



MainePERS

PUBLIC EMPLOYEES RETIREMENT SYSTEM

Board of Trustees

Public Meeting Packet

September 12, 2024

MainePERS Board of Trustees
September 12, 2024
139 Capitol Street, Augusta

AGENDA

9:00 a.m. ¹	CALL TO ORDER			Brian Noyes
9:00 – 9:05 a.m.	1.	<u>CONSIDERATION OF CONSENT CALENDAR</u> <ul style="list-style-type: none"> Minutes of August 8, 2024 Consideration of Items Removed 	ACTION	Brian Noyes
9:05 – 9:15 a.m.	2.	<u>PRIVATE MARKETS ACTION</u> <ul style="list-style-type: none"> Executive Session pursuant to 1 M.R.S. §405(6)(F); 5 M.R.S. §17057(4) <p><i>Board moves out of executive session.</i></p> <ul style="list-style-type: none"> Shoreview Capital Partners V Summit Partners Growth Equity Fund XII 	ACTION ACTION	Brian Noyes James Bennett Scott Lupkas
9:15 - 9:25 a.m.	3.	<u>INVESTMENT REVIEW</u> <ul style="list-style-type: none"> Investment Monthly Review 		James Bennett
9:25 – 9:30 a.m.	4.	<u>PRIVATE MARKETS REVIEW</u> <ul style="list-style-type: none"> Private Markets Activity 		James Bennett Scott Lupkas
9:30 – 10:30 a.m.	5.	<u>QUARTERLY INVESTMENT EDUCATION</u> <ul style="list-style-type: none"> Energy Transition 		James Bennett Mark White, Albourne
10:30 – 10:45 a.m.	<u>BREAK</u>			
10:45 – 11:00 a.m.	6.	<u>MaineSTART</u> <ul style="list-style-type: none"> Cambridge Review Quarterly Report 		Stuart Cameron, Cambridge Assocs. Michael Colleran

¹ All times are estimated based upon the anticipated length of each presentation, hearing, discussion, and action. The presiding officer may take agenda items out of order for more efficient or effective conduct of the meeting.

11:00 – 11:10 a.m.	7.	<u>RULEMAKING</u> <ul style="list-style-type: none">• Repeal and Replace Rule Chapter 201	ACTION	Michael Colleran
11:10 – 12:00 p.m.	8.	<u>CEO REPORT</u> <ul style="list-style-type: none">• Board Education• Low Carbon Target Index Investments• Risk Management		Dr. Rebecca M. Wyke James Bennett Michael Colleran
12:00 – 12:10 p.m.	9.	<u>MEMBER SERVICES, FINANCE, AND OPERATIONS REPORT</u>		Chip Gavin Sherry Vandrell Michael Colleran
12:10 – 12:15 p.m.	10.	<u>LITIGATION UPDATE</u>		Betsy Stivers
12:15 p.m.		<u>ADJOURNMENT</u>		Brian Noyes



MainePERS

PUBLIC EMPLOYEES RETIREMENT SYSTEM

Board of Trustees Board Values Statement

Overview

Through the annual self-evaluation process, the Board identified and discussed the key drivers of its internal governance culture. The consensus attributes selected by the Board reflect the deeply ingrained principles that guide its actions and serve as its cultural framework. The defined attributes are set forth in this Values Statement.

The Board's intent is that these governance level values coexist alongside the Organizational Values developed by staff. The two values statements are to operate in harmony.

Values Statement

The Board perceives the following values as the most important drivers of its high performance governance culture.

- **Respectful** – We invite the exchange of diverse perspectives and conduct ourselves in a manner that creates a safe, inclusive environment.
- **Collaborative** – We work together in a collegial manner to arrive at shared goals.
- **Professionalism** – We seek the highest level of excellence and competency in ourselves and from those with whom we work.
- **Member-focused** – As fiduciaries, our work is driven by prudently serving the best interests of our plan members above all else.
- **Ethical** – We uphold the highest standards of ethics, integrity, openness and transparency in our actions and decisions.
- **Open-minded** – We are accepting of realities and open to new ideas.

Review Process: The Board Values Statement will be reviewed and refreshed by the Board every five years, or sooner, if circumstances arise, as part of the Board self-evaluation process.

~ Adopted November 2016 and Re-affirmed August 2024



MainePERS

PUBLIC EMPLOYEES RETIREMENT SYSTEM

5-YEAR Strategic Plan 2022-2027

Goals and Objectives

Goals (*ongoing, long-term strategic direction*)

- Preservation of the Trust Fund
- Stability of the contribution rates
- Security and integrity of our information systems
- Cultivation of a member-centric organization
- Development of stakeholder relations
- Foster an engaged workforce that advances the organization's mission

Mission, Vision, and Organizational Values

Mission: MainePERS partners with public employers to deliver retirement services.

Vision: MainePERS is a trusted and effective fiduciary focused on meeting the needs of active and retired members, beneficiaries, and employers.

Organizational Values:

- **Accountability** – We act with integrity. We educate, equip, and empower all to consistently deliver knowledgeable and respectful service to our constituents and colleagues.
- **Respect** – We are mindful of culture and diversity in all we do, exercising empathy, compassion, kindness, and appreciation in valuing all others.
- **Collaboration** – We work together, proactively sharing information and knowledge and acting transparently in all interactions.
- **Stewardship** – We secure and safeguard assets (data, funds) entrusted to our care and consistently comply with our obligations to ensure benefits are sustained.
- **Agility** – We strive for personal and organizational excellence through continuous improvement.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM

Minutes

Board of Trustees
Board Meeting
August 8, 2024

MainePERS
Augusta
9:00 a.m.

The Board of Trustees met at MainePERS, 139 Capitol Street, Augusta, ME 04330 at 9:00 a.m. on August 8, 2024. Brian Noyes, Chair, presided. Other Trustees participating were: Dick Metivier, Vice Chair; Henry Beck, State Treasurer; John Beliveau; Shirrin Blaisdell; Nate Burnett; Kirk Duplessis; and John Kimball. Joining the Trustees were Dr. Rebecca Wyke, Chief Executive Officer; Michael Colleran, Chief Operating Officer and General Counsel; James Bennett, Chief Investment Officer; Sherry Vandrell, Chief Financial Officer; Chip Gavin, Chief Services Officer; Scott Lupkas, Deputy Chief Investment Officer; Monica Gorman, Secretary to the Board of Trustees; and Betsy Stivers, Assistant Attorney General and Board Counsel. The Board also was joined for select portions of the meeting by Kathy Morin, Director of Actuarial and Legislative Affairs; Brian McDonnell, Cambridge Associates; Sean Crawford, Albourne; Tom Lynch and George Bumeder, Cliffwater; and Amy McDuffee, Mosaic Governance Advisors.

Brian Noyes called the meeting to order at 9:00 a.m. John Beliveau and Kirk Duplessis participated through video remote access pursuant to 1 M.R.S. § 403-B, having been excused from in-person attendance. All other Trustees were in-person.

CONSIDERATION OF THE CONSENT CALENDAR

The presiding officer called for consideration of the Consent Calendar. The action items on the Consent Calendar were:

- Minutes of July 11, 2024
- Dismissal, Peter Herring Appeal
- Action. Shirrin Blaisdell made the motion, seconded by Dick Metivier, to approve the Consent Calendar. Unanimously voted in favor by seven Trustees (Beck, Beliveau, Blaisdell, Burnett, Kimball, Metivier, and Noyes).

WINDHAM RISK PREMIA

Jim Bennett presented a recommendation to redeem the System's investment and answered a Trustee question regarding the use of the proceeds.

- Action. Henry Beck made the motion, seconded by John Kimball, that the Board authorize the Chief Executive Officer, Chief Investment Officer, and General Counsel as signatories, to execute the documents necessary to redeem the System's investment in the Windham Risk Premia strategy. Unanimously voted in favor by seven Trustees (Beck, Beliveau, Blaisdell, Burnett, Kimball, Metivier, and Noyes).

Kirk Duplessis joined the meeting at 9:20 a.m.

INVESTMENT REVIEW

Investment Monthly Review

Jim Bennett reported that as of July 31, 2024, the MainePERS fund had a preliminary market value of \$19.9 billion, the preliminary return for the month was 0.6%, and the preliminary calendar year-to-date return was 5.1%.

Quarterly Rebalancing Report

Jim Bennett summarized the rebalancing activity as of June 30, 2024.

RHIT/GLI/OPEB Quarterly Report

Jim Bennett shared the RHIT/GLI/OPEB quarterly report as of June 30, 2024.

Investment Quarterly Review

Brian McDonnell presented the second quarter performance review and answered questions from the Trustees.

PRIVATE MARKETS REVIEW

Private Markets Activity

Scott Lupkas reviewed the table of private market funds and co-investments that had closed during the past 12 months. Scott shared the next manager meeting is scheduled for Tuesday, August 27, 2024, in Portland, with presentations by Shoreview Capital Partners at 10:00 a.m. and Summit Partners at 11:15 a.m. Scott stated the Investment Team continues due diligence of an investment opportunity with Farallon Capital Management.

Cliffwater Quarterly Review

Tom Lynch and George Bumeder provided a presentation of the Private Equity and Alternative Credit portfolios as of March 31, 2024. Tom and George answered questions from the Trustees.

Albourne Quarterly Report

Sean Crawford shared an overview of the Infrastructure, Natural Resources, and Real Estate portfolios as of March 31, 2024. Sean answered questions from the Trustees.

RISK DIVERSIFIERS QUARTERLY REVIEW

Brian McDonnell reviewed the Risk Diversifier quarterly report with the Trustees. Brian answered question from the Trustees.

PLD GLI PREMIUM RATES

Kathy Morin presented a recommendation to increase GLI premiums for fiscal year 2028 for PLD participants. The recommendation came from Cheiron based on the GLI premium study and was unanimously adopted by the PLD Advisory Committee at their July meeting.

- **Action:** Henry Beck made a motion, seconded by Shirrin Blaisdell, that the Board approve the recommended group life insurance premium for PLD participants of \$0.25 bi-weekly per \$1,000 of coverage in fiscal year 2028. Unanimously voted by eight Trustees (Beck, Beliveau, Blaisdell, Burnett, Duplessis, Kimball, Metivier, and Noyes).

FINANCE AND AUDIT COMMITTEE UPDATE

Shirrin Blaisdell shared the Finance and Audit Committee was provided a presentation from the external auditors, BerryDunn, who reviewed their agenda for the audit. She shared internal auditor, CliftonLarsenAllen, provided their findings and recommendations in the member statement and estimates process audit.

COST OF LIVING ADJUSTMENT (COLA)

Dr. Rebecca Wyke reported that the CPI-U as of June 30, 2024 was 3.0%. The COLA for the State-sponsored plans is capped at 3% of the first \$25,659.20 of benefits. The increase for the PLD Consolidated Plan is capped at 2.5% of the total benefit. The cap for withdrawn PLDs is 4% of the total benefit.

- **Action.** John Kimball made a motion, seconded by Dick Metivier, to adopt cost-of-living adjustments of 3% of the COLA base for the State-sponsored plans, 2.5% for the PLD Consolidated Plan, and 3% for withdrawn PLDs effective September of 2024. Voted unanimously by eight Trustees (Beck, Beliveau, Blaisdell, Burnett, Duplessis, Kimball, Metivier, and Noyes).

CEO REPORT

Dr. Rebecca Wyke shared six bidders responded to the request for proposal for the new pension administration system. Those bids are under review.

Dr. Wyke introduced Amy McDuffee and noted that she will be providing the annual education on board governance and leading the Board's self-evaluation discussion.

Dr. Wyke presented the results of the disability retirement experience survey done in July. The survey was sent to members who had completed the disability retirement process and had received a final determination since the last survey.

RULEMAKING

Proposed Repeal and Replacement of Rule Chapter 201

Brian Noyes reviewed the process for in-person and virtual attendees from the public to participate and comment during the public hearing on the proposed amendment.

Michael Colleran summarized the proposed repeal and replacement of Rule Chapter 201, governing payroll reporting by employers. No one spoke at the public hearing and no one attending remotely offered comments.

Brian Noyes stated written public comments may be submitted until 4:00 p.m. on Monday, August 19, 2024.

MEMBER SERVICES, FINANCE, AND OPERATIONS REPORT

Chip Gavin thanked staff for their success in processing the annual summer surge of retirements in July. He shared the member services metrics report will be updated into a more streamlined version for the next fiscal year.

Sherry Vandrell reported 97% of employers submitted payrolls on time in July. She stated staff continues to work on reducing the number of unreconciled transactions. She also reported the five positions vacant in Employer Reporting have been filled.

Michael Colleran shared that workspace changes are in progress to accommodate the increase in staff. He stated IT continues to work on several initiatives including the PAS replacement and data cleansing projects, implementing the new SharePoint intranet platform, and beginning the transition to Microsoft 365. Michael reported that a project to improve the performance management system has been completed. He shared a contract has been entered into for the collective bargaining counsel and responses to an RFP for securities litigation and monitoring services are due August 9th.

LITIGATION UPDATE

Betsy Stivers shared there continues to be no new information on the Stoddard overpayment matter, which still is in the discovery stage. Betsy stated she has filed a motion to dismiss on the disability matter.

GOVERNANCE

Best Practices in Board Governance

Amy McDuffee, Mosaic Governance Advisors, provided an educational presentation for the Trustees regarding Effective Governance in a Changing Environment. Amy answered questions from the Trustees.

John Beliveau left the meeting at 12:30 p.m.

Board Self-Evaluation

- **Action.** Henry Beck made the motion, seconded by Dick Metivier, that the Board enter into executive session pursuant to 1 M.R.S. §405(6)(A) to discuss evaluation of public officials. Voted unanimously by seven Trustees (Beck, Blaisdell, Burnett, Duplessis, Kimball, Metivier, and Noyes).

The Board moved out of executive session.

ADJOURNMENT

- Action. Henry Beck made the motion, seconded by Dick Metivier, that the August meeting adjourn. Unanimously voted by seven Trustees (Beck, Blaisdell, Burnett, Duplessis, Kimball, Metivier, and Noyes).

The meeting adjourned at approximately 1:45 p.m.

9/12/24
Date Approved by the Board

Dr. Rebecca M. Wyke, Chief Executive Officer

Date Signed

MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS
FROM: JAMES BENNETT, CHIEF INVESTMENT OFFICER
SUBJECT: MONTHLY INVESTMENT REVIEW
DATE: SEPTEMBER 4, 2024

Following this memo is the Monthly Investment Review for August.

POLICY REFERENCE

[Board Policy 2.1 – Investment Policy Statement](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communication and Support to the Board](#)

MONTHLY INVESTMENT REVIEW: HIGHLIGHTS AND OBSERVATIONS

Preliminary Fund results for the month include:

- Month-end fund value of \$20.0 billion.
- Monthly return of 0.9%.
- Calendar year-to-date return of 6.0%.
- Fiscal year-to-date return of 1.5%.



MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

Investment Review

September 12, 2024

Investment Policy Objective

Investment Objective

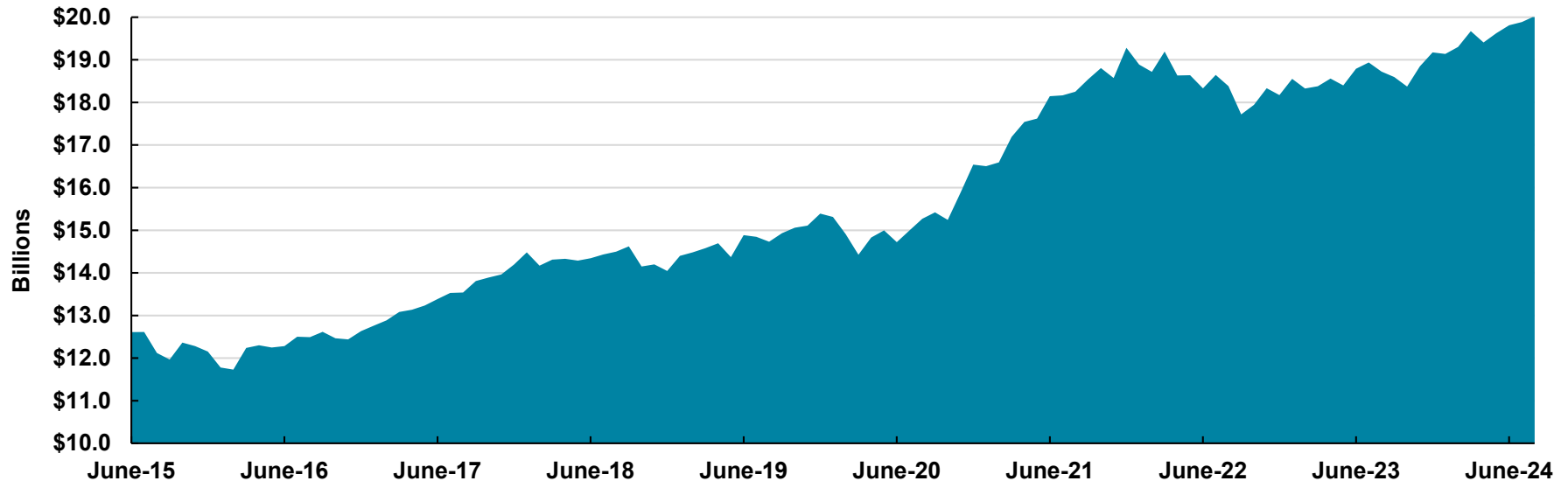
MainePERS' investment objectives balance the System's twin goals of generating investment returns (to ensure growth of the trust funds) and minimizing investment risks (loss of capital and cash flow shortfalls).

The Board recognizes and accepts that these goals are in opposition, and that a trade-off exists between expected risk and return. The Board balances these goals by seeking to optimize portfolio returns consistent with an established targeted portfolio risk level.

Additionally, by optimizing investment returns on trust assets, rather than attempting to maximize them, the Board seeks to maintain contribution rate and funding level volatility at acceptable levels that have been determined from time to time during strategic asset allocation planning and asset/liability reviews.

August 2024 Performance (Preliminary)

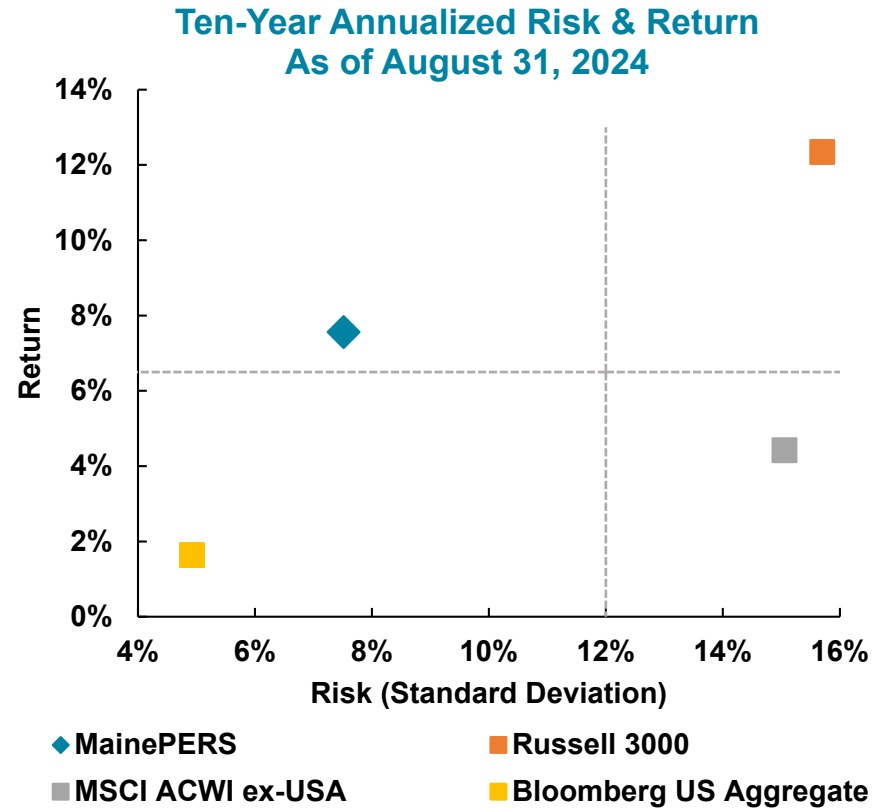
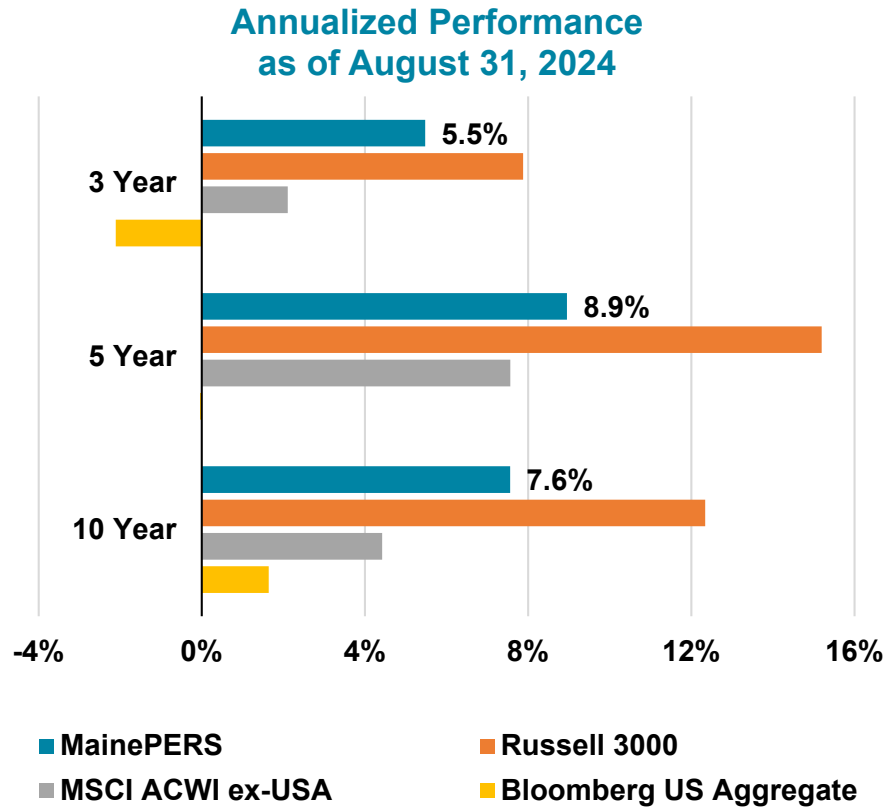
The **preliminary** fund value at the end of August is \$20.0 billion.



Fund and Benchmark Returns

	August 2024	CYTD 2024	FYTD 2025	1 Year
MainePERS	0.9%	6.0%	1.5%	9.5%
Russell 3000	2.2%	18.2%	4.1%	26.1%
MSCI ACWI ex-USA	2.8%	11.2%	5.2%	18.2%
Bloomberg US Aggregate	1.4%	3.1%	3.8%	7.3%

Long-Term Performance & Risk



- Fund returns have exceeded the System's discount rate over the long term
- U.S. allocations buoyed MainePERS performance over all periods
- Diversification has resulted in strong risk/return profile over trailing 10 years
 - Substantially lower risk than global equity markets

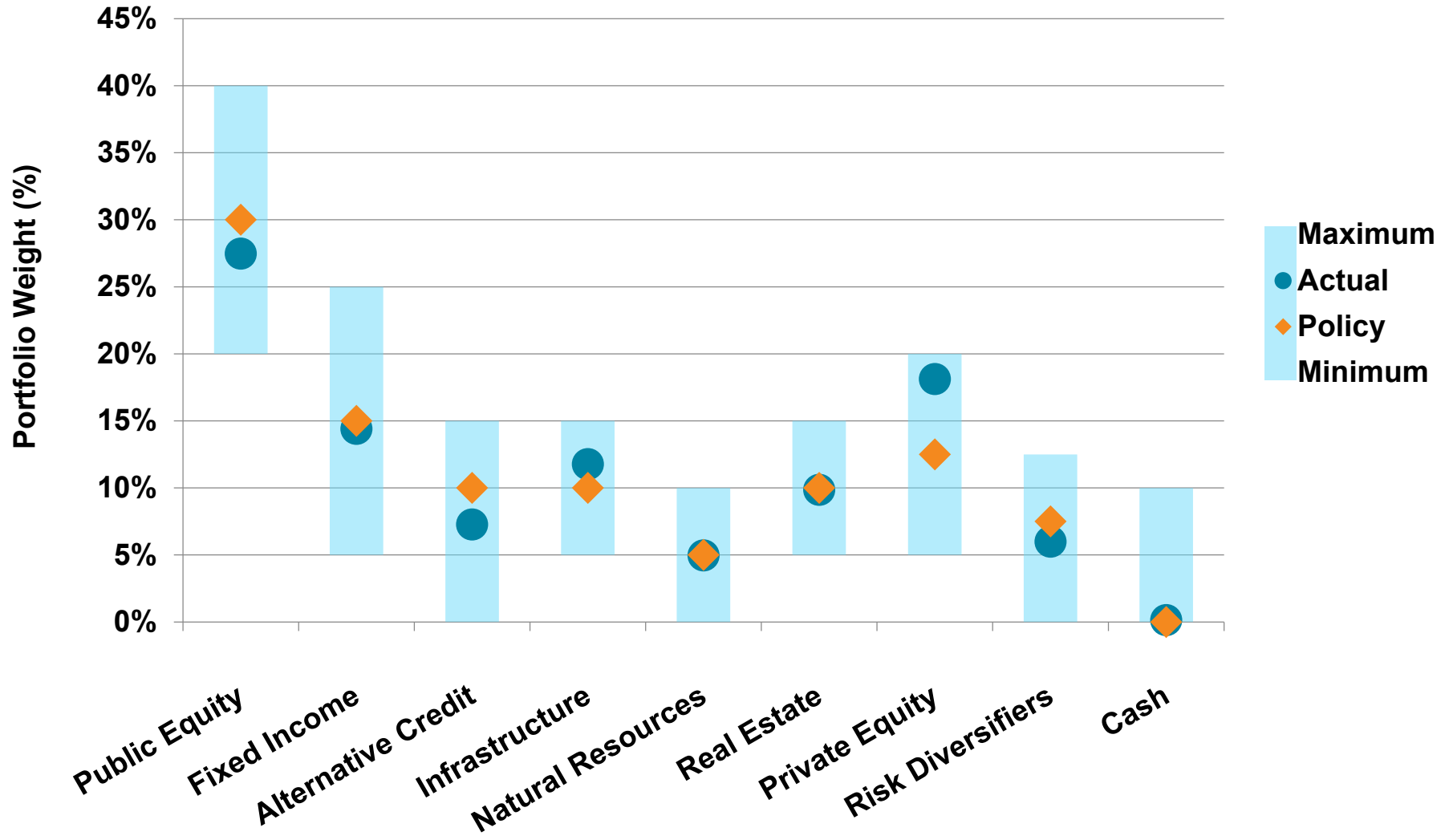
August 2024 Asset Allocation (Preliminary)

Assets (Millions)	Value	% of Fund	Policy %
MainePERS Portfolio	\$ 20,024	100.0%	100.0%
Domestic Equity	\$ 3,571	17.8%	19.4%
International Equity	\$ 1,930	9.6%	10.7%
Fixed Income	\$ 2,885	14.4%	15.0%
Alternative Credit	\$ 1,457	7.3%	10.0%
Infrastructure	\$ 2,357	11.8%	10.0%
Natural Resources	\$ 995	5.0%	5.0%
Private Equity	\$ 3,628	18.1%	12.5%
Real Estate	\$ 1,974	9.9%	10.0%
Risk Diversifiers	\$ 1,199	6.0%	7.5%
Cash	\$ 27	0.1%	0.0%

Portfolio weights for most asset classes remain near MainePERS Investment Policy asset allocation weights.

Private equity remains overweight at ~18.1% of Fund value, and private markets assets in aggregate comprise 52.0% of the overall portfolio, above the 47.5% policy weight.

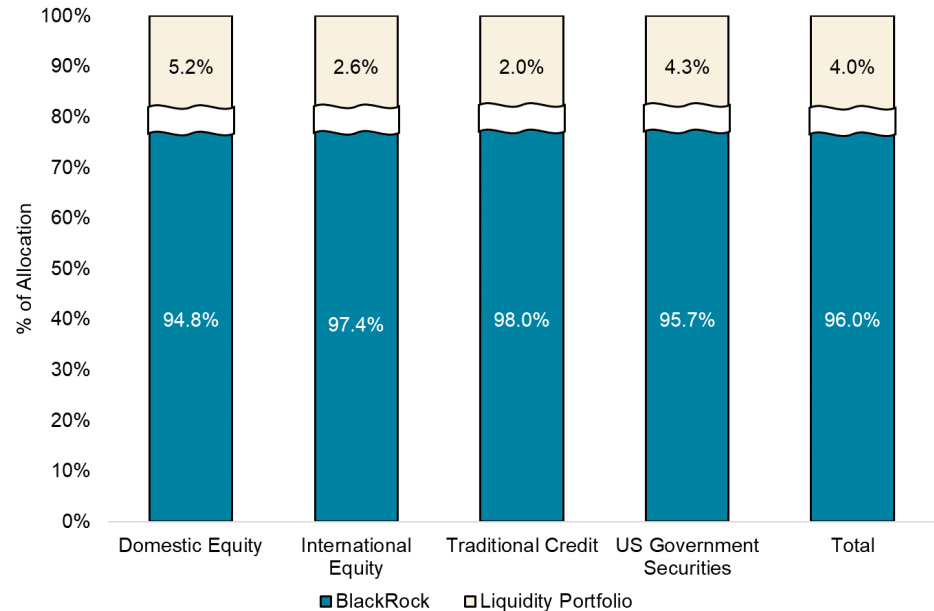
August 2024 Asset Allocation (Preliminary)



Public Securities: Liquidity Portfolio

At the end of August, 1.7% of Fund assets were invested via ETFs and futures contracts in an account managed by Parametric Associates.

The Liquidity Portfolio accounts for 4.0% of MainePERS' total exposure to public securities.



MainePERS Liquidity Portfolio	Market Value (Millions)	Exposure Type
Parametric Domestic Equity	\$185.4	Futures
Parametric International Equity	\$50.5	Futures
Parametric Traditional Credit	\$19.5	ETFs
Parametric US Government Securities	\$81.7	Futures
Total Liquidity Portfolio	\$337.0	

Derivatives and Leverage

MainePERS has **exposure to derivatives** in the following areas:

- Public Equities, Public Fixed Income, and Risk Diversifiers

MainePERS has **financial leverage** (borrowing and investing) in the following areas:

- BlackRock – Financial leverage in securities lending
- JP Morgan – Financial leverage in securities lending
- Alternative Credit
- Infrastructure
- Natural Resources
- Private Equity
- Real Estate

Investment Related Fees: August 2024

Description	FY 25	FY 24	FY 23	FY 22	FY 21
Investment Mgmt. Fees	\$22,077,856	\$131,940,081	\$135,770,817	\$130,884,088	\$120,429,567
Securities Lending Fees ¹	75,273	1,356,735	1,303,543	1,744,317	1,653,172
Consulting Fees	202,500	1,215,000	1,193,543	1,120,000	1,120,000
Broker Commissions ²	16,296	77,495	136,039	77,558	52,364
Placement Agent Fees	0	0	0	0	0
Total	\$22,371,925	\$134,589,311	\$138,403,942	\$133,825,963	\$123,255,103
Percentage of Fund ³	0.67%	0.68%	0.74%	0.73%	0.68%

1. Securities Lending Fees are through 7/31/2024
2. Actual paid commissions reported by JP Morgan
3. For FY25: Total fees projected for the full fiscal year (\$134,231,550) divided by current Fund value.
For prior FY: Total fees divided by FYE Fund value.

Securities Lending: July 2024

	Average Lendable Assets	Average Assets On Loan	Total Sec Lending Revenue	Revenue Split	MainePERS Net Income	MainePERS Net Income, FYTD
BlackRock						
Fixed Income	\$2,327,782,298	\$1,530,645,673	\$114,095	60%/40%	\$68,457	\$68,457
Total Equity	\$1,703,821,355	\$175,370,899	\$76,092	60%/40%	\$51,320	\$51,320
Total Blackrock	\$4,031,603,653	\$1,706,016,572	\$190,187		\$119,777	\$119,777
JP Morgan						
Domestic Equities	\$3,275,617,518	\$115,137,848	\$32,432	85%/15%	\$27,569	\$27,569
Total JP Morgan	\$3,275,617,518	\$115,137,848	\$32,432		\$27,569	\$27,569
Total	\$7,307,221,171	\$1,821,154,420	\$222,619		\$147,346	\$147,346
Total Annualized Securities Lending Income, FY 2025:						
				\$1,768,149 (0.01%, or 0.8 bps)		
Total Actual Securities Lending Income, FY 2024:						
				\$2,441,429 (0.01%, or 1.2 bps)		

Liquidity Schedule: August 2024

Term	Market Value	Percent of Portfolio
Liquid ¹	\$8,413m	42.0%
Semi-Liquid ²	\$2,284m	11.4%
Illiquid ³	\$9,327m	46.6%
Total	\$20,024m	100.0%

<u>Sources and Uses of Liquidity</u>		
	Last 12 Months Actual	Next 12 Months Projection
Private Markets Activity		
Capital Contributions	-\$862m	-\$740m
Distributions	\$1,176m	\$1,840m
Net Private Markets Activity	\$314m	\$1,100m
Benefit Payments	-\$440m	-\$460m
Net Cash Flows	-\$126m	\$640m

¹Liquid assets includes public equities and public fixed income

²Semi-liquid assets includes risk diversifiers, open-end real estate investments, and listed alternative credit funds

³Illiquid assets includes closed-end alternative credit, infrastructure, natural resources, private equity, and real estate funds

MainePERS Alternative Investments Summary

<i>as of 08/31/2024</i>	# of Funds	# of GP Relationships
Alternative Credit	25	13
Infrastructure	36	11
Natural Resources	16	10
Private Equity	131	35
Real Estate	35	18
Risk Diversifiers	12	11
Total*	255	89

*GP Total may not add due to overlapping relationships

Currently, MainePERS is invested in 255 funds,
and has 89 distinct manager relationships.

MainePERS Alternative Investments Summary

(in \$millions) as of 08/31/2024	Current Market Value			Unfunded Commitment	
	Dollars	% of Fund	Policy %*	Dollars	% of Fund
Alternative Credit	\$ 1,457	7.3%	10.0%	\$ 747	3.7%
Infrastructure	\$ 2,357	11.8%	10.0%	\$ 455	2.3%
Natural Resources	\$ 995	5.0%	5.0%	\$ 220	1.1%
Private Equity	\$ 3,628	18.1%	12.5%	\$ 1,114	5.6%
Real Estate	\$ 1,974	9.9%	10.0%	\$ 272	1.4%
Risk Diversifiers	\$ 1,199	6.0%	7.5%	\$ 80	0.4%
Total Alternatives	\$ 11,610	58.0%	55.0%	\$ 2,888	14.4%

For more details please see Private Markets Investment Summary at <http://www.mainebers.org/Investments/>

*Investment Policy weights approved by the Board of Trustees effective May 2022

Note: Market values shown above are preliminary estimates. Private market asset values are based on 3/31/2024 values, adjusted for subsequent cash flows.

(in \$millions) as of 08/31/2024	Private Market Commitments by Vintage Year				3-Year
	2021	2022	2023	2024	Average ¹
Alternative Credit	\$ 410	\$ 550	\$ 80	\$ 175	\$ 347
Infrastructure	\$ 180	\$ 200	\$ 50	\$ 25	\$ 143
Natural Resources	\$ -	\$ 30	\$ 40	\$ -	\$ 23
Private Equity	\$ 438	\$ 218	\$ 71	\$ 224	\$ 242
Real Estate	\$ 285	\$ 180	\$ 50	\$ 35	\$ 172
Total Commitments	\$ 1,313	\$ 1,178	\$ 291	\$ 459	\$ 927

¹3-Year Average: 2021-2023

MainePERS Private Market Investments Summary: 03/31/2024

Asset Class Summary	Commitment (A)	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Alternative Credit	\$ 2,495,925	\$ 2,056,258	\$ 1,017,133	\$ 1,468,892	\$ 2,486,026	7.7%
Infrastructure	\$ 3,437,715	\$ 3,657,011	\$ 2,933,600	\$ 2,413,946	\$ 5,347,546	11.1%
Natural Resources	\$ 1,060,500	\$ 1,123,086	\$ 462,908	\$ 1,010,735	\$ 1,473,644	6.1%
Private Equity	\$ 5,015,300	\$ 4,976,214	\$ 4,450,956	\$ 3,675,593	\$ 8,126,549	15.3%
Real Estate	\$ 2,777,129	\$ 2,859,718	\$ 1,977,520	\$ 1,895,327	\$ 3,872,847	6.1%
Total	\$ 14,786,569	\$ 14,672,288	\$ 10,842,118	\$ 10,464,494	\$ 21,306,611	10.0%

Note: This Asset Class Summary table includes all private market investments: both fund investments and co-investments.

Co-Investment Summary	Commitment (A)	# of Co- Investments	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Alternative Credit Co-Investments	\$ 265,353	36	\$ 262,515	\$ 125,081	\$ 193,709	\$ 318,790	10.1%
Infrastructure Co-Investments	\$ 218,580	11	\$ 215,477	\$ 261,781	\$ 127,062	\$ 388,843	14.3%
Natural Resources Co-Investments	\$ 32,500	2	\$ 32,662	\$ 37	\$ 51,466	\$ 51,503	10.6%
Private Equity Co-Investments	\$ 379,323	33	\$ 382,289	\$ 317,567	\$ 267,636	\$ 585,204	12.6%
Real Estate Co-Investments	\$ 66,880	5	\$ 60,583	\$ 8,166	\$ 37,409	\$ 45,575	-8.6%
Total	\$ 962,636	87	\$ 953,525	\$ 712,632	\$ 677,283	\$ 1,389,915	11.9%

Note: This table contains values for the co-investment portion of the private market portfolio.

