government Superannuation Fund Authority (the Authority).

Section 19B (4) of the Act sets out that at a minimum, the reviewer must form an opinion on: whether or not the investment policies, standards, and procedures established by the Authority are appropriate to the Government Superannuation Fund (the Fund); and

a) whether or not the investment policies, standards, and procedures established by the Authority have been complied with in all material respects; and
b) the investment performance of the Fund

INVESTMENT POLICIES, STANDARDS, AND PROCEDURES

Section 15L of the Act states that the Authority must establish, and adhere to, investment policies, standards, and procedures for the Fund that are consistent with its duty to invest the Fund on a prudent, commercial basis, in accordance with section 15J.

Section 15M of the Act states that the statement of investment policies, standards, and procedures (SIPSPs) "must cover (but is not limited to)":

a) the classes of investments in which the Fund is to be invested and the selection criteria for investments within those classes; and
b) the determination of benchmarks or standards against which the performance of the Fund as a whole, classes of investment, and individual investments will be assessed; and
c) standards for reporting the investment performance of the Fund; and
d) ethical investment, including policies, standards, or procedures for avoiding prejudice to New Zealand's reputation as a responsible member of the world community; and
e) the balance between risk and return in the overall Fund portfolio; and
f) the Fund management structure; and
g) the use of options, futures, and other derivative financial instruments; and
h) the management of credit, liquidity, operational, currency, market, and other financial risks; and
i) the retention, exercise, or delegation of voting rights acquired through investments; and
j) the method of, and basis for, valuation of investments that are not regularly traded at a public exchange; and
k) prohibited or restricted investments or any investment constraints or limits.

DETAILED DESCRIPTION OF THE TERMS OF REFERENCE

1. Appropriateness and compliance of policies, standards and procedures of the Authority (Section 19B(4) (a)&(b) of the Act).
    1. In assessing whether the Authority's SIPSPs are appropriate, the Reviewer should focus on any changes to the SIPSPs since the date of the last statutory review and also consider the appropriateness of the Authority's responses to any recommendations made on the SIPSPs in that review.

       Where there have been any material changes or additions the Reviewer should opine on whether they are appropriate and complete both in relation to; the Authority's capabilities, including human and technology needs, and with regard to meeting the requirements set out in Section 15J (2) of the Act.
    2. In assessing whether the Authority's SIPSPs have been complied with, the Reviewer should focus on testing this since the date of the last statutory review in 2021 and should leverage off existing assurance inputs.
2. The Investment Performance of the Fund (Section 19B(4) (c) of the Act)
    1. It is expected that the Reviewer will evaluate the ex-post performance of the Fund since inception, this is expected to incorporate a time period analysis, including performance since the last statutory review.
    2. The Reviewer should form an opinion on the drivers of these returns over these time periods: commenting on appropriateness of the contribution from these drivers relative to the risk taken.
3. In the process of undertaking the review, the Reviewer should be satisfied as to the effectiveness and efficiency of the Authority in undertaking their functions in relation to the above terms of reference.
4. The Reviewer should make general observations on the review; noting the engagement and transparency of the Authority towards the statutory review process.

Source: 2026 RFP Appendix 1

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