MainePERS Private Market Investments Summary: 03/31/2024

Alternative Credit

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Angelo Gordon Direct Lending Fund II	\$ 25,000	3/31/2020	\$ 23,749	\$ 22,560	\$ 11,397	\$ 33,958	17.7%
Angelo Gordon Direct Lending Fund III	\$ 100,000	7/20/2018	\$ 103,070	\$ 85,450	\$ 58,818	\$ 144,268	10.5%
Participation Agreement #1	\$ 7,500	10/11/2019	\$ 7,479	\$ 2,760	\$ 6,951	\$ 9,711	8.3%
Participation Agreement #2	\$ 5,000	10/11/2019	\$ 4,994	\$ 5,422	\$ -	\$ 5,422	8.8%
Participation Agreement #3	\$ 5,000	10/11/2019	\$ 5,000	\$ 5,700	\$ -	\$ 5,700	7.3%
Participation Agreement #4	\$ 10,000	10/18/2019	\$ 9,915	\$ 3,357	\$ 9,515	\$ 12,872	9.6%
Participation Agreement #5	\$ 5,000	12/6/2019	\$ 5,000	\$ 6,824	\$ -	\$ 6,824	9.9%
Participation Agreement #6	\$ 10,000	12/6/2019	\$ 9,991	\$ 3,347	\$ 9,566	\$ 12,913	10.0%
Participation Agreement #7	\$ 5,000	12/11/2019	\$ 5,000	\$ 2,307	\$ 4,583	\$ 6,889	9.3%
Participation Agreement #8	\$ 5,000	8/13/2020	\$ 4,866	\$ 2,011	\$ 4,551	\$ 6,562	9.8%
Participation Agreement #9	\$ 7,500	4/9/2021	\$ 7,425	\$ 2,414	\$ 7,046	\$ 9,460	10.6%
Participation Agreement #10	\$ 5,000	4/20/2021	\$ 4,996	\$ 1,831	\$ 4,518	\$ 6,349	10.1%
Participation Agreement #11	\$ 5,000	5/5/2021	\$ 5,000	\$ 1,428	\$ 4,581	\$ 6,009	7.4%
Angelo Gordon Direct Lending Fund IV	\$ 100,000	1/24/2020	\$ 95,000	\$ 23,051	\$ 101,815	\$ 124,867	11.7%
Participation Agreement #1	\$ 5,000	10/23/2020	\$ 4,913	\$ 6,266	\$ -	\$ 6,266	9.2%
Participation Agreement #2	\$ 12,500	8/17/2021	\$ 12,295	\$ 2,997	\$ 12,001	\$ 14,998	10.0%
Participation Agreement #3	\$ 7,500	10/5/2021	\$ 7,500	\$ 7,913	\$ -	\$ 7,913	7.9%
Participation Agreement #4	\$ 5,000	12/21/2021	\$ 4,925	\$ 1,209	\$ 4,846	\$ 6,055	10.5%
Participation Agreement #5	\$ 5,000	12/21/2021	\$ 4,925	\$ 1,846	\$ 4,136	\$ 5,983	10.2%
Participation Agreement #6	\$ 5,000	1/12/2022	\$ 4,913	\$ 1,216	\$ 4,833	\$ 6,050	10.8%
Participation Agreement #7	\$ 7,500	1/12/2022	\$ 7,378	\$ 1,812	\$ 7,232	\$ 9,044	10.6%
Participation Agreement #8	\$ 12,500	6/16/2022	\$ 12,391	\$ 2,607	\$ 12,181	\$ 14,788	NM
Angelo Gordon Direct Lending Fund IV Annex	\$ 50,000	11/18/2021	\$ 47,500	\$ 8,589	\$ 48,801	\$ 57,390	11.2%
Angelo Gordon Direct Lending Fund V	\$ 125,000	8/3/2022	\$ 53,125	\$ 1,948	\$ 58,830	\$ 60,778	NM
Participation Agreement #1	\$ 7,500	9/1/2022	\$ 7,388	\$ 1,342	\$ 7,286	\$ 8,628	NM
Participation Agreement #2	\$ 12,500	10/7/2022	\$ 12,263	\$ 2,192	\$ 12,201	\$ 14,393	NM
Participation Agreement #3	\$ 10,000	10/19/2022	\$ 9,850	\$ 1,733	\$ 9,718	\$ 11,450	NM
Participation Agreement #4	\$ 10,000	10/27/2022	\$ 9,800	\$ 2,136	\$ 9,264	\$ 11,401	NM
Participation Agreement #5	\$ 10,000	2/27/2023	\$ 9,811	\$ 1,415	\$ 9,731	\$ 11,146	NM
Participation Agreement #6	\$ 5,000	10/20/2023	\$ 4,875	\$ 264	\$ 4,878	\$ 5,142	NM
Ares Capital Europe IV	\$ 122,000	4/30/2018	\$ 96,890	\$ 38,355	\$ 76,994	\$ 115,349	4.6%
Ares Capital Europe V	\$ 122,000	9/4/2020	\$ 88,832	\$ 13,386	\$ 88,428	\$ 101,814	7.3%
Ares Capital Europe VI	\$ 82,500	3/17/2023	\$ 15,529	\$ 903	\$ 15,619	\$ 16,522	NM
Ares Senior Direct Lending Fund II	\$ 100,000	12/10/2021	\$ 64,428	\$ 12,352	\$ 65,895	\$ 78,247	15.4%

MainePERS Private Market Investments Summary: 03/31/2024

Alternative Credit

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Ares Senior Direct Lending Fund III	\$ 100,000	7/28/2023	\$ 0	\$ -	\$ 305	\$ 305	NM
Audax Senior Debt (MP), LLC	\$ 100,000	6/30/2017	\$ 100,000	\$ 103,200	\$ 30,869	\$ 134,069	5.2%
Brookfield Infrastructure Debt Fund III	\$ 100,000	7/15/2022	\$ 69,835	\$ 25,319	\$ 47,836	\$ 73,156	NM
Comvest Credit Partners VI	\$ 125,000	5/20/2022	\$ 78,370	\$ 20,866	\$ 66,685	\$ 87,551	NM
Deerpath Capital VI	\$ 75,000	9/30/2021	\$ 54,590	\$ 9,668	\$ 55,378	\$ 65,046	8.5%
Global Infrastructure Partners Spectrum	\$ 100,000	2/20/2019	\$ 110,990	\$ 51,899	\$ 69,576	\$ 121,475	7.4%
Mesa West Core Lending Fund	\$ 100,000	6/18/2013	\$ 127,612	\$ 66,647	\$ 101,621	\$ 168,268	4.3%
Blue Owl Capital Corporation	\$ 100,000	3/10/2017	\$ 116,571	\$ 152,640	\$ 23,417	\$ 176,057	9.7%
Participation Agreement #1	\$ 5,000	5/7/2018	\$ 4,851	\$ 5,499	\$ -	\$ 5,499	12.7%
Participation Agreement #2	\$ 6,185	7/31/2018	\$ 6,196	\$ 7,745	\$ -	\$ 7,745	9.9%
Participation Agreement #3	\$ 5,000	8/7/2018	\$ 4,938	\$ 5,634	\$ -	\$ 5,634	7.9%
Participation Agreement #4	\$ 5,000	8/20/2018	\$ 4,566	\$ 5,835	\$ -	\$ 5,835	8.1%
Participation Agreement #5	\$ 5,000	12/21/2018	\$ 4,987	\$ 6,733	\$ -	\$ 6,733	7.7%
Participation Agreement #6	\$ 11,653	8/7/2020	\$ 12,642	\$ 4,603	\$ 11,083	\$ 15,686	10.7%
Participation Agreement #7	\$ 7,500	7/26/2021	\$ 6,557	\$ 7,970	\$ -	\$ 7,970	9.8%
Participation Agreement #8	\$ 12,500	6/17/2022	\$ 12,778	\$ 2,819	\$ 12,290	\$ 15,109	NM
Participation Agreement #9	\$ 7,500	9/26/2022	\$ 7,388	\$ 1,385	\$ 7,184	\$ 8,569	NM
Blue Owl Capital Corporation III	\$ 100,000	6/19/2020	\$ 118,400	\$ 35,520	\$ 116,446	\$ 151,966	11.0%
Pathlight Capital Fund II	\$ 75,000	4/22/2021	\$ 120,219	\$ 74,455	\$ 61,878	\$ 136,333	10.8%
Participation Agreement #1	\$ 7,500	4/1/2022	\$ 7,292	\$ 2,747	\$ 6,309	\$ 9,056	13.1%
Participation Agreement #2	\$ 7,500	4/1/2022	\$ 7,429	\$ 1,764	\$ 7,225	\$ 8,988	11.0%
Pathlight Capital Fund III	\$ 75,000	6/24/2022	\$ 90,556	\$ 50,442	\$ 49,029	\$ 99,471	NM
Solar Capital Private Corporate Lending Fund	\$ 50,000	6/26/2019	\$ 40,188	\$ 10,856	\$ 41,875	\$ 52,731	12.0%
Solar Capital Debt Fund	\$ 50,000	6/26/2019	\$ 25,000	\$ 4,473	\$ 26,629	\$ 31,102	12.8%
SLR Private Corporate Lending Fund II	\$ 125,000	12/23/2022	\$ 6,202	\$ 37	\$ 7,707	\$ 7,743	NM
Silver Point Specialty Credit II	\$ 50,000	1/31/2020	\$ 62,775	\$ 31,238	\$ 42,597	\$ 73,835	10.1%
Tennenbaum Direct Lending VIII	\$ 100,000	11/30/2017	\$ 100,883	\$ 95,288	\$ 30,154	\$ 125,443	6.4%

MainePERS Private Market Investments Summary: 03/31/2024

Infrastructure

Fund Name	Commitment		Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
	(A)	Date of Commitment					
Alinda Infrastructure Fund II	\$ 50,000	9/17/2009	\$ 68,297	\$ 74,099	\$ 304	\$ 74,403	1.9%
ArcLight Energy V	\$ 75,000	10/28/2011	\$ 76,031	\$ 103,624	\$ -	\$ 103,624	8.0%
Shore Co-Investment Holdings II	\$ 20,000	1/30/2014	\$ 17,709	\$ 19,737	\$ -	\$ 19,737	8.4%
ArcLight Energy VI	\$ 150,000	11/25/2014	\$ 159,687	\$ 137,590	\$ 46,422	\$ 184,012	3.3%
Great River Hydro Partners	\$ 12,000	6/17/2017	\$ 10,718	\$ 45,094	\$ -	\$ 45,094	39.5%
Brookfield Infrastructure Fund II	\$ 100,000	6/28/2013	\$ 118,049	\$ 116,279	\$ 90,093	\$ 206,371	10.0%
Brookfield Infrastructure Fund III	\$ 100,000	4/15/2016	\$ 111,825	\$ 68,123	\$ 108,470	\$ 176,593	12.3%
Co-Investment #1	\$ 20,000	3/31/2017	\$ 15,953	\$ 28,056	\$ 10,175	\$ 38,231	26.2%
Carlyle Global Infrastructure Opportunity Fund	\$ 100,000	5/1/2019	\$ 96,534	\$ 23,764	\$ 99,715	\$ 123,479	12.0%
Carlyle Infrastructure Partners	\$ 50,000	11/2/2007	\$ 57,366	\$ 64,289	\$ 356	\$ 64,645	2.5%
Carlyle Power Partners II	\$ 50,000	11/19/2015	\$ 64,785	\$ 45,161	\$ 47,645	\$ 92,806	9.8%
Cube Infrastructure	\$ 45,000	4/16/2010	\$ 60,063	\$ 96,665	\$ 422	\$ 97,087	8.0%
Cube Infrastructure II	\$ 90,000	9/11/2018	\$ 78,539	\$ 5,744	\$ 77,566	\$ 83,310	1.5%
Cube Infrastructure III	\$ 90,000	8/16/2021	\$ 57,514	\$ 228	\$ 59,636	\$ 59,865	2.9%
EQT Infrastructure III	\$ 68,000	12/3/2016	\$ 105,793	\$ 158,963	\$ 24,019	\$ 182,982	20.5%
EQT Infrastructure IV	\$ 100,000	12/17/2018	\$ 100,014	\$ 17,265	\$ 120,549	\$ 137,815	11.0%
EQT Infrastructure V	\$ 75,000	12/8/2020	\$ 66,568	\$ 8,532	\$ 71,371	\$ 79,902	12.1%
Global Energy & Power Infrastructure Fund	\$ 50,000	6/30/2010	\$ 59,778	\$ 53,144	\$ 2,246	\$ 55,390	-2.1%
Global Energy & Power Infrastructure Fund II	\$ 100,000	10/21/2013	\$ 128,643	\$ 129,302	\$ 24,678	\$ 153,980	10.8%
Global Infrastructure Partners Sonic	\$ 35,000	7/31/2020	\$ 34,110	\$ -	\$ 21,073	\$ 21,073	-13.5%
Global Infrastructure Partners	\$ 75,000	3/31/2008	\$ 101,173	\$ 205,062	\$ 229	\$ 205,290	17.2%
Global Infrastructure Partners II	\$ 75,000	12/3/2011	\$ 106,369	\$ 150,432	\$ 37,986	\$ 188,418	15.8%
Global Infrastructure Partners III	\$ 150,000	4/15/2016	\$ 185,998	\$ 111,281	\$ 155,581	\$ 266,861	9.6%
Co-Investment #1	\$ 29,000	2/28/2017	\$ 27,950	\$ 17,727	\$ 32,984	\$ 50,711	12.3%
Co-Investment #2	\$ 25,000	8/16/2018	\$ 27,071	\$ 3,392	\$ 24,973	\$ 28,365	0.9%
Global Infrastructure Partners IV	\$ 150,000	12/21/2018	\$ 143,831	\$ 18,198	\$ 141,780	\$ 159,978	6.0%
IFM Global Infrastructure (US), L.P.	\$ 100,000	12/20/2012	\$ 144,550	\$ 208,040	\$ -	\$ 208,040	9.8%
KKR Diversified Core Infrastructure Fund	\$ 100,000	4/29/2022	\$ 103,124	\$ 3,124	\$ 105,980	\$ 109,104	NM
KKR Global Infrastructure Investors	\$ 75,000	9/29/2010	\$ 87,917	\$ 154,328	\$ 93	\$ 154,421	13.1%
KKR Global Infrastructure Investors II	\$ 150,000	10/24/2014	\$ 186,972	\$ 274,876	\$ 53,669	\$ 328,545	16.9%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 03/31/2024

Infrastructure

Fund Name	Commitment		Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
	(A)	Date of Commitment					
KKR Atlanta Co-Invest	\$ 24,000	9/26/2014	\$ 21,428	\$ 28,551	\$ -	\$ 28,551	5.7%
KKR Taurus Co-Invest II	\$ 25,000	8/15/2017	\$ 25,000	\$ 56,779	\$ 840	\$ 57,619	21.3%
KKR Byzantium Infrastructure Aggregator	\$ 15,000	10/17/2017	\$ 15,000	\$ 7,013	\$ 12,612	\$ 19,625	6.0%
KKR Global Infrastructure Investors III	\$ 100,000	3/29/2018	\$ 92,014	\$ 28,072	\$ 102,286	\$ 130,358	12.8%
Meridiam Infrastructure (SCA)	\$ 11,000	9/23/2015	\$ 21,938	\$ 13,041	\$ 27,651	\$ 40,692	9.1%
Meridiam Infrastructure (SCA) B Shares	\$ 1,000	9/23/2015	\$ 305	\$ 55	\$ 25,370	\$ 25,425	77.0%
Meridiam Infrastructure Europe II (SCA)	\$ 22,500	9/23/2015	\$ 36,936	\$ 18,374	\$ 38,586	\$ 56,960	8.7%
Meridiam Infrastructure Europe III SLP	\$ 95,000	4/27/2016	\$ 73,719	\$ 18,080	\$ 71,585	\$ 89,664	5.9%
Meridiam Sustainable Infrastructure Europe IV	\$ 90,000	4/16/2021	\$ 21,748	\$ 1,473	\$ 20,050	\$ 21,524	NM
Meridiam Infrastructure N.A. II	\$ 75,000	9/28/2012	\$ 88,232	\$ 39,091	\$ 177,471	\$ 216,562	15.9%
MINA II CIP	\$ 175	6/30/2015	\$ 169	\$ 938	\$ 20,014	\$ 20,952	101.0%
Meridiam Infrastructure N.A. II	\$ 20,000	6/30/2015	\$ 18,870	\$ 6,394	\$ 45,466	\$ 51,860	21.0%
Meridiam Infrastructure N.A. III	\$ 50,000	7/12/2017	\$ 32,309	\$ 1	\$ 42,839	\$ 42,840	13.6%
Stonepeak Infrastructure Partners II	\$ 140,000	11/12/2015	\$ 189,926	\$ 238,390	\$ 36,758	\$ 275,147	13.1%
Stonepeak Claremont Co-Invest	\$ 25,000	5/30/2017	\$ 25,000	\$ 51,959	\$ -	\$ 51,959	17.8%
Stonepeak Spear (Co-Invest) Holdings	\$ 25,000	1/8/2018	\$ 19,648	\$ 3,472	\$ 33,812	\$ 37,284	11.5%
Stonepeak Infrastructure Partners III	\$ 150,000	10/13/2017	\$ 165,797	\$ 57,763	\$ 188,461	\$ 246,224	13.0%
Stonepeak Guardian (Co-Invest) Holdings	\$ 10,000	4/27/2023	\$ 10,000	\$ 0	\$ 11,666	\$ 11,667	NM
Stonepeak Infrastructure Partners IV	\$ 125,000	5/8/2020	\$ 84,694	\$ 10,745	\$ 84,383	\$ 95,128	8.6%
Stonepeak Core Infrastructure Fund	\$ 100,000	8/5/2022	\$ 100,422	\$ 422	\$ 107,855	\$ 108,277	NM
Stonepeak Opportunities Fund	\$ 50,000	6/12/2023	\$ 10,748	\$ 1,513	\$ 8,222	\$ 9,735	NM

MainePERS Private Market Investments Summary: 03/31/2024

Natural Resources

Fund Name	Commitment		Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
	(A)	Date of Commitment					
ACM Permanent Crops	\$ 35,000	10/24/2014	\$ 39,821	\$ 12,107	\$ 57,751	\$ 69,858	8.3%
ACM Permanent Crops II	\$ 35,000	5/12/2016	\$ 42,906	\$ 8,885	\$ 19,048	\$ 27,933	-10.9%
AMERRA Agri Fund III	\$ 50,000	2/11/2016	\$ 101,331	\$ 89,180	\$ 17,700	\$ 106,880	2.1%
Denham Mining Fund	\$ 35,000	6/29/2018	\$ 33,511	\$ 659	\$ 39,014	\$ 39,673	5.1%
Homestead Capital Farmland II	\$ 50,000	8/8/2016	\$ 56,136	\$ 11,440	\$ 57,388	\$ 68,828	4.7%
Homestead Capital Farmland III	\$ 30,000	10/26/2018	\$ 32,067	\$ 3,534	\$ 32,425	\$ 35,958	5.8%
Orion Mine Finance Fund II	\$ 50,000	5/25/2016	\$ 102,219	\$ 78,365	\$ 47,173	\$ 125,539	8.2%
Orion Mine Finance Co-Fund II	\$ 20,000	8/13/2018	\$ 20,125	\$ -	\$ 34,483	\$ 34,483	10.4%
Silver Creek Aggregate Reserves Fund	\$ 100,000	11/6/2018	\$ 15,474	\$ 3,214	\$ 18,179	\$ 21,393	NM
Sprott Private Resource Lending Fund III	\$ 30,000	8/31/2022	\$ 8,461	\$ 539	\$ 7,777	\$ 8,316	NM
Sprott Private Resource Streaming and Royalty Annex	\$ 40,000	5/17/2023	\$ 22,365	\$ 477	\$ 23,950	\$ 24,427	NM
Taurus Mining Fund	\$ 50,000	3/27/2015	\$ 41,459	\$ 46,658	\$ 3,750	\$ 50,408	7.6%
Taurus Mining Fund Annex	\$ 23,000	12/1/2016	\$ 18,384	\$ 23,486	\$ 816	\$ 24,302	17.5%
Taurus Mining Fund No. 2	\$ 75,000	4/18/2019	\$ 64,374	\$ 47,089	\$ 31,496	\$ 78,585	16.0%
Teays River Integrated Agriculture	\$ 200,000	7/1/2015	\$ 198,974	\$ 28,770	\$ 343,319	\$ 372,089	8.0%
Twin Creeks Timber	\$ 200,000	1/7/2016	\$ 202,925	\$ 96,903	\$ 135,982	\$ 232,885	3.3%
U.S. Farming Realty Trust III	\$ 100,000	7/7/2015	\$ 110,017	\$ 11,565	\$ 123,503	\$ 135,069	3.6%
Canally Coinvest Holdings	\$ 12,500	12/9/2019	\$ 12,537	\$ 37	\$ 16,983	\$ 17,021	11.2%

MainePERS Private Market Investments Summary: 03/31/2024

Private Equity

Fund Name	Commitment		Date of Commitment	Amount	Total	Current Market		Interim Net				
	(A)			Contributed	Distributions	Value	Total Value					
				(B)	(C)	(D)	(C+D)	IRR				
ABRY Advanced Securities Fund II	\$	20,000	5/4/2011	\$	20,541	\$	29,705	\$	230	\$	29,934	13.0%
ABRY Advanced Securities Fund III	\$	30,000	4/30/2014	\$	45,253	\$	30,354	\$	16,345	\$	46,699	0.9%
ABRY Heritage Partners	\$	10,000	5/31/2016	\$	11,034	\$	12,303	\$	7,965	\$	20,268	25.7%
ABRY Partners VII	\$	10,000	4/29/2011	\$	12,969	\$	17,340	\$	2,250	\$	19,590	12.1%
ABRY Partners VIII	\$	20,000	8/8/2014	\$	23,934	\$	29,732	\$	3,679	\$	33,410	9.8%
ABRY Senior Equity IV	\$	10,000	12/7/2012	\$	10,853	\$	17,114	\$	888	\$	18,001	14.5%
ABRY Senior Equity V	\$	12,050	1/19/2017	\$	13,098	\$	6,728	\$	12,767	\$	19,495	13.3%
Advent International GPE VII	\$	30,000	6/29/2012	\$	34,811	\$	54,885	\$	3,263	\$	58,148	13.3%
Advent International GPE VIII	\$	50,000	2/5/2016	\$	57,556	\$	63,250	\$	48,403	\$	111,653	17.2%
Advent International GPE IX	\$	50,000	5/9/2019	\$	46,753	\$	4,998	\$	64,799	\$	69,797	16.3%
GPE IX TKE Co-Investment	\$	24,000	3/30/2020	\$	21,243	\$	-	\$	32,591	\$	32,591	12.3%
Advent International GPE X	\$	45,000	4/28/2022	\$	18,680	\$	-	\$	20,064	\$	20,064	NM
AI Co-Investment I-A	\$	7,500	3/2/2023	\$	7,443	\$	-	\$	8,459	\$	8,459	NM
Advent Latin America PE Fund VI	\$	20,000	10/17/2014	\$	20,272	\$	18,950	\$	15,818	\$	34,768	13.9%
Affinity Asia Pacific Fund IV	\$	60,000	2/28/2013	\$	65,344	\$	74,934	\$	40,040	\$	114,975	15.9%
Affinity Asia Pacific Fund V	\$	40,000	12/11/2017	\$	23,574	\$	6,647	\$	23,569	\$	30,216	9.8%
Bain Capital Ventures 2021	\$	25,000	10/28/2020	\$	19,938	\$	1	\$	22,795	\$	22,796	6.3%
Bain Capital Ventures 2022	\$	25,000	6/10/2022	\$	4,750	\$	0	\$	4,996	\$	4,996	NM
Bain Capital Venture Coinvestment Fund III	\$	15,000	4/1/2021	\$	15,750	\$	825	\$	15,130	\$	15,955	0.7%
Bain Capital Venture Coinvestment Fund IV	\$	15,000	6/10/2022	\$	1,500	\$	-	\$	1,780	\$	1,780	NM
Berkshire Fund VIII	\$	15,000	7/20/2011	\$	16,993	\$	27,959	\$	9,944	\$	37,904	16.8%
Berkshire Fund IX	\$	50,000	3/18/2016	\$	57,832	\$	36,889	\$	58,305	\$	95,194	15.2%
Blackstone Capital Partners VI	\$	30,000	6/30/2010	\$	38,362	\$	56,434	\$	8,287	\$	64,721	12.3%
Blackstone Capital Partners VII	\$	54,000	3/27/2015	\$	62,642	\$	48,652	\$	49,520	\$	98,172	13.0%
Carlyle Asia Partners III	\$	15,000	12/31/2009	\$	20,694	\$	31,227	\$	-	\$	31,227	12.6%
Carlyle Asia Partners IV	\$	60,000	6/3/2014	\$	87,727	\$	123,366	\$	13,652	\$	137,019	12.6%
Carlyle Asia Partners V	\$	45,000	10/30/2017	\$	45,830	\$	12,576	\$	40,283	\$	52,859	8.0%
Centerbridge Capital Partners III	\$	30,000	10/24/2014	\$	48,316	\$	48,352	\$	27,784	\$	76,136	16.9%
CB Blizzard Co-Invest	\$	15,684	9/11/2019	\$	15,684	\$	10,053	\$	1,947	\$	12,001	-20.6%
Charterhouse Capital Partners VIII	\$	13,500	1/6/2011	\$	11,188	\$	14,160	\$	-	\$	14,160	7.9%
Charterhouse Capital Partners IX	\$	4,500	1/6/2011	\$	5,410	\$	7,275	\$	34	\$	7,308	12.0%

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 03/31/2024

Private Equity

Fund Name	Commitment		Amount		Total	Current Market		Interim Net
	(A)	Date of Commitment	(B)	Contributed	Distributions (C)	Value (D)	Total Value (C+D)	
Charterhouse Capital Partners X	\$ 67,000	5/13/2015	\$ 59,406	\$	76,351	\$ 32,825	\$ 109,175	19.9%
Charterhouse Acrostone	\$ 12,000	8/24/2018	\$ 13,254	\$	21,268	\$ -	\$ 21,268	16.9%
Charterhouse Capital Partners XI	\$ 45,000	4/23/2021	\$ 22,567	\$	1,329	\$ 24,095	\$ 25,424	17.0%
CVC Capital Partners VI	\$ 67,000	7/12/2013	\$ 104,784	\$	127,318	\$ 57,923	\$ 185,241	16.4%
CVC Capital Partners VII	\$ 48,000	5/9/2017	\$ 77,462	\$	53,773	\$ 64,532	\$ 118,306	20.6%
CVC Capital Partners VIII	\$ 44,000	6/11/2020	\$ 58,841	\$	27,352	\$ 34,580	\$ 61,931	6.5%
CVC Capital Partners IX	\$ 44,000	6/29/2023	\$ -	\$	-	\$ -	\$ -	NM
EnCap Energy Capital VIII	\$ 30,000	1/31/2011	\$ 34,190	\$	23,766	\$ 11,271	\$ 35,037	0.5%
EnCap Energy Capital Fund VIII Co-Investors	\$ 16,238	12/8/2011	\$ 16,513	\$	6,278	\$ 6,168	\$ 12,446	-3.7%
EnCap Energy Capital Fund IX	\$ 30,000	12/19/2012	\$ 35,144	\$	46,005	\$ 6,958	\$ 52,964	11.0%
EnCap Energy Capital Fund X	\$ 40,000	3/5/2015	\$ 44,657	\$	59,933	\$ 24,529	\$ 84,462	15.7%
EnCap Energy Capital Fund XI	\$ 40,000	5/31/2017	\$ 41,754	\$	25,800	\$ 43,351	\$ 69,151	20.6%
EnCap Flatrock Midstream Fund III	\$ 20,000	4/9/2014	\$ 25,255	\$	24,137	\$ 10,724	\$ 34,861	10.0%
EnCap Flatrock Midstream Fund IV	\$ 22,000	11/17/2017	\$ 20,144	\$	11,193	\$ 12,700	\$ 23,893	7.3%
General Catalyst X - Early Venture	\$ 19,565	3/26/2020	\$ 19,174	\$	-	\$ 30,244	\$ 30,244	16.3%
General Catalyst X - Endurance	\$ 22,826	3/26/2020	\$ 22,859	\$	1,113	\$ 23,308	\$ 24,421	2.2%
General Catalyst X - Growth Venture	\$ 32,609	3/26/2020	\$ 32,120	\$	-	\$ 35,182	\$ 35,182	3.0%
General Catalyst XI - Creation	\$ 8,823	10/29/2021	\$ 6,582	\$	-	\$ 6,808	\$ 6,808	3.7%
General Catalyst XI - Endurance	\$ 29,412	10/29/2021	\$ 24,919	\$	-	\$ 25,017	\$ 25,017	0.2%
General Catalyst XI - Ignition	\$ 11,765	10/29/2021	\$ 8,579	\$	-	\$ 8,215	\$ 8,215	-2.6%
General Catalyst XII - Creation	\$ 6,250	1/26/2024	\$ 798	\$	-	\$ 747	\$ 747	NM
General Catalyst XII - Endurance	\$ 9,375	1/26/2024	\$ -	\$	-	\$ -	\$ -	NM
General Catalyst XII - Health Assurance	\$ 3,125	1/26/2024	\$ -	\$	-	\$ -	\$ -	NM
General Catalyst XII - Ignition	\$ 6,250	1/26/2024	\$ 767	\$	-	\$ 701	\$ 701	NM
GTCR Fund X	\$ 30,000	1/28/2011	\$ 31,766	\$	64,646	\$ -	\$ 64,646	21.4%
GTCR Fund XI	\$ 35,000	11/15/2013	\$ 35,142	\$	83,709	\$ 27,108	\$ 110,817	31.9%
GTCR Fund XII	\$ 50,000	9/29/2017	\$ 51,915	\$	33,192	\$ 57,701	\$ 90,894	22.2%
Co-Investment #1	\$ 5,238	4/26/2019	\$ 4,556	\$	-	\$ 9,853	\$ 9,853	17.1%
Co-Investment #2	\$ 5,997	11/1/2019	\$ 5,911	\$	10,962	\$ 2,310	\$ 13,271	43.2%
GTCR XIII	\$ 50,000	10/27/2020	\$ 26,578	\$	5,556	\$ 29,207	\$ 34,763	18.7%
GTCR XIV	\$ 50,000	12/16/2022	\$ -	\$	-	\$ -	\$ -	NM

(all dollar amounts in thousands)

MainePERS Private Market Investments Summary: 03/31/2024

Private Equity

Fund Name	Commitment		Amount Contributed (B)	Total Distributions (C)	Current Market		Interim Net IRR
	(A)	Date of Commitment			Value (D)	Total Value (C+D)	
H.I.G. Bayside Loan Fund II	\$ 25,000	5/28/2010	\$ 23,985	\$ 32,321	\$ 162	\$ 32,482	7.1%
H.I.G. Bayside Loan Ops Fund III (Europe)	\$ 30,000	7/27/2012	\$ 26,707	\$ 31,070	\$ 3,433	\$ 34,503	7.1%
H.I.G. Brazil & Latin America Partners	\$ 60,000	7/1/2015	\$ 69,040	\$ 26,649	\$ 75,387	\$ 102,037	11.5%
H.I.G. Capital Partners V	\$ 15,000	2/28/2013	\$ 21,630	\$ 34,067	\$ 7,683	\$ 41,749	22.9%
H.I.G. Europe Capital Partners II	\$ 22,500	7/1/2013	\$ 25,240	\$ 20,667	\$ 15,254	\$ 35,921	10.8%
H.I.G. Growth Buyouts & Equity Fund II	\$ 17,500	6/30/2011	\$ 23,713	\$ 28,136	\$ 14,767	\$ 42,903	14.4%
H.I.G. Growth Buyouts & Equity Fund III	\$ 35,000	9/13/2018	\$ 16,492	\$ 2,134	\$ 16,958	\$ 19,092	NM
H.I.G Middle Market LBO Fund II	\$ 40,000	2/7/2014	\$ 49,202	\$ 69,764	\$ 19,731	\$ 89,494	25.4%
Co-Investment #1	\$ 9,000	10/12/2017	\$ 9,000	\$ -	\$ 0	\$ 0	-84.4%
Co-Investment #2	\$ 686	6/19/2020	\$ 686	\$ -	\$ 1,012	\$ 1,012	10.8%
Co-Investment #3	\$ 1,000	6/1/2021	\$ 1,079	\$ -	\$ 0	\$ 0	-96.2%
H.I.G. Middle Market LBO Fund III	\$ 40,000	7/23/2019	\$ 34,970	\$ 2,021	\$ 40,900	\$ 42,921	11.3%
Hellman & Friedman Capital Partners VII	\$ 30,000	6/19/2009	\$ 45,189	\$ 111,116	\$ 2,593	\$ 113,709	24.7%
Hellman & Friedman Capital Partners VIII	\$ 45,000	9/24/2014	\$ 49,347	\$ 30,557	\$ 54,300	\$ 84,857	12.7%
Hellman & Friedman Capital Partners IX	\$ 45,000	9/28/2018	\$ 46,794	\$ 5,444	\$ 63,939	\$ 69,383	13.8%
Hellman & Friedman Capital Partners X	\$ 45,000	5/10/2021	\$ 32,635	\$ 3,260	\$ 35,213	\$ 38,473	8.7%
Inflexion Buyout Fund IV	\$ 27,000	9/30/2014	\$ 37,885	\$ 49,849	\$ 16,309	\$ 66,158	15.5%
Inflexion Partnership Capital Fund I	\$ 17,000	9/30/2014	\$ 26,034	\$ 40,815	\$ 6,938	\$ 47,753	22.0%
Inflexion Supplemental Fund IV	\$ 10,000	5/31/2016	\$ 15,510	\$ 23,320	\$ 7,073	\$ 30,393	23.6%
Kelso Investment Associates VIII	\$ 3,000	1/6/2011	\$ 3,044	\$ 4,358	\$ 11	\$ 4,369	7.9%
Kelso Investment Associates IX	\$ 60,000	11/5/2014	\$ 70,063	\$ 87,745	\$ 33,458	\$ 121,203	19.0%
KIA IX (Hammer) Investor	\$ 25,000	8/12/2016	\$ 25,492	\$ 69,544	\$ -	\$ 69,544	21.4%
Kelso Investment Associates X	\$ 45,000	3/16/2018	\$ 48,722	\$ 19,943	\$ 68,336	\$ 88,279	25.9%
Kelso Investment Associates XI	\$ 45,000	12/22/2021	\$ 14,343	\$ 1,829	\$ 15,843	\$ 17,672	NM
Kelso XI Heights Co-Investment	\$ 12,000	8/19/2022	\$ 10,025	\$ -	\$ 10,111	\$ 10,111	NM
KKR North American Fund XI	\$ 60,000	2/7/2012	\$ 100,673	\$ 166,314	\$ 21,916	\$ 188,230	19.1%
KKR North America Fund XI (Platinum)	\$ 8,003	2/26/2016	\$ 8,040	\$ 2,313	\$ 3,251	\$ 5,564	-7.0%
KKR Element Co-Invest	\$ 10,000	8/29/2016	\$ 10,050	\$ 24,030	\$ -	\$ 24,030	23.5%
KKR Americas XII	\$ 60,000	3/3/2016	\$ 64,838	\$ 44,424	\$ 75,177	\$ 119,601	19.7%
KKR Sigma Aggregator	\$ 15,000	6/22/2018	\$ 15,000	\$ -	\$ 23,844	\$ 23,844	8.4%
KKR Enterprise Co-Invest	\$ 15,000	10/11/2018	\$ 15,000	\$ -	\$ -	\$ -	-100.0%

MainePERS Private Market Investments Summary: 03/31/2024

Private Equity

Fund Name	Commitment		Amount Contributed (B)	Total Distributions (C)	Current Market		Interim Net IRR
	(A)	Date of Commitment			Value (D)	Total Value (C+D)	
KKR Enterprise Co-Invest AIV A	\$ 8,936	11/8/2019	\$ 8,936	\$ 7,908	\$ 194	\$ 8,101	-10.8%
KKR North America XIII	\$ 40,000	6/25/2021	\$ 23,458	\$ -	\$ 25,286	\$ 25,286	7.0%
KKR Special Situations Fund	\$ 60,000	12/19/2012	\$ 118,957	\$ 100,522	\$ 9,507	\$ 110,029	-2.7%
KKR Special Situations Fund II	\$ 60,000	12/19/2014	\$ 98,284	\$ 79,706	\$ 21,414	\$ 101,120	1.1%
Long Ridge Equity Partners IV	\$ 15,000	6/26/2023	\$ -	\$ -	\$ -	\$ -	NM
Metwest Enhanced TALF Strategy Fund L. P.	\$ 75,000	7/31/2009	\$ 53,350	\$ 67,405	\$ -	\$ 67,405	10.2%
Oaktree Opportunities VIII	\$ 30,000	12/9/2009	\$ 30,000	\$ 43,920	\$ 73	\$ 43,993	9.1%
ONCAP IV	\$ 15,000	11/8/2016	\$ 16,588	\$ 5,922	\$ 18,621	\$ 24,544	12.0%
Onex Partners III	\$ 10,000	1/6/2011	\$ 11,217	\$ 17,065	\$ 2,066	\$ 19,130	13.2%
Onex Partners IV	\$ 60,000	11/22/2013	\$ 64,494	\$ 55,093	\$ 37,121	\$ 92,214	7.7%
Co-Investment #1	\$ 10,000	2/27/2017	\$ 10,471	\$ 1,235	\$ 3,849	\$ 5,085	-11.7%
Onex Partners V	\$ 45,000	7/11/2017	\$ 42,659	\$ 6,606	\$ 51,607	\$ 58,213	13.7%
Paine & Partners Capital Fund IV	\$ 60,000	12/18/2014	\$ 56,946	\$ 29,070	\$ 49,991	\$ 79,062	7.2%
Wawona Co-Investment Fund I	\$ 15,000	3/31/2017	\$ 15,023	\$ -	\$ 1	\$ 1	-88.7%
Lyons Magnus Co-Investment Fund I	\$ 15,000	11/8/2017	\$ 15,016	\$ -	\$ 27,759	\$ 27,759	10.1%
PSP Maverick Co-Invest	\$ 7,238	9/12/2019	\$ 7,264	\$ -	\$ 385	\$ 385	-47.8%
PSP AH&N Co-Investment Fund	\$ 23,895	11/27/2019	\$ 21,361	\$ -	\$ 38,205	\$ 38,205	17.7%
Paine Schwartz Food Chain Fund V	\$ 45,000	8/3/2018	\$ 46,992	\$ 23,888	\$ 40,726	\$ 64,614	18.6%
SNFL Co-Investment Fund	\$ 5,000	10/11/2019	\$ 5,024	\$ 5,524	\$ 4,467	\$ 9,990	18.4%
Rhone Partners V	\$ 56,000	3/12/2015	\$ 75,954	\$ 65,200	\$ 69,729	\$ 134,929	16.6%
Riverside Capital Appreciation Fund VI	\$ 60,000	7/3/2013	\$ 64,286	\$ 79,867	\$ 20,569	\$ 100,435	11.7%
RCAF VI CIV XXXII	\$ 12,399	10/21/2015	\$ 12,687	\$ 35,268	\$ -	\$ 35,268	19.9%
Riverside Micro-Cap Fund III	\$ 35,000	6/30/2014	\$ 51,608	\$ 194,767	\$ 37,256	\$ 232,023	35.7%
Riverside Micro-Cap Fund IV	\$ 60,000	10/23/2015	\$ 55,659	\$ 5,112	\$ 84,669	\$ 89,781	8.0%
Riverside Micro-Cap Fund IV-B	\$ 20,000	8/9/2019	\$ 24,474	\$ 5,583	\$ 35,423	\$ 41,007	18.3%
Riverside Micro-Cap Fund V	\$ 40,000	8/21/2018	\$ 37,363	\$ 2,513	\$ 54,150	\$ 56,663	15.3%
Riverside Micro-Cap Fund VI	\$ 45,000	8/26/2021	\$ 13,878	\$ 263	\$ 12,575	\$ 12,838	NM
Shoreview Capital Partners III	\$ 24,000	7/24/2013	\$ 25,922	\$ 32,738	\$ 23,831	\$ 56,569	18.2%
Shoreview Capital Partners IV	\$ 30,000	6/3/2019	\$ 18,567	\$ 6,023	\$ 24,038	\$ 30,062	40.6%
Sovereign Capital IV	\$ 46,500	7/7/2014	\$ 40,344	\$ 26,905	\$ 33,820	\$ 60,725	9.9%
Summit Partners Credit II	\$ 60,000	10/25/2013	\$ 90,831	\$ 87,991	\$ 12,389	\$ 100,381	3.9%

MainePERS Private Market Investments Summary: 03/31/2024

Private Equity

Fund Name	Commitment		Amount Contributed (B)	Total Distributions (C)	Current Market		Interim Net IRR
	(A)	Date of Commitment			Value (D)	Total Value (C+D)	
Summit Europe Growth Equity III	\$ 22,000	3/18/2020	\$ 19,091	\$ 1,657	\$ 22,105	\$ 23,762	12.8%
Summit Europe Growth Equity IV	\$ 22,000	2/10/2023	\$ -	\$ -	\$ -	\$ -	NM
Summit Growth Equity VIII	\$ 25,000	5/27/2011	\$ 34,275	\$ 68,730	\$ 7,407	\$ 76,137	25.9%
Co-Investment #1	\$ 16,000	6/3/2015	\$ 16,000	\$ 38,735	\$ 19,639	\$ 58,375	31.3%
Summit Growth Equity IX	\$ 60,000	8/26/2015	\$ 84,846	\$ 92,283	\$ 77,508	\$ 169,791	26.7%
Co-Investment #1	\$ 15,000	11/29/2016	\$ 14,895	\$ 41,743	\$ -	\$ 41,743	159.6%
Summit Partners Co-Invest (Ironman)	\$ 15,530	4/20/2018	\$ 15,534	\$ -	\$ 15,508	\$ 15,508	0.0%
Summit Partners Co-Invest (Giants-B)	\$ 15,292	10/22/2019	\$ 15,292	\$ 42,588	\$ 4,875	\$ 47,463	79.9%
Summit Growth Equity X	\$ 60,000	2/26/2019	\$ 61,832	\$ 18,176	\$ 68,043	\$ 86,219	16.4%
Summit Partners Co-Invest (Lions)	\$ 7,534	10/14/2020	\$ 7,534	\$ 119	\$ 14,416	\$ 14,535	21.7%
Summit Partners Co-Invest (Indigo)	\$ 10,000	12/11/2020	\$ 11,436	\$ -	\$ 11,423	\$ 11,423	0.0%
Summit Growth Equity XI	\$ 45,000	10/1/2021	\$ 11,609	\$ -	\$ 13,304	\$ 13,304	NM
Summit Venture Capital III	\$ 13,150	5/27/2011	\$ 18,044	\$ 32,899	\$ 2,763	\$ 35,662	17.4%
Summit Venture Capital IV	\$ 40,000	8/26/2015	\$ 51,195	\$ 48,377	\$ 69,986	\$ 118,363	36.4%
Summit Venture Capital V	\$ 45,000	6/16/2020	\$ 29,988	\$ 2,771	\$ 28,570	\$ 31,341	2.7%
Summit Partners Co-Invest (CS)	\$ 13,753	10/22/2021	\$ 13,798	\$ -	\$ 12,977	\$ 12,977	-2.7%
Technology Crossover Ventures VIII	\$ 60,000	5/8/2013	\$ 55,596	\$ 62,656	\$ 62,360	\$ 125,015	12.4%
Technology Crossover Ventures IX	\$ 60,000	2/19/2016	\$ 49,721	\$ 52,386	\$ 48,848	\$ 101,234	18.7%
TCV Sports	\$ 8,000	9/25/2018	\$ 8,000	\$ -	\$ 10,098	\$ 10,098	4.3%
Technology Crossover Ventures X	\$ 45,000	8/31/2018	\$ 36,448	\$ 14,377	\$ 64,042	\$ 78,419	23.1%
Technology Crossover Ventures XI	\$ 45,000	10/2/2020	\$ 32,150	\$ -	\$ 30,428	\$ 30,428	-2.9%
Technology Impact Fund	\$ 40,000	12/18/2017	\$ 38,077	\$ 24,707	\$ 89,116	\$ 113,823	40.3%
Technology Impact Fund II	\$ 40,000	4/13/2021	\$ 13,534	\$ 341	\$ 13,285	\$ 13,626	NM
Technology Impact Growth Fund	\$ 40,000	11/26/2018	\$ 50,425	\$ 26,676	\$ 32,684	\$ 59,361	7.0%
Technology Impact Growth Fund II	\$ 40,000	8/6/2021	\$ 17,577	\$ 0	\$ 15,355	\$ 15,355	NM
TIGF II Direct Strategies LLC - Series 3	\$ 5,000	7/14/2023	\$ 5,041	\$ -	\$ 4,999	\$ 4,999	NM
Thoma Bravo Fund XI	\$ 50,000	5/1/2014	\$ 78,512	\$ 168,810	\$ 43,137	\$ 211,947	26.6%
Thoma Bravo Fund XII	\$ 60,000	4/27/2016	\$ 78,447	\$ 80,943	\$ 75,247	\$ 156,190	16.7%
Thoma Bravo Fund XIII	\$ 45,000	12/7/2018	\$ 60,680	\$ 43,681	\$ 65,528	\$ 109,209	26.0%
Thoma Bravo Special Opportunities Fund II	\$ 15,000	3/27/2015	\$ 18,113	\$ 21,091	\$ 18,525	\$ 39,616	16.5%
Thoma Bravo Discover Fund IV	\$ 45,000	7/1/2022	\$ 25,731	\$ -	\$ 29,767	\$ 29,767	NM

MainePERS Private Market Investments Summary: 03/31/2024

Private Equity

Fund Name	Commitment		Amount Contributed (B)	Total Distributions (C)	Current Market		Interim Net IRR
	(A)	Date of Commitment			Value (D)	Total Value (C+D)	
Tillridge Global Agribusiness Partners II	\$ 50,000	10/21/2016	\$ 33,063	\$ 4,771	\$ 24,519	\$ 29,290	-3.8%
Water Street Healthcare Partners III	\$ 25,000	7/25/2012	\$ 30,474	\$ 78,671	\$ 11,033	\$ 89,704	35.4%
Water Street Healthcare Partners IV	\$ 33,000	9/15/2017	\$ 36,745	\$ 10,624	\$ 55,081	\$ 65,705	20.1%
Water Street Healthcare Partners V	\$ 43,000	4/15/2022	\$ 10,054	\$ -	\$ 8,132	\$ 8,132	NM
Wayzata Opportunities Fund III	\$ 30,000	9/11/2012	\$ 14,718	\$ 11,860	\$ 3,844	\$ 15,704	1.2%
Wynnchurch Capital Partners IV	\$ 40,000	10/23/2014	\$ 38,584	\$ 53,707	\$ 50,516	\$ 104,223	25.9%
Wynnchurch Capital Partners V	\$ 40,000	1/15/2020	\$ 29,503	\$ 1,406	\$ 36,261	\$ 37,668	12.8%

MainePERS Private Market Investments Summary: 03/31/2024

Real Estate

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Angelo Gordon Net Lease IV	\$ 50,000	2/17/2020	\$ 45,936	\$ 6,382	\$ 45,880	\$ 52,263	5.8%
Angelo Gordon Realty Fund XI	\$ 50,000	3/31/2022	\$ 11,250	\$ -	\$ 10,699	\$ 10,699	NM
Bain Capital Real Estate II	\$ 50,000	3/5/2021	\$ 32,107	\$ 2,685	\$ 31,391	\$ 34,076	4.3%
Bain Capital Real Estate III	\$ 35,000	12/18/2023	\$ 6,789	\$ 552	\$ 5,495	\$ 6,046	NM
Blackrock Granite Property Fund	\$ 63,791	9/30/2006	\$ 68,771	\$ 53,312	\$ -	\$ 53,312	-4.9%
Blackstone Property Partners	\$ 350,000	6/29/2017	\$ 350,000	\$ 45,672	\$ 383,546	\$ 429,219	4.0%
Blackstone Real Estate Partners VII	\$ 75,000	2/26/2012	\$ 105,732	\$ 156,976	\$ 10,649	\$ 167,625	14.5%
Blackstone Real Estate Partners VIII	\$ 50,000	3/27/2015	\$ 64,545	\$ 65,797	\$ 35,444	\$ 101,242	14.1%
Blackstone Real Estate Partners IX	\$ 40,000	12/21/2018	\$ 45,493	\$ 16,395	\$ 44,618	\$ 61,012	15.0%
Barings Asia Real Estate II	\$ 50,000	7/31/2018	\$ 38,239	\$ 2,506	\$ 31,340	\$ 33,845	-6.1%
EQT Real Estate II	\$ 55,000	4/26/2019	\$ 34,863	\$ 5,720	\$ 33,547	\$ 39,267	5.8%
EQT Real Estate Rock Co-Investment	\$ 11,000	8/10/2020	\$ 9,334	\$ -	\$ 10,975	\$ 10,975	5.7%
H/2 Credit Partners, L.P.	\$ 75,000	6/21/2011	\$ 75,000	\$ 112,177	\$ -	\$ 112,177	5.9%
Harrison Street Core Property Fund, L.P.	\$ 75,000	4/30/2012	\$ 96,472	\$ 56,567	\$ 120,309	\$ 176,876	7.4%
HSRE-Coyote Maine PERS Core Co-Investment	\$ 20,000	12/4/2020	\$ 15,956	\$ 1,994	\$ 11,432	\$ 13,426	-6.0%
High Street Real Estate Fund IV, L.P.	\$ 25,000	8/23/2013	\$ 24,717	\$ 34,157	\$ -	\$ 34,157	14.7%
High Street Real Estate Fund V	\$ 25,000	7/24/2015	\$ 24,925	\$ 36,176	\$ -	\$ 36,176	13.2%
High Street Real Estate Fund VI	\$ 25,000	3/22/2019	\$ 25,000	\$ 7,306	\$ 37,330	\$ 44,636	19.9%
HSREF VI Elgin Co-Invest	\$ 10,000	4/9/2021	\$ 10,000	\$ 2,012	\$ 15,003	\$ 17,015	21.4%
High Street Real Estate Fund VII	\$ 35,000	8/16/2021	\$ 35,000	\$ 552	\$ 40,341	\$ 40,893	10.1%
High Street Real Estate VII Venture	\$ 15,000	3/17/2023	\$ 15,000	\$ -	\$ 18,149	\$ 18,149	NM
Hines US Property Partners	\$ 200,000	9/9/2021	\$ 166,408	\$ 14,578	\$ 143,526	\$ 158,104	-4.3%
Invesco Real Estate Asia IV	\$ 30,000	3/25/2020	\$ 25,776	\$ 18,531	\$ 9,412	\$ 27,943	9.3%
Invesco US Income Fund	\$ 195,000	7/17/2014	\$ 237,572	\$ 78,849	\$ 292,775	\$ 371,624	8.4%
IPI Data Center Partners I	\$ 30,000	12/15/2017	\$ 36,325	\$ 23,552	\$ 31,023	\$ 54,574	13.8%
IPI Data Center Partners II	\$ 25,000	12/20/2019	\$ 24,535	\$ 1,619	\$ 29,457	\$ 31,077	16.3%
JPMCB Strategic Property Fund	\$ 130,000	11/15/2005	\$ 186,941	\$ 297,519	\$ -	\$ 297,519	5.8%
KKR Real Estate Partners Europe I	\$ 50,000	12/2/2015	\$ 53,925	\$ 55,896	\$ 14,324	\$ 70,220	9.4%
KKR Real Estate Partners Europe II	\$ 25,000	12/23/2019	\$ 22,735	\$ 6,411	\$ 16,851	\$ 23,263	1.5%
KKR Real Estate Partners Americas I	\$ 50,000	12/20/2013	\$ 50,066	\$ 59,735	\$ 1,461	\$ 61,196	10.6%
KKR Real Estate Partners Americas II	\$ 50,000	6/2/2016	\$ 61,624	\$ 72,970	\$ 10,862	\$ 83,833	19.1%
Northbridge-Strategic Fund II	\$ 30,000	2/8/2019	\$ 30,000	\$ 5,686	\$ 48,695	\$ 54,381	13.0%
Prima Mortgage Investment Trust, LLC	\$ 75,000	7/29/2011	\$ 97,490	\$ 131,918	\$ -	\$ 131,918	3.8%

MainePERS Private Market Investments Summary: 03/31/2024

Real Estate

Fund Name	Commitment (A)	Date of Commitment	Amount Contributed (B)	Total Distributions (C)	Current Market Value (D)	Total Value (C+D)	Interim Net IRR
Principal Life Insurance Company U.S. Property	\$ 60,000	5/20/2005	\$ 60,000	\$ 125,410	\$ -	\$ 125,410	6.2%
PRISA	\$ 90,000	6/30/2005	\$ 139,622	\$ 222,450	\$ -	\$ 222,450	5.3%
Rubenstein Properties Fund III	\$ 30,000	10/23/2015	\$ 30,606	\$ 627	\$ 8,808	\$ 9,435	-21.1%
LCC Co-Investor B	\$ 15,000	10/18/2019	\$ 15,000	\$ -	\$ -	\$ -	-100.0%
Rubenstein Properties Fund IV	\$ 25,000	4/16/2019	\$ 8,286	\$ 56	\$ 1,372	\$ 1,428	NM
Prudential Senior Housing Fund V	\$ 50,000	3/17/2015	\$ 41,333	\$ 5,453	\$ 40,861	\$ 46,314	1.9%
Smart Markets Fund, L.P.	\$ 195,000	6/17/2013	\$ 230,630	\$ 77,771	\$ 290,393	\$ 368,164	7.7%
Stonelake Opportunity Partners VII	\$ 40,000	6/30/2022	\$ 4,000	\$ -	\$ 2,479	\$ 2,479	NM
Walton Street Real Estate Fund VII	\$ 50,000	5/9/2012	\$ 44,094	\$ 52,724	\$ 7,403	\$ 60,127	8.7%
Walton Street Real Estate Fund VIII	\$ 50,000	10/23/2015	\$ 43,524	\$ 38,882	\$ 20,553	\$ 59,434	9.2%
Co-Investment #1	\$ 10,000	9/27/2017	\$ 10,293	\$ 4,160	\$ -	\$ 4,160	-60.0%
Westbrook Real Estate Fund IX	\$ 15,000	6/30/2014	\$ 17,446	\$ 17,500	\$ 1,884	\$ 19,385	4.0%
Westbrook Real Estate Fund X	\$ 50,000	1/15/2015	\$ 48,856	\$ 42,649	\$ 10,741	\$ 53,390	4.0%
Westbrook Real Estate Fund XI	\$ 40,000	1/31/2019	\$ 37,502	\$ 15,636	\$ 26,429	\$ 42,065	11.8%

MainePERS Private Market Investments Summary: 3/31/2024

Notes: NM = Not Meaningful. MainePERS only reports IRRs for funds with more than 24 months of history and for which Amount Contributed is greater than 50% of Commitments. "Date of Commitment" is not the date of first capital draw. The "IRR" presented uses interim estimates and may not be indicative of ultimate performance of partnership investments due to a number of factors including lags in valuation, maturity of fund, and differences in investment pace and strategy of various funds. Performance figures should not be used to compare returns among multiple funds or different limited partners. Private market investments are long-term investments which are expected to generate returns over the course of their entire life cycle of 10 or more years. Common industry practice dictates that any performance analysis on these funds while they are still in the early years of their investment cycle would not generate meaningful results. The Interim Net IRR figures presented in this table are based on cash flow information provided by the general partner. The above information was not prepared, reviewed, or approved by any of the partnerships, general partners, or their affiliates and may differ from those generated by the general partner or other limited partners due to differences in timing of investments, disposal of in-kind distributions, and accounting and valuation policies.



September 12, 2024

Energy Transition: History, Opportunity, and Risk

Presentation for:
Maine Public Employees Retirement System



Presentation Goals

Energy transition has moved to the forefront of discussion as a matter of policy initiatives, social response, and economic rationale. The complexities of the social issues and policy response cannot be understated. These will lead to economic realities that are the focus of institutional investors.

What the Board of Trustees should ask:

1. What is Energy Transition?
2. Why now?
3. What are the opportunities and risks to institutional portfolios?

We will cover:

1. The history behind market trends
2. The expanding definition of Energy Transition
3. The demand for energy and its evolution
4. The market opportunity

Defining “Energy Transition”



There is no universally accepted definition!

"Energy Transition" and "Energy Transformation" are used interchangeably but have significant differences in scope and purpose.

"Energy Transition" was first used politically and in media after the 1973 oil crisis. "Energy Transformation" was noted in the 1990s and 2000s and associated with environmental and social factors. The socio-economic transformation associated with the energy transition is a relatively recent approach to the overall analysis.

An energy transition (or energy system transformation) is a major structural change to energy supply and consumption in an energy system. It is the result of a broad shift in technologies and consumption behaviours that replaces one source of energy with another and is economically driven.

Energy transformation captures the socio-economic dimension of the energy transition, including its economic, geopolitical, and social equity implications.

Currently, a transition to sustainable energy is underway to limit climate change.

Energy Transition 101



Market trends can begin with technological shifts, economic changes, social initiatives, or any combination of financial or nonfinancial metrics. When "trends" are driven by nonfinancial metrics, they typically start with a macro "thesis"...

M. King Hubbert is often credited with introducing the notion in a 1956 paper, which presented a formal theory and predicted U.S. extraction to peak between 1965 and 1971. Hubbert's original predictions for world peak oil production proved premature. As of 2024, forecasts for the year of peak oil range from 2028 to 2050.

In 1990, the First IPCC Assessment Report played a decisive role in the creation of the United Nations Framework Convention on Climate Change, a key international treaty to reduce global warming and cope with the consequences of climate change.

BP's latest outlook report concludes that oil use will increase by about 2 million barrels a day, peaking at about 102 million in 2025, across both of its forecasts – one that tracks the world's current trajectory and one that shows the world meeting global net-zero targets by 2050.

The social driver...

Earth Day was the first large-scale environmental movement that called for the protection of all life on Earth.

Environmental non-profit organizations have been engaged in significant climate activism since the late 1980s and early 1990s.

In 2019, activists participated in a global climate strike to criticize the lack of international and political action on climate change. Greta Thunberg became the figurehead for a generation.

Attempted political policy...

The United Nations Framework Convention on Climate Change (UNFCCC) was the first international treaty designed to limit greenhouse gas emissions and prevent climate change. It entered into force on March 21, 1994, and has been ratified by 197 countries.

Always financial reality...

AND we see if things stick

Welcome to Energy Transition 1.0



Forbes

<https://www.forbes.com> › Asia

Lithium Crashes Again As EV Sales Stall, With Worse To ...

Jun 25, 2024 — According to Citi, an investment bank, the price of lithium carbonate sold in China has **dropped by 15% over the past month** and could fall ...

History of Energy Transition



In the classical sense:

- Energy transition occurred in the 1700s with a move from wood and other biomass to coal due to urbanization, commerce, technological innovations, and the discovery of major fossil fuel reserves.
- It is natural to shift between energy sources as local resource scarcity, convenience, pollution, technical innovation, cost, energy quality, storage, and other factors come into play.
- By the turn of the 20th century, around half of the world's energy came from coal.
- Throughout the 1900s, the world adopted a broader range of sources: first oil, then gas, and hydropower. It wasn't until the 1960s that nuclear energy was added to the mix. 'Modern renewables' – solar and wind – were only added much later, in the 1980s.
- Until the 1950s, the economic mechanism behind energy systems was local rather than global. In the 1950s, the energy system became centralized thanks to technology shifts in generation, storage, and distribution.
- Since the late 2010s, the renewable energy transition has also been driven by the rapidly falling cost of both solar and wind power and a shift from centralized to distributed generation.

What stands out from this 200-year history of global energy use is that energy transitions have been very slow in the past. It has taken many decades – or even a century – for a particular energy source to become dominant. Today, that rate of change is accelerated largely due to "Transformational" forces.

Energy Consumption Reflected by Transition



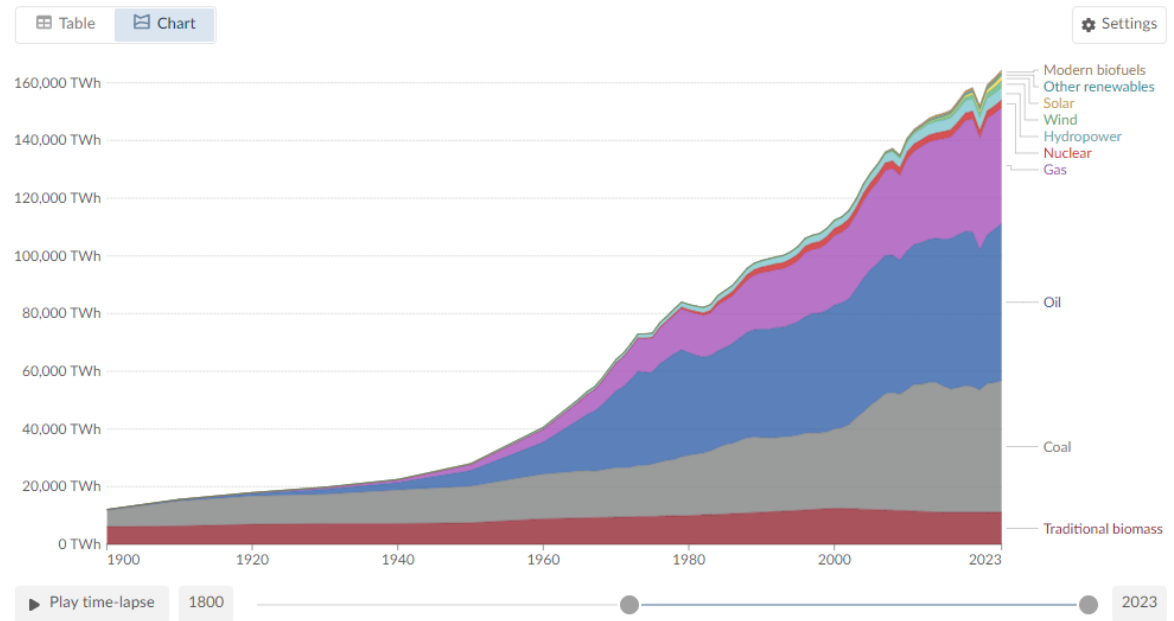
Increased demand for power in the 1960s coincided with the increased adoption of air conditioning, pipeline infrastructure, and greater use of natural gas.

Renewables in the 1980s were the result of technological advances. The impacts of the GFC and COVID on consumption are reflected to varying degrees, with coal serving as a baseload fuel.

Overall, the mix begins to 'decentralize,' but the exponential demand increase is driven by societal factors...

Global direct primary energy consumption

Energy consumption is measured in terawatt-hours, in terms of direct primary energy. This means that fossil fuels include the energy lost due to inefficiencies in energy production.



Data source: Energy Institute - Statistical Review of World Energy (2024); Smil (2017) - [Learn more about this data](#)

Note: In the absence of more recent data, traditional biomass is assumed constant since 2015.

OurWorldInData.org/energy | CC BY

Social & Economic Issues



It's complicated. The same social forces that are promoting accelerated changes are also highlighting many of the shortcomings of the current alternatives.

Economic Factors – Policy is the primary driver (resulting from climate concerns)

- Renewable energy is “low density”.
- Wind and solar power, in contrast to conventional forms of electricity production, exhibit a lower Energy Return on Investment (EROI) as they produce lower levels of electricity per unit cost.

Social (community) Fears – Community impact, NIMBY, and general lack of knowledge drive the local consensus.

- The structural decline in the fossil fuel industries evokes the memory of the manufacturing sector decline through the 1990s and early 2000s, where automation and a skill-biased technological shift permanently displaced middle-skilled, middle-income jobs.
- The clean energy transition will create many new job opportunities, but there is no guarantee or automatic market mechanism to ensure these benefits accrue where the costs of displacement will be borne.

Physical Limitations - Variable Renewable Energy (VRE) has largely overcome the cost issue, BUT other physical challenges remain:

- **Variability:** Electricity generation fluctuates throughout the day due to reliance on sunlight and wind speeds.
- **Geographical barriers:** To maximize efficiency, solar and wind plants are often located in remote regions away from centers of demand.
- **Land footprint:** Due to their low energy densities, solar and wind farms typically use large amounts of land per unit of electricity.

Today's Energy



Today's energy system relies on fossil fuels to serve as energy carriers (fuels that enable storing and transporting energy that can be used when and where needed) and as feedstocks for many industrial processes.

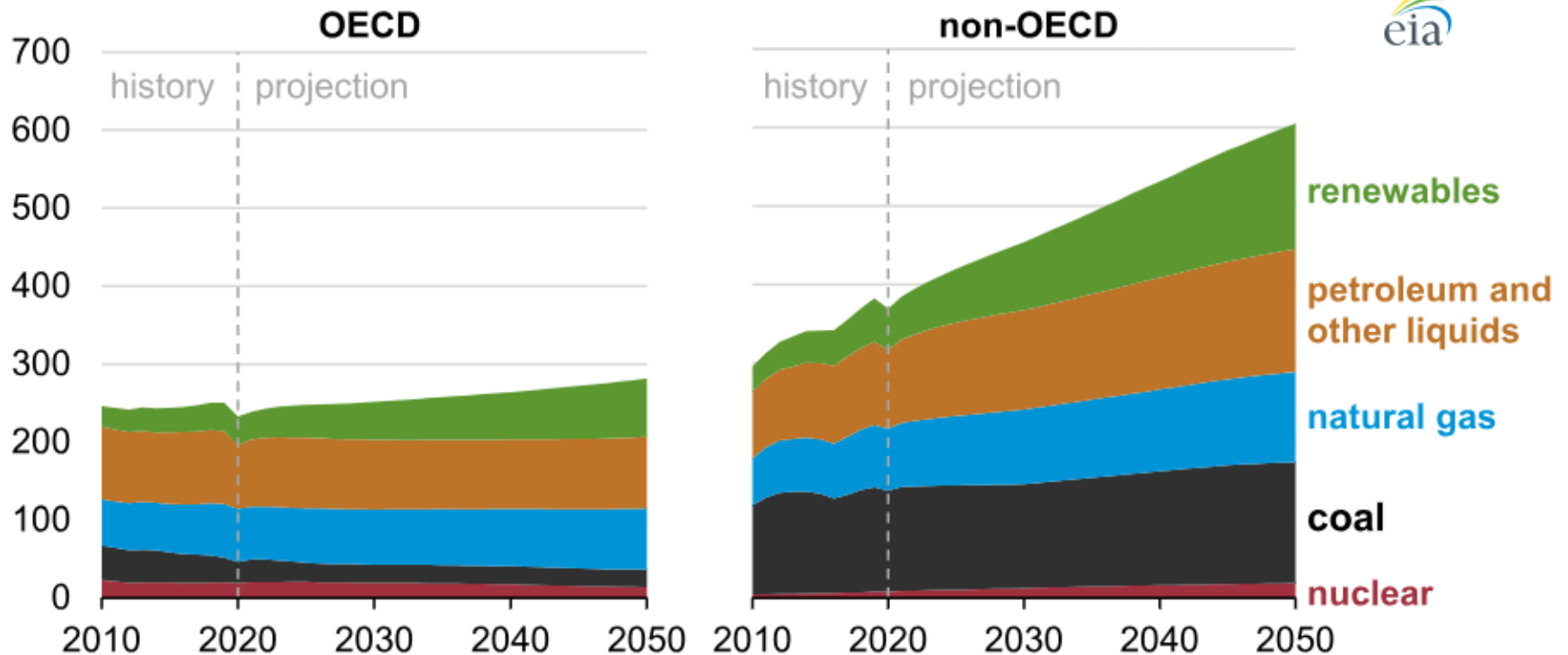
Energy can be dispatched relatively easily where and when it is needed because current fuels are energy-dense and easily transportable. Supply can be ramped up and down quickly.

The current energy system also supports the manufacture of thousands of materials, thanks to the chemical flexibility of fossil fuels, namely that they can be used as feedstocks for multiple materials.

Global Energy Mix



Primary energy consumption by source, OECD and non-OECD countries (2010–2050)
quadrillion British thermal units



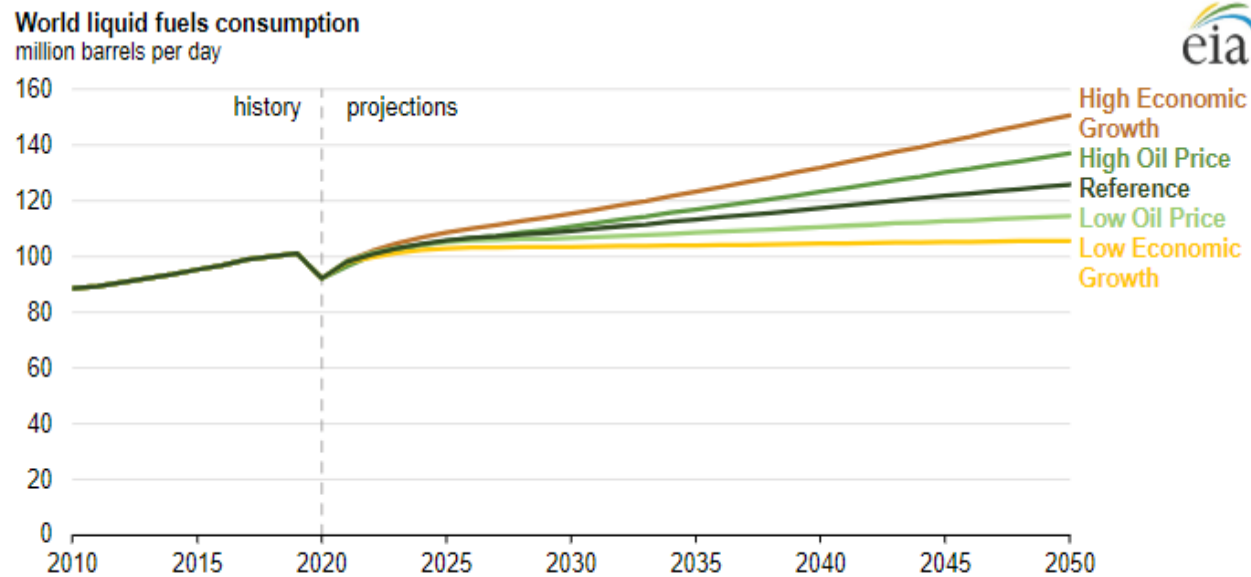
Source: U.S. Energy Information Administration, *International Energy Outlook 2021*

Fossil Fuel Demand Increases



Demand for oil is forecasted to grow, but at a rate that is less than the expansion in demand for energy.

The factors of energy density and portability have yet to be solved.



Source: U.S. Energy Information Administration, *International Energy Outlook 2021* (IEO2021) Reference case, Economic Growth cases, and Oil price cases

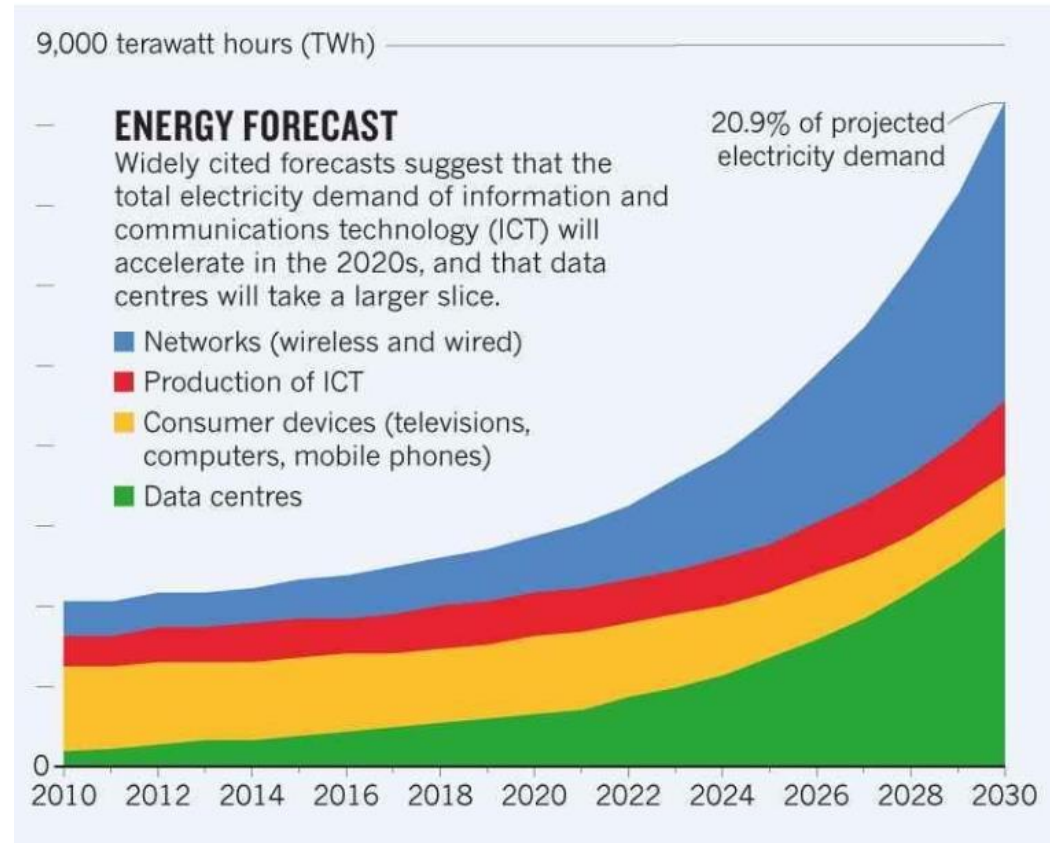
Shift in Transformation



Social adaptation is critical for both production and consumption.

The rapid adoption of a technology can disrupt every forecast.

- Internet of Things (IoT)
- Bitcoin
- Electric Vehicle (EV) charging
- Artificial Intelligence (AI)



Source: Nature: International Journal of Science, Sept 2018

Capital Expenditures Needed

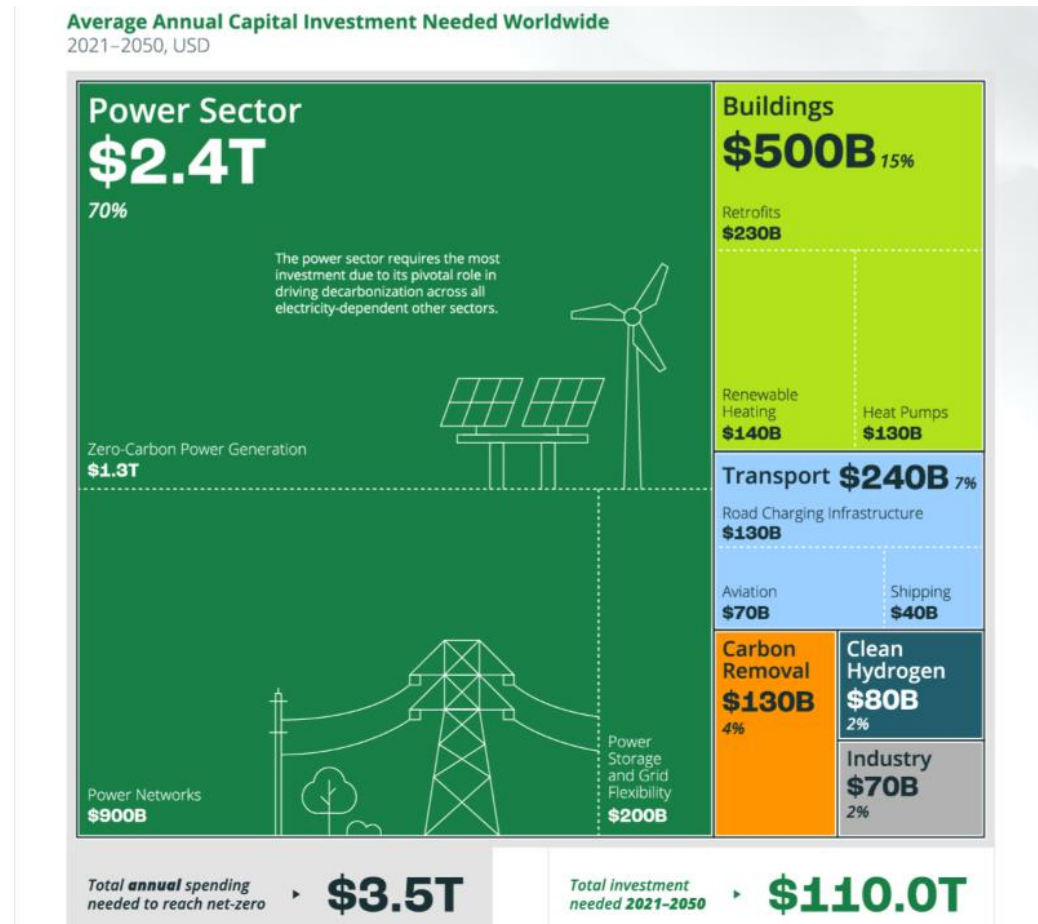


Significant capital expenditures are needed to meet climate objectives.

There are several estimates with a wide range of financial projections. These tend to be driven by the objectives of the entity that publishes the reports.

The Energy Transitions Commission* estimates that the net-zero transition will cost \$110 trillion in global capital between 2021 and 2050. This would be \$3.5 trillion annually, or 1.3% of global GDP.

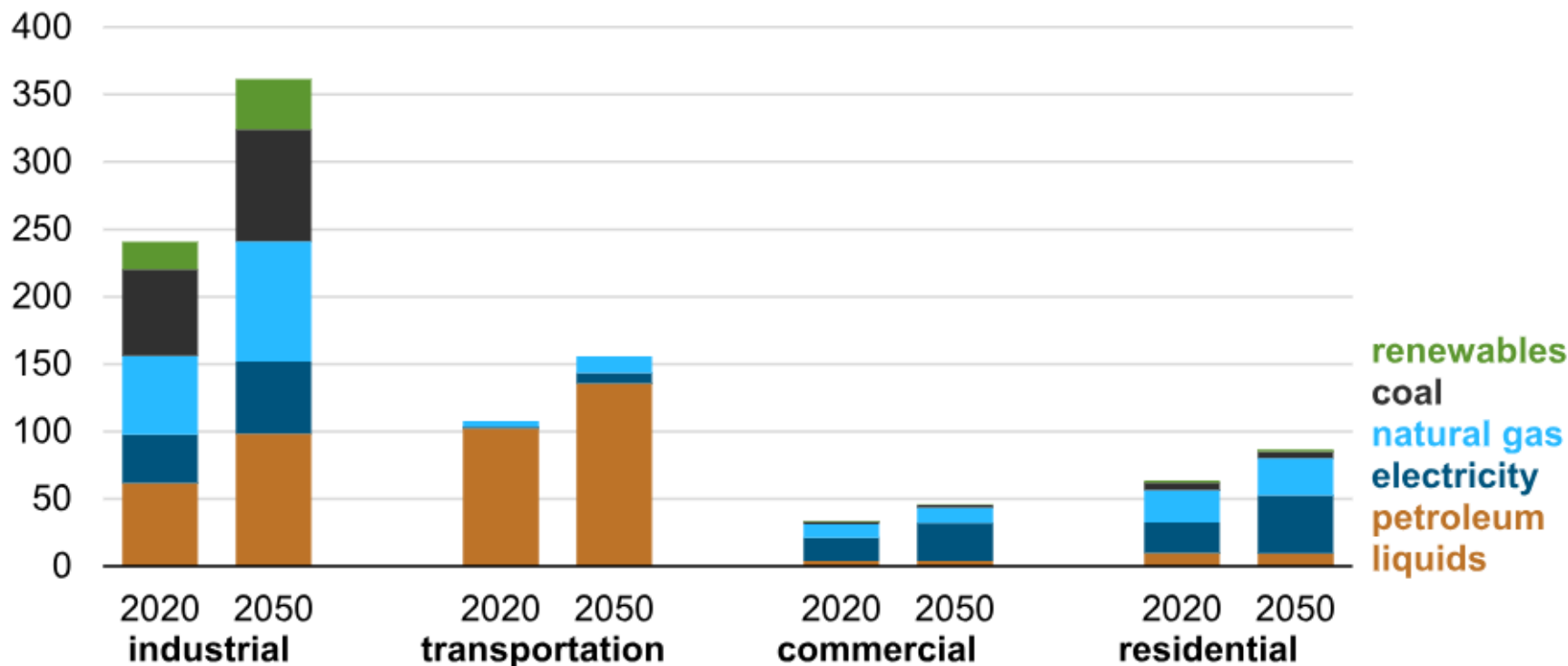
*The Energy Transitions Commission is a global coalition of leaders from across the energy landscape committed to achieving net-zero emissions by mid-century, in line with the Paris climate objective of limiting global warming to well below 2°C and ideally to 1.5°C. Its Commissioners come from a range of organizations – energy producers, energy-intensive industries, technology providers, finance players, and environmental NGOs – which operate across developed and developing countries and play different roles in the energy transition.



Sector Limitations Will Influence Energy Mix



Global delivered energy consumption by sector and energy source (2020–2050)
quadrillion British thermal units



Source: U.S. Energy Information Administration, *International Energy Outlook 2021* Reference case

Note: Delivered consumption includes fuels directly used by the end-use sectors as well as electricity, excluding generation, transmission, and distribution losses.

Tomorrow's Energy



Today's energy system has evolved in line with the social adaptation of technology, and with it, the flaws of the system are apparent. About two-thirds of energy is currently wasted, and the system generates more than 85 percent of global emissions of carbon dioxide (CO₂).

The energy transition would require new low-emissions alternatives that necessitate a social shift, since not all use cases would be feasible or desirable to electrify.

Thus far, the deployment of low-emissions technologies is only at about 10 percent of the levels required by 2050 in most areas, and this has been in comparatively easy use cases.

Society seeks to address several shortcomings to merge social and economic realities by managing other objectives of affordability, reliability, and competitiveness:

- Managing power systems with a large share of variable renewables
- Addressing range and payload challenges
- Finding alternative heat sources and feedstocks for producing industrial materials

Opportunity



The energy system consists of the production, conversion, delivery, and consumption of energy resources across sectors as both fuels and feedstocks.

The physical transformation is a shift on a massive scale from high-emissions assets to low-emissions ones, such as solar and wind power and electric vehicles.

Supporting infrastructure and supply chains would need to be developed. These would include critical minerals, manufactured goods, transmission and distribution infrastructure, and EV charging stations, to name a few.

Focus on:

- Reliability
- Affordability
- Security
- Decarbonization

Transition Investment Spectrum



Key:

Renewable growth

Electrification

Energy Efficiency & Resource Management

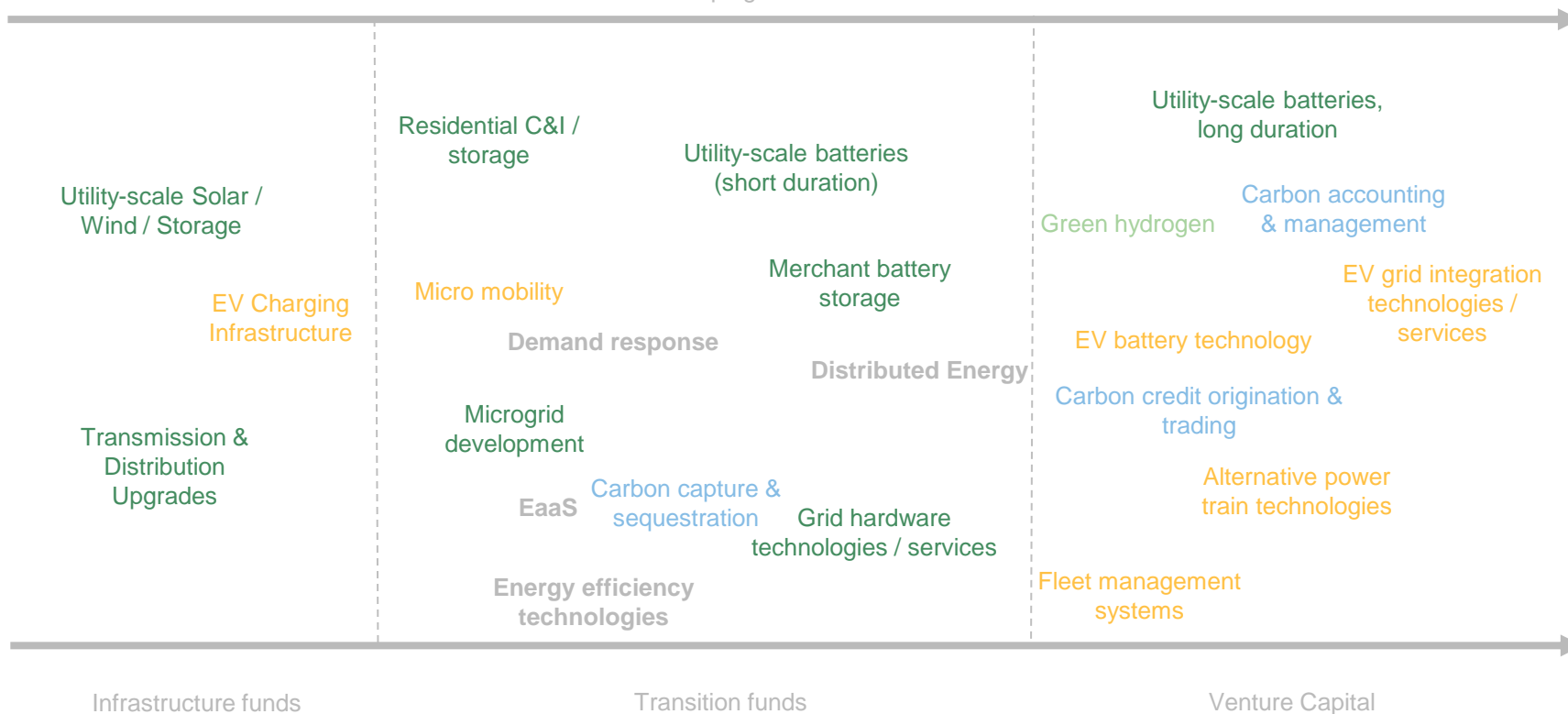
Carbon Management

Other

Mature

Developing

Early stage



Opportunity Set



The approach to decarbonization and energy transition can vary widely across managers; there is a wide range of expected returns, and not all deals are attractive. Some managers are entering the decarbonization and energy transition space without the necessary experience (in part driven by poor opportunities in existing oil and gas plays). Manager selection is key.

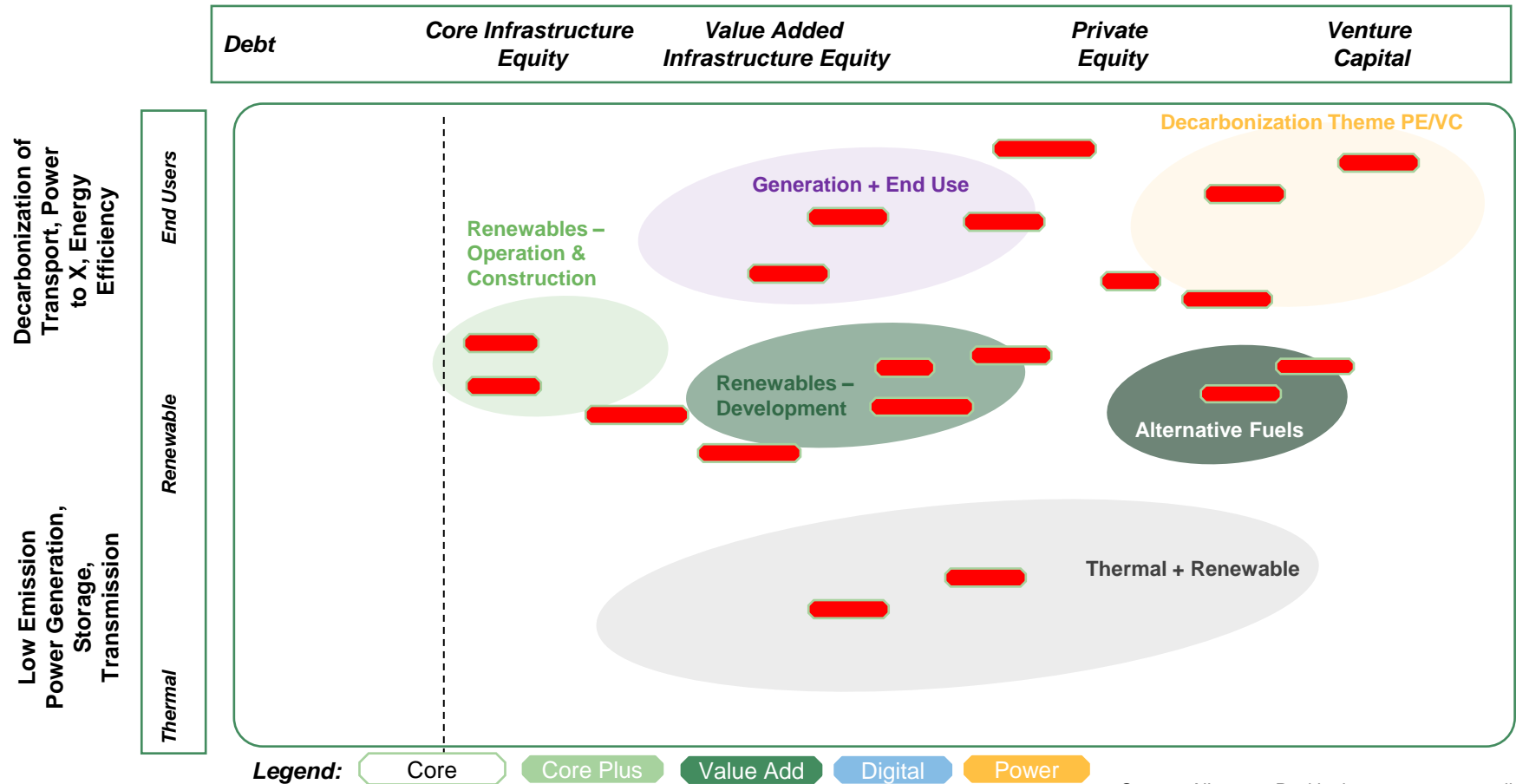
Institutional investors are also approaching the space differently. Some institutions are entering due to governance constraints and ESG mandates limiting the investible universe, while others are entering based on the opportunity set and the returns that can be achieved. It is important to understand that Energy Transition and ESG are not synonymous, and certain opportunities within Energy Transition with strong risk-adjusted returns may not fit certain ESG mandates.

Other strategies, such as mining, are anticipated to have knock-on effects. The energy transition is driving demand for key materials that can only be procured through mining. This is a long-term theme, initiating entry into a new phase of the commodity cycle.

Strategies	Description	Target Returns (Net IRR)
Utility-scale Clean Energy	These opportunities focus on large clean energy projects using existing scalable technologies, including wind, solar, geothermal, battery storage, etc. These investments often include a development component.	6% - 12%
Sustainable Infrastructure	These are diversified infrastructure managers that have a tilt or significant allocation to investments that participate in the transition to a green economy.	8% - 12%
Diversified Transition Strategies	These opportunities focus on investments across multiple subsectors that contribute to the global transition to a net-zero carbon emissions economy. Strategies in this category are expected to rely on existing and developing technologies that are poised for commercial viability/scalability.	8% - 15%
Hybrid Energy Strategies	These opportunities focus on investments across the energy spectrum, with no preference between traditional carbon-energy sources and more clean/renewable energy sources.	12% - 20%
Early Transition Technologies	These opportunities invest in nascent green technologies to drive them toward commercial viability/scalability.	20% - 25%

Note: Target returns are estimated. There is no guarantee that target returns will be achieved.

Energy Transition Market Map



Source: Albourne. Positioning represents a stylized interpretation. The sample of funds included here is not comprehensive. Funds near one another are considered to be similar; however, exact positioning does not necessarily reflect minor strategic differences.

Suggested Sources and Reading



The International Energy Agency (IEA), an autonomous agency, was established in November 1974. Its primary mandate was – and is – two-fold: 1) to promote energy security among its member countries through a collective response to physical disruptions in oil supply; and 2) to provide authoritative research and analysis on ways to ensure reliable, affordable, and clean energy for its 29 member countries and beyond.

- [*International Energy Outlook 2023 with projections to 2050*](#)

The International Renewable Energy Agency (IRENA) is an intergovernmental organization that supports countries in their transition to a sustainable energy future. It serves as the principal platform for international cooperation, a center of excellence, and a repository of policy, technology, resource, and financial knowledge on renewable energy.

National Public Utilities Council - [*Annual Utility Decarbonization Report 2023*](#) - The NPUC is a collaborative body of industry experts coming together to solve decarbonization challenges in the power sector. They bring innovative and realistic carbon-free solutions, spanning our entire country and its disparate geographical, socio-economic, regulatory, technological, and financial challenges.

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MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS

FROM: MICHAEL COLLERAN, CHIEF OPERATING OFFICER & GENERAL COUNSEL
JAMES BENNETT, CHIEF INVESTMENT OFFICER
CHIP GAVIN, CHIEF SERVICES OFFICER

SUBJECT: MAINESTART QUARTERLY REVIEW

DATE: SEPTEMBER 4, 2024

Following this memo is the MaineSTART Quarterly Review for the quarter ending 6/30/2024.

POLICY REFERENCE

[Board Policy 2.1-C – DC Plans Investment Policy Statement](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communication and Support to the Board](#)

RECOMMENDATION

No Board action is required.

MAINEPERS

DEFINED CONTRIBUTION PROGRAM UPDATE & REVIEW





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Table of Contents

1.	Summary	3
2.	Defined Contribution Philosophy Overview	7
3.	Trends in Defined Contribution Plans	12
4.	MainePERS Plan Review	16
5.	Target Date Funds Glide Path Design	25
6.	Appendix	35

1. SUMMARY



Summary Observations

- The current line-up represents a prudent approach to defined contribution portfolio construction, with no remedial or urgent changes recommended
- The relatively high (63.8%) proportion of assets invested in Target Date Funds is slightly higher than in the average plan with which we work (which we consider to be positive and in the best interest of participants)
 - The trend (up from 59.4% when we last reviewed in 2021) is positive as well
- The line-up range is thoughtfully constructed, balancing access to a broad set of asset class exposures while avoiding line-item overdiversification that may leave participants vulnerable to behavioral mistakes
- Passive options and the target date funds are offered via a best-in-class institutional provider, with the lowest available management fees for the level of assets invested being utilized

Open Items for Continued Consideration

- As noted previously, Target Date funds are offered in 10-year increments while the fund suite offers access to 5-year increment funds
 - While asset allocations may be identical between funds for participants far from retirement, the 5-year vs. 10-year incremental exposure change may be more meaningful for those closer to retirement
 - Vanguard aggregates assets across the suite of Target Date Funds for purposes of calculating fee break points, so there would be no dilution of asset scale
- Vanguard also now offers a 2070 fund that could be included in the plan line-up, which would alter the current offering of funds in 10-year increments
 - This may be low urgency given that it currently has an identical AA to other far dated TDFs already offered
- While not uncommon for DC plans (or retail investors more broadly), participants appear underinvested in international equities vs. global equity market weightings
 - For instance, the START portfolio's public equity exposure is about 80% North America vs. 66% for the ACWI
 - Targeted education may be beneficial on the topic

Open Items for Continued Consideration (cont'd)

- The STAR Balanced Fund has been dropped as an offering to new participants
 - Participants with existing holdings may retain them but new contributions are not allowed
 - The fund has generated benchmark-like returns but with higher volatility over the last 5 years
 - Since the previous START review, the Fund has given back most of its value-add. Over the long-term, it continues to exceed the benchmark
 - We do not recommend action, but flag for the Committee's continued monitoring, given the notable reversal in near-term performance

- The Committee should continue to receive regular updates on the dynamic landscape with regards to ESG and alternatives in DC plans in particular
 - We estimate that under 20% of plans offer investments that are explicitly ESG-oriented, and many of these are 403(b) plans. For 401(k) plans, this figure is likely below 5%

2. DEFINED CONTRIBUTION PHILOSOPHY OVERVIEW



Defined contribution plan presents a different problem than professionally managed pools

INVESTMENT POOL TYPE	PROFESSIONALLY MANAGED POOL – DB PLAN	DEFINED CONTRIBUTION PLAN
WHO DETERMINES ASSET ALLOCATION?	BOARD, PROFESSIONAL MANAGEMENT, AND ADVISORS	PARTICIPANTS WITH LIMITED KNOWLEDGE
DECISION MAKING CONSIDERATIONS	CONSCIOUS FOCUS ON BEHAVIORAL BIASES	INERTIA AND CURRENT EVENTS DRIVE DECISIONS
HOW ARE MANAGER DECISIONS MADE?	MANAGER STRUCTURE AND PORTFOLIO CONSTRUCTION DONE WITH DEEP MANAGER KNOWLEDGE	MANAGER DECISIONS OFTEN BASED ON RECENT PERFORMANCE AND NAME RECOGNITION
FREQUENCY / LEVEL OF OVERSIGHT	CONSISTENT OVERSIGHT AND PORTFOLIO MONITORING ACROSS ASSET CLASSES AND MANAGERS	PARTICIPANTS EVALUATE INVESTMENTS ONLY INFREQUENTLY
OPPORTUNITY SET	BROAD INVESTMENT TOOLKIT AVAILABLE	INVESTMENT OPTIONS LIMITED

Behavioral biases drive participant decisions

Simple design can improve participant decision making

RECENCY BIAS



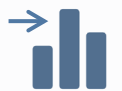
PARTICIPANTS BASED DECISIONS ON RECENT, SHORT TERM PERFORMANCE

ANALYSIS PARALYSIS



TOO MANY OPTIONS OVERWHELM PARTICIPANTS

AVAILABILITY BIAS



PARTICIPANTS OVER-ALLOCATE TO AREA WITH MORE OPTIONS

LOSS AVERSION



THE IMPACT OF UNDERPERFORMANCE IS GREATER THAN UPSIDE GAINS

FALSE DIVERSIFICATION



MULTIPLE MANAGERS IN THE SAME ASSET CLASS AREN'T NECESSARILY DIVERSIFYING

Tiered architecture: Different strokes for different folks

Keep it simple, flexibility for those who want it

TIER 1

SIMPLEST OPTIONS FOR **PARTICIPANTS WHO DON'T WANT TO MAKE REGULAR DECISIONS** REGARDING ASSET ALLOCATION OR REBALANCING.

TIER 2

BROADER RANGE OF OPTIONS FOR **PARTICIPANTS WHO LIKE TO MAKE THEIR OWN INVESTMENT DECISIONS**. PLATFORM FOR INVESTMENT ADVICE SERVICES, AS APPROPRIATE.

TIER 3

SELF DIRECTED BROKERAGE AND MUTUAL FUND WINDOWS **FOR MINORITY OF PARTICIPANTS**, THAT WANT TO INVEST IN A BROAD MENU OF INVESTMENTS.

Plan Review by Pillar of Plan Design

Tiered
Architecture



- No changes needed – Tiered structure in place

Balance Simplicity and
Diversification



- Plan lineup is relatively simple, with sufficient opportunity for participants to diversify

Active & Passive
Options



- Mostly passive lineup

Institutional Quality
Managers



- Vanguard managers have strong teams and are part of a reputable organization

Robust
Monitoring



- No significant changes with fund managers to report

3. TRENDS IN DEFINED CONTRIBUTION PLANS



ESG in DC Plans

- ESG continues to be a politicized issue, with regulatory guidance changing depending on the party controlling the White House (and consequently the Department of Labor)
- The DoL issued updated guidance several years ago which was significantly more supportive of ESG than guidance issued under the previous administration. This was met with several lawsuits – including state attorneys general suing the DoL about the rule
- This legal back and forth has resulted in significantly less interest in ESG, particularly from ERISA plan sponsors.
- There continues to be discussion of “ESG integration,” or the use of ESG factors by active managers to generate alpha as part of their research process – although the emphasis has been reduced by many managers

Legislative and Regulatory Updates

- SECURE 2.0, a collection of retirement-related changes, was passed as part of the Consolidated Appropriations Act at the very end of 2022. Much of the focus of SECURE 2.0 is making it easier for workers to save, through increased accessibility of plans. Some of the key provisions in SECURE 2.0 include:
 - Features to increase the availability of plans, as well as increase savings.
 - Availability features include tax incentives for small businesses, easier ways to create plans
 - Savings features include changes to the saver's tax credit, expanded eligibility for part-time workers, and increased catch-up contributions
 - Expanded flexibility for participants in how they save
 - Emergency savings accounts, student loan payment match, IRA portability, increased RMD age
 - Adjustments that make lifetime income products such as annuities more attractive
- There has been limited legislative action on retirement since the passing of SECURE 2.0, as this bill covered many of the active topics being discussed on capital hill
- Regulators have been focused on implementing SECURE 2.0, and providing guidance on many of the provisions it contains (some of which have been delayed due to the efforts required by the DoL and market participants such as record keepers).

Alternatives in DC Plans

- Alternative investments continue to be uncommon in DC plans, although there has been increased product development and movement in the space
 - There has been modest adoption of core private real estate as part of the custom target date funds used by some large plan sponsors
- Several large alternative asset management firms are developing semi-liquid structures that could allow for illiquid investments in the DC space. Many of these are similar to (or based on) existing funds that have been created for the private wealth marketplace
- We continue believe that there is significant potential investment benefit to including alternatives as part of a target date fund or other multi-asset fund, in the form of additional return or ability to manage risk.
 - We do not advocate for including alternatives on the core lineup of the DC plan, as there is significant behavioral risk that can come with their illiquid nature
- Some states have unitized their DB plan, and either offer it as an investment option on the plan lineup or as part of a custom target date fund

4. PLAN REVIEW



Plan Lineup Review

- Close to two-thirds of participant assets are invested in the Target Date Fund suite, with the remaining invested in passive index fund options (with the exception of STAR)

Tier 1 (6 Funds) (63.8%) (\$43.0m)		Vanguard Target Retirement Funds (63.8%)	
Tier 2 (6 Funds) (36.2%) (\$24.4m)	U.S. Equity (21.4%)	Active	Passive
			Vanguard Total Stock Market Index (19.6%) Vanguard FTSE Social Index (1.9%)
	Non-U.S. Equity (3.9%)		Vanguard Total International Stock Index (3.9%)
	Balanced (3.6%)	Vanguard STAR Balanced Fund (3.6%)	
	Fixed Income (2.6%)		Vanguard Total Bond Market Index (2.6%)
	Cash (4.7%)		Vanguard Cash Reserves Money Market (4.7%)
Tier 3 (0 Funds)		N/A	

Historical Performance

Maine PERS 401(k) Retirement Savings Plan

Investment Performance Report as of 06/30/2024

	Fee (%)	Quarter-to- Date	Cumulative Trailing 1- Year	Annualized Trailing 3- Years	Annualized Trailing 5- Years	5-Year Standard Deviation
Domestic Equity						
Vanguard Total Stock Market Index Funds	0.03	3.2	23.2	7.9	14.1	18.7
Dow Jones U.S. Total Stock Market Index		3.2	23.2	7.9	14.0	18.7
Value Added		0.0	0.0	0.0	0.0	
MorningStar US Fund Large Blend		2.4	21.4	8.0	13.3	18.2
MorningStar Ranking		46	49	60	45	
Vanguard FTSE Social Index Fund	0.14	4.9	26.2	8.8	15.3	19.1
FTSE® U.S. All Cap Choice Index		4.0	25.0	7.9	15.1	19.0
Value Added		0.8	1.3	0.9	0.2	
MorningStar US Fund Large Blend		2.4	21.4	8.0	13.3	18.2
MorningStar Ranking*		10	18	43	14	
Vanguard STAR Fund	0.31	0.9	11.9	0.9	7.8	13.9
STAR Blended Benchmark		1.8	13.4	3.0	7.5	12.4
Value Added		-0.8	-1.5	-2.1	0.3	
MorningStar Ranking		58	56	87	33	
International Equity						
Vanguard Total International Stock Index Fund	0.11	0.8	10.9	0.3	5.7	17.8
FTSE® Global All Cap ex US Index (Net)		0.9	11.7	0.5	5.9	17.4
Value Added		-0.1	-0.7	-0.2	-0.2	
MorningStar US Fund Foreign Large Blend		0.2	10.6	1.2	6.0	17.9
MorningStar Ranking		32	50	70	59	
Fixed Income						
Vanguard Total Bond Market Index Fund	0.05	0.2	2.8	-3.0	-0.2	6.2
Bloomberg Aggregate Bond Index		0.1	2.6	-3.0	-0.2	6.2
Value Added		0.1	0.1	0.0	0.0	
MorningStar US Fund Intermediate Core Bond		0.2	3.1	-3.0	-0.2	6.4
MorningStar Ranking		55	59	43	47	
Cash & Equivalents						
Vanguard Cash Reserves Federal MM	0.10	1.3	5.3	3.0	2.1	0.6
FTSE 3 Month Treasury Bill Index		1.4	5.6	3.2	2.2	0.6

Historical Performance

Maine PERS 401(k) Retirement Savings Plan

Investment Performance Report as of 06/30/2024

	Fee (%)	Quarter-to- Date	Cumulative Trailing 1- Year	Annualized Trailing 3- Years	Annualized Trailing 5- Years	5-Year Standard Deviation
Target Date Strategies						
Vanguard Target Retirement 2025	0.08	1.3	11.0	1.5	6.1	11.7
Target Retirement 2025 Benchmark		1.3	11.3	1.9	6.5	11.5
Value Added		0.0	-0.3	-0.4	-0.4	
MorningStar US Fund Target-Date 2025		1.0	10.0	1.0	5.5	11.5
MorningStar Ranking		17	23	24	29	
Vanguard Target Retirement 2035	0.08	1.5	13.5	2.7	7.8	14.0
Target Retirement 2035 Benchmark		1.6	13.8	3.0	8.2	13.8
Value Added		0.0	-0.3	-0.3	-0.4	
MorningStar US Fund Target-Date 2035		1.3	13.2	2.4	7.6	14.4
MorningStar Ranking		29	47	32	44	
Vanguard Target Retirement 2045	0.08	1.9	15.8	3.8	9.4	16.1
Target Retirement 2045 Benchmark		1.9	16.1	4.1	9.8	15.9
Value Added		0.0	-0.3	-0.3	-0.4	
MorningStar US Fund Target-Date 2045		1.6	16.0	3.6	9.1	16.3
MorningStar Ranking		37	65	46	42	
Vanguard Target Retirement 2055	0.08	2.0	16.6	4.2	9.7	16.3
Target Retirement 2055 Benchmark		2.1	17.0	4.5	10.1	16.2
Value Added		-0.1	-0.4	-0.3	-0.4	
MorningStar US Fund Target-Date 2055		1.7	16.9	4.0	9.5	16.8
MorningStar Ranking		33	63	40	43	
Vanguard Target Retirement 2065	0.08	2.0	16.6	4.2	9.7	16.3
Target Retirement 2065 Benchmark		2.1	17.0	4.5	10.1	16.2
Value Added		-0.1	-0.3	-0.3	-0.4	
MorningStar US Fund Target-Date 2065+		1.7	17.1	4.1	9.8	16.9
MorningStar Ranking		31	66	44	61	
Vanguard Target Retirement Income Fund	0.08	0.9	8.0	0.5	3.7	7.9
Target Retirement Income Fund benchmark		0.9	8.1	0.7	4.0	7.8
Value Added		0.0	-0.2	-0.2	-0.3	
MorningStar US Fund Target-Date Retirement		0.9	7.9	0.4	3.5	8.2
MorningStar Ranking		46	58	43	48	

Plan Lineup Fees

As of March 31, 2024

Fund Name	MainePERS Ticker	Net Expense Ratio	Next Threshold	Amol	MainePERS MV	Next Expense Ratio
Vanguard Total Stock Market Index	VITSX	0.03%	\$100,000,000	\$	13,178,853	0.02%
Vanguard Total International Stock Index	VTIAX	0.11%	\$5,000,000	\$	2,618,115	0.10%
Vanguard STAR	VGSTX	0.31% --		\$	2,431,106	N/A
Vanguard FTSE Social Index	VFTAX	0.14%	\$5,000,000	\$	1,255,514	0.12%
Vanguard Target Retirement 2025	VTTVX	0.08% --		\$	15,595,985	N/A
Vanguard Target Retirement 2035	VTTHX	0.08% --		\$	12,977,682	N/A
Vanguard Target Retirement 2045	VTIVX	0.08% --		\$	8,044,293	N/A
Vanguard Target Retirement 2055	VFFVX	0.08% --		\$	2,048,632	N/A
Vanguard Target Retirement 2065	VLXVX	0.08% --		\$	278,490	N/A
Vanguard Retirement Income	VTINX	0.08% --		\$	4,011,955	N/A
Vanguard Total Bond Market Index	VBLTX	0.05% --		\$	1,753,895	N/A
Vanguard Cash Reserves Federal MM	VMRXX	0.10% --		\$	3,175,603	0.10%

Vanguard STAR Balanced Fund

- Vanguard's STAR Balanced Fund is a fund-of-funds strategy that invests in a diversified group of Vanguard mutual funds, rather than in individual securities; it serves as effectively the only active management option offered in the plan
- Strategy selection typically allocates 60-70% of its assets in common stocks through eight stock funds, 20-30% in bonds through two bond funds, and 10-20% in short-term investments through a short-term bond fund

Allocation of underlying funds†



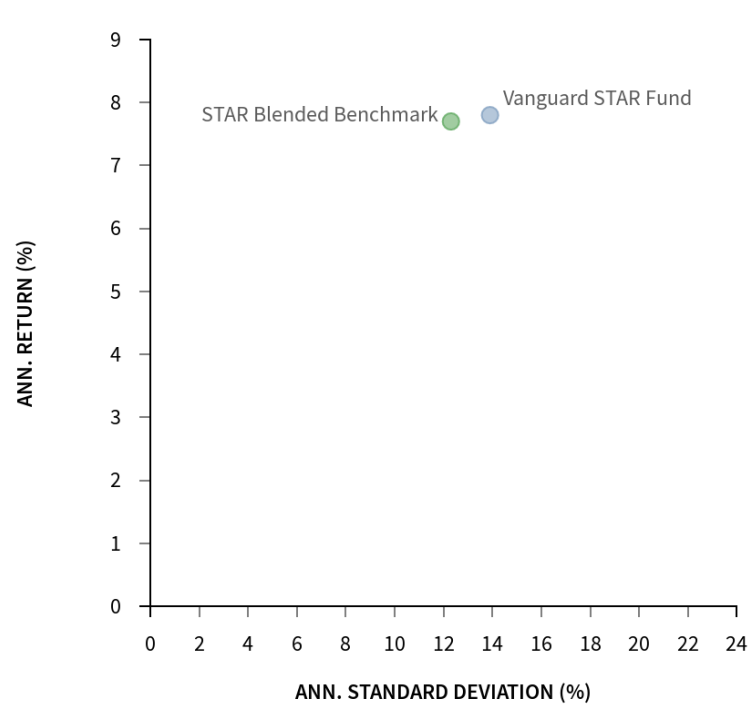
■ Windsor II	14.7%
■ LTerm Investment-Grade Fund	12.3
■ Short-Term Investment-Grade	12.3
■ GNMA	12.3
■ U.S. Growth	11.2

■ International Value	9.7
■ International Growth Fund	9.1
■ Windsor	8.3
■ PRIMECAP	6.3
■ Explorer	3.8

†Fund holdings are subject to change.

Risk vs. Return

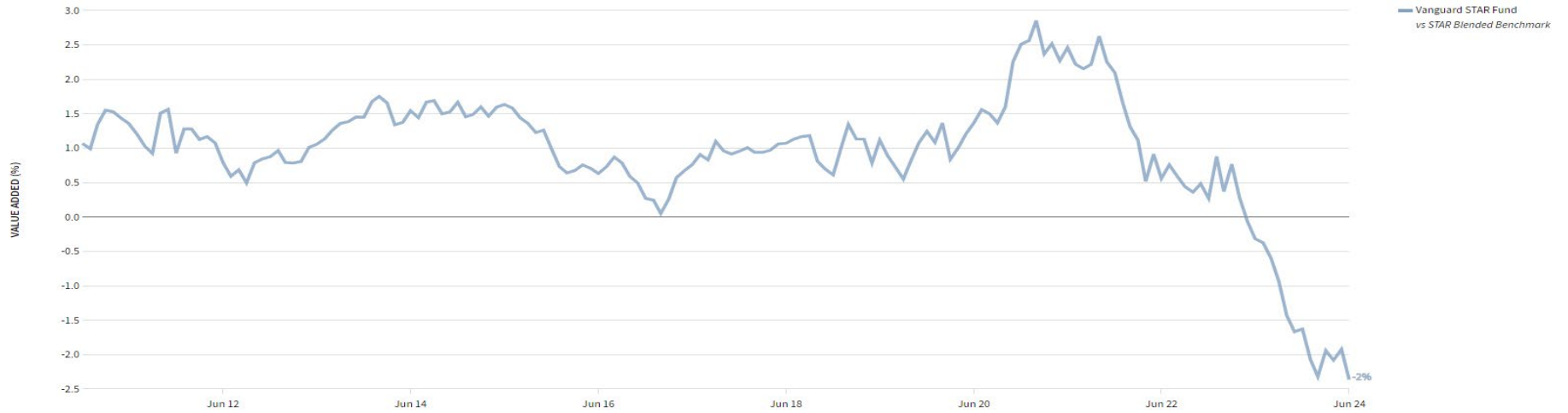
■ Trailing 5 Years • Jul 1, 2019 - Jun 30, 2024 • USD



	ANN. RETURN (%)	ANN. STANDARD DEV (%)	SHARPE RATIO	MKT BETA TO MSCI ACWI INDEX (N)
Managers				
Vanguard STAR Fund	7.8	13.9	0.5	0.78
STAR Blended Benchmark	7.7	12.3	0.5	0.70

Vanguard STAR Balanced Fund Historical Statistics

VALUE ADDED (%) VS. STAR BLENDED BENCHMARK
Rolling 3 Years • Jan 1, 2008 - Jun 30, 2024 • USD



CUMULATIVE WEALTH
Jan 1, 2008 - Jun 30, 2024 • USD



Returns (%)

■ As of Jun 30, 2024 • USD

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD	3Y	5Y	7Y	10Y
Managers															
Vanguard STAR Fund	7.4	-0.2	6.6	18.3	-5.3	22.2	21.4	9.7	-18.0	17.1	5.6	0.9	7.8	7.8	7.1
Benchmark															
STAR Blended Benchmark	6.5	-0.3	6.7	15.2	-4.6	20.4	14.2	12.1	-15.4	16.5	7.4	3.3	7.7	7.6	6.8

5. GLIDE PATH DESIGN



Vanguard Target Date Funds: Highlights & Considerations

■ Highlights:

- **Organization – Institutional and Retail Competence** Vanguard has the capabilities to manage assets at institutional scale and to administer and communicate with participants of DC plans individually
- **Organization – Well-Versed Retirement Investment Professionals** The team managing the target date funds is experienced and has comprehensive understanding of retirement investment requirements
- **Investment Performance – Lower Costs for Investors** The net performance of Vanguard products benefits from the firm's low cost structure and the use of its underlying funds
- **Organization – Full-Service Provider** Vanguard offers plan sponsors a comprehensive and cost-effective suite of DC products

■ Considerations:

- **Investment Strategy – 50% Exposure to Equities at Retirement Date** Passive equity investments expose participants to drawdown risk that could reduce their ability to generate an adequate income in retirement
- **Investment Strategy – Limited Experience with Alternative Investments** Other key managers that are predominantly active rather index managers may be better positioned to utilize liquid and illiquid alternatives in portfolios to potentially reduce volatility
- **Investment Strategy – Index Solutions** Increasingly, investors are asking questions about the appropriateness of relying on cap-weighted indices with the growth of “smart beta”
- **Investment Strategy – No Custom Target Date Offerings** Vanguard's premier position in the target date market could be challenged by competitors offering customized investment solutions, which have been gaining traction

Key Factors in Target Date Fund Selection

- There are several key things to consider when selecting between different Target Date Funds, glide path design and implementation
 - The underlying assumption is that any provider is well resourced and has a strong, capable team managing their target date suite
- Although MainePERS has chosen a passively implemented TDF suite, it is important to note that the choice of glide-path is always an active decision by a manager
 - Most index managers focus on simple asset classes, with the understanding that “extended” asset classes such as high yield bonds are often best approached actively
- This leaves glide path design and shape as the primary differentiator. Many of the differences come down to philosophy and how they approach several key risk factors:
 - Accumulation risk: the risk that a participant doesn’t save a sufficient amount for retirement spending
 - Event/Volatility risk: The risk that a sharp market decline significantly impacts a participant’s ability to retire. This is especially acute close to retirement, when balances are large
 - Longevity risk: The risk that a participant outlives their assets
 - Inflation risk: The risk that inflation eats away at a participant’s balance in retirement, resulting in a shortfall

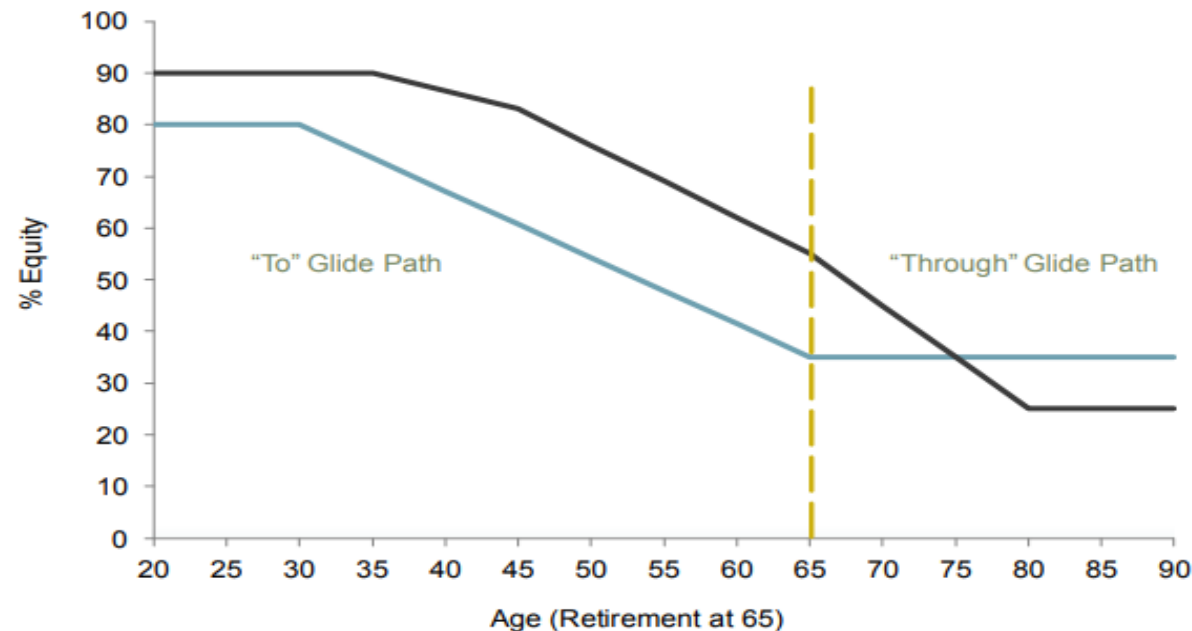
Glide path design: “To-Retirement” vs. “Through-Retirement”

- A significant majority of glide paths adopt either a “to-” or “through-” retirement approach. These two philosophies result in substantially different risk exposures near and after retirement, a time when account balances are relatively high and participants are more engaged in their investments
- Proponents of “to-retirement” glide paths argue that the lowest equity exposure should occur at retirement (rather than after retirement), as that is when human capital is the lowest and financial capital is the highest. Equity exposure therefore remains constant during retirement
 - The primary drawback to this approach is that lower equity exposure during the last 10-15 years of a person’s career, when account balances (and income) are often higher, represents a significant opportunity cost
 - The lack of declining equity as a person moves through retirement can seem counterintuitive
- Proponents of “through-retirement” glide paths argue that reducing equity exposure through retirement enables participants to capitalize on market exposure later in their careers when their assets are relatively high
 - This approach provides strong protection against longevity risk - some managers have found that most retirees do not tap into their retirement savings until their early seventies
 - The primary drawback to this approach is timing: poor equity returns near retirement can have an increased negative impact relative to a “to-retirement” provider with lower equity exposure at the time of retirement

Glide path design: “To” vs. “Through”

Neither should be thought of as “safe” vs “risky” – both “to” and “through” glide paths expose participants to risk, just of different types and at different times.

“To” Vs. “Through” – Easy To Visualize



- Bottom line: “to-retirement” and “through-retirement” glide paths are more alike than they are different. In general, target date funds are:
 - Well diversified
 - Professionally managed
 - Designed to reduce participant exposure to market risk as participants age
 - Share the objective of preparing for income generation in retirement
 - Continue to manage assets post-retirement

Aspects of Target Date Glide Path

- We use three different passively implemented target date series to explain some of the differences in approach: Vanguard, BlackRock, and Fidelity (note that C|A research has completed due diligence on Vanguard and BlackRock, but not Fidelity)
- In terms of early equity exposure, which mainly addresses accumulation risk:
 - Vanguard and Fidelity have 90% equity exposure (which is consistent with the broad marketplace), to reduce some of the behavioral risk of a massive allocation to equities
 - BlackRock takes on more risk for the first 20 years of the glide path, under the belief that there is plenty of time to make up downturns
- The most significant difference between the glide paths is around retirement, and the philosophy about how to invest through retirement. This is as much a philosophical choice as it is one driven by plan specifics
 - Both Vanguard and Fidelity glide down equity exposure “through” age 65, reaching a minimum 7-15 years after retirement. This results in decent equity exposure at retirement, which can have more event/downside risk around retirement, with lower event risk in retirement
 - BlackRock has a “to” glide-path, where equity reaches its minimum at retirement. This also results in lower equity exposure than many “through” glide paths at retirement – showing the offset of the other two glide paths – less event risk at retirement, but more well into retirement
- More equity approaching retirement, while balances are higher, can mean that the positive expected return from equities helps to offset longevity risk

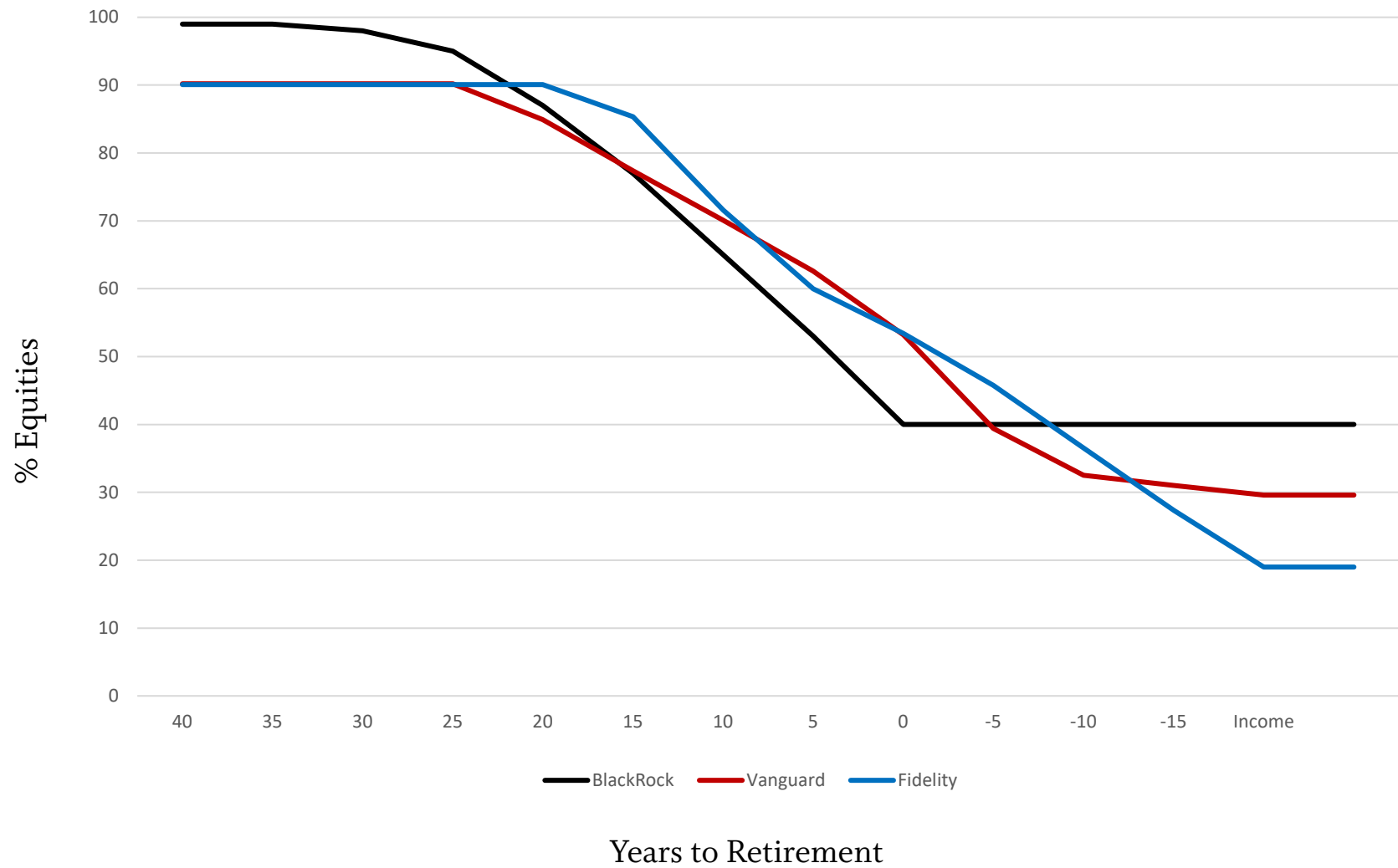
Aspects of Target Date Glide Path (continued)

- Final equity allocations are noticeably different as well, with 40% equity for BlackRock, compared with Fidelity at ~20% (and Vanguard in the middle)
 - This provides for additional return potential in retirement for BlackRock (offsetting longevity risk), with an increase in event risk in the case of a downturn
 - Fidelity has the other extreme – much lower event risk for the oldest participants, but less expected return in retirement to offset longevity risk
 - Vanguard is balanced across these two elements
- In terms of inflation protection, all the suites include TIPS near and into retirement, while only BlackRock includes dedicated exposure to real estate (and commodities for CIT versions of LifePath Index)
 - Vanguard has more TIPS exposure than the other two, providing a bit more intermediate term inflation protection
 - The protection from a short-term inflationary spike is higher from BlackRock
- In terms of implementation, all firms have high-quality index funds used in each suite
 - Vanguard is a leader in the index space, and only has passively-implemented TDFs
 - A vast majority of BlackRock TDF assets are index-based, along with some “smart beta” products as well. They take a more sophisticated approach to implementation, with subtle changes to allocation within asset classes over time
 - Fidelity’s flagship TDF suite is active, and they released an index version to meet a market need

Vanguard Target Retirement Funds Overview

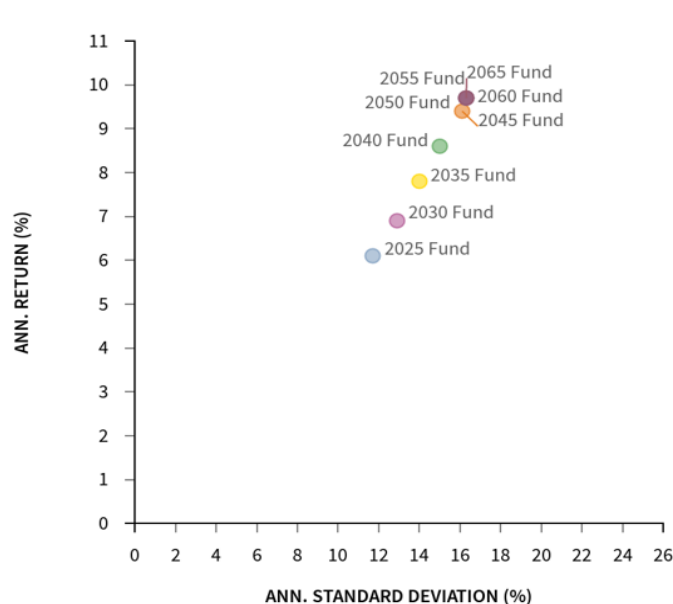
- MaineSTART currently uses the Vanguard Target Retirement funds as its Target Date Fund provider
- Fees are attractive relative to the broad universe
 - 8 bps
 - Industry average ~ 52 bps (includes active funds)
 - Major index-implemented Target Date Funds range from 8 bps – 14 bps
- Strong Performance Record
- Glide Path Commentary
 - “Through retirement”
 - By gliding equity exposure down through retirement, plan participants are able to capitalize on market exposure later in the careers, when asset values are relatively high. This approach also provides strong protection against longevity risk
 - The primary drawback to this approach is timing – poor equity returns near retirement can have an increased negative impact, relative to a “to” provider with lower equity exposure at retirement
 - Equity oriented and appropriate for the majority of participant groups
 - Phase 1 – up to age 40 will have high equity allocation
 - Phase 2 – 41 to 65 gradually moves to a 50% stocks / 50% bonds allocation at age 65
 - Phase 3 – 66 to 72 shift inflation hedge mix away from stocks and towards TIPs
 - Phase 4 – Retired investors (ages 72+) continue with 30% allocation to stocks

Glide Path Comparison



Target Date Funds: How much do increments matter?

- MainePERS' target date suite provides target date options in 10-yearly increments for participants. Among C|A defined contribution clients, although all plans include target-date funds, the majority have 5-yearly increments, as opposed to 10-yearly
- In general, the difference between funds in 5-yearly increments is relatively small in terms of risk and return characteristics, but the spread between them does increase as the glide path steepens downwards further towards retirement, as displayed below



	ANN. RETURN (%)	ANN. STANDARD DEV (%)	SHARPE RATIO	MKT BETA TO MSCI ACWI INDEX (N)
Managers				
2025 Fund	6.1	11.7	0.4	0.66
2030 Fund	6.9	12.9	0.4	0.74
2035 Fund	7.8	14.0	0.5	0.80
2040 Fund	8.6	15.0	0.5	0.86
2045 Fund	9.4	16.1	0.5	0.92
2050 Fund	9.7	16.3	0.5	0.94
2055 Fund	9.7	16.3	0.5	0.94
2060 Fund	9.7	16.3	0.5	0.93
2065 Fund	9.7	16.3	0.5	0.94

6. APPENDIX



Return Source Details

This page shows the composition and sources of monthly return streams used in return analytics.

Asset Reference

Vanguard STAR Fund

Custom Series

01/2008

05/2021

STAR Composite BM

Custom Series

01/2008

05/2021

MSCI ACWI Index (N)

ref#CI8401

01/2008

05/2021

Return Source Details

This page shows the composition and sources of monthly return streams used in return analytics.

Asset Reference

Vanguard STAR Fund	Short Name: STAR Fund Series #1: Apr 1985 / N-USD (1985-04-01 - 2021-05-31)/ Custom Upload / STAR CSV NEW/ Net / USD
STAR Composite BM	Short Name: STAR Composite Index Series #1: Apr 1985 / N-USD (1985-04-01 - 2021-05-31)/ Custom Upload / STAR BM CSV NEW/ Net / USD
MSCI ACWI Index (N)	Short Name: MSCI ACWI N Legal Name: MSCI All Country World Index (Net) Jan 2001 / Benchmark / USD / ref#CI8401



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MainePERs
PUBLIC EMPLOYEES RETIREMENT SYSTEM

MaineSTART Quarterly Review

For the Quarter Ending 06/30/2024

MAINE
START

MaineSTART Review

Overview of MaineSTART

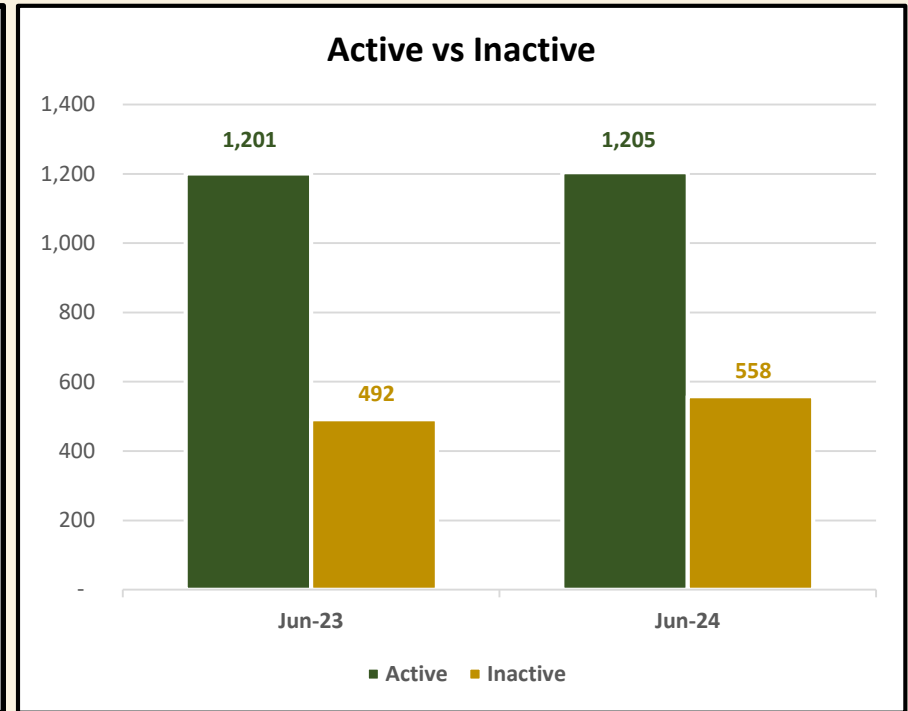
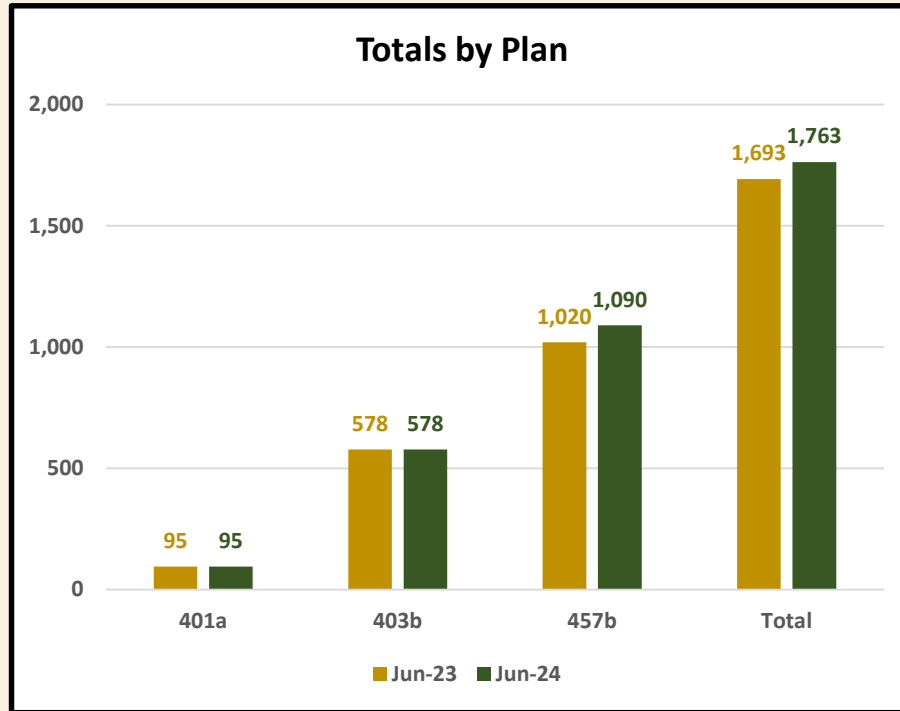
- ▶ **401(a) Defined Contribution Plan**
 - ▶ **Qualified Plan**
 - ▶ **Higher Contribution Limits**
 - ▶ **Inflexible**
- ▶ **403(b) Tax-Sheltered Annuity Plan**
 - ▶ **Only for Educational and Certain Non-Profit Organizations**
 - ▶ **Flexible**
- ▶ **457(b) Deferred Compensation Plan**
 - ▶ **Flexible**

MaineSTART Fiduciary Responsibilities

- ▶ **Basic Fiduciary Duties – Duty of Loyalty and Duty of Prudence**
 - ▶ **Duty of Loyalty – Act solely in the interests of the participants and beneficiaries**
 - ▶ **Duty of Prudence – Exercise reasonable care, skill, and caution**
- ▶ **Duties Apply to Discretionary Plan Functions.**
 - ▶ **For example, providing investment options**
- ▶ **Employers Acting as Employers Do Not Have Fiduciary Duties.**

MaineSTART Review 2Q 2024

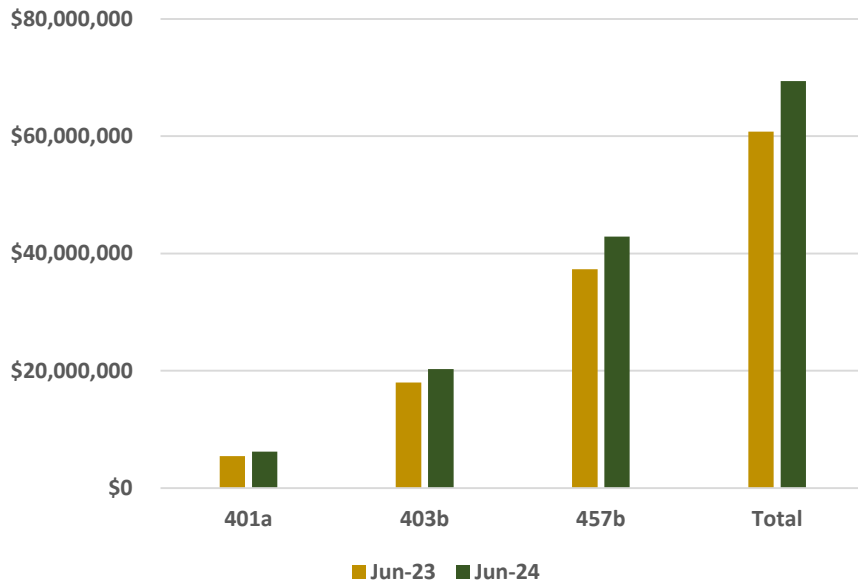
Participants



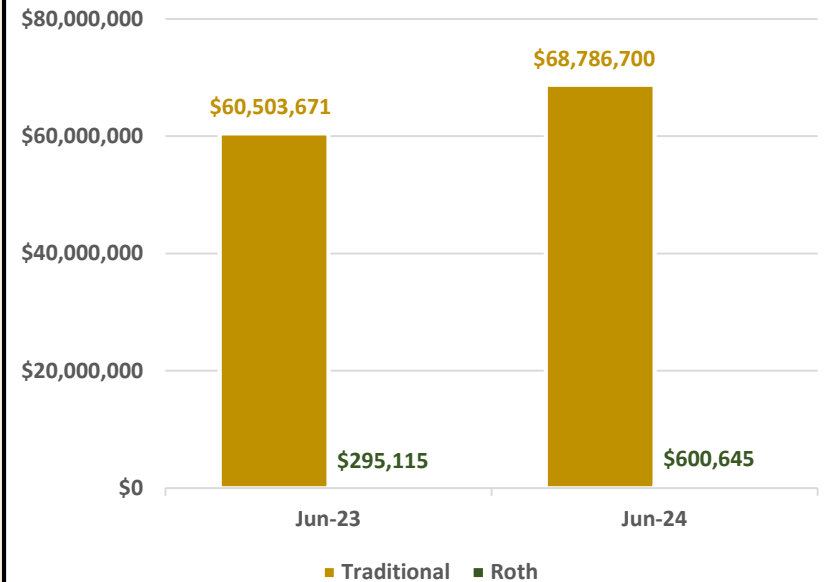
MaineSTART Review 2Q 2024

Market Value

Totals by Plan



Traditional vs Roth



MaineSTART Review 2Q 2024

Participation and Values as of 06/30/2024

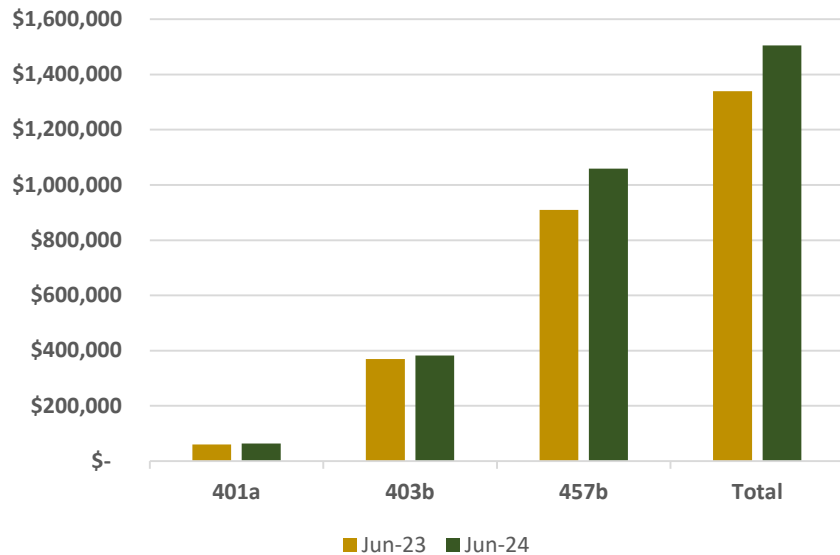
	401(a)	403(b)	457(b)	Total	Change from 06/30/2023
Participating Employers	7	1	80	88*	3
Participating Employees	95	578	1,090	1,763	70
Total Market Value	\$6,195,935	\$20,301,342	\$42,889,912	\$69,387,188	\$8,588,644

*26% of PLDs

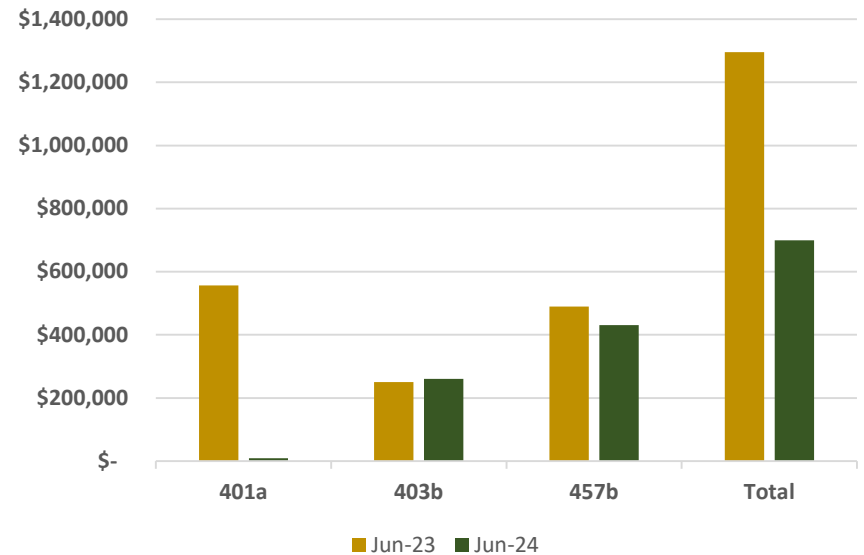
MaineSTART Review 2Q 2024

Cash Flows

Contributions by Plan



Distributions by Plan



Note: One 401a distribution in June 2023 was \$550k.

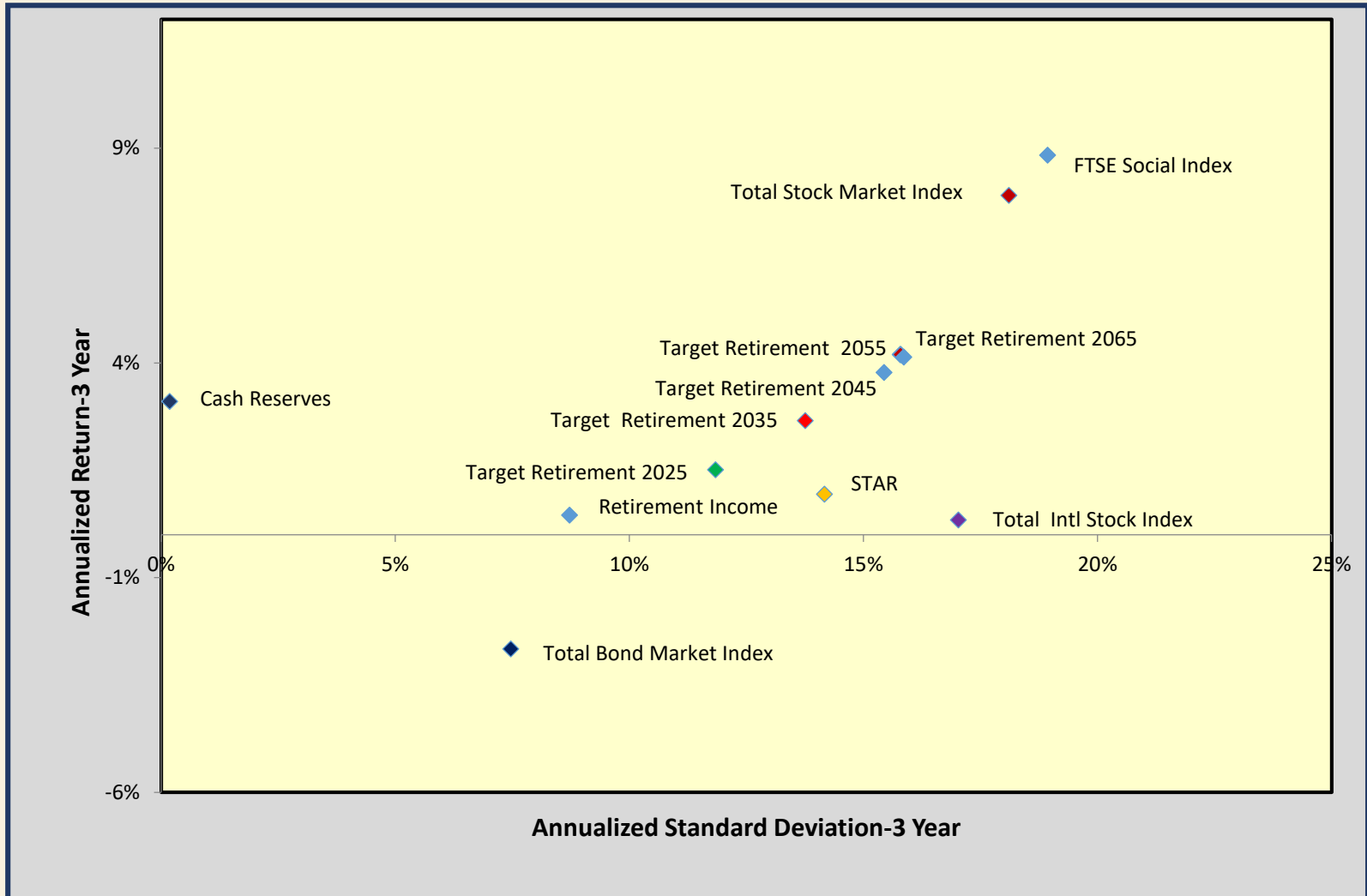
MaineSTART Review 2Q 2024

MaineSTART Investment Options

Fund	Expense Ratio
Target Retirement	
Vanguard Target Retirement 2025	0.08%
Vanguard Target Retirement 2035	0.08%
Vanguard Target Retirement 2045	0.08%
Vanguard Target Retirement 2055	0.08%
Vanguard Target Retirement 2065	0.08%
Vanguard Target Retirement Income	0.08%
US Equity	
Vanguard Total Stock Market Index	0.03%
Vanguard FTSE Social Index	0.14%
Non-US Equity	
Vanguard Total International Stock Index	0.11%
Balanced	
Vanguard STAR	0.31%
Fixed Income	
Vanguard Total Bond Market Index	0.05%
Cash	
Vanguard Cash Reserves Federal Money Market	0.10%

MaineSTART Review 2Q 2024

Risk vs Reward



MaineSTART Review 2Q 2024

Performance of Target Date Funds

Total Fund	\$ 69,387,188	% Total	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs
Target Retirement Funds							
Target Retirement 2025	\$ 15,970,837	23.0%	1.3%	11.0%	1.5%	6.1%	6.0%
Target Retirement 2025 Benchmark			1.3%	11.4%	1.9%	6.6%	6.4%
Target Retirement 2035	\$ 13,432,630	19.4%	1.6%	13.5%	2.7%	7.8%	7.1%
Target Retirement 2035 Benchmark			1.6%	13.8%	3.0%	8.2%	7.5%
Target Retirement 2045	\$ 8,419,728	12.1%	1.9%	15.8%	3.8%	9.4%	8.1%
Target Retirement 2045 Benchmark			2.0%	16.2%	4.1%	9.8%	8.5%
Target Retirement 2055	\$ 2,173,832	3.1%	2.0%	16.6%	4.1%	9.7%	8.2%
Target Retirement 2055 Benchmark			2.1%	17.0%	4.5%	10.1%	8.6%
Target Retirement 2065	\$ 344,463	0.5%	2.0%	16.6%	4.2%	9.7%	
Target Retirement 2065 Benchmark			2.1%	17.0%	4.5%	10.1%	
Target Retirement Income	\$ 4,038,903	5.8%	0.9%	8.0%	0.5%	3.7%	4.0%
Target Retirement Income Benchmark			0.9%	8.2%	0.7%	4.0%	4.2%
Tracking Error for all funds remains within expected ranges given market volatility.							

Total Fund	\$ 69,387,188	% Total	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs
Target Retirement Funds							
Target Retirement 2025	\$ 15,970,837	23.0%	1.3%	11.0%	1.5%	6.1%	6.0%
Target Retirement 2025 Benchmark			1.3%	11.4%	1.9%	6.6%	6.4%
Target Retirement 2035	\$ 13,432,630	19.4%	1.6%	13.5%	2.7%	7.8%	7.1%
Target Retirement 2035 Benchmark			1.6%	13.8%	3.0%	8.2%	7.5%
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Target Retirement 2065 Benchmark			2.1%	17.0%	4.5%	10.1%	
Target Retirement Income	\$ 4,038,903	5.8%	0.9%	8.0%	0.5%	3.7%	4.0%
Target Retirement Income Benchmark			0.9%	8.2%	0.7%	4.0%	4.2%
Tracking Error for all funds remains within expected ranges given market volatility.							

MaineSTART Review 2Q 2024

Performance of Index and Balanced Funds

Total Fund	\$ 69,387,188	% of Total	Quarter	1 Yr	3 Yrs	5 Yrs	10 Yrs
US Equity							
Total Stock Market Index	\$ 13,665,088	19.7%	3.3%	23.2%	7.9%	14.1%	12.1%
Dow Jones Total Stock Market Index			3.3%	23.2%	7.9%	14.1%	12.1%
FTSE Social Index	\$ 1,304,665	1.9%	4.9%	26.2%	8.8%	15.3%	13.4%
FTSE4Good US Select Index			4.9%	26.3%	9.0%	15.4%	13.5%
Non-US Equity							
Total International Stock Index	\$ 2,639,732	3.8%	0.8%	11.0%	0.3%	5.8%	4.0%
Total International Stock Index			0.9%	11.7%	0.5%	5.9%	4.1%
Balanced							
STAR	\$ 2,410,486	3.5%	1.0%	11.9%	0.9%	7.8%	7.2%
STAR Composite Index			1.8%	13.6%	3.3%	7.9%	7.0%
Fixed Income							
Total Bond Market Index	\$ 1,794,508	2.6%	2.3%	5.2%	-2.7%	0.2%	1.6%
Barclays Capital Aggregate Bond Index			2.3%	5.2%	-2.6%	0.2%	1.6%
Total Cash							
Cash Reserves Federal Money Market	\$ 3,192,316	4.6%	1.3%	5.4%	3.1%	2.2%	1.6%
Citigroup 90 Day T-Bill Index			1.2%	4.9%	2.8%	1.9%	1.3%

Tracking Error for all funds remains within expected ranges.

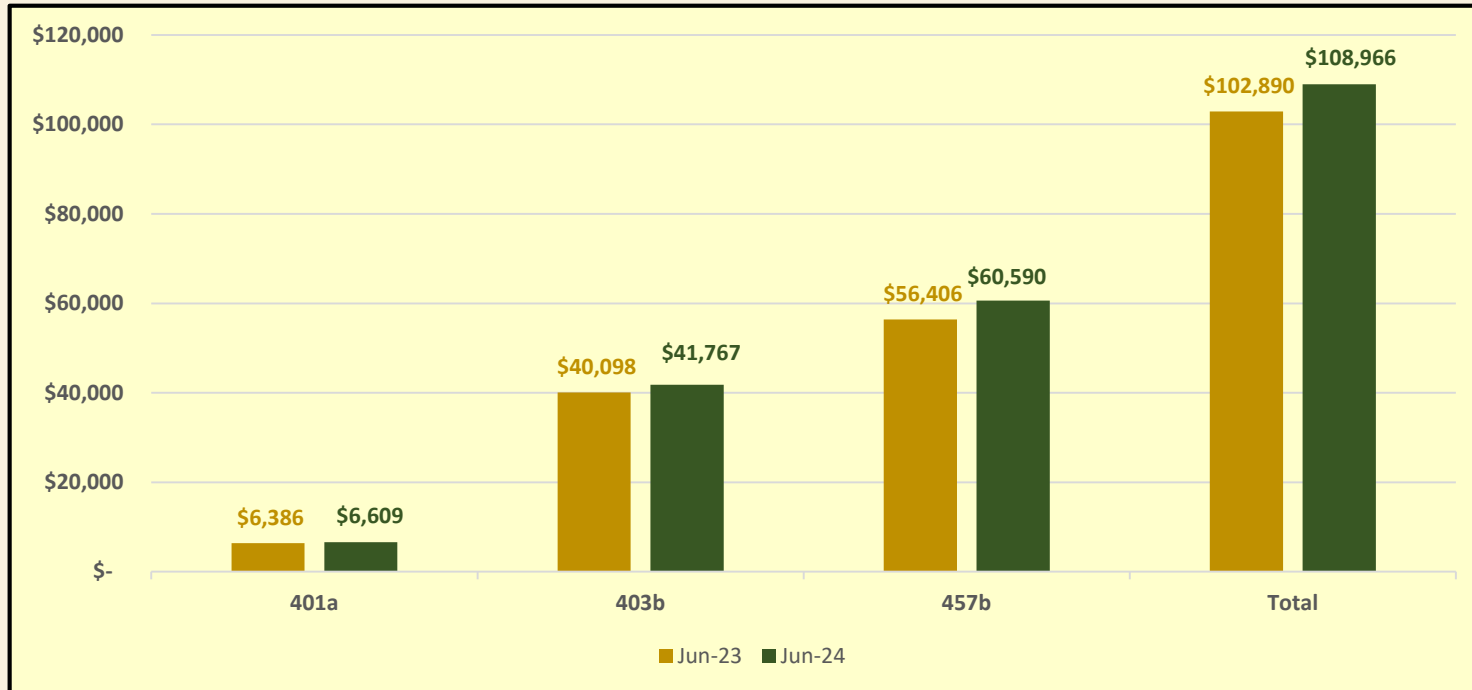
MaineSTART Review 2Q 2024

Investment Option Fees

Fund Name	Ticker	Market Value	MaineSTART	Next	Next
			Expense Ratio	Threshold Amount	Expense Ratio
Vanguard Total Stock Market Index	VITSX	\$13,665,088	0.03%	\$100,000,000	0.02%
Vanguard Total International Stock Index	VTIAX	\$2,639,732	0.11%	\$5,000,000	0.10%
Vanguard STAR	VGSTX	\$2,410,486	0.31%	N/A	0.31%
Vanguard FTSE Social Index	VFTAX	\$1,304,665	0.14%	\$5,000,000	0.12%
Vanguard Target Retirement 2025	VTTVX	\$15,970,837	0.08%	N/A	0.08%
Vanguard Target Retirement 2035	VTTHX	\$13,432,630	0.08%	N/A	0.08%
Vanguard Target Retirement 2045	VTIVX	\$8,419,728	0.08%	N/A	0.08%
Vanguard Target Retirement 2055	VFFVX	\$2,173,832	0.08%	N/A	0.08%
Vanguard Target Retirement 2065	VLXVX	\$344,463	0.08%	N/A	0.08%
Vanguard Retirement Income	VTINX	\$4,038,903	0.08%	N/A	0.08%
Vanguard Total Bond Market Index	VBTLX	\$1,794,508	0.05%	N/A	0.05%
Vanguard Cash Reserves Federal MM	VMRXX	\$3,192,316	0.10%	N/A	0.10%
Newport Group charges \$50 annually and 3 bps on assets.				\$69,387,188	

MaineSTART Review 2Q 2024

Fees



Notes:

- Participants pay an annual fee of \$50 and 3 bps on assets to the Newport Group
- Investment management fees vary depending on the fund selection
- Annual Administrative Fees of \$271,000 are assessed through PLD payrolls at 0.04%

MaineSTART Outreach Statistics 2Q 2024

▶ **Participant Meetings: 322**

- In-Person -132
- Remote - 14
- Phone Calls -176

▶ **Teacher Employer Outreach: 24**

- Emails – 4
- Phone calls – 13
- Remote – 7

▶ **PLD Employer Outreach: 38**

- Emails – 11
- Phone calls – 17
- Remote – 10

▶ **Participant Outreach Calendar Year 2023: 1,514***

▶ **Participant Outreach Calendar Year 2022: 1,094**

*Elimination of STAR Fund contributed to uptick in participant outreach

MaineSTART Review 2Q 2024

Compliance and Operations

- **MaineSTART has expanded available in-service distributions to now include Qualified Birth or Adoption, Emergency Personal Expense, Domestic Abuse, and Qualified Federally Declared Disasters.**
- **Cambridge has completed their review of investment options and reported to the Board.**

MAINEPERS

BOARD OF TRUSTEES RULEMAKING MEMORANDUM

TO: BOARD MEMBERS
FROM: MICHAEL J. COLLERAN, CHIEF OPERATING OFFICER & GENERAL COUNSEL
SUBJECT: RULEMAKING UPDATE
DATE: SEPTEMBER 4, 2024

The September Board meeting will include consideration of the staff's recommendation to repeal and replace Rule Chapter 201, which governs payroll reporting by employers. Because the proposed replacement rule includes a fee, it is considered a major substantive rule that will require legislative approval before it is finally adopted. Accordingly, any Board approval at the September meeting will be considered provisional.

The current rule has not been amended since it was adopted in 1985. The proposed replacement rule would set expectations for payroll reporting, submission of contributions, and payment of Group Life Insurance premiums and provide for late fees and interest. Copies of the proposed and current rules are attached, along with the proposed basis statement.

No members of the public testified at the hearing conducted during the August Board meeting. One member submitted a written comment during the comment period. The proposed basis statement summarizes the comment and staff's response. For background, the basis statement also summarizes comments received in an earlier rulemaking process on this rule, staff's responses, and changes made to the proposed rule as a result of that earlier process. Staff does not recommend any changes to the proposed replacement rule as noticed in this process.

POLICY REFERENCE

[Board Policy 2.3 -- Rulemaking](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communications and Support to the Board](#)

RECOMMENDATION

That the Board provisionally repeal and replace Rule Chapter 201 and adopt the replacement rule's basis statement.

94-411 MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM

Chapter 201: EMPLOYER REPORTING AND PAYMENTS

SUMMARY: This Chapter sets out requirements regarding employer reporting and payment of contributions and premiums.

SECTION 1. REPORTING AND PAYMENT REQUIREMENTS

1. **Payroll Reporting.** Every employer reporting unit is required to submit a complete and accurate payroll report to the Maine Public Employees Retirement System (“MainePERS”) within 15 days after the end of each month (“the Due Date”). The report shall contain data relating to all payrolls paid during the calendar month immediately preceding the Due Date and shall be in the format prescribed by the Chief Executive Officer.
2. **Submission of Contributions and Insurance Premiums.** Every employer reporting unit is required by the Due Date to electronically submit in the manner prescribed by the Chief Executive Officer: (1) the employer and employee contributions for the time period covered by the report; and (2) the Group Life Insurance (“GLI”) premiums as invoiced by MainePERS.

SECTION 2. LATE FEES AND INTEREST

1. **Late Fees.** An employer reporting unit that has not submitted a complete and accurate payroll report as determined by the Chief Executive Officer within 30 days after the Due Date may be charged a late fee of \$100 per day calculated from the Due Date until a complete and accurate report has been received by MainePERS. In deciding whether to impose a late fee, MainePERS should consider any extenuating circumstances and the extent to which the employer is making good faith efforts to comply.
2. **Interest.** An employer reporting unit that has failed to pay any employer and employee contributions and GLI premiums required to be paid pursuant to section 1, subsection 2 within 30 days after the Due Date, regardless of whether a complete and accurate payroll report has been submitted, may be charged interest on the amount owed at the then-current actuarial discount rate, compounded monthly, from the Due Date until the amount owed is paid in full. In deciding whether to charge interest, MainePERS should consider any extenuating circumstances and the extent to which the employer is making good faith efforts to comply. Any late fees paid pursuant to subsection 1 must be used to offset any interest obligation arising out of the same payroll period to reduce the employer reporting unit’s overall obligation.

STATUTORY AUTHORITY: 3 M.R.S. § 731(2); 4 M.R.S. § 1231(2); 5 M.R.S. §§ 17103(4), 17203(1), 18053, 18653

BASIS STATEMENT FOR REPEAL AND REPLACEMENT SEPTEMBER 12, 2024/STATEMENT OF COMMENTS:

The proposal for rule-making was noticed on July 17, 2024. A public hearing was held on August 8, 2024. No members of the public provided oral comments at the public hearing. One member of the public submitted written comments prior to the August 19, 2024 comment deadline. A public hearing was previously held on this rule on May 9, 2024, and members of the public submitted oral and written comments as part of that rulemaking process. The current proposed rule includes changes made based on comments submitted as part of the prior rulemaking. The Board did not adopt that proposed rule and at the advice of Board Counsel, entered into a new rulemaking process as a major substantive rule since it implements a fee to employers.

This rule governs payroll reporting by employers. The current rule has not been amended since it was adopted in 1985. The proposed rule repeals and replaces the current rule. The replacement rule sets expectations for payroll reporting, submission of contributions, and payment of Group Life Insurance premiums and provides for late fees and interest when established deadlines are not met.

As part of the earlier rulemaking, one member of the public¹ who provided both oral and written comments stated three specific concerns: (1) the reporting deadline is the same regardless of the size of the employer; (2) the reporting deadline is the same regardless of time of year and resulting workloads; and (3) the length of time that it sometimes takes for MainePERS representatives to provide assistance in resolving errors. The commenter suggested that consideration should be given to employers in specific circumstances such as during peak work periods or during absences due to illness of payroll staff. The commenter also inquired as to whether fees and interest would apply in situations where the delay is caused by circumstances out of their control or when the established validation processes do not catch errors. Finally, the commenter inquired as to whether the Group Life Insurance billing could be made available earlier than under current processes.

One member of the public² emphasized the importance of taking the time to report accurate information rather than risking inaccuracies to meet a deadline. The commenter also raised a concern that the proposed rule might be a disincentive to employers to engage in a partnership with MainePERS to ensure accurate reporting. The commenter also asked that the rulemaking be paused so that consideration could be given as to how MainePERS could engage in dialogue with large and small employers to identify challenges and collective solutions for employers to be able to process timely payrolls.

One member of the public³ submitted written comments in support of the need for employers to correctly report member information and for MainePERS to maintain correct member records. This commenter used their individual circumstances to demonstrate the importance of accurate records. This same member of the public submitted written comments in response to the current proposed rulemaking that: 1) reiterated prior comments; 2) suggested that employees should have more input into and access to records related to their employment and retirement credits records and that such access would improve accuracy; 3) suggested that fines be imposed whenever reporting deadlines are not met regardless of the circumstances; and 4) suggested that a communication and/or appeal process be established for use by employees impacted by reporting matters.

¹ Sarah Pinault, Payroll Specialist, South Portland School Department

² Ryan Scallon, Superintendent, Portland Public Schools

³ Helen McDonald, retiree, Waterville

One member of the public⁴ commented on the complexities of the current reporting system for the small unit for which they report. The commenter also raised a concern that employers will be required to remit payments electronically, indicating that doing so would be challenging for them as a small organization. The commenter also suggests that changing the way that MainePERS bills for Group Life Insurance would ease some administrative burden.

In response to the comments, it is important to acknowledge that timely and accurate payrolls are critical in order for MainePERS to provide accurate and timely information to members, and it is not unreasonable to expect employers to be both accurate and timely in their payroll reporting. When payrolls are not filed and contributions are not received, members who want to refund or retire are impacted and are unable to receive complete information for planning their financial future and may suffer delays as a result of those missing payrolls or contributions.

In further response to the comments received, MainePERS recognizes the challenges that employers face with staff turnover and staff shortages. To assist employers in addressing those challenges, MainePERS has an Employer Reporting Unit with staff whose dedicated responsibilities are to work with employers to assist in the processing of payrolls and other required information. Each employer is assigned an Account Associate as their contact to resolve any issues that they encounter. The Unit also has a Training Specialist who works with employers to ensure that their staff have the information necessary to successfully process MainePERS payrolls. MainePERS also provides virtual employer training, issues *Employer Updates* and has a dedicated webpage for information for employers. Despite all of those efforts, MainePERS recognizes that specific circumstances may arise with an employer that results in unavoidable delays in the processing of payrolls.

Based on consideration of the comments received as part of the earlier rulemaking, language was included in the new replacement rule that MainePERS should consider any extenuating circumstances and the extent to which the employer is making good faith efforts to comply with the reporting requirements when determining whether to charge late fees or interest. Language was also added that any late fees paid would be used to offset any interest obligation arising out of the same payroll period.

In response to the comments received after the rule was re-noticed for rulemaking, the System cannot require employers to provide employees access to work records maintained by the employer. The System provides information related to a member's retirement account annually or upon request by the member. Regarding imposing a fine regardless of circumstances for a late filing, the new language reflects prior comments received and acknowledges that employers encounter circumstances beyond their control that impact their ability to timely file reports. The current language results in the employer communicating with the System to reach a resolution, and staff believes this partnership to be important for both employers and members. Finally, regarding the establishment of an appeals process, such a process already exists as it relates to matters administered by MainePERS.

After consideration of comments received as part of the current rulemaking, staff does not recommend any additional changes to the rule. The Board concurs with this recommendation.

At the Board's regular meeting held on September 12, 2024, _____ made the motion, seconded by _____ to provisionally adopt the replacement rule and its basis statement. Voted _____.

⁴ Rachel Dyer, Associate Director, Maine Developmental Disabilities Council

94-411 MAINE STATE RETIREMENT SYSTEM

Chapter 201 REPORTING BY PARTICIPATING LOCAL DISTRICTS AND PUBLIC SCHOOLS

SUMMARY: This Chapter regulates the administrative relationships between the Maine State Retirement System and the Participating Local Districts and Public Schools

1. Payroll Reporting

- A. Each reporting unit shall submit a payroll report to the Maine State Retirement System within 15 days after the end of each month. The report shall contain data relating to all payrolls paid during the month for which the payroll report is submitted and shall be in the format prescribed by the Executive Director.
- B. A reporting unit which has not submitted a completed payroll report received by the Maine State Retirement System by the fifteenth day following the end of the month for which it is due may be charged interest on the total amount due that month and for every succeeding month that the payroll report is overdue. The interest charged shall not exceed the rate established for delinquent municipal taxes as set by the Treasurer of the State of Maine.

AUTHORITY: 5 MRSA, Section 1092, subsection 6, and Section 1062, subsection 2, paragraph A.

EFFECTIVE DATE: January 20, 1985

EFFECTIVE DATE (ELECTRONIC CONVERSION): May 5, 1996

NON-SUBSTANTIVE CORRECTIONS: October 2, 1996 - minor spelling and format.

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS
FROM: DR. REBECCA M. WYKE, CEO
SUBJECT: CEO REPORT
DATE: SEPTEMBER 5, 2024

Pension Administration System (PAS)

We are in the process of reviewing the vendor proposals with our consultant, Linea. We expect to select a vendor in late September or early October.

Board Education Plan

MainePERS offers a variety of educational opportunities to support the Trustees in maintaining current knowledge on programs and services, as well as issues facing the System. Attached is a memorandum outlining the Board Education Plan for 2024-2025. We invite interested Trustees to let us know if they would like the opportunity to attend one of the seminar options in the coming year. We also invite Trustees to request education on specific items of interest.

Enterprise Risk Management Program

Chief Operating Officer and General Counsel Mike Colleran will provide the Board with an update on the Enterprise Risk Management Program presented to the Board's Finance and Audit Committee in August. Attached are a memorandum and other materials.

Stakeholder Concerns

Chief Investment Officer James Bennett will provide additional information to Trustees in response to the July discussion on CalSTRS' 2022 decision to allocate up to 20% of their public equity holdings to the MSCI ACWI Low Carbon Target (LCT) Index. Advocates supporting fossil fuel divestment had requested we look into this approach. Attached are a memorandum and other materials.

MainePERS Board Education Summary

Board Policy 1.8 - Trustee Education

September 2024

MainePERS Sponsored Board Education

New Trustee Orientation delivered by staff with Board engagement (*as needed*)

Quarterly Investment Education delivered by the investment team and/or investment consultants

Annual Fiduciary Education delivered by legal counsel and governance consultant

Annual Good Governance Practices Education delivered by governance consultant

Annual Actuarial Practices Education delivered by actuary

Annual Enterprise Risk Management Review delivered by staff

Annual Divestment Review delivered by staff

Annual System Liability Planning Pre and Post 2028 delivered by staff

Periodic Pension Administration System Education delivered by staff

Biennial DEI Education delivered by consultant

Ad-hoc Board Education will be provided as needed or requested

Mission Moments

Staff provide periodic mission moments to introduce the Board to various programs and services administered by MainePERS. Topics over the past couple of years have included the service retirement program, the disability retirement program, the member annual account summary, the member benefit estimator, new and mid-career online member education, the member portal features, investment team daily operations, the actuarial impact of benefit changes, the appeals program, an introduction to the state-sponsored special plans, pension administration system planning, and group life insurance. Topics planned for the coming year include the preliminary to final benefit process, business continuity planning, and System staffing and succession planning. Additional topics will be added as needed or requested.

Pension Plan Fundamentals

One of a Kind! A Practical Guide for 21st Century Public Pension Trustees

Trustee iPads have access to the Kindle e-book, *One of a Kind! A Practical Guide for 21st Century Public Pension Trustees* by Funston Advisory Services LLC, a nationally known advisor for public retirement systems. The book covers a range of topics relevant to the role of public pension Trustees, including pension plan fundamentals such as: public pension policy, governance, enterprise strategy and risk intelligence, investment oversight, and reporting requirements.

Introduction to Investing

Cambridge Associates

Trustee iPads have a link in Govenda to a series of short, educational videos and written content that provide an overview of the core elements of investing, how Cambridge Associates develops and builds portfolios, and common asset classes used in portfolio construction.

National Conference on Public Employee Retirement Systems

Trustee Educational Seminar – 2025 date & location TBD

The seminar offers trustees an opportunity to build and strengthen their foundational knowledge of pensions and governance. This two-day program is designed with a clear focus on the educational needs of trustees who are new to a public pension plan board. The curriculum centers on investing principles, understanding actuarial science, board policies, and fundamental concepts that every trustee should know. Sample of agenda items: history and mechanics of the defined benefit plan; understanding actuarial science; time value of money; setting the discount rate; asset allocation; fiduciary laws; alternative investments; private equity.

National Council on Teacher Retirement

Annual Trustee Workshop - 2025 date & location TBD

The NCTR Trustee Workshop is developed with input from board trustees on the NCTR Trustee Education Committee. The program is designed by and for public pension board trustees.

Workshop agenda items offer a wide range of educational content for both new and experienced trustees. Sample of agenda items: fiduciary duties; ESG investment factors; cyber security; future of pension funds; alternative investments; public equity and fixed income investments; federal relations update; interrelationships between DB/DC plans.

MAINEPERS

BOARD OF TRUSTEES INVESTMENTS MEMORANDUM

TO: BOARD MEMBERS
FROM: JAMES BENNETT, CHIEF INVESTMENT OFFICER
SUBJECT: ACWI LCT REVIEW
DATE: SEPTEMBER 4, 2024

At the July meeting Trustees were provided with materials that reviewed CalSTRS' decision in 2021 to adopt a goal of achieving an investment portfolio with net zero greenhouse gas emissions by 2050 or sooner, and a subsequent decision to allocate up to 20% of their public equity holdings to a low-carbon index. Specifically, in 2022 CalSTRS adopted a recommendation to allocate up to 20% of the System's public equity holdings to the MSCI ACWI Low Carbon Target Index (LCT).

As a reminder, the LCT is composed of a subset of the companies included in the MSCI All Country World Index (ACWI) – a market capitalization-weighted index covering all developed and emerging markets. The LCT has the goal of reducing emissions associated with the portfolio, subject to a 0.5% tracking error target. That is, the LCT is created by taking the ACWI portfolio and reweighting companies (including reweighting to 0%) such that the aggregate emissions associated with the portfolio are reduced as much as possible.

Today's discussion addresses several questions raised by Trustees during the July meeting concerning the construction and performance of the LCT index. Following this memo are:

- The MSCI ACWI and the MSCI ACWI LCT "fact sheets" containing performance and risk measures for varying periods, for both the LCT and full ACWI.
- A presentation reviewing the construction and performance of LCT in the context of MainePERS' approach to investing in public equity, a brief review of ESG integration at MainePERS, and highlights of private market commitments related to opportunities arising from climate change and energy transition.

POLICY REFERENCE

[Board Policy 2.1 – Investment Policy Statement](#)

[Board Policy 2.6 – Environmental, Social and Governance Policy](#)

[Board Policy 4.5 – Board/Staff Relations](#)[Board Policy 4.6 – Communication and Support to the Board](#)**PUBLIC EQUITY INVESTING AT MAINEPERS AND LCT**

Public Equity represents 30% of the overall MainePERS portfolio, and provides long-term portfolio growth via broad exposure to sources of economic value creation. MainePERS obtains highly diversified exposure to this asset class at very low cost by buying and holding the overall global equity market. As discussed at the June meeting, there are strong reasons to believe that this approach will lead to superior performance relative to active strategies.

As noted above, CalSTRS' decision to allocate a portion of their public equity holdings to the LCT Index was discussed at the July Trustee meeting. This index allows investors to actively express the view that companies with lower emissions will generate outperformance. Specifically, LCT starts with the MSCI All Country World Index and reweights holdings (including eliminating 60% of individual holdings) to reduce the portfolio's associated emissions, while maintaining low tracking error by keeping sector and country weights within narrow bounds.

The past performance of the ACWI and LCT indices, as well as the MainePERS' overall Public Equity allocation, has generally been similar. Please see attached index fact sheets and accompanying presentation for specifics. As discussed in the presentation, the LCT construction approach amounts to making a number of security-specific "bets" related to emissions by increasing holdings of lower-emissions companies such as Softbank while shrinking positions in companies such as Alphabet (Google) due to their higher levels of emissions.

We continue to believe that our approach of holding the overall market remains optimal and best positions MainePERS to generate portfolio growth needed to meet its obligations. This approach provides a high level of diversification and broad exposure to sources of economic growth at very low cost.

ESG INTEGRATION

Board Policy 2.6 directs the Investment Team to maintain awareness of ESG considerations and to incorporate these considerations into investment decision making and monitoring processes. With respect to Public Equity, this is chiefly accomplished via proxy voting which included voting on nearly 11,000 ballots items in the previous fiscal year. For actively-selected investments (Private Equity, Real Estate, Natural Resources, Infrastructure, and Alternative Credit, and Risk Diversifiers), the due diligence process, both pre- and post-investment, includes a formal review of various ESG factors. Further, the Investment Team engages with managers, peers, and various stakeholder to enhance data collection and

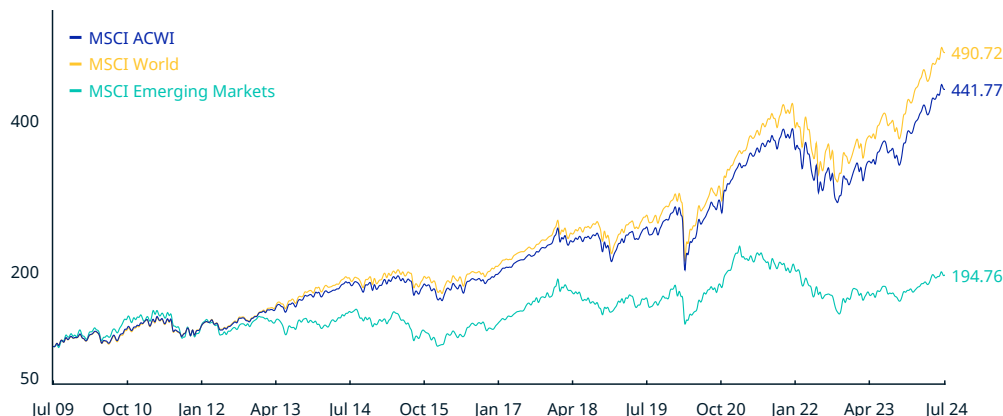
transparency across these asset classes. The results are evident in that two-thirds of MainePERS' managers, representing 87% of assets, were United Nations Principles for Responsible Investment (UN PRI) signatories as of fiscal year end.

MSCI ACWI Index (USD)

The MSCI ACWI captures large and mid cap representation across 23 Developed Markets (DM) and 24 Emerging Markets (EM) countries*. With 2,757 constituents, the index covers approximately 85% of the global investable equity opportunity set.

For a complete description of the index methodology, please see [Index methodology - MSCI](#).

CUMULATIVE INDEX PERFORMANCE – GROSS RETURNS (USD) (JUL 2009 – JUL 2024)



ANNUAL PERFORMANCE (%)

Year	MSCI ACWI	MSCI World	MSCI Emerging Markets
2023	22.81	24.42	10.27
2022	-17.96	-17.73	-19.74
2021	19.04	22.35	-2.22
2020	16.82	16.50	18.69
2019	27.30	28.40	18.88
2018	-8.93	-8.20	-14.24
2017	24.62	23.07	37.75
2016	8.48	8.15	11.60
2015	-1.84	-0.32	-14.60
2014	4.71	5.50	-1.82
2013	23.44	27.37	-2.27
2012	16.80	16.54	18.63
2011	-6.86	-5.02	-18.17
2010	13.21	12.34	19.20

INDEX PERFORMANCE – GROSS RETURNS (%) (JUL 31, 2024)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED				Div Yld (%)	P/E	P/E Fwd	P/BV
					3 Yr	5 Yr	10 Yr	Since Dec 31, 1987				
MSCI ACWI	1.64	8.23	17.55	13.41	6.26	11.57	9.29	8.34	1.89	21.29	17.63	3.14
MSCI World	1.78	8.60	18.89	14.03	7.37	12.60	10.10	8.53	1.80	22.13	18.60	3.43
MSCI Emerging Markets	0.37	5.01	6.68	8.08	-2.34	3.80	3.01	9.59	2.68	15.90	11.98	1.79

FUNDAMENTALS (JUL 31, 2024)

INDEX RISK AND RETURN CHARACTERISTICS (JUL 31, 2024)

	Turnover (%) ¹	ANNUALIZED STD DEV (%) ²			SHARPE RATIO ^{2,3}			Since Dec 31, 1987	MAXIMUM DRAWDOWN	
		3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr		(%)	Period YYYY-MM-DD
MSCI ACWI	2.41	16.78	17.43	14.82	0.26	0.59	0.57	0.39	58.06	2007-10-31–2009-03-09
MSCI World	2.25	17.23	17.80	15.01	0.32	0.63	0.61	0.40	57.46	2007-10-31–2009-03-09
MSCI Emerging Markets	5.10	17.39	18.59	17.17	-0.24	0.17	0.16	0.38	65.14	2007-10-29–2008-10-27

¹ Last 12 months

² Based on monthly gross returns data

³ Based on NY FED Overnight SOFR from Sep 1 2021 & on ICE LIBOR 1M prior that date

* DM countries include: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the UK and the US. EM countries include: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates.

The MSCI ACWI Index was launched on May 31, 1990. Data prior to the launch date is back-tested test (i.e. calculations of how the index might have performed over that time period had the index existed). There are frequently material differences between back-tested performance and actual results. Past performance – whether actual or back-tested – is no indication or guarantee of future performance.

INDEX CHARACTERISTICS

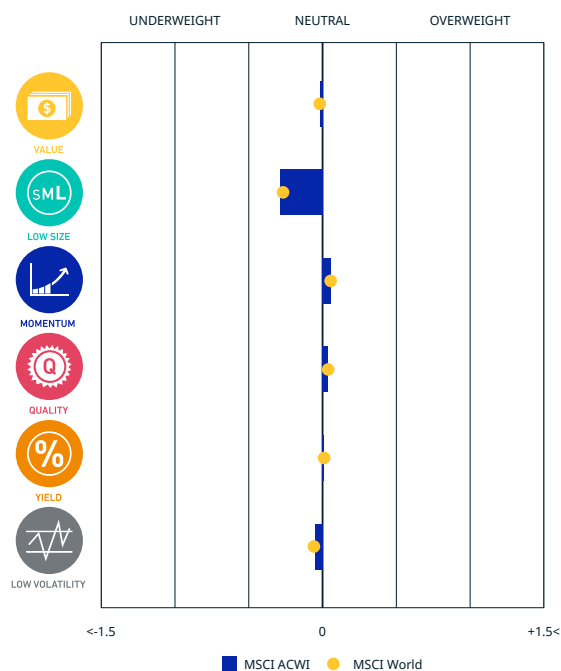
MSCI ACWI	
Number of Constituents	2,757
Mkt Cap (USD Millions)	
Index	74,868,966.24
Largest	3,257,866.29
Smallest	113.36
Average	27,155.95
Median	6,907.87

TOP 10 CONSTITUENTS

	Country	Float Adj Mkt Cap (USD Billions)	Index Wt. (%)	Sector
APPLE	US	3,257.87	4.35	Info Tech
MICROSOFT CORP	US	2,953.10	3.94	Info Tech
NVIDIA	US	2,925.50	3.91	Info Tech
AMAZON.COM	US	1,750.59	2.34	Cons Discr
META PLATFORMS A	US	1,040.42	1.39	Comm Svcs
ALPHABET A	US	1,010.89	1.35	Comm Svcs
ALPHABET C	US	883.74	1.18	Comm Svcs
BROADCOM	US	707.39	0.94	Info Tech
TAIWAN SEMICONDUCTOR MFG	TW	700.10	0.94	Info Tech
TESLA	US	665.18	0.89	Cons Discr
Total		15,894.78	21.23	

FACTORS - KEY EXPOSURES THAT DRIVE RISK AND RETURN

MSCI FACTOR BOX



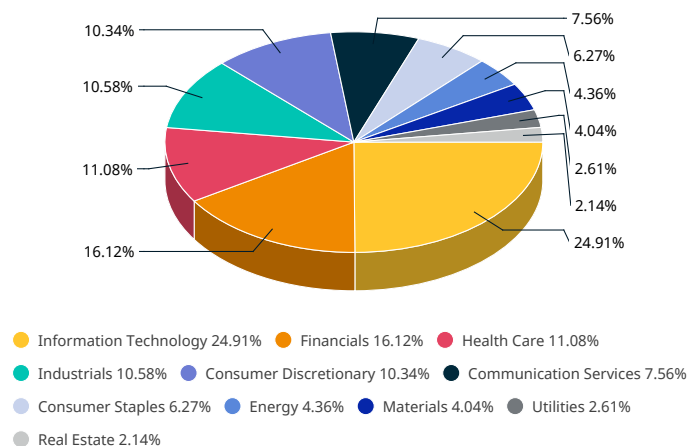
MSCI FaCS

- VALUE**
Relatively Inexpensive Stocks
- LOW SIZE**
Smaller Companies
- MOMENTUM**
Rising Stocks
- QUALITY**
Sound Balance Sheet Stocks
- YIELD**
Cash Flow Paid Out
- LOW VOLATILITY**
Lower Risk Stocks

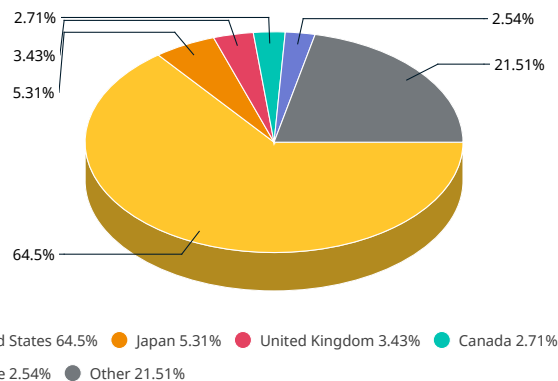
MSCI FaCS provides absolute factor exposures relative to a broad global index - MSCI ACWI IMI.

Neutral factor exposure (FaCS = 0) represents MSCI ACWI IMI.

SECTOR WEIGHTS



COUNTRY WEIGHTS



MSCI FACTOR BOX AND FaCS FRAMEWORK (Please refer to complete description of the MSCI FaCS methodology [here](#))

MSCI FaCS is a standard method for evaluating and reporting the Factor characteristics of equity portfolios. MSCI FaCS consists of Factor Groups (e.g. Value, Size, Momentum, Quality, Yield, and Volatility) that have been extensively documented in academic literature and validated by MSCI Research as key drivers of risk and return in equity portfolios. These Factor Groups are constructed by aggregating 16 factors (e.g. Book-to-Price, Earnings/Dividend Yields, LT Reversal, Leverage, Earnings Variability/Quality, Beta) from the latest Barra global equity factor risk model, GEMLT, designed to make fund comparisons transparent and intuitive for use. The MSCI Factor Box, which is powered by MSCI FaCS, provides a visualization designed to easily compare absolute exposures of funds/indexes and their benchmarks along 6 Factor Groups that have historically demonstrated excess market returns over the long run.

ABOUT MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 45 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process. To learn more, please visit www.msci.com.

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MSCI ACWI Low Carbon Target Index (USD)

The **MSCI ACWI Low Carbon Target Index** is based on the MSCI ACWI Index, its parent index, and includes large and mid-cap stocks across 23 Developed Markets (DM) and 24 Emerging Markets (EM) countries*. The Index is a benchmark for investors who wish to manage potential risks associated with the transition to a low carbon economy. The index aims for a tracking error target of 0.5% (50 basis points) while minimizing the carbon exposure. By overweighting companies with low carbon emissions (relative to sales) and those with low potential carbon emissions (per dollar of market capitalization), the index reflects a lower carbon exposure than that of the broad market. It uses MSCI ESG CarbonMetrics data from MSCI ESG Research Inc.

For a complete description of the index methodology, please see [Index methodology - MSCI](#).

CUMULATIVE INDEX PERFORMANCE – NET RETURNS (USD) (NOV 2010 – JUL 2024)



ANNUAL PERFORMANCE (%)

Year	MSCI ACWI Low Carbon Target	MSCI ACWI
2023	22.06	22.20
2022	-19.07	-18.36
2021	18.26	18.54
2020	16.93	16.25
2019	27.69	26.60
2018	-9.78	-9.41
2017	23.59	23.97
2016	7.27	7.86
2015	-1.82	-2.36
2014	4.42	4.16
2013	22.93	22.80
2012	17.17	16.13
2011	-7.20	-7.35

INDEX PERFORMANCE – NET RETURNS (%) (JUL 31, 2024)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED				Since Nov 30, 2010
					3 Yr	5 Yr	10 Yr		
MSCI ACWI Low Carbon Target	1.90	8.95	17.68	13.64	5.57	11.07	8.79	9.56	
MSCI ACWI	1.61	8.09	17.02	13.10	5.75	11.05	8.74	9.45	

FUNDAMENTALS (JUL 31, 2024)

Div Yld (%)	P/E	P/E Fwd	P/BV
1.87	21.81	17.80	3.10
1.89	21.29	17.63	3.14

INDEX RISK AND RETURN CHARACTERISTICS (NOV 30, 2010 – JUL 31, 2024)

	Beta	Tracking Error (%)	Turnover (%) ¹	ANNUALIZED STD DEV (%) ²			SHARPE RATIO ^{2,3}			Since Nov 30, 2010	MAXIMUM DRAWDOWN	
				3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr		(%)	Period YYYY-MM-DD
MSCI ACWI Low Carbon Target	1.00	0.45	20.31	16.93	17.52	14.90	0.22	0.56	0.53	0.62	33.42	2020-02-12–2020-03-23
MSCI ACWI	1.00	0.00	2.41	16.78	17.43	14.82	0.23	0.56	0.53	0.61	33.74	2020-02-12–2020-03-23

¹ Last 12 months ² Based on monthly net returns data ³ Based on NY FED Overnight SOFR from Sep 1 2021 & on ICE LIBOR 1M prior that date

* DM countries include: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the UK and the US. EM countries include: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates.

The MSCI ACWI Low Carbon Target Index was launched on Sep 23, 2014. Data prior to the launch date is back-tested test (i.e. calculations of how the index might have performed over that time period had the index existed). There are frequently material differences between back-tested performance and actual results. Past performance – whether actual or back-tested – is no indication or guarantee of future performance.

INDEX CHARACTERISTICS

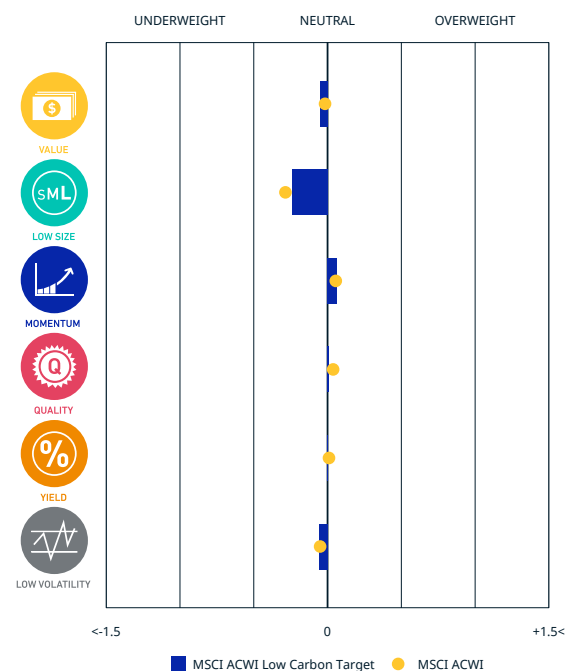
	MSCI ACWI Low Carbon Target	MSCI ACWI
Number of Constituents	1,099	2,757
	Weight (%)	
Largest	4.42	4.35
Smallest	0.00	0.00
Average	0.09	0.04
Median	0.04	0.01

TOP 10 CONSTITUENTS

	Country	Index Wt. (%)	Parent Index Wt. (%)	Sector
APPLE	US	4.42	4.35	Info Tech
NVIDIA	US	3.93	3.91	Info Tech
MICROSOFT CORP	US	3.92	3.94	Info Tech
AMAZON.COM	US	2.36	2.34	Cons Discr
META PLATFORMS A	US	1.41	1.39	Comm Svcs
ALPHABET A	US	1.41	1.35	Comm Svcs
ALPHABET C	US	1.12	1.18	Comm Svcs
BROADCOM	US	1.02	0.94	Info Tech
TAIWAN SEMICONDUCTOR MFG	TW	1.01	0.94	Info Tech
TESLA	US	0.98	0.89	Cons Discr
Total		21.58	21.23	

FACTORS - KEY EXPOSURES THAT DRIVE RISK AND RETURN

MSCI FACTOR BOX



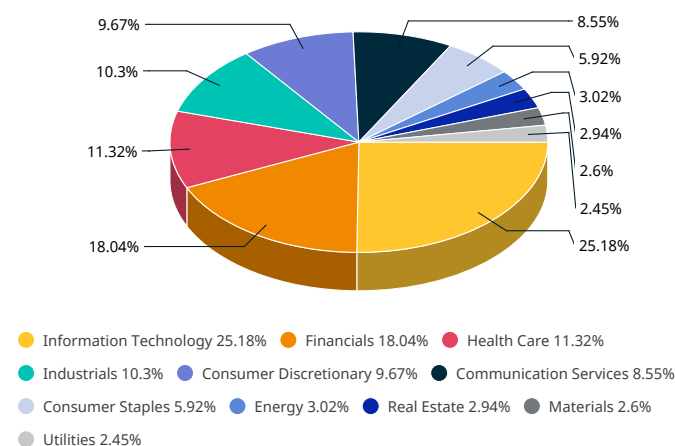
MSCI FaCS

- VALUE**
Relatively Inexpensive Stocks
- LOW SIZE**
Smaller Companies
- MOMENTUM**
Rising Stocks
- QUALITY**
Sound Balance Sheet Stocks
- YIELD**
Cash Flow Paid Out
- LOW VOLATILITY**
Lower Risk Stocks

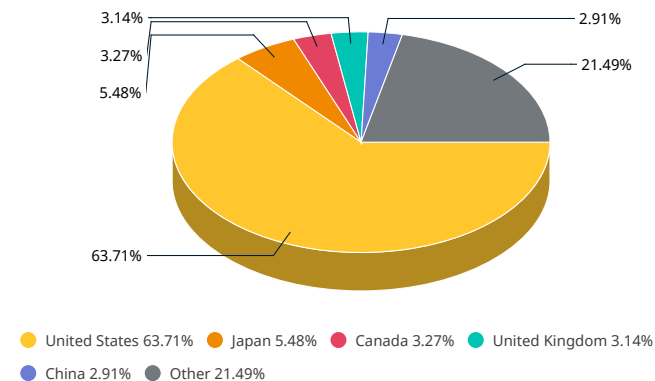
MSCI FaCS provides absolute factor exposures relative to a broad global index - MSCI ACWI IMI.

Neutral factor exposure (FaCS = 0) represents MSCI ACWI IMI.

SECTOR WEIGHTS



COUNTRY WEIGHTS



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ABOUT MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 45 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process. To learn more, please visit www.msci.com.

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MainePERS
PUBLIC EMPLOYEES RETIREMENT SYSTEM

MSCI ACWI LCT Review

September 12, 2024

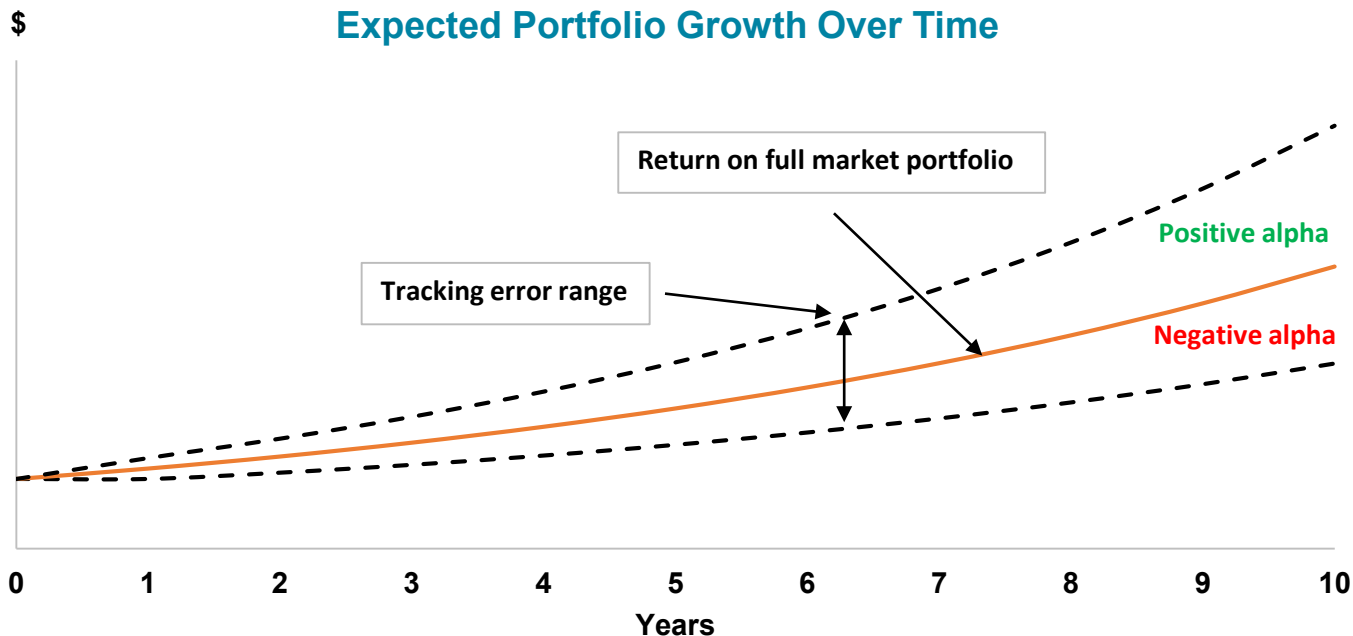
CORRECTED: 9/11/2024

Executive Summary

- MainePERS' passively invests in Public Equity
 - Largest asset class at 30% (\approx \$6B)
 - “Buy the market” strategy approximately holding MSCI's All Country World Index (ACWI)
 - Broad exposure to global sources of potential economic value creation
 - Highly diversified, low cost, portfolio
- In July, we reviewed MSCI's ACWI Low Carbon Target Index (LCT). Today's presentation addresses questions raised in July.
 - LCT under- and over-weights companies in ACWI to create a portfolio with reduced exposure to greenhouse gas emissions
- We do **not** recommend investing in LCT or any strategies that deviate from holding the overall market, for several reasons:
 - Reduced diversification results in increased exposure to uncompensated risks
 - Higher management fees and trading costs
 - LCT is an active investment, expressing the view that companies with higher emissions will underperform
 - We continue to believe that pursuing active public equity strategies is suboptimal
 - Additionally, LCT does not achieve LD 99's fossil fuel divestment mandate
- ESG factors remain a key consideration in MainePERS' investment approach

Why hold the market in Public Equity?

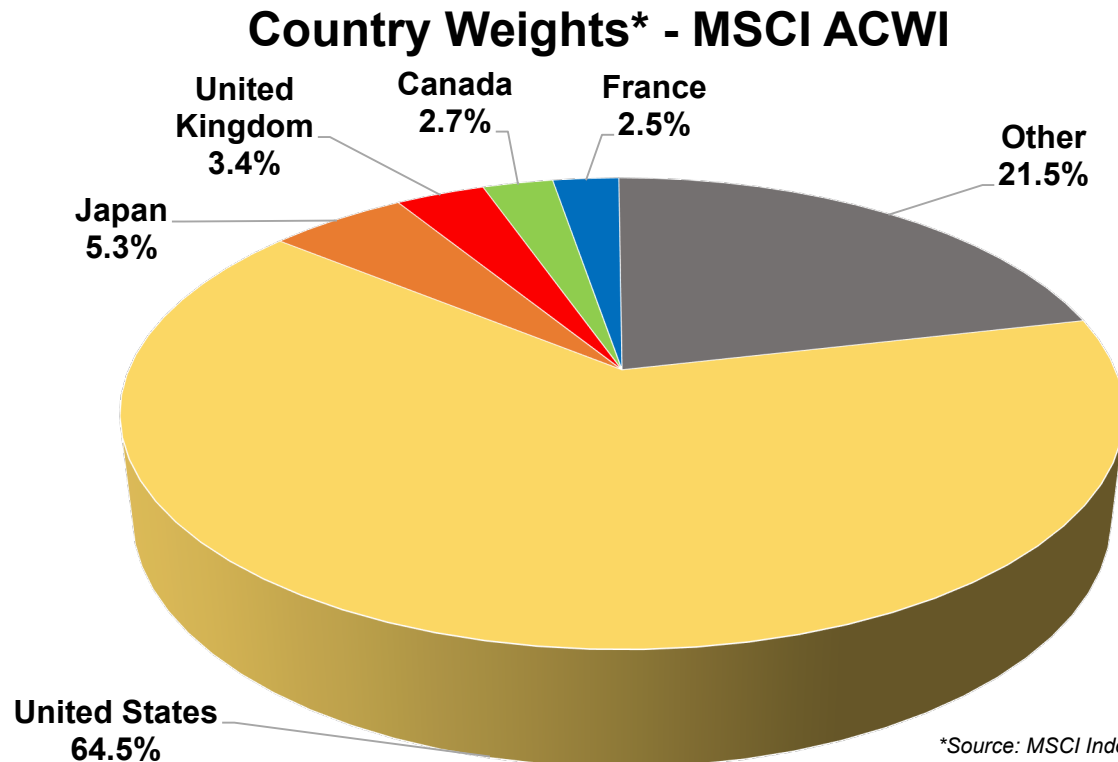
- Holding the full market is the default “neutral” position – we will earn the market return
- Shifting from market weights is an active “bet”, and should be done only when a perceived structural edge exists (e.g., access to better information than the rest of the market)
 - If edge pay off => earn positive alpha
 - If not => earn negative alpha



MSCI ACWI - Diversified Global Index

MSCI's All Country World Index (ACWI)

- Covers large and mid cap stocks
- 23 Developed markets
- 24 Emerging markets
- Includes ~2,700 companies
- Market capitalization weighted
 - Index weights are proportional to individual stock market values
 - Values reflect market consensus



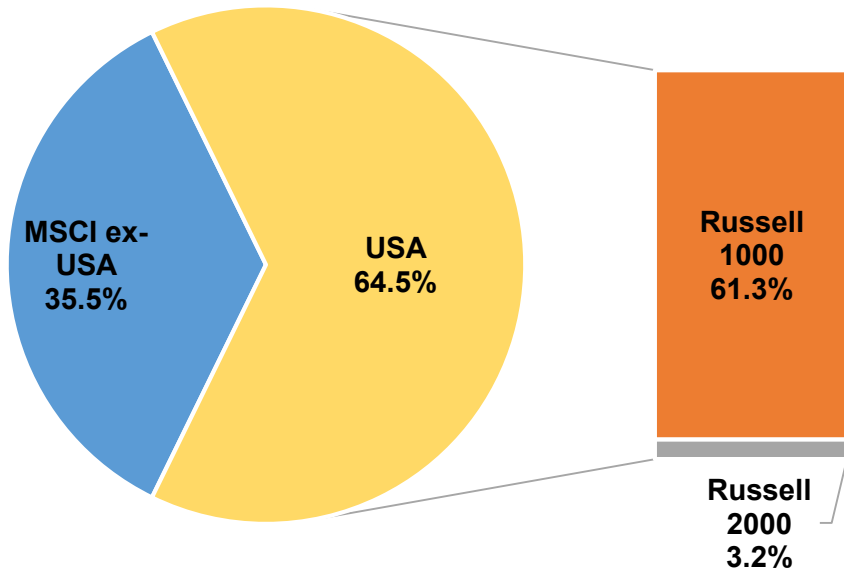
*Source: MSCI Index Factsheet, July 31, 2024

MainePERS Public Equity Allocation

Asset Class Summary

- Same countries, with same weightings, as ACWI
- Only difference is in USA – our holdings includes small company stocks
- Passively invested – Buy and Hold with very little trading
- Benchmark: Russell 3000 & MSCI ACWI ex-USA, based on ACWI weights

Strategy Implementation



USA – Russell 3000

- 98% of the investable U.S. equity market
- 3000 largest US stocks
- *Russell 1000* – large-capitalization
- *Russell 2000* – small-capitalization

International – MSCI ACWI ex-USA

- 22 Developed Markets (70%)
- 24 Emerging Markets (30%)
- 2,228 companies

As of July 31, 2024

MSCI ACWI Low Carbon Target (LCT) – Construction

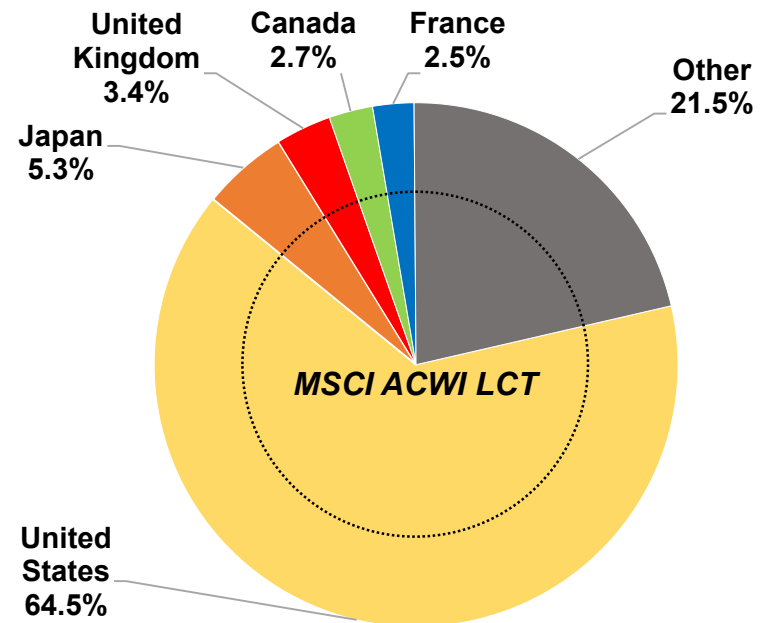
MSCI LCT index drops roughly 60% of the companies contained in ACWI.

Objective: Starting with the ACWI universe, construct a portfolio that maximizes reduction in associated greenhouse gas emissions

Optimization Process

Shift capital between companies based on emissions levels, subject to constraints relative to ACWI

- Expected Tracking Error < 50 basis points
- Less than 2% change in individual country weights
- Less than 2% change in Sector weights, other than Energy sector
- Projected one-way turnover < 10% at each semi-annual review



MSCI ACWI – Country Weights

LCT – Methodology

- ACWI weighted average emissions is computed using constituent weights and the emissions associated with each company
- LCT is constructed by decreasing holdings of some companies, and increasing holdings of others in order to maximize the reduction in emissions, *subject to constraints mentioned above*.
- MSCI ESG Research proprietarily collects company-specific direct and indirect emissions

Company	ACWI Weight (A)	Company Emissions (B)	Weighted Emissions (A*B)	Optimizer	LCT Weight (C)	Weighted Emissions (C*B)
Company #1	1.1%	75	0.83		+/-	-
Company #2	0.3%	20	0.06		+/-	-
Company #3	1.8%	200	3.60		+/-	-
Company # X	↓	↓	↓		↓	↓
Company # Y	↓	↓	↓		↓	↓
Company #1099	0.4%	30	0.12		+/-	-
Company #2757	0.1%	40	0.04		N/A	N/A
Total:	100.0%		75		100.0%	~25

LCT achieves emissions reduction of around 2/3

LCT vs. ACWI – Key Macro Differences

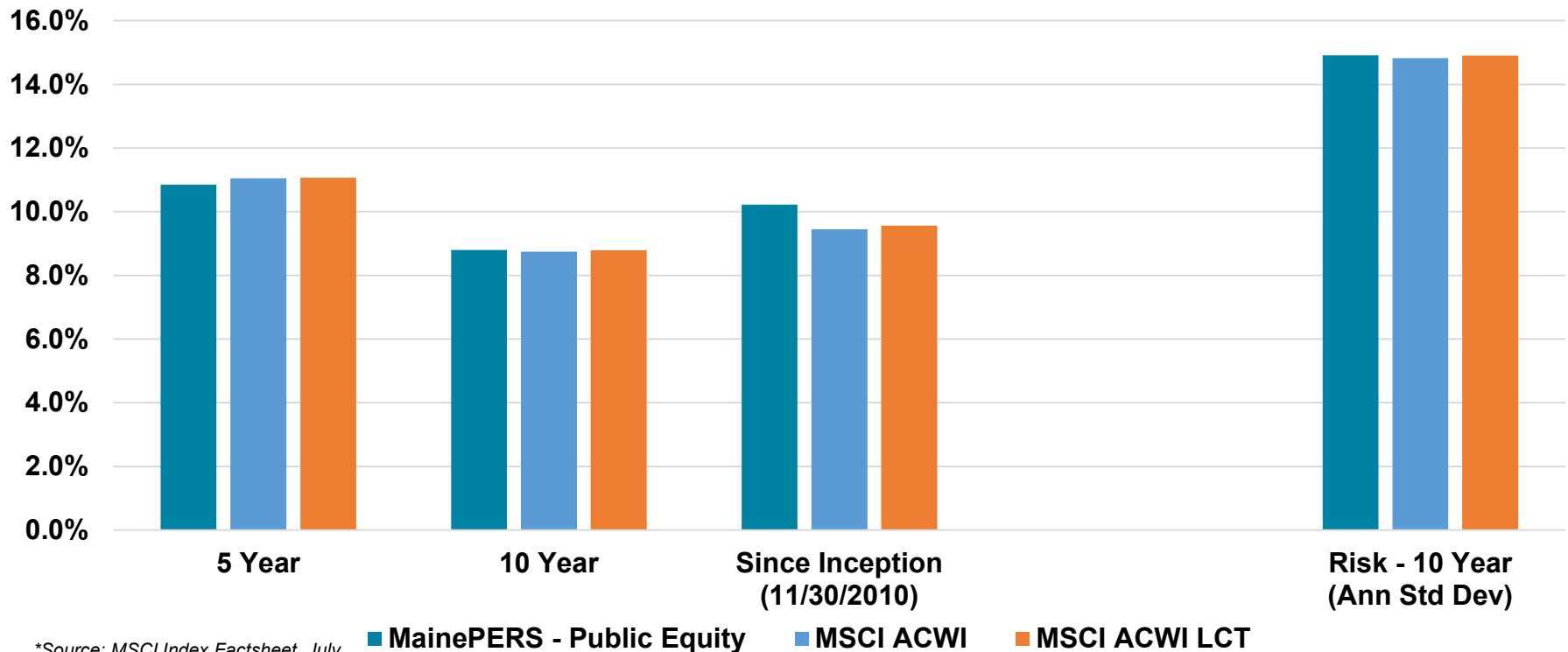
Number of Companies Removed from ACWI By Sector		Attribute Comparison		
Based on iShares MSCI ACWI and MSCI ACWI Low Carbon Target (CRBN) ETFs		MSCI ACWI LCT Factsheet – July 31, 2024		
		Category	ACWI	ACWI LCT
Communication	38	# of Companies	2,757	1,099
Consumer Discretionary	144	Annual Turnover	2.4%	20.3%
Consumer Staples	122	Energy + Utility Holdings	6.97%	5.47%
Energy	88	<ul style="list-style-type: none"> Nearly 1,700 companies removed from ACWI 18 percentage point increase in turnover 1.5 percentage point drop in combined energy and utility sector allocation 		
Financials	161			
Health Care	79			
Industrials	238			
Information Technology	117			
Materials	175			
Real Estate	42			
Utilities	93			

Historical Risk and Return

Historical risk and returns are similar across indexes

- MainePERS holdings are very similar to ACWI
- LCT constraints serve to keep sector and country weights similar to ACWI

Performance and Risk Characteristics As of July 31, 2024



*Source: MSCI Index Factsheet, July 31, 2024 (MSCI ACWI LCT Index data prior to Sep 23, 2014 is hypothetical.)

LCT vs. ACWI – Key Micro Differences

- As noted, LCT is constructed by shifting capital from companies with higher emissions to those with lower emissions, resulting in a portfolio of “bets” on individual company returns
- Relative performance of the indexes in the future will be driven by the relative performance of the over- and under-weighted companies
- The below table shows the companies with the largest shifts, by sector:

Change in Index Weight by Name*		
Sector	Company	
	Largest Decrease	Largest Increase
Communication	Universal Music	SoftBank
Consumer Discretionary	Toyota	Ferrari
Consumer Staples	Nestle	Altria
Energy	ExxonMobil	Halliburton
Financials	Berkshire Hathaway	Cathay Financial
Health Care	Abbott Labs	Johnson & Johnson
Industrials	GE Aerospace	AMETEK
Information Technology	Hon Hai Precision	KLA Corporation
Materials	BHP Group	Freeport-McMoran
Real Estate	Realty Income REIT	Hulic Ltd.
Utilities	Southern Company	American Water Works

*Based on iShares MSCI ACWI and MSCI ACWI Low Carbon Target (CRBN) ETFs

Achieving Public Equity's Objectives

Restricting investment universe reduces ability to achieve MainePERS goals

MainePERS

Objective: Long-term portfolio growth through broad exposure to sources of economic value creation

- **Highly Diversified**

- Broad exposure to global economies and industries
- Consistent with benchmark return and risk objectives

- **Passive**

- Limited inefficiencies in public markets
- Ease of implementation, allowing resources to be focused on value-adding alternative assets
- Minimal trading

- **Optimizes Costs**

- Low management fees & trading costs

Rules-based Indexes

Objective: Express specific investment views via active exposure decisions

- **Reduced diversification**

- Increased exposure to uncompensated idiosyncratic stock- and industry-specific risks
- Sector-based divestment results in over-exposure to sector “shocks”

- **Active strategy**

- Tilts weights away from broad market
- Binary “bet” that one type of company will perform better than another

- **Higher costs (LCT)**

- 5 to 8 basis points (bps) versus ~2 bps
- Increase of \$2.0 to \$3.0MM
- Higher ongoing trading costs

MainePERS ESG Integration

- Board Policy 2.6 – Environmental, Social and Governance Policy directs a holistic portfolio approach encompassing sustainability and environmental issues
- MainePERS engages with public companies in which it invests, chiefly through proxy voting
 - Policies encourage responsible stewardship of capital and long term success
 - Board Policy 2.7 – Engagement
 - Investment Practice 21.0 – Proxy Voting Implementation Guidelines
 - Proxy agent (Glass Lewis) assists in voting on nearly 11,000 ballot items
- ESG considerations are a factor in all active investment decisions considered or made by MainePERS (private market and Risk Diversifiers investments)
 - Integrated into due diligence process pre- and post-investment
 - Awareness and education part of continuously improving ESG implementation
 - Engagement with managers, peers, and various stakeholder to enhance data collection and transparency
- Manager selection and portfolio construction informed by these considerations
 - 59 (out of 87 total) MainePERS' managers, with investment responsibility for 87% of assets, were UN PRI signatories as of fiscal year end

MainePERS Manager Examples

Nearly \$1.5 B committed to sustainability and climate-related solutions

Manager	Asset Class	Description	Committed Capital
Capricorn Investment Group	Private Equity	Venture capital and growth funds which invest in deep technology companies focused on climate solutions.	\$165MM 4 Fund Commitments 1 Co-Investment
Advent International	Private Equity	Advent International supports the transition to a low carbon economy through active engagement with portfolio companies and by addressing its own operations. Given a wide-ranging view across sectors and geographies, Advent is well-positioned to partner with companies to meet climate-related challenges.	\$227MM 5 Fund Commitments 2 Co-Investments
Meridiam	Infrastructure	Firm focuses on five strategic pillars: <ul style="list-style-type: none"> • Deliver resilient infrastructure and develop resilient cities • Accelerate energy transition • Avoid & reduce emissions • Promote good work conditions, inclusion, diversity & gender equality • Protect & enhance biodiversity 	\$365MM 6 Fund Commitments
Stonepeak	Infrastructure	Invests in infrastructure that will support an equitable, reliable, and affordable energy transition. It strives to be at forefront of investing across the energy value chain, from renewable energy, to the infrastructure enabling cleaner fuels and mass electrification.	\$650MM 6 Fund Commitments 3 Co-Investments
Cube	Infrastructure	Active investors across both the energy demand and supply sides, driving energy-efficiency and decarbonization from both ends with investments in district heating networks, renewables (solar, wind, hydro, geothermal) and energy-from-waste.	\$225MM 3 Fund Commitments

Summary

- In public market asset classes, holding the overall market is optimal for investors without an “edge”
- LCT and similar indices
 - Higher costs
 - Less diversified, with greater exposure to uncompensated risks
 - Allow investors to actively express specific views (e.g., companies with higher emissions will underperform)
- MainePERS approach to public market investments remains optimal
 - Buy and hold the market
 - Low cost, highly diversified
 - Provides broad exposure to sources of economic growth
- MainePERS continues to integrate ESG factors into investment decisions

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS
FROM: MICHAEL COLLERAN, CHIEF OPERATING OFFICER & GENERAL COUNSEL
SUBJECT: ENTERPRISE RISK MANAGEMENT REPORT
DATE: SEPTEMBER 4, 2024

Last year we implemented an Enterprise Risk Management Program that includes management reporting at least annually to the Finance and Audit Committee on the significant risks facing the System and the steps taken to mitigate the risks. We reported to the Committee at the August meeting and will provide the report to the full Board at the September meeting. Attached to this memo is the register of risks identified by the senior management team. Also attached is a red-lined version showing changes from last year.

The top risks facing the System remain the same as reported last year. They are:

1. Data breach;
2. Failure to make benefit payments;
3. Fraud or theft; and
4. Errors in calculating benefits and contributions.

The register includes mitigation steps in place and further steps to be taken for these and the other identified risks. We look forward to discussing these with the Board and answering any questions.

POLICY REFERENCE

[Board Policy 1.6 – Finance and Audit Committee of the Board](#)

[Board Policy 4.5 – Board/Staff Relations](#)

[Board Policy 4.6 – Communication and Support to the Board](#)

RECOMMENDATION

No Board action is required at this time.

MainePERS Risk Register August 2024

	Risk	Primary Risk Type	Owner	Severity	Speed of Onset	Momentum	Likelihood	Mitigation in Place	Mitigation Needed	Risk Direction
1	Risk of data breach	Reputational	Joy	High	High	9	Medium	Firewall assessments; external and internal pen test; CAVA; VSOC; Tyler Detect; Crowdstrike; PaloAlto firewall; Mimecast email encryption; Merakis; Cisco ICE network layer protection; mail verification in Doc Center; locked shred containers; employee training; password protected devices; little to no use of local documents; reduced collection of disability retiree tax documentation	Reduce use of paper containing non-public information; barcoding for imaging; clean desk policy; expand use of encrypted email; reduce retention of nonpublic information; expand use of multifactor authentication	Stable
2	Risk of failure to make benefit payments	Reputational	Sherry	High	High	9	Low	Regular wire transfers between investment trust accounts to BSB - two business days prior to payroll being due to mitigate risk of uninsured funds at BS but assure cash availability; BSB does an "intra-day" collateralization prior to end of the business day; published schedule of due dates for processing; documented procedures for creating bank and print files and back-up assignments three personnel deep; the Brunswick DR site is available for check production if Augusta is unavailable; BSB email confirmation process for having processed the bank file	Testing of back-up systems at DR site	Stable
3	Risk of fraud or theft	Reputational	Sherry	High	High	9	Medium	Controls exist in A&F for moving funds out of MainePERS accounts; controls exist in Investments for moving money out of MainePERS accounts; controls exist in Member Services to prevent distributions from being misdirected; identification procedures required to protect private information and prevent unauthorized transactions; elevation process and V3 security flags for suspicious activity; annual verification of foreign benefit recipients; annual statement of compensation process for disability retirees; internal/external auditing of functions	Assessment of security roles in future Pension Administration System (PAS) software - least privilege as a model; training staff to recognize, respond, and report; external assessment of vulnerabilities and mitigators	Stable
4	Risk of errors in calculating benefits and contributions	Operational	Chip	Medium	High	6	High	Policies; practices; V3 flags; ER errors and exceptions; employer audits; enhanced data review of incoming payroll and real time correction of issues detected; internal audits; verification of calculations; workflow reviews; external audits; member statements; routine data integrity queries; data review and questions from annual actuarial process; data cleanup project; data challenge tracking process	Continue data cleanup effort with external resources; migration of manual processes into (PAS) (preferred) or controlled tools; process improvements and routine process reviews; additional automated error/exception flags; ongoing training; recording and tracking of errors; individual staff assessments of error ratios and productivity expectations; increasingly investigating and addressing suspected erroneous data at the time of discovery	Decreasing
5	Risk of business interruption	Operational	Val	Medium	High	6	Low	Remote work capability; building air filtration and treatment system; business continuity planning & testing; incident response planning; disaster recovery facility; data replication; Airgap; security systems; alarm monitoring; access controls; labor relations; workplace culture; installation of whole-building generator	Enhanced BCP departmental testing - failover of technologies; ongoing training; transition from tape-based backup storage to Exagrid; continue transition to cloud	Stable
6	Risk of failure or inadequacy of financial assets of the Trust	Financial	Jim	High	Medium	6	Low	Actuarial smoothing; risk target consistent with ability to bear risk, and asset allocation consistent with risk target - we are able to experience losses and stick with policy allocations; periodic reviews of risk target	Plan for post-2028 funding	Stable

MainePERS Risk Register August 2024

	Risk	Primary Risk Type	Owner	Severity	Speed of Onset	Momentum	Likelihood	Mitigation in Place	Mitigation Needed	Risk Direction
7	Risk of adverse legislative actions	Strategic	Kathy	High	Medium	6	Low	Maintain credibility with Legislature and Governor's office; respond quickly and appropriately to constituent issues; maintain relations with stakeholders; mitigate volatility in contribution rates; stay informed on legislative trends elsewhere	Improved elevation of member issues and legislative contacts; reduction of backlogs and errors	Stable
8	Risk of failure of Board governance and functioning	Strategic	Mike	High	Medium	6	Low	Board education; onboarding of new Board members; Board governance manual; maintain credibility with Governor's office; maintain relations with stakeholders	Educate stakeholders about the value of qualities needed in board nominees.	Stable
9	Risk of employee injury or death	Operational	Lynn	Medium	High	6	Low	Daily building inspections for potential hazards; ergonomics training; maintenance of MDSS; first aid and trauma kits; AED units; fire drills; armed aggressor training and drills; building control systems; overall staff security training; proactive Safety Marshal team; VDT training and glass reimbursement; hearing protection; external audit of safety practices	Employee focus groups on concerns and mitigation; expanded training; armed aggressor tabletop	Stable
10	Risk of inability to recruit & retain personnel	Operational	Mike	Medium	Medium	4	Medium	Policies; practices; dedicated trainers; training materials; succession planning; compensation; benefits; hybrid work; labor relations; staff engagement; events committee; values committee; metrics monitoring; compensation studies; increased staffing; change management consultant; feedback from staff through focus groups and surveys	Improved training and support for trainers; documentation of institutional knowledge; implementation of succession plans; maintain forward momentum on improvements to work environment; expand recruiting tools (e.g., tools we use, where we post, analysis of effectiveness); develop processes and expand automation to reduce reliance on expertise; DEI initiatives	Decreasing
11	Risk of failed technology implementation	Operational	Joy	Medium	Medium	4	Medium	Cross-departmental implementation teams with regular meetings; use of consultant to help design PAS RFP and assist with selection and onboarding; creation of Director of IT and business analyst positions; movement of System Analysts to IT; expansion of IT staff; financial resources devoted to projects; change management consultant	Give appropriate priority and resources to implementation; pursue contract provisions to protect MainePERS from vendor-caused failure; consider during any transition to a new tool whether at least a temporary legacy or otherwise redundant system is feasible to have in place as a failsafe in the event the new system needs to be abandoned before, during, or shortly subsequent to launch	Stable
12	Risk of noncompliance with legal requirements	Legal	Mike	Medium	Medium	4	Low	Compliance program; internal audits; employer audits; pension counsel; periodic reviews of DC plan documents; monitoring of federal and state law changes; payment of actuarial interest on PB to Final over six months; increased staffing	Flagging, recording, and tracking of errors	Stable
13	Risk of vendor failure to perform	Operational	Mike	Medium	Medium	4	Low	Vendor selection process; vendor management program; insurance requirements; some cash held in BSB investment trust accounts & BSB "intra-day" collateralization	Expand vendor management program to use as a predictive tool; put emphasis on vendor performance rather than just financial and security risk; incorporate review of critical vendor business continuity plans into vendor management program	Stable
14	Risk of loss of stakeholder trust	Reputational	Mike	High	Low	3	Low	Devoting resources and effort to maintaining stakeholder relations; responding to stakeholder complaints in a timely, sensitive manner, and attempting to resolve the issue; backlog reduction efforts	Improved elevation of member issues	Stable
15	Risk of property damage or loss	Operational	Lynn	Low	High	3	Low	Preventative maintenance; planning for replacements; inspections; third party review; monitoring and alarm systems; facility manager and public safety responses to alarms; security and safety training for personnel; building access controls; insurance; defensive driver training; Facility Manager review of contracts for gaps		Stable

MainePERS Risk Register August 2024

	Risk	Primary Risk Type	Owner	Severity	Speed of Onset	Momentum	Likelihood	Mitigation in Place	Mitigation Needed	Risk Direction
16	Risk of inability to adapt and change	Operational	Mike	Medium	Low	2	Medium	Member, employer, and staff surveys; strategic plan & objectives; professional development opportunities; culture change & support activities; performance reviews for all employees including confidential staff; measurement and communication of progress toward goals; recruitment and retention of personnel with desired skills; change management consultant	Consider inclusion of factors like innovation and adaptability in job descriptions and hiring; also encourage existing staff to understand and engage in the same endeavor; consider use of employee focus groups (including confidential employees) with regular meetings	Stable

	Risk	Primary Risk Type	Owner	Severity	Speed of Onset	Momentum	Likelihood	Mitigation in Place	Mitigation Needed	Risk Direction
1	Risk of data breach	Reputational	Joy	High	High	9	Medium	Firewall assessments; external and internal pen test; CAVA; VSOC; Tyler Detect; Crowdstrike; PaloAlto firewall; Mimecast Zix email encryption; Merakis; Cisco ICE network layer protection; mail verification in Doc Center; locked shred containers; employee training; password protected devices; little to no use of local documents; <u>reduced collection of disability retiree tax documentation</u>	Reduce use of paper containing non-public information; barcoding for imaging; clean desk policy; expand use of encrypted email; reduce retention of nonpublic information; expand use of multifactor authentication	Stable
2	Risk of failure to make benefit payments	Reputational	Sherry	High	High	9	Low	Regular wire transfers between investment trust accounts to BSB - two business days prior to payroll being due to mitigate risk of uninsured funds at BS but assure cash availability; BSB does an "intra-day" collateralization prior to end of the business day; published schedule of due dates for processing; documented procedures for creating bank and print files and back-up assignments three personnel deep; the Brunswick DR site is available for check production if Augusta is unavailable;- 7/17/2023 BSB has implemented an email confirmation process for having processed the bank file.	Testing of back-up systems at DR site	Stable
3	Risk of fraud or theft	Reputational	Sherry	High	High	9	Medium Low	Controls exist in A&F for moving funds out of MainePERS accounts; controls exist in Investments for moving money out of MainePERS accounts; controls exist in <u>Member Services Programs</u> to prevent distributions from being misdirected; identification procedures required to protect private information and prevent unauthorized transactions; elevation process and V3 security flags for suspicious activity; annual verification of foreign benefit recipients; annual statement of compensation process for disability retirees; internal/external auditing of functions	Assessment of security roles in future Pension Administration System (PAS) software - least privilege as a model; training staff to recognize, respond, and report; <u>external assessment of vulnerabilities and mitigators</u>	Stable

4	Risk of errors in calculating benefits and contributions	Operational	Chip	Medium	High	6	High	Policies; practices; V3 flags; ER errors and exceptions; employer audits; <u>enhanced data review of incoming payroll data and real time correction of issues detected</u> ; internal audits; verification of calculations; workflow reviews; external audits; member statements; routine data integrity queries; data review and questions from annual actuarial process; <u>data cleanup project; training; data challenge tracking process</u>	Continue Focused data cleanup effort with external resources; migration of manual processes into (PAS) (preferred) or controlled tools; process improvements and routine process reviews; additional automated error/exception flags; ongoing training; recording and tracking of errors; individual staff assessments of error ratios and productivity expectations; increasingly investigating and addressing suspected erroneous data at the time of discovery	Decreasing Stable
5	Risk of business interruption	Operational	Val	Medium	High	6	Low	Remote work capability; building air filtration and treatment system; business continuity planning & testing; incident response planning; disaster recovery facility; data replication; Airgap; security systems; alarm monitoring; access controls; labor relations; <u>workplace culture; installation of whole-building generator</u>	Enhanced BCP departmental testing - failover of technologies; <u>staff adaptability</u> ; ongoing training; <u>transition from tape-based backup storage to Exegrid; continue transition to cloud</u>	Stable
6	Risk of failure or inadequacy of financial assets of the Trust	Financial	Jim	High	Medium	6	Low	Actuarial smoothing; risk target consistent with ability to bear risk, and asset allocation consistent with risk target - we are able to experience losses and stick with policy allocations; periodic reviews of risk target	<u>Plan for post-2028 funding</u>	Stable
7	Risk of adverse legislative actions	Strategic	Kathy	High	Medium	6	Low	Maintain credibility with Legislature and Governor's office; respond quickly and appropriately to constituent issues; maintain relations with stakeholders; mitigate volatility in contribution rates; stay informed on legislative trends elsewhere	Improved elevation of member issues and legislative contacts; reduction of backlogs and errors	Stable

8	Risk of failure of Board governance and functioning	Strategic	Mike	High	Medium	6	Low	Board education; onboarding of new Board members; Board governance manual; maintain credibility with Governor's office; maintain relations with stakeholders	Educate stakeholders about the value of qualities needed in board nominees.	Stable
9	Risk of employee injury or death	Operational	Lynn	Medium	High	6	Low	Daily building inspections for potential hazards; ergonomics training; maintenance of MDSS; first aid and trauma kits; AED units; fire drills; armed aggressor training <u>and drills</u> ; building control systems; overall staff security training; <u>proactive Safety Marshal team</u> ; VDT <u>training examinations</u> and glasses <u>reimbursement</u> ; <u>hearing protection</u> ; <u>external audit of safety practices</u>	Employee focus groups on concerns and mitigation; expanded training; <u>armed aggressor tabletop</u>	Stable
10	Risk of inability to recruit & retain personnel	Operational	Mike	Medium	Medium	4	Medium	Policies; practices; dedicated trainers; training materials; succession planning; compensation; benefits; hybrid work; labor relations; staff engagement; events committee; values committee; metrics monitoring; compensation studies; <u>increased staffing</u> ; <u>change management consultant</u> ; <u>feedback from staff through focus groups and surveys</u>	Improved training and support for trainers; documentation of institutional knowledge; implementation of succession plans; maintain forward momentum on improvements to work environment; expand recruiting tools (e.g., tools we use, where we post, analysis of effectiveness); <u>adjust compensation/benefits package to remain attractive to prospective employees</u> ; develop processes and expand automation to reduce reliance on expertise; <u>DEI initiatives</u>	<u>Decreasing</u> <u>Increasing</u>
11	Risk of failed technology implementation	Operational	Joy	Medium	Medium	4	Medium	Cross-departmental implementation teams with regular meetings; use of consultant to help design PAS RFP and assist with selection and onboarding; creation of Director of IT and business analyst positions; movement of System Analysts to IT; expansion of IT development staff; financial resources devoted to projects; <u>change management consultant</u>	Give appropriate priority and resources to implementation; pursue contract provisions to protect MainePERS from vendor-caused failure; consider during any transition to a new tool whether at least a temporary legacy or otherwise redundant system is feasible to have in place as a failsafe in the event the new system needs to be abandoned before, during, or shortly subsequent to launch	Stable
12	Risk of noncompliance with legal requirements	Legal	Mike	Medium	Medium	4	Low	Compliance program; internal audits; employer audits; pension counsel; periodic reviews of DC plan documents; monitoring of federal and state law changes; <u>payment of actuarial interest on PB to Final over six months</u> ; <u>increased staffing</u>	Flagging, recording, and tracking of errors; <u>sufficient resources to meet compliance requirements (e.g., PB to Final)</u> ; <u>external review of DB plan documents</u>	Stable

13	Risk of vendor failure to perform	Operational	Mike	Medium	Medium	4	Low	Vendor selection process; vendor management program; insurance requirements; some cash held in BSB investment trust accounts & BSB "intra-day" collateralization	Expand vendor management program to use as a predictive tool; put emphasis on vendor performance rather than just financial and security risk; <u>incorporate review of critical vendor business continuity plans into vendor management program</u>	Stable
14	Risk of loss of stakeholder trust	Reputational	Mike	High	Low	3	Low	Devoting resources and effort to maintaining stakeholder relations; responding to stakeholder complaints in a timely, sensitive manner, and attempting to resolve the issue; backlog reduction efforts	Improved elevation of member issues	<u>Stable</u> Decreasing
15	Risk of property damage or loss	Operational	Lynn	Low	High	3	Low	Preventative maintenance; planning for replacements; inspections; third party review; monitoring and alarm systems; facility manager and public safety responses to alarms; security and safety training for personnel; building access controls; insurance; defensive driver training; <u>Facilities Manager review of contracts for gaps</u>	Maintain relationships with vendors and local authorities through transition to new Facilities Manager	Stable
16	Risk of inability to adapt and change	Operational	Mike	Medium	Low	2	Medium	Member, <u>employer, and staff</u> surveys; strategic plan & objectives; professional development opportunities; culture change & support activities; performance reviews for all employees including confidential staff; measurement and communication of progress toward goals; recruitment and retention of personnel with desired skills; <u>change management consultant</u>	Consider inclusion of factors like innovation and adaptability in job descriptions and hiring; also encourage existing staff to understand and engage in the same endeavor; consider use of employee focus groups (including confidential employees) with regular meetings	Stable

MAINEPERS

BOARD OF TRUSTEES MEMORANDUM

TO: BOARD MEMBERS
FROM: MICHAEL J. COLLERAN, CHIEF OPERATING OFFICER & GENERAL COUNSEL
CHIP GAVIN, CHIEF SERVICES OFFICER
SHERRY VANDRELL, CHIEF FINANCIAL OFFICER
SUBJECT: MEMBER SERVICES, FINANCE, AND OPERATIONS REPORT
DATE: SEPTEMBER 03, 2024

Content in the following paragraphs was selected to provide noteworthy information regarding the System's member services, finance, and operations.

POLICY REFERENCE

[Board Policy 4.5 – Board/Staff Relations](#)





[Board Policy 4.6 – Communications and Support to the Board](#)

MEMBER SERVICES

1. MEMBER AND EMPLOYER EDUCATION: MainePERS held two webinars in August in support of the "open enrollment" period available to some PLD employers and employees. Retirement Services is finalizing the member education schedule through June 2025, which will include the addition of a member education session designed for new to mid-level state employees in a special plan.
2. PHONE SYSTEM UPDATE: As previously reported, MainePERS made a series of upgrades to the phone system in June in order to better serve members. In the month of August, these changes resulted in 96% of all calls to the main line being handled with an average answer time of 41 seconds.
3. PENSION ADMINISTRATION SYSTEM (PAS) PROJECT: A project for MainePERS to obtain a new or upgraded Pension Administration System through a request for proposals (RFP) process continues. As previously noted, the result of the RFP is expected to be a multi-year modernization project to refresh or replace MainePERS current system, known as V3. To date proposals responsive to the RFP have been received and initially reviewed. Evaluations are anticipated to be completed and a selection made this fall. The PAS project supports Goals III and IV and other elements of the Strategic Plan.

Linea, MainePERS' PAS advisor, reports the overall PAS project status is green. The schedule element of the project is reported as yellow. This is indicative of a modest internal schedule adjustment undertaken by MainePERS to accommodate further review and

diligence. MainePERS agrees. The schedule adjustment does not change the general fall timeline for completion of the evaluation process. This yellow item is a change from last month's Trustee report when the schedule component was green. The other items are unchanged in their status.

Overall		Scope	
Schedule		Resources	
Project Lead	Denise Myers	Project Sponsor	CEO Rebecca Wyke
Project Start	July 17, 2023	Project End	October 30, 2024
Reporting Period	August 9 to August 30, 2024	Reporting Date	August 30, 2024
Audience	Chip Gavin, Michael Colleran, Joy Childs, Valerie Scott, Lauren Fowler, Domna Giatas, Timothy Poulin, Sherry Vandrell	Next Core Team Meeting with Linea	September 4, 2024

PAS related change management work with advisor Syntropy Partners is progressing. A Change Readiness assessment, gauging the organization's overall preparedness for the PAS project, is underway. The effort includes analysis of data from MainePERS change work to date and, in combination with internal stakeholder interviews scheduled for September, will inform development of an overall change strategy, associated action and communication plans.

4. PRELIMINARY TO FINAL BENEFIT: Retirement Services implemented a series of new tactics starting in August in a further attempt to reduce the persistent backlog of preliminary benefits awaiting finalization. The new tactics are supported by staff investments authorized by Trustees in the FY25 budget and by the increasing experience of the cohort of Retirement Services staff who have joined MainePERS in the past approximately 3 years, whose skills and experience increasingly complement the skills of more experienced staff. The ultimate intention is to be able to move retirees from their preliminary benefit to their final benefit in less than 6 months and ideally more quickly. A mission moment presentation will be provided about this effort at future Trustee meeting.

FINANCE

1. EMPLOYER REPORTING. Employers submitted defined benefit payrolls on time at a 90% rate in August. This compares to a rate of 94% for the same period last year. Of the 64 payrolls that missed the deadline, half of them were submitted within three days of deadline. The number of accounts now fully reconciled through June data is 555, or 85.3%. This is an increase of 8 accounts since I reported last month.

The aging of the remaining 96 accounts breaks down as follows as of September 3, 2024. The numbers in green represent a decrease in count from the prior period and the number in red is an increase, which is expected as we add new months of data to the review. The

one account with 2017 transactions is being actively worked, as are several of the accounts with 2019 transactions.

Oldest Unreconciled Transactions								
Year	2024	2023	2022	2021	2020	2019	2018	2017
# of Accts	34	20	4	10	10	17	-	1

Work continues with Portland Public Schools and BerryDunn on the payroll reporting issues, although it has slowed in recent weeks with vacation schedules and other conflicts. We are piloting a new approach to clearing up individual accounts in the hopes of moving this work along more quickly.

Work on the payroll filing report setup with ADP continues, and we are looking to get a report for the PLD Plan in the next few weeks for additional testing.

The transition of Group Life Insurance work to the employer reporting team is complete with the exception of an annual task that occurs each April. Employer reporting staff will take this last piece on when it is due again next year.

2. EMPLOYER AUDITING. Two audits were opened during the month of August and no audits were closed. The percentage of resolved findings to date is 95.3%.
3. ACCOUNTING AND FINANCE. The final report on the audit of member statements and estimates was presented to the finance and audit committee at their August meeting. Work is underway on the next internal audit, which is a review of the Business Continuity Program (BCP). The financial statement audit for fiscal year FY24 is also well under way and is on track to complete timely.

OPERATIONS

1. INFORMATION TECHNOLOGY: The IT team completed our email migration from on-premises Exchange to O365 on August 26th with no business interruption. We also installed the hardware for our replacement back-up infrastructure with Exagrid. The modernized Exagrid solution is live and replicating in real time with copies moved nightly to an immutable partition. The IT team is scheduled to install our second Exagrid ecosystem in the Brunswick data center on September 20th. Replacement of the Augusta data center Storage Area Network, which is closing in on end of life, has been scheduled to start in September.

We successfully filled the open IT Project Manager position. Recruiting for business analysts to support the PAS project continues with hopes of having the positions filled in time for vendor selection.

2. FACILITIES: We continue to implement our plan for providing suitable work spaces for our expanding workforce. We awarded a contract for grounds maintenance and landscaping services after a competitive process.
3. LEGAL: We received 18 proposals in response to our RFP for securities litigation and monitoring services. Board counsel is participating in our evaluation process.

4. HUMAN RESOURCES: We had three new hires in August and three terminations. We currently are recruiting for 11 open positions. We are rolling-out a series of short diversity, equity, and inclusion educational courses this month using our KnowBe4 platform. We are beginning negotiations with MSEA on collective bargaining agreements for our three units for the period beginning November 1, 2024.
5. SENIOR MANAGEMENT TEAM: We held our annual staff cookout on August 23. The weather was perfect this year, and staff feedback was very positive.

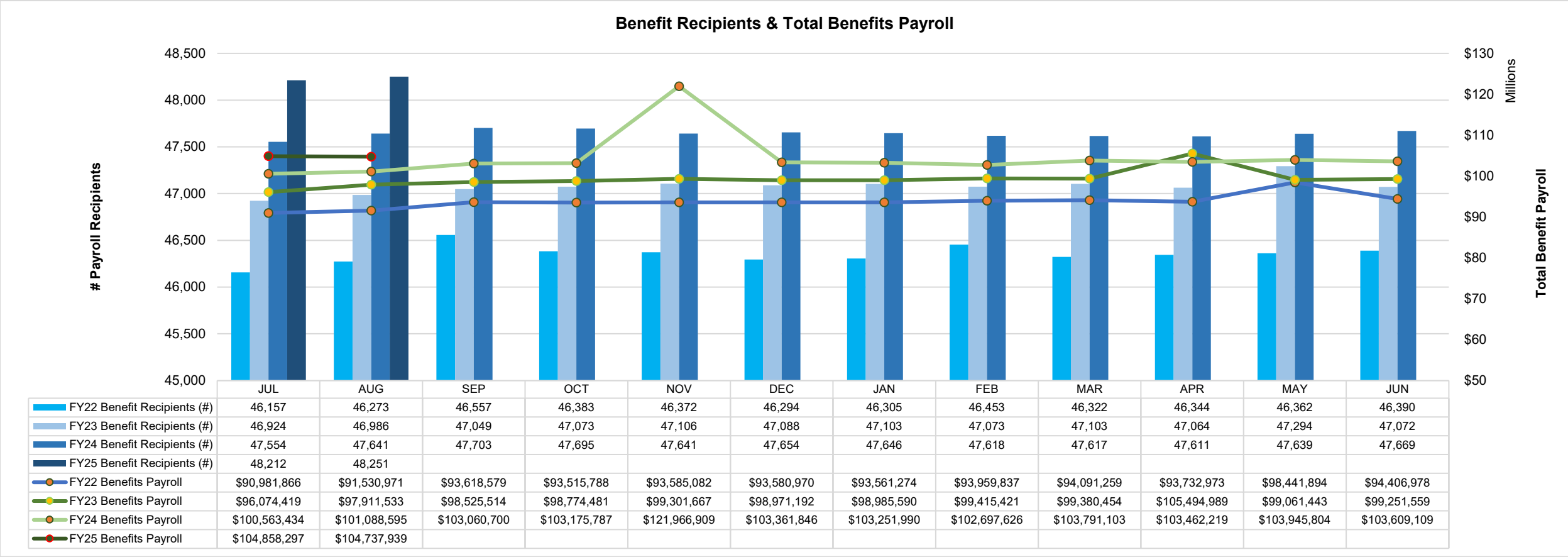
RECOMMENDATION

No Board action is recommended at this time.

AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

RETIREMENT SERVICES

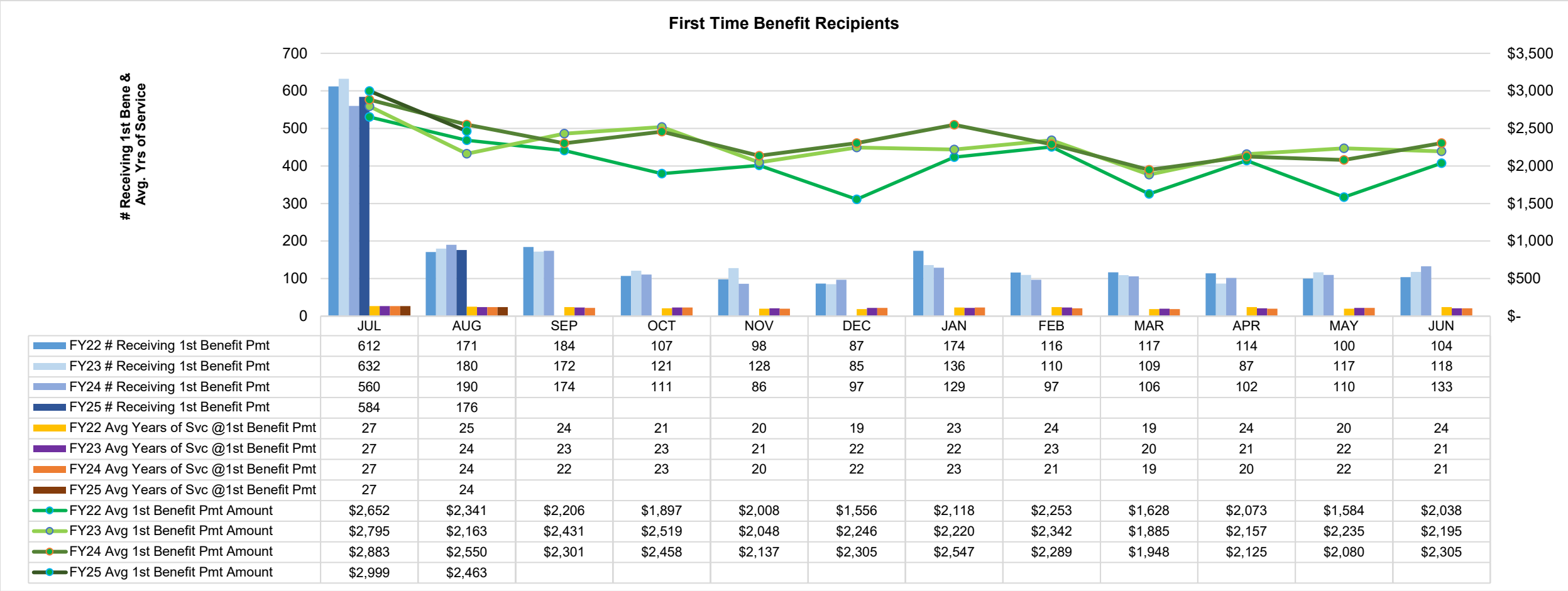
BENEFITS PAYROLL: Regular monthly pension benefit payments were made to 48,251 recipients in August, totaling \$104,737,939. Note: Special payments paid outside of the regular payroll run are not reflected in the “Benefits Payroll” total.



AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

RETIREMENT SERVICES: (CONTINUED)

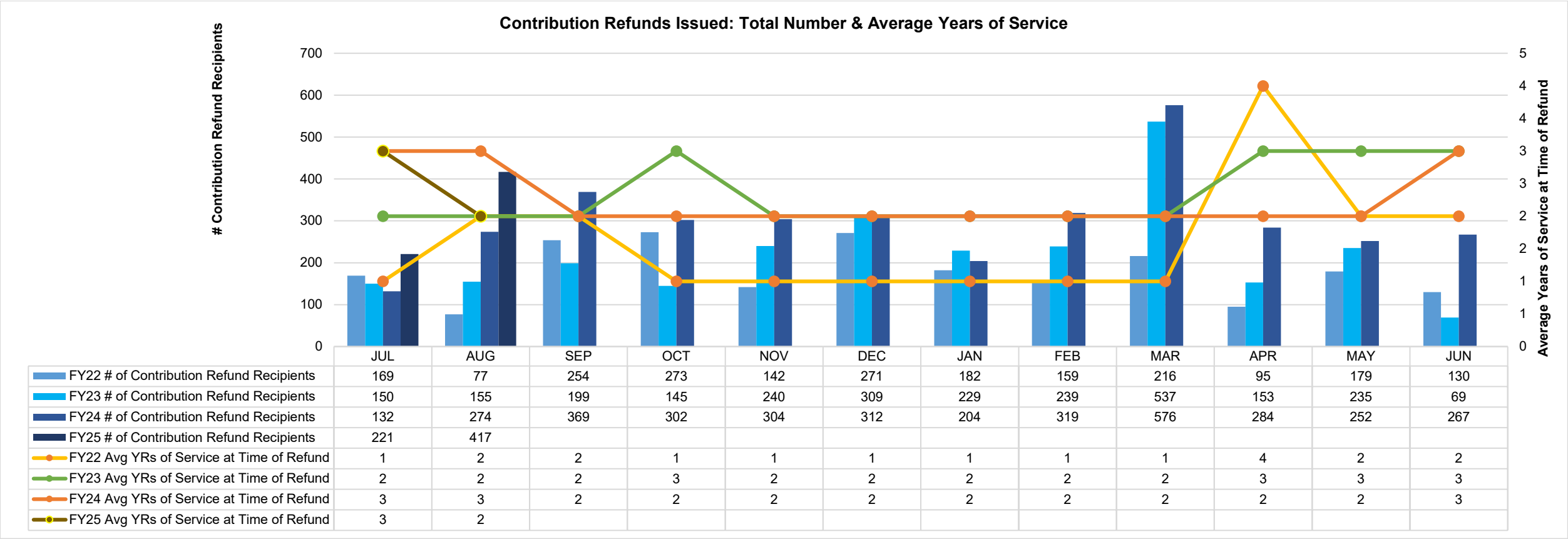
FIRST TIME BENEFIT RECIPIENTS: One hundred seventy-six (176) individuals received their first benefit payment in August. The average benefit amount was \$2,463. First time recipients averaged twenty-seven (24) years of service. The count of new recipients, payment amount, and service are comparable to data seen during the same month in recent prior years.



AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

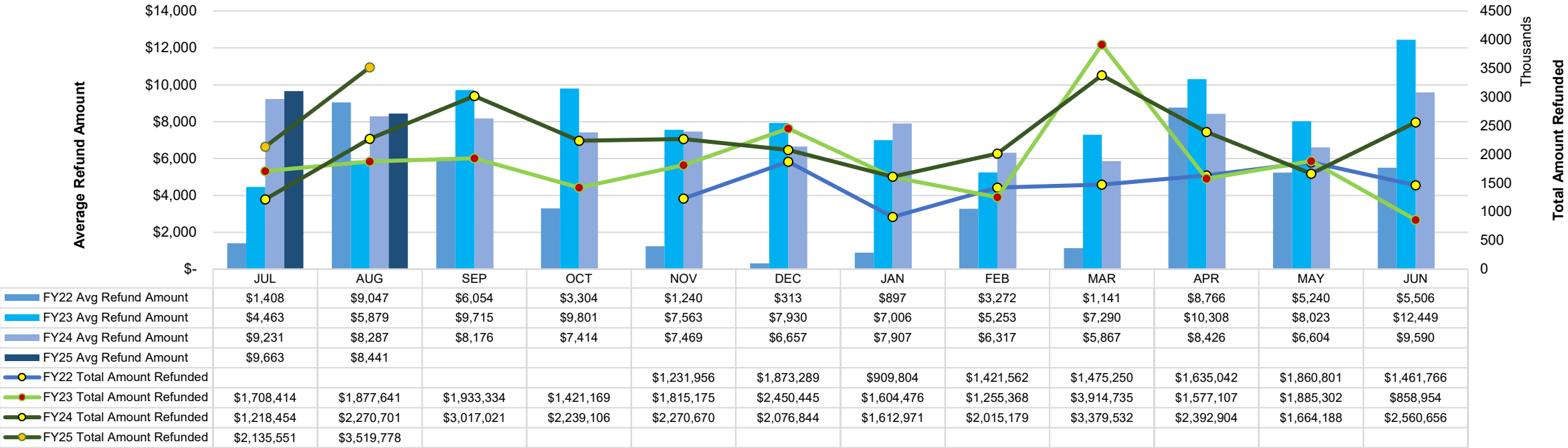
RETIREMENT SERVICES: (CONTINUED)

CONTRIBUTION REFUNDS: Four hundred seventeen (417) former members received a refund of their contributions in August. The average refund was \$8,441 as the result of an average two (2) years of service. The aggregate amount refunded was \$3,519,778.



AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

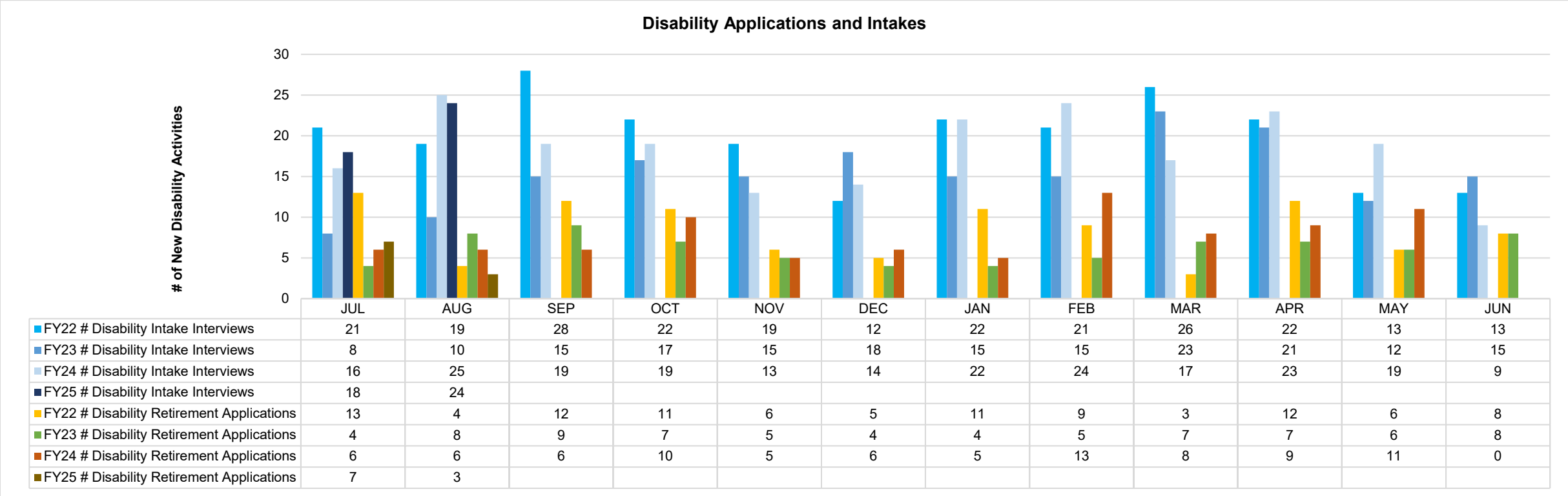
Contribution Refund Average Amount and Total Amount Refunded



AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

DISABILITY SERVICES

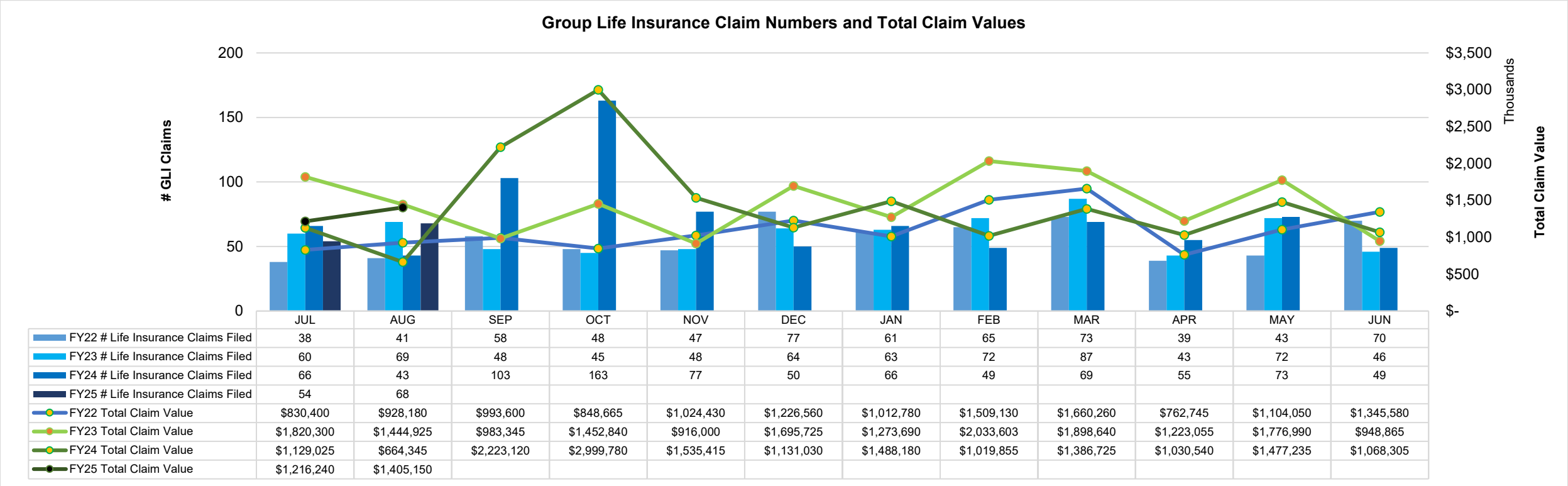
There were twenty-four (24) intake interviews completed in August with varying levels of detail and duration. Intakes included eight (8) State members, thirteen (13) Teacher members, and three (3) PLD members. There were three (3) new disability retirement applications received in August.



AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

SURVIVOR SERVICES

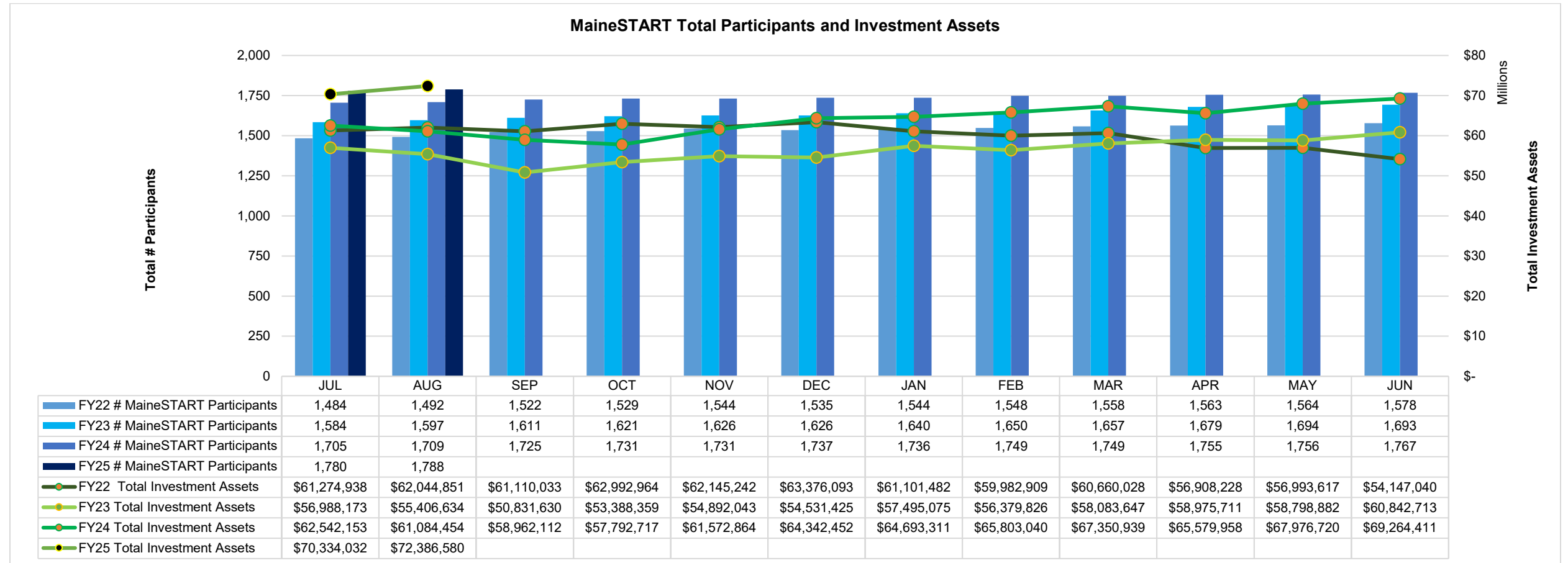
Sixty-eight (68) life insurance claims were sent to our carrier (The Hartford) in August with a total value of \$1,405,150 in payments due to beneficiaries. Of the claims, sixty (60) were retiree claims and eight (8) were active member claims including four (4) dependent claim.



AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

DEFINED CONTRIBUTION PLAN SERVICES

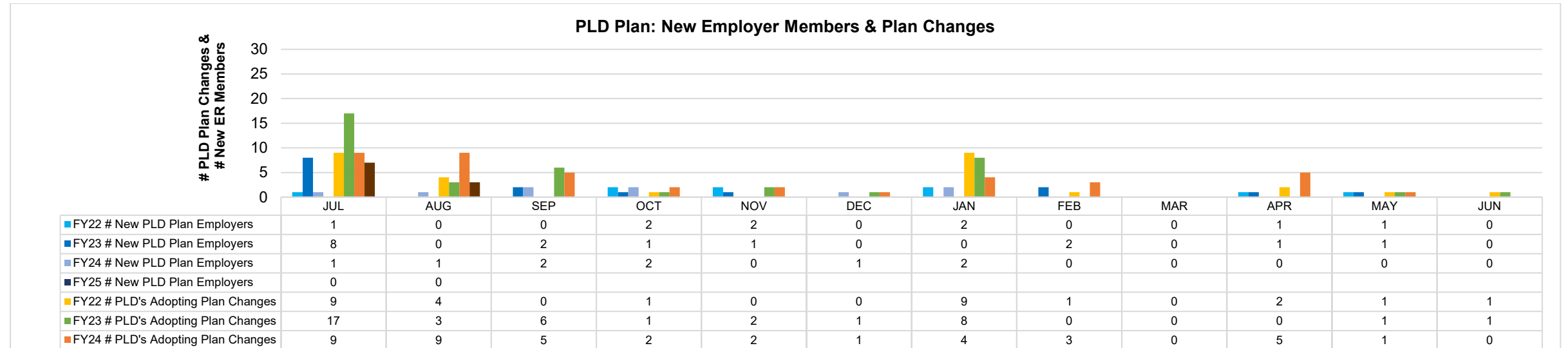
MaineSTART had one thousand seven hundred eighty-eight (1,788) participants at the end of August with \$72,386,580 of investment assets in the program.



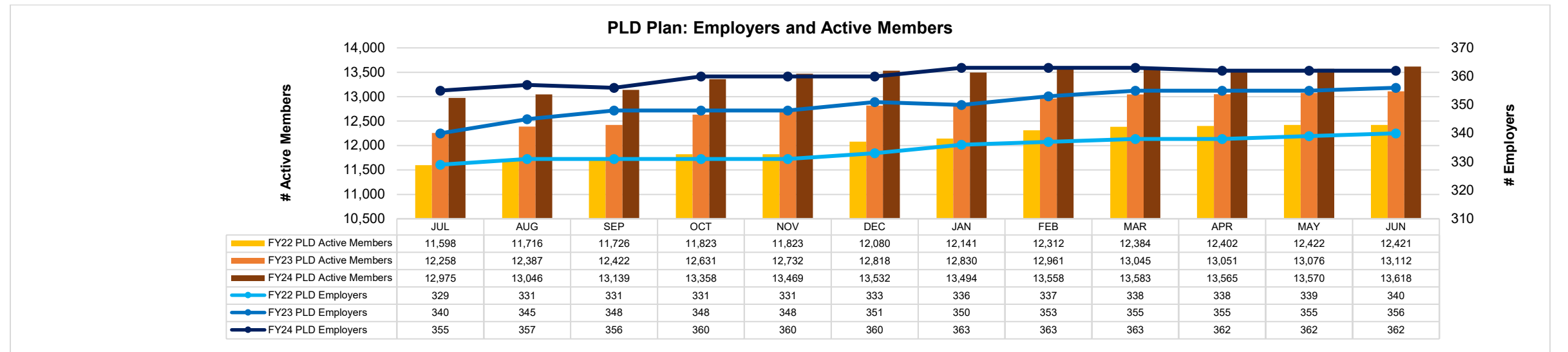
AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

PLD PLAN ADMINISTRATION

No new employers joined the PLD Retirement Program effective August 1, 2024. There three (3) employer plan changes effective August 1, 2024. Note: This metric reflects PLD employer changes (joining, returning, adopting plan changes) in the month of their implementation. This format is consistent with MainePERS activity reporting to our actuary.



PLD employers remained at 362 from April to June; PLD Employee numbers fluctuated in April and May and landed on 13,618 in June. This data will be reported quarterly; the next update will be included in the October 2024 report.

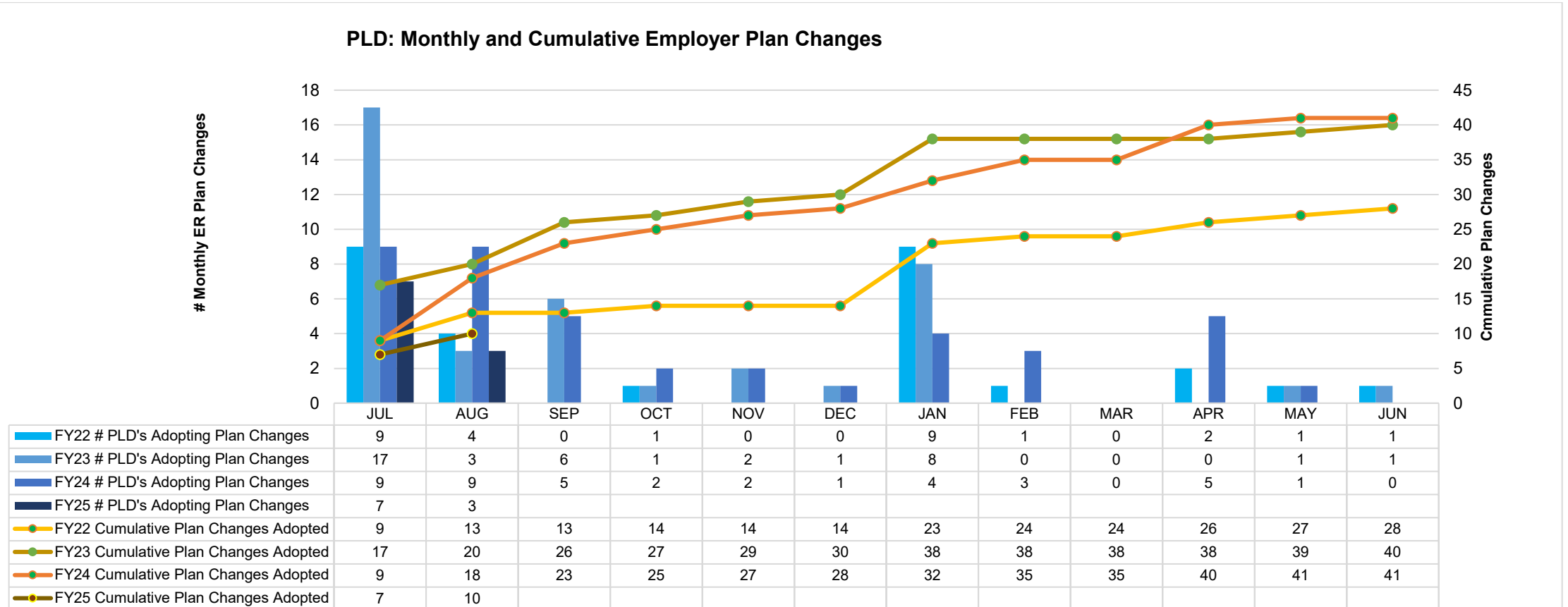


AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

PLD PLAN ADMINISTRATION (CONTINUED)

PLD PLAN - MONTHLY AND CUMULATIVE EMPLOYER PLAN CHANGES

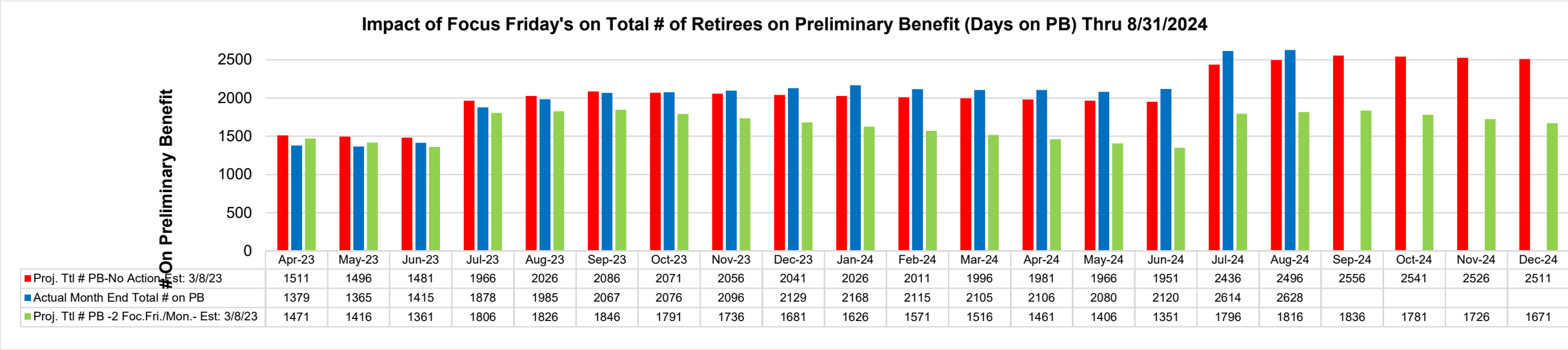
There were no new employers joining the PLD Retirement Program. There were three (3) employer plan changes effective August 1, 2024. Total plan changes for FY25 is ten (10). Note: This metric reflects PLD employer changes (joining, returning, adopting plan changes) in the month of their implementation. This format is consistent with MainePERS activity reporting to our actuary.



AUGUST 2024 BOARD OF TRUSTEES OPERATIONS – MEMBER SERVICES SUPPLEMENTAL NUMBERS

FOCUS FRIDAY IMPACT ON BACKLOG REDUCTION

PRELIMINARY TO FINAL BENEFIT (PB TO FINAL) BACKLOG THROUGH AUGUST 31, 2024: The backlog projections and reporting below are based on a data point that counts days since an initial Preliminary Benefit disbursement date (Days on PB) occurred.



SERVICE RETIREMENT ESTIMATE BACKLOG THROUGH AUGUST 31, 2024: The backlog projections and reporting below are based on data that count the total number of open Service Retirement Estimate workflows.

